23-26 Jan 1967

Kilauea Pt., Kauai

Hoff and Huber

24 Jan, 1967

SERANO

1

2

3

4

5

6

7

8

9

10

11

12 25 January

13

14

15

16

17

18

19

Kilauea Point

Band No.

767-50354

60

61

62

63

64

65

767-50341

66

67

68

69

70

71

13 bundles

one receipt

Huber Notes

Pop est - 1300 ± 100.

4 subadults

1 brown painted

2 black painted

pen last month

---

just before dark

about 300 birds

observed to take off

and come twice

and circle around

for awhile and then

land again

this happened twice

wandering tattler
seen on top of cliff
along edge then
down to reef
when disturbed

---

1 ad + 1 ♀ G. Frig
observed flying
over Moss Island
before dark,

about 430 P.M. six
G. Frig seen about
7 miles down coast
heading in direction
of the lighthouse

about 60%
~~[illegible]~~ redfoots that are mostly below cliff are dislodgs and grind while robbing 40% in trees

use of rope not possible on lit trails to cause landslides while pulling above cliffs

grind on cliff where bobbies root extend dangerous as it inc loose dirt ~~to~~ with loose rocks scatter over it.

(area cannot be walked

Not many R-F-Boobies
on Motu-Island
just a few (possibly
200 on [redacted] side of
island I could see)
scattered over top
of island

---

1 moose seen
a while down the
cliff by rope

---

1 Gecko seen on
rocks of cliff

---

most birds unbanded
on rope)

28 Feb - 1 Mar '67
Kilauea Pt., Kauai
Hoff

28 Feb. 1967
Kilauea Point
birds began nesting in the
Eucalyp portion of Pt. 2
and are widely dispersed
along the length & breadth
of the sheer cliff area.
Copulating pairs and weak
crouching is occurring commonly
nests with an abundance of fresh
green material in the core.
continued.

Mar 1, Schreiber & Hoff
one pair nesting along the
precipitous cliff were closely
observed - the fat feeded
one was sitting in the center
of the nest and the shining
bald one was crouching for

reels and then parrolling it. No mutual preening was noted.

The birds are distributed as follows

none in colony #1

good pair formation in #2 at least roughly 100 pairs in the area.

an even distribution of birds is noted in the precipitous cliff area with the birds of ca. 450 individuals in pairs.

A ~~new~~ ~~nest~~ previously unnoted and possibly different nesting area has been established in the center of the cove on an abrupt slope

covered surface from 10
to 40 feet above the level
line.

Seq #		Species	Age-Sex
1	15	Red-Footed Booby	A-U
2	16		
3	17		Aug 65
4	18		
5	19		
6	20		
7	21		
8	22		
9	23		
10	24		
11	25	Oahu, Makapu P	
12	26		
13	27		
14	1	28 March 2, 1967	yellow wristlet
15	2	29	blue
16	3	30	"
17	4	31	"
18	5	32	"
	1966	33	yellow

767-50372

Bad

Color Phase Lights	Status		
	off-west	767-50372	
Del Bay 1967	west R	767-50328	4
FF Shoals	west R	767-43201	2
May, 65		587-80754	3
		73	
		74	
		75	
		76	
		77	
Feb, 64		757-60855	4
int March, 1965		757-89597	5
		78	
		79	
Oct, 66		767-50052	6
		80	
		81	
		82	
May, 65	meeting	587-92890	7
		83	

19	7	34	Blue
20	8	35	1
21	9	36	
22	10	37	
23	11	38	
	12	39	Motor
	13	40	Pu
	14	41	

Feb, '64

757-60876

84

85

86

87

88

July, '66

767-48664

89

Thur 2 March →

Hanapepe Canyon
wolite - Gold
Waimea Canyon
Red

Kilauea point Shore
two & Ad.
bowered above
no parasitism

Hanalei valley -
+

Thur Kilauea point —

tropicbirds - 1
- Ca. 20 W.T.B.

ler & Hoff
Great Frigatebird,
the Red-foot diffs but
was seen

Blue-crowned Mot Mot
Short-eared Owl

arrived at 1800
sunset at 1842
Temp. + 72°
27 K on 2 Mar.
11 K 2 Mar.

the light house has
and is 60 feet high.

e is 140 ft. above Sealevel

9 returns

1 FFS 65

1 M.P. 65

1 M.P. 66

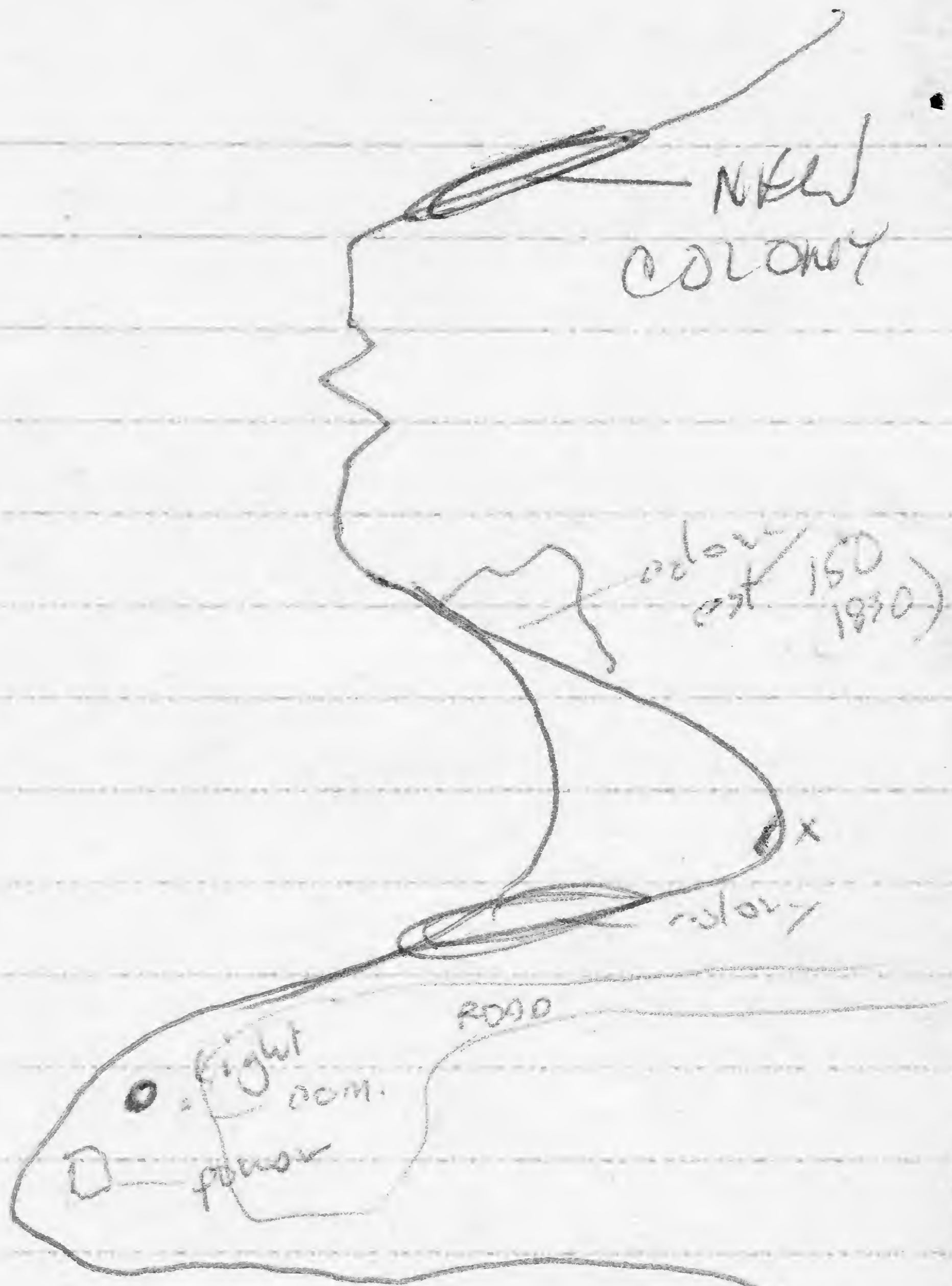
27 Total Birds

14
27
41

KAUAI

1-5 March 1967

Schreiber


NEW
COLONY
colony
est 150
1970
colony
ROAD
Right
room.
D — floor

MAR 1

ARRIVE AIRPORT
DC-9
DAVE HOFF here - in to hotel
I did know sunset tie —
DROVE to KILAUEA Point
light house - largest of its kind
very cloudy windy day seeing
colony along edge of cliff
est 600 feet high —
did see
Bandl + blue 15 birds in a small
colony at the base of the trail
several of these birds were sitting in
pairs in the colony on rocks
then though other 2 hrs - no birds
remained in this area

SEoul

BC-N Heron

White eye
RICE BIRD

Appane
Ridesird

Caka Likosid
COOT
GALINULE

HAWAIIAN DUCK

MEADOWLARK

Golden Plovers

Wand Tattlers

MAR 2

2 & GF
+ 1 imm

#3 COLONY

~~8~~ SUNSET + ~~8~~ 15 min — 147
+30 197

~~[illegible]~~

total count of colony 146 ~~4~~
five rock on north +52 in air
of #1

4 WTTO 3 MAR FRI

counted 196 non col 15 00V

non 47 col 15 AIR

VERY CLOUDY

	COL	AIR
1hr	119	14
3/4	133	20
1/2	169	17
1/4	205	33
Set	223	23
1/4	246	21
1/2	258	7

4 1mm 3 sub ad

sub ad - sky point for cdoy

2 DARK PHASE

LINCOLN INDEX ?

late in the ~~eve~~ evening movement toward the colony

stay from the ocean motion

3 black painted seen - probably more

individuals & pairs + 3's & 4's flying in from sea

bathing just outside surf

no eggs present I think

SUNNY after 1½ — Quite light

PARTLY CLOUDY

4 MAR SAT

RAIN ALL MORNING then clear

86
47
133

NOON #3 86 col 1 | 89 col AND 6 pairs

47 in col 2 | 8 in air

9 WTTB

new COLONY — 184 — 23 pairs

	BL 3	AIR	PAIRS
1 1/2	101	8	7
1 1/4	115	11	6
1	110	19	10
3/4	135	10	12
1/2	134	17	13
1/4	156	21	18
Sel	185	21	23
1/4	238	25	29
1/2	250	6	33

sub ad sky point (right side of ad) dark

bucks head each

return low over water

over

sitting subdy

side avoiding

Ad of Brown Booby flying

Seems to be separation between those in row where flying above the birds across the point

1 of 6F +2
chase - one drink

CAN WE ASSUME BOTA AREAS INCREASE THE SAME AT DUSK?

many BIRDS entering/flying above new colony

COUNT # "GROOBS" ARRIVING FROM SEA

COPULATON

Paint # rather than X's

Pineapples grow higher than cane

BLACK PAINTED WATER +1 +1

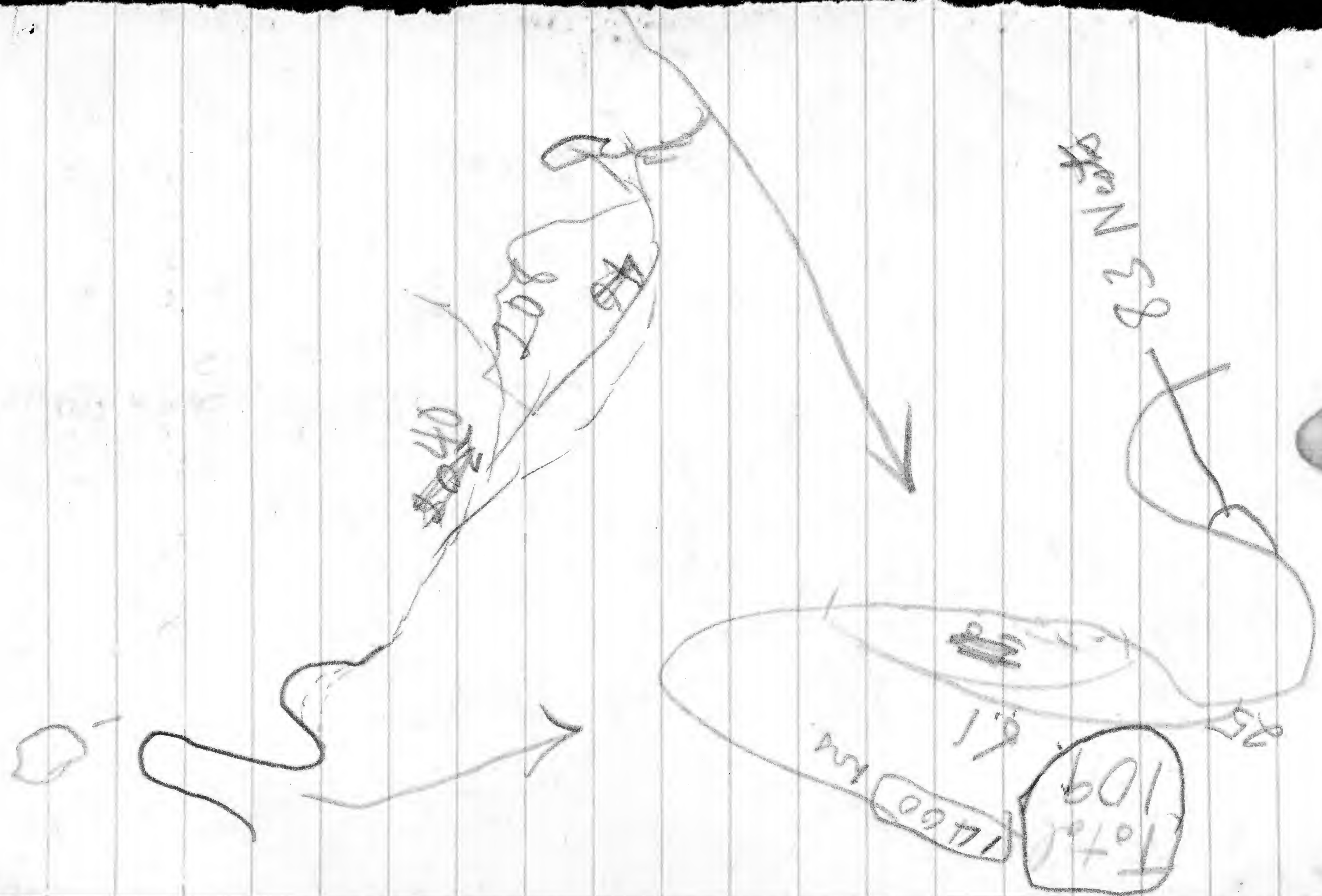
2 at 20 min + more
seen before this - bottle
day 2/2
Paint disturbs courtship

effects of disturbance
while sandy

Previous work cause of movement
& new colony - DOES

noticeable in cane is dles in
AM 10+ sunset
later arrivals high + circle down
power dive -

5 April 1967
Kilauea Pt., Kauai
Hoff


83 N
19
25
601
104
00771

Ma Hapiti Rock

Pit

Newly Known
Rock rising
4 FT Next count

248

Wed 5 April

Body counts

5:30 app. 1 hr/count

113 birds

Molunaise Island

5 SHd G Frigate

Wesley - Tails
gliding about the island
and landing

Wed

wedge-tail Buzzing active
but very little fresh digging
9 birds sitting off tip of
point at 17:30. Considerable fresh
droppings around old burrows

27 April 1967

Kilauea Pt., Kauai

Hoff

arrived at

departed Honolulu 1730 27 April thursday

arrived Lihue 1800 " "

arrived at Kilauea point 2130 hours "

departed — " " 0700 hours 28 April Friday

arrived at Waipuea Canyon 1400 " 29 April Saturday

Thurs 26 April

arrived at lighthouse
~~on~~ early evening 2000 hours
calm weather prevailing
about the point.
Wedge-tails sitting around
lighthouse & a few in the
air - Set 15 net traps
very low wind from
prevailing direction

Red-Foot B

Numerous naked chicks
very young - too weak to
raise their heads; no
downy ones but all chicks seen
were able to climb - but their
eyes closed estimate 1-3 days
since hatching. Boatman Camp
Seymour, ~~Chapman~~ -0

flowering seaweed plant community on upper diffs

WTS

copulating pairs, many singles more present in the deserves - much digging activity

probably 3 - 4 thousand birds present on the point

Overcast midight - little or no rain

Friday 28 Apr

White-Tailed Tropicbird
in cove

Great Frigatebird

one landed on
Mokuaeae island
A well dispersed
over the booby colony
no chasing noted

27 April 1967 Fitch
Kilauea Pt., Kauai
Arrived at Kilauea Pt. 9:30 P.M.
and met Bernie Young and
got permission to use Office
facilities to spin down blood.
Arrived at lighthouse at 10:00 P.M.
~ saw several RFB and 2
Wedgetails in air illuminated
by

Bands Received

Kilauea Point 27 April 1967

1.) ~~503-767447503~~

767-47503-47600

2. [redacted]

645-25[redacted]9-600

587 -

Ser n	Sample	Species	Sex
1	72	RFB	♀
2	73	RFB	♂
3	74	RFB	♀
4	75	RFB	♂
* 5	76	RFB	♂
* 6	77	RFB	♂
* 7	78	RFB	?
8	79	RFB	♀
9	80	RFB	♂
10	81	RFB	♀
< 11	82	RFB	♀
* 12	83	RFB	♂
13	84	RFB	♀
* 14	85	RFB	♂
15	86	RFB	♀
* 16	87	RFB	♀
17	88	RFB	♀
18	89	RFB	♀
19	90	RFB	♀

* banded 27 April 1967

Color Phase	Nest Status	Band No.
L	1e	587-90150
L	1 naked young	587-90105
L	1 naked yg.	757-60850
L	1 egg	no band ~~767-[illegible]~~
L	1 1egg	767-47503
L	2 1egg	767-47504
L	3 1 naked yg.	767-47505
L	4 1 naked yg.	767-47506
L	1e	587-90117
L	1e	587-92837
L	1egg	757-60840
L	5 1egg	767-47507
L	1egg	767-50353
L	6 1egg	767-47508
L	1 small naked yg.	767-50075
L	7 1egg	767-47509
L	1egg	757-89250
L	1 naked yg.	not banded ~~767-[illegible]~~
L	1egg	587-92838

Sera Sample	Species	Sex	
2091	RFB	♂	
2192	Wedgetail	?	
2293	Wedgetail	♂	
2394	"	"	? orange paint Remains
2495	"	"	?
2596	"	"	?
2697	"	"	?
2798	"	"	?
2899	"	"	
*29 100	Wedgetail		
*30 101	"		
*31 102	"		
32 103	"		
33 104			
*34 105			
*35 106			
*36 107			

Color Phase	Nest Status	Band No. no + banded
L	legs	~~707 475~~ 11
L	in front of burrow	645-00361
L	" "	635 26134
L	" "	635 26137
M	" "	645-00367
L	in burrow	645-16232
M	" "	524 ~~94652~~ -94652
M.	in burrow	544-50522
L		625-30690
L	in burrow	*645-25519
Int	edge burrow/pair	20
L	digging / single	21
Darb	burrow single	+ bly 645-05033
		bly 635-26148
L	outside / pair	615 86407
L	" "	22
L	burrow digg / single	23
L	burrow / single	24

			Sep	
37	108	WTS	?	Orange
38	109	↑	↑	Paint
39	110	↑	↑	↑
40	111			

L	Kinburrow Pair	615-05037
L		615-06422
L	burrow	524-94606
L		645-~~625~~-25506

645-

30 April

Wedgetails Makapele Cliffs

~~29~~ April 1967

No.	Sex	Molt
1	?	new
2	?	"
3	?	"
4	?	new
5	?	new
6	?	high voice, fat head, new
7		low voice, thin head, new
8	?	new
9	?	fat head, longer back, new
10		thin head, shorter beak, new
11	?	fat head, longer beak, new
12		thin head, shorter beak, new
13	?	new
14	?	new

P = old
F = fresh
S = single
D = double

Color Phase	Nesting Status	Band No.
L	S, O	645-25525
L	D, O	645-25526
L	D, O	645-25527
Intermediate	D, O	645-25528
L	D, O	645-25529
L	D, O	645-25530
L	D, D	645-25531
L	S, O	645-25532
L	S, O	645-25533
L	S, O	645-25534
L	S, O	645-25535
L	S, O	645-25536
L	D, O	645-25537
L	D O	645-25538

1 dead wagtail 1

Kilauea Point, Kauai 28 April 1967

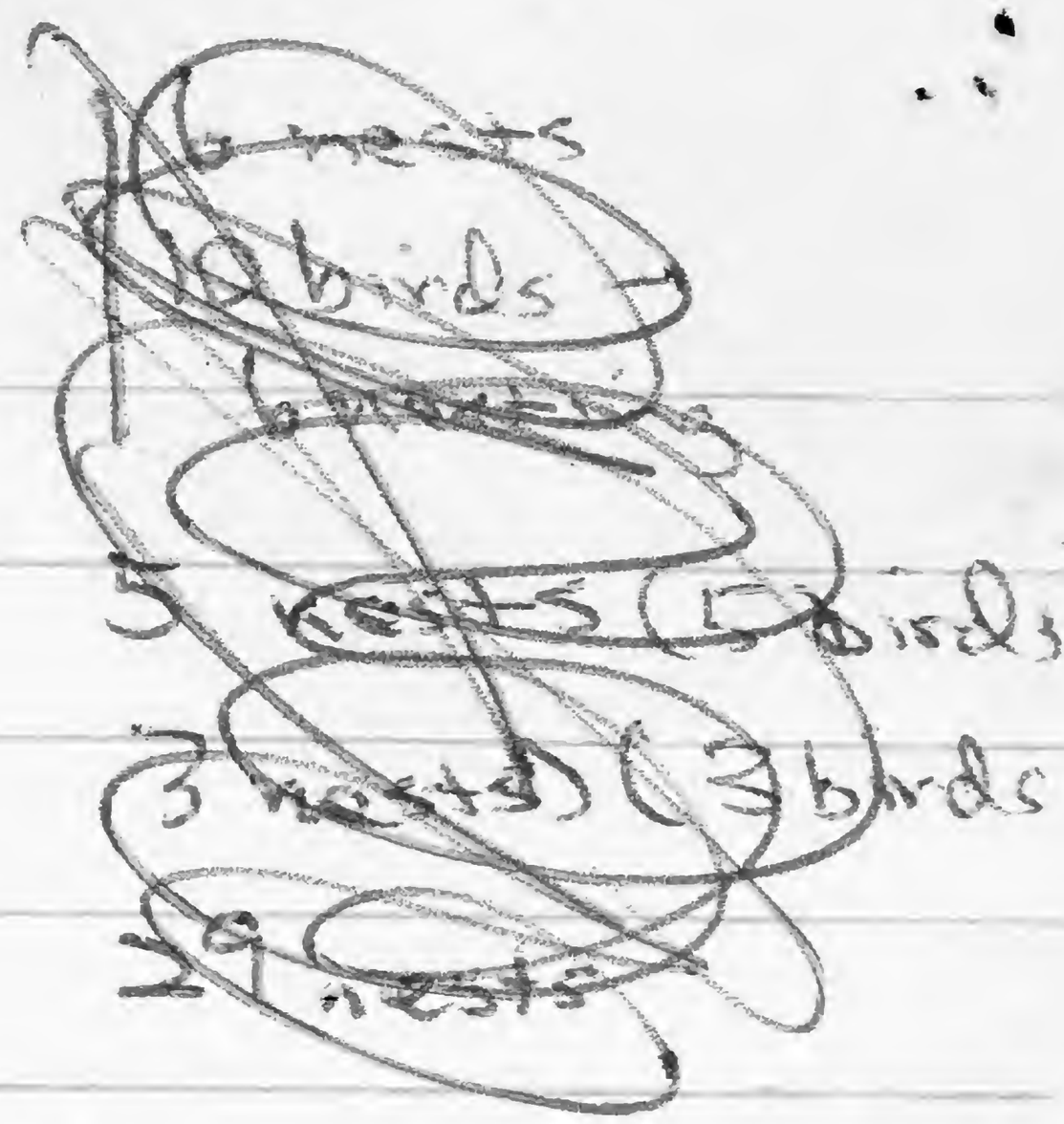
Moku Ae Ae - 1:30 P.M. -
4 G. Frigates observed landing on
1:35 influx of Frigates -
1 subad

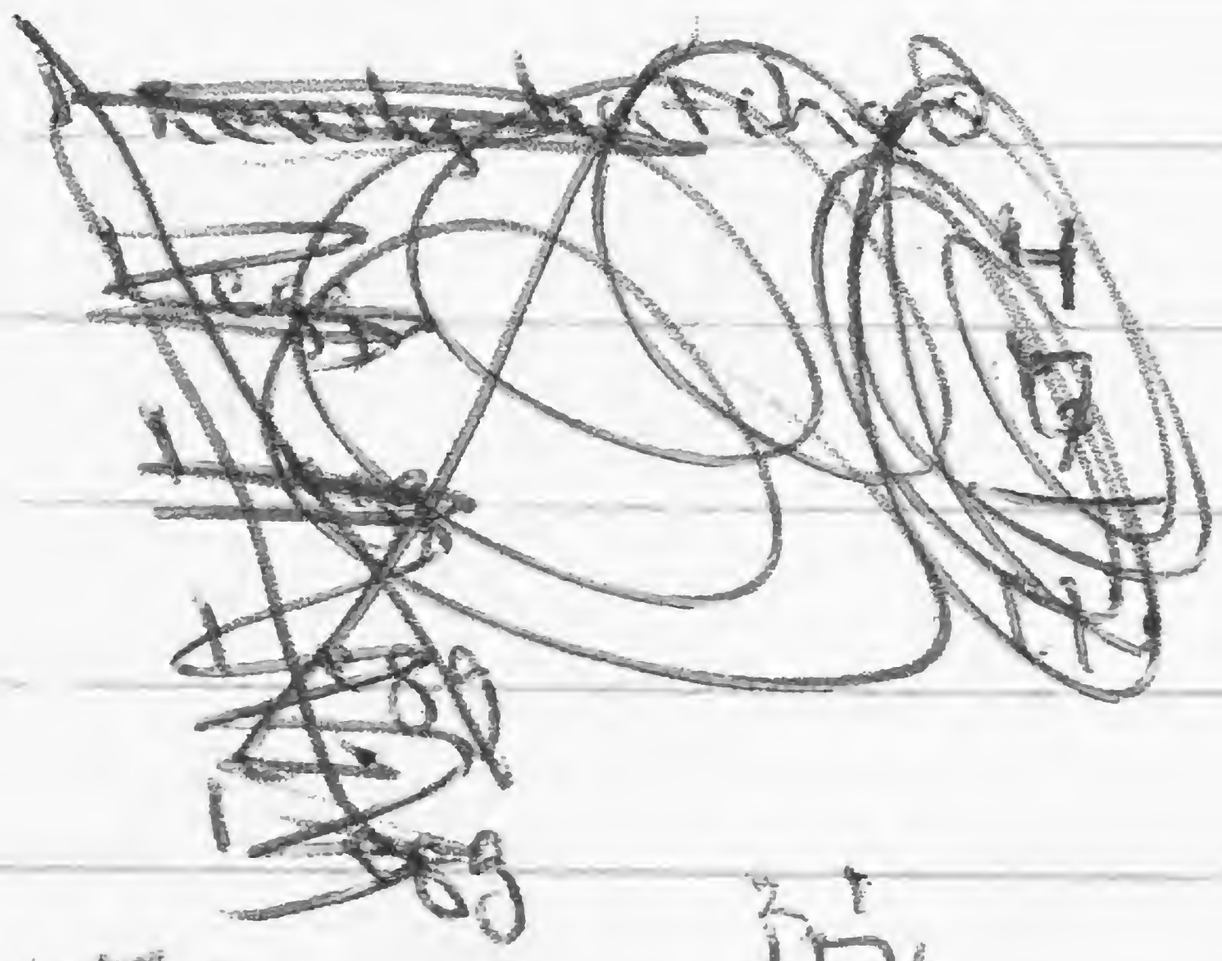
Makapala Cliffs

Burrows 30 [redacted] April 1967

No.	Entrance	Status	No. of birds	D
1	1	0	1	*
2	1	0	0	*
3	1	0	0	*
4	1	0	0	
5	1	0	0	
6	1	0	0	
7	1	0	0	*
8	2	0	0	*
9	1	0	0	*
10	1	0	0	*
11	1	0	1	
12	1	0	0	*
13	1	0	2	
14	1	0	0	
15	1	0	0	
16	1	0	0	
17	1	0	2	
18	1	0	2	
19	1	0	0	

	Entrances	Status	Nesting	D
20				
21				
22				
23				
24				





176
13
163

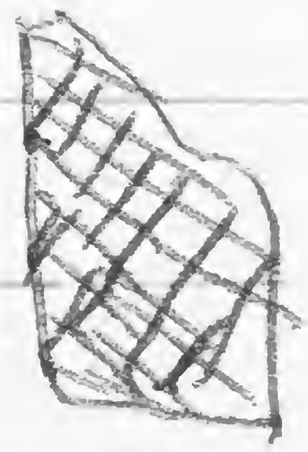
176
54
73
303

163
43
5
211

11
23
5
27

43 on nests
[redacted] = 11 nesting
Pontederia lanceolata
Pigweed + Scaweda (flowering)

= 176 RFB
including:
11 Adults roosting
2 subadults
163 of nests



= 17 RFB
including
4 subadults
3 [redacted] sitting near nests
[redacted] on nests

Representative sample:
~~egg~~
~~egg~~
~~1 egg~~
~~1 naked chick~~
~~1 naked chick~~
~~1 naked chick~~

5 Adults roosting
5 nesting

Recaptures

757-60854 ♀ on egg

RFB nest count

egg	chick	bare
5, 1, 1, 1, 1, 1, 1, 1	1	1, 1
3, 4, 1	3, 1, 1, 1, 1	
20	8	2

totals for colony on Mokapu's cliffs:

303 RFB including:

1. 211 on nests:
2. 27 Adults roosting
3. 6 subadults roosting
4. 3 individuals sitting within 1ft. of mates (on nests)

KAUAI

18 June 1967

Hoff and Burkhalter

SPECIES		E/BP Status	Incubation → 1 2 3 4	Color-Phase
1	1" WT Shrew	egg -	1	Lt.
2	113 "	" -	1	"
3	114 "	" -	1	"
4	115 "	" -	1	"
5	116 "	" -	1	"
6	117 "	" -	1	"
7	118	no egg clipping		"
8	119	no egg - "		"
9	120	egg -	1	"
10	121	no patch		"
11	122	egg -	1	"
12	123	egg -	1	"
13	124	egg -	1	"
14	125	no patch		"
15	126	bare patch		"
16	127	egg -	1	"
17	128	egg -	1	"
18	129	egg -	1	"
19	130	no patch		"
20	131	"		"

Sunday 18 June - light breeze
few clouds
full moon

Molt	Burrow	Band #
new	S	615-05016
	P	—
	P	—
	S	625-32263
	S	625-32262
	S	645-25503
	S	635-26102
	S	615-05037
	S	615-06315/635-26174
outside		
	S	—
	S	—
	S	645-25505
outside		615-07034/635-26127
	S	—
	S	—
	S	—
	S	615-15880
	P	—
	P?	—

RF Booby

	Status	Band no.
21	♂ w/MDC	NB 767-47510
22	♀ ? w/MDC	NB 11
23	♂ ? roost	NB 12
24	♂ "	587-84485
25	♀ w/MDC	757-61432
26	♀ roost	NB 13
27	♂ "	NB 14
28	♀ ? "	NB 15
29	♂ w/SDC	NB 16
30	♀ w/LDC	567-99847
31	♂ roost	NB 18
32	♂ w/LDC	NB 19
33	♀ w/LDC	587-90101
34	♂ w/E	NB 20
35	♀/SDC	587-80311
36	♂/SDC	587-90109
37	♀/e	NB 21
38	♂/SDC	NB 22
39	♂/LDC	NB 23
40	F/on SDC	NB 24

Phase

Lt.	132
Lt.	133
Lt	134
Lt	135
"	136
"	137
"	138
"	139
"	140
"	141
"	142
"	143
"	144
"	145
"	146
"	147
"	148
"	149
"	150
"	151

RF Booby New Bands

Series issued - 767-47510 to 60.

767-47510 - ♂ w/MDC

" ♀ w/SDC

12 ♀ roost

13 ♀ "

14 ♂ "

15 ♀ "

16 ♂ "

17 lost

18 ♂ roost

19 ♂ LDC

20 ♂ w/E

21

22

23

24

25

26

27

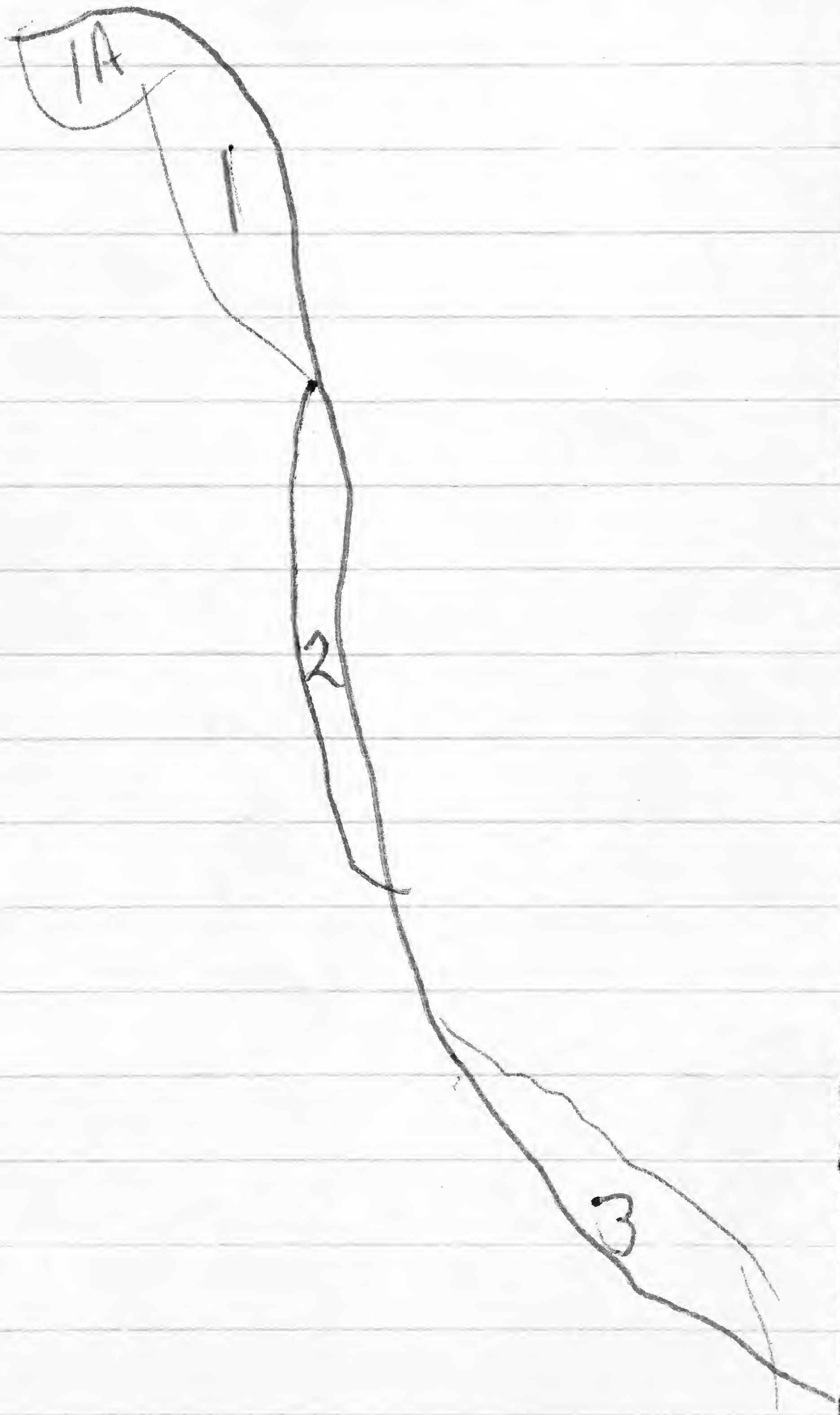
28

29

47530

31

Kauai
Hoff and Burkhalter
18 June 1967


1A
2
3

1600 to 1800

Area	Adults/nest	Yg/nest	Roosting
	3.3		
Off in Sarda	1 (4)		
2	26	13	6
	adult in air (1)	bare nest (1)	Bare Rest 17

2 Rock doves feeding

Area # 3 - Birds roosting in Casuarina

Area # 2 - birds roosting in Pagweed

G. Frigates
3 in air above boobies
near Makapuu cliffs

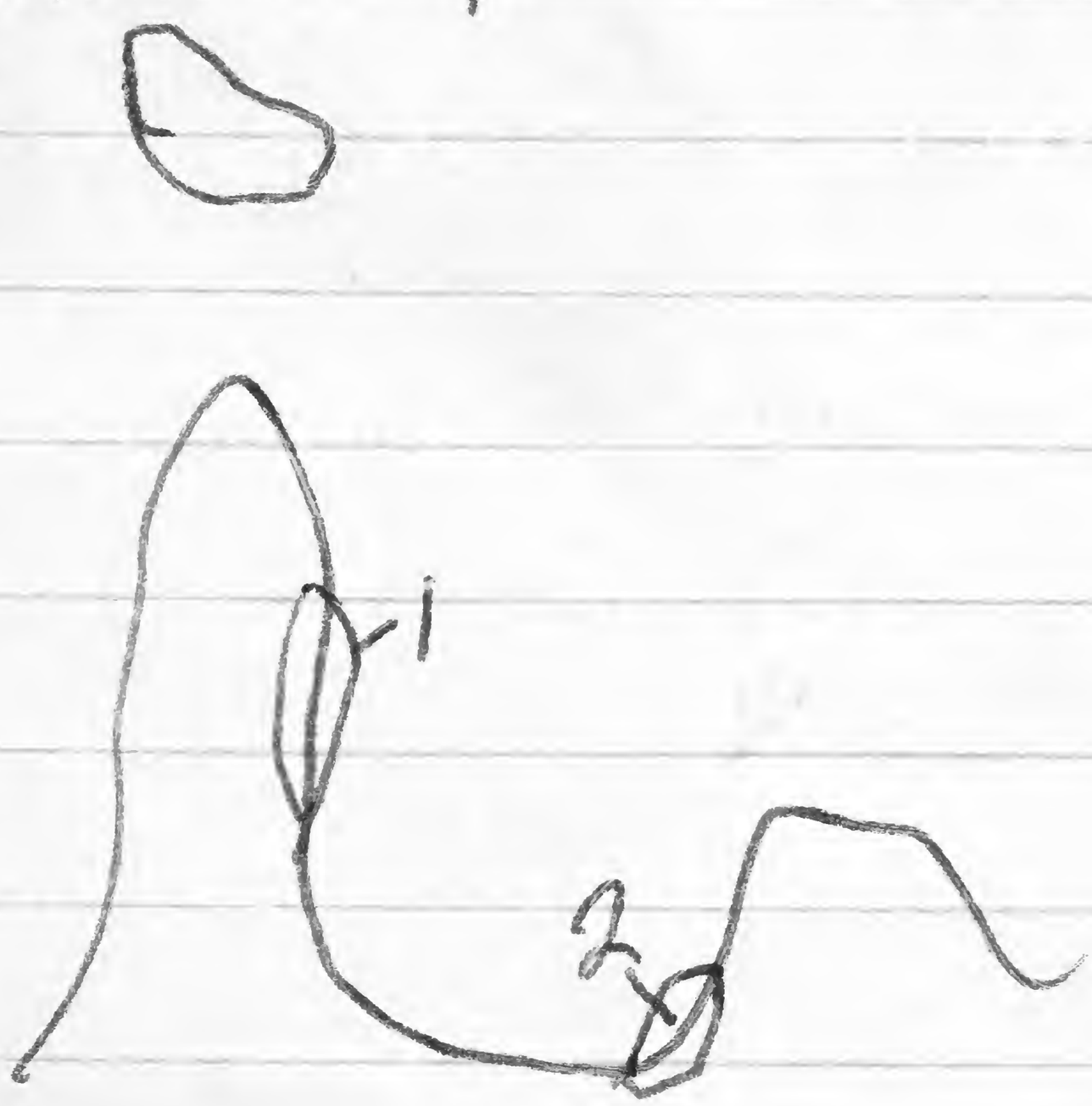
Area #1

adj/rest	LDC y/rest	root ad	imm
𝍸 𝍸	𝍸 𝍸 𝍸	𝍸 𝍸	
𝍸 𝍸	𝍸 𝍸	𝍸 𝍸	𝍸 𝍸 𝍸
𝍸 (25)	𝍸 𝍸 𝍸 𝍸 (34)	𝍸 𝍸 (19)	(3)
Self ad (1)	base (1)	on 3 adj	

Area #1A in Scar.

𝍸 (5)	𝍸 (5)

Kilauea Point



Area 1

Ad/nest	Ad/roost	others
16 (4 in Sandy)		

Crew 2	Al/nat	Tg/nat	Ad/root	other
	𝍸 𝍸	𝍸 𝍸	𝍸	seals 𝍸
	𝍸 𝍸	𝍸 𝍸	4	2
	𝍸	𝍸		
	24	21		

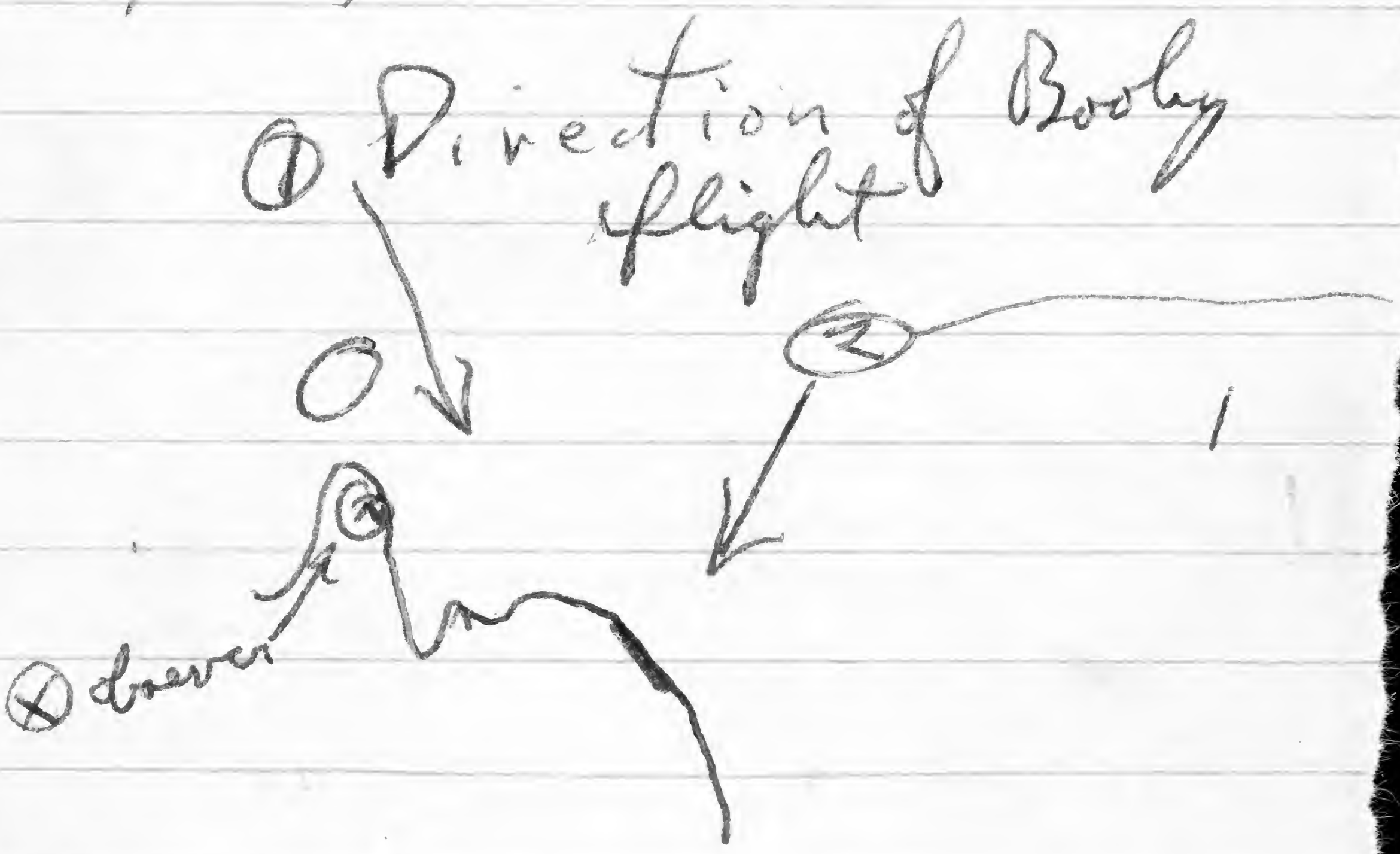
Makuaga 1 1802

Frigate count - 13

3 w/ white heads

3 in air

Frigate pursuit of Booby
per 1 hour
1730 - 1830
111



immature ⊗
⊗ = sub-adults

4 brown Booby on island - 2000
5 " " Bft " - "

Mahvaeae - Kilauea Pt. Sunday

Frigate RFB Show Starting 1900

o = not found
+ = sunken

returning RFB	Following Frigate	Chase Frigate	Ratio Frig
7,5	1	① 2-1-0	27 on sides
7,5 2		② 2-0	
		③ 2-0	6 frig in air
		④ 3-2-0	
		⑤ 3-2-+	
		⑥ 3-2-0	
		⑦ 3-1-+ BB	8 4's
		⑧ 1-0	32 Rest
		⑨ 1-0 BB	

① ②

7,5	1,2	① ②	FB ①
9,7	1,3,2		
6,2	5,3	10,4	4,5,2,2
1,1	5,5	7	2,1
①①1	+		
3,5			
1,4			
3,2,			
6+①			
2,3			

over page

2

WT Shear soaring ½ before

16 - Sweet

RFB		BB	Frig	Frig
①	②	①	chaser	
3	X	1		10 above 1s
3, 9		2		41 on
3, 2				
4, 3		2		
4				

sunset

3 above along — sunset

island

J.H. Fitch

Journal

Lihue Airport, Kauai 14 July 1967

Arrived at 11:15 A.M.* and rented a 1966 Rambler sedan from Tony's Rental for $8 per day and 10 cents per mile. Mileage approx.

Saw several Indian Myna bird on runway. ~~[illegible]~~ Temperature 80°, sky intermittently overcast with cumulus clouds. Standing water in ditches indicates a recent rain. Drove to Wailua Falls and saw a number of Japanese White-eyes, 1 dove in cane fields on the way. At the Falls, observed 4 WTTB circling the Falls in the air and flew off to the East — several doubles observed in leaves

* Saw 1 WTTB from plane near cliffs — E of Lihue Airport

Saw Heiau of Poliahu
built by Menehunes
Holo Holu ku Heiau

Kalalau lookout
5 WTTB
4 Red birds - Tanager - like
8 small olive green

J. H. Fitch
2

Journal

14 July 1967 (continued) and grass litter; most were hatchlings 1½ to 2 inches long. Heavy rain began at 11:55 A.M. WTTB still flying around - drove down to Highway 56 - sunny here. Drove to Wailua River State Park - Poliahu Area to an overlook - 5 WTTB were seen ~~in~~ flying in the vicinity of the high cliffs on either side of the overlook. Two cardinals, both ♂♂, were seen at the overlook - Poliahu Falls could be seen from overlook - near the Heiau of Poliahu several small warbler-like birds were flushed from a small Casuarina tree.

ক্রিয়া

১৬

JH Fitch
3

14 July 1967 (continued)

Drove to Kilauea Pt. and talked with Dowell First Class in charge — signed a releaser and made arrangements to come in tommorrow night. Currently are 23 dogs at station although only five are adults. Visual count was made at: 3:05 P.M. of Boobies in Colony B — a total of 28 sighted: of those, 11 were large downy chicks, 2 were adults roosting and 11 were adults sitting on nests. At 3:15 P.M. a count was made off Island: a total of 43 Frigates including: 18 ♀♀, 12 ♂♂, 1 immatures and one RFB (adult). Then hiked to Nokhpele Cliffs and banded, molted, phased Wedgetails

T H Fitch
4

14 July 1967 (continued)
than 1 bird
Of those, none of the burrows had more
in addition to egg measurements,
I then made a binocular survey
of Colony C (RFB) ~~on~~ Mokapele Cliffs
Mokapele Cliffs: total of →
RFB (36 for end part Colony C=29
nestlings, 7 adults) at 4:10 P.M.
Then climbed down Mokapele Cliffs
and banded 20 RFB large downy
chicks. The ~~other~~ entire part of Colony
C was composed of 5 small naked
chicks, 11 small downy chicks and
28 large downy chicks, 6 early
immatures and 7 adults. (Time: 5:30)
Then climbed up cliffs and
began a watch of Colony:
6:00 P.M.: Section contained 25 eg.
and 5 adults
6:30 P.M. → 7 adults
7:00 P.M. → 20 adults

J.H. Fitch
5

14 July 1967 (continued) 10 of 13

coming in alighted near chicks 7 of 10 fed chicks. During the period from 6:30 – 7.00 a total of 7 Frigate chases were observed:

Chase #	No. Frig.	No Boobies	Success
1	2 at beginning	1	+
2	1	1	–
3	3 at begin.	1	+
4	1	1	–
5	2 at. beg.	1	+
6	1	1	+
7	1	1	+

At 7:00 P.M., began rain-drove to Dairy Queen for dinner and on the Waimea Canyon – camped at campground at approx. 3600 ft. weather

Fl. 328 Aloha
22 minutes.

Take off 1:50
16 July 1967
Overcast - rain visibley
¼ mile

J. H. Fitch
6

14 July 1967 (continued) was cool and slay intermittently overcast. Set out 15 Museum Specials and 10 rat traps baited with mixture of crackers and peanut butter – hit the sack at 11:15.

15 July 1967

Got up at 8:00 A.M. and checked snap traps – no luck. Drove to Kalalau Lookout – foggy and only glimpses of the Nepali coast were possible. – Saw 5 WTTB, 4 red Tanger-like birds and 8 small olive green birds (Japanese White-eye's). Then drove to Waimea Canyon lookout and saw 11 WTTB

14 July 1967

Results: Kilauea Pt, Kauai

Fitch

15 RFB bled

65 WTS bled

10 [redacted] WTS banded

40 RFB chicks banded

10 RFB adults banded

5 RFB adults returned

19 WTS adults returned

RFB: Colonies A, B, C checked and counted

WTS: 20 nests measured and eggs measured and flouted on Mokapele Cliffs

20 birds: molt on tail and [redacted] primaries checked

Reptiles: collected 10 skinks

Mammals: 1 mouse

Surveyed briefly: Waialua Falls, Poliahu Falls

Vernon Roach

a = sym.
w = worn

645-25539 - 25600

Band No	Prim. Molt		Tail	Paired With
645-25539	1.0	aw	L	1999
" " 40	1.0	b	L	1999
41	1.0 (worn)	aw	L	1999
42	1.0 (new)	a	L	1999
43	1.0 (new)	a	L	1999
44	1.0 (new)	a	L	1999
45	1.0 worn)	b	L	1999
46	1.0	a	L	1999
Colony C 47	1.0	b	L	1999
48	1.0	a	L	1999

Wedgetailed Shearwaters

Nakapele Cliffs, Kauai, 14 July 67

P. Band No.	P. Prim. Molt Tail	Color Phase

Nest and Egg data

Nest #	No. Birds	Eggs	Ent.
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1
5	1	1	1
6	1	1	2
7	1	1	2
8	1	1	1
9	1	1	1
10	1	1	1

1 = just laid
2 = on end - bottom
3 = floating
4 = surface
5 = unbalanced surface

Length	Flotation	length x width
41 (39)	2	6 x 4.2
32 (28)	1½	6.2 x 4.0
38 (32)	2	6.1 x 4.1½
39 (29	2	6.1 x 4.1½
44 (35)	2	6.2 x 4.1½
20 (13)	4	6.6½ x 4.1½
22 (16)	2½	6.5 x 4.4½
31 (27)	2	6.4 x 4.2½
18 (14)	4	6.5 x 4.0
25 (21)	2	6.1 x 4.0

Band No.	Prim.	Molt tail	CP	Paired

RFB Banded 14 July 1967
Mokapale Cliffs (Colony C)

587-84901-84920

RFB large downychicks

Colony C = 22

including

5

8 small naked chicks

11

small downy chicks

28 large downy

6 early matures

7 adults

36
22
58
17
41
2
17
28
6
51

5:30 P.M.

6:30 P.M. 14 July 1967
Began watch of Booby Colony
C — section I was watching
contained 25 yg. and
7 adults at start
6:45 P.M. — total no. of
adults ~~[illegible]~~ 20
stay at this time overcast
during this time
10 of the 13 coming in
alighted in ~~the~~ nest
chicks, 7 of these fed
chicks — during this
period 4 frigate birds

29 large downy with
small downy in same nest

Colony B - found to be
North facing slope and also
E facing slope - add another
8 large d. chicks,
3 small downy chicks,
1 naked and 5 adults
9:30 P.M.

Sera
15 July 1967 Kilauea Pt.

(with large chick

1 587-90117 ♂? TW WN

2 757-60850 ♂? TW WN

(on small chick)

3 * 767-47525 ♀ TW WN

(small chick

4 767-50333 ♂ TW WN

• 1 small chick

5 757-60884 ♂ TW WN

1 small downy chick

6 * 767-47526 ♂ TW WN

7 * 767-47527 ♂ TW WN

Mokapelo Cliffs

8 * 767-47528 ♂ TW WN

9 * 767-47529 ♂ TW WN

10 * 767-47530

11 * 31

12 * 32

13 * 33

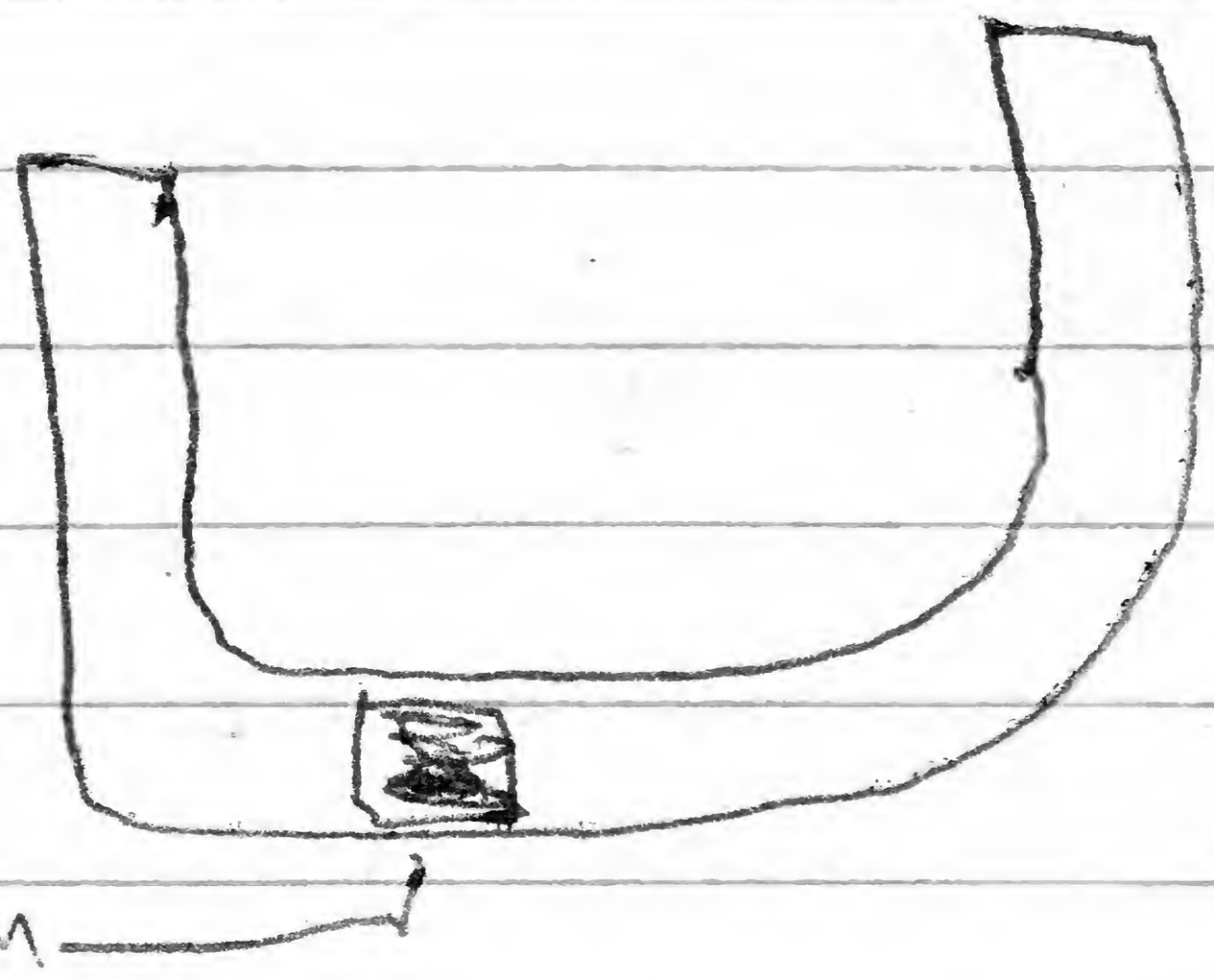
14 *

Pedro 587-90113

2	Ent. 41(38)	2	5.7½ x 4.0
2	Ent. 44(41	2	6 x 4.2
2	Ent. 36(26)	2	6 x 4
2	18(12)	4	5.6 x 4
1	45(23)	2	6.2 x 4.2
1	28(23)	4	6.2 x 4.0
1	43(	2	6.2 x 4.1
1		2	6.2½ x 4.0
2		4	6.2½ x 4.1½
2		1	6.2½ x 3.9

Wedgetails

		Tail Prim.	
615 - 06347	Alone	a	w
524-94624	Dark Alone leg.	a	w
	Inter. legg	a	OK
635 - 20599		aw	OK new
		aw	OK new
645-16504		aw	OK
645-25509			
544-50535		aw	Oknew
524-94629-635-26161			


NOSY

Kauai 16 July '67
Wedge-tailed Fitch
Shearwater Returns
Out on ground

16 25-32 35
635- 26174
645 16228
624 19461
615- 15880
615- 05111 —

635- 26180
645- 22059
645 25524
635- 26149

635-25506

615-05167 —

Ocean - Oceanity
Oahu calm - no
white caps - Tropic
Storm Denise

8:35 A.M. 16 July 1967
53 RFB colony B
including: 36 roosting birds
1 Mouse in Wadgetail
colony captured at
4:00 A.M.
Boobies must frequently
make two or three passes
before they are ready to
land
8:45 Birds Wadgetail size
seen - white underneath,
brown above with darker
wing tips.

Fitch Kilauea Pt., Kauai

14 August 1967

Kilauea Pt. Kauai

14 August 1967

Wedgetailed Shearwaters

Sera #	Band No.	Paired With
1	645-25559	—
2	635-26104	—
3	615-07016	—
4	645-25560	—
5	61	—
6	635-24168	—
7	625-32241	—
8	62	
9	615-07015	—
10	625-26153	
11	645-25511	
12	615-06426	
13	63	
14	625-26113	
15	645-25560	
16	64	
17	65	
18	645-26147	
18	615-05058	
19	625-26120	

Band #. W= worn

645-25559

Color Phase:
Dark = D
Intermediate I
light = L

Status	Tail Molt	Wing	Notes
no egg burrow	worn	worn	L
in nest	W	SW	L
in nest	W	W	L
in nest	W	W	/
" "	W	W	/
" "	W	W	/
" "	W	W	/
" "	W	W	/
" "	W	W	/
" "	W	W	/
" "	W	W	/
"	W	W	/
"	W	W	/
"	W	W	/
"	W	W	/
"	"	"	/
"	W	W	/
"	W	W	/
"	W	SW	Dark

OH.

J - 2564 383 - 19, Jan. 66

No 2 piston was burned up from overheating rings were frozen to piston. Cylinder not ~~[illegible]~~ scored too badly. Engine was overhauled. New piston in no. 2 cylinder. New rings and gaskets were installed along with general clean up and lubrication of rest of engine. New points and condensers were installed.

Parts used

Point sets	2
condensers	2
Overhaul gasket set	1
Ring sets	2
Pistons	1
Throttle handle	1
Starter rope	1
wrist pin retainers	2

old rod keepers had to be used.

Seq #	Band No.	Stats
20	66	
21	67	
22	635-10084	
23	615-05061	
24	635-26128 (L)	
	615-07037	
25	635-26101	
26	645-22041	
27	635-20550	
28	615-06325	
29	635-26114 (L)	
30	68	
31	645-22052	
32	524-94652	
33	69	
34	635-20595	
35	70	
36	645-25514	
37	71	
38	72	

T.	W	
molt		Notes
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	D
W	W	/
W	W	/
W	W	/
W	SW	/
W	W	/
W	W	/
W	W	/
W	W	/
W	SW	/
W	W	/
W	W	/
W	W	/

Sera #	Band #	Status
39	645-00283	
	635-25121 (L)	
40	615-06348	
41	615-07070	
42	645-00371	
43	73	
44	645-25509	
45	74	
46	625-30691	
47	625-32392	
48	635-20592	
49	75	
50	76	
51	615-07064	
	635-26195 (L)	
52	77	
53	544-50563	
54	78	
55	79	
56	615-06356	
57	80	

←

T molt	W	Notes
W	W	/
W	W	/
W	W	/
W	W	/
W	New	D
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/
W	W	/

Sara Bard

58	W645-16235	
59	W615-07040	
60	W615-05159	
61	81	
62	82	
63	W615-06337	
64	83	
65	84	
66		
67		
68		
69		
70		

W T Moff	Notes ~~Status~~	Status ~~Notes~~
W W	/	$
W W	/	
W W	/	
W W	/	
W W	/	
W W	/	
W W	/	
W W	/	
W W	/	

587	45013	70	67 (?)
587	90109	68	66
		69	
587	84916	71	68
587	84913	72	69
587	84913	73	70
587	84914	74	71
587	84912	75	72
587	84904	76	73
587	84908	77	74

1 large turtle swimming
near Makapili Rock

Aug. 15, 1967

RFB Colony C : 4:00

46 large downy chicks

22 locals - dark brown or black plumage

3 adults

RFB Colony B : 5:00

23 locals

3 large downy chicks

2 adults

large number of immatures (locals) observed in air on this trip

RFB Colony A :

2 local

1 adult

3 large downy chicks

Island

Frigates : 58

RFB : 2 adults

15 Aug, 1967

Bedgetuilled Shearwaters

10 nests : Makapili Cliffs

3 deserted

4 with 1 small downy chick 1 week old

3 with egg

KILAUEA POINT

9-11 Sept. 1967

Bands: 645-075 15 -

Wedge-tailed Shearwaters

I = inter.
L = light
D = dark

Cat. No.	Molt Wing	Molt Tail	CP	Remarks
8321	10/10 W	W 6/6	D	635-26198
322	" "	" "	I	645-25521
323	" "	" "	I	[redacted]
324	" "	" "	I	16 [redacted]
325	" "	" "	I	17 [redacted]
326	" "	" "	I	645-25561
327	" "	" "	I	635-26111
				615-06303 [redacted]
328	" "	" "	I	645-00361
				[redacted]
329	" "	W I	I	18
330	" "	W 6/6	I	19
331	" "	" "	D	20
332	" "	" "	I	[redacted]
333	" "	" "	I	21
334	" "	" "	I	22
335	" "	" "	I	23
336	" "	" "	I	24
337	" "	" "	I	645-00368
338	" "	" "	I	615-06326
339	" "	" "	I	635-26176
340	" "	" "	D	[redacted] 26

Cat. No.	Molt Tail	Molt Wing	CP	Remarks
341	10/10W	6/6 W	I	27
342	10/10W	6/6 W		no band

Kauai
9-11 Sept. 1967

Lihue Airport, Kauai, Hawaii, 9 Sept. 1967

Arrived at Lihue Airport at 11:05 A.M. Sky sunny with high cumulus cover — temperature in high 80s. On flight in several (3) WTTB observed flying in vicinity of cliffs SE. of airport. 4 clones were seen in settling pools ¼ mi. W. of airport.

[redacted]

Plans:

1.) Set out 15 small mammal traps at Kilauea Pt. on night of 9th and 15 on Makapili Cliffs on night of 10th

2.) Population counts of RFB at 3:30 P.M. of 9th → Dark, sera sample WTS beginning at Dark

T

No.	Type Chick	Burrow
1	A	16in. earthand lava
2	B	14in. " "

Chicks: Variation in Size

A individual: large Downy Feathers white

1.0 : large white Down giving way to gray Down - molt

Wedge-tail

1w 645-25547 2 10/10 N, 6/6 N
♀ chick (large downy)

2w ——→ I-D 10/10 N 6/6 N
♀ large downy chick

3w ——→ I-L 10/10 N, 6/6 W

4w I

5w I

6w

7w

8w

RFB

Bands: 767-53118-26

*1. 767-50394 Tw,w 9/10 ?

*2 587-90109 Tw,w 10/10 ?

3 18 Tw,w 10/10 N ?

4 — immature

5 immature

6 immature

7 767-53119 TN,w 10/10 N ?

8 767-53120 Tw,w 10/10 N ?

9 767-53121 TN,w 10/10 N ?

10 767-53122 Tw 10/10 N ?

11 767-53123 Tw 10/10 N ?

12 767-53124 TN 10/10 N ?

13 767-53125 Tw 10/10 N ?

14 767-53126 TN 10/10 N ?

*15 587-84918 immature

16 immature

Kilauea Pt., Kauai 1

Itinerary

Fitch

25 Oct. 1967

Intermediate Airport Oahu 25 Oct. 67

Left airport aboard Alohajet at 1:25 P.M. and arrived at Lihue, Kauai at 1:45 P.M. Weather warm (87°) and sunny with occassional high cumulus cloud cover.

Russell Robinson

Makaweli 386-842

Uncle - Lester

386-751

George Susterich 374-843

Kohala

Hawaii National Guard

Red-footed Booby 4
Colony C
Makapele Cliffs, Kauai 25 Oct. 1967

4:00 P.M. 19 adults
2 immatures

5:00 P.M. 56 adults
31 immatures

6:00 P.M. 211 adults
68 immatures

7:00 P.M. 215 adults
68 immatures

Red-footed Booby 5
Colony A
Kilauea Point Kauai 26 Oct. 1967
6:30 AM. : 21 adults
9 immatures

Across cove (Colony B)
6:30 AM. 51 adults
12 immatures

Mokuaeae Island Kauai
7:00 AM. 42 adults
4 immatures
47 Frigates

9

Description of young:

legs - pinkish gray - retives just coming in, as are primaries

[redacted]

Wedge-tailed Shearwaters

bands issued: 645-25601-700

bands used: [redacted]

645-25601-10 large chicks

645-25611-20 adults (bled)

645-25621-25 large chicks

(No returns)

Wedge-tailed Shearwater 7

Makapele Cliffs Kauai 25 Oct. 1967

Shearwater nests investigated

Those to right of fence on cliffs (bare ground with minimum of grass)

Burrow #	Depth	Occupant
1	12 in.	645-25601 Tail tips of wings
2	16 in.	Sm. nestling - dead for several wks
3	20 in.	645-25602 Tail tips and edges of wings

Left of fence in Casuarina trees

STUDY AREA

Burrow #	Depth	Occupant
4	16 in	645-25603 Tail and wing surfaces
5	8 in.	egg found but no chick
6	16 in.	645-25604 entire body except follow in 2 areas of down ventrally

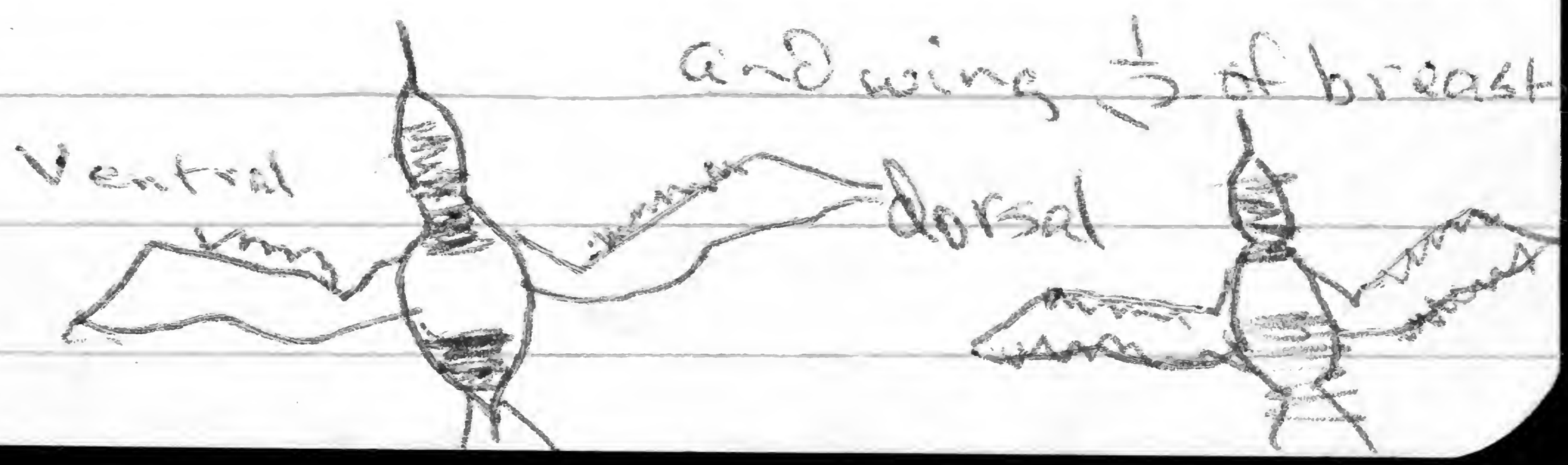
Wedge-tailed Shearwater

Makapuu Cliffs (continued)

Burrow #	Depth	Occupant
7	21 in.	645-25605 tail from throat ⅔ length to tail wings, around beak,
8	11"	none
9	14"	none
10	19"	645-25606 tail tip and wing tips
11	12"	645-25607, tail, wing and ring around throat up and low. around beak wing base. also on right side around
12	16"	645-25608 - tail and wing tips
13	14"	none

Area to left of study area - bare ground w minimum grass

14	12"	645-25609 - tail and wing ½ of breast



Wedge-tailed Shearwater

Makapele Cliffs (continued)

Burrow #	Depth	Occupant	
15	22"	645-25610	tail wings middle ¼ breast

On Ledge in Booby Colony C

Burrow #	Assoc. Band	Stage	
16	1 Ad.	645-25621	tail, wings
17	1 ad.	645-25622	tail, wings head & breast

Blood Collections 11
Wedge-tailed Shearwater
Makapele Cliffs, October 26 1967

Number	Assoc.	Band	Molt	P.
1	1 nc	645-25611	Tsw, Wn	I
2	1 wc	645-25612	Tw, Ww	L
3		645-25613	Tw, Wn	I
4	1 nc	645-25614	Tw, Wn	L
5	1 ok	645-25615	Tw Wn	I
6	none	645-25616	Tw Wn	I
7		645-25617	Tw, Wn	L
8		645-25618	Tw Wn	L
9		645-25619	Tw, Wn	I
10		645-25620	Tw, Wn	L

Red-footed Boobies

Bands issued:

Blood Collections 12

Red Footed Boobies

Makapele Cliffs, 26 October 1967

No.	Band No.	Age	Molt
1	767-44501		
2	587-84913		
3	44502		
4	44503		
5	44504		
6	05		
7	06		
8	07		
9	08		
10	09		
11	767-44510		

Newells Shearwater 3

First individuals killed on roads between Lihue and Kilauea Pt. on October 1 - total of 6 killed. Road between Kilauea Pt. and checked on the night of the 25th of October with no results.

White-tailed Tropicbirds

Tropicbird activity noted around cliffs near Hihue (2 seen) and in Waimea Canyon where 16 were seen on the 26th of October

Nene

½ mi. S. Kokee Camp, Kauai
1 individual spotted crossing road.

Great Frigatebird

A total of 53 individuals including 25 males and 22 females (6 immatures) were counted on Mokuaea Island at 7:00 A.M.

Mice and Rats

Twenty-one live-traps baited with peanut butter and peas were set out — no luck

Lepidodactylus lugubris 18

A total of 7 individuals were collected from the Coast Guard station building at night - another 8 were seen but could not be caught.

Summary:

RFB:

Population est.: 400 - 500

400 ± 50

including: 329 adults and 83 imm

No. banded: 10

No. returned: 1

No. bled: 11

Wedgetail:

Population est.: 250 ± 50

(includes adults only from Makapele Ridge (50), Makapele Cliffs (200, Kilauea: 30

No. banded: 35 (10 adult, 25 yg)

No. returned: 0

No. bled: 10

Mammals: none

Reptiles:

~~E~~ 7 Lepidodactylus lugubris

Kauai 26 Nov '67

Fitch

International Airport, Oahu, Hawaii

26 November 1967

Departure by Hawaii Jet Airq 0920 for Kauai. - weather at Honolulu cloudy and rainy - temp: low 70s - wind slight and from North Beginning sea # H7 R 15J Waves at 3-5 feet - whitecaps. Cloud ceiling at 3000-4000 ft. Landed at Lihue at 10:30 A.M. and picked up Rented car from Tony. Drove to Kilauea Pt. arriving at 11:30 - Contacted Bob and Judy Walker - Drove to Mokapelo Cliffs after making a count of RFB colonies A and B. A had 12 adults + 1 immature @ 1:45PM and B had 150+ adults and

16 minutes and 9
subadults at 2:00 P.M.
Made a count on Makapele
cliffs as high winds and
squalls allowed: 350 ± 10
adults: 47 minutes
14 subadults.

Kilauea Pt. 26 November 1967

Windy — waves 8-10 ft.

Sub Colony B:

150 ± 10 Adults

(142 Fitch, 160)

16 immatures

9 subadults

SubColony A

12 Adults

1 immature

25
115

45

~~286~~ ~~365~~

Inn

172
35
103
20

3430

330
360

19
13

34

	Imm.	Sub AQ	
172	22	7	33
35	11	3	14
			47
103	9	2	
20	5	2	

	Imm.	Sub Adult	
53 102	9	150	
84	6	100	
19	2		
175. ~~140~~	24	300	
86	8		
275	27		
741			

5:45 P.M.

1300 800

97
86

11

BAND RECORDS

Makapele Cliffs, Kauai 26 Nov. 1967

Bands used:

645-25585 ? missing

645-25586-97 (12)

Bands returned:

645-25603

645-25601

Kilauea Point, Kauai 26 Nov. 1967

Bands used:

705-11201-02 (2)
645-25598-600 (3)
767-44511-12 (2)

Bands returned:

597-12442

597-12449

Summary:

17 birds banded including

2 RFB

15 WTS

4 birds returned including

2 RFB
2 WTS

POPULATION ESTIMATES

Kilauea Point, Kauai 26 November 1967

RFB:	Ad.	Imm.	SubA
(1345) Sub-Colony A	12	1	—
(1345) Sub-Colony B	150	16	9
(0830) Sub-Colony B	106		

WPS:

10-20 Adults and Immatures

Kilauea Pt. Kauai
Nov 26-27, 1967
Fitch

Bands issued:

705-11201 - 11300
767-44511-600

Bands used:

705-11201-02 (2)
767-44511-12 (2)

Returns:

597-12442
597-12449

Kilauea Pt. Kauai

HMK171 →

167
168
169
172
166
173
174
170

Kilauea Pt. Kauai
Nov 26 '67 - 21 20 - 23 40

-25 RFB 597-12449 ♂
26 WTS 645-25598 Imm
27 " 645-25599 Ad
28 " 645-25600 Ad
-29 RFB 597-12442 ♀
30 WTS 705-11201 imm.
31 RFB 767-44511 ♀
32 RFB 767-44512
33 WTS 705-11202 Ad.

Bands Issued: Kauai Fitch
645-25585 - 25600
3:00 - 6:20 P.M.
Makapele Cliffs, Kauai 26 November 1967

4	645-25603		Imm	Below	4
[redacted]	645-25586		Imm	with	down
3	645-25587		"	"	"
4	"	" 88	"	"	"
5	"	" 89	"	"	"
6	"	" 90	"	"	"
7	"	" 91	"	"	"
8	"	" 92	"	"	without
9	"	" 93	"	without	
10	"	" 94	"	with down	
11	"	" 95	"	without	
12	645-25601			yes	
13	645-255	96	Imm.	without	
14	645-255	97	Imm	with down	

Samples 1 thru 14 are assigned Serum sample numbers H7K152 though H7K165 consecutively

Kilauea Pt., Kauai Fitch

27 December 1967

3:35 P.M. : no birds on Mokuaeae Isl.

3:40 P.M. Colony B:

13 adults -

no immatures

4:50

35 adult 2 imm.

17 adult 0 imm.

29 adult 1 imm.

133 adult 3 imm 2 sub-adult

214 6 2

4 Frigate chases

1 ~~4~~ adult RFB vs. Frigates

1 immature RFB vs. Frigates

all unsuccessful

59 birds in trees -

57 adults - 1 subadult - 1 imm.

92

Brown boobies - in caves or crevices under the RFB colony -

4 preening pairs of LFB - all on grass - lower vegetation - NOT on trees

1 Tropic bird - 3:45

5:35: 1m. RFB varw 6F - successful

5:20 RFB count

67 adults - 2 sub / 1mm

27 "

35

166 3 sub 6 7 imm

295

5:20 Brown Bowbye Count

102

5 14/5 ERB

[illegible]	[illegible]	[illegible]
127 Adults	12 Imm.	9 S.A.
40	2	3
25		
42		3
328	6	13
482		
		9 1
		25
		~~[illegible]~~
11		
7		1 1 imm.
5		2

Coming in

8 Ad.	1 imm.	12
		1. Ad.
2		15 3 imm
1	1	1
1		20 2
2		8 1
3	1	3

5:45 BB

172

Brown - RF chase - Brun
veers off
Frigate forced RFB into water

Frigate - RFB (forced with water)

[illegible] 5

6:30

125 RFB

Colony between B and C

75 RFB Colony B

Summary:

Sera sampled: 31

Recaptures: 7

Banded: 24

Jul 67	587-84913 imm.
July 64	597-12410 ad.
Jul [redacted]r. 64	597-12607 ad.
Jul [redacted]. 64	597-12618 ad ♀ egg
Mar. 66	757-61109 ad.
Nov. 66	767-50049 ♂ black
Sept. 67	767-53119 ad.

767-44513 – 36 (24 bands) used

27 Dec. 1967 Kilauea Pt.

1	13	adult	1-18 at new colony between B and C – all adults in new plumage – prob. breeding
2	14	adult	
3	15	imm	
4	16	imm	
5	17	imm	
6	18	adult	
7	19	imm	
8	20	subad	
9	21	ad	
10	597-12607	ad	
11	22	ad	
12	597-12410	ad	
13	23	ad	
14	767-53119	ad	
15	24	ad	
16	25	ad	
17	26	imm	
18	27	ad	

19 adult 28 19 -

20 imm 29 at colony C on Makapili

21 ad 30

22 ad 31

- 23 imm 587-84912

- 24 ad 757-61109

25 ad 32

- 26 ad ♀ 767-50049 with large chick

27 ad 33

28 subad 34

29 ad 35

30 ad 36

- 31 ad ♀ 597-12608 on egg

Colony C

~~eggs~~	~~IIII~~
~~small naked~~	~~II~~
~~small nestling~~	~~II~~
large nestling	I

Colony C

Count of 43.

29 December 1967 Makapele Cliffs

1 egg NN III

2 egg

1 naked ck "

2 naked ck

1 small downy ck "(Dead)"

1 large downy ck "

15 nests