

Flocks

T-362
SP-52
TOT-264

1652	5	ST	T
1655	5	ST	T
1657	13	ST	T
1704	13	ST	T
1713	150	Birds	Feeding
1720	15	T.Y.	T
1721	30	WT	T
1722	150	ST	Feeding
1730	300	Birds	TF
1731	5	EN	T
1745	6	CN	T
1746	30	CN 22 WT 8	T
1747	7	WT	T
1747	65	CN	T
1750	7	EN	T
1758	13	ST 1 CN 12	T
1832	8	ST	T
1835	6	WT 1 ST 5	T
1902	6	WT	T
1902	30	ST	T

Flocks

0549	6	ST	T	T 1137
0553	12	ST	T	SP 127
0602	6	CN	T	TOT 1353
0609	5	ST	T	
0632	37	ST 30 WT 5 FT 2	Feeding	
0646	5	WT	T	
0733	20	ST 12 CN 6 RFB 2	T	
0800	37	ST 3 CN 25 NS 2 WT 7	Feeding	
0825	133	ST 15 NS 2 GBT 1 WT 35 RFB 3 CN 75 HN 2	Feeding	
0845	36	ST 28 CN 6 WT 1 FT 1	Feeding	
0848	35	ST	T	
0929	29	ST 10 CN 13 WT 6	Feeding	
1002	13	ST 2 CN 8 FT 2 WT 1	Feeding	
1009	13	FT 5 CN 8	Feeding	
1044	51	FT 2 ST 10 CN 39	Feeding	
1102	315	FT 15, CN 150, ST 150	Feeding	
1108	57	ST 30, CN 20, RFB 1, WT 1, NS 5, CN	Feeding	
1118	18	CN	T	
1129	75	Bird	T	
1134	91	ST 56, CN 25, RFB 2, WT 7, NS 1	T	
1150	146	ST 60, CN 50, HN 6, WT 21, CIS 2, BP 2, RFB 3, FT 2	Feeding	
1230	136	CN 100, ST 20, GBT 2, CIS 2, WT 10, RFB 1, NS 1	Feeding	
1246	5	FT	Feeding	
1252	19	FT 2, ST 5, CN 10, BP 2	Feeding	
1410	10	ST 5, CN 2, FT 2, RFB 1	Feeding	
1502	18	ST 12, BP 2, WT 1, CN 3	Feeding	
1509	11	FT 6, Temp Sp 5	Feeding	
1802	14	ST 7, WT 7	T	

last obs at 11 hrs, 39 min

Location 23-16 N; 164-31 W

23-51 N; 166-26 W

Observer Crossin et al.

Date 8 June 1966

Time 0511 to 1850

Weather clear, calm.

- 2 hrs. off

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross	9							Total Birds = 996 Total Flocks = 26 (399) Feeding Flocks = 14 (283) Species = 18 Albatross = 29 Shear-Pet = 124 Tern = 724 Tropicbird = 9 Booby = 74 Frigate = 23 Shore bird = 3
Black-footed Albatross		20						
Wedge-tailed Shearwater		39						
Christmas I. Shearwater								
Audubon's Shearwater								
Bonin I. Petrel	1							
Phoenix I. Petrel								
Bulwer's Petrel		81						
Sooty Petrel								
Red-tailed Tropicbird	9							
White-tailed Tropicbird								
Masked Booby		32						
Brown Booby	4							
Red-footed Booby		35						
Great Frigatebird		23						
Golden Plover								
Ruddy Turnstone	3							
Wandering Tattler								
Sanderling								
Bristle-thighed Curlew								
Sooty Tern		250						
Gray-backed Tern		74						
Brown-winged Tern								
Common Noddy		51						
Hawaiian Noddy		168						
Blue-gray Noddy		109						
Fairy Tern		56					5 collected - from off Necker for Tax. series.	
Black-wing Petrel	1							
Pterodroma hypo.	2							
Crested/Cappian tern	5							
Booby sp.	3							
Tern sp.		21						

Flocks

0541	8	RFB	T
0619	9	BGN	T
0630	7	BGN	T
0708	5	GF	T
0715	66	BFB-3, BB-2, RFB-1, ST-35, FT-1, HN-25	Feeding
0737	7	BFB-2, ST-5	Feeding
0818	5	CN-2, FT-2	Feeding
0825	22	GBT-6, HN-10, BGN-5, BP-1	Feeding
0850	14	BGN-4, GBT-6, HN-3, BP-1	Feeding
0918	39	BGN-18, HN-12, FT-3, Tm Sp-6	T
0922	7	BGN-5, HN-1, GBT-1	Feeding
0924	9	GBT-2, BGN-3, HN-4	T
0945	12	HN-8, WT-1, FT-1, GBT-2	Feeding
0953	6	HN-6	Feeding
1015	26	LA-6, BFA-15, WT-1, HN-1, BGN-3	Feeding on dead whale
1035	10	ST-1, CN-5, FT-2, BGN-2	Feeding
1055	8	HN-4, GBT-2, WT-1, BP-1	T
1158	5	C/CT-5	T
1304	7	Terns	T
1420	6	HN	T
1425	6	BFB	Feeding
1427	12	HN-10, FT-2	Feeding
1524	23	HN	Feeding
1529	8	HN	T
1557	5	BFB	T
1826	67	ST-30, CN-30, RFB-2, GF-5	Feeding

T-333
B5-5
T-399

13 hrs., 49 min

Location 24-27 N; 168-13 W — 25-14 N; 170-25 W
 Observer Crossin et al. Date 9 June 1966 Time 0523 to 1912
 Weather heavy swell running, partly cloudy

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross	4							Total Birds = 950
Black-footed Albatross	55							Total Flocks = 23 (673)
Wedge-tailed Shearwater	391							Feeding Flocks = 10 (491)
Christmas I. Shearwater								Species = 16
Audubon's Shearwater								Albatross = 62
Bonin I. Petrel	1							Shear-Pet = 408
Phoenix I. Petrel								Tern = 453
Bulwer's Petrel	11							Booby = 8
Sooty Petrel								Tropicbird = 9
Red-tailed Tropicbird	8							Frigate 10
White-tailed Tropicbird				1 coll.				
Masked Booby	4							
Brown Booby	1							
Red-footed Booby	3							
Great Frigatebird	10							
Golden Plover								
Ruddy Turnstone								
Wandering Tattler								
Sanderling								
Bristle-thighed Curlew								
Sooty Tern	426							13 ad. coll.
Gray-backed Tern								
Brown-winged Tern								
Common Noddy	3							
Hawaiian Noddy	1							
Blue-gray Noddy	1							
Fairy Tern	6							
<i>Pterodroma</i> sp.	4							
Crested/Casparian	1							
Tern sp.	15							
Shear pet	1							
Tropicbird sp	1							

Flocks

T-347
SP-230
TOT 673

0620	37	WT-20, ST-15, Tr sp-1, GF-1; Feeding
0715	97	ST-30, WT-50, GF-3, BFB-3, FT-2, BP-1, RFB-3; Feeding
0735	8	ST-7, BBN-1: T
0828	6	WT T
0847	48	ST-35, WT-10, CN-3 Feeding
0927	45	ST-40, WT-3, FT-2 Feeding
0930	15	ST Feeding
1125	15	Terns go. Feeding
1205	23	ST-19, WT-3, LA-1 Feeding
1245	24	ST Feeding
1317	6	ST T
1323	5	ST T
1620	11 11	ST-4, WT-7 T
1647	36	ST T
1650	7	ST T
1720	43	ST-15, WT-25, BP-1 Feeding
1738	10	ST-4, WF-6 T
1750	47 47	ST-16, WT-31 T
1800	7	ST-6, WT-1 T
1820	20	ST-6, WT-14 T
1822	144	ST-14, WT-130 Feeding
1846	14	ST T
1904	5	ST T

17 hrs. 40 min

Location 25-57 N; 172-12W → Lisianski
 Observer Crossin et. al. Date 16 June 1966 Time 0630 to 1410
 Weather clear calm most of day, developing very rainy as Lisianski was approached.

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross	5							Total Birds = 1600 Total Flocks = 15 (1258) ∴ Feeding Flocks = 2 (974) Species = 12 Shear Pet = 867 Albatross = 20 Tern = 600 Tropicbird = 18 Booby = 29 Frigate = 66
Black-footed Albatross		15						
Wedge-tailed Shearwater			863				all light phase	
Christmas I. Shearwater								
Audubon's Shearwater								
Bonin I. Petrel	1							
Phoenix I. Petrel								
Bulwer's Petrel	2							
Sooty Petrel								
Red-tailed Tropicbird		18						
White-tailed Tropicbird								
Masked Booby								
Brown Booby								
Red-footed Booby		29						
Great Frigatebird		66						
Golden Plover								
Ruddy Turnstone								
Wandering Tattler								
Sanderling								
Bristle-thighed Curlew								
Sooty Tern			266					
Gray-backed Tern								
Brown-winged Tern								
Common Noddy		25						
Hawaiian Noddy	8							
Blue-gray Noddy								
Fairy Tern	1							
<u>Pterodroma sp.</u>	1							
<u>Tern sp.</u>		300						

FLOCKS

~~T-534~~
T-534
SP-721
TOT-1252

0659	11	ST	T
0731	6	ST	T
0907	12	ST	T
1029	149	WT 141 ST 6	T
1040	10	CN 6 ST 4	T
1116	7	RFB	T
1138	9	ST	T
1147	7	ST	T
1225	142	WT 25 ST 40 RFB 7 CN 15 HN 5	Feeding
1239	5	GF	T
1244	832	WT 500 Tp 300 RFB 17 GF 10 LA 5	Feeding
1245	18	GF	T
1320	21	WT 6 ST 15	T
1330	22	ST 14 FN 3	T
1357	9	WT 5 ST	T

13 hrs. 35 min

Location 25-55 N ; 173-06 W → Laysan

Observer Crossin et. al. Date 20 June 1966 Time 0830 to 1205

Weather rain squalls all morning, sea rough.

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross		11						Total Birds = 698
Black-footed Albatross	9							Total Flocks = 21 (508)
Wedge-tailed Shearwater			141					Feeding Flocks = 2 (162)
Christmas I. Shearwater								Species = 13
Audubon's Shearwater								Albatross = 20
Bonin I. Petrel								144
Phoenix I. Petrel								Shear Pet = 144
Bulwer's Petrel	3							Tern = 493
Sooty Petrel								Tropicbird = 8
Red-tailed Tropicbird	8							Booby = 16
White-tailed Tropicbird								Frigate = 17
Masked Booby								
Brown Booby	1							
Red-footed Booby		15						
Great Frigatebird		17						
Golden Plover								3 whales
Ruddy Turnstone								
Wandering Tattler								
Sanderling								
Bristle-thighed Curlew								
Sooty Tern			461					
Gray-backed Tern	2							
Brown-winged Tern								
Common Noddy		21						
Hawaiian Noddy	7							
Blue-gray Noddy								
Fairy Tern	2							

Flocks

T 350
SP: 119
TOT: 508

1008	12	ST	T	
1015	9	ST	T	
1021	9	ST 9 WT 2	T	
1031	11	ST	T	
1035	5	ST	T	
1055	23	ST 22 WT 1	T	
1102	26	ST	T	
1114	8	ST	T	
1118	48	ST 32 WT 14 RTTB 1 CN 1	T	
1130	62	RFB 10 CN 15 WT 12 ST 25		Feeding
1132	15	ST	T	
1135	100	WT 65 RFB 4 ST 15 CN 2 LA 1 GF 6 HN 7		Feeding
1142	11	LA	T	
1144	45	ST 20 WT 25	T	
1146	10	ST	T	
1150	15	ST	T	1201 45 ST T
1158	20	ST	T	1204 9 ST T
1159	8	GF	T	
1200	17	ST	T	

13 hrs. 20 min

Location 25-15N 170-44W — 24-39N, 168-15W
 Observer Crossin et al. Date 22 June 1966 Time 0534 to 1905
 Weather sea rough, clear.

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross	2							Total Birds = 497 Total Flocks = 11 (265) Feeding Flocks = 3 (202) Species = 13 Albatross = 14 Shear-Pet = 188 Tern = 250 Tropicbird = 1 Booby = 1 Frigate = 6 Storm Pet. = 2 Misc = 35 4 sperm whales
Black-footed Albatross		12						
Wedge-tailed Shearwater			181		1 int.		rest light	
Christmas I. Shearwater								
Audubon's Shearwater								
Bonin I. Petrel <i>Phypa</i>	1							
Phoenix I. Petrel								
Bulwer's Petrel	4							
Sooty Petrel								
Red-tailed Tropicbird	1							
White-tailed Tropicbird								
Masked Booby								
Brown Booby								
Red-footed Booby	1							
Great Frigatebird	6							
Golden Plover								
Ruddy Turnstone								
Wandering Tattler								
Sanderling								
Bristle-thighed Curlew								
Sooty Tern		147						
Gray-backed Tern								
Brown-winged Tern								
Common Noddy		75						
Hawaiian Noddy		25						
Blue-gray Noddy								
Fairy Tern	3							
<i>Pterodroma sp.</i>	2							
<i>White-rumped sp.</i>	2							
Bird sp.	35							

Flocks

T-53
SP-68
TOT-265

0614	5	WT	T
0628	6	WT	T
0703	7	WT	T
0710	14	WT	T
0926	134	CN 75 HN 25 FT 3 GF 5 WT 25 LA 1	Feeding
1053	6	ST	T
1250	5	ST	T
1445	35	Birdy	Feeding Terns?
1505	33	ST 27 WT 6	Feeding
1616	15	ST 10 WT 5	T
1802	5	ST	T

13 hrs. 25 min.

Location 24-04N; 166-26W — 23-19N; 164-16W
 Observer Crossin et. al. Date 23 June 1966 Time 0515 to 1840
 Weather sea rough, mostly cloudy.

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross	1							Total Birds = 851 Total Flocks = 14 (417) Feeding Flocks = 4 (333) Species = 18 Albatross = 4 Shear-Pet = 249 Tern = 529 Tropicbird = 2 Booby = 26 Frigate = 40 Shore bird = 1
Black-footed Albatross	3							
Wedge-tailed Shearwater			1060					
Christmas I. Shearwater								
Audubon's Shearwater								
Bonin I. Petrel <u>P. hypo</u>	3							
Phoenix I. Petrel								
Bulwer's Petrel		79						
Sooty Petrel								
Red-tailed Tropicbird	1							
White-tailed Tropicbird	1							
Masked Booby	4							
Brown Booby	4							
Red-footed Booby		18						
Great Frigatebird		40						
Golden Plover								
Ruddy Turnstone	1							
Wandering Tattler								
Sanderling							12 sperm whales	
Bristle-thighed Curlew							1 porpoise <u>T. truncatus</u>	
Sooty Tern		359						
Gray-backed Tern		50						
Brown-winged Tern								
Common Noddy		73						
Hawaiian Noddy		13						
Blue-gray Noddy	8							
Fairy Tern		26						
Shear-Pet	1							

Flocks

T-328
SP-106
701-417

0618	73	ST 40 WT 30 RFB 2 GF 1	Feeding
0639	8	WT	T
0744	20	ST 16 WT 3 RFB 1	T
0839	215	ST 140 WT 65 RFB 5 GF 3 BFB 2	Feeding
0845	6	ST	T
0940	8	HN	Feeding
1309	9	ST	T
1433	5	ST	T
1445	37	CN 35 F+2	Feeding
1503	6	CN	T
1530	6	ST	T
1544	6	ST	T
1546	6	GBT	T
1624	12	GF	T

113 hrs. 24 min

Location 22-52N; 162-47W — 22-17N; 160-48W
 Observer Crossin et. al. Date 24 June 1966 Time 0507 to 1831
 Weather Sea rough, few squalls.

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross								Total Birds = 1118
Black-footed Albatross	1							Total Flocks = 5 (883)
Wedge-tailed Shearwater			454					Feeding Flocks = 3 (833)
Christmas I. Shearwater								Species = 13
Audubon's Shearwater								Shear Pet = 673
Bonin I. Petrel <i>Phygo.</i>	2							Albatross = 1
Phoenix I. Petrel								Tern = 427
Bulwer's Petrel		97						Tropicbird = 1
Sooty Petrel								Booby = 6
Red-tailed Tropicbird								Frigate = 10
White-tailed Tropicbird	1							
Masked Booby								
Brown Booby								
Red-footed Booby		6						
Great Frigatebird		10						
Golden Plover								
Ruddy Turnstone								
Wandering Tattler								
Sanderling								
Bristle-thighed Curlew								
Sooty Tern			398					
Gray-backed Tern			15					
Brown-winged Tern								
Common Noddy		2						
Hawaiian Noddy								
Blue-gray Noddy		2						
Fairy Tern		10						
Newell's Shear			120					most right at sunset in large flocks.

FLOCKS

T-358
SP-517
TCT-883

1259	58	WT 36 RFB 1 GBT 1	T
1310	12	WT 9 GF 1 RFB 2	T
1700	9	ST 7 FT 1 WT 1	Feeding
1729	59	ST 50 WT 7 NS 1 GF 1	Feeding
1830	765	ST 300 WT 350 NS 100 BP 10 GF 5	Feeding.

NOCTURNAL

11 hrs. 27 min

Location About vicinity of Kauai

Observer Crossin et al.

Date 24-25 June 1966 Time 1831 to 0558

Weather clear, wind up to 30 knots

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross								Total Birds = 73 Total Flocks = 1 (7) Species = 4
Black-footed Albatross								
Wedge-tailed Shearwater	3							
Newell's Shearwater		48						
Audubon's Shearwater								light phase
Bonin I. Petrel								Shear Pet = 51
Phoenix I. Petrel								Booby = 8
Bulwer's Petrel								Tern = 8
Sooty Petrel								Misc = 6
Red-tailed Tropicbird								
White-tailed Tropicbird								
Masked Booby								
Brown Booby								
Red-footed Booby	8							
Great Frigatebird								
Golden Plover								
Ruddy Turnstone								
Wandering Tattler								
Sanderling								
Bristle-thighed Curlew								
Sooty Tern	8							
Gray-backed Tern								
Brown-winged Tern								
Common Noddy								
Hawaiian Noddy								
Blue-gray Noddy								
Fairy Tern								
Bird sp.	6							

Last day of Leeward #13 | 17 hrs. 26 min

Location Kauai to ca. 20 mi. SE.
 Observer Crossin et. al. Date 25 June 1966 Time 0558 to 1924
 Weather clear, seas rough, wind up to 20-25 knots.

SPECIES	Abundance				Breeding			Remarks
	1-10	10-100	100-1000	1000 +	Nests	Eggs	Young	
Laysan Albatross								Total Birds = 494 Total Flocks = 9 (120) Feeding Flocks = 3 (51) Species = 13 Shear-Pet = 435 Tern = 36 Tropicbird = 15 Booby = 6 Storm Petrel = 7
Black-footed Albatross								
Wedge-tailed Shearwater			218					
Christmas I. Shearwater	1	?						
Audubon's Shearwater								
Bonin I. Petrel								
Phoenix I. Petrel								
Bulwer's Petrel	7							
Sooty Petrel								
Red-tailed Tropicbird	4							
White-tailed Tropicbird	1							
Masked Booby								
Brown Booby								
Red-footed Booby	6							
Great Frigatebird								
Golden Plover								
Ruddy Turnstone								
Wandering Tattler								
Sanderling								
Bristle-thighed Curlew								
Sooty Tern	10						1 ad coll.	
Gray-backed Tern	1							
Brown-winged Tern								
Common Noddy			23					
Hawaiian Noddy	2							
Blue-gray Noddy								
Fairy Tern								
Newell's Shear			204				3 coll.	
Dark-rumped Pet			5					
White-rumped SP.			4				Prob. all. Har counts.	
Harcourt's SP.			3				1 coll.	
Tropicbirds			5					

Flocks

T-5
SP-115
TOT-120

0924	5	ST	T
1645	5	WT	T
1647	7	NS	T
1649	17	WT 9 NS 8	Feeding
1700	20	NS 14 WT 6	Feeding
1704	7	NS	T
1732	24	NS 12 WT 2	Feeding
1734	28	NS 18 WT 10	T
1754	17	NS 12 WT 5	T

Location Honolulu → 21-00N ; 158-10 W
 Observer Crossin et. al. Date 5 July 1966 Time 1655 to 1915⁵⁵
 Weather seas rough, swells ca. 4'; clear Miles 26 Hours 2 hrs. 20 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	114	1 int phase, 1 dark phase, rest light
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel	3	
Leach's Storm Petrel		
Red-tailed Tropicbird		
White-tailed Tropicbird		
Blue-faced Booby		Shear-Pet = 117
Brown Booby		Tern = 284
Red-footed Booby	4	Booby = 4
Great Frigatebird	1	Frigate = 1
Lesser Frigatebird		MISS. = 202
Golden Plover		608
Ruddy Turnstone		
Sooty Tern	235	
Gray-backed Tern		
Common Noddy Tern	46	
Fairy Tern		
Pomarine Jaeger		
Haw. Noddy	1	
Tern sp.	2	
Bird sp. prob Terns	202	
		Total Birds 608
		Total Sightings Feeding Flocks = 2 (315)
		Total Flocks 11 (432)
		Total Species 7

Flocks

1722	5	ST	T
1723	6	ST	T
1729	9	ST	T
1738	7	ST	T
1815	9	ST	T
1834	110	ST 40 WT 50 EN 20	Feeding
1838	40	ST	T
1843	9	ST	T
1844	7	ST	T
1857	205	T go 200 WT 5	Feeding
1915	25	ST	T

Location 19-40 N ; 159-27 W — 17-54 N ; 160-53 W
 Observer Crossin et. al. Date 6 July 1966 Time 0505 to 1823
 Weather Squalls, ^{swells} ~~waves~~ ca. 6' Miles 132 Hours 13 hrs. 18 min.
 sea 205 k

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	40	3 dark phase, rest light
Sooty Shearwater	3	2 with dark underwings - prob SB
Slender-billed Shearwater		
Christmas Island Shearwater	1	
Newell's Shearwater	12	
Juan Fernandez Petrel	17	
White-necked Petrel	5	
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel	1	
Black-winged Petrel	5	
Bulwer's Petrel	1	
Leach's Storm Petrel		
Red-tailed Tropicbird	5	
White-tailed Tropicbird	7	
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone	37	
Sooty Tern	87	
Gray-backed Tern		
Common Noddy Tern	4	
Fairy Tern		
Pomarine Jaeger		
Dark-rumped Petrel	3	Shear - Pet = 119
<i>Pterodroma hypoleuca</i>	12	Tern = 91
<i>Pterodroma sp.</i>	11	Tropicbird = 14
		24
Shear - Pet	8	Total Birds 224
Tropicbird sp.	2	Total Sightings
		Total Flocks 3 (80)
		Total Species 12
		Feeding Flocks 2 (71)

Flocks

0708	36	ST 28 WT 4 CN 4	Feeding
1143	35	ST 30 WT 3 Fluo. sp 2	Feeding
1255	9	WT	T

Location 16-26N; 162-13W — 14-43N; 163-44W ^{SS}
 Observer Crossin et. al. Date 7 July 1966 Time 0520 to 1828
 Weather overcast, seas rough, Swells ca. 4'. Miles 136 Hours 18hrs. 7min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	28	12 light phase, 16 dark phase
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater	1	
Newell's Shearwater		
Juan Fernandez Petrel	15	2 coll.
White-necked Petrel	2	
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	9	
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird	5	
White-tailed Tropicbird	1 = 1	
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	45	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	3	
Pomarine Jaeger		
<i>Pterodroma</i> sp.	7	
<i>Pterodroma</i> hyp.	1	
Tern sp.	3	
Bird sp.	20	
Shear Pet	1	
		Shear Pet. = 64
		Tern = 51
		Tropicbird = 6
		Misc = 20
		<hr/> 141
		Total Birds 141
		Total Sightings
		Total Flocks 5 (28) (85)
		Total Species 8

Feeding Flocks = 3 (~~28~~) (59)

FLOCKS

0748	6	ST - 6	FEEDING
0751	44	WT - 6 ST - 38	FEEDING
1120	6	WT - 6	TRAVELING
1541	9	Pt. - 4 FT - 2 Tsp. - 3	FEEDING
1819	20	Bird - 20	TRAVELING

- FLOCKS -

1025	21	WT- 21	TRAVELING (SITING)
1025	120	WT- 10 ST- 100 JF- 4 Pt. 6	FEEDING
1055	7	WT- 1 ST- 6	TRAVELING
1059	24	WT- 9 ST- 15	
1316	16	FT- 1 ST- 14 Tsp- 1	TRAVELING

Location 9-58 N ; 168-04 W — 8-20 N ; 169-43 W.

Observer Crossin et al. Date 9 July 1966 Time 0551 to 1840

Weather Clear, seas mod. rough, Swells ca. 3-4' Miles 138 Hours 12 hrs. 49 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	561	6 light phase, 555 dark phase (3 coll.)
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater	1	
Juan Fernandez Petrel	5	
White-necked Petrel	1	
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	4	
Bulwer's Petrel	1	
Leach's Storm Petrel		
Red-tailed Tropicbird	3	1 ad. coll.
White-tailed Tropicbird	1	
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	24	imm. coll.
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	3	
Pomarine Jaeger		
Solander's Petrel?	1	Shear-Pet = 578
Pterodroma sp.	2	Tern = 27
Tropicbird sp.	1	Tropicbird = 5
Shear-Pet	2	
		Total Birds 610
		Total Sightings
		Total Flocks 5 (548)
		Total Species 10
		Feeding Flocks = 2 (529)

FLOCKS

0843 6 WT T (on H₂O)

0932 509 WT 500
ST 9 Feeding

0945 6 wt. T (on H₂O)

1140 20 WT Feeding

1547 7 ST T

Flocks

1105	6	ST 3 WT. 1 BWP 2	T
1135	8	ST	T
1232	12	WT.	F
1238	30	ST. 9 WT. 20 Frig. 1	F

Location 3-58N; 173-46W — 2-24N; 175-12W
 Observer CROSSIN ET. AL. Date 11 JULY, 1966 Time 0630 to 1854
 Weather CLEAR & CALM Miles 128 Hours 12 hr. 24 min

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	7	DARK PHASE 1 COLL.
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	17	
Bulwer's Petrel		
Leach's Storm Petrel	5	
WB Red-tailed Tropicbird	1	
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird <i>go.</i>	1	♀ OR IMM.
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	20	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	1	
Pomarine Jaeger		
PIP/TAHITIAN	1	
PTERADROMA	8	
		Shear - Pet = 33
		Storm - Petrel = 5
		Tern = 21
		Tropic bird = 1
		Frigate = 1
		Total Birds 61
		Total Sightings
		Total Flocks 2 (13)
		Total Species 8
		FEEDING FLOCKS 2 (13)

FLOCKS

0954	7	7 ST	FEEDING
1743	6	6 ST	FEEDING

Nocturnal
1st Night in Southern Grid

Location 2-24 N; 175-12W — 0-51 N; 176-45W ^{SS} ^{SR}
 Observer Crossin et. al. Date 11-12 July 1966 Time 1854 to 0647
 Weather rain squalls, sea rel. calm. Miles 133 Hours 11 hrs. 53 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	2	dark phase
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel	1	
Leach's Storm Petrel		
Red-tailed Tropicbird		
White-tailed Tropicbird	5	
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird ^{sp.}	1	
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	47	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
Shear-Pet	1	Shear-Pet = 4
Bird sp.	4	Tern = 47
		Tropicbird = 5
		Frigate = 1
		Misc = 4
		Total Birds = 61
		Total Sightings
		Total Flocks = 2 (29)
		Total Species = 5

FLOCKS

0638	8	ST	T
0640	21	ST	T

Flocks

0918	45	ST 44 Fgo. 1	Feeding
0932	13	ST	SF
0940	8	ST	T
1004	27	ST	SF
1106	45	ST 43 Fg. 2	SF
1213	531	ST 500 Fgo. 19 CN. 12	Feeding
1639	7	ST	SF
1640	14	ST	Feeding
1642	15	ST	TF
1645	13	ST	TF
1648	230	ST	Feeding
1709	50	ST	TF
1713	66	ST 54 BB 2	TF
1714	8	ST	TF
1716	110	ST 100 Fgo 10	Feeding
1723	20	ST	T
1734	102	ST 109 Fgo 2	Feeding
1736	71	ST	TF
1741	17	ST	TF
1746	18	ST	TF
1805	21	ST 20, PFB 1	TF
1809	36	ST	TF
1809	5	ST	TF
1814	14	ST	TF
1825	318	ST 200, Fgo. 18	Feeding
1838	82	ST 50, Fgo 2	Feeding
1839	30	ST	T
1843	103	ST 100, LF 3	Feeding
1851	32		ST TF
1855	7		ST TF

Flocks

0832	30	ST 28 BFB 2	Feeding
0850	106	ST 80 F.sp. 17 BFB 11	Feeding
0930	147	ST 100 LF 17 Fg 5 RFB 4 BFB 9 WT 12	Feeding
1007	9	ST	SF
1243	26	Tern sp. 15 Fsp. 10 BFB 1	SF
1253	8	Tern sp.	TF
1303	9	ST 8 GF 1	Feeding
1315	10	Tern sp.	TF
1337	25	Tern sp. 23 Frig sp. 2	TF
1343	239	ST 200 Fsp. 17 WT 20 BFB 2	Feeding
1700	13	ST 12 Fsp 3	Feeding

FLOCKS.

0550	5	ST-5	TRAVELING
0555	6	ST-6	"
0600	6	ST-6	"
0608	6	ST-6	"
0610	8	ST-8	"
0620	16	ST-16	"
0625	8	ST-8	"

3RD DAY IN SOUTHERN GRID

Location HOWLAND ISLAND TO 01°56'N ~ 177°15'W
 Observer CROSSIN et. al. Date 14 JULY Time 0800 to 1901⁵⁵
 Weather CLEAR 10 Knot E. Wind. Miles 102 Hours 11 hrs 01 min
 (661 min)

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	4	dark phase
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	9	
Bulwer's Petrel		
Leach's Storm Petrel	1	WRSP
Red-tailed Tropicbird		
White-tailed Tropicbird		
1 BS Blue-faced Booby	58	48 ad., 4 imm., 1 BS. ad.
Brown Booby	1	1 ad.
Red-footed Booby	15	5 ad., 10 imm.
Great Frigatebird SP.?	42	
Lesser Frigatebird	13	
Golden Plover		
Ruddy Turnstone		
2 BS Sooty Tern	728	All ad., 2 BS. 2 collected
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		Storm Petrel = 1
Pomarine Jaeger		Tern 728
Wandering tattler	1	Booby 68 74
Pterodroma sp?	2	Frigate 56
Shear-pet.	1	Shear-pet. 16
Bird sp	1	Shorebirds 1
		Misc 1
		Total Birds 869 877
		Total Sightings
		Total Flocks 10 (745)
		Total Species 16 9
		FF 2 (458)

FLOCKS

0815	182	ST- 160 ± 5%	TRAVELING
		Fr. - 17	
		BFB - 5	
0817	6	BFB - 6	"
0824	6	BFB - 6	"
0827	54	ST- 45 ± 3	"
		Fr. - 9	
0832	5	ST - 5	"
0845	237	ST- 200 ± 5%	FEEDING
		Fr - 10	
		BFB 8	
		RFB 8	
		L.Fr. 11	
0905	6	ST- 5	TRAVELING
		BFB 1	
1000	221	ST- 210 ± 5%	FEEDING
		Fr - 3	
		BFB - 4	
		RFB - 3	
		BWP - 1	
1217	20	ST - 19	
		Fr - 1	
1428	8	ST - 6	
		BWP - 1	
		Fr. 1	

NEOTROPICAL
3rd NIGHT IN SOUTHERN GRID

Location 01°56'N ~ 177°15'W TO HOWLAND ISLAND
 Observer CROSSIN et. al. Date 14/15 JULY Time 1901⁵⁵ to 0630
 Weather CLEAR 10 Knot E WIND. Miles 89 Hours 11 hrs. 29 min

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	1	1 coll. dk. phase
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	2	
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird		
White-tailed Tropicbird		
Blue-faced Booby	1	
Brown Booby		
Red-footed Booby		
Great Frigatebird ?	1	
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	755	2 imm. number estimated
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
		Terns - 755
		Shear-pet 3
		Frigate 1
		Booby 1
		Total Birds 760
		Total Sightings
		Total Flocks 10 (706)
		Total Species 5

FLOCKS

0330	46	ST- 46	TRAVELING
0430	60	ST- 60 ± 10%	"
0436	520	ST- 520 ± ?	"
0437	7	ST- 6	"
		Fr. - 1	
0451	23	ST- 23	"
0459	15	ST- 15	"
0505	17	ST- 17	"
0508	5	ST- 5	"
0521	7	ST- 7	"
0524	6	ST- 6	"

4th day in Southern Grid

Location Howland Is. to 1-45 N; 176-10 W
 Observer Balcomb et al Date 15 July Time 0820 to 1857⁵⁵
 Weather Squalls Miles 84 Hours 10^h 37^{min}
 (637 min)

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	28	dark phase
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	7	
Bulwer's Petrel	1	
Leach's Storm Petrel	1	collected
Red-tailed Tropicbird		
White-tailed Tropicbird	1	
1 B5 Blue-faced Booby	111	43 sub adults blue streamer
Brown Booby	3	Adult
Red-footed Booby	1	Adult
Great Frigatebird		
Lesser Frigatebird	16	
Golden Plover		
Ruddy Turnstone		
1 B Sooty Tern	634	41 Ad. 4 collected 1 banded 773-25557
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	2	
Pomarine Jaeger		
WRSP	1	
Pterodroma sp	2	
Booby sp	11	
Frigate sp	6	
		Tern = 636
		Booby = 126
		Shear-Pet = 38
		Frigate = 22
		5 Storm-Petrel = 2
		Tropic Bird = 1
		Total Birds 825
		Total Sightings
		Total Flocks 13 (687)
		Total Species 11

Flocks

0844	13	ST-12 RFB-1	Traveling
0905	6	ST-6	"
0915	12	ST-12	"
0944	280	ST-200 RFB-80	Feeding
1010	40	ST-40	"
1024	5	ST-5	Traveling
1032	6	ST-6	"
1048	13	ST-12 Booby sp. 1	Feeding
1108	18	ST-15 RFB-2 Wedgetail-1	"
1120	85	ST-75 Booby sp. 10	Traveling
1420	188	ST-150 Wedgetail-25 L. Frigate-12 RFB-1	Feeding
1515	15	ST-15 L. Frigate-2	Traveling
1527	6	ST-6	Traveling

NOCTURNAL
4th night in Southern Grid

Location 1-45N; 176-10 W To Howland SS 3R0618
 Observer Balcomb et. al. Date 15-16 July 1966 Time 1857 to 0645
 Weather Miles 67 Hours 11 hrs. 48 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel		
Leach's Storm Petrel	1	flew on board - collected.
Red-tailed Tropicbird	1	
White-tailed Tropicbird		
Blue-faced Booby	2	
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	312	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
<u>Pterodroma</u> sp.	2	Tern = 312
White-rumped SP.	2	Shear-Pet = 3
Shear - Pet	1	Storm Petrel = 3
Bird sp.	2	Tropicbird = 1
		Booby = 2
		Misc = 2
		Total Birds 323 = 323
		Total Sightings
		Total Flocks 23 (222) all ST
		Total Species 5

Flocks

2350	9	ST	TF
2358	10	ST	TF
2358	7	ST	TF
0106	5	ST	TF
0321	6	ST	TF
0334	11	ST	TF
0345	22	ST	TF
0408	8	ST	TF
0425	9	ST	TF
0430	15	ST	TF
0432	8	ST	TF
0440	14	ST	TF
0445	9	ST	TF
0449	7	ST	TF
0452	8	ST	TF
0458	10	ST	TF
0500	12	ST	TF
0509	6	ST	TF
0515	12	ST	TF
0527	16	ST	TF
0550	7	ST	TF
0552	5	ST	TF
0639	6	ST	TF

Flocks

0850	11	ST	SF
0857	6	ST	TF
0920	40	ST	FEEDING FLOCK
0930	77	ST 70 BFB 4 BB 1 BWP 1 F. Sp. 1	FEEDING
0950	18	ST	TF
0955	8	ST	TF
1006	6	ST	TF
1050	62	ST 55 BFB 1 Fg 3 WRSP 2 S+P 1	FEEDING
1115	23	ST 20 Fg 3	FEEDING
1225	53	ST 43 Fg 8 BFB 2	SF
1353	20	ST	FEEDING
1615	7	ST	SF
1750	9	ST	FEEDING

FLOCKS

Time	Count	Notes	Activity	Remarks
0325	5	5 ST	TRAVELING	
*				
0350	15	15 ST	"	
0355	5	5 ST	"	
0400	370	370 ST	"	12 ± 5 / FLOCK
0445	8	8 ST	"	
0450	7	7 ST	"	
0503	5	5 ST	"	
0505	9	9 ST	"	
0508	5	5 ST	"	
0514	5	5 ST	"	
0516	5	5 ST	"	
0520	13	13 ST	"	
0523	9	9 ST	"	
0524	8	8 ST	"	
0525	6	6 ST	"	
0527	8	8 ST	"	
0528	7	7 ST	"	
0548	7	7 ST	"	

FLOCKS

0923.	40	40 ST	Feeding
1013	124	120 ST 4 BFB	" "
1315	36	32 ST 1 GF. 1 L.F. 1 Fsp.	Traveling " " "
1545	156	150 ST 4 L.F. 1 WT 1 BWP	Feeding " " "
1740	165	150 ST 1 WRSP 5 WT 1 J.F. 1 BWP 1 F. sp. 1 BFB	" " " " " "
1835	12	10 ST 1 WT 1 BWP	Traveling " "

Nocturnal
6th night in Southern Grid

Location 0-12N; 175-38W to Howland Island
 Observer Balcomb et al. Date 17-18 July 1966 Time 1857^{SS} to 0648^{SIR}
 Weather winds up to 20 knots. Miles 95 Hours 11 hrs. 51 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	4	1 coll. flew aboard ship
Bulwer's Petrel		
W.R. Storm Petrel	3	
Red-tailed Tropicbird		
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby	1	
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	202	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
<i>Pterodroma hypoleuca</i>	1	
Shear - Pet	2	
		Shear - Pet = 7
		Storm-Petrel = 3
		Booby = 1
		Tern = 202
		Total Birds 213
		Total Sightings
		Total Flocks 6 (52)
		Total Species 4

FLOCKS

0204	8	ST	TF
0255	8	ST	TF
0426	8	ST	TF
0503	12	ST	TF
0509	10	ST	TF
0530	6	ST	TF

FLOCKS

0816	23	ST	TF
0850	10	ST	TF
0915	61	ST 60 BFB 1	Feeding
0944	8	ST	TF
1038	5	ST	TF
1040	7	ST	TF
1045	9	ST	TF
1105	8	F.g.	TF
1210	6	ST	TF
1430	78	ST 70 WT 8	Feeding
1716	7	ST	TF

Flocks

1003	13	ST	Feeding
1134	8	ST	TF
1315	53	ST 48 LF 5	Feeding
1450	50	ST	Feeding
1602	41	ST 40 BFB 1	Feeding
1605	31	ST 30 Fgp. 1	Feeding
1625	6	ST	SF
1635	5	ST	TF

Flocks

0810	5	ST	TF
0811	9	ST	TF
0815	5	ST	TF
0824	10	ST	TF
0841	9	ST	TF
0850	5	ST	TF
0852	7	ST	TF
0857	6	ST	TF
0900	9	ST	TF
0904	9	ST	TF
0915	5	ST	TF
1026	5	ST	TF
1034	9	ST	TF
1106	6	ST	TF
1135	400	ST	TF
1144	38	ST 37 BFB 1	TF
1209	8	ST 7 FT 1	TF
1242	13	ST	TF
1246	6	ST	TF
1247	15	ST	TF
1320	22	ST 20 Fp 2	Feeding
1400	22	ST 21 WT 1	SF
1415	51	ST 50 BWP 1	Feeding
1430	40	ST	Feeding
1500	52	ST 50 Fsp 2	TF
1521	17	ST	SF
1615	8	ST	TF
1647	5	ST	TF
1651	27	ST	TF
1728	333	ST 325 BFB 8	Feeding
1734	7	BFB	T

Location Howland Island to Baker Island to Howland Island
 Observer Crossin et. al. Date 21 July 1966 Time 08⁴⁵30 to 17⁴⁵15
 Weather sea mod. rough. Miles 69 Hours 8 hrs. 45 min.
 525 min

Skiff running 1230 - 1410

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	2	1 coll. both dark phase
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	3	1 coll.
Bulwer's Petrel	1	
Leach's Storm Petrel	2	2 coll.
Red-tailed Tropicbird	2	
White-tailed Tropicbird		
135 Blue-faced Booby	62	
Brown Booby	3	
135 Red-footed Booby	17	
Great Frigatebird	1	
Lesser Frigatebird	9	3 coll.
Golden Plover		
Ruddy Turnstone		
413 6135 Sooty Tern	1291	32 ad. coll.
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
White-rumped Storm Petrel	4	TERN = 1291
Frigate sp.	185	Shear-Pet = 6
		Tropicbird = 2
		Booby = 82
		Frigate = 203
		Storm Petrel = 6
		Total Birds 1582
		Total Sightings
		Total Flocks 44 (1380)
		Total Species 11

Flocks

0842	6	ST	TF		
0848	10	ST	TF		
0855	7	ST	TF		
0907	50	ST	Feeding		
0912	68	ST 60			
		Fg 7	Feeding		
		RFB 1			
0930	20	ST 19	TF		
		LF 1			
0915	7	ST	TF		
0935	22	ST	Feeding		
0936	15	ST	TF		
1011	5	ST	TF		
1014	56	Fg	TF		
1016	7	ST	TF		
1025	47	ST 25	TF		
		Fg 22			
1032	7	Fg.	TF		
1037	9	ST	TF		
1039	8	ST	TF		
1234	40	ST	TF		
1300	9	ST	TF		
1305	7	ST	TF		
1310	9	ST 8	TF		
		Fg 1			
1315	6	ST	TF		
1317	9	Fg	TF		
1319	9	ST	TF		
1330	7	ST	TF		
1326	20	ST	Feeding		
1355	85	ST 40	Feeding		
		Fg 45			
1408	7	ST	TF		
1445	7	ST	TF		
1514	7	ST	TF		
1530	7	ST	TF		
1535	6	ST	TF		
1555	10	ST	TF		
1559	8	ST	TF		
1607	52	ST	TF		
1609	6	ST	TF		
1645	493	ST 400			
		BFB 45	Feeding		
		Fg 30			
		BB 1			
		RFB 16			
		WT 1			
1652	8	ST	TF		
1652	11	ST	TF		
1703	23	ST 20			
		BFB 2	TF		
		RTTB 1			
1708	7	ST	TF		
1709	5	ST	TF		
1712	9	ST	TF		
1713	161	ST 160	Feeding		
		Fg 1			
1714	8	ST	TF		

Nocturnal - Last night in SG.

Location Howland Island — 0-12 N; 176-19 W
~~1295-175-30 W~~
 Observer Crossin et al. Date 22 July 1966 Time 0300 to 0649
 Weather _____ Miles 24 Hours 3 hrs. 49 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel		
Lynch's Storm Petrel	2	
Red-tailed Tropicbird		
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Sea Frigatebird ♂	2	
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	6	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
Shear Pet	1	
Bird	1	
		Tern = 6
		Shear Pet = 1
		Frigate = 2
		Storm Pet = 2
		Misc = 1
		Total Birds 12
		Total Sightings
		Total Flocks 0
		Total Species 3

Flocks

0653	7	ST	TF
0657	7	ST	TF
0658	6	ST	TF
0806	20	ST	Feeding
0817	10	ST	TF
0822	7	ST	TF
0828	32	ST	TF
0845	6	Fg.	TF
1100	655	ST 500 Fg 150 FT 1 WT 4	Feeding
1145	55	ST	Feeding
1150	64	ST 60 LF 3 PT 1	Feeding
1220	34	LF	Feeding
1255	6	GF	TF
1340	39	ST 34 FT 1 SWP 1 Fg. 2 LF 1	Feeding
1755	7	ST	TF

Flocks

0806 28 23 ST T.F
5 GBT

0916 6 ST SF

0924 16 ST TF

0928 11 ST TF

1016 8 ST SF

1109 6 ST TF

Location 7-30 S; 173-25 W — 9-19 S; 172-41 W
 Observer Crossin et al Date 27 July Time 0647 to 1828
 Weather Miles 118 Hours 11 hrs. 4/min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel		
Leach's Storm Petrel sp.	1	
Red-tailed Tropicbird		
White-tailed Tropicbird	3	1 coll.
Blue-faced Booby		
Brown Booby		
Red-footed Booby	5	
Great Frigatebird sp.	1	
Lesser Frigatebird	1	
Golden Plover		
Ruddy Turnstone		
Sooty Tern	89	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	31	
Pomarine Jaeger		
Bird sp.	2	
Cook's Petrel	1	
Pterodroma sp.	8	
		Tern=120
		Shearwater=10
		Booby=5
		Tropicbirds=3
		Frigate=2
		Bird sp=2
		Total Birds 142
		Total Sightings
		Total Flocks 7 (126)
		Total Species 7

Flocks

0950	10	8 ST 2 Bird sp.	TF
1010	10	7 ST 3 FT	FF
1055	45	ST	TF
1310	7	3 FT 1 RFB 3 Pterodroma Sp.	FF
1318	6	2 ST 3 RFB 1 FT	FF
1507	42	22 ST 18 FT 2 WTTB	FF
1640	6	3 FT 2 ST 1 Frigate Sp.	FF

last day before Samoa.

Location 11-17S ; 171-52W — 12-56S ; 171-10W
 Observer Crossin et al. Date 28 July 1966 Time 0640^{SR} to 1816^{SS}
 Weather clear, calm Miles 107 Hours 11 hrs. 36 min

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		1 whale
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird		
White-tailed Tropicbird	1	
Blue-faced Booby		
Brown Booby		
Red-footed Booby	13	1 light phase, rest darker
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	4	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
Cook's Petrel	1	
		Shear Pet = 1
		Tern = 4
		Tropicbird = 1
		Booby = 13
		Total Birds 19
		Total Sightings
		Total Flocks 2 (15)
		Total Species 4
		FF = 0

Flocks

1308	20	ST 19 RFB 1	TF
1525	14	ST 13 WTTB 1	Feeding
1535	18	ST 17 WTTB 1	Feeding
1650	21	ST	Feeding

Location 6-135; 166-03W — 4-545; 164-55-W
 Observer Crossin et. al. Date 5 Aug. 1966 Time 0644^{HR} to 1802
 Weather Seas rough. Miles 104 Hours 11 hrs. 18 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel / Tahitian	1	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird		
White-tailed Tropicbird	2	
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird	1	
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	2	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	1	
Pomarine Jaeger		
Cook's Petrel	8	1 coll.
Shear-Pet	1	Shear-Pet = 10
		Tern = 3
		Tropicbird = 2
		Frigate = 1
		Total Birds 16
		Total Sightings
		Total Flocks 0
		Total Species 6

Flocks

0707	10	ST 5 JFP 1 EP 4	Feeding
0709	70	ST	Feeding
0838	26	ST 25 Fg 1	TF
0915	11	ST 9 FT 1 PI/T 1	Feeding
1025	8	ST	TF
1540	76	ST 44 FT 29 CN 1 S/sb 2	Feeding

→ Jarvis Island.

Jarvis

Location 1-19 S; 161-07 W - 0-235; 160-02 W
 Observer Crossin et al. Date 7 Aug. 1966 Time 0549^{SIP} to 1425^{Jarvis}
 Weather seas rough. Miles 87 Hours & hrs. 36 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	3	2 dark, 1 light
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel / <i>Fabrian</i>	4	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird	16	
White-tailed Tropicbird		
Blue-faced Booby	37	
Brown Booby	3	
Red-footed Booby	9	
Great Frigatebird	3	
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	1292	
Gray-backed Tern		
Common Noddy Tern		Albatross - 2
Fairy Tern		Shear-Pet - 12
Pomarine Jaeger		Storm-Pet - 2
Black-browed Albatross	2	Tern = 1292
<i>Pterodroma externa</i>	2	Tropicbird = 16
Cook's Petrel	2	Booby = 49
Shear-Pet	1	Frigate = 22
White-rumped S. P.	2	
Frigate sp.	19	
		Total Birds 1395
		Total Sightings
		Total Flocks 14 (1288)
		Total Species 12
		Feeding flocks = 4 (750)

Flocks

0827	5	ST	TF
0843	33	ST	TF
0900	5	ST	TF
1210	84	ST 75 Fsp 5 RFB 3 RTB 1	Feeding
1246	51	ST 50 BFB 1	Feeding
1300	9	ST	TF
1307	80	ST	Feeding
1327	5	ST	TF
1330	6	ST	TF
1337	20	ST	TF
1338	6	BFB 13	TF
1416	49	ST 48 GF 1	TF
1420	460	ST	TF
1422	500 535	ST 500 BFB 20 Fsp 10 RFB 5	Feeding

1288

0-235; 160-00W
 Location Jarvis Island - 0-18.5; 161-52W I.I. 55
 Observer Crossin et. al. Date 10 Aug. 1966 Time 0800 to 1756
 Weather clear, calm, sea calm. Miles 111 Hours 9 hrs. 56 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	4	all dark phase
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel <i>Habitian</i>	1	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel	1	
Leach's Storm Petrel	2	1 call.
Red-tailed Tropicbird	14	
White-tailed Tropicbird		
Blue-faced Booby	58	
Brown Booby	3	
Red-footed Booby	16	
Great Frigatebird	1	
Lesser Frigatebird	7	
Golden Plover		
Ruddy Turnstone		
Sooty Tern	662	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
White-rumped S.P.	8	Shear-Pet = 6
White-throated S.P.	3	Storm Pet = 13
Frigate sp.	19	Tern = 662
Booby sp.	5	Tropicbird = 14
		Booby = 82
		Frigate = 27
		Total Birds 804
		Total Sightings
		Total Flocks 25 (531)
		Total Species 12
		Feeding Flocks = 4 (115)

Flocks

0832	17	ST	TF
0840	9	ST	SF
0843	8	ST	TF
0858	29	ST 24 WT 2 Fp 3	TF
0900	26	ST 25 LF 1	TF
0910	20	ST 15 Fp 5	TF
0930	7	ST 4 RFB 3	TF
0950	23	ST 15 Fp 5 BFB 2 Bp 1	Feeding
1050	5	ST 3 RFB 1 BFB 1	Feeding
1057	5	BFB	TF
1123	7	ST	TF
1226	22	ST	TF
1350	9	ST	TF
1259	8	ST	TF
1503	10	ST	TF
1515	5	ST	TF
1525	19	ST	TF
1551	29	ST 25 Bp 4	Feeding
1558	17	ST 16 RFB 1	TF
1706	6	ST	TF
1731	68	ST	TF
1735	16	ST	TF
1744	58	ST 53, Fp 3, BFB 2	Feeding
1754	33	ST	TF
1755	75	ST	TF

Location 0-075; 164-06W — 0.03N; 166-01W
 Observer Crossin et al. Date 11 Aug. 1966 Time 0605 to 1813
 Weather clear, calm. Miles 116 Hours 12 hrs. 8 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	1	dark phase
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel	1	Many whales &
Mottled Petrel		Dolphine.
Bonin Island Petrel		some varies.
Black-winged Petrel		
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird	3	
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		shear Pet = 4
Ruddy Turnstone		storm Pet = 4
Sooty Tern	106	Tern = 106
Gray-backed Tern		Tropicbird = 3
Common Noddy Tern		shorebird = 3
Fairy Tern		Misc. 1
Pomarine Jaeger		
White-rumped SP.	3	Possibly Wilson's doubtful Galapagos
Storm Petrel sp.	1	suspected white-faced storm petrel
Pterodroma sp.	1	
Bristle-thighed Curlew	3	
Cook's Petrel	1	
Bird sp.	1	
		Total Birds 121
		Total Sightings
		Total Flocks 2 (97)
		Total Species 7
		Feeding Flocks = 1 (92)

Flocks

Time

Flocks

1220	92	ST	Feeding
1308	5	ST	TF

Location 0-07N; 168-09W - 0-20W; 170-24W
 Observer Crossin et al. Date 12 Aug. 1966 Time ^{SR} 0615 to ^{SS} 1829
 Weather sea - slight swell, scattered cloudiness Miles 136.0 Hours 12 hrs. 14 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel <i>habitus</i>	1	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	1	
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird	3	
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird	2	
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	34	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	1	Storm Petrel = 12
Pomarine Jaeger		Shear Pet = 9
Shear-Pet.	4	Tern = 35
Cook's Petrel	2	Tropicbird = 3
White-rumped SP	10	Frigate = 4
Storm Petrel sp.	2	
Pterodroma sp.	1	
Frigate sp.	2	

Location 0-07N; 168-09 W - 0-20W; 170-24W

Observer Crossin et al. Date 12 Aug. 1966 Time 0615^{SR} to 1829^{SS}

Weather Sea - slight swell, scattered cloudiness Miles 136.0 Hours 12 hrs. 14 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel <i>habitus</i>	1	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	1	
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird	3	
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird	2	
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	34	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern	1	
Pomarine Jaeger		
Shear-Pet.	4	
Cook's Petrel	2	
White-rumped SP	10	
Storm Petrel sp.	2	
Pterodroma sp.	1	
Frigate sp.	2	
		Storm Petrel = 12
		Shear Pet = 9
		Tern = 35
		Tropicbird = 3
		Frigate = 4
		Total Birds 63
		Total Sightings
		Total Flocks 2 (30)
		Total Species 8
		Feeding Flocks = 1 (24)

Nocturnal - Southern Grid

1st night Howland.

Location 0-36N; 174-36W — 0-48N; 176-38W HF.
 Observer Crossin et. al. Date 13-14 Aug 66 Time 1847 to 0629
 Weather Mostly clear - sea rough Miles 124.0 Hours 11 hrs. 42 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird		
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	85	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
White-rumped S.P.	2	Storm Pet = 2
Shear Pet	1	Shear Pet = 1
Bird sp	10	Tern = 85
		Booby = 1
		Misc = 10
		Total Birds 99
		Total Sightings
		Total Flocks —
		Total Species 4

1st day in Southern Grid.

Location Howland → Baker → Howland
 Observer Crossin et. al. Date 14 Aug Time 0830 to 1855
 Weather Clear NE wind Miles ~~27.0~~ 68 Hours 10 hr 25 min (625 min)

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel / TAH.	1	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	9	
Bulwer's Petrel		
Leach's Storm Petrel / WRSP	2	
Red-tailed Tropicbird	4	
White-tailed Tropicbird		
Blue-faced Booby	33	
Brown Booby	31	
Red-footed Booby	6	
Great Frigatebird sp.	146	
Lesser Frigatebird	86	
Golden Plover	4	
Ruddy Turnstone		
2 BS Sooty Tern	1065	Ad. 10 coll., 1 Banded 843-38286
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		Terns 1065
Pomarine Jaeger		Shear-pet. 10
Wandering tattler	1	Storm-pet. 2
		Booby 42
		Frigate 232
		Tropic-bird 4
		Shorebird 5
		Total Birds 1360
		Total Sightings
		Total Flocks 20 (1148)
		Total Species 11
		Feeding Flocks 7 (861)

- FLOCKS -

0835	203	ST- 200 F.sp- 1 BFB 1 BB 1	FF
0956	133	ST- 100 F.Sp. 26 BFB 6 RFB 1	FF
1010	180	ST- 160 F.Sp 17 BFB 3	FF
1025	106	ST 45 F.sp. 60 <u>B.B</u> 1	FF
1033	21	ST 10 F.sp 10	TF
1035	49	ST 40 Fsp 9	FF
1040	48	ST 46 F.sp 2	FF
1103	45	ST 45	TF
1153	9	ST 9	TF
1232	6	ST 6	TF
1245	23	ST 4	TF
1245		L.F. 19	
1307	7	ST 7	TF
1311	22	ST 22	TF
1340	142	L.F 53	FF
1340		ST 89	
1725	25	ST 25	TF
1730	18	ST 15 F.sp. 3	TF
1807	82	ST 75 L.F. 6 RFB 1	TF
1809	5	ST 5	TF
1837	5	L.F 5	TF
1839	22	ST 22	TF

Flocks

0810	37	ST 30 BFB 7	Feeding
0840	207	ST 150 BFB 14 RFB 17 GF 3 LF 17 Fsp 4	Feeding
0851	22 E	ST 21 Fsp 1	TF
0902	7	ST	TF
0917	58	ST 55 FB 3	Feeding
0925	107	ST 75 LF 13 FB 15 BFB 4	Feeding
0940	28	ST 25 FB 3	Feeding
1010	72	ST 50 Fsp 17 BFB 2 RFB 3	Feeding
1132	20	ST	Feeding
1215	24	ST 22 FB 2	Feeding
1237	5	ST 3 FB 2	Feeding
1317	7	ST	TF
1337	6	ST 5 FB 1	Feeding
1351	6	ST	TF
1357	28	ST 25 FB 3	TF

Flocks

0822	40	ST	TF
0825	33	ST 25 Fg 7 BFB 1	Feeding
0835	7	ST	SF
0850	6	ST	TF
0915	39	ST 35 Fg 4	Feeding
0930	43	ST 42 Fg 1	Feeding
1056	13	ST	TF
1128	15	ST	SF
1310	120	ST 40 Fg 80	Feeding
1810	9	Fg	TF

Nocturnal

Location 0-35S; 176-57W — 0-41N; 176-47W
 Observer Crossin et al. Date 16-17 Aug 66 Time 1855 to 0648 ^{SS} ^{SP}
 Weather sea mod. wind ca. 15 knots Miles 118 Hours 11 hrs. 53 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	1	dark phase.
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel		
Leach's Storm Petrel		
Red-tailed Tropicbird		
White-tailed Tropicbird		
Blue-faced Booby	1	
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	22	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		Storm Pet = 5
		Shear Pet = 3
White-throated S.P.	3	Tern = 22
Storm Petrel sp.	1	Booby = 1
White-rumped S.P.	1	Frigate = 1
Pterodroma sp.	2	shorebird = 1
shorebird sp.	1	Misc = 3
Bird ♂	3	
Frigate sp.	1	
		Total Birds 36
		Total Sightings
		Total Flocks 0
		Total Species 8

FLOCKS

0659	15	ST	TF
0715	11	ST	TF
0723	9	ST	TF
0744	7	ST	TF
0745	11	ST	TF
0851	9	BFB	Feeding
0855	7	ST	TF
0906	17	ST	TF
0910	13	ST	TF
0914	10	ST	TF
0923	28	ST 18	
		BFB 9	Feeding
		BFB 1	
0928	7	ST	TF
1004	5	ST	TF
1006	14	ST	TF
1022	15	ST 14	Feeding
		LF 1	
1042	6	ST	TF
1051	6	ST	TF
1052	5	ST	TF
1057	8	ST	TF
1059	59	ST 53	Feeding
		Fg 6	
1135	93	ST 87	Feeding
		LF 6	
1142	9	ST 7, Fg 2	Feeding
1204	18	ST	Feeding
1240	5	ST	TF
1320	5	ST	TF
1330	17	ST	TF
1415	48	ST 44, LF 4	Feeding
1440	60	ST 58, Fg 2	Feeding
1500	29	ST	Feeding
1515	57	ST	Feeding
1530	80	ST 78, LF 2	Feeding
1829	5	ST	TF

Flocks

0657 -	15	ST	TF	
0700	23	ST	TF	
0701	20	ST	TF	
0712	26	ST	TF	
0713	6	ST	TF	
0715	7	ST	TF	
0718	5	ST	TF	
0726	14	ST	TF	
0728	28	ST	TF	
0735	42	ST	TF	
0740	29	ST	TF	
0742	19	ST	TF	
0743	17	ST	TF	
0748	5	ST 3 BFB 2	TF	
0755	20	ST 19 F _{sp} 1	TF	
0811	10	ST 10	TF	
1206	34	ST 27 FP 5 BFB 2	Feeding	
1245	12	ST	TF	

Flocks

0835	18	ST	TF
0850	21	ST 12 Fjo 8 BFB 1	TF
1020	120	ST 100 LF 15 OF 2 Fjo 2 RFB 1	Feeding

FLOCKS

1055 ST-10
WT-2 FF
HERM.P. - 1

1114 WT-21 TF

1345 ST-34
RFB-1 FF
JFP-3
WT-2
GP-1

1540 ST-39
WT-45 FF
PIP-1
JFP-1
SH/PET-2

1810 WT-6 TF

Location 6-39N; 171-52W — 7-46N; 170-14W
 Observer Crossin et al. Date 21 August Time 0622 to 1834
 Weather frequent squalls. wind ca. 12 knots. Miles 122 Hours 12 hrs. 12 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	3	all dark phase
Sooty Shearwater	4	
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel	5	
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel <i>fabian</i>	1	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	10	
Bulwer's Petrel	1	
Leach's Storm Petrel		
Red-tailed Tropicbird	3	
White-tailed Tropicbird	2	
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	8	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		Shear-Pet = 50
Pomarine Jaeger		Tern = 8
Heralds Petrel	2	Tropicbird = 5
<i>Pterodroma externa</i>	10	
<i>Pterodroma hypoleuca</i>	1	
<i>Pterodroma sp.</i>	11	
Shear-Pet	2	
		Total Birds 63
		Total Sightings
		Total Flocks 1 (5)
		Total Species 10

FLOCKS

0938 ST - 16 TF

1440 WT - 2
JFP - 3 FF

Location 14-31N; 163-58W — 15-55N; 162-39W
 Observer CROSSIN ET AL Date 24 Aug. 1966 Time ⁵¹²0543 to ⁵⁵1811
 Weather Seas rough, wind ca. 20 knots Miles 113 Hours 12 HRS. 28
 748 min

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	4	ALL DARK PHASE
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel (6)	45	
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel / TAHITI	1	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	1	
Bulwer's Petrel	1	
Leach's Storm Petrel		
Red-tailed Tropicbird	1	
White-tailed Tropicbird	1	
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover	2	
Ruddy Turnstone		
Sooty Tern		
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
PTARODROMA sp.	4	
COOK'S PETREL	1	
		SHEAR/PET = 57
		TROPIC-BIRD = 2
		SHORE-BIRD = 2
		Total Birds 61
		Total Sightings
		Total Flocks 2 (17)
		Total Species

Location 14-31N; 163-58W — 15-55N; 162-39W
 Observer CROSSIN ET AL Date 24 Aug. 1966 Time ^{SR} 0543 to ^{SS} 1811
 Weather Seas rough, wind ca. 20 knots Miles 113 Hours 12 HRS. 28
 748 min

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater	4	ALL DARK PHASE
Sooty Shearwater		
Slender-billed Shearwater		
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel (6)	45	
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel TAHITI	1	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel	1	
Bulwer's Petrel	1	
Leach's Storm Petrel		
Red-tailed Tropicbird	1	
White-tailed Tropicbird	1	
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird		
Lesser Frigatebird		
Golden Plover	2	
Ruddy Turnstone		
Sooty Tern		
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
PIERODROMA sp.	4	
COOK'S PETREL	1	
		SHEAR/PET = 57
		TROPIC-BIRD = 2
		SHORE-BIRD = 2
		Total Birds 61
		Total Sightings
		Total Flocks 2 (17)
		Total Species 9

FLOCKS

1405 Pt. EXT - 5
WT - 2 TF
COOKS - 1
P.I./T. - 1

1708 Pt EXT - 8 SF

Location 17-11 N ; 161-30 W — 18-35 N ; 160-15 W
 Observer CROSSIN ET AL Date 25 AUG. 1966 Time ^{SR} 0530 to ^{SS} 1811
 Weather high winds, seas rough Miles 113 Hours 12 hrs 43 min
 763 min

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater	60	1 DARK, 2 INT, 1 INT-LIGHT, 56 LIGHT
Slender-billed Shearwater	1	
Christmas Island Shearwater		
Newell's Shearwater	6	
Juan Fernandez Petrel	8	
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel		
Mottled Petrel		
Bonin Island Petrel (1)	12	1 BWP COL.
Black-winged Petrel (6)		
Bulwer's Petrel	5	
Leach's Storm Petrel		
Red-tailed Tropicbird	2	
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby		
Great Frigatebird	1	
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	104	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
SHEAR/PET	11	SHEAR/PET - 103
BIRD	1	TROPIC BIRD - 2
		FRIGATE - 1
		TERN - 104
		BIRD SP? - 1
		Total Birds 211
		Total Sightings
		Total Flocks 5 (92)
		Total Species 9
		FEEDING FLOCKS 1 (17)

FLOCKS

0730	ST - 16	TF
	WT - 8	
	JFP - 2	
1145	ST - 15	FF
	WT - 1	
	NEWELLS - 1	
1233	ST - 21	TF
1340	ST - 25	SF
1345	ST - 13	SF

Location 19-57N ; 159-58W — Honolulu
 Observer CROSSIN ET AL. Date 26 AUG. 1966 Time ^{SR} 0619 to 1630
 Weather Miles 92 Hours 10 hrs. 11 min. 611 min.

SPECIES	NUMBERS	REMARKS
Laysan Albatross		
Black-footed Albatross		
Wedge-tailed Shearwater		
Sooty Shearwater	7	1 DARK, 6 LIGHT PHASE
Slender-billed Shearwater	1	
Christmas Island Shearwater		
Newell's Shearwater		
Juan Fernandez Petrel		
White-necked Petrel		
Kermadec Petrel		
Phoenix Island Petrel TAMU	1	
Mottled Petrel		
Bonin Island Petrel		
Black-winged Petrel		
Bulwer's Petrel	20	
Leach's Storm Petrel		
Red-tailed Tropicbird		
White-tailed Tropicbird		
Blue-faced Booby		
Brown Booby		
Red-footed Booby	3	LIGHT PHASE
Great Frigatebird		
Lesser Frigatebird		
Golden Plover		
Ruddy Turnstone		
Sooty Tern	3	
Gray-backed Tern		
Common Noddy Tern		
Fairy Tern		
Pomarine Jaeger		
SHEAR/PET	4	
PTEROPTERA SP	1	
		SHEAR/PET - 34
		BOOBY - 3
		TERN - 3
		Total Birds 40
		Total Sightings
		Total Flocks 0
		Total Species 6

5 July Honolulu, Hawaii → 21-00N; 158-10W
Total of 608 birds from 1655 till sunset. Mostly Sooty Terns and light phase Wedgetails.
Crew looks real good (5). Schreiber sea sick - may surge out of it.

6 July 19-40N; 159-27W — 17-54N; 160-53W
Bird numbers dropped considerably today (224) but with a greater variety of Shear-pets, mostly Pterodroma species. 12 Newell's Shearwaters were seen. Black-wing and Juan Fernandez common. 3 of 40 Wedgetails were dark phase.

7 July 16-26N; 162-13W — 14-43N; 163-44W
Bird numbers dropped, still lower today (141). - Sooty Tern and Wedgetails still the dominant with Black-wing and Juan Fernandez Petrel still common. Seas rough and very little opportunity for collecting. Light phase and dark phase Wedgetails almost equal in number today (12 L, 16 D.)

8 July 13-13N; 165-04W — 11-36N; 166-25W
Numbers up slightly today (230) still with Sooty Terns and Wedgetails dominant and Black-wing and Juan Fernandez common. More Black-wing than J.F. 2 of dark phase Wedgetails have now become nearly 100. Of 43, 42 were dark. A Juan Fernandez + a Black-wing collected.

9 July 9-58N; 168-04W — 8-20N; 169-43W
Numbers of birds rose considerably today, primarily due to one large flock of dark phase Wedgetails (500). Total birds = 610. Petrels thinning out.

Howland Baker

10 July 06-51N; 170-58W — 05-20N; 172-24W
Bird numbers dropped very low today despite our passing through a supposed good area ca. 5°N. Perhaps yesterday's run through 9°-8° was the "rich" feeding area at this time of year. A small concentration of Newell's Shearwater (6), 1 collected. Black-winged Petrel (26) again numerous, but apparently a different population than has been showing up - these new birds have only a thin white line through the underwing, i.e., the leading and trailing underwing black areas are very extensive. 1 collected. Otherwise they agree in all respects to the ones seen earlier - could be a different population? Wedgetails were the most abundant bird, primarily dark phase birds.

11 July 03-58N; 173-46W — 02-24N; 175-12W
Very few birds today (161). Storm petrels (white-rumped) starting to show up. The few I noted appeared to be Leach's, but they were not quite in gun range so I never had too good a look at them. Perhaps a few non-breeding Leach's, but there is a chance they are Wilson's from down south. Sooty Tern dominant (20) followed by Black-wing Petrel (17) and Wedgetails (7).

Howland → Baker → Howland
0-51N; 176-45W — 0-40N; 176-38W

12 July Sighted Howland shortly after sunrise. Put party of Baker and Schreiber ashore with all gear for 8 men between 0700 and 0900. Left with 7 men for Baker survey. An abundance of Blue-footed Boobies and Lesser Frigate birds, but very, very few Sooty Terns. Apparently the large colony ^{over} the chimney did not settle to nest.

1966 Howland → Baker → Howland
 0-51 N; 176-45 W — 0-40 N; 176-38 W

12 July
 cont.

Large coral boulders are present on the beach - washed up by some very heavy storms since the last visit in May. The entire beach front has been changed. Perhaps the storms which occurred were the reason for Sooty Tern failure.

Spoke with Larry Huber upon leaving Baker. He maintains that there are 200,000 Sooties on Howland. The large feeding flocks are still around Baker so apparently huge numbers are still in the area. Most birds are likely settled down on chicks or eggs on Howland or out to sea in early a.m. Thus few were noted.

Arrived at Baker at 1220. Party of 7 went ashore. Alcomb Hoff, Chandler and I spent most of the time working on the weather machines, (setting one up on far side, changing rolls etc. Noddy colony with eggs to full-fledged chicks, few Sooty (blue-faced) young, about and Proton birds displaying and sitting on new nests (no eggs). Island very dry compared to past year. Shore bird count made, 50[±] Golden Plover, 35[±] Ruddy Turnstone, 12[±] wandering Tattler. Few Sooty Terns flew over the island. Left at 1555. No problems with surf. We were roughly 7 miles from Howland at sunset. Huge numbers of birds between Howland and Baker. The large good feeding area is still around (immediately offshore) Baker. This is roughly 4 months now that large feeding flocks have been seen off Baker. Landed on Howland after dark. Spent up to 0230 banding and streamering Sooty Terns. The colony extends from near Starvation in the center of the island on nearly to the north end. There could

Howland → Baker → Howland
 0-51 N; 176-45 W — 0-40 N; 176-38 W

12 July
 cont.

well be up to ~~200,000 - 300,000~~ birds present. Nesting ranges from fresh eggs to chicks nearly ready to fly. The birds are sitting well in the dark of moon, but we are all very slow with the streamering. Only a few of us got 500, the rest 400 or down. Returns are coming in well.

Left the island at roughly 0730⁽¹³⁾ and started running a grid leg with crew of myself, Huber, Hoff, + Chandler. Pulled 50 samples of Blue-faced Booby scora last night. Rain night watching 11-12 and only had a few birds (NE⁺ of Howland).

Howland to 1-04 N; 178-05 W

13 July

Birds fairly numerous today (729). Began one leg of the grid out from Howland at 0800 to the W-NW - designed to be at Howland on the following morning. A few large flocks were noted up to 15 miles west of Howland and alternate small flocks with one large one at 1343 in the afternoon. The extreme western sector after this was devoid of flocks. During the night run in to Howland birds were practically absent and sightings did not begin showing until ca. 0500 near Howland.

Three Blue-streamered Blue-faced Boobies and one Howland-banded Sooty Tern was collected/and/or banded on the first leg. These were all within the first 15 miles out from Howland in the morning. This demonstrates, however, that birds are feeding out to the west of Howland as well as SE about Baker. No doubt birds are moving out in all directions, considering the numbers that are now present on the island.

14 July

Howland Is. to 1-56 N; 177-15 W

Changed part of the crew at early morning on Howland. Retained Chandler to run blood + myself on today's grid run. Replaced Hoff and Huber with Pearson and Balcomb. Banding and streamering still going very slow. The crew pulled 25 Red-footed Booby blood samples off. Roger is involved in his many programs on the island and should come up with some good, much needed data.

Saw my first blue-streamered Sooty tern this morning about 10 miles NW Howland. In the bright morning sunlight it showed up very well. Real great to see some of these terns finally, and know where they are from. The next year should produce good results from the efforts of this cruise.

Another blue-streamered sooty tern and one blue-faced Booby seen today. Couple of unbanded Sooties collected. Total of 867 birds, mostly sooty tern 728. Flocks were plentiful up to 1000, then dropped off drastically for the rest of the day.

Night watches held - total of 760 birds - 755 ST. Practically all noted upon approach to Howland from 0330 - dawn.

Howland
0-48 N; 176-41 W - 1-45 N; 176-10 W

15 July

Bird numbers only moderately abundant today. Balcomb ran the show. I remained on the island. Ran around measuring up Booby + Frigate nests + eggs for Roger gel morning. During the night I was completely beat, couldn't hardly do any work. Then the rains hit about 0200 a.m. and I quit - and took the crew back to camp. Everyone sacked out, but Chen went out later by himself, banded + streamered a couple hundred sooty terns and collected 25 ST blood samples. Good man this Chandler. Went back on the shear water at daylight. Kenjo's crew on the shear water had flocks up N till 1527 (ca. 60 miles out).

16 July

Howland
0-48 N; 176-39 W - 1-00 N; 175-39 W

Ran the Eastern leg of the grid today with Chen, Roger, + Pearson. Total of 387 birds. Flocks ran out at about 1400. No blue streamer sightings, but this I believe mainly due to very bad light in the morning as we traveled E into the sun. Collected 4 ST and 1 RTTB. The crew got 2 Leach's SP yesterday (one which flew aboard ship at night). One came aboard tonight about 2020 and was brought down from the bridge by Louise Hahn.

A few weird P-hypleneia types spotted today. appear to be Bonin Island but have a very dark head (all about face + side of head).

Night watches very slow until early in morning (ca. 0330) when we were about 20 miles out from Howland. Chandler collected 20 sooty terns, 1 Lach and 1 Juan Fernandez Petrel. 4 of the Sooties were banded, 1 of them blue streamered. All from Howland, but old bandings.

Howland
0-48 N; 176-38 W - 0-12 N - 175-38 W

17 July

Balcomb took the cruise out today. ^{Saw} one sooty tern and 1 Blue-faced Booby with blue streamers. Weather starting bad, heavy winds at night. Total birds 623, flocks few, - but distributed quite evenly throughout the entire leg.

Howland
0-48 N; 176-40 W - 0-045; 178-08 W

18 July

Took the long SW leg today. Very few birds (296). Only a few small flocks seen throughout the day. One Blue-streamered blue-faced Booby seen. Weather very bad, heavy winds and rough seas (make for bad observations as well as little chance for collecting). Night observation were a waste with only 9 birds sighted the entire ~~on~~ ^{over} period.

Opolu Island, Western Samoa

30-31 July
1 Aug.

Mao - *Gymnomyza samoensis*

Seen on previous trips in heavy rain forest - not noted during the present survey.

Wattled Honey-eater *Foulepaio carunculata*

Common to abundant in all types of habitat from coastal to cloud forest. Usually in pairs or small groups - feed regularly in low vegetation or in the lower to mid stories of tall trees. Noisy.

Cardinal Honey-eater *Myzomela cardinalis*
nigri ventris

Very abundant in all types of habitat from coastal, in villages to cloud forest. Most often seen in dense lower vegetation, but goes into tall trees where ever flowers are present. ♂♂ seem to be more in abundance, but Bulmer disagrees with this. I would guess ♂ are more abundant with due consideration that the dark ♀ would be less likely seen.

Red-headed Parrot-finch *Erythrura c. cyano-nirens*

Common in the higher reaches of the rain forest and in cloud forest. Most abundant in grassy areas. Moves through the low vegetation and often escapes detection.

Red-bellied Bulbul *Pycnonotus cafer*

Common in all settled areas and in low elevations in the plantations of coffee, cocoa and banana. Very reminiscent in posture, general behavior and calls besides color, shape etc. of *Phainopepla nitens*. ♂'s apparently mating - hopping up a limb sideways, calling & raising crest to sitting ♀? noted on two occasions.

Apia - Western Samoa

2 Aug. Crashed the 0630 flight back to Pago, arrived 0715 - left Pago at 0800.

Tutuila to 13-02S; 170-48W

2 Aug. Common Noddies abundant W. of Samoa, Fairy Terns and Red-foot Boobies also present in good numbers. As usual Sooty Terns completely absent in this area. White-tailed Tropicbirds strongly very low in number (7). We must go to Swains Island again to drop supplies. I voiced my displeasure to the captain that this was getting to be a bad habit.

11-06S; 171-05W - 10-16S; 170-16W

3 Aug. Arrived Swains near daylight, surveyed the island. Collected a few skins, 3 New Zealand Cuckoo, 3 Wandering Tattlers, a few Golden Plover, 1 Fairy Tern. Island appeared the same in all respects as last trip except for one striking change concerning 2 species. During the present survey Common Noddies and Fairy Terns were almost completely absent from the island. During both previous surveys they were extremely abundant - numbering into the thousands, breeding and appearing for all practical purposes - resident birds. Why both species should desert the island is a complete mystery to me at this time - I had always thought that Fairy Terns at least were resident in their usual numbers on these southern islands throughout the year. Roger has suggested that the large numbers seen on previous cruises were possibly birds from the north. Most of both species appeared to be breeding on previous visits however.

R. S. Crossin
1966

Journal SEC 14

Jarvis

67

8-53 S ; 168-48 W — 7-33 S ; 167-24 W

4 Aug. Total of 11 birds seen today, practically all Pterodroma, 4 Cook's and they may all 10 sightings been of this species.

6-13 S ; 166-03 W — 4-54 S ; 164-55 W

5 Aug. only 10 birds today, again mostly Cook's Petrels.

3-35 S ; 163-38 W — 2-27 S ; 162-30 W

6 Aug. Numbers of birds rose considerably today (221). An abundance of Sooty Terns 103, and Fairy Terns 31. Indicator species such as Phoenix Island/Tahitian Petrel (3) seem to indicate some of the Jarvis Island Anous present. Fairy Terns & likely Phoenix Island Petrel would appear to indicate Christmas Island, since neither occur on Jarvis.

1-19 S ; 161-07 W → Jarvis Island.

7 Aug. arrived off Jarvis ca. 1500. Sooty Terns very abundant since sunrise. Total of 1292 from 5R to 1425. Looks like a large breeding colony in session.

Jarvis Island

7 Aug. Did a brief survey during afternoon of 7 and prepared for night banding operation. Sooty Tern colony all with large chicks nearly ready to fly. Colony extends from SW corner of island on around the south side and up the E side of island. Appears to be about between 1/2 and one million birds. Amazingly uniform age in all the chicks. Very few infertile eggs about, so apparently hatch was completely successful. Banded 16,000 Sooties, collected 150 blood samples.

R. S. Crossin
1966

Journal SEC 14

68

Jarvis Island

8 Aug. Took blood samples to ship about 0730. Spent most of the afternoon on Booby survey. Roger working on RTTB. Red-footed Boobies nest on low bushes, junk heaps or any sort of raised area and often on the flat ground. Except for those nesting on the ground at Kilanea light house on Kawaii, this is the first time I have seen this species. Blue-faced Noddy have large young and are scattered around the entire island with concentrations along the shore line back of high tide line on W and N shores. Red-tailed Tropicbirds nesting in heavy concentrations on the W beach. These are often found nesting in the open, alongside rocks and of course under every conceivable type of cover. Several were nesting in the rooms in the house. House looked like some sort of chicken coop for exotic chickens. Banded Sooty Terns all night - 20,000. Chandler set a new record of 6000. With these new hole-drilled pens, it will be impossible to beat such a record without using such pens as it speeds up the banding so. Also collected the remaining 50 blood samples from Frigates.

9 Aug. Roger continued with his survey and wouldn't even go to the ship to eat. people are tired after such concentrated banding as has been occurring. Banded 16,000 again tonight for a total of 52,000. Went out after banding about 0300 and collected series of RTTB. Hoff went out to shoot cats, but got none. Bulmer had taken 2 on 8 Aug. Left the island at 0700 on 10 Aug.

1966 0-23 S; 160-09 W

Jarvis Island W → 0-18 S; 161-52 W

10 Aug

Birds abundant to the W of Jarvis. Mostly Sooty Terns. Large numbers of these and Blue-faced Boobies heading toward Jarvis at sunset. We were then ca. 120 miles distant. White-throated and White-rumped Storm Petrels starting to show up in numbers today. One Leach's collected. I don't know whether these are returning Alaskan breeders or birds which have remained along the equatorial belt wintering grounds all summer.

0-07 S; 164-06 W — 0-03 N; 166-01 W

11 Aug

Bird numbers down considerably today as we get out in open ocean away from island influences. Still a number of Sooty Tern showing (906) and a few storm Petrels still present. A few odd storm Petrels were seen at close range. Suspected white-faced and White-bellied species. Many whales & porpoises about today.

0-07 N; 168-09 W — 0-20 N; 170-24 W

12 Aug

Still fewer birds again today as we get completely away from any island influences. Total 65, 34 Sooty Tern scattering of storm Petrels, & other shear pets.

0-28 N; 172-31 W — 0-36 N; 174-36 W

13 Aug

Last day before entering the Southern Grid. Area practically devoid of birds - 14 total, 11 of these white-rumped storm Petrels. Night watches held, Sooty Terns becoming numerous as we approached Howland. Total of 99 for entire night watch.

Howland → Baker → Howland

14 Aug

First day in the Southern Grid. Arrived at Howland at daylight and put Chandler and Bulmer ashore with gear to set up camp. We then went to Baker, put Clapp & Pearson on island to survey from 1230 - 1630. I ran about in the raft offshore collecting. Sea was too rough to use the skiff and actually too rough for the raft. Shooting from the raft is ridiculous. A strange, undulating motion results from every turbulence beneath the raft and with 4 moving variables (raft, shooter, gun and bird) it becomes sort of a joke trying to lay a pattern on a fast flying tern. Collected 8 out of about a box and a half shells. Bulmer collected 2 off the Shearwater, one of these banded (Howland - Feb. 65) ⁸⁴³⁻⁵⁸³⁸⁶. Numerous flocks between the islands, Sooties and Frigates still feeding madly about Baker. Large numbers returning to Howland near dusk. Returned to Howland by 2100 and everyone went ashore & banded & streamed Sooty Tern skulls all night except for party which went out to take body blood (100 samples). Banded 4000. Party of 4 left the island to run a leg of the grid shortly after 0700 (15).

Howland Island → 0-16 S; 175-38 W

15 Aug

Ran a SE leg today on the Grid. Sooty Terns abundant up through early afternoon (ca. 20 miles SE Baker). After this practically nothing. Frigates (probably the majority being Lessers) are associated with every good sized flock of feeding Sooty Terns. Ran night watches - very few birds until we approached Howland.

16 Aug.

Howland S → 0-35 S; 176-57 W
Worked south of Baker birds not as abundant as would have suspected. They appear not to range out from Howland much beyond 30-40 miles. Total of 345, 258 of them Sooty terns. Frigate birds, presumably the majority Lancers, were commonly associated with all Sooty tern feeding flocks. Flocks petered out at 1310 roughly 10 miles below (S) of Baker. Night watches practically devoid of birds.

17 Aug.

0-41 N; 176-47 W — 0-21 N; 178-03 W
Ran a line to the SW of Howland. Birds relatively numerous, 856, mostly Sooty terns 756, a few immatures beginning to show up in flocks, especially near the island (Howland) immatures are very evident in the offshore tern composition. At sea the young always appear to be closely chaperoned by adults. If a young bird flies over near the ship, an adult is sure to precisely come flying up - calling. Flocks were abundant until 1530 when they abruptly stopped. Nocturnal observation back to Howland were practically devoid of birds - 33 terns, 6 birds? which were also likely terns. Blue streamer Sooty terns in practically every flock that could be run down. ^{28 + 5 im.}

18 Aug.

0-44 N; 176-54 W — 1-15 N; 175-28 W
Ran a line NE of Howland. Bird numbers fell off quite markedly - 572 total, mostly Sooty terns 537. Only 2 small flocks were recorded NE of Howland, so apparently birds are not feeding in this area. A blue-painted Howland BTB was seen early in the morning W of Howland and a blue-streamer imm BTB was noted in the afternoon.

18 Aug.

0-22 N; 177-12 W — 1-54 N; 175-45 W
Last day in Southern Grid. Bird numbers lessening as we move out from the Islands - 200 total, mostly Sooty terns. One blue-streamer showing expected link with Howland.

20 Aug.

3-30 N; 174-38 W — 5-03 N; 173-18 W
Suddenly back-phase Wedgetails show up. Have been practically absent from the grid but are concentrated north of it. - Total of 220 birds, 162 between Wedgetails 88 + Sooty terns 84.

21 Aug.

6-39 N; 171-52 W — 7-46 N; 170-14 W
After leaving the grid numbers are down extremely low - total of 63 birds today, practically all Shear Pet mostly Pterodroma. Now out of Sooty tern range - total of 8.

22 Aug.

9-08 N; 169-59 W — 10-38 N; 167-36 W
No Sooty terns, 38 birds, practically all shear pet - few Sooty Glands bills blasting to move through going south.

23 Aug.

11-56 N; 166-21 W — 13-17 N; 165-07 W
Bird numbers still down - 49; small number (16) of Sooty tern - rest Pterodroma with few Puffinus pacificus - gulls/ and/or terns.

24 Aug.

14-31 N; 163-58 W — 15-55 N; 162-39 W
Bird numbers still low - total of 57, 41, 57 of them shear-pet of which 45 were Pterodroma externa birds in fresh plumage are difficult. I think many are white necks by dark crown, but neck not too white with new black-tipped feathers.

1-105; 177-17W To Howland Island

19 July

Bird numbers low again today in SW sector. Total of 276, mostly Sooty tern 242. Only 8 small flocks amounting to 207 birds.

Howland to _____ To Howland Is.

20 July

Birds picked up tremendously today as grid leg was run SW of Baker Island and ca 15 miles to S. Total of 1457; mostly Sooty Terns 1353. 6 Blue streamers, 1 Brown Booby, and 1 Blue faced Booby were noted. Banded on Howland again tonight.

Howland Island - Baker Island - Howland Island

21 July

Ran a leg between Howland → Baker → Howland today. Had Skiff in H2O a short time (1230 - 1410) about Baker, collecting 27 birds. 3 Banded and 1 banded and blue-streamer Sooty Tern were collected. 5 other blue-streamer Sooties and 1 Red-footed Booby and 1 Blue-faced booby were seen. Banded on Howland again until 0230. Left Island at 0245. Ran returned all night (what was left of it) and noted only 12 birds.

0-12N; 176-19W — 121-29S - 175-30W

22 July

Last day in Southern grid. Total of 1009 birds, most of these in flocks. (985). Frigates, mostly Lesser, were numerous as were Sooty terns.

3-09S; 174-34W — 3-35S; 174-08W

23 July

Seas very rough. Due to arrive at McKean at 1100. Very few birds between Baker + McKean. Arrived ca. 1115 - hit the beach at 1245. No surf problem although it was high. Sooty tern colony failed for some reason. The entire W beach side of the island

McKean Island

23 July

had 1/2 to 3/4 incubated eggs which had been deserted and were mainly in various stages of rotting. appeared to be less than 1% hatch. These few young were from hatching to 1/4 grown, being attended by the few parents throughout the entire west side. In clumps of sida folly the birds seemed to have somewhat better success and in areas around the stone walls in the sida, small groupings of Sooties were found either on eggs or attending small chicks. There was no apparent reason for desertion of the vast numbers of eggs laying about throughout the grass belt on the west side. Some eggs were found around the south and east sides of the island and a few small colonies still are incubating in the sida on the N side and around the lagoon. Some of these are oddly small groups of 10 - 12 pairs, isolated by hundreds of yards from the next birds. Due to the full moon for most of the night, birds were almost impossible to band in any number. Sooties roosting in groups of up to 5000 about the lagoon were very jumpy and all would rise as soon as one entered the edge of the group. Almost the entire night of 23 was spent in collecting 200 blood samples (blue faced boobies, Lesser frigate and a few sooties).

24 July

Survey work, nest counts, & population estimates made throughout the day - banding performed at night. Birds jumpy and little accomplished. Left shortly after daylight on 25.

Between McKean + Gardner Islands.

25 July Approaching Suidown at 1335. Very few birds enroute mostly Sooty terns (102). Total 127 birds. Survey & collected on Gardner rest of day.

26 July Gardner Island
Surveyed & collected in A.M. left island ca. noon.

Few birds from 1315 - 55. (4 total)

27 July 9-30 S; 173-25W — 9-19 S; 172-41 W

Total 120 birds seen today mostly Sooty tern & Fairy tern

28 July 11-17 S; 171-52W — 12-56 S; 171-10W
Total 19 birds.

29 July arrive Pago Pago at 0800.

after clearing up mail details and getting reports off to Mr. Fyfe, caught the 1530 PHL plane for Apia, Western Samoa. Accomplished very little more than getting the hotel squared away and a car rented throughout the rest of the day.

Utatakatina Mrs. Annie Jones still is running the Heatherbell Hotel - cheap - \$3.00 a day and we wound up getting our meals for about \$1.00 per day extra. Car is very expensive \$1.50 a day.

Datsyn, usually breaking down daily. However, there is only one place to rent cars from on the island (has 2 Palans) so not much choice.

Following is an annotated list of the bird species observed from 30 July, 31 July, & 1 Aug.

Opolu Island, Western Samoa.

30, 31 July
1 Aug.

White-tailed Tropicbird *Phaethon lepturus*

Commonly seen flying over the forest and especially common in the large barranca that parallels the road to the seismograph station. One bird was noted landing in a large - semi-dead tree at side of the road, about 50 feet up - probably nesting - but the tree was too large & rotten looking to climb. As in American Samoa (Tutuila) the species probably nests in the large forest trees which are completely clad in lichens, mosses, ferns, orchids & other epiphytes.

Fairy Tern *Gygis alba*

Seen commonly over the forest and along the large barranca paralleling the seismograph road. None were seen to land in the trees, but they probably nest in the trees in the mountains.

Common Noddy *Anous stolidus*

A few were seen along the large barranca paralleling seismograph road and a few seen along the coastal areas. No evidence of nesting, but probably do so in the palm groves.

Reef Heron *Demigretta sacra sacra*

A few (3 or 4) were noted along the coastal road from the airport to Apia. These were usually seen perched on rocks along the shoreline or just offshore. One was noted along the coast road beyond Apia. All noted were dark phase birds.

Banded Rail *Rallus philippensis goodsoni*

Common from sea level to mountain tops wherever clearings with short, dense vegetation occurred. This species was most

Opolu, Western Samoa

Banded Rail cont.

30-31 July
1 August

abundant in the thinly settled ranch and farm areas on the seismograph road above Apia. In the rock-strewn pasture land as many as 10-12 could be noted in early morning or at dusk in a few acres of grazed area. The birds can disappear in a flash in any type of vegetation. Also flights of up to 2-300 yds were noted. No young were found seen. The birds appear to be in good plumage at this time. Intensive feeding occurs during early morning and late afternoon until dark. On many days the birds are evident even in mid-day. About the residential area of Apia, rails can be seen on the lawns and are even noted among the domestic chickens feeding in the yards.

Purple Swamphen Porphyrio porphyrio samoensis

only a few seen - about one mile below the seismograph station above Apia. These two were noted flushing from dense vegetation at the side of the road. Huber saw several feeding on the grass strips at the airport - sea-level.

Crimson-crowned Fruit Dove Phainopepla porphyracea fasciatus

This species was encountered in only one area at about 500 ft in fairly open pasture land with large trees interspersed. In places an orchard of some type of fruit tree was present. This area is on the outskirts of Apia toward the airport. At a transformer (ca. 2 mi) out of Apia a road turns left toward the mts. large estates are spread out at the end of the road with coffee, cocoa and a few banana and papaya trees in dense groves. The open pasture land stretches

Opolu, Western Samoa

Crimson-crowned Fruit Dove cont.

30-31 July
1 August

off to the left facing the mts. The birds were not noted feeding here as were many-colored Fruit Doves in other areas. Rather, nesting seemed to be in progress. Birds were noted hooting commonly in late afternoon of 31 July. Call is a loud cooing hoot followed by a variable number of lower cooing hoots, usually 2, but apparently when a bird is slightly excited it continues the calling. On the following day (1 Aug) birds were heard calling about mid-morning in this area but only a few were seen. Distinctive field character separating it from many-colored is the yellow tail tip. Otherwise, they look much like female many-colored.

Many-colored Fruit Dove Phainopepla perousii

This is the abundant species on Opolu and probably on Tutuila as well. We found them abundant at about 2000 ft near the seismograph station. Here the birds were coming into fruit trees (Fig?) of immense height > 120 ft. As many as 10-12 were noted to congregate in one tree. Samoan Starlings were also feeding in these trees. The birds called frequently in early morning, but seldom while in fruiting trees. Call appears to be more subdued, faster and of more frequent hoots than the Crimson-crowned.

Huber found the birds very abundant at sea level (coastal) areas feeding in large fruiting trees (Fig). Apparently elevation is of no consequence in their distribution. Food trees likely are traveled to whenever they come into fruit at the right stage. The yellow bellied ♂ are distinctive. The more somber females might be mistaken at distance for the Crimson-crowned.

Ofolu Island, Western Samoa

30-31 July
1 Aug.

Pacific Pigeon Ducula pacifica

White-throated Pigeon Columba vitiensis

One of the 2 above species (perhaps both) were noted on several occasions, usually seen flying. My impressions were always of a large (domestic pigeon size) slate gray bird with whitish about head or sides of neck. Singles or pairs were seen at all elevations, but most commonly along the large barranca paralleling the seismograph road up near cloud forest.

Friendly Ground Dove Gallicolumba stairii

One individual of this species was seen flying across the road about 5 mi above Apia on the seismograph road in settled area. This is the only time I saw the species on the island, but am fairly certain it was this bird.

Blue-crowned Tory Vini australis

Several birds were seen in the large fruiting trees at about 500 ft on road out of Apia from the electric transformer (see Crimson-crowned fruit dove). Birds were feeding in small numbers here in a large fruiting tree with bright red seeds. A few pairs were noted. An indistinct twittering call is voiced when the birds fly from a tree. Bulmer claims he heard this call and saw bird in other areas (in the coastal coconut groves and in the cloud forest). Certain calls of Dalage maculosa and perhaps the Polynesian Starling also give similar calls however. The distribution would appear to be random over all habitats wherever fruiting trees provide food for this species. They should be common in the coconut groves but at this time, I saw no coconuts in flower - hence perhaps the reason for their scarcity at this time in coconut cover.

Ofolu Island, Western Samoa

30-31 July
1 Aug.

Barn Owl Tyto alba

Individuals were seen in all types of habitat. Behaviorally like any mainland U.S. bird I have ever seen.

White-rumped Swiftlet Collocalia podiopygia

Abundant from cloud forest to coastal lowlands. At times many birds can be seen fluttering throughout the crowns of large trees, otherwise a fluttery flight out in the open is most characteristic. None were ever seen to land. From their distribution in forested areas, I would assume nesting takes place in the large forest trees, but this is only a guess. Probably one of the most abundant birds on the island.

Flat-billed Kingfisher Halcyon recurvirostris

Common, but not abundant in all types of habitat from cloud forest to coastal areas. Birds are seen most commonly perched on telegraph wires, barbed wire fences or on dead limbs in the more heavily vegetated areas. I saw no indication of nesting.

Polynesian Triller Dalage maculosa

Very abundant in all types of habitat, but most numerous in grass-covered clearings such as pastureland, on the airstrips and about lawns. Full grown young were seen. The birds are most prone to feeding on the ground. Usually seen hopping over rocks or making short flights of a few feet from spot to spot on the ground.

Samoa Triller Dalage s. sharpei

Very scarce and seen only a few

R. Brown
1966

Journal - SIC 14

63

Opolu Island, Western Samoa

Samoan Triller cont.

30-31 July
1 Aug.

seen in cloud forest in densely vegetated areas.

Island Thrush Turdus poliocephalus samoensis
Common in cloud forest. The birds usually call loudly when flying through the dense vegetation. Usually seen low to the ground.

Samoan Fantail Rhipidura nebulosa
Common - abundant in all habitats from cloud forest to coastal areas. Always in nervous fan-tailing short flights through vegetation. Often prone to fighting with one another with somersaults. Large, full fledged young were seen.

Samoan Broadbill Myiagra albiventris
Observed a few times in low rain forest and in open tree studded pasture land at about 500 ft. elevation. The birds act very much like bee-eaters, with slow deliberate movements through the foliage, head turning as if the birds are intently peering for insects, which they probably are. Usually in pairs.

Scarlet Robin Petroica multicolor
Abundant in high rain forest and in cloud forest. Birds very tame and come in almost immediately to a squeak. A few dull-colored flying immatures were seen. This species is seen most commonly in low shrubbery. Also common along pasture land in lower rain forest area clearings.

Golden Whistler Pachycephala flavifrons
Common in all types of habitat with vegetation. Usually found in densely

R. Brown
1966

Journal SIC 14

64

Opolu Island, Western Samoa

Golden Whistler cont.

30-31 July
1 Aug.

foliated trees or bushes. In low brush habitat in cleared over pastureland above Apia several were noted in a flock frequenting several brush heaps. About 12 birds total were together. Most stayed down low in the brush, a few in the open on higher dead twigs. These few on top were constantly being supplanted by other individuals from the brush beneath. Common also in cocoa plantation and in coffee growth. Variations in throat color were noted, but most birds were not seen clear enough to get an idea of ratios, besides, there is probably age + sex difference.

Polynesian Starling Aplonis tabuensis
Found in all habitats from coastal to cloud forest but not especially common anywhere. Usually seen in high trees. One bird was noted going to a hole in a banyan fig about 45 feet up - strike protruded from the hole, but the bird did not stay and later nothing flushed from the tree so we assumed nest-building was probably taking place. As such I did not deem it worthwhile to make the difficult climb.

Samoan Starling Aplonis atrifuscus
Found in all habitats - abundant everywhere. Reminiscent of good old Sturnus vulgaris by its ubiquity. The birds most often frequent the upper stories of trees but are not against going into underbrush and even on the ground in search of food. Seen in lower rain forest feeding on banyan fig and other fruiting trees. Typical S. vulgaris behavior.

25 Aug. 17-11 N; 161-30 W — 18-39 N; 160-15 W
Bird numbers up - supposed by due
to island bulleys. Sooty terns showing -
possibly Sand-Island stocks - 104.
Numerous light phase wedgetails (56 of 60)
as we are definitely in the northern
zone range now. Few newells showing
up (6)

26 Aug. 19-57 N; 159-58 W — Honolulu.
Sea very rough - due to arrival at
Hono at 1600. Birds not too abundant
as yet this morning @ 800.

1966

42

Honolulu Harbour → 21-19N; 158-23W

6 June. Departed Honolulu at 1610. Crew of 7 plus Binion Amereson and Jeff Torloff burning a ride to French Frigate Shoals. Birds were fairly numerous (897 total). These were predominantly Wedgetails & Sooty Terns, common noddies.

21-44N; 160-22W — 22-35N; 162-42W

7 June. Crew should shape up fairly well. The two new men (Pearson & Chandler) are catching on fast, Shelton is sea sick again today so I suspect he will be out of it until Dayson. Passed by Kauai at sunrise - few newells about, but no dark-rumped Petrels. Only 2 white-rumped Storm Petrels seen all day, one of these I noted was almost certainly a Leach's with a prominent wedge of black extending posteriorly through the white rump. Numerous small to medium flocks (28 total amounting to 1353 of the 1740 total birds). Terns = 1303, the bulk of the rest were light phase Wedgetails & Bulwer's Petrels.

23-16N; 164-31W — 23-51N; 166-26W

8 June. Bird numbers were down considerably from yesterday, but numbers still

1966

43

23-16N; 164-31W — 23-51N; 166-26W8 June
cont.

impressive - 996. an abundance of small flocks - 26 = 399 birds. All tern species were abundant. A series of 5 Blue grey Noddies were collected from near Necker Is.

5 terns - almost certainly one or the other of Caspian or Crested Terns were sighted E of FF Shoals. Although good sightings were made overhead, the birds were out of gun range.

Albatrosses are becoming more numerous - total of 20 BFA, and 9 LA. Most were seen about a dead sperm whale. Surprisingly, no storm petrels were about. An excellent oil slick was spread out from the dead animal and all conditions looked excellent for storm petrels ??? A few dolphin - (Mahi mahi) and a few sharks were about the whale.

Got Binion A & Jeff T. off at French Frigate Shoals in good shape toward sunset. Attempted to collect a porpoise, but was unsuccessful.

An adult Sooty tern was noted perched on a piece of driftwood about 5 miles off Necker - the bird flew off when we approached.

Hawaiian Noddies were noted to land frequently on the Is.

24-37N; 168-13W — 25-14N; 170-25W

9 June

Bird numbers still holding high. An increasingly greater number of Albatrosses, predominantly Black-foot as day progressed. Very few odd terns (CN, BGN, HN, FT) practically all sooty - 426 - Probably Laysan breeding birds. Another Caspian/more likely Crested tern spotted today. Great abundance of wedgetails, 391 total. Over half of these notes within last hour before sunset when we were stopped over Haro Reef. I took the skiff out about an hour before sunset and worked huge flocks of pure wedgetail and both albatrosses all mixed.

At one point out in the skiff I observed a large number of birds on the water all crowding around an object (ca. 50 Black-foot Albatrosses, 5 Laysan Albatrosses and 40-50 Wedgetails - the object of attention was an old bright red light bulb about 6 inches long - the large end all shiny where apparently the albatross had been hitting it in taste testing. Only a very few terns ca 10-12 were encountered in > 150 wedgetails and > 60 Albatross. Sooty terns were abundant all afternoon however. Due to arrive at Laysan at sunrise.

Laysan Island

10 June

Landed on island 0845. No incident, water calm. The vegetation (specifically the Scaevola) is much lower than last August. Both species of Albatross chicks look to be further along than last year.

Set up camp and took the entire crew around island for a survey of shorebirds, seals & Albatross count. Banded 9,500 Sooty terns at night.

11 June

Started making people in on making out banding schedules etc. Spun a small collection of blood. Banded 10,000 Sooty tern at night.

12 June

Spun down a small collection of blood, made the collected shorebirds etc, did banding schedules, returns etc, made complete Laysan teal count. Banded 10,200 Sooty Terns, collected about 70 samples of blood.

13 June

Brought the entire crew out to the ship to sleep. The flies are almost as bad as last August. Spun down blood samples and rest of crew ashore to band Albatross.

14-16 June

Still banding Sooty tern adults. The birds are amazingly dense, hard well for banding and we are averaging 10,000 up a night with a seven man crew.

Laysan Island

14-16 June cont.

Balcomb banded 3000 ST ad on night of 13-14 June so I attempted to beat his record on the night of 14-15. I began at 1800 on 14 while still light by grabbing ST ad off eggs. at 2015 (darkness set in) I had 600 and by 0130 I had 3100.

I then decided to try for Huber's record of 4300. at 0415 it began to get light and I had 4100. I dumped 400 into the banding bag and began to grab adult off eggs in the tall grass. at 0610 I finished with a total of 4500. I don't believe I would ever attempt this again.

All the crew is working wonderfully. Phil Shelton using his slow method was able to band 2000 one night. Frank Smith managed 3000 one night. Our goal of 100,000 looks well within the realm of possibility. Broke camp on the 15 leaving only skeleton gear on the island - banded until 0230 on morning of 16 and then was aboard and bound for Lisianski by 0330.

Lisianski 16 June

Landed on Lisianski after supper 1630 on 16 June. Banded & took blood until dawn. Worked as such for 3 nights and spent about

Laysan

18-19 June of the 4th night collecting ticks etc. Left the island at ~~2130~~ on night of 19-20. bound for Laysan. Have over 99,000 banded and the 100,000 is realized.

ALL Pertinent details concerning species may be found in the Species Accounts!

Laysan

20 June Arrived at 1300. Rain most of afternoon, screwed everything up. Guys so tired, every body is walking around in a daze. Too much work to do. Banded the remaining 3,000 #3 sooty tern bands for the 100,000 block and 300 Wedgetail and about 400 albatross. This finishes the banding with about a 100,000 total for the 10-11 days of banding. Coll. ticks

21 June Worked on Laysan trenches most of day & did a bit of sightseeing & playing with Bulwer's Petrels etc. Departed Island 2245.

25-15 N; 170-44W — 24-39N; 168-15W

22 June few birds, mainly sooty terns & wedgetails. Sea quite rough. Men completely exhausted. no collecting possible with the rough sea.

R. Brown Journal - Seeward #13
1966

Oahu. 48

24-04N; 166-26W — ~~23-19N; 164-16W~~

23 June
-25 June

Sea quite rough along the entire return route. Drifted offshore Kawai on night of 24-25 June and stayed about Kawai all day 25. Had sheef in but this proved quite dangerous due to very heavy swells. An oil slick was put out but attracted very little. Roughly 8 storm petrels were noted (white-rumped), most of these showed little interest in the slick. Most of these which were seen close could not be other than Harcourt's - flashing large white rump. One was collected. Harcourt's - hood patch bare - breeding unquestionably on Kawai. Birds were noted both flying toward and away from the island. We were roughly 3-5 miles offshore Waimoa canyon. Newells were common - 3 collected. About 5 Dark-rumped Petrel were seen - mostly moving toward the island in early afternoon. One hit hard but got away.

Arrived Oahu 0600 on 26 June.

H.S. Brown
1866

Leeward Survey # 13 - Species accounts ①

Common Noddy

Japan

10-16
20-22
June

Abundant throughout the Sacavole fringe and also in Spones along the central lagoon. Most nests on the ground beneath Scaevola bushes and a tendency for placement at the foot of grass clumps along the lagoon.

A few pairs are found throughout the Sooty Tern colonies, these nesting exactly as do the Sooties - beneath an overhanging clump of grass.

Nesting ranges from fresh eggs to nearly full fledged young. An equal abundance of eggs and several day old chicks are present at this time.

Population estimates are difficult to make as so many birds are tucked away beneath vegetation: One estimate of 25,000.

R.S. Seward #13 Species Accounts
R.S. Seward
1966

BLACK-FOOTED ALBATROSS ①

Lisianski

16-~~20~~¹⁹
June

Black-foots were about the same stage as Laysan Albatross, perhaps slightly older. Fewer parents were noted feeding Black-foot chicks than Laysan. The Black-foots were confined almost exclusively to the beach area.

Actual count on 18 June = 993
chicks + 10 adults. Since most of these were along the beach area which was covered very well in this particular survey, I would imagine 1000 ~~young~~^{chicks} is about very close. Adults come and go, so no way of estimating these. For all practical purposes, there are no adults on the island, as their only reason for coming in is to feed the chicks.

R.S. Crossin
1966

Seward's Survey #13
Species Accounts

(1)

LAYSAN ALBATROSS
disionaki

16-20⁹
June

The albatross were in approximately the same age group as those of Laysan, i.e., down covering the feathers over the heads, lower breast + nape on most individuals. Individuals were scattered over the entire island with some clumping in cleared areas and along the beach. Parents were noted coming in the daytime to feed the chicks.

An actual count of 2785 locals plus 178 adults was made during the afternoon of 18 June. Estimated 5000 locals + unknown # of adults as only 4 people made the count and much of the interior was missed.

Rob. Crossin
1966

Sewards Survey #13
Species Accounts
LAYSAN ALBATROSS
disionaki

(1)

16-26⁹
June.

The albatross were in approximately the same age group as those of Laysan, i.e., down covering the feathers over the heads, lower breast & nape on most individuals. Individuals were scattered over the entire island with some clumping in cleared areas and along the beach. Parents were noted coming in the daytime to feed the chicks.

An actual count of 2785 locals plus 198 adults was made during the afternoon of 18 June. Estimated 5000 locals + unknown # of adults as only 4 people made the count and much of the interior was missed.

Rob. Crossin Sewards #13 Species Accounts (1)
1966

WEDGE-TAILED SHEARWATER

disionaki

16-26⁹
June.

Wedgetails were not nearly as abundant here as on Laysan. Here they are confined to small areas generally within the seaward edge along the beach. Individuals are scattered throughout the island, but in very low numbers. Although the entire central portion of the island is dug up into mounds, apparently this is the work of Bonin Island Petrels as Wedgetails are not in these areas. A few eggs were noted, but most birds are just now digging burrows or setting in empty shallows under tufts of grass or other vegetation.

On 19 June a ^{small} number ca. (5) were noted sitting in shallows on eggs in the very open grass down with no protection from vegetation, at all. Also 2 eggs were being incubated under the Casuarina trees on a shore - there were also without low ground cover. All eggs noted were very fresh.

Skellon estimates 50,000 which I believe is a good guessimate.

R. S. Crossin Seawards #13 Species Accounts ①
1966 CHRISTMAS ISLAND SHEARWATER

Lisianski

19
16-20
June

Only a few individuals were noted skimming over the fringing scree along the beach. The species undoubtedly nests here, but apparently in very few numbers - Shelton noted at least 2 birds on eggs. Overestimate of less than 1000 birds.

R. S. Crossin Seawards #13 Species Accounts ①
1966 Bonin Island Petrel

Lisianski

19
16-20
June

A few adults were noted on the island during Sooty Tern Banding operations. These were handled for bands and invariably threw up large quantities of oil and half digested food. No immatures were noted. The species is apparently farther along than those on Laysan and the vast majority of birds have already left the island.

19 June. On the last night a few immatures were noted on the west shore at the scree ridge. One of these was being attended by both adult birds. These young were fully feathered and for all practical purposes ready to fly. Probably under 1000 birds on the island.

R.D. Crossin Leeward #13 Survey
1966

(1)

Red-tailed Tropicbird

Lisianski

16-~~20~~¹⁹
June

Commonly seen flying over the island and groups of up to 5 birds were noted displaying over the beach. One bird was noted on an egg under a dense Scaevola bush. 5 other eggs and 5 immatures were also counted. Shelton estimate of 300 pairs agree with

R.D. Crossin Leeward #13 Species Accounts
1966

(1)

Blue-faced Booby

Lisianski

16-~~20~~¹⁹
June

Most common along the beach at edge of fringing Scaevola. Most birds were noted breeding which ranged from eggs to full fledged young. Most young were in the 1/4 - 1/2 grown stages. Only one young was noted per pair. A total of 58 nests with young, 3 with eggs were counted on 18 June. Birds roosting in small clumps on NW + SW beaches. Shelton counted about 300 birds on SW beach at dusk & I estimate an additional 200-300 on NW beach at dusk. Estimated population 800 birds.

R.S. Brown
1966

Leewards # 13 species accounts ①

Brown Booby

Lisianski

16-~~20~~¹⁹
June

A small colony of 7 pair were found nesting on the west shore near the main landing; 3 nests with eggs, 4 with chicks. Scattered individuals are found roosting on other parts of the island. A few individuals caught for blood work appeared to be exceptionally small and light (wt) compared to other northern birds. One other small group of ca. 3 pair were noted the last night S. of the main landing near the west shore. Conservative estimate of 100 birds.

R.S. Brown
1966

Leewards # 13 - species accounts

Red-footed Booby

Lisianski

16-~~20~~¹⁹
June

I had little chance to actually check the interior population. Shelton estimates 1000 birds with actual nest count of 33 w/young & 23 w/eggs. I believe population closer to 2000 birds as the number of roosting birds which come in at night is considerable. One orange-streamed sand-linnet bird was captured and another was noted with either fresh orange or red paint = 5 Tinian, or more likely ~~French~~ French Frigate Shoals = Birnie.

R. S. Crossin
1966

Islands # 13 - species account

Great Frigatebird

disiainki

June
16-19

Nesting cycle ranged from eggs to fully fledged immatures. Actual count of 218 young in nests, 68 nests w/ eggs. Shelton estimates 2000 I believe low - probably closer to 3000 with the large numbers of birds seen high overhead at dusk.

R. S. Crossin
1966

Islands # 13 - species account

Golden Plover

disiainki

16-19
June

Actual count on 18 June of 56 birds, mostly all, along the beach. About 5-10 % of these in beautiful breeding plumage. Estimate of 75 birds on island at this time.

R.D. Crossin
1966

Leewards #13 Species Account
Black bellied Plover

(1)

Liaianchi

16-19
June

I collected one on the SE beach on 18 June. Non-breeding plumage. The bird was feeding along the shore line, at times mingling with a few Sander Plover.

R.D. Crossin
1966

Leewards #13. Species Account

(1)

Ruddy Turnstone
Liaianchi

16-19
June

Actual count of 119 on 18 June. 82 of them were in a flock on the large coral outcroppings on E side of island. Numbers were considerable on this rocky point last year in July. About 25% of all birds seen were in full or very close to full breeding plumage. In the flock of 82 on the large rock ~~off~~ the side of island, one ^{st. George's} banded bird was spotted and collected. Unfortunately 13 others fell with the banded bird. Over 20 total were collected, so Max T. should have nice series of summering birds to work with.

Estimate of 150 on island.

R. S. Grossin Towards #13 species account (1)

1966

Wandering Tattler
Lisianski

16-19
June

15 were counted along the beach on the 18th June count. These were mostly scattered individuals feeding at the water's edge. Probably 20 for the island is a very close estimate.

R. S. Grossin Towards #13 species account (1)
1966

Bristle-thighed Curlew
Lisianski

16-19
June

actual count of 28 on 18 June. This is probably low as many of these birds frequent the interior. Could be easily as many as 50 on the island.

R. S. Brown Lee wards #13 Jaccie Account

(1)

1964

Sooty Tern

Lisianski

16-19
June

Sooty Terns much more numerous than last year, colony (colonies) are spread over much greater area than last July. Apparently the population has come down by segments to breed. In some areas there are up to 50 90 or more chicks, other areas have only an occasional chick hatched. The nest egg and shellon informs me that some areas have no chicks at all - only eggs and that even some sections have birds down in clumps which have not yet started nesting.

I have noted at least 20 double egg clutches and several double chick nests. In most cases one chick was slightly to considerably larger than the other - one being fed, the other no? or have 2 eggs belonging to different ♀♀ ~~because~~ with different incubation periods come together by accident? Certainly some of the double clutches were the work of one ♀ since the pigmentation was of unusual marking or color and highly unlikely for 2 birds to have laid similar eggs in the same spot. On the night of 19 June a parachute flare (20,000 candle

R.D. Crossin Seewards # 13 - species account
1966

Sooty Tern

(2)

Laysan

16-17
June

power) was set off to signal the ship that we were leaving island (ca. 2130). Hundreds of terns poured off the island and swirled about the flare as it floated down to the water. Since the burning time was less than a minute, this reaction by the birds was almost instantaneous. Why not obtain a flare of equal brightness - set it up in camp and let the birds come into camp to be banded?? Perhaps not as wild an idea as it may sound - aided with some sort of mist net arrangement.

Shelton believes there may be as many as a million birds on the island - I think more in the neighborhood of 750,000, but I could be low - he has gone out into the extremities of the colony more than I have, but I have had more opportunity to observe populations here. The fact of the matter is - how the hell does one count 500,000 or a million birds anyway.

R. Brown Seewards #13 - Species account ①
1966

Grey-backed Tern
hawaiiensis

16-19
June

Scattered generally over the island wherever Scaevola clumps were to be found. The birds nest beneath this shrub. I noted an abundance of chicks, but cycle

ranged from eggs to flying immatures. Many chicks in the fully feathered, but as yet bob-tailed stage.

Population somewhere about 10,000.
25% of this chicks.

R. Brown Seewards #13 - Species account ①
1966

Common Noddy
hawaiiensis

16-19
June

Common nests under Scaevola or other dense shrub and under Sporobolus infested weed clumps.

Practically all ^{nesting} birds noted were on eggs. Shelton noted about a 1-2% chick count. Estimated 10,000 nesting pairs. Total 20,000 birds on island.

R. Brown Seewards 13 species account
1966

Fairy Tern

(1)

disianuschi

16-19
June

Three eggs were noted in Scaevola
and Casuarina trees on branches
and one 6-8 day old chick was
noted. Birds are not nearly as
abundant as last year. A good
number roost in the Scaevola and
Casuarina trees at night. Probably
about 300 total on island.

R. Brown Seewards 13 - species accounts
1966

Hawaiian Noddy

(1)

disianuschi

16-19
June

Birds mainly nesting in the few
Casuarina trees on the island, but
in a few places old nests were
found in Scaevola. Chicks from a
few days old to fully fledged
were noted in the Casuarina tree nests.
Found roosting abundantly in
the Scaevola at night. The birds
began coming in in great numbers
at dusk.

50-75 chicks, 5000 up
flying immatures and adults roosting
at night.

Fairy Terns

Laysan

10-16
+ 20-22
June

Appears to be far fewer birds on the island than last fall. I have not as yet noted any eggs (15 June) but numbers about camp especially are less at present than last fall.

Larger numbers have been reported on the S beach. A 100 eggs + chicks. Guess estimate of 1000 birds.

Laysan teal

Laysan (where?)

10-16
+ 20-22
June

Secretive. Very few are noted during the ^{mid} daylight hours, but are readily seen at dusk when, (I presume) the bulk of the population congregates along the central lagoon shore line. These are consistently noted feeding on the very abundant "sand flies" present at the shore line. On the evening (late afternoon) of the 13 June a concentrated effort was made by the entire 7-man survey party to census the teal. A total of ~~200~~ ²⁰⁹ were counted along the central lagoon shore. ♂♂ were in the majority. This may indicate that either ♂♂ are more abundant in the population or that ♀♀ are incubating or keeping to the dense vegetation with their broods. Three broods of 2 each were seen along the lagoon shore. These were all about equal age (in 16, according to F + WS aging).

Individuals (again mainly ♂♂) are noted at night in odd places such as among the sooty tern colony etc. These may be in transit ^{between} from the central lagoon and the sea shore, as scattered individuals and/or small groups are noted each morning very early at the shore edge at camp on the W side of island.

R.S. Crossin
1966

Sewards Survey # 13 - species accounts ①

Common Noddy

Laysan

10-16 +
20-22²¹
June

Abundant throughout the Scaevola fringe and also in Sporaea along the central lagoon. Most nests on the ground beneath Scaevola bushes and a tendency for placement at the foot of grass clump along the lagoon.

A few pairs are found throughout the Sooty Tern colonies, these nesting exactly as do the Sooties - beneath an overhanging clump of grass.

Nesting ranges from fresh eggs to nearly full fledged young. An equal abundance of eggs and several day old chicks are present at this time.

Population estimates are difficult to make as so many birds are tucked away beneath vegetation: Guesstimate of 25,000.

R.S. Crossin
1966

Sewards #13 - Species accounts

①

Hawaiian Noddy

Laysan

10-16 +
20-22²¹
June

Mainly one small breeding concentration in the Casuarina tree at the main landing, but also breeding in small numbers in groups of Scaevola and other shrubs, especially about the NE end of island. Nesting is practically finished - I only noted one egg of advanced incubation in the Casuarina tree + 12⁺ young of various ages from half grown to nearly fledged.

There are many more birds roosting about the Scaevola and other shrubs than ^{so} could possibly nest on the island (judged by signs of old nests *in situ*). These apparently use the island only as a non-breeding season roosting area. At present I guesstimate 5000+ birds present. Toward dusk numbers began building up in preparation to roosting.

R. D. Crossin Lee wards #13 - Species Account
1966

Sooty tern

(4)

Laysan

20-21
June

The birds have now spread nearly around the entire island. Only on the Nth point are there no terns. Colonies are much more extensive than last August. There could easily be 2,000,000 terns on the island.

Lee wards #13 - Species account

(1)

R. D. Crossin
1966

Gray-backed tern

Laysan

10-16 +
20-22/1
June

Widely scattered over the entire island wherever *Spongia* is present - along the sea beach and especially so along the central lagoon. Considerable numbers also nest beneath Scaevola. Nesting cycles ranges from 1/2 incubated eggs to, ^{a few} full fledged-flying immatures. The majority of birds have advanced incubated eggs or newly hatched chicks. Large numbers (up to several hundred) congregate in the open areas such as along the dried out flats along the central lagoon and in the bare sandy areas at N + S. ends of the island. Nesting pairs are more separated than sooty terns which may nest with 6-8 inches of one another.

Very difficult to estimate population on this species, but conservatively I would guesstimate between 10 and 20 thousand.

R.S. Crossin
1966

Tecwards # 13 species accounts

(2)

Sooty Tern

Laysan

10-16 +
20-22
June.

particular is nesting in sparse Sporobolus
on the E side.

The birds are holding extremely well
for banding purposes. Those in the
dense grass clumps are especially
reluctant to leave the eggs and
it is rather easy to band up to
300 per hour in broad daylight by
taking parents (mostly ♀♀?) off eggs.

In certain areas (see Laysan Finch
section) the egg loss to Laysan Finches
amazingly high. This is one of the
very few, ^{more or less} natural ^{population} controlling factors
that I have noted in the numerous
Sooty Tern colonies in the Pacific.

Bird returns are considerable (up to
100 per night with 7 man crew); most
of these are from the massive banding
of July - August 1965. To date (15 June) one
Linnaeus bird has been recorded and
at least 4 orange streamered Sand
Johnston birds. It is unknown whether
these were breeding or not on the Laysan.

A small number (ca. 3) Two egg
clutches were noted by me during
banding operations. From the ^{comparative} uniformity
of the two eggs in each respective
clutch, it would almost certainly
appear to be the work of one female
in each case. This, I would imagine

R.S. Crossin
1966

Sooty Tern

(3)

Laysan

10-16 +
20-22
June.

is quite probable and besides, ^{fresh}
birds are anatomically equipped
with two perfectly good functional
brood patches. No doubt there has
been selection against two eggs for
the species in the past evolution
since one egg = 1 chick appears
to be enough to maintain the species
and at an extremely high population
level.

Last year's July and August surveys
are actually a poor comparison to use
in estimating population number
because at that time practically all birds
had varying sized chicks and a good
portion of the adult population could
have alternately been at sea in
pursuit of food. However, I believe
the adult population is considerably
greater the present year. I would
tentatively raise last year's ^{ad.} population
of 1,000,000 to 1,250,000. This might
even be low as more birds seem

to be coming down all the time.
The majority of birds use the shelter
of an over hanging clump of grass to
place the egg. Some nests are elaborate
depressions in fallen grass cover, but
the majority ^{of eggs} are laid in shallow
sand scrapes.

1866

Red-tailed Tropicbird

Laysan

10-16
+ 20-28
June

Birds are seen commonly over the island during the daytime. Many are displaying and groups of up to one dozen birds may be seen together in court flight & calling. The breeding season is evidently very extended as some birds have large chicks at this time, but many others also have fresh eggs - about what was typical August of last year was typical. All nests have been under dense Scaevola or other dense shrubbery. Especially abundant in the fringing belt of Scaevola frutescens along the west beach.

A very rough count on 20 June revealed 90 nests. 58 w/ eggs, 1 w/ large young & 1 w/ downy young. Estimated 1000 birds, w/ ca 400 nests.

1966

Blue-faced Booby

Laysan

10-16-21
+ 20-22
June

A few pairs are scattered about the beaches and through the grass areas over the island, but most birds are found along the central lagoon beach. Nesting ranges from fresh eggs to nearly grown young, with many nests with just-hatched young. At present (13 June) ca. 500 birds are present on the island.

21 June An orange streamered bird was captured along the lagoon about ca. 2130 this evening - brought back to the ship, painted denudary bled and released. Immature - Subadult Band # 737-

R.D. Crossin
1966

Seward Survey #13

(1)

Great Frigatebird

Dayran

10-16
+ 20-23
June.

Great Frigates are distributed over the island about as are Red-footed boobies - concentration everywhere - Scaevola or other large shrubs grow. Many (>60%) of the population are white-headed immatures or sub-adults. Nesting ranges from advanced incubated eggs to those immatures. The entire population is somewhere between 3 and 5000 birds. The birds are nocturnal as well as diurnal and individuals can be seen and heard coming back to the nests at any time of night. These returning birds usually call a series of wurd calls as they approach nests, and are often answered by those birds already perched.

The nesting cycle is advanced enough so that no displaying ♂♂ have been noted (ie; no selected throat pouches).

A spotty check on 10 June came to 60 nests with one egg, 59 nests w/ chicks and 750 nests contents unrecorded (Cham).

R.D. Crossin
1966

Seward #13. Green account

(1)

Golden Plover

Dayran

10-16
+ 20-23
June

Plovers were scattered generally over the island with greatest concentrations about the lagoon. A shorebird count made on 10 June turned up 233 birds. Many of these were in full breeding plumage. The vast majority were about the lagoon.

After this date very few were noted; the bulk of birds having left the island.

R. S. Crossin Seewards #13 - Species Account (1)
1966

Ruddy Turnstone
Laysan

10-16
+ 20-21
June

This species was most abundant about the lagoon, but a few individuals were scattered elsewhere and especially along the sea beach. Many individuals (ca 30%) were in full or very close to full breeding plumage. Lack of whiteness on the crown was the most conspicuous non-breeding plumage element.

A total of 493 were recorded on the shore bird count on 10 June.

These were in small to large groups found mainly along the small peninsula extending into the central lagoon. However, a few scattered small groups and single individuals were noted feeding among the immature Albatrosses many yards distant from the water's edge. A series of 13 was collected for M. O. Thompson's work. One banded bird (Laysan 1964) with ~~an~~ permanently injured wing was recorded as were two other ^{unbanded} permanently wing injured birds. All appeared to be healthy.

During the rest of the survey numbers decreased considerably.

R. S. Crossin Seewards #13 Species Account (1)
1966

Wandering Tattler
Laysan

10-16 +
20-21
June

Only a very few individuals were noted, scattered at intervals along the central lagoon shore - often in accompaniment with Ruddy Turnstone or Golden Plover. One specimen was collected. An occasional individual was noted along the sea beach especially in areas with a large conglomeration of boulders at the water's edge. Current population is probably less than 30 birds.

Count on 10 June = 12.

R. Crossin
1966

Seewards #13 species account

(1)

Bristle-thighed Curlew

Lagoon

10-16
+ 20-22
June

Only a few individuals of this species were noted. There was some ~~intensity~~ preference for the grassy areas about the central lagoon, but, ^{on occasions} individual could be seen anywhere about the island, including along the sea beach, especially rocky areas. Entire population at this time is probably less than 60.

10 June count of 51

R. Crossin
1966

Seewards #13 species account

(1)

Sooty Tern

Lagoon

10-16
20-22
June

This was by far the most abundant species on the island. The breeding area is essentially the same as that utilized last year; i.e., continuous nesting along the entire west side of island and north west end wherever bunch grass (^{Eragrostis} ~~Agrostis~~) is present. Within this vast area two concentrations were noted: ① quite heavy concentration near the N end of grass cover about 150 yds. N of the main landing. There were on fresh egg. ② A very heavy concentration about the entire SW end throughout ^{bunch} grass cover. This concentration ~~started~~ ^{started} first toward the N as there mostly have eggs, and worked south and thence E where large numbers are as yet without egg, many setting in large masses in the openings. Throughout the rest of the west side are scattered birds in varying densities, most with eggs. The actual area utilized fluctuates greatly with seemingly little regard to actual grass cover available, i.e., the birds are not spread over the entire bunch grass area. Small colonies are located about the rest of the island, on the E and N sides. One colony is

R. B. Crossin
1966

Sooty Storm Petrel

Laysan

21
10-22
June.

No birds have as yet been seen (1-3 times) but one skeleton, or rather dried up carcass, was found by the lagoon, with distinctly forked tail, distinguishing it from Bulwer's Petrel. The season is probably way too late for these Storm Petrels to be on the island.

R. L. Crossin
1966

Species account - Leeward #13

(1)

Bonin Island Petrel

Laysan

10-16 +
20-23 June

Immature Bonin Islands are common to abundant just after dark about the entrance to their burrows, but become increasingly scarce toward morning light. Most of these are fully feathered and practically indistinguishable from the parents, but a small percentage, ca. 30%, still have tufts of the down attached to their feathers. A few adults are noted feeding young at times, but apparently the majority of these young are unattended by this time. A few have been noted floating out in the water along the west shore, so apparently these young are in the process of going to sea. An estimated 3000^{young} remain on the island. These are scattered over most of the vegetated area, but more numerous in the broad grass clump area on W side.

24 June. A few more adults noted feeding the immatures at the burrow entrances. There is a distinct difference ^{between} in the plumage of the adults & immatures. The young of course have brand new plumage & this in itself lends an overall appearance of brightness; also most feathers over the dorsal area of the young (secondaries, all wing

Rob Crossin seaward #13 species account (2)
1966 Bonin Island Petrel

Laysan

10-16 21
+ 20-22
Jump
over

Coverts, dorsal contour feathers + neck, wings are tipped with pale blue grey. The secondaries + primaries themselves have a blue grey cast which may be no more than a feather bloom on new plumage. This entire grey cast, tipping etc is lacking on the adults + the entire dorsal area gives a brown or charcoal aspect rather than grey. The mid dorsal area especially is brown and thus there is very little contrast of the dark head and mid dorsal region. The immatures, on the other hand have the pale grey back + contrasting dark head. Adults show brown cast probably due more to feather wear than actual feather structure (i.e., grey tips are all abraded off).

20-21 Due apparently a heavy rain drowned out many of the smaller individuals which we were on Thianshi as many are found dead at burrow entrances. Perhaps though these are being deserted by parents and have starved.

Estimated 3-5000 immatures.
ad - come and go, but
could be up to 1000
on any one night.

R.D. Crossin Species account - Leeward #13

①

1966

Wedge-tailed Shearwater

Lagoon

10-16²¹
+ 20-22 June

At present this species is either the second or third most abundant on the island, Laysan Albatross may be more abundant! ^{most} ~~all~~ birds are either gone to sea or remain in burrows during the daylight hours. At night most birds appear to be sitting about the entrance to burrows, out in the open, or digging within burrows. I have not as yet checked burrows for egg content (1:31 A.M. ^{June}), but probably some of them have them by now.

No large clubs congregate along the open beaches or inland bare areas yet as they did last August. Birds are very numerous over most of the island, especially in the extensive grass area on entire W side of island, but are scattered at random with little grouping. Abundant also through *Sporobolus* ^{lagoon} ~~area~~. Much moaning, digging of burrows and copulating young ~~are~~.

Could be as many as 250,000 on the island. Fresh eggs were noted in shallow burrows or beneath grass clumps (over hanging) on 20 June - all eggs were attended.

R.D. Crossin
1966

species accounts - Seavards #13

(1)

Christmas Island Shearwater

Laysan

10-16
& 20-21 June

Scattered individuals of this species are noted over the entire island, but a few concentrations exist: (1) along beach areas with large rocks many birds can be seen lying about at night. (2) although it is impossible to check much of the dense Scaevola, the number of birds flying over these areas, (notably the west beach fringe of Scaevola) indicates that a considerable high population is nesting beneath these shrubs. Birds picked up at night show brood patches, so undoubtedly eggs are now present. The total population is probably not over a thousand birds.

R.S. Crossin
1966

Species Accounts - Laysan #13

①

Laysan Albatross

10-16
20-22 June

Laysan

About 70% of the albatross chicks still appear to be tended by adults, although the adults may come in at night to feed the others. Very heavy concentrations of chicks are found about the lagoon beach area - over 70,000 counted on 11 June.

They are also scattered over the rest of the island throughout all types of plant cover, except for much fewer numbers on the W beach where Black-foxtails prevail.

The young range in size and advancement from a few totally down covered individuals to those which have only a few ragged patches of down about the head & neck.

Most are at least covered entirely about the head, neck, & upper breast with down. A few were noted starting to fan their wings in preparation for future flight practice.

In behavior they are not much different from young of the previous year during July and August in that when one passes by a chick it may either remain stationary and snap its beak or take a few steps toward the person and snap vigorously with the bill.

Robbison
1966

Sewards # 13 species account

Laysan Albatross cont.

(2)

Laysan

10-16 +
20-22 June

They seldom if ever bite, however, and even if they do it is very soft, considering the size of the birds. Perhaps 1% of the population of large chicks have already died, with carcasses scattered at random over the island. Apparently most are still being fed regularly as they appear healthy and fat and not the ^{the} weightless shadows that some of them become by August.

A few of the adults are still going through courtship displays, but few are doing it in unison. Usually only one member of the pair seems interested, the other always being out of step with the various bowing acts, neck raising, head under wing etc.

The chicks which are situated in vegetated areas usually crawl beneath a grass clump or retire to the shady side of the bush during daytime - those out in the open such as around the lagoon are sadly out of luck for shade.

10 June Count 91,403 chicks
4,246 adults.

This is considered to be very low as individuals over most of the densely vegetated area were hardly counted. Probably 150,000 chicks, 6000 ad.±