

Fleet

Oct 23, 1963

R.F. (1)

Point of View (10)
(Cinnamon Pt.)

Oct. 23, 1963

Point (first visit on Oct. 23, 1963) located to island from
Quarantine point ^(southeast of fleet) in distance of
0.3 mile. Field party consisted
of R. Fleet, K. Amerman, and
W. King.

Island is approx 0.10 by 0.13
miles in area and is dominated
by a mountain or mesa-like or
butte-like rock that rises
to a height of 200 feet. This
occupies the center of the
island and gives island
characteristic appearance from
which it derives its name.
This peak is lava rock &
possibly the core of an old
volcano.

Principal veg. consists of
6 coconut palms, 5 cavales,
prickly pears, etc. There will
be removed later.

Fifteen immature Wedge-tail
shearwaters were found in
cavities (in rock surface). All
but one were found in one
area about 50 feet in length

Oct 22, 1963

R.F. (2)

~~Prokudin-Ginsbury~~ (10)
just about 20 feet from shore-
(see chart). The last Wedgetail
was found at the end of the
island where the veg. was much
thinner.

The white-tailed tropic birds
were circling above island and
left after we had been there
for about 20 min. There is
a possibility that they may
be nesting on the cliffs of
the seaward side.

Nov. 21, 1963

Went to island from fueler point
arriving at 1410 hours. Wedgetail
Shorebird burrows had been previously
marked and 34 individuals were
banded. This included 15 birds
that had not been previously
marked. New estimate is that
this figure of 34 immatures
represents about 75% of
total immature population.
A Redwinged Tattler and a White-rumped
Tropic bird were seen. About
30 immatures were collected for
identification. Left island
at 1700 hours. Field party
consisted of R. King & W. King.

R.F

Oct. 23, 1963

Makolei Is (and UO)
(Cinnamon's Is.)



Oct. 24, 1953

R.S. (1)

Mokuauia Island (14)

Oct. 24, 1953

Made first on Oct. 24, 1953. Waded to island from pali point a distance of about 200 feet. Full party consisted of about 1000 feet Fleet and Van Arman.

Island is approx 1200' by 1000 feet. Estimated maximum elev. of island is 12 feet.

This island has been heavily planted with trees and shrubs. A tall tree a few feet on the island was said to be the last plant of a certain type the Major says. There were many palm trees, salt pines, sea grape, coconuts, tomatoes, and Scavola. Also grass and potatoes.

A total of 44 specimens (359 users) *Walpateia* specimens were found and the location stopped for study at a later date.

Eight of these birds were found in Scavola 2 of which were on the surface, 2 in a partial burrow, and 4 in complete burrow.

The remainder of these birds were found in burrows among the grass. (See note.)

(14)
(15)

Oct. 30, 1963

Mokuauia Island (14)

At 1530 hours, plane took
and myself arrived at Laysan
point. In attempt to return
to Mokuauia Island (14), but
found it to be impossible. Strong
currents and high waves
combined with steep cliffs
of the island sides prevented
a landing. This island as well
as islands (16), (13), and (15) can
be reached only since they
are small, barren rocks and
are impossible to get to.

Arrival at Mokuauia Island
at 1400 hrs. Soon to island and
observed that we had the
wrong sign for the island
(King is returning at 1500 hrs
with the correct birds).

Oct. 30, 1963

At King arrived 1700 hrs. for
landing. Island had already been
marked for location of Wedge-tail
burrows. Arrival at low tide, water
below wind at airport.

Twenty-five Wedge-tails were banded,
11 of which were immatures, one of 11
being double-banded. The immatures

McLaren Island (14)

14 in all, birds from down covered
to nearly half from down. Band #s.
615-02001 to 615-02025.

at least 3 burrows previously
occupied burrows were yielded
no bird, due probably to
death of burrow.

Many unoccupied burrows were
not found in the dark. Only 3
adults were taken in the burrows
with 5 chicks. The other adults
were sitting in the open, presumably
near their burrows. It appeared
that at least 5 chicks banded
had no adult with them, although
the adults may have been scared
off. One burrow was attended
by two adults. Chicks were found
in both of these burrows.

One chick was taken from an
unoccupied burrow.

One Puffin was
observed at bottom of wall
in grape plant. Earlier in the
day a dead rat was found
at entrance of unoccupied burrow.

Left island at approx 2145.
Full moon scattered and considerably.

Nov. 18, 1963

Waterbury Island (4)

When I got back myself
arrived on the island at 1345
hours for purpose of banding,
botanical survey and burrow
measurement studies.

A collection of pellets was
made for identification at the
U. of Hawaii continue this work. At
this time a notebook will be
compiled containing these
specimens.

A total of 35 crested or just
marked whiptail specimens
were banded. Crested birds
were found in previously
unmarked burrows. Bringing the
total whiptail population
to 57.

Nestlings were found from
nearly completely down covered
to without down. Four previously
marked burrows yielded no
birds, possibly indicating that
these individuals had already
left the island. This possibility
is enhanced since we managed
to find only 8 crested out of
14 previously banded crested.
Burrow measurements (diameter at

Heteromys (14)
excavations and depths (depths) were
taken for 13 occupied burrows
(see heading p. 207). An average of
6 in. in diameter and 32 1/2 in. in
length were obtained.

Four specimens were seen,
one found in a nest under
a rock. The animals
were seen throughout
the island. They are well fed, and no
vegetation is growing in them.
They were measured in several
places and found to average
4 inches in width.

We left the island at 1345 hrs.

One dark, water, *Mytilus*
burrows were found on Kan.
Hawaii 1.3 mi. S of Mokuia Island
rock sign.

Two *Sterna* eggs and one
wandering Tattler were seen
feeding along the beach opposite
Heteromys Island. One *Colinus*
Plover was seen on the island.

Specimen No: 2156 8825
Date: 10/30/63

RRE
Oct. 30, 1963

(1)

Specimen No.	Description
02	adult
03	adult
04	adult, dark phase
05	adult
06	adult
07	immature
08	immature
09	immature
10	adult
11	immature
12	adult
13	immature
14	immature
15	adult
16	immature
17	immature
18	immature
19	immature
20	immature
21	adult
22	adult
23	immature
24	immature
25	immature

} all apparently from same person

PERMIT NO. = 8825

AREA = Makuaia (14)

BAND PREFIX = 615

BANDER = R. J. [unclear]

RRJ

Nov. 18, 1963

Carrows (2)

		[DISTANCE + DEPTH]
02101	land, steel in motion	5' x 25'
02	"	8' x 32'
03	"	_____
04	"	5 1/2' x 30'
05	" no down	5' x _____
06	"	_____
07	"	5' x 44'
08	" no down	6 1/2' x 30'
09	"	7 1/2' x 28'
10	"	_____
11	"	4' x 31'
12	" no down	6 1/2' x 27'
13	"	open x 46'
14	" no down - daylight	6 1/2' x 28'
15	"	4 1/2' x 42'
16	"	5' x 33'
17	"	
18	"	
19	"	
20	"	
21	" no down	
22	" no down	
23	"	
24	"	
25	"	
26	"	
27	"	
28	" much down	
29	" on surface in [unclear]	
30	" on surface in [unclear]	

PERMIT NO. = 5826
AREA = Mokuauia (14)
BAND PREFIX = 615
BANDER = R. Fleet, W. King.

MR3
Nov. 18, 1963
(3)

31	^{Went to 10 min} immature	on surface in Naawala
32	"	no down
33	"	no down
34	"	
02135	"	

RECAPTURES = 02007

- 03
- 14
- 16
- 17
- 19
- 20
- 23

R.S.

Mokuaia Island (11)

Oct. 24, 1963



Reynolds Island (4)

Oct. 25, 1963

Made joint trip on Oct. 25, 1963.
Waded to island from Alala point,
a distance of about 1200 feet. Field
party consisted of R. Fleet, K. Amerman
& W. King.

Island is approx. 625' by 375
feet. Estimated maximum elevation
is 10 feet. This island consists
entirely of lava rock covered
with boulders and creeping
plants; no trees. Care must be
exercised in walking about
island, not to fall in the many
pits in the weathered rock that
are concealed by the veg. Seaweed
was ~~seen~~ ^{seen} ~~near~~ ^{near} other species
were also ~~seen~~ ^{seen} later identification.

A total of 20 immatures wedgetail
shearwaters were trapped for banding
at a time later. About 2/3 of
the island was searched. The
1/3 not searched contained the
highest number & possibly
contained a greater conc. of
birds than the rest of the
island. Estimated immature
population to be about 125
individuals. These birds were

Pacific Island (4)

found on the surface under the shrubbery on in material formed underneath in the lava rock.

When trying ground 7-9 dead immatures; we counted 6 dead adults (one in a deep lava pit from which it probably couldn't escape & consequently starved.), and 4 spoiled eggs.

At 1755 an adult came in from sea, visited island and disappeared into the bush. At 1800 as we were wading back to Oahu 5 more adults flew into island.

A flock of ~35 shore birds were on the island. Tattlers, Golden Plovers, and Turnstones were identified (see check list).

Two species of orb-weaving Garden spiders were seen in large numbers.

Oct. 31, 1963

Arrived at island at 1015 for purpose of banding. About 70 burrows had been previously marked for banding. A total of 75 immatures were banded. They varied in size (age) from newly

Popovers (4)
~~all down to nearly mature~~ (4)

About 1/2 of the previously
 unmarked area ~~was~~ (initially
 most of the heavy scrub) was
 covered for banding. 45 birds
 were found in previously
 unmarked burrows & areas.
 This brings the total known
 birds to 115. Four birds (marked)
 were in burrows and couldn't be
 reached. In the heavy scrub area
 the birds were found in shallow
 depressions or wandering about
 the surface. This scrub formed a
 near solid canopy about 4 feet
 high.

The very weak bird was
 marked and was found to be
 crawling with ants. It may
 not live to maturity.

Several smooth Ewey shells
 the same size, shape and color
 as eggs were found in
 burrows. Could this be a
 replacement mechanism for
 eggs that were lost?

Left island at 1430.
 (Wings, wing & tail length were taken in
 some cases to aid in judging age.)

PERMIT NO. = 8876

Oct. 31, 1963 RRF

AREA = POPOIA (4)

BAND PREFIX = 615 (1)

DANDLER = R. FROST, W. KING

[PRIMARY] [WING] [TAIL]

	Wingspan	Primary	Wing	Tail
02026	2 3/4"		9"	
27	4 1/2"		10 1/2"	
28	3 1/2"		9 1/2"	
29	2"		7 3/4"	
30	2 1/2"		7 3/4"	
31	2 3/4"		8 1/4"	
32	2"		8 1/4"	
33	2"		7 1/2"	
34	2 1/2"		8"	
35	1 3/4"		7 1/2"	1 1/2"
36	1 3/4"		7 1/2"	2"
37	2 1/4"		7 1/2"	2"
38	1 1/2"		7"	1"
39	1 1/4"		6 3/4"	1"
very young 40	stuck		4 1/2"	none
41	3 1/2"		9 1/2"	2 1/2"
42	4" 2 3/4"		9 3/4"	3 3/4"
43	1 1/4" 1 1/4"		6 3/4"	3/4"
44	2 3/4"		8 1/4"	2"
45	-			
46	-			
47	-			
48	-			
49	-			
50	-			
51	-			
52	-			
53	- very weak			
54	-			
55	-			

PERMIT NO: = 8826
ARGA : Popoia (4)
BANDER : R. Fleet, W. King
BAND PREFIX = 6.15

RRF
Oct. 31, 1963

(2)

56	"	-
57	"	-
58	"	-
59	"	-
60	"	-
61	"	-
62	"	-
63	"	-
64	"	-
65	"	-
66	"	-
67	"	-
68	"	-
69	"	-
70	"	-
71	"	-
72	"	-
73	"	-
74	"	-
75	"	-
76	"	-
77	"	-
78	"	-
79	"	-
80	"	-
81	"	-
82	"	-
83	"	-
84	just adult - ready to fly.	
85	"	-

PERMIT No: : 8876
AREA : Papua (4)
BANDOR : R. J. West, W. King
BAND PRICE : 615

RRJ

Oct. 31, 1963

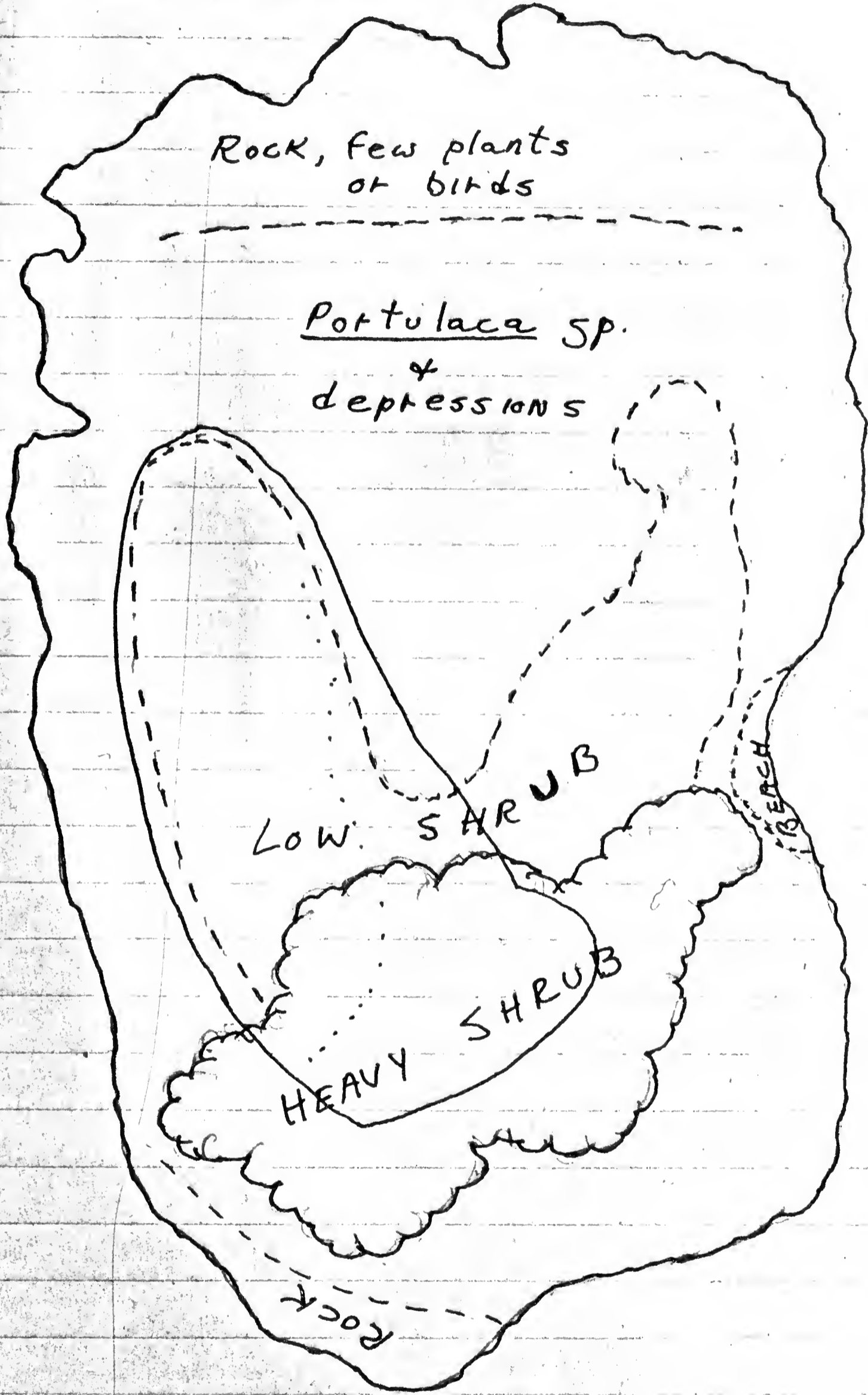
(3)

86	" -
87	just adult
88	" -
89	" -
90	just adult
91	" -
92	just adult
93	" -
94	" -
95	" -
96	" -
97	" -
98	" -
99	" -
100	" -

R.F.

POPOIA ISLAND (A)

Oct. 25, 1963



○ = area not done

Tekepa Island (7)

Nov. 20, 1963

Arrived this island 1100 hours from
Kanohe pier. Field party consisted
of R. Fleet, W. King, D. Au, and S. Oyama.
Island is about 300 feet long and 150'
wide. It is a rock rising 28' out
of the ocean, its sides undercut which
make landings extremely difficult.

A single Chinese Spotted Dove was
seen, plant samples were taken (
3 species). At 1150 hours we left
the island.

Nov. 20, 1963

Kapapa Island (9)

Arrived this island via Hawaiian
boatman Kong Rensen at 1440 hours.

Field party consisted of R. Fleet,
W. King, D. Cox, and S. Ogura.

Island is approx 1200' long by 500'
wide and has a maximum
elev. of 14 feet. There are

extensive tide shelves around
part of the island (see map.)

Scaevola, salt pine, and grasses
is the dominant veg. Some palm
and Mess. trees (8) were also

seen. ^{spiders} web weaving spiders, geckos
and ^{snails} rats are present. Veg. samples
were taken for identification.

The island was carefully searched
and 24 immature wedgetail
specimens were found and banded,
seven Golden Plover, 3 Ruddy
Turnstone, and 3 wandering
tattlers were seen on the rocky
shores of the island. Left
island at 1700 hours.

For disposition of Wedgetails see
map; one dark phase was found;
seven wedgetails were found to
have lost all their down.

PERMIT NO = 8826

AREA : Kapapa Is. (9)

BAND PREFIX = 615

BANDER = R. Fleet, W. King, S. Oyama, D. Orr.

RRF

Nov. 20, 1963

02136

immature

37

"

38

"

39

"

40

" no down

41

"

42

"

43

"

44

"

45

"

46

"

47

" no down

48

" } on surface, in scavola

49

" }

50

" on surface, in scavola, no down

51

" in burrow, in scavola, no down

52

" in burrow, in scavola, no down

53

" on surface, in scavola

54

" in burrow, in scavola, no down

55

" partial burrow, in scavola

56

" in burrow, in scavola - DARK PHASE

57

" in burrow, in grass

58

" no down

59

" in burrow, in scavola

PERMIT NO. = 3826
AREA = Mokohiwi Island (13)

BAND PREFIX = 615

BANDER = R. Fleet, W. King
west tail
immature

RRJ

1963.21, 1963

(2)

89 "
90 "
91 "

PERMIT NO = 8826
AREA = Mokoleie Island (10)
BAND PREFIX = 615
BANDER = R. Fleet, W. King

RRJ

NOV. 21, 1963

(1)

02160

^{called station?}
immediate

61

"

62

"

63

" intermediate dark phase

64

" no down

65

" on surface, much down

66

"

67

"

68

"

69

" on surface

70

"

71

" dark phase

72

"

73

"

74

"

75

"

76

"

77

" no down

78

" no down

79

"

80

" no down

81

"

82

" no down

83

" intermediate dark phase

84

"

85

"

86

"

87

"

88

" intermediate dark phase.

Oct 22, 1963

R.F. (2)

Robelia Island (10)

just about 20 feet from shore -
(see chart). The first Wedgetail
was found at the end of the
island where the veg. was most
scarcely.

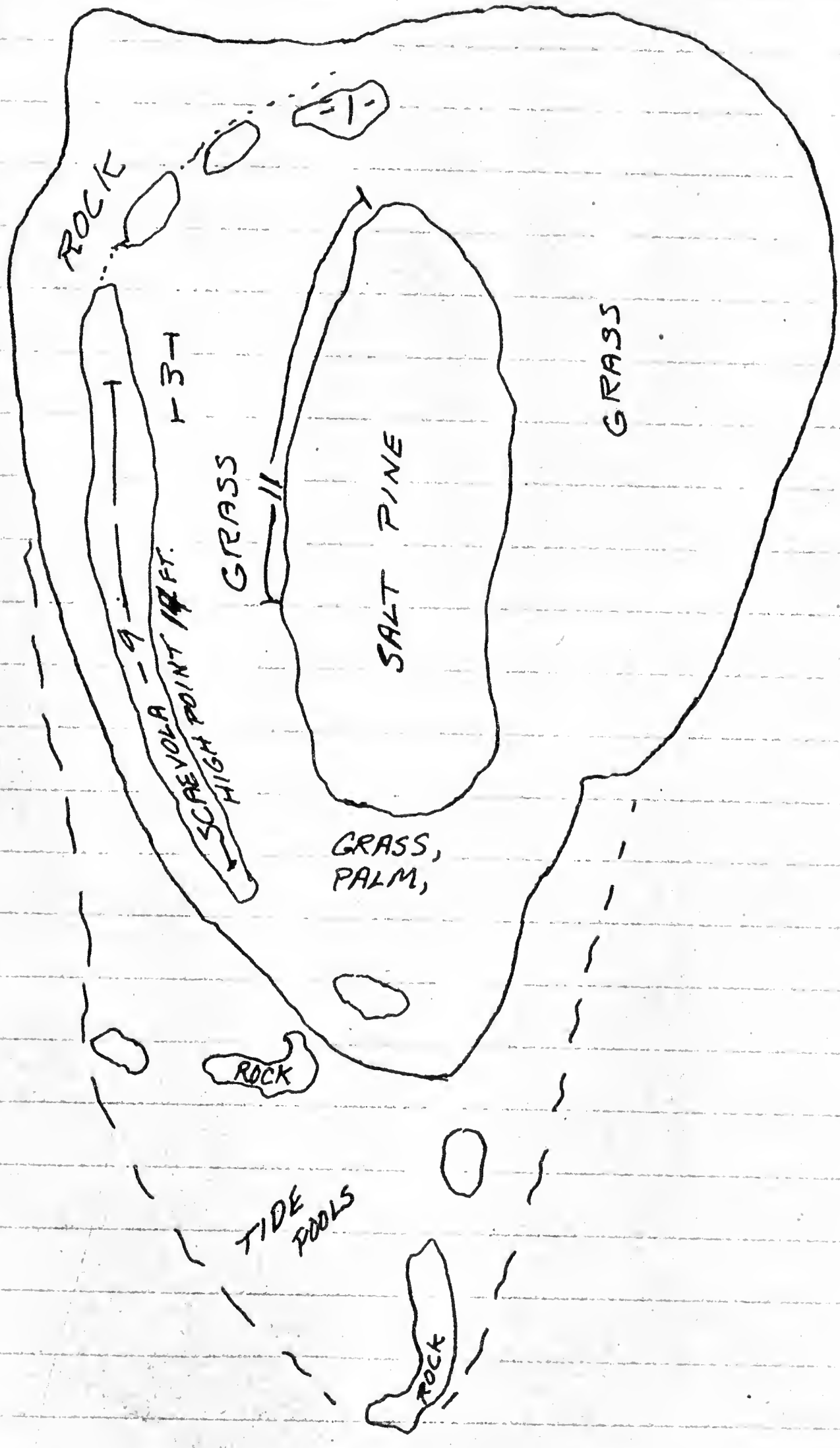
The white-tailed tropic birds
were circling above island and
left after we had been there
for about 30 min. There is
a possibility that they may
be nesting on the cliffs of
the seaward side.

Nov. 21, 1963

Waded to island from fueler point
arriving at 1410 hours. Wedgetail
Shorewater burrows had been previously
marked and 32 individuals were
banded. This included 15 birds
that had not been previously
marked. New interest is that
this figure of 34 immatures
represents about 75% of
total immature population.
A Ashy-tailed and a white-tailed
tropic bird were seen. Plant
samples were collected for
identification. Left island
at 1700 hours. Field party
consisted of R. F. & W. H. King.

RRJ

Kapapa Island (9)



1200'

500'

Moku Manu Island (6)

Nov. 22, 1963

At 0900 hours we left Hanalei bay for island. Field party consists of R. Fleet, W. King, D. Au, and R. Walker of Hawaiian Fish and Game. Found water much too rough for landing & so returned by way of man-made breakwater island in Hanalei Bay. Here 7 Ruddy Turnstones were seen and plant samples were taken.

We arrived Hanalei pier and received news of assassination of President Kennedy. I don't feel like working any more.

Nov. 25, 1963

Arrived Moku Manu 1145 hours. Landing made on back side of main island near cave. Landing was difficult and dangerous although water was relatively calm. Field party consisted of R. Fleet, W. King, D. Bratley, and R. Clapp.

Frigates and Boobys were flying overhead as we landed. Final counts estimated 175 Frigates, 200 Red-footed Boobys, 50 Brown Boobys, and 1 Masked Booby. One Frigate was observed to 'play' i.e. ~~drop~~ repeatedly drop and catch a fish. Other frigates were fishing.

RRJ
(2)

Moku Manu Island (6)

near the water's surface. Brown and Redfooted Boobys were present in all stages. One Brown Booby nestling and four subadult (capable of flight) Redfoots were banded. Several nests were seen, one (Redfooted according to Clapp) containing a rather fresh egg resting on a mat of picked, green vegetation. Three common Noddys were observed in the area when we arrived but these were banded (using all available bands). Total nestling population at this time estimated to be about 125 individuals ^{500 at peak}. Many burrows containing down and breast feathers contained no bird - these in about a 4 to 1 ratio with occupied burrows - estimated Wedgetail population at peak 500 nestlings. Six Wedgetail burrows (2 containing birds) were discovered under Booby nests which are simple platform of sticks on low bush or on ground. One Wedgetail banded had a broken right leg - at tarsus joint; causing a deformity of foot. Another Wedgetail, not banded had a broken right wing rehealed, giving an awkward cant to wing. This

RRJ
(3)

Moku Manu Island (6)

individual is probably incapable of flight and is not expected to live. Wedgetail burrows here seem to be much shallower, probably due to definite lack of suitable burrowing soil and steepness of slopes making up most of island. Some use is obviously made of holes and crevices in completely rocky areas.

Five Ruddy Turnstones, 2 Golden Plover were seen on island. One Julia Mynah was seen on rocky shore and Clapp saw a large (.6 in.) rat on summit. We left island at 1700 hours.

Five dead Common Noddys and 2 dead Wedgetails ^(juvs.) were also observed and one dead Red-footed Booby sub-adult.

PERMIT NO. = 8826
AREA : Moku Manu (6)
BAND PREFIX : 615
BANDER : R. Fleet, W. King, J. Bratley, R. Clapp

RRJ
Nov. 25, 1963
(1)

02401	Wedge tail immature		
02	"		
03	" intermediate dark phase		
04	"		
05	"	31	"
06	"	32	"
07	"	33	"
08	"	34	" dark phase
09	"	35	"
10	"	36	"
11	"	37	"
12	"	38	"
13	"	39	"
14	"	40	"
15	"	41	"
16	"	42	"
17	" holes	43	"
18	"	44	"
19	"	45	"
20	"	46	"
21	"	47	"
22	"	48	"
23	"	49	"
24	"	50	"
25	"	51	"
26	"	52	"
27	"	53	"
28	" dark phase	54	"
29	"	55	"
30	"		

PERMIT NO. : 8826
 AREA : Moku Manu (6)
 BAND PREFIX : 615
 BANDER : Fluck, King, Beutler, Gopp

RRF
 NOV. 25, 1963
 (2)

56	"		
57	" dark phase		
58	" intermediate dark phase		
59	"		
60	"	85	"
61	"	86	"
62	"	87	"
63	"	88	"
64	" dark phase	89	"
65	"	90	"
66	"	91	"
67	"	92	"
68	"	93	"
69	"	94	"
70	"	95	"
71	"	96	"
72	"	97	"
73	"	98	"
74	" dark phase	99	"
75	"	02500	"
76	"		
77	"		
78	"		
79	"		
80	" holes		
81	"		
82	"		
83	"		
84	"		

PERMIT NO. : 8826
AREA : Moku Manu (6)
BAND PREFIX : 757
BANDER : Alst, King, Bratley, Clapp.

RRJ
(3)
Nov. 25, 1963

60505	Brown Booby - nestling
06	Red footed Booby - sub-adult
07	" "
08	" "
09	" "

RRJ
(1)

Mokapu Point

Nov 22, 1963

This area is situated on Oahu, on a Naval Reservation, overlooking Moku Mana (6). This is the site of a large (350) Red-footed Booby Colony. We visited this colony at 1150 hours. Field party consists of R. Fleet, W. King, D. Orr, and R. Walker of Hawaiian Fish & Game.

These Boobys were in various stages of development but all capable of flight. About 30% were still in first year plumage. Five birds were captured, four were banded. The fifth bird was caught by the webbing of its right foot on a branch. The bird was emaciated, its right foot almost gone. Since it obviously would not live, it was killed. Bones and bodies of 10 birds were found at base of trees (bushes) in which they nest. Obviously they suffer heavy predation from Monkeys, and Marine Rifle Range. One monkey was seen.

Trees average 8 ft. in height. Nests are simple platforms of sticks. ^{As breeding} One Brown Booby and 4 Frigates were also seen.

RRJ.

(2)

Mokapu Point

Moku Mana was observed from coastal ridge at point. Much Booby activity was observed.

We hope to return to this area at night for banding purposes.

Left area at 1350 hours.

Nov. 27, 1963

Arrived Mokapu point at 1900 hours for purpose of banding Redfooted Booby colony. Field party consisted of R. Fleet, J. Sibley, R. Clapp, W. King, D. Bratley, L. Huber, and R. Walker (Hawaii Fish & Game).

An estimate of population ~~was~~ made by Sibley at around 1500 birds or more; I feel that 1000 to 1500 birds is more in line with the actual count. We banded 191 individuals, of which 61 were immature or rather subadult. Banding was made extremely difficult due to heavy scrub tree growth in which the birds were roosting as well as the up and down nature of the ground surface.

Two band recoveries were made. [697 69623 - 44725037]. The first is thought to be one of Dr. Behmole. We left colony at 2100 hrs. Very tiring.

PERMIT NO. = 8826

AREA = Mokepe Point

BAND PREFIX = 757

BANDER = R. Fleet, W. King, D. Gu, R. Walker.

RRF

Nov. 22, 1963
(1)

60501

Red footed Booby.

juv.

02

"

"

03

"

"

04

"

"

PERMIT NO. = 8826

AREA = Mokapu Point

BAND PREFIX = 757

BANDER = Flut, Sibley, King, Clapp, Bratton, Walker, Huber

RRJ

Nov. 27, 1963

(2)

60510 Red-footed Booby

11	"	39	"
12	" immature	40	" immature
13	"	41	"
14	" immature	42	"
15	"	43	"
16	"	44	"
17	"	45	" immature
18	"	46	" "
19	"	47	"
20	"	48	" immature
21	"	49	"
22	" immature	50	"
23	" "	51	"
24	" "	52	"
25	"	53	"
26	"	54	"
27	" immature	55	" immature
28	"	56	"
29	"	57	" immature
30	"	58	" "
31	"	59	"
32	"	60	"
33	"	61	" immature
34	"	62	"
35	"	63	" immature
36	"	64	" "
37	"	65	" "
38	" immature	66	"

PERMIT NO. = 8826

AREA : Mokapu Pt.

BAND PREFIX : 757

BANDER

Fleet, Sibley, King, Clapp, Braxton, Walker, Nelson

RRJ

Nov. 27, 1963

(3)

67	" immature	96	"
68	"	97	"
69	"	98	"
70	" immature	99	"
71	"	600	" immature
72	"	01	" "
73	"	02	" "
74	" immature	03	" "
75	"	04	" "
76	" immature	05	" "
77	" "	06	"
78	"	07	"
79	" immature	08	" immature
80	" "	09	" "
81	" "	10	"
82	" "	11	"
83	"	12	"
84	"	13	"
85	" immature	14	"
86	" "	15	"
87	"	16	"
88	" immature	17	"
89	"	18	" immature
90	"	19	"
91	"	20	" immature
92	"	21	"
93	"	22	"
94	"	23	" immature
95	"	24	" "

PERMIT NO. = 8826

AREA = Mikoyan Pt.

BAND PREFIX = 757

BANDER : Fleet, Sibley, King, Clapp, Beakley, Walker, Huber.

RRJ

Nov. 27, 1963

(4)

25	"	54	" immature
26	"	55	" "
27	"	56	"
28	"	57	"
29	"	58	"
30	"	59	"
31	"	60	"
32	"	61	" immature
33	"	62	"
34	" immature	63	"
35	"	64	" immature
36	"	65	"
37	"	66	" immature
38	"	67	"
39	"	68	"
40	"	69	"
41	"	70	" immature
42	" immature	71	"
43	"	72	"
44	" immature	73	" immature
45	" "	74	"
46	" "	75	"
47	"	76	"
48	"	77	" immature
49	"	78	"
50	"	79	" immature
51	" immature	80	" "
52	"	81	"
53	"	82	"

PERMIT NO. = 8826
AREA = Makapu Pt.
BAND PREFIX = 757

RRJ
Nov. 27, 1963
(5)

BANDER = Fleet, Sibley, King, Clapp, Bratley, Walker, Huber.

- 83 "
- 84 "
- 85 "
- 86 "
- 87 "
- 88 "
- 89 "
- 90 " immature
- 91 " "
- 92 "
- 93 "
- 94 "
- 95 "
- 96 "
- 97 "
- 98 " immature
- 99 "
- 60700 "

RECOVERYS : 697-69623
44-725037

RRJ

(1)

Manana Island (2)

Nov. 23, 1963

Arrived Manana at 1100 hours. Field party consisted of R. Flax and W. King. Common Noddys were swooping overhead as we landed. Approx. 1/6 of flat area was covered. M. Ord estimated 250 immature Wedge tail Shearwaters on the entire island. A estimate 1000 immature Wedge tails, excluding the crater which was not seen due to high ridge and which we understand contains the ~~most distinct~~ heaviest population of birds. An estimated 100 Common Noddys were seen flying, and sitting on cliffs and tide flats. Two Ruddy Turnstones were seen along the shore.

Two Common Noddys were banded and 209 immature Wedge tail Shearwaters were banded.

In some areas the burrows were so thick that one could not help but step into some of them. At one point I could count 30 burrows in the area around me.

Eight dead Wedge tails and two dead Common Noddys. Major veg. was (sand bur) ? bur grass. Saw two rabbits.

Left island at 1638 hours.

Manana Island (2)

Wedge tail burrows were generally rather deep here (measurements to be taken) primarily due to excellent soil conditions. Many burrows, however, were partially caved in probably from age. Some burrows were found to be roofed with a mat of low growing succulent. The sand basis of the vegetation seems to stick to the down of the young birds in large masses but evidently doesn't stick to adult feathers (primaries, etc.).

A few dark-phase Wedgetails were seen. There are not just light and dark but also various intermediate phases to be reckoned with.

Many immature Wedgetails were found to have holes in the webbing of the feet. Is this disease?

Nov. 29-30.

Arrived Manana at 1830 hours on November 29, by boat, courtesy of Mr. Harold Ahuna. Field party consisted of R. Fleet, W. King and D. Bratley. We set up camp, equipped ourselves with bands and headlamps and proceeded up slope toward crater rim, banding Wedgetail Shearwaters on our way up.

RRJ
(3)

Manana Island (2)

The crater is roughly circular and about 1200' from rim to rim. We estimated the Wedgetail population within the crater to be 3000 birds, all nearly fledged nestlings. This gives a total nestling population at this time of 4000-4500. An estimated 2000 Common Noddys were roosting on the inside of the crater rim and up the ridge to the peak. The moon was full and they proved to be extremely difficult to capture. We were able to band 10 Common Noddys.

We continued onto the crater floor banding Wedgetails. All were late stage nestlings apparently having been deserted by the adults. These birds were found sitting singly or in groups on the surface. ~~Some~~ A few of these birds could fly and did so if launched from a slope.

All individuals were infested with Hippoboscids and burrow entrances would contain 50 to 100 of these insects. Large cockroaches (3in.) were abundant.

Banded 500 Wedgetails and retired for night. Next morning banded an additional 100 Wedgetails before leaving.

A mix-up as to time of departure prevented us from visiting Black Is. (1),

RRF
(4)

Manana Island (2)

as we had hoped to do.

We heard a Sooty Tern calling at night
and Sat. morning saw 2 Ruddy
Turnstones.

Major plants were sand bar, Coconut Palm,
Wild Tomato, Scaevola. One rabbit
was seen as well as 2 Black Crowned
Night Herons.

PERMIT NO. : 8826
AREA : Manana Is. (2)
BAND PREFIX : 615
BAND R : R. Fleet, W. King

RRJ
Nov. 23, 1961
(1)

02192	Wedgetail immature
93	" holes in web of foot
94	" in collapsed burrow
95	" holes, collapsed burrow
96	" holes, very young
97	"
98	"
99	" very young
02200	" holes, no down.
01	" holes
02	" "
03	" "
05	" "
06	" "
07	"
08	"
09	"
10	"
11	"
12	" holes
13	"
14	"
15	"
16	"
17	"
18	"
19	"
20	"
21	"
22	" intermediate dark phase

PERMIT N 2626

AREA

BAND PREFIX : 615

BANDER : R. J. U. King

RRJ

Nov. 23, 1963

(2)

23	" dark phase, young	52	
24	"	53	
25	"	54	
26	"	55	
27	"	56	
28	" dark phase	57	"
29	"	58	"
30	"	59	"
31	" no down	60	"
32	"	61	"
33	"	62	"
34	"	63	"
35	"	64	" no down
36	"	65	"
37	"	66	"
38	"	67	"
39	"	68	" no down
40	"	69	"
41	"	70	"
42	"	71	"
43	"	72	"
44	"	73	"
45	"	74	"
46	"	75	"
47	"	76	"
48	"	77	"
49	"	78	"
50	"	79	"
51	"	80	"

PERMIT NO. = 8826
AREA : Manana Is. (2)
BAND PREFIX : 615
BANDER : R. Fleet, W. King

RRJ
Nov. 23, 1963
(3)

81	"	10	"
82	"	11	"
83	"	12	"
84	"	13	"
85	"	14	"
86	"	15	"
87	"	16	"
88	"	17	" dark phase
89	"	18	"
90	"	19	"
91	"	20	"
92	"	21	"
93	"	22	"
94	"	23	"
95	"	24	"
96	"	25	"
97	"	26	"
98	"	27	"
99	"	28	"
02300	"	29	"
01	"	30	"
02	"	31	" holes
03	"	32	"
04	"	33	"
05	"	34	" dark phase
06	"	35	"
07	"	36	"
08	"	37	"
09	"	38	"

PERMIT NO = 8826

AREA : *Manana A. (2)*

BAND PREFIX = 615

BANDER = *R. Fleet, W. King.*

RR 7

Nov. 23, 1963

(4)

39	"	68	" <i>intermediate dark phase</i>
40	"	69	"
41	"	70	"
42	"	71	"
43	"	72	"
44	"	73	"
45	"	74	"
46	"	75	"
47	"	76	"
48	"	77	"
49	"	78	"
50	"	79	"
51	"	80	"
52	"	81	"
53	"	82	" <i>dark phase</i>
54	"	83	"
55	"	84	"
56	"	85	"
57	"	86	"
58	"	87	" <i>intermediate dark phase</i>
59	"	88	" <i>holes</i>
60	"	89	"
61	"	90	"
62	"	91	"
63	"	92	" <i>much down (6 weeks)</i>
64	"	93	"
65	"	94	"
66	"	95	"
67	"	96	"

PERMIT NO. : 8826
AREA : Manana Is. (2)
BAND PREFIX : 615
BANDGR : R. Fleet, W. King.

RR 7
Nov. 23, 1963
(5)

97 "
98 "
99 "
0 2400 "

PERMIT NO. : 8826
AREA : Manana Is. (2)
BAND PREFIX : 753
BANDER : R. J. Lut, W. King

RR J
Nov. 23, 1963
(6)

31002 Common Noddy, immature
003 " "

PERMIT NO. = 8826
AREA = Manana Is. (2)
BAND PREFIX: 753
BANDER Fleet, King Easley

R.R.F.
Nov. 29-30, 1963

31004	Common Noddy, Adult
05	"
06	"
07	"
08	"
09	"
10	"
11	"
12	"
31013	"

PERMIT NO. = 8826
 AREA = Mananao (2)
 BAND PREFIX = 615
 BANDER = R. Flad, King, Bretley

RRJ.
 Nov. 29-30, 1963
 (1)

02501	Wedgetail nestlings	31	"	61	" holes
02	"	32	" holes	62	"
03	" holes	33	"	63	"
04	"	34	"	64	"
05	"	35	"	65	"
06	"	36	"	66	"
07	"	37	"	67	"
08	"	38	"	68	"
09	"	39	"	69	"
10	"	40	"	70	"
11	"	41	"	71	"
12	"	42	"	72	"
13	"	43	"	73	"
14	"	44	"	74	"
15	"	45	"	75	"
16	"	46	"	76	"
17	"	47	"	77	"
18	"	48	"	78	"
19	"	49	"	79	"
20	"	50	"	80	"
21	"	51	" holes	81	"
22	"	52	"	82	"
23	"	53	"	83	"
24	"	54	"	84	"
25	"	55	"	85	"
26	"	56	"	86	"
27	"	57	"	87	"
28	"	58	"	88	"
29	"	59	"	89	"
30	"	60	"	90	"

PERMIT NO. : 8826
 AREA : Hanana, (2)
 BAND PREFIX : 615
 BANDER : Flat, King, Bentley

RRF.
 Nov. 29-30, 1963
 (2)

91	"	21	"	51	"
92	"	22	"	52	"
93	"	23	"	53	"
94	"	24	"	54	"
95	"	25	"	55	"
96	"	26	"	56	"
97	"	27	"	57	"
98	"	28	"	58	" holes
99	"	29	"	59	"
600	"	30	"	60	"
01	"	31	"	61	"
02	"	32	"	62	"
03	"	33	"	63	"
04	" dark phase holes	34	" dark phase	64	"
05	"	35	"	65	"
06	"	36	" holes	66	"
07	"	37	" dark phase	67	"
08	"	38	"	68	"
09	"	39	"	69	"
10	"	40	"	70	"
11	"	41	"	71	"
12	"	42	"	72	"
13	"	43	"	73	"
14	"	44	" holes	74	"
15	"	45	"	75	"
16	"	46	"	76	"
17	"	47	"	77	"
18	"	48	"	78	"
19	" lost	49	"	79	"
20	"	50	" lost	80	"

PERMIT NO. = 9826
 AREA : Manana Is. (2)
 BAND PREFIX: 615
 BANDER = Fleet, King, Bradley

RRJ
 Nov. 29-30, 1963
 (3)

81	"	11	"	41	"
82	" holes	12	"	42	"
83	"	13	"	43	"
84	"	14	"	44	"
85	"	15	"	45	"
86	"	16	" dark phase	46	"
87	"	17	"	47	"
88	"	18	"	48	"
89	"	19	"	49	" dark phase
90	"	20	"	50	"
91	"	21	"	51	"
92	"	22	"	52	"
93	"	23	"	53	"
94	"	24	"	54	"
95	"	25	"	55	" dark phase
96	"	26	"	56	"
97	"	27	"	57	"
98	"	28	"	58	"
99	"	29	"	59	"
700	"	30	"	60	"
01	"	31	"	61	"
02	"	32	"	62	"
03	"	33	"	63	" holes
04	"	34	"	64	"
05	"	35	"	65	"
06	"	36	"	66	"
07	"	37	"	67	"
08	"	38	"	68	"
09	"	39	"	69	" dark phase
10	"	40	"	70	"

PERMIT NO. = 8826
 AREA = Manana Is. (2)
 BAND PREFIX = 615
 BANDER = Fleet, King, Braden

PRJ
 Nov. 29-30, 1963
 (4)

71	"	01	"	31	"
72	"dark phase	02	"	32	"
73	"	03	"	33	"
74	"	04	"	34	"
75	"	05	"	35	"
76	"	06	"	36	"
77	"	07	"	37	"
78	"	08	"	38	"
79	"	09	"	39	"
80	"	10	"	40	"
81	"	11	"	41	"
82	"	12	"	42	"
83	"	13	"	43	"
84	"	14	"	44	"
85	"	15	"	45	"
86	"	16	"	46	"
87	"	17	"	47	"
88	"	18	"	48	"
89	"	19	"	49	"
90	"	20	"	50	"
91	"	21	"	51	"
92	"	22	"holes	52	"
93	"	23	"	53	"
94	"	24	"	54	"
95	"	25	"dark phase	55	"
96	"	26	"	56	"
97	"dark phase	27	"	57	"
98	"	28	"	58	"
99	"	29	"	59	"dark phase
800	"	30	"	60	"

PERMIT NO. = 8826

AREA = Marana Jr. (2)

BAND PREFIX = 615

BANDER = Fleet, King, Bratley

RRF

Nov. 29-30, 1963

(5)

61	"	91	"	21	"
62	"	92	" dark phase	22	" holes
63	"	93	"	23	"
64	"	94	"	24	"
65	"	95	"	25	"
66	"	96	" dark phase	26	"
67	"	97	"	27	"
68	"	98	"	28	"
69	"	99	"	29	"
70	"	900	"	30	"
71	"	01	"	31	"
72	"	02	"	32	"
73	"	03	"	33	"
74	"	04	"	34	"
75	"	05	"	35	"
76	"	06	" lost	36	"
77	" holes	07	"	37	"
78	"	08	"	38	"
79	"	09	"	39	"
80	"	10	"	40	"
81	" dark phase	11	"	41	"
82	"	12	"	42	"
83	"	13	"	43	"
84	"	14	"	44	"
85	"	15	"	45	"
86	"	16	"	46	"
87	"	17	"	47	"
88	" holes	18	"	48	"
89	"	19	"	49	"
90	"	20	"	50	"

PERMIT NO. = 8826

AREA = Manana Is (2)

BAND PREFIX = 615

BANDGR = Fleet, King Boat Bay

R.R.F.

Nov. 29-30, 1963

(6)

51	"	81	"	11	"
52	"	82	"	12	"
53	"	83	"	13	"
54	"	84	"	14	"
55	"	85	"	15	"
56	"	86	"	16	"
57	"	87	"	17	"
58	"	88	" holes	18	"
59	"	89	" holes	19	"
60	" holes	90	"	20	"
61	"	91	"	21	"
62	"	92	"	22	" dark phase
63	"	93	"	23	"
64	"	94	"	24	"
65	"	95	" holes	25	"
66	"	96	"	26	"
67	"	97	"	27	" dark phase
68	"	98	" holes	28	"
69	"	99	"	29	"
70	"	3000	" dark phase holes	30	"
71	"	01	"	31	"
72	"	02	"	32	"
73	"	03	"	33	"
74	"	04	"	34	"
75	"	05	"	35	"
76	"	06	"	36	"
77	"	07	"	37	"
78	"	08	"	38	"
79	"	09	"	39	"
80	"	10	"	40	"

PERMIT NO: = 8826
AREA = Manana A. (2)
BAND PREFIX = 615
BANDGR = Fleet, King, Bradley

RRF.
Nov. 29-30, 1963
(7)

41	"	71	"
42	"dark phase	72	"
43	"	73	"
44	"	74	"
45	"	75	"
46	"	76	"
47	"	77	"
48	"	78	"
49	"	79	"
50	"	80	"
51	"	81	"
52	"	82	"
53	"	83	"
54	"	84	"intermediate dark phase
55	"	85	"
56	"	86	"
57	"holes	87	"
58	"	88	"
59	"	89	"
60	"	90	"
61	"	91	"
62	"	92	"dark phase
63	"	93	"
64	"	94	"
65	"	95	"
66	"	96	"
67	"	97	"
68	"	98	"
69	"	99	"
70	"	03 100	"dark phase

Location *Manana Is. (2)*
 Observer *Flatt, King, Bradley* Date *Nov. 29-30, 1963* Time *1830* to *1200*
 Weather *Fair*

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross								
Black-footed Albatross								
Wedge-tailed Shearwater				3000+				
Christmas I. Shearwater								
Audubon's Shearwater								
Bonin I. Petrel								
Phoenix I. Petrel								
Bulwer's Petrel								
Sooty Petrel								
Red-tailed Tropicbird								
White-tailed Tropicbird								
Masked Booby								
Brown Booby								
Red-footed Booby								
Great Frigatebird								
Golden Plover								
Ruddy Turnstone	2							
Wandering Tattler								
Sanderling								
Bristle-thighed Curlew								
Sooty Tern	1							<i>found</i>
Gray-backed Tern								
Brown-winged Tern								
Common Noddy				2000+				
Hawaiian Noddy								
Blue-gray Noddy								
Fairy Tern								
<i>BLACK CROWNED NIGHT HERON</i>	<i>2</i>							

Dec. 1, 1963

Makulua Islands (3)

We left for Makulua Is. at 1130 hours, courtesy of Mr. E. Kederman Jr., deputy game warden, Hawaiian Fish & Game Comm. Field party consisted of R. Flint, W. King, D. C. Ely, R. Clapp, D. Bradley, J. Danner, & J. Abbott.

The island is a double one, the larger one lies 3800' off Oahu. It is ^{1000'}875' long by ^{800'}750' wide. It consists of two peaks with a saddle back ridge running between them. On the Oahu side a long slope runs down to a sand beach. The seaward side consists of sheer cliffs. The higher peak rises to a height of 225 ft.

The party landed on the sand beach which faces Oahu. The beach is separated from the remainder of the island by a fence which is posted with 'No Trespassing' signs, placed there by Hawaiian Fish & Game.

This beach is open to the public and although we found approximately 35 Wedgetails in this area, the population is undoubtedly limited or reduced due to rubbish strewn about by visitors.

We proceeded above the fence and continued banding. A total of 313 nestling Wedgetails were banded on the big island.

Left big island at 1500 hours and proceeded to small island. This island consists of a single peak and is 875' by

Makulua Islands (3)

^{700'}
675'. It is situated 850' south of the big island. The island has no beach and offers only steep slopes for burrows. We completed two partially used strings of bands, banding 87 nestling Wedge tail Shearwaters.

Plants were not sampled due to shortage of time for analysis but common species were noted. Among these were *Scaevola*, Coconut Palm, *Casuarina equisetifolia*, *Sesuvium portulacastrum* and wild Tomato.

One *Laysan albatross* was seen in the vicinity of the big island during our stay there. A group of 3 *Rinobirds* (?) was seen on the big island. One *Wandering Tattler* was seen on the small island. About 10 *Rock Doves* were seen on both islands.

One dead *Rock Dove* was seen on the big island. A total of 12 dead *Wedge tails* ^{were} seen; ^{seen} and 16 spoiled eggs were seen on the big island and approx 20 spoiled eggs on the small island.

Makulua Is. & *Papua Is.* appear to have the highest egg mortality of all the islands surveyed. A total of 404 *Wedge tails* were seen. One individual had a rehealed broken wing and was not banded. Two *Wedge tails* were not banded since they were so young as to

Makulea Island (3)

not be expected to survive. One of these had down on dorsal surface and primaries only 1 inch out of sheath. One individual was discovered but not banded due to band shortage.

There was evidence that many nestlings had already left the islands. Feathers and down were seen in now unoccupied burrows. Estimated total on both islands at breeding peak would be 1500-2000 nestlings. Some nestlings were found to be able to fly away from island if launched from sufficient altitude.

Burrows were found to be especially long (deep) in the sandy beach area on the big island and in level areas on the small island. Some of these were estimated to be 5 ft. in length.

Hippoboscids were seen but not in as great numbers as on Manana. Small red ants, spiders, beetles, etc.

PERMIT NO. = 8826
 AREA = Makulea Is. (3)
 BAND PREFIX = 615
 BANDER = Fleet, King, Ely, Clapp, Bratley

Dec 30, 1963
 (4)

03101	Wedgetail nestling	31	"	61	"
02	"	32	"	62	"
03	"	33	"	63	"
04	"	34	"	64	" holes
05	"	35	" much down	65	"
06	"	36	"	66	"
07	"	37	"	67	"
08	"	38	"	68	"
09	"	39	" dark phase	69	"
10	"	40	" much down	70	"
11	"	41	"	71	"
12	"	42	"	72	"
13	"	43	"	73	"
14	"	44	"	74	"
15	"	45	"	75	"
16	"	46	"	76	" dark phase
17	"	47	" dark phase	77	"
18	"	48	"	78	"
19	"	49	"	79	" dark phase
20	"	50	"	80	"
21	"	51	"	81	"
22	"	52	"	82	"
23	"	53	"	83	" (with lumps) maxilla distorted
24	"	54	"	84	"
25	"	55	"	85	"
26	"	56	"	86	"
27	"	57	" dark phase	87	"
28	"	58	"	88	"
29	"	59	"	89	"
30	"	60	"	90	"

PERMIT NO. : 8826
 AREA : *Michigan* (33)
 BAND PREFIX : 615
 BANDER : *Hest, King, Clay, Clapp, Brantley*

Dec. 30, 1963
 (2)

91	"	21	"	51	"
92	"	22	" <i>dark phase</i>	52	"
93	"	23	"	53	"
94	"	24	"	54	"
95	"	25	"	55	"
96	"	26	"	56	"
97	"	27	"	57	"
98	" <i>on surf., under 5000.</i>	28	"	58	"
	" <i>"m.d., cont'd by</i>	29	"	59	"
99	"	30	"	60	"
200	"	31	"	61	"
01	"	32	"	62	"
02	"	33	"	63	"
03	"	34	"	64	"
04	"	35	"	65	"
05	"	36	"	66	"
06	"	37	"	67	"
07	"	38	"	68	"
08	"	39	"	69	"
09	"	40	"	70	"
10	"	41	"	71	"
11	"	42	"	72	" <i>dark phase</i>
12	"	43	"	73	"
13	"	44	"	74	"
14	"	45	"	75	"
15	"	46	"	76	"
16	"	47	"	77	"
17	"	48	"	78	"
18	"	49	"	79	"
19	"	50	"	80	"

PERMIT NO. : 8826

AREA : *Mikadaka Is. (3)*

BAND PREFIX : 615

BANDER : *Fleet, King, Ely, Clapp, Bradley*

Dec. 30, 1963
(3)

81	"	11	"	41	"
82	"	12	"	42	"
83	"	13	"	43	"
84	"	14	"	44	"
85	"	15	" <i>holes</i>	45	"
86	"	16	"	46	"
87	"	17	"	47	"
88	"	18	"	48	"
89	"	19	"	49	"
90	"	20	"	50	"
91	"	21	"	51	"
92	"	22	"	52	"
93	"	23	"	53	"
94	"	24	"	54	"
95	"	25	"	55	"
96	"	26	"	56	"
97	"	27	"	57	"
98	"	28	"	58	"
99	"	29	"	59	"
300	"	30	"	60	"
01	"	31	"	61	"
02	"	32	"	62	"
03	"	33	"	63	"
04	"	34	"	64	"
05	"	35	"	65	"
06	"	36	"	66	"
07	" <i>dark phase</i>	37	"	67	"
08	"	38	"	68	"
09	"	39	" <i>holes</i>	69	"
10	"	40	"	70	"

SMALL ISLAND

PERMIT NO. = 8826

AREA : Makulua Is. (3)

BAND PREFIX: 615

BANDER : Fleet, King, Ely, Clapp, Bentley

Dec. 30, 1963

(4)

		LARGE ISLAND			
71	"	01	"	31	"
72	"	02	"	32	"
73	"	03	"	33	"
74	"	04	"	34	"
75	"	05	"	35	"
76	"	06	"	36	"
77	"	07	"	37	" dark phase
78	" holes	08	"	38	"
79	"	09	" dark phase	39	"
80	" dark phase	10	"	40	"
81	"	11	"	41	" inter-dark phase
82	"	12	"	42	"
83	"	13	"	43	"
84	"	14	"	44	"
85	"	15	"	45	"
86	"	16	"	46	"
87	"	17	"	47	"
88	"	18	"	48	"
89	" holes	19	" holes	49	"
90	"	20	"	50	"
91	"	21	"	51	" SMALL ISLAND
92	"	22	"	52	"
93	"	23	"	53	"
94	"	24	"	54	"
		25	" holes	55	"
				56	"
				57	"
				58	"
		29	"	59	"
400	"	30	"	60	"

PERMIT NO. = 8826
AREA = Makaleia Island (3)
BAND PREFIX = 615

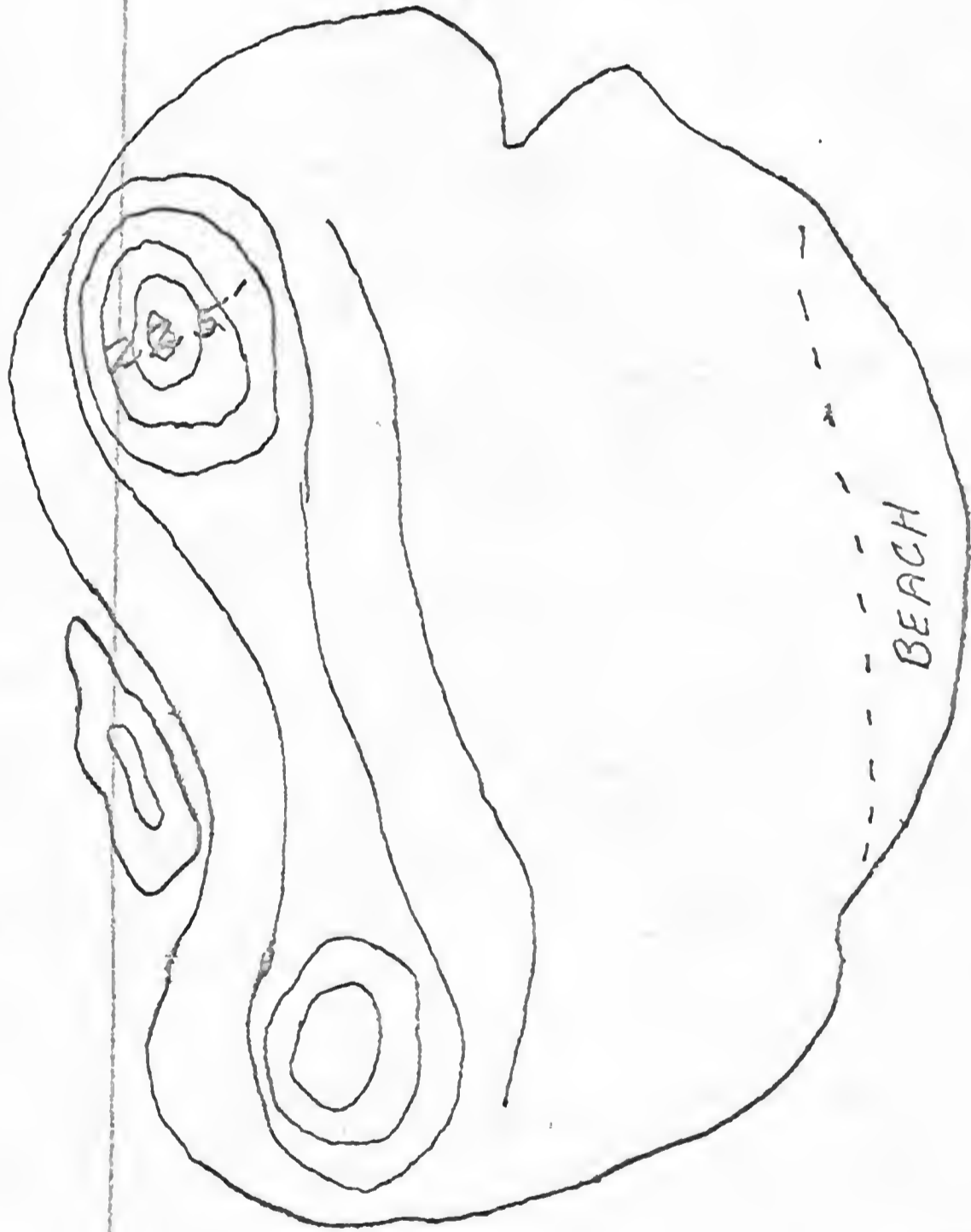
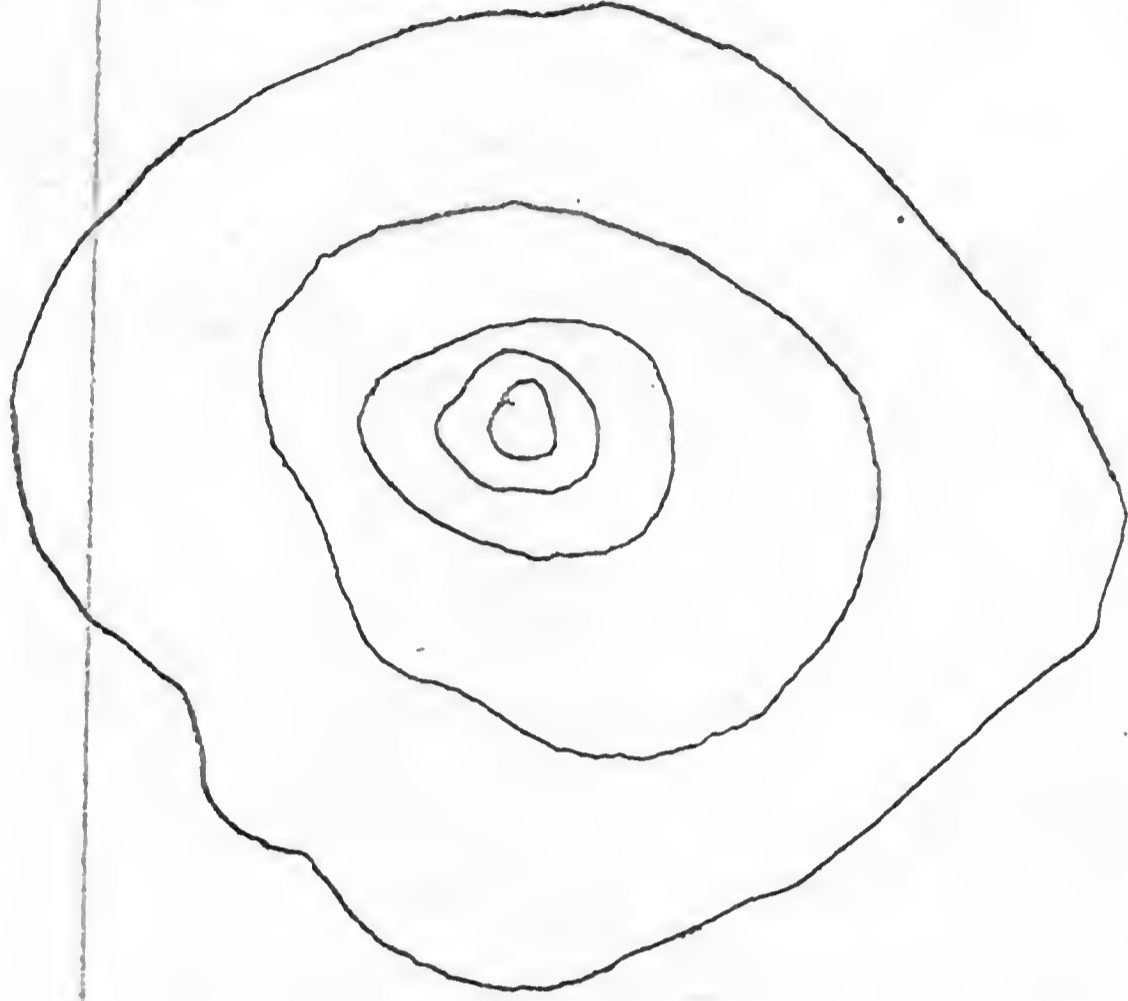
Dec. 30, 1963
(5)

BANDER = Fleet, King, Ely, Clegg, Beathen

61	"	91	"
62	"	92	"
63	"	93	"
64	"	94	"
65	"	95	"
66	"	96	"
67	"	97	"
68	"	98	"
69	"	99	"
70	" dark phase	03500	"
71	"		
72	"		
73	"		
74	"		
75	"		
76	"		
77	"		
78	"		
79	"		
80	"		
81	" dark phase		
82	" dark phase		
83	"		
84	"		
85	"		
86	"		
87	"		
88	" dark phase		
89	"		
90	"		

RRJ.

Makulua Islands (3)



Mokuauia

Tournefortia argentea
Sida fallax
Jacquemontia sandwichensis
Scaevola taccada
Tipochaeta integrifolia
Pluchea indica
Sesuvium portulacastrum
Fimbristylis cymosa
Terminalia catappa
Ipomoea pes-caprae
Sporobolus virginicus
Digitaria henryi ??
Coccoloba uvifera
Casuarina equisetifolia
Passiflora caerulea or *suberosa*
Cocos nucifera

Mokolii

Cocos nucifera
Digitaria henryi
Sida fallax
Ipomoea pes-caprae
Schinus terebinthifolius
Xantusia camara
Triachne insularis
Terminalia catappa
Nicotiana glauca
Scaevola taccada
Fimbristylis cymosa
Lycium carolinense
Heliotropium curassivicum

Cyperus javanicus
Opuntia megacantha
Emelia javanica
Stachytarpheta jamaicensis
Scaevola taccada
Polypodium scolopendria
Portulaca oleracea
Boerhavia ripens

Moku Manu *Sesuvium portulacastrum*
Chenopodium album
Tribulus cistoides

Kekepa *Heliotropium anoualium*
Sida fallax
Euphorbia degeneri

Coral Island. *Mespesia populnea*
Sesuvium portulacastrum
Paspalum distichum
Scaevola taccada
Journefortia argentea
Batis maritima
Pluchea indica
Rhizophora mangle
Morinda citrifolia

Kapapa *Casuarina stricta?*
Sida fallax
Cordia subcordata

Heliotropium anouatum
Turnerfortia argentea
Jacquemontia sandwicensis
Sporoclea indica
Leucaena leucocephala
Stavola taecada
Ambristylis cymosa
Sporobolus virginicus
Chenopodium caruense
Hibiscus tiliaceus
Lipochaeta integrifolia
Cocos nucifera
Sesuvium portulacastrum
Lantana camara
Boerhavia ripens
Tricachne insularis?

Manana *Cocos nucifera*
Sesuvium portulacastrum
Cenchrus echinatus

- NIHOA FAUNA -

	ACTUAL COUNT	TOTAL POP. ESTIMATE	REMARKS.
BLUE-FACED BOOBY			File
ADULTS	26	(50) ✓	notes from
IMMATURE	14		
RED-FOOTED BOOBY			Fleet is
ADULT	449	(900) ✓	Sept. 1964
IMMATURE	68		
LOCAL	15		
BROWN BOOBY			
ADULT	2	(20) ✓	
IMMATURE	4		
GREAT FRIGATEBIRD			
IMMATURE	1002	(6000) ✓	estimate includes 50% nest mortality.
LOCAL	167		
RTTB			
ADULT	3	(50) ✓	
IMMATURE	5		
LOCAL	4		
COMMON NODDY		(3500 YOUNG) ✓	few eggs, few nestlings, mostly locals & immatures
HAWAIIAN NODDY		(250) ✓	roosting
GRAY-BACKED TERN			
ADULT	1	(50) ✓	
IMMATURE	6		
SOOTY TERN			one heard ✓
FAIRY TERN	175	(350) ✓	
BLUE-GRAY NODDY		(150) ✓	
WEDGE TAILED S.		(2000 YOUNG) ✓	slowing chicks
BULWER'S PETREL		(1500) ✓	all over ship at night.

COUNT

Ruddy Turnstone 30 ✓

Golden Plover 5 ✓

Nihoa Finch (4500)

Miller Bird (150)

guess work only!

estimated 40 on Miller peak
most netted 8 individuals.

LISIANSKI FAUNUNA -

	ACTUAL COUNT	TOTAL POP. ESTIMATE	REMARKS
BLUE-FACED BOOBY			
ADULTS	98		
IMMATURE	54	(250) ✓	
RED-FOOTED BOOBY			
ADULTS	298		
IMMATURE	103	(500) ✓	
LOCAL	17		
BROWN BOOBY			
ADULTS	10		
IMMATURE	1	(25) ✓	
GREAT FRIGATEBIRD			
ADULTS	65		
IMMATURE	235	(1600) ✓	
RTTB ADULTS	12		
IMMATURE	5	(50) ✓	adult aerial count at 1330 hrs.
COMMON NODDY		(2700) ✓	immature birds present.
SOOTY TERN		(4000)	flying young - remnants of larger colony.
HAWAIIAN NODDY			
ADULTS	12	(100) ✓	
FAIRY TERN			
ADULTS	9	(25) ✓	
WEDGETAILED S.		(30,000 PAIR) ✓	downy chicks; based on burrow estimate.
CHRISTMAS IS. S.			
ADULTS	3	? ✓	no evidence of breeding
BONIN IS. P.			
ADULTS	30	? ✓	COMING IN TO ISLAND AS LEAVING!

COUNT

- 2 -

WANDERING TATTLER

ADULTS 16

(20)

GOLDEN PLOVER

ADULTS 50

(75) ✓

44 interior of island, 6
on beach's

RUDDY TURNSTONE

ADULTS 900

(1000) ✓

18 interior of islands, large
flocks of 250, 600.

SANDERLING

ADULTS 2

? ✓

BRISTLE-THIGHED CURLEW

ADULTS 24

(30) ✓

N. ISLAND PEARL & HERMES REEF

ACTUAL COUNTS

ESTIMATES

REMARKS

BLUE-FACED BOOBY

AD. 20

IMM. 1

(30) ✓

RED-FOOTED BOOBY

AD. 41

IMM. 3

(20) ✓

GREAT FRIGATEBIRD

IMM. 7

LOC. 36

AD 80

(200) ✓

RTTB

AD 5

IMM 1

(10) ✓

COMMON NODDY

(400) ✓

TOTAL

(few eggs + imm.)
mostly locals.

HAWAIIAN NODDY

(100) ✓

roosting

FAIRY TERN 2

✓

flew over island.

WEDGE TAIL S.

(1500) ✓

TOTAL

downy chicks

RUDDY TURNSTONE 75

✓

GOLDEN PLOVER 1

✓

B.T. CURLEW 1

✓

heard

(5) N ISLAND P & H. REEF

ACTUAL COUNT

ESTIMATE

REMARKS

BLUE-FACED BOOBY

AD. 51
IMM. 2
LOC. 1

(75) ✓

RUDDY TURNSTONE

15 ✓

WANDERING TATTLER

1 ✓

SPANDERLING

1 ✓

SE Is. PEARL & HERMES REEF

ACTUAL COUNTS

ESTIMATES

REMARKS

BLUE-FACED BOOBY

AD. 20
IMM. 1

(30)

✓

BROWN BOOBY

AD. & EGGS 6
UNOCCUPIED AD 25
IMM 10
LOCAL 20

(125)

✓

RED-FOOTED BOOBY

IMM 5

(30)

✓

GREY FRIGATEBIRD

LOCALS 20
ADULTS 15

(100)

✓

RITTB

AD 1
IMM 2
LOCAL 1

(15)

✓

GREY-BACKED TERN

IMM 10
AD 30

(50)

✓

SOOTY TERN

(500)

adults & immatures

COMMON NODDY

EGGS 50

(700)
TOTAL

✓

HAWAIIAN NODDY

(900)

✓

roosting

FAIRY TERN 3

✓

flew over island

WEDGETAILED S.

(3500)
YOUNG

✓

downy young

BONIN Is. P. 6

(25)

✓

just coming in.

CHRISTMAS Is. S. 5

(25)

✓

no evidence of breeding

RUDDY TURNSTONE

(500) ✓

GOLDEN Plover

(50) ✓

WANDERING TITLER

(5) ✓

✓

BRISTLE-THIGHED CURLEW 29

EASTERN ISLAND - MIDWAY

ACTUAL COUNT

ESTIMATE

REMARKS

BLUE-FACED BOOBY

AD 6

IMM. 3

(9) ✓

RFB

~~EMMA~~
LOCAL 1

(500) ✓

roosting in
coconut trees

GREAT FRIGATEBIRD

(700) ✓

RTTB

~~EMMA~~

~~(500)~~ ✓
(1000)

eggs & immatures
(few eggs)

Common Noddy

(200) ✓

HAWAIIAN NODDY

(50) ✓

Fairy Tern

(25) ✓

WEDGETAILED S.

(3000) ✓
TOTAL

downy chicks

CHRISTMAS IS. S.

AD. = 25

(300) ✓

RODDY TURNSTONE

(200) ✓

GOLDEN PLOVER

(250) ✓

WANDERING TATTLER 6 ✓

large flocks of
migrating birds

B.T. CURLEW 1 ✓

EAST ISLAND - F.F.S.

ACTUAL
COUNT

TOTAL POP.
ESTIMATE

REMARKS

RED-FOOTED BOOBY

AD. 1
IMM. 1
LOC. 1

(10) ✓

GREAT FRIGATEBIRD

3

? ✓

roosting adults

RTTB

IMM

1

(10) ✓

COMMON NODDY

EGGS 30

(300) ✓

TOTAL BIRDS

mostly locals

SOOTY TERN

IMM 3

✓

2 w broken wings

WEDGETAIL S.

(100) nestlings ✓

GOLDEN PLOVER

47 ✓

RUPPY TURNSTONE

130 ✓

WANDERING TATTLER

1 ✓

LA FROUSE ROCK (F.S.)

ACTUAL COUNT

ESTIMATE

REMARKS

Brown Booby

IMM

7

(25)

✓

AD

7

GREAT FRIGATEBIRD

ADULT 15

✓

roosting

COMMON NODDY

(200)

✓

FAIRY TERN

(100)

✓

✓

RUDY TURNSTONE 1

TERN ISLAND

RTTB

ad. flying

4

ad on c.

1

(20)

✓

local

2

RED TAILED S.

1 downy chick

✓

RUDY TURNSTONE

35

✓

GOLDEN Plover

15

✓

ACTUAL
COUNTS

TOTAL POP.
ESTIMATE

REMARKS

BLUE-FACED BOOBY

ADULT 16
IMM. 39
LOCAL 2

(140) ✓

RED-FOOTED BOOBY

ADULT 2
IMM 4

(20) ✓

GREAT FRIGATE BIRD

AD. 1
IMM. 149
LOCAL 22

(1700) ✓

RTTB

IMM 1

(10) ✓

COMMON NODDY

EGGS 20
NESTLINGS 11

(400.) ✓
TOTAL BIRDS

GREY-BACKED TERN

IMM 1 ✓

SOOTY TERN

AD. 3 ✓

WEDGETAIL S.

~~COUNTS 100~~

(350) ✓
TOTAL BIRDS

max. of 100 downy chicks

RUDDY TURNSTONES 145 ✓

GOLDEN PLOVER 3 ✓

TRIG - F.F.S.

ACTUAL
COUNT

TOTAL POP.
ESTIMATE

REMARKS

BLUE-FACED BOOBY

ADULT 2
IMM. 21
LOCAL 1

(75) ✓

RED-FOOTED BOOBY

ADULT 2
IMM. 2

(10) ✓

COMMON NODDY

ADULTS
CHICKS

(200) ✓

(100)

eggs & immatures

WEDGETAIL S.

(300)
TOTAL BIRDS

✓

GOLDEN PLOVER

3 ✓

RUDDY TURNSTONE

45 ✓

- NECKER AVIFAUNA -

	ACTUAL COUNT	TOTAL POP. ESTIMATE	REMARKS
BLUE-FACED BOOBY			
ADULT	58		
IMMATURE	57	(190) ✓	
LOCAL	6		
RED-FOOTED BOOBY			
ADULT ON NESTS	74		
on eggs	(27)		
on chicks	(22)		
unknown	(25)	(650) ✓	
ADULTS UNOCCUPIED	84		
IMMATURE	64		
LOCAL	23		
BROWN BOOBY			
ADULT	8	(20) ✓	
IMMATURE	3		
GREAT FRIGATEBIRD			
IMMATURE	375		
LOCAL	84	(1800) ✓	
NESTLING	8		estimate includes 50% nest failure.
RITB			
IMMATURE	25		
ADULT	15	(125) ✓	actual count at 1100 hrs.
COMMON NODDY			
IMMATURE	1000		
LOCALS	2000	(3500) ✓	few eggs.
YOUNG			
HAWAIIAN NODDY			
		(250) ✓	one on egg.
GREY-BACKED TERN			
ADULT	3		
IMMATURE	2	(15) ✓	
SOOTY TERN			
			seen 4 adults in evening.
FAIRY TERN	450	(450) ✓	eggs to immatures
BLUE-GRAY NODDY			
		(450) ✓	eggs to immatures

WEDGETAILED S.

(1500 YOUNG) ✓

downy chicks; some w/ body tracts in.

BULWER'S P.

(100) ✓

RUDDY TURNSTONE 23 ✓

GOLDEN PLOVER 3 ✓

Fleet, Robert
1964

9

Spent afternoon buying necessary items for Leeward trip. Loaded gear at 1830. Spent evening getting acquainted with officers at O. Club. September 16--Under way at 0600. Stood bridge watch for birds from 0820 to 1120. Members of party Gene Kridler USF and G, Ron Walker H.F. and G, John Beardsley, entomologist, U of H., Bob Long botanist Poop, and myself. Arrived at Pearl and Hermes Reef at 1430. Landed on Southeast Island, from rubber boat, at 1630. Conducted bird, seal, and turtle population surveys. Banding and band recoveries (turtle, birds, and seals), turtle tagging. Insect and plant surveys conducted by above named specialists.

Band Recoveries: Southeast Island

757-39551	Frigate (local)
757-39555	Brown Booby immature
320	" " "
344	" " "
393	" " with chick
361	Blue-faced Booby immature
✓ { 37557	Brown Booby on egg with a
	2nd Bonin (old) egg in nest
30287	Brown Booby with chick
30139	" " " "
30213	Blue-faced Booby adult
595-62461	Wedgetail S. Adult Unidentified
89	"
01	"
39	"
94	"
61	"
544	"
646	"
38	"
65	"
615-66412	Wedgetail
7306	"
311	"
641	"
721	"
452	"
6365	"

Fleet, Robert F.
1984

10

615-1622 Wedgetail
25 "
59 "
24 "
19 "
772 "
766 "
137 "
132 "
109 "
7003 "
326 "
6373 "
7366 "
346 "

723-60850 Bonin Island Petrel Adult Unidentified

Banding Record - Southeast Island

635-20082 - 20100 Wedge-tailed Shearwater Adult Unidentified
20224, 32, 33, 35, 36 - 39, 41
43, - 300 WTS Adult - Unidentified
20401 - 500 " " "
20301 - 400 " " "
793-29101 - 103 Bonin Island Petrel Adult - Unidentified
29064 Grey-backed Tern Immature - Unidentified
65 Bonin Island Petrel Adult - Unidentified
66 " " " " "

Banded a total of 285 birds on Southeast Island.

Population Survey Estimates:

Blue-faced Booby - counted 20 adults and one immature. Breeding season completed for this species.

Red-footed Booby - found one nest with no eggs: may not be in use. Counted five immatures. (3 locals, 2 immature)

Frigatebird - 20 locals; still some down. Fifteen adults in air.

Brown Booby: Four with two eggs in nest, 2 with one each (fresh).

Twenty nestling - local (2 together at about same age - may be on air raising two young. Ten immature birds. Twenty-five adults seen on each rock offshore of island.

Hawaiian Noddy - Eight to nine hundred roosting in scaevola.

Common Noddy - 600-800. Fifty plus with eggs. Eggs to flying young.

Observed two nests in bushes.

Sooty Tern - Remnants of large colony. Five hundred remain - adults and flying young.

Grey-backed Tern - estimated thirty adults, ten flying immatures.

Red-tailed Tropicbird - two immatures, one local. One adult.

Wedge-tailed Shearwater - 3500+. All downy young.

Bonin Island Petrel - Saw six, heard more, just coming in to island.

Maybe 25 total.

Christmas Island Shearwater - Saw one pair and three individuals. No evidence of breeding.

Fairy Tern - Three flew over island on morning of 9/17.

Ruddy Turnstone - estimated 500.

Golden Plover - " 50.

Wandering Tattler " 5

Bristle-thighed Curlew - counted 29.

Monk Seal: counted 33 seals.

adult ♂ = 8
" ♀ 6
yearling ♂ 11
" ♀ 4
unclassified = 2 adult
" young = 1
unclassified = 1

One yearling nearly all green from algae.

Five tagged seals observed:

101	adult	♂
77	"	♀
113	"	♀

broken tag adult ♂
one badly faded tag.

Green Sea Turtle: night count of 32 turtles. 19 tagged, 1 recovery.

Fleet, Robert
1964

12

		width	length
1055	♂	29	32
1056	♂	32	34 1/2
1057	♀	34	34
1058	♂	33 1/2	35 1/2
1059	♀	34	36
1060	♀	31 1/2	34
1061	♂	32 1/2	36 1/2
1062	♀	37	39
1063	♀	33	34 1/2
1065	♀	31 1/2	32
1066	♀	33	35 1/2
1067	♀	35 1/2	37
1068	♀	35	30 1/2
1069	♀	23	25
1070	♀	29	30 3/4
1071	♀	33	34 1/2
1072	♀	30	31 1/2
1073	♂	33 1/2	36
1074	♀	33	33 1/2

Band recovery: 1046 ♂ 33 by 33 1/2; several egg pits found.

September 17--Struck camp at 0800 and headed for North Island. Arrived at North Island 1100 hours.

Population Survey Estimates

Blue-faced Booby - 20 adults, 1 immature
Frigatebird - counted 80 adults in air. 36 locals, 7 immatures on island.
Red-footed Booby - four adults, three immatures.
Common Noddy - estimate 400. A few eggs, mostly locals, some immatures.
Red-tailed Tropicbirds - five adults, 1 immature.
Hawaiian Noddy - estimate 100, roosting.
Fairy Tern - two flew over island.
Wedge-tailed Shearwater - many burrows containing downy chicks.
Estimate maximum of 1000 (adults).
Ruddy Turnstone - 75
Golden Plover 1
Bristle-thighed Curlew - 1 (heard)

Monk Seal: total of 36.
adult ♂ = 1
" ♀ 3
yearling ♂ = 6
" ♀ 4
unclassified adult = 10
" yearling = 9
" = 3

Fleet, Robert
1964

13

One tagged individual but couldn't get close enough to read tag.

One rust colored ♂ seal.

One ♀ in process of molt.

Green Sea Turtle: One found on beach, one swimming Beach turtle measured 25" by 24".

Left this island at 1430 and headed for ship. Soaked by rain squall. Arrived at ship 1615. One seal seen near ship 'outside of reef.' Fishing very good from ship. Trumpet fish, Ulua, and Sand Sharks. 1630 underway for Lisianski.

2300 hours Capt. notified us that won't be able to spend night on Lisianski. Will spend night on Laysan but must gain time to pick up disabled ? fishing boat.

September 18--Landed on Lisianski at 1045 hours. Approximately 80 immature Frigates over ship. One immature Blue-faced Booby, one adult Red-footed Booby, two adult Brown Boobies. Saw one medium (2 ft across) turtle about 1 mile from shore. 170 Frigates over rubber boat, later increased to 300+. Flies very bad on island. Made population estimate and shot 100 feet of 8 mm. film.

<u>Population estimate survey:</u>	Seals:	adult ♂ =	43	
		" ♀	20	
		yearling ♂	11	
		" ♀	15	
		unclassified		
		adult	22	
		unclassified		
		young	7	
	unclassified	3	total 121	

No tagged seals found.

Fleet, P.
1964--notes by species - *Kure*

1

Brown Booby

April 5--These birds began preparing nests this week. Yesterday found two nests with eggs. Total resident population estimated at 20 birds. Winter low of 5-10, when I arrived February 26. Birds easily frightened.

April 6--Four of this species standing on beach at NP at 1100 hours. This was a common occurrence before birds began to concentrate in and above NAF in preparation for breeding.

April 15--One nest with 3 eggs was torn apart cause unknown--eggs regrouped by bird. Spread out again by Wirtz; regrouped and nest rebuilt by bird.

June 6--First eggs hatched about May 22. Now have 27 nests. Birds becoming less nervous. Nests complex and built by both adults from grasses, tribulus, and Boerhaavia. Birds feed on needlefish (primarily) which are regurgitated by bird when approached, in preparation for flight.

Fleet, R.

1964--notes by species - *Kure*

2

Blue-faced Booby

January 30--Two pair in NAF with eggs under incubation on nest scrapes. One pair behind oil tanks copulating this morning.

Males have a high pitched wheeze call and ♀♀ have a lower pitched honk. Immatures also have honk. Difference in bill color--male brighter yellow (comparative characteristic).

February 7--One Blue-faced Booby ♂ in the Laysan study area observed sitting on abandoned Laysan egg. When frightened off of nest bird returned and sat on egg after nudging it with his beak.

These birds lay 2 eggs, generally sit for 12? hour periods.

February 10--Five Blue-faced Booby nests in NAF. One has a single egg, others 2.

February 11--Six nests in NAF, two with single egg. One nest in SA--2 with single egg. Don't build nest, just bore areas of sand, no veg.

February 21-- First chick appeared. No down, eyes closed. Altricial.

February 28--Second chick hatched in nest with first chick. Size ration about 4 to 1.

February 29-- Second chick gone--eaten?

March 19--New chick hatched in nest number 6. Observed ♀ at a scrape picking up and dropping twigs--in preparation to laying of egg. Difficult to move from scrape. (did lay).

Fleet, R.

1964--notes by species - *Kure*

3

March 30--Now have 12 Blue-faced Booby chicks. Chicks have a female type croak!

Gular flutter observed in adults.

April 5--Last night saw two unbanded birds standing on NE beach. Since these birds most often (except this island) nest on beach, can assume these come from some other island and are not part of resident pop.

April 7--Observed one individual pursued momentarily by Frigate. Booby squacked; Frigate gave up chase.

April 13--Observed ♀ laying egg. Was standing over nest scrape and was not frightened off by my approach. Moments later an egg appeared (a) cloaca and fell to ground. ♀ turned around rolled egg several times with beak and then stood over egg.

April 14--Bill Wirtz observed oldest chick of nest #19 attack and drive younger chick from nest. The chicks are only 3 days apart but oldest weighs 3 times as much as younger--12 and 9 days.

June 1--Young birds now have primaries and tail--feed on whale fish--anger call--defensive posture with head on ground. Some appear to have wounds on neck as if attacked by adults. Anger calls a new like snarl--same call when older chick drives younger chick from nest and when handled by us.

leest, R.

4

1964--notes by species - *Kure*

Fairy Tern

January 30-- These birds abundant on Midway on January 25. They were just then beginning courtship. Observed one bird flying over NAF this morning.

February 6--Observed a single bird over N end of runway--possibly a stray from Midway.

February 10-- Observed a single bird flying over lagoon and WB.

February 11-- Observed a single bird flying over WB near N point.

March 3-- Three birds over NF. Hovered over me, approx. 1 st. from my outstretched hand, as if to land. Calling--notes similar to guttural croak of Bonin, but shorted.

March 10--Three individual roosting in scae. (a) NP for past 3 days.

March 11--Five individuals at N end of island

March 19--Now have 3 pair at N end of island. Very curious birds--will hover near me for several min. at a time--almost perch on my outstretched hand.

May 25--One egg found on dead scae. branch in cut on WB. Egg slightly smaller than S. Tern, but same coloration. Pop. approx. 20-30 birds.

Have observed at least two other pairs carrying fish in bill--indicating possibility of chicks.

1964--notes by species - Kure

Frigates

January 30--Frigates observed from tower to be displaying (gular inflation) on central roost. Also (♂s) observed to be collecting nest material in form of sticks.

Heard to give peculiar whinny call, periodically flap wings.

February 6--Observed 3 nests in various stages of completion in central roost. Inflation of gular pouches of males becoming more frequent (also more inflated).

February 12--Frigates ♂s with inflated gular pouches stretch wings out and shake them (quiver) and give whinny cry.

February 21--Frigates egg seen by G. Kridles in central roost. Nest building still going on.

February 27--Collected 2 adult ♂s with broken wings. C. R. count up drastically to 260 plus.

March 19--Observed these birds robbing BFB nests of material while RFB were away from nest. Frigates will follow above and behind me on beach--seem very curious. Had one bird catch a stick which I had thrown in air.

March 30--Marked one nest with egg. ♀ on nest left. Today there was no sign of nest remaining. Obviously robbed of material by other birds.

April 11--Marked about 25 nests but have already lost $\frac{1}{2}$ or so. Birds now roosting on guy wires as they were last November. Just started again this week.

April 14--lost almost all study nests. Other birds steal nest material, destroy eggs, etc. when marked bird is frightened away.

April 15-- This species especially susceptible to loss from antenna.

April 17--Observed bird in AF pick up fish thrown up by BFB off ground and eat it in the air.

April 29--One nest constructed with red flag and wire from our study area.

Fleet, R.

6

1964--notes by species - *Kure*

Frigates (cont'd.)

June 1--Definite population shift to North roost noted (to a 3-1 ratio from a 3-2 ratio) probably due to S Tern nesting in C. R.

Fleet, F.

7

1964--notes by species--Kure

Red--tailed Tropicbird

January 29--Have seen eight flying over island, in groups of two or more, calling. Periodically fly out to sea (over lagoon). Apparently roosting in scaevola (all adults).

Feb. 7--Saw 16 of these birds flying about island today. Two distinct groups, one over N part of island, one over S.

Feb. 12--Increased to at least 30 individuals by Feb. 10. Usually fly about island in groups of pairs. Squack and fly backwards (flapping wings heavily and assuming a head-up vertical position. Periodically swoop low and hover over clumps of Scaevola. Have been observed diving into scaevola. (Hover about 3 feet above scaevola, fold wings and dive in.) Two birds have been captured on ground. Plumage has pink cast, bill cherry-red.

Feb.--Increased to 60 individuals in air. No nesting.

Feb. 28--Saw bird at SP with blue X on breast.

March 2--Counted 170 birds in air over island today. Banded two (2), both had pink wash to feathers. No nesting observed as yet. (One bird with chick on Midway and several on eggs?)

March 5--Banded two birds with eggs on NE point, in scaevola. Eggs are speckled reddish in color and between Bonin and B.F. Booby eggs in size. Very little nest preparation: circular area, slight depression, some few sticks and leaves.

March 6--Banded two birds with eggs near P. F. nest #6. Band No. 12661 and 12662. Counted 300 in air over island. Daily cycles should be extracted from activity study data. No. 12654 on egg at Biltmore Rd.

March 7--Rained all day. No TTB in air. Believe birds leave for sea about 1600 (1500) every day.

March 8--Banded 14 (and 2 by Wirtz) birds today. Saw one individual knocked into

Fleet, R.

8

1964--notes by species--Kure

(Red-tailed Tropicbird)

water by Frigate; another pursued by 6 Frigates.

Alarm posture: head depressed on neck; wings back along body, shoulders flared forward and out. Black scapular feathers showing.

March 9--Most of island has been searched for nesting birds. Total of 6 nests found; seem to indicate early breeders: no birds with eggs found.

Flight patterns over island seem to indicate location of roosting birds (beneath them).

In display tail is switched from one side to other every few seconds: direction not correlated with flight direction.

Two of birds banded have thrown up--one squid and one flying fish.

March 10--Very windy today and saw only 2-4 birds in the air. High winds definitely affect this species, but not others.

Saw one individual (#5): black on nares ran to tip of beak and black extended behind eye about 1 inch.

March 11--Found four more eggs today. One of birds in air mark best location.

March 14--Palped two eggs in 2 birds today. It is possible that ♀s have a lighter colored beak--at least during breeding

March 19-- Display call is a short, repeated croak--ach-ach. Alarm is same sound but longer drawn out scream and somewhat higher pitched.

These birds occasionally vomit fish when handled--primarily flying fish and squid.

March 21--Nesting birds sit in rain with head held more or less vertical allowing rain to run off.

April 11--Cloaca of ♀ after dropping egg is enlarged, swollen and of a purple color. Fecal material runs free due to strained sphincter.

April 14--now have 2 chicks. Nest #3 and 103. Approx. 2 days old. Incubation estimated to be around 30 days.

Fleet, R.

9

1964--notes by species--Kure

(Red-tailed Tropicbird)

April 29--Observed this sp. bird on nest scratching head with right foot over wing.

Rats killing all chicks. Skin them out and eat some (?) or all (?).

Approximately 350-400 eggs on island.

3-23--Seems as though pair that don't as yet have egg tend to sit together near prospective nest site in morning. Later in day one? or both? display in air.

3-24--Pair seem to sit together just before egg is laid. This would indicate that ♂ takes over almost imm. after egg is laid. Today 2 ♀s gave repeated chirping call.

3-27--Changeover bird returns, sits facing bird on egg. Repeated Al-Al calls exchanged (see #103)

5-27--Bird near N tower constructing nest. Bird sporadically pushed sand from nest area with feet. One foot at a time and frequent pauses. Definite bowl about 4 inches in depth.

Red-footed Booby

2-21 Observed these birds flying with nest material in bills over central roost.

2-27 These birds on ground pulling up vines and other vegetation for nesting material. Observed fighting among birds for nesting material.

3-19 Found circular areas (6 ft. diameter) in antenna field where RFB land as group and clear ground of vegetation.

When RFB leave nest it is immediately dived upon by several Frigates and all nesting material stolen.

3-30 Base growl call prevalent in this species.

4-26 One chick seen on 4-25.

Fleet, R.
1964--notes by species--Kure

11

Sooty Tern

Feb. 27 Have heard these birds over island since Feb. 21. Have increased every night; now approx. 20. Very difficult to estimate.

Feb. 28--Saw two birds over island at 1800 hours. Still daylight.

March 2 Saw birds over island again this morning and large groups heard last night.

March 4 Last night birds seemed to be congregating over S end of island.

March 8 Birds seen in air all day (calling) in groups up to 13 (20). Found one individual in NAF with broken wing. One was also found on March 7.

March 10 Saw 8 individuals over NP All landed.

March 11 Calling conc. at night at points (N and S).

April 14 Birds are conc. over C. E. Now down to 6-8'. Apparently going to nest there. Many kills from antennae.

April 15 This species especially susceptible to damage (wing and internal hemorrhage) from antennae.

April 26 Approx 7 0-1000 birds down in C. E.

April 29 Reduced numbers in C. E.--increase at SP. Today about 1000 birds down on W side of runway level with tower. Sample revealed one ♀ with nearly complete egg--gonad development up from 1 week ago.

May 5--Egg laying began in C. E. about this date.

May 16 Wislocki obs. one bird with orange streamer.

May 27 About 2-3000 birds in C. E. approx. 200 birds near NP appears to be trying to nest. Smoke production from burning oil drums drives these birds from critical areas where they attempt to nest.

Fleet, Robert
1964

JOURNAL

September 8

Arrived Midway at 1430 hours. Flight passed over Kauai: rugged coast line and large canyons. Also passed over Pearl and Hermes Reef.

Checked into BOQ, unpacked, checked in at Post Office, got Eastern Island pass from Security office. Bought a belt \$1.80. Lt. cdr. Keschull found a bicycle for me to use during my stay here. Got boat schedule for transportation between Easter and Sand. Visited CG ship Basswood now in port here and had a short talk with officers.

Left for Eastern Island at 1725. Sooty Terns much in evidence, Banded Tropicbirds and chick (12). Divided population into eggs, chicks under 30 days and immatures (nestlings) over 30 days old.

Eggs	2	Nestlings	5	Local and Immatures	18
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One band recovery, probably ours, RFB 615-06522.

On beach near boat landing saw shorebird: large (about size of BTC), bill similar to that of WF and dark; bird brown above, grey below with black ribbing on breast and abdomen. Greenish-yellow legs, head dark grey; anterior breast and neck shows darker grey ring. Could this be a yellow-legs?

Began banding Sooty Tern immatures at 2000 hours (not completely dark), new moon set by 2200, quit banding at 2300, caught boat for Sand at 2330 after banding 700 birds.

793-25001 - 25500 Immature

793-25501 - 600 "

793-25801 - 900 "

Fleet, P.

12

1964--notes by species--Kure

Wedge-tailed Shearwater

March 3 Captured and banded (2) two individuals last night. First of season

March 11 Banded 17 individuals last night.

March 14 Can band about 50 individuals per night now.

March 19 Believe these birds have begun to dig now.

March 30 Have about 40 burrows marked. Courtship in part involves billing of mated pair and moaning cry--(this may be an alarm call). Observed one pair in which one individual spread wings partially and leaned forward on feet while billing.

May 30

Birds in large numbers. No eggs yet.

Sooty Tern (continued)

April 11 This past week these birds have been conc. over open areas of C. R.

Very low to ground--10' or so. Some Common Noddies in there also.

Laysan Albatross

Dance: Bobbing head and bouncing on toes birds face each other. Chew at one another's beak or clack beaks rapidly side by side. May at this time also rapidly shake head from side to side and emit a shriek: AFFFFFFE... One or both birds then stand on toes with head thrown back and emit a low moan. If only one bird does this other bird may just stand still at this point and watch. At this point birds tuck head beneath wing (either one) and preen feathers--time of this operation becomes shorter as dance increases in tempo. Removing head from this position bird again goes into tiptoe head back position emitting a single hollow sounding CLACK from bill. Dance usually repeats from here. May or may not be followed by copulation.

Aggressive: After fighting the dominant individual tiptoes with head back and moans only slightly differently from dance call. Notes are slightly higher.

Egg-chick: Birds will defend nest by snapping beak and a sort of growling note.

When egg and chick is removed and then returned or prior to sitting down the parent bird may emit a series of short bark-like cries. AE-AE-AE, etc., usually with beak partially open. This call is the same call used by chick to call parents.

Feeding: Chick stimulates adult to disgorge by nibbling on side of adult's beak. Chick places its beak at right angles inside adult's beak and catches disgorged food. Main staple food of these birds is squid and squid eggs.

Eggs are pink in color and look like caviar. Sometimes adults have trouble in disgorging food for their chicks and may approach a nearby chick, peck and harass

(Laysan Albatross)

it to become sufficiently aroused. Many chicks die in this manner almost all develop a defensive reaction of unmoving with head lowered on breast. Many chicks are found with wounds on back of neck. Young, when disturbed, may vomit yellowish stinking, oil all over everything.

Alarm: When frightened, adults may emit a long, high pitched cry-whine, similar to dance call when shaking head only higher. KEFFEE.

This species builds a circular ridge of dirt, twigs, sand, leaves, etc., with a depression in the center. Chicks have a scratching mechanism which digs center deeper.

Fleet, R.

15

1964--notes by species--Kure

Black-footed Albatross

Dance: Similar to Laysan except wings, when dancing, are cocked away from body (backwards and outwards).

Agressive: This species is much more excitable than Laysan, will pursue, vomit frequently when approached, and egg-chick "talk" is much more pronounced, as is nest defense.

This species begins to breed about 2 weeks before Laysan.

Nest: This species makes do with a slight depression in the sand. This is eventually deepened by chick.

March 19--Now have one chick weighing 9 lbs, 10 oz., also one 12 lbs.

Fleet, R.

16

1964--notes by species--Kure

Christmas Island Shearwater

March 11 Captured and banded one individual in SA-2 (night). Eighth bird found during study, 1st this season.

March 14 Captured one bird on night of 12th and 3 on night of 13th.

March 19 These birds seem much less nervous than Wedge-tails.

March 24 Saw 5 pair of these birds in air over station area. Time was 0700.

March 30 Have reason to believe that this species is much more common here than previously suspected. Several (4) birds seen in dense scaevola of central roost.

April 26 BN#76611 egg in SA-2 about 0900 hours. Egg is elongate and about same width as Bonin and all white.

Fleet, H.

17

1964--notes by species--Kure

Gray-backed Tern

March 19-- Have about 20 of these birds. Difference in call from Sooty Tern.

First appeared on March .

April 11 for past 2 weeks these birds have been conc. on NP.

May 19 Saw 2 birds standing on beach near N end of runway.

June 6 Still no evidence of breeding.

Bonin Island Petrel

March 19 About 2500 on island. Call is a low pitched watch-winding sound.

Easy to sex during egg laying period. Evidently high egg mortality--probably due to rats--can find no burrows still having eggs (or chicks).

March 24 Collected one specimen today for skeleton--♂ testes regressed.

Non-breeding.

June 6 All of this species gone from island by May 20-25.

Fleet, R.

19

1964--notes by species--Kure

Golden Plover

March 21 Have been about 80-100 on island since I arrived. About March 7 black breast plumage began to appear and now covers entire breast in mottled fashion on all birds.

March 30 Observed flocks of 35-45-25, etc., today during shorebird count.

Count is up almost 100% in afternoon. Have noticed flocks up to 20 individuals for last 3 days.

April 29(Caught Buddy Turnstone in rat trap today.)

May 25 Drastic decrease in shorebirds.

Fleet, R.

20

1964--notes by species--Kure

Common Noddy

April 5 Have noticed these birds around in small numbers for about two weeks.

Today saw 24 sitting on N. P. Occasionally have seen one or two standing around on beach.

April 6 1100 hours: 50 of this species on beach at dock and 16 at NP on beach.

At 1300 hours saw a flock of approx. 100 individuals on beach 200 yds. S of pier.

April 7 saw about 6 flocks on W beach at 1400 hours. Also group on N point and a small group on S point. Total probably around 200 birds.

April 26--5a several birds carrying nest material.

May 10 egg laying began.

May 30 Population approx. 700 birds. Now about 150 eggs laid on beaches, edge of runway, at crest of dunes. Few twigs and debris form nest. (Sand Is. has about 200 birds and 65 eggs). Eggs similar to S. Tern eggs in size but few pig. spots and more white ground color.

Fleet, R.

21

1964--notes by species--Kure

Hawaiian Noddy

June 6

First appeared about 1st week in April. Now have population of about 2-300. No breeding as yet. Still found on beaches, in groups of 30-60.

Fleet, Robert
1964

2

September 9

Arrived Eastern Island 2015 hours. Began banding Sooty Terns.

Batteries failed; total 1700 banded. Ate breakfast and banded Red-tailed Tropicbirds.

Eggs 3 Nestlings 2 Locals and Immatures 8

Saw several strange shorebirds. Had white on side of face, brown on rest of body, about size of Golden Plovers.

Saw approximately 50 RT, 15 GP, 3 WT on Eastern. Returned to Sand Island at 0900.

Sooty Terns banded: 793-25601 - 700
 701 - 800
 901 - 26000
 26001 - 26500
 26501 - 27000
 27001 - 27400

September 10--Flew to Kure in afternoon. Noticed three flocks of shorebirds along runway at Sand totaling about 300 to 400 individuals.

Saw three larger Rays and four larger sharks in lagoon at Midway and one larger ray in lagoon at Kure. Crew looked fine also SI guys. Bill said he was getting excellent coop. Pup was taken to Midway.

September 11--Took boat to Eastern at 2015. Banded Sooty Terns until dawn. Very difficult since chicks are flying, some leaving, areas have been banded thoroughly. Banded 2600 ST. Found two orange-tagged Sooty

Terns with faded tags. 753-18602 faded orange
 753-10017 nearly white

Three pair of Blue-faced Boobies in Sooty colony at west end of island; all had large chicks (immatures). Three band recaptures.

667-35033 BFB Adult - ♂
528-09902 " " ♀
508-51752 " " ♀

Fleet, Robert
1964

3

Sooty Terns bands used:

793-27401 - 28000
28001 - 28500
28501 - 29000
773-70001 - 70500
70501 - 71000

Large numbers of WTS in central area of island in and around abandoned buildings. Estimate 3000 to 4000 on Eastern.

Bonin Island Petrel heard and seen in air over Sand Island, but not seen on ground. No Bonins seen on Eastern Island.

September 12--Large numbers of Frigatebirds roosting in Casuarina trees, perhaps as many as 500-700. Red-footed Booby about 500 - 600.

Wedge-tails and Christmas Island's seen leaving for sea between 0730 and 0830. Saw 15 Xmas Island in air and on ground on South side of Eastern.

Shore count indicated 200+ Golden Plover, including flock of 65, probably migrating. Counted over 150 RT and there were probably more in interior of island.

Six wandering tattler seen and one BTC. No seals seen.

Small numbers (two dozen), Fairy Terns on Eastern Island 200+
Common Noddy, few Hawaiian Noddy along beach.

Rats and mice numerous on Eastern Island, mice common on Sand Island.
Mice seen on Sand Island off ground, in Hibiscus bushes.

Found one adult Laysan albatross on Eastern Island. Larger breast, probably returned from sea.

Missed evening boat to Eastern Island so banded Bonin Petrels on Sand Island.

Fleet, Robert
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793-29001 - 25 Adult Unidentified

One pair beginning to dig burrow. Birds just beginning to come in.

One recapture: 753-32972 Adult - Unidentified

September 12 - early morning on Eastern Island recovery of two bands.

757-74278 Laysan found on Sand (banded as local by Wirtz)

757-75551 ? found on Eastern Island in road - bird remains not identified.

September 13--Loaded Bill Wirtz aboard 1400 flight to Kure with all his

lumber, and other supplies. Caught 1730 boat for Eastern. Banded RTPB: 28

635-20023 - 20050	Immatures and locals	28
	Nestlings	3
	Eggs	2

Local - threw up two large squid (5 inches long).

Local - threw up flying fish about 5 " long (no head).

Immature - threw up large 8" flying fish.

Red-tailed Tropicbird young sometimes seen sleeping with head and neck stretched away from body and resting on ground.

Red-tailed Tropicbird tail feathers seem to become worn at tips in immature birds on island.

One Red-footed Booby chick in top of sea grape plant (bush), primaries and tail in, all the rest down covered. Some all dark, immature feathered Red-footed Booby seen. Indication of successful breeding here.

Banded 200 Sooty Terns after dark. All birds flying, very difficult to find unbanded birds.

793-29201 - 300
29401 - 500

Fleet, Robert
1964

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On string 795-29201 - 300 numbers 285-300 were Adult unidentified.

Banded Wedge-tails in center portion of island, in among old bunkers and buildings. Banded 100 birds.

635-20101 - 200 Adult unidentified

Saw some (10) chicks 20 to 30 days, no primaries, brown - down only.

One Wedgetail recapture: 585~~0~~52313.

Returned to Sand Island on 2400 boat.

September 14--Remainder of Leeward party arrived today. One day early.

In evening Ron Walker and I banded on Sand Island.

Bonin Island Petrel 793~~0~~29026 - 63

Wedge-tailed Shearwater 635-20201 - 23, 25-31, 34, 40, 42.

All birds Adult - unidentified.

One Bonin seen digging a burrow. One pair observed engaged in mutual preening. Both facing same direction, side by side greening neck feathers.

September 15--At 0900 left to band RTTB in overrun on Sand Island.

Banded 31 RTTB. 635-20051 - 81

Adult alone 4 Egg 7 Nestling 7 Local-Immature 20
red

Immature with large bleeding abuss on left base of bill, size of pea and a smaller one in corner of right eye.

Immature with large bleeding abuss on left side of bill at base, size of walnut.

Nestling with bill entirely engulfed.

Nestling with large abuss on right foot.

Fleet, Robert
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Nestling with large bleeding abusses at base of upper and lower culmen.

Immature with large abuss at base of upper jaw. Walnut size.

Immature with abuss at base of upperjaw and at corner of RT eye.

Immature with small abuss on base of upper and lower culmen.

Local with small abuss on left side upper and lower culmen.

Immature with small abuss on upper and lower culmen.

Nestling with abuss on upper and lower culmen.

Immature with large abuss at top base of bill.

Immature with small abuss on bill near base.

One RTTB recapture: 605-11099 (adult on c)

Food Records: Adult threw up small flying fish 3 " long

Local threw up 5" Flying fish.

Observed 100 GP and 50 RT in overrun area. Very dry in area. Saw one dragonfly and one canary.

Population estimates:

Sooty Terns: 25000 immature birds remaining on Eastern

Red-tailed Tropicbird: maximum of 1000 immature, local, and nestling birds on Eastern, probably fewer on Sand.

Fleet, Robert
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September 8

635-20001 adult (on c.)

02 N
03 adult (on c.)
04 N
05 adult (on egg)
06 N
07 "
08 "
09 adult (on egg)
10 N
11 adult (on c.)
12 local

September 10

13 Immature
14 "
15 L
16 "
17 "
18 "
19 ad on egg
20 Immature
21 adult on egg
22 "

September 13

23 Immature
24 Local
25 "
26 Immature
27 "
28 Local
29 Immature
30 Local
31 Local
32 "
33 adult on c
34 Immature
35 Local
36 "
37 "
38 ad with c
39 Immature
40 Local
41 Immature
42 Local
43 "
44 "
45 Immature
46 Local
47 ad on egg
48 Local
49 Immature
50 Local

Fleet, Robert
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September 15

635-20051 Local
52 Adult on egg
53 Adult
54 Nestling
55 Adult on egg
56 Local
57 Immature
58 "
59 "
60 "
61 Local
62 Adult
63 Immature
64 "
65 Local
66 Immature
67 "
68 Local
69 Adult on egg
70 Immature
71 Adult
72 Adult on egg
73 Adult
74 Adult
75 Adult on egg
76 Adult
77 Immature
78 Adult
79 Immature
80 Adult on egg
81 Immature

Fleet, Robert
1964

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Spent afternoon buying necessary items for Leeward trip. Loaded gear at 1830. Spent evening getting acquainted with officers at O. Club. September 16--Under way at 0600. Stood bridge watch for birds from 0820 to 1120. Members of party Gene Kridler USF and G, Ron Walker H.F. and G, John Beardsley, entomologist, U of H., Bob Long botanist Poop, and myself. Arrived at Pearl and Hermes Reef at 1430. Landed on Southeast Island, from rubber boat, at 1630. Conducted bird, seal, and turtle population surveys. Banding and band recoveries (turtle, birds, and seals), turtle tagging. Insect and plant surveys conducted by above named specialists.

Band Recoveries: Southeast Island

757-89351	Frigate (local)
757-89335	Brown Booby immature
320	" " "
344	" " "
393	" " with chick
361	Blue-faced Booby immature
37557	Brown Booby on egg with a 2nd Bonin (old) egg in nest
30287	Brown Booby with chick
30139	" " " "
30213	Blue-faced Booby adult
595-62481	Wedgetail S. Adult Unidentified
89	"
01	"
39	"
94	"
61	"
544	"
646	"
38	"
65	"
615-16412	Wedgetail
7306	"
311	"
6421	"
7281	"
492	"
6365	"

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615-16922	Wedgetail
923	"
759	"
524	"
519	"
772	"
766	"
137	"
132	"
109	"
7003	"
326	"
6373	"
7366	"
346	"

723-60850 Bonin Island Petrel Adult Unidentified

Banding Record - Southeast Island

635-20082 - 20100	Wedge-tailed Shearwater	Adult Unidentified
20224, 32, 33, 35, 36 - 39, 41		
43, - 300	WTS	Adult - Unidentified
20401 - 500	"	"
20301 - 400	"	"
793-29101 - 103	Bonin Island Petrel	Adult - Unidentified
29064	Grey-backed Tern	Immature - Unidentified
65	Bonin Island Petrel	Adult - Unidentified
66	"	"

Banded a total of 285 birds on Southeast Island.

Population Survey Estimates:

Blue-faced Booby - counted 20 adults and one immature. Breeding season completed for this species.

Red-footed Booby - found one nest with no eggs: may not be in use. Counted five immatures. (3 locals, 2 immature)

Frigatebird - 20 locals; still some down. Fifteen adults in air.

Brown Booby: Four with two eggs in nest, 2 with one each (fresh).

Twenty nestling - local (2 together at about same age - may be one pair raising two young. Ten immature birds. Twenty-five adults seen on each rock offshore of island.

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Hawaiian Noddy - Eight to nine hundred roosting in scaevola.

Common Noddy - 600-800. Fifty plus with eggs. Eggs to flying young.

Observed two nests in bushes.

Sooty Tern - Remnants of large colony. Five hundred remain - adults and flying young.

Grey-backed Tern - estimated thirty adults, ten flying immatures.

Red-tailed Tropicbird - two immatures, one local. One adult.

Wedge-tailed Shearwater - 3500+. All downy young.

Bonin Island Petrel - Saw six, heard more, just coming in to island.

Maybe 25 total.

Christmas Island Shearwater - Saw one pair and three individuals. No evidence of breeding.

Fairy Tern - Three flew over island on morning of 9/17.

Ruddy Turnstone - estimated 500.

Golden Plover - " 50.

Wandering Tattler " 5

Bristle-thighed Curlew - counted 29.

Monk Seal: counted 33 seals.

adult ♂ = 8
" ♀ 6
yearling ♂ 11
" ♀ 4
unclassified = 2 adult
" young = 1
unclassified = 1

One yearling nearly all green from algae.

Five tagged seals observed:

101	adult	♀
77	"	♀
113	"	♀

broken tag adult ♂
one badly faded tag.

Green Sea Turtle: night count of 32 turtles. 19 tagged, 1 recovery.

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		width	length
1055	♂	29	32
1056	♂	32	34 1/2
1057	♀	34	34
1058	♂	33 1/2	35 1/2
1059	♀	34	36
1060	♀	31 1/2	34
1061	♂	32 1/2	36 1/2
1062	♀	37	39
1063	♀	33	34 1/2
1065	♀	31 1/2	32
1066	♀	33	35 1/2
1067	♀	35 1/2	37
1068	♀	35	30 1/2
1069	♀	23	25
1070	♀	29	30 3/4
1071	♀	33	34 1/2
1072	♀	30	31 1/2
1073	♂	33 1/2	36
1074	♀	33	33 1/2

Band recovery: 1046 ♂ 33 by 33 1/2; several egg pits found.

September 17--Struck camp at 0800 and headed for North Island. Arrived
at North Island 1100 hours.

Population Survey Estimates

Blue-faced Booby - 20 adults, 1 immature

Frigatebird - counted 80 adults in air. 36 locals, 7 immatures on island.

Red-footed Booby - four adults, three immatures.

Common Noddy - estimate 400. A few eggs, mostly locals, some immatures.

Red-tailed Tropicbirds - five adults, 1 immature.

Hawaiian Noddy - estimate 100, roosting.

Fairy Tern - two flew over island.

Wedge-tailed Shearwater - many burrows containing downy chicks.

Estimate maximum of 1000 (adults).

Ruddy Turnstone - 75

Golden Plover 1

Bristle-thighed Curlew - 1 (heard)

Monk Seal: total of 36.

adult ♂ = 1

" ♀ 3

yearling ♂ = 6

" ♀ 4

unclassified adult = 10

" yearling = 9

" = 3

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One tagged individual but couldn't get close enough to read tag.

One rust colored ♂ seal.

One ♀ in process of molt.

Green Sea Turtle: One found on beach, one swimming Beach turtle measured 25" by 24".

Left this island at 1430 and headed for ship. Soaked by rain squall. Arrived at ship 1615. One seal seen near ship 'outside of reef.' Fishing very good from ship. Trumpet fish, Ulua, and Sand Sharks. 1630 underway for Lisianski.

2300 hours Capt. notified us that won't be able to spend night on Lisianski. Will spend night on Laysan but must gain time to pick up disabled ? fishing boat.

September 18--Landed on Lisianski at 1045 hours. Approximately 80 immature Frigates over ship. One immature Blue-faced Booby, one adult Red-footed Booby, two adult Brown Boobies. Saw one medium (2 ft across) turtle about 1 mile from shore. 170 Frigates over rubber boat, later increased to 300+. Flies very bad on island. Made population estimate and shot 100 feet of 8 mm. film.

Population estimate survey:

Seals:	adult ♂	=	43	
	" ♀		20	
	yearling ♂		11	
	" ♀		15	
	unclassified			
	adult		22	
	unclassified			
	young		7	
	unclassified		3	total 121

No tagged seals found.

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Turtles: Five seen: 2 at 30", 3 at 18".

Bristle-thighed Curlew = 24 seen (30 - 40)

Blue-faced Booby = 98 adults, 54 immature (2000 adults)

Red-footed Booby = 298 adults, 103 immatures, 17 locals; est. (500)

Brown Booby = Ten adults, 1 immature (25 - 30)

Frigates = adult 65 roosting, 235 immature roosting (1600 include 500 imm.)

Common Noddy = 2700; 300 in interior. immature young present.

Sanderling = 2

Ruddy Turnstone - 18 interior (900); 250 large flocks; 600 large flocks.

Golden Plover = 44 interior, six on beaches (75)

Red-tailed Tropicbird = immature 5; aerial count at 1330 = 12; maybe

15 and immature on island.

Wedge-tailed Shearwater = 30,000 pair; downy chicks. Central Eragrostes

plain honey cumbed with burrows. Also found in scae. Fewer

found in areas of morning glory type vine. Saw one chick (nestling)

digging: rolls to one side dig with free foot, the rolls to other side

and digs with other foot.

Sooty Tern - nearly all flying young. 1600 counted (3-5000) remnants of

much large colonies. Birds found sitting wide apart.

Fairy Tern: 9 seen (in trees)

Hawaiian Noddy = 12 seen, probably would be 100+ at night.

Wandering Tattler = counted 16 on beach.

Sooty Tern divided into three large areas: scattered groups at south

half of island with largest group at south end. Large group

near palm trees. large group at north end of island.

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Christmas Island Shearwater= Saw three birds, no evidence of breeding.

Bonin Island Petrel - Saw many 30 - 40 from rubber boat as we left island at 1800 hours for ship.

Lost glasses, now using sunglasses, under way for Laysan.

September 19--Landed Laysan Island at 0915. Found Shearwater and SI personnel had been on island for four days and are camped at North end of island. Lagoon very low. Finches abound around campsite at Casurina tree. ♂'s yellow-green, ♀'s drab. Saw 30+ Red-tailed Tropicbird in air at 1430: one recapture 535-15349 bird threw up deep water fish about 4 inches long - deep blue in color.

Remnants of large Sooty Tern colony all over island - mostly around campsite.

Counted over 50 seals on west beach before landing.

Obviously many Bulwer's Petrel - one dead at campsite.

Estimated 500 Red-tailed Tropicbird on island. Counted 1400

Common Noddy on beach count.

Population Estimates = to be derived from Shearwater group count.

Shorebirds on beach

Ruddy Turnstone = 67: Wedge-tailed Tropicbird = 9
Bristle-thighed Curlew = 7: Golden Plover = 113

Seals:	Adult ♂	=	56
	" ♀		34
	Subadult ♂		35
	" ♀		27
	unclassified adult		74
	" sub ad.		14
	"		<u>12</u>
			252

tagged seals No. 22 and No. 33

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1964

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Laysan Teal:

257 counted; 152 counted along margin of lagoon on East side.

West and South = 49 East = 200 estimate 400
North = 8 450 total teal

Teal band recoveries 615-30972

575-94167

94025

94188

94111

banded:

615-30601 Bristle-thighed Curlew

602 teal adult ♂

603 " " ♀

604 " " ♂

100 dead albatross along lagoon.

September 20--Banded 27 Finches. Shot movies of birds. Broke camp.

Basswood meanwhile picked up jap fishing boat and towed to FFS. We
September 21

boarded Shearwater and met Basswood at 1600 on the 21st. Missed Gardner

September 22

Finches. Arrived at Necker Island at 0730 on the 22nd. Landing

attempt foiled by high seas. Under way to Nihoa Island at 1500 hours.

September 23--Arrived off of Nihoa at 0700. Landed Nihoa from rubber

boat at 0930. Very rough landing. Carried gear up into East Palm gulch.

Saw an immature Frigate hit water. Watched for 15 minutes and flapped
but couldn't get up.

Frigate immature Red-footed Booby, Common Noddy and two immatures
Blue-faced Booby circling ship.

Found Common Noddy (local) and downy Wedgetail chicks in and under
rock/ledges. Some Wedgetails with body tracts coming in. Many finches,
Fairy Terns, and Blue-gray Noddy.

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1964

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One Red-tailed Tropicbird immature heavily infested with hippoboscids;
one common noddy local with hippo.

Found a Bulwer's Petrel and a Gecko under pile of dry all batteries
at top of Tanager Peak.

Climbed Tanager Peak, along ridge to Miller Peak, down gulch to
beach, back to camp.

September 24--Climbed to Miller Peak. Finished population counts and
worked with Miller birds. Left for ship at 1630. Extremely rough seas.
Saw one large seal and one medium turtle at landing area. Ship reports
large sharks up to 12 feet long.

Population survey estimates:

Miller bird = estimated 40 on Miller peak. Total population 100 - 150.

Sooty Tern = heard one

Fairy Tern = 175 (300-400)

Golden Plover = 5

Blue-gray Noddy = 150

Ruddy Turnstone = 30

Red-tailed Tropicbird = local 4 estimate 50 to 75 total
immature 5
adult 3

Gray-backed Tern = 1 adult; 6+ in immature plumage

Red-footed Booby = local 15

immature 68

adult 449

estimate 800 - 1000

Frigatebird = local 167

immature = 1002

estimates with 50 percent nest mortality equals 5000-6000

Blue-faced Booby = immature 14

adult 26

estimate 50

Brown Booby = immature 4

adult 2

estimate 20

Finch = 4000 - 5000 mostly guesses.

Wedge-tailed Shearwater = downy chicks, maximum of 2000

Common Noddy = few eggs few nestlings, mostly locals. 3500-4000 young.

Hawaiian Noddy = 200 - 300

Bulwer's Petrel - counted 25+ dead birds. Covered ship at night. Night
population of 1000 - 2000.

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Banding: (Nihoa) 793-29067 - 100 Common Noddy local 9/23/64

Miscellaneous notes: found one Common Noddy on egg; egg cheaped when shook.

September 25--Landed on Necker island at 0900-1100. Much more difficult than Nihoa. Everything wet. Gene got washed out of rubber boat. Jack got dumped in water trying to land. Everyone got knocked down by waves on rock ledge, many cuts and bruises. Hole ripped in rubber boat; must be patched before transferrring remainder of gear.

Saw twelve seals: 6 adult ♀'s, 6 adult unknown. Remains of one dead subadult. Blue-gray Noddies common, Fairy Tern common. Saw one Brown Booby adult and at least two Blue-faced Booby immatures. See one Red-footed Booby adult on nest. Common Noddy abundant.

Island is U shaped. Center of U is shark bay. Probably was crater of island. Landing made at West cove at base of U.

Began population estimates.

September 26--Completed population estimates, did some banding. Left island at 1300 hours. Jack fell into water getting off. Punctured rubber boat; Webb fell in twice and motor quit.

Population Survey estimates

Red-tailed Tropicbird = 25 young birds; adult count at 1100 = 15 est 100-150

Blue-faced Booby = adult 58
immature 57
local 6

Brown Booby = adult 8
immature 3

Red-footed Booby = adult 74 on nests
[27] on eggs
[22] on chicks
[25] unknowns
locals 23
immature 64
unoccupied adults 84
estimate 600 - 700

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Frigatebird = immature 375 estimate by assuming 50 % nest failure=1700-1900
local 84
nestling 8

Common Noddy = 2000 locals
1000 immatures
few eggs

Ruddy Turnstone = 23 seen

Golden Plover = 3

Hawaiian Noddy = 200-300, one on egg.

Gray-backed Tern = 2 immature, 3 adults

Bulwer's Petrel = 75 - 100 (?)

Sooty Tern = saw four adults in evening.

Fairy Tern = 400-500 eggs to immature

Wedge-tailed Shearwater = 1500 downy chicks; some with body tracts in.

Blue-gray Noddy=400-500; eggs to immature.

Banding Summary:

9/25	Necker	Common Noddy (local)	793-29104 - 63
9/26	"	" " "	" 29164 - 200
9/25	"	Red-tailed Tropicbird	635-20501 immature 2 adult 3 immature 4 local 5 local 6 immature 7 " 8 local 9 immature 10 local 11 " 12 " 13 adult on east 14 local 15 adult on east 16 local 17 immature 18 " 19 " 20 nestling Wedgetail ↓ " 40 "

Turtles = 2 (36 inches and 24 inches)

Seals = 13 adults (6 adult ♀; 1 adult ♂; 6 unclassified adults)

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Miscellaneous

Seven Common Noddy eggs on cliff face, 6 in nests, 1 placed on bare rock.

Red-tailed Tropicbird local threw up deep water (mallet ?) fish
8 inches long with head digested: 2 inches deep, 1 inch wide.

Observed 6 to 12 Common Noddy chasing a Fairy Tern with fish in
bill. Five minutes.

Observed adult Fairy Tern feed flying young, Called young
to itself by repeated squeaks; transferred single minnow-like fish
from bill to bill.

Red-footed Booby adult seen by Bob Long on Necker on 9/26. (sitting
and then flew). With orange tag on right leg. Somewhat weathered.

Under way for French Frigate Shoals at 1630 hours on the 26th.
Arrived at FFS at 0730 hours on the 27th.

September 27--Transferred gear and personnel into small boat from
station and were underway to islands by 0930. Visited Frigate Island,
Whale and Skate Island, East Island in succession spending one to two
hours on each. La Perouse rock was circled several times but no landing
was attempted. Tern Island was surveyed on the evening of the 27th and
the morning of the 28th.

Trig Island: Population Survey estimates

Blue-faced Booby = immature 21 (estimate 75)
 local 1
 adult 2
Red-footed Booby = immature 2 (10)
 adult 2
Ruddy Turnstone = 45 - 50
Golden Plover = 3
Common Noddy = 100 chicks; 200 adults
Wedge-tailed Shearwater = total 300

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Turtles: 1 small hatchling
17 dead hatchlings
5 adults, tagged 3
1075 ♀ length 33 1/2 inches by width 30 inches
1076 ♂ 29 1/2 28
1077 ♀ 32 3/4 34 1/2

Seals: adult ♂ = 5
adult ♀ = 5
unclassified adult = 1

estimated over 100 turtle pits.

Whale and Skate Island Population Survey estimate

Blue-faced Booby immature 39
local 2 (130-150)
adult 16
Golden Plover = 3
Red-footed Booby immature = 4 (20)
adult 2
Gray-backed Tern = 1 immature
Red-tailed Tropicbird = 1 immature
Sooty Tern = 3 adults
Ruddy Turnstone = 145
Common Noddy = 400 total; 20 on eggs, 11 small nestlings
Wedge-tailed Shearwater = maximum of 100 chicks, downy (350)
Frigates immature 149; local 22; adult 1; (700)
nesting in cneopodium. seen in air between Trig and Whale and
Skate. immature = 9 adult = 2 unknown = 4

Turtles: Five dead hatchlings; estimate of 125 pits.

Seals: Adult ♂ 8; adult ♀ 3; subadult ♂ 1; subadult ♀ 2; unclassified
adult 6; unclassified subadult 3; unclassified pup 1 (total 24)

Saw two small skates in shallow water off island.

Band Recapture: Blue-faced Booby adult ♂ 558-82780 (Whale and
Skate Island, 9/27)

East Island Population Survey estimate

Red-footed Booby immature 1; local 1; adult 1 (10)
Frigatebird = 3 roosting (mid day)
Red-tailed Tropicbird = 1 immature
Common Noddy = total 300; mostly locals, counted 25 - 30 eggs.
Wedge-tailed Shearwater = 100 nestlings
Sooty Tern = 3 (2 immature chicks with broken wings)
Golden Plover = 47
Ruddy Turnstone = 130
Wedge-tailed Tropicbird = 1
Wedge-tailed Shearwater

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Turtles: estimated 250 turtle pits; 3 dead hatchlings; 2 dead adults and one obviously fell off of pier on its back and could not right itself.

Seals: adult ♀ 2; adult ♂ 2; subadult ♀ 1; subadult ♂ 1; pup ♂ 1.

La Perouse Rock

Population Survey estimate

Fairy Tern = 100
Frigate = 15 adults roosting
Common Noddy = 150-200
Brown Booby = 7 immature; 7 adults (25)
Ruddy Turnstone = 1

Seal: 1 unclassified swimming near base of rock.

Several porpoises followed boat from La Perouse to Tern Island.

Tern Island

Population Survey estimate

Golden Plover = 15
Ruddy Turnstone = 35
Red-tailed Tropicbird = adult flying with
adult on chick = 1
local = 2
Wedge-tailed Shearwater = 1 downy chick.

Banding French Frigate Shoals

9/26 Common Noddy local
Whale and Skate 793-29301
↓ local
03
↓ nestling
10
↓ local
17
18
↓ local
26

East Island