

Forty-fifth Progress Report - - - Kure Atoll

Period covering 16 through 31 July 1965.

The field party composed of David A. Bratley for the entire report period.

A. Projects presently in progress:

1. Shorebird count and seal census taken at biweekly intervals.
2. Blue-faced Booby breeding biology - Nests are checked daily in the north antenna field to determine incubation period, hatching dates, and addition of new nests; nests in the south antenna field are checked at biweekly intervals. Presently there are 25 nests in the north antenna field, 24 with chicks; 1 nest lost, 1 chick hatched, and 6 chicks fledged. In the south antenna field there are 9 nests all with chicks; 3 nests lost, 2 chicks fledged.
3. Brown Booby breeding biology - Nests in the north antenna field are checked daily; nests in the south antenna field at biweekly intervals. There are 25 nests in the north antenna field, 21 with chicks; 4 nests abandoned, 1 new nest, 3 chicks hatched, 1 chick lost. In the south antenna field there are 11 nests with 6 chicks.
4. Red-footed Booby and Great Frigatebird breeding biology - The north and central roosts are checked biweekly to determine the progress of the breeding cycles of these species. There are still approximately 78 red-foot nests in the central roost and 163 nests in the north roost; frigatebird nests still number approximately 266 in the north roost. Random samples are taken of nests of each species to determine age of young in both roosts.
5. Collection of 50 blood samples per week in proportion to the number of each species on the island continues.

6. The Berlese funnels are run continuously with samples being taken of litter and all nesting species. Ectoparasite collections continue from available species with a goal of 50 samples from each species using the island. Wings and heads are being collected and frozen for more detailed ectoparasite analysis in Washington.

7. Red-tailed Tropicbird breeding biology - Study area is checked daily for nesting activity and identification of pairs; there are presently 27 nests in the study area, 21 with chicks; 1 new nest, 22 nests destroyed, 18 chicks hatched, and 17 chicks died.

8. Sooty Tern breeding biology - The central roost, northeast colony, and east colony are checked at biweekly intervals to determine population density. Chicks were banded in all colonies during the period. An estimated 76 per cent of the chick population is now banded.

9. Ten vegetation plots surveyed and photographed during the period.

B. Collections:

1. Blood:	Wedge-tailed Shearwater	20
	Red-tailed Tropicbird	24
	Sooty Tern	58
		<u>102</u>
2. Ectoparasites:	Noddy Tern	2
3. Berlese:	Laysan Albatross nest	6
	Wedge-tailed Shearwater nest	3
	Red-tailed Tropicbird nest	3
	Blue-faced Booby nest	3
	Brown Booby nest	3
	Red-footed Booby nest	3
	Sooty Tern nest	6
	Noddy Tern nest	3
		<u>30</u>
4. Invertebrate:	Snail species	1

C. Recoveries and Returns:

Wedge-tailed Shearwater	12
Red-tailed Tropicbird	2
Red-footed Booby	2
Sooty Tern	7
Gray-backed Tern	4
Noddy Tern	5
	<u>32</u>

D. Banding:

	16-31 July	1965
Wedge-tailed Shearwater	23	170
Christmas Island Shearwater	2	10
Red-tailed Tropicbird ad.	9	122
local	7	10
Blue-faced Booby local	9	21
Red-footed Booby	1	71
Sooty Tern local	1200	1600
Gray-backed Tern ad.	17	17
local	9	9
Noddy Tern ad.	7	36
local	212	224
Hawaiian Noddy Tern	26	26
Fairy Tern ad.	3	8
	<u>1525</u>	<u>*5511</u>

\* Including species not in the above list

E. Population Discussion:

The last Black-footed Albatross chick departed from the island on July 20. Most of the remaining Laysan chicks are nearly ready to fledge, however a few are still seen to be fed by the adults. Although only 3 adult Laysans were seen on the island during the period, parents of chicks are included in the population estimate.

The first Wedge-tailed Shearwater chick was found in the north antenna field on July 30. Chicks have yet to be located in other areas. The second Christmas Island Shearwater chick in the fuel tank area was found hatched on July 19.

The maximum number of tropicbirds seen at any one aerial count was 371

this period. The minimum was 6. Most counts, as last period, numbered between 150-250. Nests in the study area decreased from 48 to 27 during the period, mostly due to mortality of chicks. Overall chick mortality from the first hatched on May 31 to present has increased to 64 percent. The mortality for the period is 94 percent. Survival of chicks in periods are:

May 31-June 15	7 of 9 hatched survived
June 16-30	2 of 12 " "
July 1-15	6 of 20 " "
July 16-31	6 of 18 " "

Some tropicbird chicks in areas other than the study area fledged during the period and others are nearly ready for departure.

Six Blue-faced Booby chicks in the north antenna field fledged during the period at the ages of 99, 114, 115, 117, 117, and 125 days. They leave the area periodically, but all, including the one that fledged last period, return to the antenna field.

There are presently two Brown Booby nests, one in each antenna field, with a pair of young. The age of the pair in the north antenna field are 19 and 22 days. All are faring well.

The frigatebird population has remained stable, but the red-footed booby population has increased slightly. The most noticeable increase being in the immatures and subadults using the island.

Three Red-footed Boobies were observed with orange leg streamers during the period. On July 16 an adult with a very recent streamer was seen riding the air currents along the southeast beach. An immature was captured in the north roost on the night of July 22, but the previous band had been lost. It did not have complete use of its right leg which was smaller than normal.

The orange streamer had been placed on early this year as it was only beginning to show fading, but no wear. The bird was rebanded as 737-92986 and the band had to be overlapped to keep it on the leg. On July 31 a subadult with an old streamer flew over the tropicbird study area.

Many of the Sooty Tern chicks in the central roost are nearly ready to fledge as they are beginning to fly short distances. The chick population has decreased by 300 over last period, but this is due to better estimates by banding of the colonies. In order to obtain the present estimate, the colonies were first banded randomly. On a later date, birds were collected and placed into pens until nearly all chicks from the colony were captured or until catching became inefficient and impractical. As the chicks were then banded, a ratio of previously banded to unbanded birds was set up. Presently 76 percent of the population is banded. The chick population is estimated to be 1500 in the central roost, 440 in the northeast colony, and 160 in the east colony for a total of 2100. Incubating adults at the beginning of the season in the northeast and east colonies nearly equaled the numbers in the central roost.

There are now 8 chicks and one egg in the Gray-backed Tern colony east of the south antenna field with two of the chicks nearing fledging age. Only one chick could be found in the colony east of the north antenna field.

Nests numbers of Noddy Terns decreased this period from 381 on July 10 to 273 by July 24, again due to mortality of chicks. By the end of the period many chicks had fledged or neared fledging age.

The Fairy Tern chick in the tropicbird study area fledged July 26 at 48 days of age. It has remained close to the nesting area. The nest along the northwest beach produced a chick this period.

The Bristle-thighed Curlew population increased to 2 with the arrival of an orange tagged individual on July 20.

Three turtles, all 2-3 feet in diameter, were observed swimming in the lagoon during the period. The first was sighted on July 20.

Hawaiian Monk Seal numbers using the island decreased to 21 on the last seal census of July 24. The population has been declining steadily throughout the summer from the forties of late Spring counts.

Moth larvae have become exceptionally numerous and the Scaevola foliage has suffered much damage as a consequence.

Sand Island was visited July 30 for censusing and also banding of Noddy Tern chicks. Sixteen Noddy Tern chicks were found, all near fledging age. It is most likely that some had already fledged before the visit. One egg was found. Counted on the island were one Blue-faced Booby, 8 Brown Boobies, 136 Noddy Terns, 142 Hawaiian Noddy Terns, 5 Ruddy Turnstones, and 26 seals. A large flock of Hawaiian Noddy Terns was feeding along the reef and periodically the majority of the flock would alight on the island, rest a few moments, and then returned to the reef.

Respectfully submitted,

*David A. Bratley*

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Bi-Weekly Bird Summary Report

1) Total Survey Unit: Green Island, Kure Atoll, Hawaii (2) Observer(s): David A. Bratley

3) YEAR: 1965 (4) MONTH: July (5) PERIOD: 1-15 16-end of month

(6) Species	(7) Date	(8) Number	(9) Rel. Class	(10) No. of Nests	(11) Rel. Class	(12) Date	(13) No. of Young	(14) Rel. Class	(15) Age of Young			(16) Young Date Banded	(17) Young Banded	(18) Others Banded
									6-10	11-20	21+			
<i>Black-footed Albatross</i>	20	0	A	0	A	20	1	A			100%	20		
<i>Laysan Albatross</i>	31	40	B	0	A	31	20	B			100%	31		
<i>Wedge-tailed Shearwater</i>	31	2000	C	1000	C	31	15	C	100%			31		23
<i>Christmas Island Shearwater</i>	31	100	C	2	D	31	2	D	50%	50%		31		2
<i>Red-tailed Tropicbird</i>	31	1400	C	450	C	31	350	C	20%	35%	45%	31	7	9
<i>Blue-faced Booby</i>	31	130	B	34	A	31	42	A	5%	95%		31	9	
<i>Brown Booby</i>	31	100	B	37	A	31	28	A	14%	11%	75%	31		
<i>Red-footed Booby</i>	31	600	B	241	B	31	215	B	6%	8%	86%	31		1
<i>Great Frigatebird</i>	31	750	B	266	B	31	266	B	4%	11%	85%	31		
<i>Sooty Tern</i>	31	5000	B	2100	B	31	2100	B			100%	31	1200	
<i>Gray-backed Tern</i>	31	50	B	10	A	31	9	A	22%	22%	56%	31	9	17
<i>Noddy Tern</i>	24	750	B	273	A	24	244	A	9%	11%	80%	24	212	7
<i>Hawaiian Noddy Tern</i>	24	500	B	0	A	24	0	A				24		26

