

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

512 12

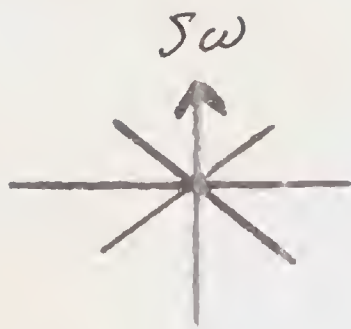
DATE 30 March 1966
Pg. # 1



Norm Position: 20-08N; 160-42W

time	species	#	dir.	hgt.	remarks	loc.
0635					Sunrise - begin observations.	
0637	sooty tern	2	W		up high	
0638	B-l-foot Alba.	1			following ship. molt on sec of base of wing	
0642	wedgetail	1	NE		light phase.	
0650	sooty tern	2	W		feeding, ad's.	
0656	" "	1	W	high	far out.	
0712	" "	1	NE		ad.	
0722	Bird sp Red-footed Booby	2	W		imm. 2 imm. light phase birds.	
0729	sooty tern	2	E		ad's.	
0735	" "	1	E		ad.	
0737	" "	1	S		ad. following ship (same as above)	
0738	B-F. Albatross	1	W		dark phase	
0743	wedgetail	1	W		dark phase	
0744	Bird sp.	1			sitting	
0745	sooty tern	2	SW		adult	
TF 0755	Frigatebird	4	⊙			
	Wedge-tail	2	⊙		lite	
TF 0800	Sooty Tern	6	SW		To far to tell age	
0825	Shear/petrel	1	SW			
FF 0835	Wedge-tail	7	⊙		Dark Phase	
	Fairy Tern	2	⊙			
	Sooty Tern	10	⊙		Ad.	
0837	Gray-back tern	1	E		following ship	
0838	B.F. Albatross	1				
0844	Sooty Tern	2	N		ad. maybe recounts from above	
0848	Wedge-tail	3	N		Dark Phase	
see remarks { 0857	B-F. Albatross	1	N		one still following ship also.	
	Laysan alba.	1	SW		Could be supposed BFA which was seen under poor lite at a distance. 0905 original obs okay met	
0909	B.F. Albatross	1	⊙			
0915	sooty/Shearbird	1	SW		1 of 3	
	bird	1	E		Probably Tern	
0922	Shear/petrel	1	SW		Dark in circling flight	
	Sooty Tern	1	SW		Ad.	
0929	Trop. bird	1	N		To distant to tell species	
TF 0932	sooty tern	6	SW		Ad	

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
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Noon Position; 20-08N; 160-42W

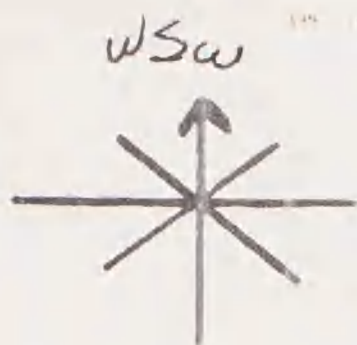
DATE 30 March 1966
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
0935	B-F. Albatross	3	☉		following ship	
0941	Laysan "	1	SW			
	Wedge-tail	1	SW		late phase	
0945	Sooty Shearwater	2	N		glaring white underwing coverts, probably Sooty <u>sea</u>	
0950	B-F. Albatross	1	☉		1 of 4	
1002	Wedgetail	3	SW		light	
1004	RTTB	1			sitting on H ₂ O	
1007	Tinella Shear	1	S			
1010	Wedgetail	1	SW		light	
1017	Sooty / S.B. Shear	12±	S		some had light underwing	
1030	" "	1	SE		light under wing	
1031	Sooty Tern	1	SW		Ad	
1032	Wedgetail	1	SE		light	
1036	Sandwich / Phalarope	2	SE			
1039	Wedgetail	2	SW		light	
1055	Wedgetail	1	SW		light	
1100	B.F.A	4			following ship - same	
1105	Laysan Alb.	1			"	
1112	sooty / S.B. Shear	1	S		"	
1114	Wedgetail	3	S		all light	
1125						
1130	G.B. Tern	2	SW		Porpoise 35±	
1137	Wedgetail	1	S		light	
1140	Sooty / S.B. Shear	1	S		" underwing	
1145	Wedgetail	1	SW		light	
1151	Bird	1				
1152	"	2				
1158	Sooty Tern	1	SW		ad.	
1159	B.F. Albat.	4			following ship.	
1159	Sooty T.	3	☉		ad	
1159	wedgetail	2	SW		1 dark, 1 light.	
1200	"	1	S		ad light	
1201	Sooty T.	2	SW		ad	
FF 1203	Fairy T. Sooty T.	1 4	☉		Feeding	
1207	Gray-Backed T.	1	NW		Low to water	
1213	Sooty T	1	NW		Ad.	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE Mar 31, 1966
Pg. # 1

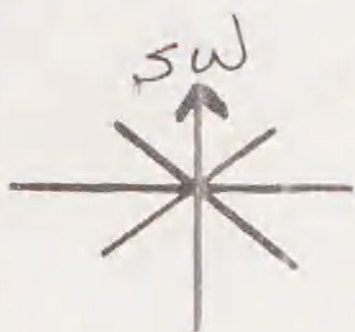


Noon Position: 17-22N ; 163-52W

time	species	#	dir.	hgt.	remarks	loc.
0549	Red-f. Booby	2			Immature	
	B-f. Albatross	2			Roosted on ship. One banded and released 17°53'N 162°52'W (777-56151 I) other bird on cargo boom also Imm.	
0600	Wedge-tail	1	NE		Following ship	
0604	Sooty Tern	1	SW		light phase	
0611	Wedge-tail	1			Adult	
0619	Sooty Shearwater	1	N		hite phase following ship	
see note 0647	R-f. Booby	1			white underwing linings	
	B-f. Albatross	2			Left cargo boom	
0704	Red Phalarope	1	NW		Following ship	
FF 0714	Sooty Tern	15			winter plumage	
	Shear/Pet	1			Ad. Estimated size	} To distant to tell much
	Frigatebird	1			Dark in color	
0715	Red Phalarope	1	WNW		winter plumage	
0725	"	1	WNW		"	
0727	"	1	WNW		"	
	Wedge-tail	1	⊙		Following ship	
0800	BFA	2			"	
0800	Bird	1			"	
0801	Red Phalarope	1	NW		"contra nuptual" (wow!) plumage,	
0805	Sooty/slenderbill	1	W			
0808	Red Phalarope	1	WNW		winter plumage	
0812	" "	1	WNW		" "	
0815	" "	1	WNW		" "	
0840					"change" course to WSW	
0900	BFA	2			following ship.	
0913	shear-pet	1				
0926	G. Frigate	1	⊙		ad ♂	
0934	Pterodroma sp.	1	NW			
0944	P. hypoleuca	1	S			
0950	G. Frigate	1	⊙		Ad ♀	
0951	wedgetail	1	SW		Light	
0955	P. Hypoleuca	1	S			
1045	G. Frigate	1	N		ad ♀	
1100	BFA	2	⊙		Following ship	
1130	WTTB	1			Ad	
1135	w-R Storm Pet	1	N			

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Noon Position: 17-22 N ; 163-52 W

DATE 31 March 1964
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1136	Bird sp.	1				
1154	wedgetail	1	sw		light	
1155	"	3	see		light	
1157	Shear-Pet	2	N			
1200	BFA	2	see		Hourly Count	
1230	Sooty/5lb Shear	1	N			
1231	Shear-Pet	2	NE			
1234	Blackwinged Pet	1	⊙			
1247	wedgetail	2	N		in rain squall - light	
1252	sooty/5lb shear	1	NE			
1300	BFA	2	⊙		Hourly Count	
1315	wedgetail	1	SE			
1321	Blackwinged Pet	1	SW			
1330	W.A. Storm Pet	1	⊙			
1333	sooty 5lb shear	1	NE			
1335	Shear Pet	1	NE			
1337	sooty 5lb shear	1	NE			
1342	" " "	1	NE			
1400	BFA	2	see		Hourly Count	
1402	Shear Pet	3	W			
1405	sooty tern	1	E		ad.	
1418	sooty/slenderbill	1	N			
1426	Phoenix/Habitat	1	⊙			
1440	Frigate	1	⊙		above into H ₂ O - several times but no other birds apparent -	
1500	BFA	4			hourly count - 3 on H ₂ O preening, 1 flying.	
1519	sooty/slenderbill	1	N			
1520	sooty tern	2	E			
1530	Bird	1	⊙			
1531	sooty/slenderbill	2	N-NW			
1534	sooty tern	1	N		ad.	
1537	" "	1	N		"	
1538	sooty/slenderbill	2	N			
1540	" "	1	N			
1554	Bird	1	⊙			
1558	Shear-Pet	2	⊙			
1602	BFA	4			following ship	
1612	shear-pet	1	⊙		circling high occasionally	
1615	Sooty T.	3	NE		ad.	
1617	Mottled Pet.	1	NNW		joined above sooty T. for a min or so.	
1622	Bird	1	⊙			
1626	mottled Pet.	1	NNW			
1637	Bird	1	⊙			
1654	RFB	1	⊙		Imm.	
1656	sooty/slenderbill	2	N			

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

Noon Position: 17-22 N; 163-52 W

DATE 31 March 1966
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1700	BFA	4			hourly count	
1700	sooty/slenderbill	1	N			
1702	sooty tern	1	SE		far out	
1705	sooty/slenderbill	1	N			
1724	" " "	1	NW			
1724	" " "	1	W			
1724					one of the BFA landed and began courting a green fishball about 2' away.	
1730	BIRD	1				
1733	P. hypoleuca	1	E			
1736	sooty/slender.	1	N			
1740	blackw. Pet.	1	S			
1745	sooty/slender	1	NW			
1747	"	1	NW			
1748	"	1	N			
1748	Bird	1				
1753	sooty/slender	1	W			
1800	BFA	4			following ship	
1807	Laysan Albat.	1			" "	
1813	Sunset				close down	


SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Noon Position: 16-42N; 168-22W

DATE 1 April 1966
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0548	R-F Booby	1			m mast guys, immature	
0550	BFA	1			following ship	
0555	Sooty Shear Shear/Pet	2	W		smaller than wedretail, white underwings and belly, light marking on following edge of wing, white on belly up to throat then much darker throat + head. gliding flight	
0608					sunrise	
0609	Sooty Tern	1	W		adult	
0627	R.T. Tropicbird	1	NW			
0642	Sooty Tern	1	W		orange streamered adult	
0651	Bird sp	1				
0652	R.T. Tropicbird	2	NE			
0700	Sooty Terns	3	NE		adult	
0701	Sooty Tern	2	N			
	Shear/Pet	1				
0702	Sooty Tern	1	S			
0704	Shear/Pet	1	⊙			
0705	Sooty Tern	1	S			
0708	Shear/Pet	1	⊙			
0711	Sooty Tern	2	S		adults	
0720	W-R Storm Pet	1	W			
0730	shear/Pet	1	MM			
0735	shear/Pet	1	⊙			
0735	Skua bird	1	N		probably, phalarope	
0740	RTTB	1	⊙			
0743	Shear Pet	1	SW			
0748	Sooty Tern	1	N		Ad	
0754	" "	2	SE		Ad	
0757	" "	2	⊙		Ad.	
0800	BFA	1			Heavy Count	
0805	RTTB	1	W			
0808	Shear-Pet	1	NW			
0810	Sooty Seb Shear	1	NE			
0815	RTTB	2	⊙			
0823	W.R. Storm Pet	1	⊙			
0835	Phalarope Sanderling	1	NW		Ad.	
0839	Sooty Tern	2	W			

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SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 1 April 1966
Pg. # 5

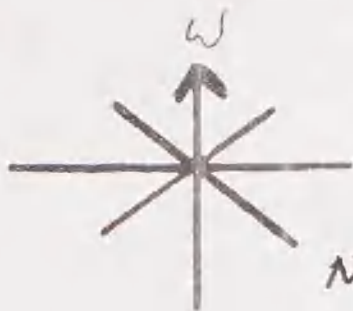
Noon Position: 16-42 N; 168-22 W

time	species	#	dir.	hgt.	remarks	loc.
1602	Sooty/Shearwater	2	N			
1603	Sooty Tern	3	E			
1606	Sooty/Slender	1	W			
1607	" "	1	⊙			
1610	" "	4	N			
1613	" "	3	N			
1616	Sooty Tern	2	W		1615 - Loran tower sighted	
1619	Sooty Sbl Shear	3	N			
1621	RFB	1	NW			
TF { 1623	Sooty Tern	25	⊙		Ad - travelling	
	Frigate	1				
	Wedgetails	8				
1626	Sooty Sbl Shear	2	N			
FF { 1630	Sooty Tern	80+			most Ad	Feeding
	Wedgetail	15+			mostly light	
	6 Frigates	2				
1631	Sooty Sbl Shear	3	N			
TF 1633	Sooty Tern	30+			Travelling - mostly Ad	
1635	Sooty Sbl Shear	2	N			
1636	" " "	5	N			
TF 1637	Sooty Tern	9	NW		Travelling	
1638	RFB	2	W		Ad.	
1640	Sooty Sbl Shear	3	N			
1642	" " "	4	W			
TF 1643	Sooty Tern	7	W			
1645	" "	3	N			
1646	Sooty Sbl Shear	3	NW			
1647	" " "	2	N			
1648	Black Winged Pet	1	S			
1649	Sooty Tern	3	W			
1650	C. Noddy Tern	1	S			
1651	R-F Booby	1	E			
1651	Sooty Tern	1	S			
TF 1655	Sooty Tern	5	W			
1655	Sooty Tern	2	W			
1656	" "	3	W			
1700	Sooty/Slender	1	N			
1702	Bird SP.	1				
FF { 1708	Sooty Tern	45+				
	Wedgetails	10+				
	6 Frigate	2				
1709	Sooty Sbl Shear	3	N			
1714	Sooty Tern	3	W			
1715	Sooty Sbl Shear	3	N			

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 1 Apr 66
Pg.# 6



Noon Position: 16-42N; 168-22

	time	species	#	dir.	hgt.	remarks	loc.
	1716	Sooty Tern	3	W		Ad	
	1717	" "	4	W		Ad	
	1719	Sooty Sbl Shear	3	N			
	1720	" " "	4	N			
	1721	Sooty Tern	3	W		Ad	
	1722	RFB	3	⊙		Ad	
	1723	RTTB	1	⊙			
FF	1724	Sooty Tern	9	-		Ad	
	1726	RTTB	1	⊙		Pink phase	
						Ad.	
TF	1728	Sooty Tern	25±				
	1730	Sooty Tern	50±			Not a flock - scattered over area - heading W toward I	
	1733	Sooty Sbl Shear	3	N			
	1735	" " "	4	N			
	1736	RFB	2	⊙		Ad.	
	1738	Sooty Tern	4	W		Ad	
	1740	" "	3	W			
	1742	RFB	4	⊙			
	1744	RFB	9	W			
	1746	Sooty Tern	28±			scattered over area heading for I - Not a flock	
OS	1748	RFB	1			Orange Streamer - Ad	
	1749	Sooty Tern	1	W			
	1750	Sooty Tern	3	W			
	1751	Sooty Sbl Shear	1	N			
	1751	Sooty Tern	1	W			
	1752	Grey Back Tern	4	E			
	1753	Sooty Tern	7	W			
	1753	Grey Back Tern	1	W			
	1753	" " "	2			Orange Streamer	
2(OS)	1754	Sooty Tern	17	W			
	1754	C.I. Shear	1	⊙			
	1754	RFB	1	⊙			
	1754	Sooty Tern	2	W			
	1754	Sooty Sbl Shear	1	N			
	1754	Sooty Tern	7	W			
	1755	" "	4	W		scattered heading W	
	1755	" "	2				
	1755	G. Frig	1	SE		Ad ♂	
	1755	RFB	1	W			
	1756	Sooty Sbl Shear	2	N		scattered Ad - headed for Is.	
	1756	Sooty Tern	25				
	1756	RFB	4	W			
	1756	Sooty Sbl Shear	2	N			
	1756	RFB	1	S			
OS	1757	Brn Boob	1	⊙		Ad - Orange Streamer	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Noon Position: 16-42 N; 168-22 W

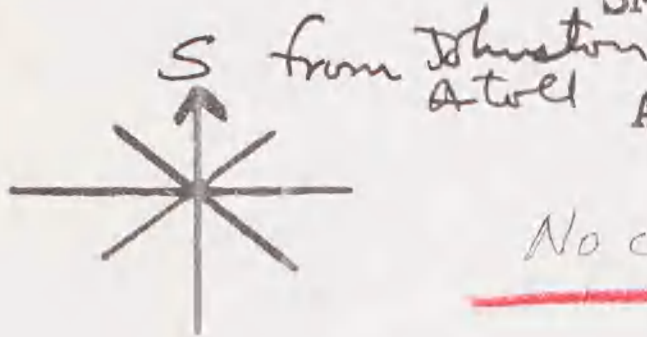
DATE 1 Apr 66
Pg. # 7

time	species	#	dir.	hgt.	remarks	loc.
1758	Sooty Tern	17			Ad towards Is	
1758	RFB	1			<i>mm</i>	
1759	G. Frigate	2			⊙	
1759	Sooty Tern	2			" " "	
1800	G. Frig	1			" " "	
1800	Sooty Tern	18			" " "	
1800	" "	1			" " "	
1800	" "	9			" " "	
1800	RFB	1			" " "	
1800	C. Noddy Tern	1			" " "	
1800	G. B. Tern	1			" " "	
1800	Sooty Sbb Shear	1	N		" " " Ad	
1801	Sooty Tern	15			" " " "	
1801	" "	20			" " " "	
1801	" "	15			" " " "	
1802	C. Noddy Tern	1			heading for Is.	
1802	Sooty Sbb	1	N		" " "	
1802	RFB	3			<i>mm</i>	
1802	G. Frig	1			<i>mm</i>	
1803	Burn Boob	1	SE		towards Is A-1	
1803	Sooty Tern	5			" " "	
1804	" "	35			" " "	
1804	RFB	1	Ad			
1804	G. Frig	1	N			
1804	C. Noddy Tern	1	W		Ad towards Is	
1805	Sooty Tern	50			Towards Is	
1805	RFB	30				
1805	G. Frig	2	⊙		" "	
1805	Sooty Tern	50+			" "	
1806	" "	9			" "	
1806	" "	1			" "	
1806	" "	1			" "	
1806	G. Frig	3			" "	
1807	Sooty Sbb	1	N		" "	
1807	Sooty Tern	35			" "	
1808	" "	1				
1808	" "	1				
1808	Sooty Sbb Shear	3	N			
1809					Case Observations	

Note: these are not flocks but counts of string outbirds.
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SI-MNH-958e
7-28-64

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AT SEA DAILY LOG -- E



Nocturnal

DATE 1-2 Apr '66
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
2200					open observations at sea buoy.	
2202	Sooty T.	2			headed for island	
2204	"	1			" " "	
2220	"	1			calling (single chirp note)	
2230	Bird	1			" " "	
2235	sooty T.	1			calling " " "	
2244	Sooty T.	1			calling " " "	
2255	"	1			" " "	
2310	"	1			" " " " " " " " " " " "	
2318	Bird	1			" " " " " " " " " " " "	
2330	sooty T.	2			calling (single chirp note)	
2340	"	1			" " " " " " " " " " " "	
0025	Brown Booby	1			stopped for BT	
0026	Sooty tern	1			calling (still stopped for BT)	
0059	Bird	1			low over water	
0146	sooty tern	2			calling	
0200	" "	1			calling	
0207	" "	1			calling	
0210	" "	1			" abt to west	
0210	shear/pet	1			probably light phase wedge tail	
0215	sooty tern	1	⊙		calling	
0232	" "	2	SE		calling Ad's	
0239	" "	1	S		" "	
0254	" "	2	S		" "	
0300	" "	1			"	
0304	" "	3			calling	
0305	" "	2	ce		"	
0315	" "	3	S		ad. seen, 2 calling normal 2 syllable call.	
0335	" "	1	S		ad	
0355	" "	1	S		calling - 2 syl.	
0425	" "	1	ce		calling - one syl.	
0432	" "	1	SW		ad. " " "	
0437	" "	1	N		calling 2 syl. " "	
0450	" "	1	S		" 1 syl.	
0458	" "	1	ce		ad - 2 syl. call.	
0501	" "	1	N		1 ad - not calling 1 ? short 1 syl. calls.	
0507	" "	2	N		calling - 1 syl.	
0533	" "	1	ce		" " "	
0549	" "	1	ce		" " "	
0602	RIT	1	⊙		" " "	

Grid

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 2 Apr 66
Pg. # 1



Noon Position: 14-24 N; 175-38 W

time	species	#	dir.	hgt.	remarks	loc.
0620					Sunrise - begin observations	
0621	Sooty Sbl Shear	1	N			
0625	" " "	1	NW			
0629	Sooty Tern	1	N			
0634	" " "	1	SE			
0635	shear-pet	1	SW			
0639	" " "	1	W			
0642	Sooty Sbl Shear	1	N			
0645	" " "	1	N			
0650	" " "	1	N			
0651	" " "	1	N			
0653	Sooty Tern	3	SE			
0654	A.F.B.	1	@		Ad	
0656	Sooty Sbl Shear	1	N			
0658	" " "	2	N			
0701	" " "	1	NW			
0704	" " "	1	N			
0707	Sooty Tern	1	N			
0708	Tern sp	1	N			
0710	Sooty Sbl Shear	1	N			
0712	Sooty Tern	2	N			
0717	" " "	3	NW			
0718	" " "	2	NW			
0720	Sooty Sbl Shear	1	N			
0723	" " "	1	N			
0725	Sooty Tern	4	W		heading towards squall	
0727	" " "	5	N		Traveling	
0729	Sooty Sbl Shear	2	NW			
0732	Sooty Tern	1	N			
0736	" " "	2	N			
0738	" " "	3	N			
0739	Sooty Sbl Shear	2	NW			
0740	Sooty Tern	1	N		low on water	
0804	Phalarope/Sanderling	1	NW		feeding, dived in water - ^{new} orange streamer, adult	
OS 0805	Sooty tern	1			banded and released (band #5 24-94815)	
B 0800	X-mas Ishear.	1			adult. 15°07'N; 170°24'W	
0812	Sooty/ender	1	W			
0817	"	1	W			
0822	Bonin I. Petrel	1	NW		very dark borders on underwing; "hookmark" prominent.	
0825	Sooty T.	1	NW		ad.	
0828	"	1	S			
0837	"	2	NE		ad.	
0843	"	1	N		"	
0847	"	2	SE		"	
0847	"	2	SE		"	
0850	"	2	E		"	
0855	"	1	SE		"	
0913	"	2	NW		"	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



noon Position: 14-24 N ; 175-38 W

DATE 2 April
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
	0915	Sooty Shear Pale-foot Shear	1	W			
TF	0920	Mottled Pet	1	⊙			
	0920	Sooty Tern	5	⊙		Feeding searching. Adults.	
	0925	Mottled P.	1	NW			
	0926	"	1	W			
	27	Sooty/S	1	W			
DF	0930	Sooty Tern	18	N		dispersing flock. All adult.	
	0931	" "	3	NW			
C	0934	" "	1	N		call BAH ad	
	1010	Juan Fernandez	1	W			
	1032	Sooty/slenderbill	1	W			
	1037	wedge-tail	1	E		late phase	
		Sooty Tern	1	E		Ad.	
	1041	Sooty/slenderbill	1	⊙			
	1044	Bird Procellerid	1	NW			
	1104	Sooty/slenderbill	1	NW			
	1110	"	1	NW			
	1114	Red Phalarope	1	NW			
	1115	Red Phalarope	1	NW			
	1119	Jaegeer sp	1	SW			
	1119	Red Phalarope	1	W			
	1154	Sooty Tern	3	⊙		Feeding Adults	
OS	1215	Sooty Tern	2	⊙		adult	
		Sooty Tern	1	⊙		adult = orange streamer	
	1219	Sooty/slenderbill	1	N			
	1225	Sooty/slender	1	N			
	1240	Shear/Pet	1				
	1252	Sooty/slenderbill	2	N			
	1258	Long-tailed Jaeger	1	N			
	1305	slender/Sooty	1	N			
	1317	" "	1	N			
FF	1330	Sooty Tern	12±4	N			
	1335	Fairy Tern	1	NW			
	1340	Jaegeer sp.	2	N		Low over 120	
	1343	Sooty/slenderbill	1	N			
	1351	Sooty/slenderbill	1	SE			
	1400	" " "	5	N			

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Noon Position: 14-24 N; 175-38 W

DATE 2 Apr 66
Pg. # 3

time	species	#	dir.	hgt.	remarks	loc.
1417	Sooty Tern	2	NW			
1433	Sooty 5lb Shear	1	NW			
1446	" " "	1	N			
1452	Sooty Tern	1	⊙E			
1506	Sooty 5lb Shear	2	N			
1510	" " "	1	NW			
1512	" " "	1	NW			
1526	" " "	1	NW			
1533	" " "	1	NW			
1541	" " "	1	NW			
FF 1551	Sooty Tern	9			Ad- Feeding then took off.	
1612	Wedgetail	1	NW		light phase.	
1630	Sooty 5lb Shear	1	N			
1631	" " "	1	N			
1633	Juan Fernandez Pet	1	W			
FF 1640	Sooty Tern	4			ad's feeding	
	Wedgetail	1				
	Black-W. Pet	1				
1651	Sooty/S-bills	2	N			
1656	"	1	NW			
1704	"	1	NW			
1704	Sooty Tern	1	NW		To far to tell age	
FF 1710	Sooty Tern	20			ad's feeding flock - Tuna gnawing one orange streamer ad.	
03 1710	Sooty/S-bill	1	N		flew right through feeding flock, did not	
1717	" " "	1	N		hesitate, kept on.	
1718	Bl. wing Pet.	1	⊙		white underwings	
1720	Sooty/S-bill	1	N			
1721	Sooty Terns	2	S		adults	
1722	bird	1				
1727	Sooty 5lb Shear	2	N			
1728	BLK. WING PETREL	2	N			
1729	Sooty/S-bill	3	N			
1732	Shear-Pet.	1	⊙			
1735	Sooty 5lb Shear	2	NW		WHITE UNDERWING	
1745	" " "	2	NW		" "	
1750	" " "	1	NW			
1752	" " "	2	⊙			
1757	" " "	1	N			
1759	" " "	1	NW			
1800	" " "	1	NW			
1802	" " "	1	NW		WHITE UNDERWINGS	
1805	" " "	1	W			
1813	" " "	5			2+2+1	

SI-MNH-958e
7-28-64



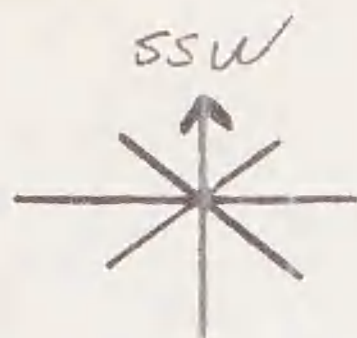
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

NOCTURNAL

DATE 2-3 April
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
1836					Commence observations (sunset)	
1847	Sooty/Shearbill	1	NW			
1859	Bird	1			seen by Skelton	
2030	Sooty Tern	1	N		double note call	
2035	" "	3	N		" " "	
2036	" "	1	N		" " "	
2046	" "	1	N		" " "	
2101	" "	1	Over		" " "	
2135	" "	1	Over		" " "	
2158	" "	1	SE		" " "	hearing N W
2220	" "	1	E		" " "	
2236	" "	1	NE		" " "	
2255	" "	1	N		" " "	
2330	" "	1	Over		" " "	
2344	" "	2	Over		" " "	
2357	" "	1	NW		" " "	
0012	" "	1	Over		blue inside of ship	
0020	Shear Pet	1			double note call	
0042	Sooty Tern	1				
0055					End nocturnal observations Apr 3, 66	

SI-MNH-958e
7-28-64



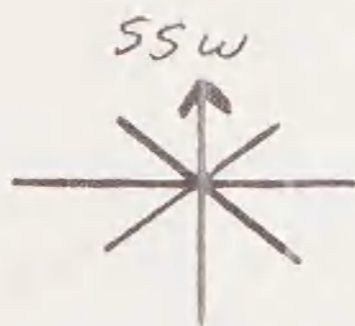
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

noon Position: 10-37N; 172-27W

DATE 3 April 1966
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0615					Begin observations	
0626	su				SUNRISE	
0626	Sooty Tern	1	W		adult.	
0645	RTTB	1			Following ship. Adult	
0653	Sooty Tern	1	W		adult.	
0707	Fairy Tern	1	N		Just flitting around.	
0740	sooty/slenderbill	1	NW		light underwing.	
0744	"	1	NW		"	
TF 0747	Sooty Tern	6	SW			
0753	Shear/Pet	1	NW		white underwings	
0755	sooty/sl-bill	1	NW		in close.	
0756	mottled Petrel	1	NW		white underwings	
0758	sooty/sl-bill	1	NW			
0803	"	2	NW		white underwings.	
0804	"	1	NW			
0806	"	2	NW		dark underwings	
0809	"	1	NW		white underwings	
0810	"	1	NW			
0817	mottled Petrel	1	NW		dark underwing on one, light on other.	
0822	sooty/sl-bill	2	NW			
0827	"	1	NW			
FF 0900	sooty tern	25			all ad. } all feeding, then started moving Terns going up high	
	sooty/sl-bill	3				
	Fairy Tern	2				
0907	sooty/sl-bill	1	NW		dark underwings	
0930	"	1	NW			
FF 0940	Sooty Slenderbill	1	NW		all adult - alternately searching & feeding	
0950	Sooty Tern	15				
1035	sooty slenderbill	1	W		light underwings	
1050	"	1	W			
1100	Black-wg. Petrel	1	SE			
	Tropicbird	1	W			
	Shear/Pet.	1	SE			
1109	Sooty Shearwater	1	NW		light (late) underwing	
1103	sooty/slenderbill	2	NW			
1157	"	1	N			
1205	"	1	N			
1207	"	1	N			
1216	BFB	1	⊙		Following ship (Sub Ad)	
1245	sooty slb shear	1	N			
1250	"	1	NW			
1304	"	1	NW			
1325	"	1	NW			
1335	"	1	N			
1349	"	1	N			

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

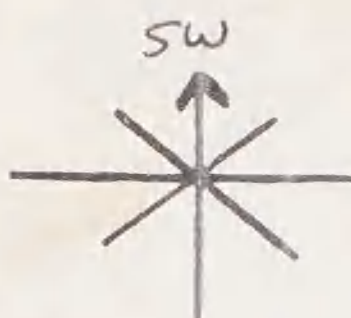
DATE 3 April 66
Pg. # 2

Noon Position: 10-37 N; 172-27 W

time	species	#	dir.	hgt.	remarks	loc.
1354	Sooty/slenderbill	1	N			
1357	Tropic bird	1	E		feeding	
1405	Sooty/slender	1	W			
1406	" "	1	NW			
1408	" "	1	NW			
1421	" "	1	NW			
1435	Sooty Tern	2	SW		adults	
1439	W-R Storm Pet	1				
1455	Sooty/slenderbill	1	NW			
1500	" "	1	NW			
1504	" "	1	NW			
1510	W.R. Storm Pet	2			sitting on water	
1510	Shear/Pet	1	NW			
1515	Shear/Pet	2	NW			
1520	Sooty/slenderbill	1	W			
1530	" "	1	NW			
1542	" "	1	W			
1544	" "	1	NW			
1600	" "	1	NW		light underwing.	
1700	" "	1	NW			
1722	Shear-Pet	1	W		light underneath, no apparent black on underwing. N.Z. Shear?	
1722	R ITB	1			imm.	
1722	shorebird	1	W			
1732	Sooty/slender	1	NW			
1737	Mottled petrel	1	W			
1737	Shear/petrel	1	W			
1748	Mottled Petrel	1	NW			
1753	Sooty/slender	1	NW			
1758	shear/pet.	1	NW			
1758	Mottled Pet.	1	NW			
1806	" "	1	NW			
1810	" "	1	NW			
1812	W-R Storm Pet	1	NW			
1812	P. hypoleuca	2	NW			
1831	shear-pet	1	SE		possibly a Dark-rump. Pet. Not well observed.	
1841					sunset - close observations	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



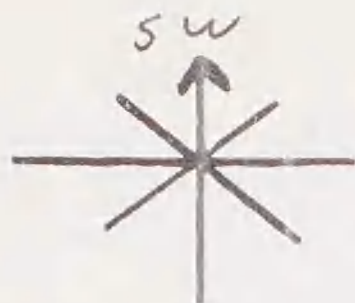
DATE April 7 1966
Pg. # 1

Noon Position: 6-55N; 173-50W

time	species	#	dir.	hgt.	remarks	loc.
0615					Begin observations	
0617	Sooty Tern	1	⊙			
0631					Saw wire	
0635	Sooty/Slenderbill	1	NW		light underwings	
0636	Sooty Tern	1	N			
0645	Sooty Slenderbill	1	NW		light underwings	
0648	" " "	1	NW		light underwings	
0655	Sooty Tern	1	⊙		searching	
0656	Sooty Tern	1	N			
C 0657	W.T.T.B.	1	NW		circled ship collected F. Smith - sub adult	
0710	Mottled Petrel	1	NW			
0720	Sooty slenderbill	1	NW		light underwings	
0720	" " "	3	NW		2 light under wing 1?	
0725	Shear/Pet	1	NW		probably Mottled Pet.	
0726	Mottled Pet	1	NW			
0729	Sooty Slenderbill	1	NW		} both light underwings	
0729	" " "	1	NW			
0732	" " "	1	NW			
0735	Mottled Petrel	1	NW			
0737	Sooty/Slenderbill	1	NW			
0743	" " "	1	NW			
0745	Sooty Shearwater	1	NW		white underwing	
0749	" " "	1	NW		" "	
	Red-footed Booby	1	⊙		Immature	
0752	Shear/Petrel	1	NW			
	Sooty/Slenderbill	1	NW			
0757	Sooty Shearwater	1	NW		white underwing	
	Shear/Petrel	1	NW			
	Sooty/Slenderbill	3	NW			
0758	Sooty Shearwater	1	NW		white underwing	
0800	" " "	1	NW		" "	
0802	Sooty/Slenderbill	1	NW			
0804	Sooty Shearwater	2	NW		white underwing	
0809	" " "	2	NW		" "	
	Sooty/Slenderbill	1	NW			
0810	Shearwater	1	NW		Dark with little acc to the flits	
0812	W-R. Storm Pet.	1	E			

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE April 4, 1966
Pg. # 3

Noon Position: 6-55 N; 173-50 W

time	species	#	dir.	hgt.	remarks	loc.
0921	Shear/Pet	1	☉			
0922	Sooty/Slenderbill	5	W			
0924	Sooty Shearwater	1	E		white underwing	
0930	Sooty Tern	35			All ad	
FF	Parasitic Jaeger	2			one light, one dark phase	3 predatory fish under food fish
0931	Sooty/Slender	1	NW			
0937	" "	2	NW			
0940	" "	1	NW			
0942	mottled petrel	1	NW			
0945	Sooty shear water	3	W		white underwing	
0947	Fairy Tern	1	E		white	
0948	Sooty Slb. Shear	1	W			
0951	mottled petrel	2	W			
0954	" "	1	NW			
0958	Sooty Slb. Shear.	1	W			
1000	mottled petrel	1	NW			
1007	Juan F. Petrel	1	NW			
1010	W-R Storm Pet	1	☉			
1013	" "	1	NW			
1015	mottled	2	NW			
1015	Sooty/slender	1	NW			
1016	Mottled Petrel	1	NW			
1020	Fairy Tern	1	☉			
1020	com. Noddy	1			sitting on log.	
1023	Bulwer's	1			feeding near floe	
1024	Juan Fern Pet	1	NW			
1026	Mottled Tet.	1	NW			
1027	W.R. Storm Pet	1	N			
1028	shear-Pet	1	NW			
1034	Sooty-slender	1	NW			
1034	W R Storm Pet	1			sitting on water.	
1040	W R Storm Pet	1	W			
1042	" " "	1	NW			
1043	Sooty Slenderbill	1	NW			
1043	Shear/Pet	1	E			
1044	W R. Storm	1	S			
1044	Sooty Slender	1	NW			
1044	P. Hypoleuca	1	S			
1045	Mottled Pat	2	NW			
1047	W R Storm Pet	1			sitting on H ₂ O	
1049	Fairy tern	1			feeding	
	Sooty Tern	2				
1050	W R Storm Pet	2			sitting on water	
1051	Sooty-slenderbill	1	NW			
cc	Leach's Pet	2			on water coll F Smith. Leach's	
1109	Sooty/slender	2	NW			
1112	Mottled P	1	NW			
1112	Sooty/slender	1	NW			
1112	Shear Pet	1	NW			

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 4 April 1966
Pg. # 4

Noon Position: 6-55N; 173-50W

	time	species	#	dir.	hgt.	remarks	loc.
	1115	W.R. Storm Pet	1	⊙			
	1125	W.R. Storm Pet	1			Sitting on water	
	1130	Wedgetails (Dark)	7			on water	
FF	1130	Sooty Tern Shear-Pet	150 ^{±50} 50 ^{±15}				
	1140	Sooty Tern	10			A.	
	1143	Sooty/Slenderbill	1				
	1148	Wh. Eye Storm Pet	1			Sitting on water	
	1150	Sooty/Slenderbill	3	NW			
	1151	W.R. Storm Pet	1	NW		1 st Im rest Ad's	Tuna jumping
FF	1200	Sooty Terns Wedgetail Imm Fr Phoenix IP?	500 50 1			30% dark phase	
	1205	Sooty/Slenderbill	1	N			
		R-F Booby	2			immature	
		W.R. storm	1				
C	1230	Sooty Tern	1			immature sooty collected by Crossin	
	1250					Whale	
	1250	Sooty/Slenderbill	1	NW			
	1256	Mottled Pet	1	NW			
	1258	Sooty/Slenderbill	1	NW			
	1259	" "	1	W			
	1259	" "	1	NW			
	1302	Sooty/Slenderbill	1	NW			
	1303	" "	2	NW			
	1304	Mottled Pet	1	NW			
	1305	Sooty/Slenderbill	2	SE			
	1312	" "	1	NW			
	1315	" "	3	NW			
	1319	" "	3	NW			
	1320	" "	1	NW			
	1321	" "	1	NW			
	1323	" "	1	NW			
	1326	" "	1	NW			
	1329	" "	2	W			
	1330	Shear/Pet	1	W			
	1331	Sooty/Slenderbill	2	NW			
	1335	" "	2	NW			
	1336	" "	2	NW			
	1340	Shear/Pet	1	NW			
	1341	Fairy Tern	1	SE			
	1342	R-F Booby	1	SW		immature	

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 4 APR 66
Pg. # 6

Noon Position 6-55N; 173-50W

time	species	#	dir.	hgt.	remarks	loc.
1736	Sooty Sbl Shear	1	NW			
1738	" " "	2	NW			
1742	" " "	1	NW			
1752	Bulwers Pet	1	W			
1755	Sooty Sbl Shear	1	NW			
1756	Shear - Pet	1	W		small	
1757	Sooty Sbl Shear	1	NW		very white underwing	
1759	" " "	2	NW		sitting on water	
1800	W. R. Storm Pet	2				
1802	Sooty Sbl Shear	3	NW		small	
1804	Mottled Pet	1	NW			
1809	Sooty Sbl Shear	4	N			
1815	" " "	2	N			
1826	" " "	2	N			
1837	Sooty Sbl Shear	1	NW			
1845					Sunset - End observations	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



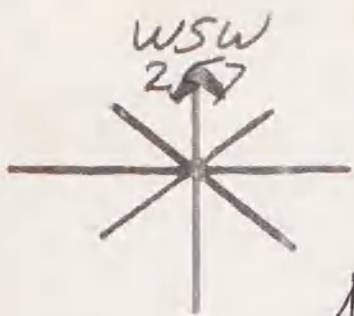
DATE 5 April 1966
Pg. # 1

Noon Position 3-10N; 174-54W

time	species	#	dir.	hgt.	remarks	loc.
0637					Sunrise	
0700					Begin observations	
0703	w.R. Storm Pet	1	SW			
0707	Bulwers Pet	1	⊙			
0717	Fairy Tern	1	E		flying low over water searching	
0718	Fairy Tern	1	E			
0722	w.R. Storm Pet	1	E			
0728	w.R. Storm Pet	1	NW			
0736	w.R. Storm Pet	1	NW			
0741	wedge-tail	1	N		Dark Phase	
0744	Shear/Pet.	1	N		Dark	
0802	w.R. Storm Pet.	1	W			
	wedge-tail	1	W		Dark Phase	
0803	wedge tail	1			dark phase, on water	
0812	BTTB	1	⊙			
0813	Sooty/Shearbill	1	⊙		white underwings	
0814	BFB	1	NE		Ad	
0816	WTTB	1	⊙			
0820	w.R. Storm Pet	1	⊙			
0823	w.R. Storm Petrel	1	N			
0828	mottled Petrel	1	NW			
0845	wedgetail	1	SE		Dark phase	
0850	w.R. Storm Pet	1	N			
0850	Shear-Pet	1	SE			
0852	w.R. Storm Pet	1	NW			
0855	wedgetail	1	SE		LT Phase	
0933	Bulwers Pet	1	S			
0947	wedgetail	1	NE			
0950	Shear-Pet	1	E			
1004	Bulwers Pet	1	W			
1014	w.R. Storm Pet.	1	N			
1038	Sooty/Shearbill	1	N		white underwings	
1155	Fairy Tern	2	NE			
1236	Bird sp	1	⊙		low on water - probably storm petrel	
1242	shear-pet	1	SE			
1245	Bulwer's Pet	1	W			
1315	shear/pet	1	⊙		stop ship and put off skiff with Dayle over side.	
C 1425	Sooty Tern	1	Ad			
FF 1425	Sooty tern	70			Ad	
	wedgetail	8			All Dark	
	Frigate	2			1 imm - other?	
	Juan Fernandez	1				
	Bulwer's Pet	1				
1455	wedgetail	1			Dark	
	w-R Storm Pet	1				
CFF 1515	wedgetail	21			Lewis 1 collected dark phase	
	Sooty Tern	22			1 Imm	
	Frigatebird	1			⊙	
1524	mottled Pet.	2	N			

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 6 April
Pg. # 1

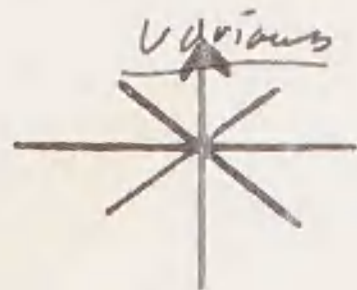
Noon Position: 1-02N ; 175-36 W

time	species	#	dir.	hgt.	remarks	loc.
0640					Sunrise begins observations	
0701	Sooty tern	1	N		Adult	
0702	" "	4	⊙		Adult Feeding	
0705	" "	4	N		Adult	
0706	Wedgetail	1	N		Dark phase	
0707	Sooty tern	4	N		Adult	
0712	Juan Fern or Mottled	1	N		very white underneath	
0724	Gray Back tern	1	N			
0724	Jagger spp.	1	N			
0729	Sooty Tern	1	N		Ad	
0733	Bulwer's Pet	1	N			
0738	Sooty tern	4	⊙		adult (courting)	
FF 0738	" "	21	⊙		Adult over fish	0755 skiff put in
	Skua	1	N			
0738	W-R Storm Pet	1	⊙			
0753	Shear/Pet	1	N			
0807	Juan Fernandez	1	S		skiff overside	
0809	W-R Storm Pet	1	W			
0812	Mottled Pet	1	N			
0816	" "	1	N			
0821	Pterodroma sp	1	NW			
FF C 0840	Sooty terns	35			Ad 1 call. skiff	
	RFB	1			Ad Dark	
	wedgetail	2			Dark Phase	
0859	Phoenix Island	1	N			
RF 0900	sooty tern	100+				
	RFB	2				
	Lesser Frig	2			ad ♂	
	Frig Sp.	5			188	
	wedgetails	5			dark phase	
					1 call. skiff.	
					one frigate was noted	
					to give 3 different times and pluck flying fish	
					out of mid air - done from heights of about	
0930	WRS P	1	or			
0940	Jaeger sp.	1				
0950	WRS P	1	W		prob. long-tailed	
FF 1020	Sooty Tern	50+			working a Sooty tern.	
	Great Frigate	1			Ad.	
					Ad ♂ (identified by F Smith)	
C 1029	Common Noddy	1			F Smith in skiff	
1035	Fairy terns	2			Feeding	
1035	Yellowfin				blowing whale	
1040	Yellowfin				no birds above them - yellowfin-Tuna	
1045	two white birds				flying high - South	
1045	Wh-rumped Spet.	1				
1046	" " Storm pet	1	W			
1047	wedge-tail	1			Dark	
FF 1048	Sooty Tern	13			Ad	
	wedge-tail	2			Dark	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 6 April
Pg. # 2



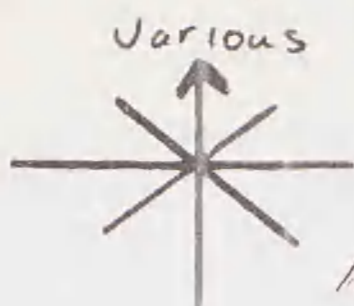
Noon Position: 1-02N ; 175-36W

time	species	#	dir.	hgt.	remarks	loc.
1055	Lauches St. Pet	1			collected, skiff (Smith)	
1100	Wh. Reg. St. Pet	1	W		collected	
1100	Tahiti Pet	1	S			
1114	Sooty Tern	1	N			
	wedge-tail	1	S			
FF 1045	Sooty Tern	50+			So far to observe actual numbers or sp.	
	Frigate sp	1			skiff brought aboard	
1120	B.F. Booby	1			collected Adult (Thompson)	
1202	W.R. Storm Pet	1	SE		Almost definitely a Harcourt's	
1205	W.R. Storm Pet	1				
1225	W.R. Storm Pet	1	SE			
1226	W.R. Storm Pet	1	SE			
1231	WR "	1	SE			
1231	Bsvd sp.	1				
1247	WR Storm Pet	1	SE			
1250	Sooty Terns	30				
1255	W-R Storm Pet	1	SE		skiff put over side	
FF 1300	Sooty Tern	35 (35)			ad.	
	Wedge-tail	5			dark phase, 2 collected by Harrington (skiff)	
	Lesser Frigate	1				
	R-f Booby	2			Imm	
1337	W-R Storm Pet	3				
1355	Shear/Pet	1			small, storm pet or Bulwer's	
1356	Sooty Tern	1				
C 1400	Bulwer's Pet	2			one collected by Thompson	
1447	wedgetail	1	W		dark, skiff brought aboard	
1444		1				
1435	Sooty Tern	1	SE		ad.	
1455	WR SP	1	out 20			
1504	Sooty Tern	1	SE			
FF 1540	Sooty Tern	65			immature postadults	
	Frigate sp	1				
1547	W.R. Storm Pet	1	SE			
1607	W.R. Storm Pet	1	SE			
1612	Bird sp	1				
1613	W.R. Storm Pet	1	SW			
FF 1615	sooty terns	40	SE		Feeding	
1620	W.R. Storm Pet	1	SE			
FF 1627	Sooty Tern	15				
	Frigate sp	1				
1624	B.F. B.	1	SW		Adult	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 6 April
Pg. # 3



Noon Position: 1-02N; 175-36W

	time	species	#	dir.	hgt.	remarks	loc.
FF	1630	Sooty Tern	8	☉			
	1704	" "	2	E		adults	
C	1705	Leach's Storm Pet	1			Leach's R Crossin	
	17010	Bulwer's Pet	1	N			
TF	1717	Sooty Tern	7	SW		Ad	
FF	1720	Sooty Tern	40±10				
		Frigate Sp.	1				
	1728	Mott. Pet.	1	☉☉☉			
	1728	Bl. Fa. Booby	2	SE			
	1730	Sooty tern	1	NE			
FF	1735	Sooty Tern	20	Z		Feeding or harassment	
		Booby Sp.	1	S			
	1736	Sooty tern	1	E			
	1739	" "	2	E			
	1743	BFB	1	W		Ad	
	1744	RFB	4	W			
	1745	Sooty tern	1	S		Ad	
	1747	" "	1	N			
TF	1750	" "	8	E		Low over H ₂ O	
	1751	W-R Storm Pet	2	S			
	1752	Sooty tern	1	N		Ad	
	1754	W-R Storm Pet	1	N			
	1759	BFB	1	E		Ad	
CC	1802	Sooty Tern	9	E		Ad's	
	1803	" "	10	E		Ad's 2 collected Max Thompson	
	1813	" "	1	SE		Ad	
	1813	BFB	1	SE			
	1815	Sooty Tern	9	E		Ad's	
	1816	" "	1	S		Ad	
TF	1817	" "	12	E		Traveling	
	1820	BFB	1	S			
	1822	Sooty Tern	1	S.		Dark Phase	
	1824	Wedge-tail	1	S			
	1827	Sooty Tern	5	E		Ad's	
	1831	Sooty Tern	10	S			
	1834	Bulwer's Pet	1	S			
	1843	Sooty tern	25			Toward Island.	
	1845	Sooty Tern	16				
C	1846	Sooty Tern	12			one collected by Lewis	
	1851	Wedgetail	1	☉		light phase	
	1851					close Diamond at sunset.	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 6-7 April
Pg. # 1



Nocturnal

Noon Position: 1-02N 175-36W
Midnight Position: 0-47N 176-41W

time	species	#	dir.	hgt.	remarks	loc.
1851					Sunset	
1855	BFB	3	⊙		Ad	
1857	Sooty Tern	12			Toward East Howland Is. (5 miles from Howland)	
1859	Wedge-tail	1	⊙		Dark Phase	
1900	Sooty Tern	5	E			
1902	" "	12	N			
1903	" "	28	N			
1904	" "	9			Toward Howland	
1905	Bulwers Pet	1	⊙			
1905	Sooty Tern	35			Toward Howland	
1906	" "	20			" "	
1907	" "	2			" "	
1907	Bulwers Pet	1	S			
1914					5 Porpoises	
ca. 2000					2 WT coll. dark phase	
0146	Shore bird sp.	1				
0218	wedge tail	1			light phase	
0247	" "	1	⊙			
0250	petrel	1			light belly + underwings	
0300					ship off w. shore of Howland (< 1 mile)	
0330	G. B. Tern	2	?		up to 5-10 sooty terns flying about.	
0337	" "	1	-			
0400					an occasional sooty flying by, perhaps one or two every five minutes.	
0430					No sooties (1.3 mi off island)	
0438	Sooty Tern	1			E. (Towards Howland)	
0442	" "	3			" "	
0450	" "	1			" "	
0500	" "	1			" "	
0507	" "	2			" "	
0513	" "	1			" "	
0515	" "	1			" "	
0520	Wedgetail	1			circling ship. Dark phase	
0545	Sooty Terns	2	-		coll BAH	
0550	" "	1	-			
0555	" "	1	-			
0646					Sunrise - End nocturnal observations	

1948 skiff overside
2330 skiff brought a brood
from 2100 - 2400
sooty terns came into the
islands at about 1 per minute
ship ~~operating~~ drifting 1-3 miles S.

CC

C

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Noon Position: 00-39N; 177-10W

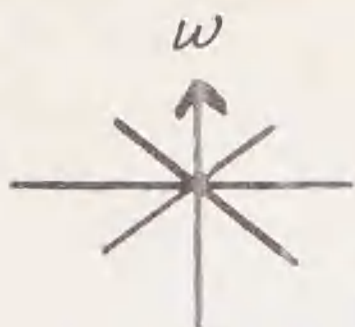
DATE 7 Apr 66
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
*	0646 0646 0706					Survive Begin observations 1 mi. off Howland Sooty Terns are leaving island in large and small groups heading out to sea in all directions. There is still a large number over the island.	* 0646-0734 skiff over side
	0710					Bobbies are leaving island singly and in groups. The terns and Bobbies when leaving the island go either being high off the water or just skim the surface of the water.	
	0720					when the terns get off the island a ways, they join up into loose flocks, then split up again.	
	0730					most of the frigates have left the island and are out at sea. They scattered in all directions.	
*	0734 0735					Under way - off Howland Is. Start recording birds at 0745.	
TF	0745	Sooty Tern	11			Low over H ₂ O heading E towards Howland.	
TF	0746	" "	45+			High - travelling W	
	0747	RFB	1	@		Dark phase	
TF	0748	Sooty Tern	5	NW		Ad	
	0748	BFB	2	N		Ad	
	0749	Sooty Tern	4	N		Ad	
	0750	" "	2	N		"	
	0751	" "	4	N		Ad	
	0752	" "	1	E			
	0753	Frigate	1	E			
TF	0754	Sooty Tern	90+			Travelling SW - up high	
	0755	BFB	3	E		Ad - towards island	
TF	0756	Sooty Tern	50+			heading N - Frigates and Terns up high, Bobbies arcing up and down	
		Frigates	9				
		BFB	7				
	0757	Audubon Pet	1	SW			
TF	0758	Sooty Tern	7	W		Ad	
	0759	BFB	4	NW		"	
	0800	Sooty Tern	3	SW		Ad	
	0802	RFB	2	W			
TF	0804	Sooty Tern	40			Ad	
		Frigatesp	3				
	0805	BFB	1			Ad joined flock	
	0811	Sooty tern	8			going toward Howland & Ad	
	0814	" "	2	S		Ad Ad	
FF	0818	Sooty terns	60			Frigates working feeding birds	
		Frigate sp.	3				
		Blue F. Boobies	2				
	0820	Blue F. Booby	1			Ad, Banded, passed over ship	
	0821	" "	1			Ad	
	0822	" "	1			Ad joined other two	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 7 April 1966
Pg. # 2

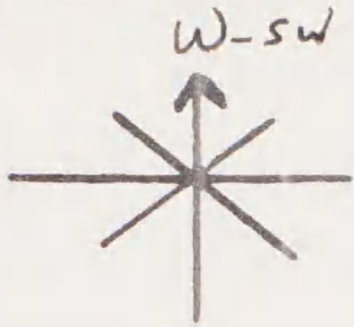


Noon Position: 0-39N; 177-10W

	time	species	#	dir.	hgt.	remarks	loc.
	0825	Frigate bird sp.	1	W		way of B	
	0827	Sooty tern	1	E			
	0835	BFB.	1	W		ad heading towards flock to W.	
	0837	"	1	W		" " "	
FF	0845	Sooty tern	100 ^{to}			ad's } many porpoise (spinner type) jumping, birds milling. tuna jumping	
		BFB	5				
		Frig SP	1				
	0850	Brown Booby	4			3 ad, 1 imm.	
X	0850	Sterna caeruleo-alba	50s	W		identification by behavior and appearance from 200 yards. almost certain RCB	
	0855	WR Storm pet	1	N			
	0905	BFB	3	W		ad's.	
	0906	Mottled Petrel	1	N			
	0910	Brown Booby	1			Ad - heading W. toward feeding flock.	
FF	0913	Sooty Terns	100				
		Frigate sp	5				
		Brown Booby	3				
		Blue faced Booby	5				
C	0925	Leach's St. Pet.	1			coll. RSC	
64(c)	0935	Red-foot B.	4			all coll. 1 banded all gorged w/ fish, not just feeding	
		Blue-face B.	2			1 ad, 1 imm. RSC + PS → 947-60165 Enderbury July 65 19100 banded.	
	0945	WR SP	1	W			
	0950	BFB	3			1 imm, 2 ad's.	
	0952	BFB	1	W			
C	1002	Sooty tern	3	W		adult's 1 collected RSC	
		Blue face booby	1	W			
FF	1020	Sooty tern	10s			Loose flock	
		Frigate sp.	1	W			
BS	1025	Blue face booby	1	W		blue streamer adult	
	1029	Sooty tern	1	N		adult	
	1030	" "	6	S		adult	
		Wedgetail	1	S		dark phase	
		BFB	1			Subadult	
	1033	Sooty tern	3	NW		adult	
	1035	BFB	1	W		on water	
	1040	Bulwer's Pet	1	W		on water	
		WRSPot.	1	W		on water	
	1045	Sooty tern	3	W		adult	
	1050	" "	1	E		adult.	
CC FF	1056	" "	60	W		adult 2 coll. RSC + KB	
		Frigate sp.	2			1 ♂ 1 ♀	
		BFB	2				
	1108	BFB	1			on water	
C	1130	RFB	1			on water coll RSC	
	1135	Sooty Tern	1	W			

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 7 April 1966
Pg. # 4

Noon Position: 0-39N; 177-10W

time	species	#	dir.	hgt.	remarks	loc.
1715	Bulwer's Petrel	1	N			
1721	" "	1	E			
1727	" "	1	N			
1737	W-R S P	1	sw			
1755	" "	1	E			
1816	Bulwer's Pet	1	al			
	Phoenix Petrel	1	al			
1840	Sooty Tern	1	⊙		Imm	
1844	W-R Storm Pet	1	E			
1848	Sooty Tern	2	NE		Ad	
1857					sunset - cease diurnal observations	

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 7-8 April 1966
Pg. # 1

Nocturnal

Noon Position: 0-39N; 177-10W
Midnight Position: 0-26N; 178-05W

time	species	#	dir.	hgt.	remarks	loc.
1857					sunset - begin observations	
1923	Sooty Tern	1	NE		1 note call	
01938	" "	1	⊙		2 note call	
1955	" "	2	E		" " "	
2018	" "	1	⊙		" " "	
2045	" "	1	⊙		" " "	
2130	" "	1				
2143	" "	1			only heard call	
2204	" "	1			Adult.	
2230	" "	1			adult	
2251	" "	1	NW		adult	
2336	" "	1	NW		adult	
2350	" "	1	SW		adult	
2352	" "	1			calling - heard by Captain	
0024	Shear/Pet	1	NW		calling off to SW	
0044	Sooty Tern	1			calling	
0050	" "	1	⊙		calling	
0106	Bird	1	NE			
0109	w-B storm Pet	1	⊙			
0145	" "	1	E			
	Shear/Pet	1	⊙		light cond. wing	
0220	Sooty Terns	2	⊙		calling	
0229	Storm Pet	1	S			
0230	Shearbird	1	⊙			
0301	Sooty Tern	1			calling	
0428	Shear Pet	1	W			
0431	" "	1	⊙			
0445	sooty Tern	2	~		calling one note call -	
0635	Tern	1	E		no call	
"	Bird	1	N		Seen against E sky extremely high 12000'	
0652					Sunrise	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

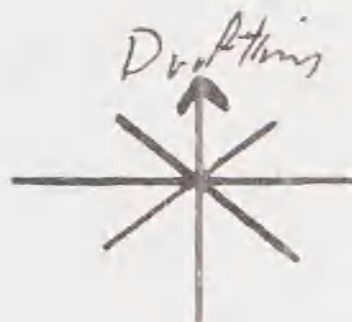
DATE April 8, 1966
Pg. # 2



Noon Position: 0-14 N; 77-41 W

time	species	#	dir.	hgt.	remarks	loc.
1247	Sooty Tern	1	S		ad.	
	W.R. Storm Pet	3	⊙			
1250	"	2	⊙			
1251	"	1	⊙			
1252	"	1	⊙			
1312	"	1	N			
1335	"	1	W			
1344					shark	
1345	W-R Storm Pet	1	SW			
1349	Bulwer's Pet	1	⊙			
1400	W-R Storm Pet	1	E			
1401	" " "	1				
1403	" " "	1	S			
1406	Bird sp.	1				
1408	Sooty Terns	2	W			
1408	Frigates	2	W			
1418	Tropicbird	1			feeding	
1420	W-R Storm Pet	1	N			
1435	" " "	2	⊙			
1443	" " "	1	N			
1445	" " "	2	⊙			
1447	" " "	1	SW			
1451	" " "	2	⊙			
C 1451	Leach's " "	1			collected by Smith	
1509	" " "	2	E			
1510	" " "	1			sitting on water	
1511	" " "	1	⊙			
1528	" " "	1	N			
1529	" " "	3	⊙			
1534	" " "	1	E			
1605	" " "	1	⊙			
1633	Bulwer's petrel	1	⊙			
C 1650	RTTB	1			coll. RSC	
1720	W.R. Storm Pet	1	E			
1729	" " "	2	E			
1730	Birdies	2				
C 1735	Leach's Storm pet	1	⊙		coll. RSC	
1758	Sooty tern	2	N		adult	
1808	" " "	1	W		ad	
1824	W.R. St. Pet	1	E			
1850	Sooty Tern	3	S			
1850	Frigate sp	2	⊙			
1852					END DIURNAL OBSERVATIONS SUNSET	

SI-MNH-958e
7-28-64



Noon Position: 0-14 N; 177-41 W
Midnight Position: 0-13 N; 176-36 W

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

Nocturnal

DATE Apr 8-9
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
2338	Sooty Tern	1	NW		2 note call	
2341	"	3			calling off to W	
2343	"	1			winging off bow	
2345	"	2			calling off to N	
2346	"	1	SW			
2347	"	1			calling off to N	
2349	"	1	N			
2352	"	2			calling off to South	
2357	"	3	S		2 1/2 note call	
0005	"	1	E		2 note call	
0006	"	2	E		1 note call & 2 note call	
0019	"	2				
0020	"	1	E		2 note call	
0024	"	1			2 note call	
0030	"	1			"	
0036	"	1			"	
0038	"	2			1 note call	
0039	"	1	E			
0039	"	1				
0040	"	1			2 note call	
0042	"	1	W			
0043	"	1	W		1 note	
0044	"	1	W		2 note call	
0045	"	1				
0050	"	1			2 note call	
0051	"	1			2 note call	
0052	Gray backed Tern	1			calling	
0053	Sooty Tern	2			2 note call	
0056	"	1				
0057	"	1			1 note call	
0104	"	1				
0105	"	2	SE			
0110	"	2	E		1 note call	
0117	"	2			1 note & 2 note call	
0125	"	1				
0126	"	2			1 note call	
0133	"	1			2 note call	
0135	"	1	SE			
0140	"	1	N			
0142	"	1	S			
0201	"	2			1 note call	
0206	"	1			" "	
0208	"	1	SE		" "	

SI-MNH-958e
7-28-64



Noon Position: 0-14 N; 177-41 W

Midnight Position: 013 N; 176-36 W

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE April 8-9
Pg. # 3

Nocturnal

time	species	#	dir.	hgt.	remarks	loc.
0213	Sooty Tern	1			1 note call	
0215	" "	3			2 note call	
0217	" "	2	∞			
0221	" "	1	∞			
0225	" "	1	NW			
0230	" "	1	N			
0231	Sooty Tern	1	∞			
0231	Tropicbirdsp.	1	N			
0247	Sooty Tern	1			1 note call	
0307	Sooty Tern	3				
0308	wedgetail	1			light phase, circling ship	
0315	Sooty Tern	2	SE		call	
0338	wedgetail	1			light phase	
0332	Sooty Tern	2			call	
0350	Sooty Tern	1				
0351	Red-f. Booby	1			call	
0353	Sooty Tern	1			flew to light	
0356	wedgetail	1			1 note call	
0357	petrel	1			light phase	
0428	Sooty Tern	1				
0445	Sooty Tern	3			call	
0446	Sooty Tern	1			call 1 adult seen	
0448	Sooty Tern	2			call	
0500	Sooty Tern	1			one or two note call	
0510	Sooty Tern	1			call	
0513	" "	1			1 note call, adult	
0516	Booby	1			1 note call, adult	
0528	B-F Booby	1			flew into light	
0531	Sooty tern	1			adult	
0543	wedgetail	1	E		adult	
0609	Tropicbird	1			wedgetail phase	
0609	BFB	1			seen by first mate	
0612	Shear/Pet	1			Adult	
0615	Sooty Tern	1			1 note call	
0633	" "	1	E		Adult	
0645	" "	2	NW		Adults	
0646					Sunrise Close Observation	

Noon Position: 0-09 N; 176-33 W

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



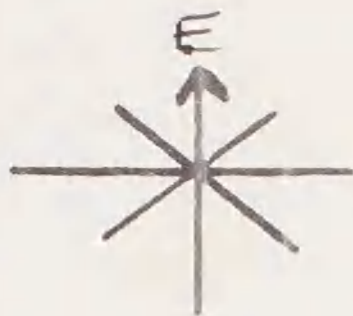
DATE 9 April 66
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
	0646					Survivor begins Diurnal Observation	
	0650	W.R. Storm Pet	1	N			
	0705	Sooty Tern	6	E		Adults	
	0710	" "	1	W		"	
	0714	Sooty Shearwater	1	NE		Dark underwings	
	0714	W-R Storm Pet	1	W			
	0720	" "	1	NW			
	0729	Sooty Tern	1	E		Lowest H ₂ O Ad	
	0731	" "	3	E			
	0732	W-R Storm Pet	1	NW			
	0735	Sooty Tern	2	E		Ad	
	0743	B-F. Booby	1	E		ad.	
TF	0804	S. Frigate sp. Sooty Tern	7 4	} NE			
FF	0805	S. Frigate sp. BFB	27 2			ad	
17C C		Sooty Tern Wedgetail Common Noddy H. Noddy Bulwer's P. L. Frigate G. Frigate	150 ^{±25} 2 3 2 1 4 7			17 coll (DNH.) 1 banded FF 793-44491 Feb '65 Howland I.	
C						1 coll (DNH)	
	0955					Baker I. 5.9 mi off.	
	0955	Sooty Tern	2			flying high	
CFF		Frigate Sp. Sooty Tern BFB	11 300 ^{±10%} 6			feeding 2 mi. off Baker 1 coll. 25 c.	
	1015					skiff put back in H ₂ O	
19C	1107					skiff located up the flock real bad and now most birds are gathering just offshore Baker again. many terns & frigates swirling many terns over the H ₂ O.	
	1151	Sooty Terns	10	N			
	1210					sooty terns still drifting around in loose groups, some gathering offshore Baker	
	1230					ship starting off on sid course - birds few now and scattered no feeding activity	
	1234	sooty tern	2	E		ad's	
C	1239	" "	13	S		ad's	
	1247	" "	2	SE		ad's 1 coll. BAH skiff off island	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 9 April 1966
Pg. # 2



Noon Position: 0-09N; 176-33W

	time	species	#	dir.	hgt.	remarks	loc.
2C	1250	Sooty Tern	15	SE	ad's	Traveling flock.	
TF	1251	Lesser Frig.	12	☉		off shore island - high.	
TF	1254	Sooty Tern	13	S	ad's	morning fast.	
BS	1255	BFB	1			blue streamer - 5.5 miles SW Baker.	
IC	1259	Sooty Tern	14		ad's	Traveling fast, coll. BAH skiff.	
FF	1315	Sooty Tern	400	100%		all ad's as seen } spread out over roughly 2 1/2 miles long ad's. } fish jumping (prob. tuna).	
7C		BFB	18				
		Fairy Tern	6				
		Frigate sp.	4				
C	1400	Leach's S. Pet.	1			coll BAH skiff.	
BC	1401	Red-foot Booby	1			coll. RSC + MCT. 747-56454 Enderburg Is. 7/64	
C	1402	Leach's S. P.	1			coll. BAH skiff.	
C	1404	Red-foot Booby	1			" " " 747-56947 Howland Is 7/64	
		Brown Booby	1			" " "	
	1415	Red-foot Booby	2	u	ad.	" " "	
4(C)	1420	Sooty Tern	4			all coll. RSC + MCT	
	1445	RFB	3			imm, 2 ad.	many tuna jumping under various segments of the flock.
	1446	WRSP	1	u			
	1447	BFB	5			ad's	
	1500	Leach's S. P.	1			Crossin	
3C	"	Sooty Tern	1			Thompson (Ad.)	
TF	1531	Sooty Tern	16	W		adults, traveling	
	1540	W-R Storm Pet	1	S			
	1540	B-F Booby	1			adult	
	1543	Sooty Terns	5	W		adults, traveling	
	1545	" "	4	W		adults	
	1547	" "	1	S			
TF	1606	" "	25	W			
	1608	" "	1	E		adult, traveling	
	1615	" "	6	NE			
	1617	" "	1			feeding	
FF	1626	B-F Booby	1	☉			
FF	1629	Sooty Terns	10			adults, feeding	
FF	1630	Sooty Terns	7				
		Frigates	3				
		B-F Booby	1				
FF	1635	Sooty Terns	12				
FF	1639	" "	10				
	1640	W-R Storm Pet	1	E			
FF	1642	Sooty Tern	25				
		Shear/Pet	5				
TF	1645	Sooty Tern	8			ad. Traveling	
	1650	" "	2	NW		ad	
	1652	W-R Storm Pet	1	E			

Noon Position: 0-09 N; 176-33 W
 Mid Position: 0-00 N; 176-05 W

SI-MNH-958e
 7-28-64

SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG -- E



Nocturnal

DATE 9-10 April 1966
 Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
1849					sunset - begin nocturnal obs.	Baker Is. 10 miles to W.
1917	Sooty tern	1	?		calling - 2-note	
2030	Storm Petrel	1	ee		wouldnt see rump.	
2042	shorebird	1	cee		either Gold. Plover or R. turnstone.	
2100					change course to 180-S	
C 2130	wedge tail	1			white phase	
2132	" "	1			Dark phase	
2135	Ruddy Turnstone	1	NE			
2145	Golden Plover	1	NE			
2150	shorebirds	1	NE			
2155	" "	1	NE		Probably Golden Plover	
2205	Bird	1	SE			
2222	"	2			one Dark one light	
2230	"	1			Approached light - was light colored	
C 2240	Leach's Petrel	1			Thompson	
	" "	1			Caught but released	
2300	Birds	2			Rain Squall just	
C 2310	Sooty Tern	1				
2312	" "	3			" " (Thompson) Ad.	
	WRSP	2			" "	
2315	Sooty Tern	3			" Ad "	
2322	WRSP	1				
C 2325	Leach's Storm Pet	1			Storm (squall) about over	
2335	Bird	1			Storm over clearing	
2340	WRSP	1				
2355	"	1				
0007	Wedgetail	1			light phase	
0010	Sooty Tern	1			calling	
0025	Bird	1				
0030	Audubon's Shear	1				
0035	Sooty T.	2			ad.	
0040	"	2			calling (wide-awake)	
0050	"	2			ad.	
0111	"	2			calling	
0155	shear/pet	1				
0205	shorebird	1				
0210	sooty t	1			ad.	
0220	"	1			calling (wide awake)	
0230	Booby sp.	1			either red foot or BFB	
0245	W-7 Storm Pet	1				

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

Diurnal
Noon Position: 00-09.5; 176-57W

DATE 10 April 1966
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0643					SUNRISE: BEGIN DIURNAL OBSERVATIONS	
0656	WR Storm Pet	1	3N			
0710	"	1	000			
0715	Christmas I Shear.	1	#S			
0717	Sooty Tern	1	S#		adult	
0732	BFB	2	SW			
0732	shear/pet	3	SW			
0735	shear/pet	1	S			
0737	WR Storm Pet	1	W			
0738	"	1	N			
0740	"	1	W			
0743	Bulwer's	1	N			
0747	Sooty Shear	1	N		white underwing	
0807	WRSP	1	⊙		flying & sitting on H ₂ O	
0808	Sooty Tern	1	N			
0810	W-R Storm Pet	1	W			
0814	" " "	1	NW			
0815	" " "	1				
0815	Bulwer's Pet	1	S			
0819	W-R Storm Pet	1	NW		Rain Squall commenced	
0826	Bulwer's Pet	1	⊙			
0828	W-R Storm Pet	1	S			
0840	" " "	1	SW			
0916	" " "	1	S			
0918	Mottled Petrel	1	N		light over bow	
0920						
0943	Sooty/slenderbill	1	N		Rain is falling lightly	
	WRSP	1	NW		white underwing	
0947	W-R Storm Pet	1	W		in rain	
0948 0950	Slender/Sooty	1	N			
1003	W-R Storm Pet	1	⊙		sitting on H ₂ O	
1006	" " "	1	NE		still raining	
1007	" " "	1	E			
1011	Shear/pet	1	NE			
1014	Sooty/slenderbill	1	N			
1016	W-R Storm Pet	1	NE			
1018	sooty/slenderbill	1	N			
1025	Mottled Pet	1	N			
1029	Wedge tail	2	N		dark phase, still raining	
1035	Shear/pet	1	N			
1040	W-R Storm Pet	1	NW			
1046	Wedgetail	1	NW		stopped raining	
1047	W-R Storm Pet	1	NW			

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

Noon Position: 00-09S; 176-57W

DATE 10 April
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
	1050	wedge tail	1	NW			
	1055	Shear / Pet	1	NW			
	1057	w-R storm Pet	3	⊙			
	1059	Bulwer's Pet	1	E			
C	1101	Sooty Tern	1			adult, collected by Lewis	
	1102	Bulwer's Pet	1	W			
	1105	Sooty / Slenderbill	1				
	1108	" "	2	N			
	1110	w-R storm Pet	1	S			
	1114	Shear / Pet	1			at edge of rain	
	1115	Sooty / Slenderbill	1			in rain	
	1116	w-R storm Pet	1	N			
	1119	" " "	1	"			
	1125	" " "	1	⊙			
TF	1140	Sooty Terns	60				
C		Wedgetail	12				
	1208	w.R. storm Pet	1	⊙		50-50 light-dark, 1 collected by Lewis	
	1234	Sooty Shear	1	NW		stopped Raining	
	1247	" " "	1	N			
	1256	Sooty Tern	2	W		Ad	
	1316	w.R. storm Pet	1	S			
	1338	Sooty Shear	1	NW			
	1350	Ruddy Turnstone	1	NW			
	1405	w.R. Storm Pet	1	S			
	1406	w.R. Storm Pet	1	⊙			
TF	1417	sooty Tern	7	W		ad	
	1419	w.R. storm Pet	1	⊙			
	1423	" "	1	N			
	1425	" "	1	NW			
	1427	" "	1	NW			
	1430	" "	3			sitting on water	
C	1442	wedgetail	1	N		Coll mct light phase	
	1447	w.R. storm Pet	1	NW			
	1455	B.G. Noddy	1	E			
FF	1515	Sooty Tern	8				
		Wedgetail	4				
		P. hypoleuca	1				
		Bulwers	2				
*	1540	Sooty Slenderbill	1				
		w.R. storm Pet	1				
FF	1550	Sooty Tern	12				
		Fairy Tern	2				
		H. Noddy	2				
		B-G Noddy	1				
		Bulwer Pet	1				
	1655	Sooty Slenderbill	1	NW			

* skiff overside
1525-1907

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E



DATE 10 April 1966
Pg. # 3

Noon Position 00-09S; 176-57W

time	species	#	dir.	hgt.	remarks	loc.
1608	Sooty Slb. Shear	2	☉		seen by skiff	
1610	WR Storm pet	1	SW			
1614	" " "	1	NE			
1615	" " "	1	W			
1616	Sooty tern	1	☉			
1620	Sooty Slb-Shear	1	NW		white underwings	
C 1620	Leach's St. Pet	1			collected by R. Crossin in Skiff	
1621	Frigate (sp.)	1	NE		female	
1627	Sooty Slb Shear	1	NW			
1631	W-R Storm pet	1	S			
1640	wedgetail	1	N		dark phase	
1653	Bulwers pet	1	N			
1654	W-R Storm Pet	1	E		stuff out 2 oil slick	
C 1710	W-R Storm Pet	1				
1713	Cook's Petrel	1			collected by Crossin in skiff	
C 1735	Leach's Pet	1				
1740	WR Storm pet	1			seen by skiff	
1745	" " "	1			"	
1745	Bulwers pet	1			"	
C 1750	Leach's pet	1			collected by R. Crossin in skiff	
1755	Sooty Slb. Shear	1				
C 1808	Leach's pet	1	W		Crossin shot starboard leg	
C 1808	" "	1			collected by R. Crossin in skiff	
1819	Sooty Slb Shear	1	NW			
1820	" " "	1	NW			
1821	W. R. Storm Pet	1	ceee			
C 1822	Leach's Storm Pet	1	ce		call Crossin	
1822	W. R. Storm Pet	1	ce			
1825	" " " "	1	ce		mottled Petrel blood	
C 1830	Leach's Sp. Petrel	1	ce		call Crossin	
1831	Sooty Tern	1	☉		ad.	
1834	W-R Storm Pet	1	☉			
1837	Bulwers Pet	1			in slick	
C 1840	Leach's S. Pet	1			call	
1848	Shear sp.	1	ce			
C 1853	Leach's Storm Pet	1			all	
1854	Sunset				End Observations	

SI-MNH-958e
7-28-64

Midnight Position 0-205; 177-28 W

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Nocturnal

DATE Apr 10-11
Pg. # 1

Noon Position: 0-095; 176-57 W

time	species	#	dir.	hgt.	remarks	loc.
C 1856	Leach's Pet	1			coll sunset	
1856	W.R. Storm Pet	1	see			
1857	" "	1	see			
1859	Sooty Sbl Shear	1	N			
1900	W.R. Storm Pet	1	see			
1949	Shear-pet	1	see		light underparts; under tail -	* skiff overside 1521-1907
2010	Wedge-tail	1	see		dark.	
C 2014	mottled Pet	1				
C 2030	Leach's Pet	1				
2040	" "	1			Flew on board.	
2054	Sooty Tern	1	see		1 note call	
2100	" "	1	see			
2107	" "	2	see		1 collected by Lewis Ad's	
2112	" "	1			Ad.	
C 2115	" "	1			calling (Lewis)	
2120	" "	2			calling	
2130	" "	1			"	
2131	" "	1			"	
C 2140	Corv. Noddy	1			(Lewis)	
2150	Wh-Ring St. Pet	1				
C 2151	Sooty Tern	1			(Lewis)	
C 2152	Wh-Ring St. Pet	1			(Lewis) most likely a Phoenix I. Pet.	Tahitian
2214	Wh-Ring St. Pet	1				
2215	Sooty tern	1			calling	
2220	Audubon's?	1				
2232	Bird sp.	1			calling	
2247	Sooty Tern	1				
2310	" "	1				
2315	Mot. Pet	1			11 shots and he flew away. Arggh!	
2322	Sooty Tern	1			Ad	
2325	Leach's SP.	7			Banded & released	
2327	Sooty Tern	1			Ad	
2337	" "	2				
2338	Bird	1				
2339	W-R Storm Pet	1				
2350	Bird	1				
2356	Sooty Tern	3	see		ad's.	
2400	" "	1	ad		ad.	
C 0004	mottled Pet	1			coll RSC	
0010	WRSP	1	see			
0012	" "	1	see			
0015	shear-pet	1				

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 11 Apr 66
Pg. # 1



Noon Position: 0-40S; 177-20W

time	species	#	dir.	hgt.	remarks	loc.
0650					Sunrise Begin Observations	
0747	Pterodroma	1	E			
0755	Sooty Tern	3	E			
0758	sooty/slenderbill	2	NW			
0807	" "	1	NE			
0809	Shear/Pet	1	N			
0909	wedge-tail	1	NE		Dark, three	
0815	" "	1	E		" "	
0815	xmas island Shear	1	E			
0819	Shearwater	1	NE			
0829		8+2	NW		unident dolphins, probably S. caeruleo-alba	
0848	Bulwers pet	1	⊙		missed by Lewis	
0935	wedgetail	1			coll Lewis	FF light Phase
0935	wedgetail	1			coll Balcomb	
	sooty tern	100±15			3 or 4 in rest Ad's	
	Phoenix/Tobian	1			2 Dark's rest light	
	wedge-tail	6				
	Mottled Pet	1			Ad ♂	
	Gr. Frigatebird	1				
	Noddy Tern	1				
1015	Bulwer's P.	1	⊙			
TF 1016	Sooty Tern	16			all ad.	
1022	WR Storm Pet	1				
1029	WR " "	1			light underwing	
1034	Sooty shear	1	N			
1037	Sooty Tern	2	W		Ad	
1038	" "	1	N		Ad	
1039	Bird	1			sitting on water	
1058	St. Petrel	1				
C 1105	Cook's Pet.	1			(Hoff)	
1132	Audubon Shear	1	N		very dark on underwings and neck	
1135	WR Storm Pet	2			sitting on H ₂ O	
C 1135	Sooty Tern	1			adult (coll. Hoff)	
1152	WRSP	1	⊙			
1158	sooty/slenderbill	1	NW			
1205	W-R Storm Pet	2	⊙			
1212	Sooty Tern	1	W		adult	
1242	sooty slenderbill	1	N			
1245	WR Storm Pet	1	E			
1247	WR Storm Pet	1	NE			
1250	Frigate sp.	1			soaring	
1305	W-R Storm Pet	2			sitting on water.	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E
DIURNAL

DATE 12 April 1966
Pg. # 1

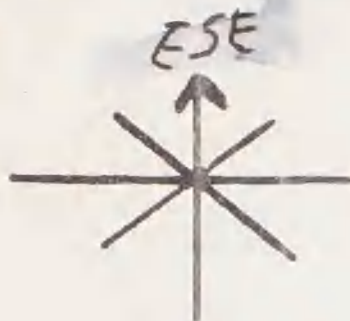


Noon Position: 01-59.5; 174-02 W

time	species	#	dir.	hgt.	remarks	loc.
0638					SUNRISE: BEGIN DIURNAL OBSERVATIONS	
0651	sooty tern	1	⊙		adult.	
0656	w.R. storm P	1	ESE			
0711	shear/pet	1	S			
0722	" "	1	W			
0739	Fairy Tern	1	all		Feeding.	
0746	BFB	1	"		Ad Feeding	
0752	shear/pet	1				
0755	Christmas Island	1	IV			
0803	w-R storm Pet	1	⊙			
FF C 0809	Sooty Tern	15			Ad 1 coll. T.J. Lewis	
	Shear/pet	1				
	Fairy Tern	2				
	Prigate sp	1				
0820	BFB	1	Ad		Ad	
0825	Sooty Tern	1	⊙		Feeding Ad	
0828	Sooty Tern	1	S			
0838	wedgetail	1	E		dark phase	
0852	w.R.S.P	1	NE			
0903	Pterodroma sp	2	NW		Small pterodroma dark base, whit. underwing + bellie	
0920	w-R storm Petrel	1	W			
0932	Sooty Tern	5	NE		Ad's	
FF C 0945	Sooty Tern	6	⊙		Ad	
	Fairy Tern	1				
1003	Sooty Tern	1	N		Ad.	
1018	w.R. storm Pet	1	all			
1026	Cook's Pet	1	NW			
1034	Shear-Pet	1	N		dark	
1057	w.R. storm Pet	1	⊙			
TF C 1103	Sooty Tern	5	NE		Ad	
	Shear Pet	1	E			
	Wedgetail	1	E		dark	
	Sooty Tern	1			call	
1123	w.R. storm Pet	1	all			
1152	" "	1	all			
1158	" "	1	all			
1159	wedgetail	1			dark phase	
1159	Cook's Petre	1	⊙			
1201	w-R storm Pet	1				

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 12 April 1966
Pg. # 2

Noon Position: 01-595; 174-02W

time	species	#	dir.	hgt.	remarks	loc.
1216	Shear / Pet	1	S			
1225	wR storm Pet	1	S			
1228	" " "	1	E			
1229	Shear / Pet	1				
1235	w-R storm Pet	1	⊙			
1241	Sooty Tern	1	E			
1242	wedgetail	1	W		dark phase	
1246	Sooty Tern	1	W		adult	
1255	Tern sp.	1				
1256	w-R storm Pet	1	E			
1258	" " "	1				
1300	Sooty Tern	3	W		adults	
FF 1302	Fairy tern	8			Feeding	
	Hawaiian Nod.	3				
1313	sooty Tern	1	⊙		adult	
1318	Fairy Tern	1			feeding	
1320	Haw Nod.	1	S			
1325	Sooty Tern	1	S		adult	
1330	" " "	2	S			
1330	Shear / Pet	1	S			
1331	Sooty Tern	1	NE		adult	
1333	Jaeger	1			Jaeger harassing sooty	
	Sooty Tern	1				
1335					rain squall part	
1347	Sooty Tern	1			high in sky	
1351						
C 1355	Sooty Tern	1			porpoises 60+	
1355	w-R storm Pet	1			adult (coll. by D. Hoge)	
1410	Sooty Tern	5	W		adult	
1415 - 1421					rain squall	
1424	wR storm Pet	1	S			
1429	" " "	3	E		rain squall	
1453	Sooty tern	1	⊙		adult	
1457	Fairy tern	1	⊙			
1505	BFB	1	⊙			
1510	sooty Tern	1	W		followed ship for rain squall	
1535	Shear-pet	1	W		adult	
1550	wR storm Pet	1				
1640	" " "	1	NE			
1647	Shear/pet	1	SE			

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 12 April 1966
Pg. # 3

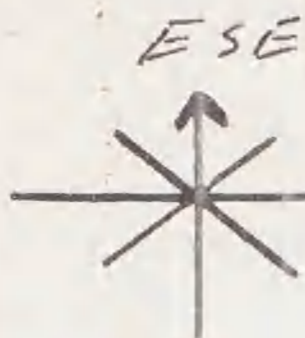
Noon Position: 01-59S; 174-02W

time	species	#	dir.	hgt.	remarks	loc.
1706	Sooty Tern	1	SW		Ad.	
1728	W.A.S.P.	1	SE			
1737	Mottled Pet.	1	N			
1740	"	1	N			
1745	Bulwer's Pet	1	SW			
1754	Common Noddy	1	NE			
1800	Bulwer's Pet	1	N			
1835					sunset, close observations	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE April 13, 1966
Pg. # 1



no noon observation

0800 position: 03-04S; 171-16W

time	species	#	dir.	hgt.	remarks	loc.
0635					watch commenced sunrise ()	
0645	Pterodroma sp. cooki/hypoleuca	1	NW			
0705	WRSP	1	N			
0710	BFB	1	W		Ad.	
0713	Sooty Tern	3	SW		Ad.	
0714	" "	1	⊙		Ad.	
	BFB	3	W		Ad.	
0715	WRSP	1	E			
0720	Sooty tern	1	W		ad	
FF 0725	" "	8	⊙		adult	
	Shearwater	1	⊙			
0730	Sooty tern	7	⊙		35 ± 5 <i>Stenella caeruleo-alba</i> - euphrosyne dolphin	
0732	" "	2	E		Ad	
0735	" "	1			Ad.	
					adult	
0740	wedgetail	1	E		dark phase	
0800	Grey back Tern	1	W			
0802	Greyback Tern	2	W			
	Sooty Tern	1			Ad	
0807	" "	2				
0809	BFB	2			ad.	
					ad.	
0810	Sooty Tern	1	E			
0810	" "	1	W			
0811	Greyback Tern	1	E			
0814	Sooty Tern	1	E			
0817	" "	8	NW		adult.	
	brown booby	1				
0820	Sooty tern	3	W			
0821	brown boob	1	⊙			
0827	Frigate sp	1	⊙			
0828	Sooty Tern	2	NW			
0829	" "	1	E			
0830	Gray back tern	3	E			
0835	" " "	2	W			
0839	" " "	4				
	Sooty tern	1			W adult	
0839	Gray back	3				
0840	" "	1			W	
0840	Sooty tern	3			adult	
0841	gray back tern	2			W	
0842						
cease observations - Enderbury						

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE April 14, 1966
Pg. # 1



Enderbury to Phoenix

Noon Position: 03-265; 170-55W

time	species	#	dir.	hgt.	remarks	loc.
1005					Begin observations leaving Enderbury	
TF 1006	BFB	40	S		Adult	} this flock flew past ship then went down on water
1006	BFB	3			2 imm; 1 adult	
1007	Sooty Tern	4	S		Ad.	
1009	Wedgetail	1	⊙		Dark Phase	
1011	Sooty Tern	7	S			
1012	BFB	1	SE		Imm	
1014	Pterodroma	1	SE		small (dark above with white underbody of underwings)	
1016	Sooty Tern	4	⊙		Ad. searching	
1019	" "	3	S		Ad.	
1022	" "	2	N		Ad	
1022	" "	1	SE		Ad	
1027	" "	1	SW		Ad	
1032	Bulwers Pet	1	S			
1034	Sooty Tern	1	SW			
1040	" "	1	E		Ad	
1041	" "	1	SW		Ad	
1044	Wedgetail	1	⊙			
1045	Greyback Tern	1	⊙			
1050	Tern sp.	1				
1051	Greyback Tern	1	SE			
1053	Sooty Tern	14	S		Ad	
1055	Shear/pet	1	⊙			
1056	Greyback Tern	2	S			
1057	Wedgetail	1	⊙		Dark Phase	
1058	Bulwers	1	⊙			
1113	Fairy tern	1	S			
1120	Brown booby	1				
	7 Sooty tern	2			adult	
	4 Bulwers pet	4				
	Wedgetail	1			1/2 phase	
1122	Sooty tern	3			adult	
1137	Bulwers pet	1	SW			
	Grey bk. tern	3	SE			
1149	WR storm pet	1	S			
1155	G.B. Tern	1	W		storm approaching	
	Petrel/shear	1	E			
1159					storm hit	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

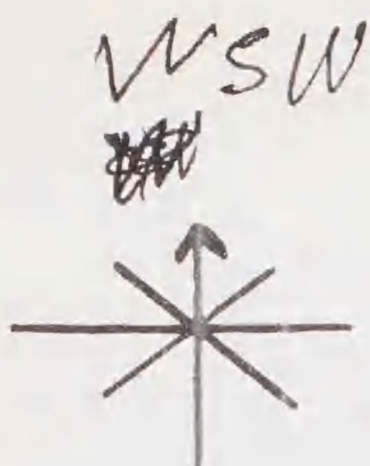


Noon Position: 170-55W

DATE 14 April
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1212	W.R. Storm Pet.	1	E			
1226	BF Booby	2	S		adults.	
1250	Sooty Tern	2	N		adults	
1300	" "	2	S			
1304	" "	1	N		ad.	
1307					Phoenix Is. dead ahead,	
1309	Sooty tern	1	SE		ad.	
1316	" "	4	S		ad's	
1321	Gray Storm	1	E			
1322	Wedgetail	1	E		back place	
1324	sooty tern	3	N		ad's	
1325	" "	1	N		ad.	
1329	BFB	1	E		ad.	
1333	Frigate sp.	1	W			
1335					close observations - to prepare to land. large swirl of Sooty terns over center of island.	

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 16 April 1968
Pg. # 1

Noon Position: Hull Is. 04-25S; 172-06W

time	species	#	dir.	hgt.	remarks	loc.
					Sunrise	
0626	Sooty Shear	1	South			
628						
0630	Wedge	1			dark phase	
0705	Wedge	1			" "	
0718	Sooty Tern	8	E		Ad	
0718	BFB	1	E			
0718	Sooty Tern	1	NE		Ad.	
0723	Sooty Tern	6				
0723	" "	5			Ad	
0750	" "	5	E		Ad	
0755	Sooty/Sib	1	SW			
TF 0756	Sooty tern	40	S		Ad	heavy overcast, rain steady
TF 0805	" "	60 ± 5	N			
0807	Bulwers Pet	1	NW			
0812	Sooty Tern	2	NW		Ad	
0812	Bulwers Pet	1	NW			
0814	Sooty Tern	3	NW		Ad	
0823	" "	3	NE		ad.	
0824	" "	2	S		ad	
0825	" "	4	SE		adult	
0825	" "	2	SE		ad.	
0834	" "	4	SE			
0834	" "	4	" "			
0834	" "	4	" "			
0834	" "	4	" "			
0834	wedgetail	1	E			
0840	Sooty Tern	1	SE			
FF 0845	" "	25				all adult + s
0848	" "	1	SE			
FF 0858	" "	150 ± 25				
	Frigate sp.	5				
	Wedge tail	3				
	Bosby sp.	1				
0900	sooty/Slender.	1	N			
0903	sooty tern	6	NE		headed for flock (858)	
0903	" "	23			Feeding adults	
0918	" "	3	E			
0915	Booby sp.	1				

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Noon Position: 04-25S; 172-06W

DATE 16 April
Pg. # # 3

time	species	#	dir.	hgt.	remarks	loc.
1508	Sooty tern	2	NE		adult	
1510	" "	15	"		"	
1513	" "	7	NE		"	
1514	" "	16	E		"	
1521	" "	9	N		"	
1522	" "	6	N		"	
1522	" "	18	NE		"	
1524	" "	6	N		"	
1524	Wedgetail	1	NW		dk phase -	
1528	Sooty tern	6	NE		adult	
1529	" "	6	NE		"	
1537	" "	18	N		adult	
1537	RFB	1	E		imm.	
1540	Sooty tern	28	NE		adult.	
1540	" "	2	NW		"	
1541	" "	5	NW		"	
1545	" "	16	N		"	
1600	" "	8	⊙		adult.	
1600	" "	2			collected by Crossin in skiff	
1604	" "	6	NW		adult	
1604	" "	1			collected by Crossin in skiff	
1608	" "	1				
1615	" "	4				
1616	WRSP	1	W			
1618	" "	8			2 collected by Crossin in skiff	
1620	" "	2			" " " "	
1621	" "	5			from bow	
1623	" "	10			1 collected by Crossin in skiff	
1625	" "	5			1 " " " "	
1635	" "	2			Sooties flying high & fast from SW to NE	
1637	" "	5	NE		1 collected by Crossin	
1640	" "	12			4 collected by "	
1645	" "	1			collected	
1650	" "	1				
1651	" "	6				
1655	" "	32	SE			
1659	Common Noddy	1	W			
1701	Sooty Tern	1	NW		adult	
FF 1707	Sooty Terns	26				
	Shear/Pet	15				
1715					Sperm whales (2-3) (KB)	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 16 April
Pg. # # 4

Noon Position: 04-253; 172-064

	time	species	#	dir.	hgt.	remarks	loc.
FF	1720	Sooty Tern	125				
FF	1722	Sooty Tern	15	}		over large group of fish	
		Bulwer's Pet	1				
	1730	Sooty Tern	10	W			
	1731	Cook's type	1	N			
	1734	Wedgetail	1	W		dark phase	
	1735	Sooty Tern	1	NW			
	1735	Sooty Tern	2	-			
FF	1736	Sooty Tern	75			} over large group of fish	
		Wedgetail	2		1 dark, 1 light		
C	1743	Sooty Tern	1			adult, collected by Crossin	
	1755	Sooty Tern Island	1				
FF	1800	Sooty Tern	60			- Ad	
		Wedgetail	4			Dark Phase	
		Common Noddy	1			shot at By Crossin Earlier	
FF	1810	Sooty Tern	125±25			Lots of fish around	
	1812	" "	5	NE			
	1813	" "	4	E			
	1823	" "	1	W			
	1826	" "	1	W			
	1828	Red-foot B	2	W		skiff aboard 1829 hrs	
	1830					Sunset - cur observations	

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 19 April 1966
Pg. # 2

Noon Position: ~~8-03S; 172-31W~~
04-05S; 173-59W

time	species	#	dir.	hgt.	remarks	loc.
1248	Sooty Tern	5	⊙		adults	
1252	B-F Booby	1			sitting on water, adult	
1315	Sooty Tern	1	E		adult	
1320	" "	3	NE		adult,	
1323	Golden Plover	2	NW			
1340	W R Storm Pet	1	⊙			
1340	wedge tail	1	E		dark (dark)	
1347	Bulwers	2				
1352	W R Storm Pet	2	⊙			
1355	Frigate sp.	1	W			
1640	wedge tail	1	E		Davis Phase	
1655	BFB	1	E		Ad	
1725	Sooty/Sib	1	N			
1736	W-R Storm Pet	1	SW			
1754	Bulwer's Pet	1	W			
1807	" "	1	⊙		Following ship	
1832					Sunset close observations	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Noon Position: 08-035; 172-31W

DATE 20 April 1966
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
	0620					begin observations	
	0634					sunrise	
	0712	Dulwer's P.	1	☉			
	0714	P. hypoleuca	1	NW		Almost entirely dark on whole underside including breast and belly.	
	0725					"Spinner" porpoise. 5-15' E. very small,	
	0728	shear/pet	1				
	0739	W-R Storm Pet	2	☉			
	0745	Frigate sp.	1	☉		Feeding.	
	0747	R. F. Booby	1			sub ad. intermediate phase.	
	0801	Shear Pet	1	E			
	0817	Audubon's Shear	1	SE			
	0840	Sooty Tern	1	N			
	0841	RTTB	1	☉			
	1010	RTTB	1	☉			
	1035	Bird	1	7			
	1053	Wedge-tail	1	SE		Dark Phase	
FF	1103	" "	21	☉		Dark phase.	
		Fairy ter	2				
		Frigate sp.	1	☉		immature	
		Sooty ter	6	☉			
FF	1120	Jaeger sp.	1				
		Sooty ter	75±10	☉		Adult	
		Fairy Ter	4	☉			} Little fish jumping
		Frigate	2	☉		dk phase	
		Wedgetail	10	☉		lt phase	
		sooty ter	1			immature	
	1135	WRSP	2	S			
	1300	Wedgetail	1	N		dark phase	
	1300					SKIFF Out (Harrington)	
FF	1315	Fairy tern	7	☉		1 collected (Harrington)	
C		Sooty tern	2				
		Wedgetail	3			dark	
		Wh. Tattler	1				
		WTTB	1				
	1325	F Tern	1			feeding over jumping fish	
C	1325	Wedgetail	1			Dark phase (Harrington - skiff)	
FF	1330	WTTB	5				
		Frigate Sp	2				
	1408	W.R. Storm	1	☉			

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 20 April
Pg.# 2

Noon Position: 08-035; 172-31 W

	time	species	#	dir.	hgt.	remarks	loc.
C	1420	Wilson's Stormp	1	⊙		collected Harrington	
	1430	Tern sp.	1	E			
	1431	Bird	1			white	
	1431	Fairy Tern	1				
	1452	Wedgetail	1	E		dark phase	
	1505					SKIFF RETURNS.	
	1528	Wedgetail	1	E		Dark phase	
	1532	Shorebird	1	S		either Ruddy Turnstone or G. Plover	
FF	1536	Fairy Tern	4				
		Wedgetail	2			dark phase	
	1537	Fairy Tern	1	E			
	1600	Frigate sp	1	S			
FF	1615	Fairy Tern	8				
		Com. Noddy	10				
		Wedgetail	2			Dark phase	
		W. R. Stormp	2				
FF	1620	Fairy Tern	2				
		CNT	20				
		Wedgetail	1			dark phase	
	1627	Wedgetail	1	⊙		dark phase	
	1639	Frigate sp.	1			soaring	
	1642	Shear/Pet	1	NE			
	1712	Sooty Tern	1	W		ad	
	1719	R-F Booby	1	N		immature	
FF	1730	Com Noddy	20				
		Fairy Tern	3			} over fish	
	1737	Wedgetail	1	NW		dark phase	
	1805						
	1807	Shear/Pet	1	⊙		porpoises 6+	
	1822					sunset - closed observations	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

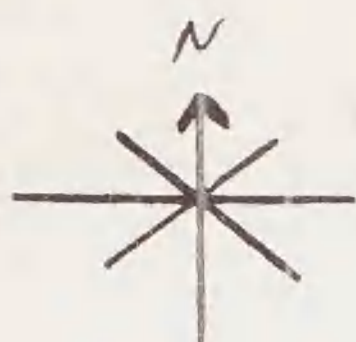
DATE 21 APRIL, 1966
Pg. # 1



Noon Position: 11-42 S; 171-15 W

time	species	#	dir.	hgt.	remarks	loc.
0631					begin observations (sunrise)	
0638	wedgetail	1	E		Dark phase	
0650	" "	2	⊙		" "	
0658	" "	3	NE		" "	
0659	" "	2	E		" "	
0705	" "	1	SE		" "	
0715	" "	1	SE		" "	
0730	" "	2	N		" "	
TF 0730	" "	5	NE		" "	
0802	" "	1	E		" "	
0811	" "	1	⊙		" "	
0820	" "	1	E		" "	
0838	RTTB	1	⊙		circling high Ad	
0850	wedge-tail	1	E		Dark Phase	
0910	Shear/Pet	1	SE		Far out	
0912	WTTB	1	⊙		High Ad	
0950	Fairy Tern	2	⊙		Feeding - white	
0957	Shear/Pet	1	E		white under wing & body medium sized	
1033	shear pet	1	S		probably dark WT.	
1100	wedgetail	2	SE		dark.	
1103	"	1	SE		"	
FF 1422	Sooty Tern	15 ± 3				
	Fairy Tern	12 ± 3				
	wedgetail	15 ± 4				
1458	shear/Pet	1	S			
1624	Petrel	1	SW			
1645	wedgetail	1			dark phase	
1800	WTTB	1			adult sitting on water	
1814					sunset - closed observations	

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

NOON Position: N Pago Pago, Samoa

27
~~28~~
DATE 27 April 66
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.	
	1045					Begin observations at Harbor Entrance - Pago Pago		
	1047	Fairy Tern	25			Not a flock - scattered		
	1048	C.N. Tern	18			" " " "		
	1049	WTTTB	3	NE				
FF	1051	C.N. Tern	7			Feeding		
		Fairy Tern	3					
	1053	WTTTB	1	⊙				
TF	1055	C.N. Tern	7	E		Travelling		
	1057	Blue gray Noddy	3	NE				
	1058	Fairy Tern	4	S				
FF	1100	C.N. Tern	6	S		Travelling		
	1101	WTTTB	1	⊙				
	1103	WTTTB	1	⊙				
	1104	C.N. Tern	3	W				
	1105	Fairy Tern	2	S				
FF	1107	C.N. Tern	35			Feeding on small flying fish underneath dark		
		Fairy Tern	9					
		Wedgetail	3					
	1110	C.N. Tern	1	SW				
	1112	C.N. Tern	3	W				
	1114	Fairy Tern	2	N				
	1115	RFB	1	⊙		dark phase Ad		
	1116	Brown Booby	1	⊙		Ad		
	1118	Fairy Tern	2	⊙				
	1120	C.N. Tern	2	SE				
	1123	WTTTB	1	⊙				
	1125	Fairy Tern	1	S				
	1135	Fairy Tern	2	⊙				
	1139	C.N. Tern	3	SW				
	1143	Fairy Tern	1	NW				
FF	1145	C.N. Tern	6			Feeding		
		Fairy Tern	2				Ad	
		Brn Booby	3					dark phase Ad
		R.F.B.	2					
	1147	C.N. Tern	2	SW				
	1147	"	5	SE				
	1147	Fairy T	1					
	1148	CNTern	3	SE				
	1150	"	2					
	1150	Fairy	1					
	1151	"	2					
	1151	CNT	4					

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

noon Position: N Pago Pago, Samoa

DATE ²⁷ April 1966
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
TF	1154	CNT	22				
		Fairy T.	2				
FF	1155	CNT	13			} Feeding	
		Fairy T.	12				
	1158	R.F.B	1	NW		Int. Phase AD	
	1202	Fairy T.	3	SW			
	1203	C.N. Tern	2	NW			
	1205	RFB Boob.	2	NW		ad (interm. phase)	
	1205	Fairy T.	1	NE			
	1207	"	1	"			
	1210	"	3	NW			
	1211	C.N. Tern	8	SE			
	1213	Fairy Tern	1	SE			
	1214	C.N. Tern	3	NW			
	1215	Fairy Tern	2	E			
	1215	R.F.B	1	SE		Int. Phase AD	
	1218	Com. N. Tern	2	E			
TF	1220	Fairy Tern	5	SE			
	1221	" "	3	E			
	1221	CN Tern	2	E			
	1221	Brown Boob.	1	E		S. Adult, molt in flight feathers.	
	1225	RFB Boob	1	NE		int. phase	
	1225	CN Tern	4	E			
	1228	Fairy T.	5	☉		Feeding.	
	1231	R.F. Booby	1	NE		} Flying together	
		Brown "	1	NE			
FF	1234	Brown boob	1			} FF	
		Fairy T.	13				
		C. Noddy	2				
		B.G. "	1				
		Audubon Shear	1				
	1238	C. N. Terns	2	NE			
	1245	"	1	NW			
	1248	RFB	1	NE		inter. phase	
	1252	"	2	☉			
	1302	Fairy T	1	E			
	1305	RFB	1	E		} back adult	
	1315	Fairy T.	2	E			
	1316	"	1	E			
	1326	Fairy Tern	1	SE			
	1326	C. N. Tern	1	SE			
	1333	R.F.B	1	E			
	1343	"	1	NE		Imm	
	1350	"	1	NE			
	1354	"	1	NE			

SI-MNH-958e
7-28-64



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

Noon Position: N Pago Pago, Samoa

DATE ²⁷ ~~28~~ April 1966
Pg. # 3

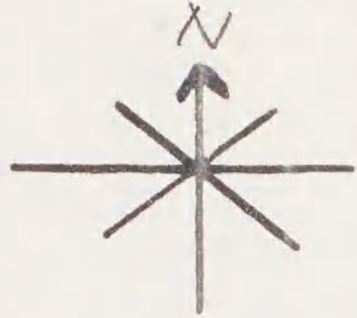
time	species	#	dir.	hgt.	remarks	loc.
1359	Fairy Tern	3	☉		Feeding	
1404	" "	1	☉			
1406	" "	1	SE			
1416	" "	1	NW			
1426	Booby sp.	1	E		imm.	
1436	RFB	1	S			
1458	Fairy tern	2	E			
1512	C. Noddy	1	SE			
1525	Shear-Pet	4	SE			
1555	Bird sp.	1				
1558	Fairy Terns	2			feeding	
FF 1607	C. Noddy	200 ±10%			} feeding flock, wedge tails on the H ₂ O.	
	Fairy Tern	30 ±2%				
	RFB	3 dark phase				
	Wedgetail	6 " "				
	Aud. Shear	8				
FF 1625	Sooty Tern	1			far out.	
FF 1625	C. Noddy	100 ±10				
1630	Tern sp.	1	NE			
1637	RFB	1	W		dark phase	
1640	Fairy Tern	2	SE			
1641	Tern sp.	1	NW			
1659	Sooty Tern	1	NW			
1700	Fairy Tern	1	E			
1703	" "	1	NE			
1713	" "	1	NE			
1722	Frigate sp.	1	☉			
1736	Sooty/Slater bill	2	NW			
1810					sunset-closed observations.	

140
 .30
 4200

1410
 42
 99

SMITHSONIAN INSTITUTION
 DIVISION OF BIRDS
 AT SEA DAILY LOG -- E

SI-MNH-958e
 7-28-64



Noon Position: 10-35 S 171-19 W

DATE 28 April
 Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0915					Begin Observation - Leaving Swain's Island	
0918	Fairy Tern	5	N		coming from Island	
0922	" "	1	E			
0926	" "	1	Ø			
0927	" "	1	W			
0957	" "	2	SW			
1047	Sooty Tern	1	SE		adult	
1048	Fairy Tern	1	S			
C 1105	WTTB	1			sub adult, collected (BAH)	
TF 1405	Sooty Tern	6	E			
1410	Wedgetail	1	E		dark	
1415	WTTB	1	N			
1506	WTTB	1	S			
TF 1547	Sooty Tern	10			Travelling East, high	
	Fairy Tern	1				
1648	Sooty Terns	3			adults, feeding	
1818					close observations (Sunset)	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 29 April 1966
Pg. # 1



Noon Position: 06-29S; 172-57W

	time	species	#	dir.	hgt.	remarks	loc.
	0632					sunrise begin observations	
	0706	Wedgetail	1	NE		dark phase	
	0708	"	1	E		dark phase	
FF	0709	Sooty Terns	40±10			all adults over jumping small fish (Tuna) dark phase	
		Fairy Tern	3				
		Wedgetail	10				
		Haw Noddy	1				
		Aud Shear	1				
FF	0800	Wedgetail	50			All dark	
		Sooty Tern	25				
		Pterodroma sp.	1			small	
	0815	sooty T	1				
TF	0850	sooty Tern	12	E		ad travelling	
FF	0900	Sooty Tern	58			all ad.	
		Wedgetail	28			one light, rest dark	
		Fairy Tern	7				
		Pterodroma sp.	1			small,	
	0925	Sooty T	1	NE		ad.	
TF	0945	Wedgetail	15			all dark except 1 light. 1 mile have been moving out ahead of ship for 10-15 min. Thus far. No other species present.	
		Fairy Tern	1	N-NE			
	1003	Pterodroma sp.	1	S			small
C	1029	WTTB	1			coll. DMH	
	1104	Wedgetail	1	SE		dark	
	1113	"	1	SE		"	
	1153	W.R. St. Pet.	1	N			
	1230	" "	1	N			
	1354	sooty Tern	3	SE		Ad.	
	1358	Whale				S	
	1410	Sooty Terns	3	S		adults	
TF	1648	Sooty Tern	5	N		Travelling	
	1655	Sooty Slender bill	20±5	N		"	
	1728	W.R. St. Pet	1	⊙			
	1803	Sooty Tern	2	NE		Ad	
	1828					close observations sunset	

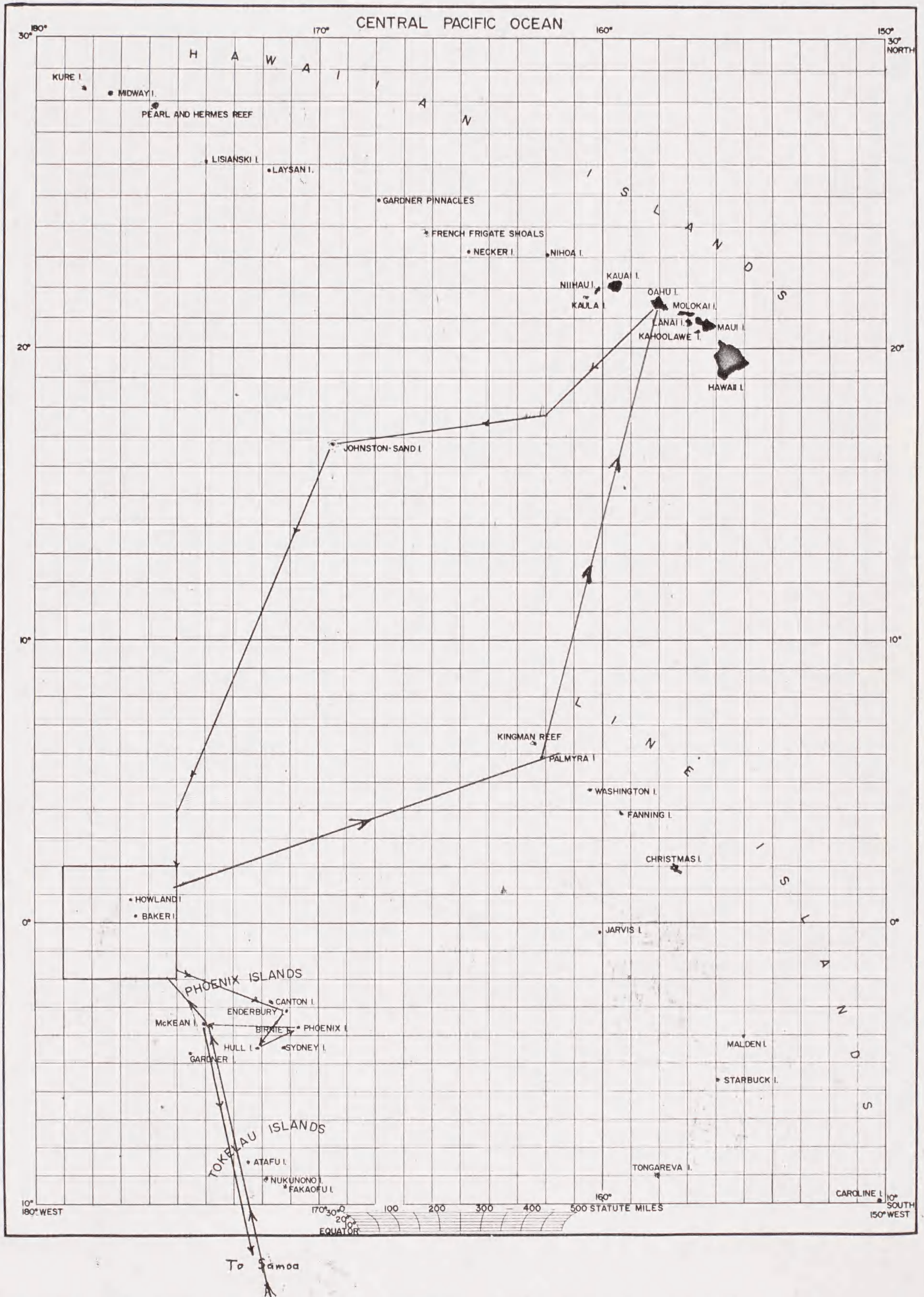


Fig. 1. SIC 12 Cruise Track (1st half) 29 March- 21 April 1966.

DATE 29 MARCH 1966

Time at sunrise = Position at sunrise = HONOLULU

Time at sunset = 1846 Position at sunset = HONOLULU

Miles traveled from 0000 hours to sunrise = —

Miles traveled from sunrise to sunset = —

Miles traveled from sunset to 2400 hours = 53.0 mi

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	2000	VISUAL	158-01W	21-13N
2.				
3.				
4.				
5.				
6.				

DATE 30 MARCH

Time at sunrise = 0635 Position at sunrise = 20-32N, 159-49W

Time at sunset = 1901 Position at sunset = 19-23N 161-30W

Miles traveled from 0000 hours to sunrise = 67-0

Miles traveled from sunrise to sunset = 124 mi

Miles traveled from sunset to 2400 hours = 55 mi

	TIME OF FIX	TYPE OF FIX	^{LAT} LONGITUDE	^λ LATITUDE
1.	0600	CELESTIAL	20-34N	159-43W
2.	1400	LORAN & CELL.	19-52N	160-50W
3.	2000	CELL-	19-16N	161-36W
4.				
5.				
6.				

DATE 2 APRIL 1966

Time at sunrise = 0620 Position at sunrise = 15-22N, 170-16W

Time at sunset = 1836 Position at sunset = 13-27N, 171-11W

Miles traveled from 0000 hours to sunrise = 69.0

Miles traveled from sunrise to sunset = 127.0

Miles traveled from sunset to 2400 hours = 57.0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	CELESTIAL	170-15W	15-25N
2.	0917	"	170-26W	14-51N
3.	1900	"	171-13W	13-23N
4.				
5.				
6.				

DATE 3 APRIL 1966

Time at sunrise = 0626 Position at sunrise = 11-33N, 172-04W

Time at sunset = 1841 Position at sunset = 09-35N, 172-52W

Miles traveled from 0000 hours to sunrise = 70.0

Miles traveled from sunrise to sunset = 121

Miles traveled from sunset to 2400 hours = 56

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	CELESTIAL	172-04W	11-37N
2.	1200	"	172-27W	10-37N
3.	1900	"	172-54W	9-31N
4.				
5.				
6.				

DATE 4 APRIL 1966

Time at sunrise = 0631 Position at sunrise = 7-39N, 173-32W
Time at sunset = 1845 Position at sunset = 6-06N, 174-09W
Miles traveled from 0000 hours to sunrise = 68-0
Miles traveled from sunrise to sunset = 101-0
Miles traveled from sunset to 2400 hours = 59-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	CELESTIAL	173-30W,	7-44N
2.	1900	LORAN	174-10W	6-03N
3.				
4.				
5.				
6.				

DATE 5 APRIL 1966

Time at sunrise = 0637 Position at sunrise = 4-05N, 174-44W
Time at sunset = 1847 Position at sunset = 2-19N 174-57W
Miles traveled from 0000 hours to sunrise = 65-0
Miles traveled from sunrise to sunset = 111
Miles traveled from sunset to 2400 hours = 52-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	CELESTIAL	174-42W,	4-11N
2.	1900	"	174-57W	2-16N
3.				
4.				
5.				
6.				

DATE 6 APRIL 1966

Time at sunrise = 0640 Position at sunrise = 1-10N, 175-03W
Time at sunset = 1951 Position at sunset = 0-54 - 176-34W
Miles traveled from 0000 hours to sunrise = 16-0
Miles traveled from sunrise to sunset = 89-0
Miles traveled from sunset to 2400 hours = 12-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0430	CELESTIAL	175-03W	1-11N
2.	1112	"	175-30W	1-03N
3.	1900	How. is. VISUAL & RADAR	176-35-5W,	0-54N
4.				
5.				
6.				

DATE 7 APRIL 1966

Time at sunrise = 0646 Position at sunrise = 0-48N, 176-49W
Time at sunset = 1857 Position at sunset = 0-30N, 178-00W
Miles traveled from 0000 hours to sunrise = 3-0
Miles traveled from sunrise to sunset = 84-0
Miles traveled from sunset to 2400 hours = 09-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0000	VIS. & RADAR	176-39W	0-48N
2.	0400	" "	176-39W	0-48N
3.	0600	" "	176-39W	0-48N
4.	1930	CELEST.	178-01W	0-29N
5.				
6.				

DATE 8 APRIL 1966

Time at sunrise = 0652 Position at sunrise = 0-26N, 178-19W
Time at sunset = 1852 Position at sunset = 0-16N, 176-57W
Miles traveled from 0000 hours to sunrise = 11-0
Miles traveled from sunrise to sunset = 86-0
Miles traveled from sunset to 2400 hours = 25-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0630	CELESTIAL	178-19W	0-26-5N
2.	0951	"	178-00W	0-15 N
3.	1900	"	176-56W	0-16N
4.				
5.				
6.				

DATE 9 APRIL 1966

Time at sunrise = 0646 Position at sunrise = 0-16N, 176-46W
Time at sunset = 1849 Position at sunset = 0-10N 176-20W
Miles traveled from 0000 hours to sunrise = 10-0
Miles traveled from sunrise to sunset = 49-5
Miles traveled from sunset to 2400 hours = 32-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	CELESTIAL	176-45W	0-16N
2.	1100	BAKER IS. VISUAL & RADAR	176-31W	0-09N
3.	1800	"	176-27W	0-10N
4.				
5.				
6.				

DATE

12 APRIL 1966

Time at sunrise = 0638 Position at sunrise = 1-39S 174-48W
 Time at sunset = 1835 Position at sunset = 2-20S 173-11W
 Miles traveled from 0000 hours to sunrise = 61.0
 Miles traveled from sunrise to sunset = 102
 Miles traveled from sunset to 2400 hours = 50.0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	CELESTIAL	174-55W	1-37S
2.	1000	"	174-20W	1-53S
3.	1847	RND "	173-09W	2-21S
4.				
5.				
6.				

DATE

13 APRIL 1966

Time at sunrise = 0625 Position at sunrise = 2-59S, 17130W
 Time at sunset = 1825 Position at sunset = END-15.
 Miles traveled from 0000 hours to sunrise = 58.0
 Miles traveled from sunrise to sunset = 26.0
 Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0400	VIS & RADAR (CANTON IS.)	171-52W	2-51S
2.	0600	RADAR	171-34W	2-58S
3.				
4.				
5.				
6.				

DATE 16 APRIL 1966

Time at sunrise = 0626 Position at sunrise = 4-07 S 171-27W
Time at sunset = 1830 Position at sunset = 4-24 S 171-36W
Miles traveled from 0000 hours to sunrise = 51-0
Miles traveled from sunrise to sunset = 78-0
Miles traveled from sunset to 2400 hours = 39-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.				
5.				
6.				

DATE 17 APRIL 1966

Time at sunrise = 0634 Position at sunrise = 3-41 S 173-46W
Time at sunset = 1836 Position at sunset = MCKEAN IS.
Miles traveled from 0000 hours to sunrise = 47-0
Miles traveled from sunrise to sunset = 22-0
Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	CELESTIAL	173-46W	3-41 S
2.				
3.				
4.				
5.				
6.				

DATE 21 APR 1966

Time at sunrise = 0631 Position at sunrise = 10-45 $\frac{1}{2}$ 171-31W
Time at sunset = 1814 Position at sunset = 12-39 $\frac{1}{2}$ 170-56W
Miles traveled from 0000 hours to sunrise = 70-0
Miles traveled from sunrise to sunset = 118-0
Miles traveled from sunset to 2400 hours = 49-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	CELESTIAL	171-32W	10-40 $\frac{1}{2}$
2.	1830	"	170-55W	12-41 $\frac{1}{2}$
3.				
4.				
5.				
6.				

DATE 27 APRIL 1966

Time at sunrise = 0631 Position at sunrise = PAGO PAGO
Time at sunset = 1810 Position at sunset = 13-13 $\frac{1}{2}$ 170-42W
Miles traveled from 0000 hours to sunrise = —
Miles traveled from sunrise to sunset = ~~103~~ 77
Miles traveled from sunset to 2400 hours = 60-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	1800	CELESTIAL	170-42W	13-15 $\frac{1}{2}$
2.				
3.				
4.				
5.				
6.				

DATE 28 APRIL 1966

Time at sunrise = 0629 Position at sunrise = 11-03 \dot{S} , 171-05W

Time at sunset = 1818 Position at sunset = 9-36 \dot{S} , 171-56W

Miles traveled from 0000 hours to sunrise = 71-0

Miles traveled from sunrise to sunset = 101-0

Miles traveled from sunset to 2400 hours = 62-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	1900	CELESTIAL	172-00W	9-29 \dot{S}
2.				
3.				
4.				
5.				
6.				

DATE 29 APRIL

Time at sunrise = 0632 Position at sunrise = 7-31 \dot{S} , 172-37W

Time at sunset = 1828 Position at sunset = 5-33 \dot{S} , 173-13W

Miles traveled from 0000 hours to sunrise = 70-0

Miles traveled from sunrise to sunset = 131 mi

Miles traveled from sunset to 2400 hours = 57-0

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	CELESTIAL	172-35W,	7-36 \dot{S}
2.	1900	"	173-15W,	5-27 \dot{S}
3.				
4.				
5.				
6.				

13
SIC 12 PRELIMINARY REPORT AT-SEA SURVEY
29 March to 21 May
1966

NON-GRID ONLY

This report covers the observations and collections made at sea by POBSP personnel on the Southern Island Cruise # 12 during the period 29 March through 21 May 1966. During this period 279.6 hours of diurnal observations and 2732 miles were covered. A total of 17202 birds of 40 species were recorded and 65 birds representing 10 species were collected (Tables 1 & 3). Nocturnal observations south of Johnston Atoll amounted to 156 miles and 14.8 hours. A total of 83 birds of 6 species were recorded (see Northern Grid report).

The Smithsonian POBSP team consisted of Richard S. Crossin (in charge of at-sea operations), Max C. Thompson (in charge of islands-1st half), Dayle Husted, Norman Heryford, James Lewis, Brian Harrington, Ken Balcomb, Frank Smith, Dave Hoff, Phil Shelton (1st half) and Jeff Tordoff (2nd half). The SIC 12 cruise was made aboard the U.S.N.S. SHEARWATER (T-AG 177). Excellent cooperation and assistance were received from the officers and crew members.

The SIC 12 cruise track was essentially the same as those as those followed during SIC 9 and SIC 11 (Figures 1 & 2). For purposes of comparing the avifauna during these three cruises, the track can be divided into three sections comparable to that used in both the SIC 9 & 11 reports as follows:

AREA A. Honolulu to Southern Grid (Howland-Baker) via Johnston Atoll and Smithsonian (Northern) Grid # 1, 29 March to 5 April.

AREA B. Southern Grid to American Samoa and return with island operations throughout the Phoenix Group, 12 April-1 May.

AREA C. Southern Grid to Oahya via Palmyra Island, 10-21 May.

AREA A: Total Birds-	<u>SIC 9</u> 19542	<u>SIC 11</u> 2512	<u>SIC 12</u> 3597
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Sooty Terns were the dominant species in Area A and accounted for 65.6 % of total birds. Shearwater-petrels accounted for 26.7 % of total birds. The majority of shearwater-petrels were migrating Sooty/ Slender-billed Shearwaters. Wedge-tailed Shearwaters were 2nd most abundant, with predominantly dark phase birds south of 6° N and light phase birds north of this latitude. Mottled Petrels were also encountered in low numbers. Practically all other groups were encountered in low numbers. Peak bird days were noted on 1 April north of Johnston Atoll and on 4 April between 6 and 7° N. Feeding flocks composed primarily of Sooty Terns and Wedge-tailed Shearwaters were in abundance on both peak days.

AREA B. Total Birds-	<u>SIC 9</u> 9959	<u>SIC 11</u> 2801	<u>SIC 12</u> 3556
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Shearwater-petrels accounted for only 11 % of the total birds in Area B, the vast majority of these dark-phase Wedge-tailed Shearwaters. Terns accounted for 83 % of total birds, the majority of these Sooty Terns. Birds were rather evenly distributed throughout Area B in relatively low numbers compared to the high concentrations

Christmas Island Shearwater A=2 B=2 C=28

The majority of birds were noted in the huge mixed feeding flock on 20 May ca. 200 miles south of Oahu. There were no concentrations between 5 and 6° N as has been noted on previous SIC cruises.

Audubon's Shearwater A=0 B=21 C=2

This species has shown the same distribution pattern on all SIC cruises since September in that practically all sightings occur throughout the Phoenix Islands where the birds breed.

Newell's Shearwater A=1 B=0 C=191

An estimated 150 birds were encountered in the huge feeding flock south of Oahu on 20 May. All other sightings occurred just south of Oahu. During the January SIC cruise the only sightings (6) were noted between 5 and 6° N. Large concentrations such as those noted on 20 May have previously been encountered only near the main Hawaiian Islands such as Kaula and Niihau.

New Zealand Shearwater A=0 B=0 C=2

Two singlessightings of birds tentatively identified to this species were noted on 19 and 21 of May between Palmyra and Oahu.

Pale-footed Shearwater A=1 B=0 C=3

This species is apparently of very wide distribution throughout the area of interest, but always occurs in very low numbers. Two birds were observed in the huge mixed feeding flock on May 20 south of Oahu. Previous sightings have usually occurred in similar large mixed feeding flocks.

<u>Juan Fernandez Petrel</u>	A=8	B=0	C=8
<u>White-necked Petrel</u>	A=0	B=0	C=17

Scattered sightings of Juan Fernandez Petrels were recorded between Oahu and the Southern Grid and between Palmyra and Oahu on the return trip. None was sighted throughout the Phoenix Islands nor between the Phoenix group and the Line Islands. All but one of the White-necked Petrels were recorded between Palmyra and Oahu. Juan Fernandez Petrels were common between the Line and Hawaiian Islands (especially 10-12° N) during March on the previous SIC cruise.

<u>Bonin Island Petrel</u>	A=1	B=0	C=7
<u>Black-winged Petrel</u>	A=10	B=0	C=8
<u>Pterodroma hypoleuca</u>	A=7	B=1	C=40

Scattered sightings of both races occurred between Oahu and the Southern Grid in early April. None was noted south of the equator. Both races were common between 8° N and Oahu on the return trip. This species was recorded during the January-March cruise by two sightings of Black-winged Petrels only. One Bonin Island Petrel, differing markedly from typical Leeward Islands birds, was collected on the present cruise.

<u>Phoenix Island/Tahitian Petrel</u>	A=2	B=0	C=8
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Scattered sightings were recorded between the Southern Grid and Palmyra and thence north to Oahu. Most sightings on previous SIC cruises were recorded near Christmas Island.

<u>Kermadec Petrel</u>	A=0	B=0	C=3
------------------------	-----	-----	-----

During January 1966 this species was common between 10 and 13° N. This species is usually distributed widely, but in low numbers.

Mottled Petrel A=41 B=2 C=4

The majority of sightings (25) were noted on 4 April between 6 and 7.5° N. Birds were moving in north or northwest directions, usually in swift, direct flight.

Herold's Petrel A=0 B=0 C=1

A single bird referable to this species was sighted on 18 May north of Palmyra.

Cook's Petrel A=0 B=3 C=0

Three single sightings of birds referable to this species were recorded between the Southern Grid and Samoa. This species is difficult to distinguish from White-winged and Bonin Island Petrels, but has been definitely recorded in the area.

Bulwer's Petrel A=26 B=19 C=283.

This species was present in low numbers throughout most of the cruise area. Numbers increased markedly between the Southern Grid and Palmyra and remained high each day during the final return route from Palmyra to Oahu. Only 44 were recorded during the January-March survey.

White-throated Storm Petrel A=0 B=1 C=0

The single bird was sighted near McKean Island where most birds have been recorded on previous SIC cruises.

Wilson's Storm Petrel A=0 B=1 C=0

The single bird recorded was collected north of Samoa on 20 April. This species has not been definitely recorded on SIC cruises since last fall.

Leach's Storm Petrel A=5 B=0 C=1
unidentified white-rumped storm petrels A=51 B=52 C=31

Most sightings of white-rumped storm petrels were in the broad equatorial belt where the birds have been abundant since last fall. Collecting has demonstrated that Leach's Storm Petrel is by far the most abundant species present and lower numbers encountered during the present cruise is expected as the birds leave for the northern breeding grounds. Harcourt's Storm Petrel was not definitely recorded on at-sea observations, but likely was present since several were collected in the Southern Grid.

White-tailed Tropicbird A=7 B=19 C=11

Scattered sightings occurred throughout the cruise with the usual higher concentrations north of Samoa and near the Hawaiian Islands, both areas which serve as breeding grounds for the species.

Red-tailed Tropicbird A=20 B=3 C=2

High numbers (16) were noted upon approach to Johnston Atoll on 1 April. The remaining few sightings were scattered throughout the at-sea area.

Blue-faced Booby A=7 B=63 C=5

The majority of sightings were in the Phoenix Island area. One flock of 40 was recorded off Enderbury Island.

Brown Booby A=2 B=10 C=36

Practically all sightings were in the immediate vicinity of islands. Heavy concentrations were noted north of Samoa and near Palmyra Island.

Red-footed Booby A=122 B=32 C=1045

Concentrations near breeding islands accounted for the vast majority of sightings. Birds were common E-NE of Johnston Atoll; one flock of 45 was noted feeding solely on flying fish. The birds worked over the feeding area in small sub-groups; single individuals darting out as flying fish surfaced.

Huge concentrations of birds were noted on 14 and 17 May upon approach to and departure from Palmyra Island.

Greater Frigatebird A=37 B=2 C=15
Lesser Frigatebird A=1 B=0 C=3
unidentified frigatebirds A=9 B=21 C=42

Greater Frigatebirds were common between Oahu and Johnston Atoll with some concentration near the latter island. Unidentified frigatebirds, likely a combination of both species, were commonly observed with mixed feeding flocks throughout the Phoenix Islands.

Golden Plover A=0 B=2 C=1

Two birds were sighted south of McKean Island on 19 April and one north of Palmyra on 17 May. Large numbers still remain on the islands, but most of these are in non-breeding plumage and probably will not move north for the current breeding season. Interisland movement must occur throughout the summer since the numbers of birds fluctuate considerably on individual islands during this period.

Ruddy Turnstone A=0 B=13 C=1

Groups of 2, 4 and 7 were recorded E of McKean Island on 17 April. The flight direction of the largest group was NE and these probably represent ~~nonbreeding~~ migrating birds. Numbers were considerably lower on the islands than during the January-March cruise.

Red Phalarope/ Sanderling A=23 B=0 C=0

All 23 sightings occurred during the period ~~20~~³⁰ March through 2 April from Oahu to 13° N. A total of 12 were recorded during the period 18-19 March on the previous cruise. One Red Phalarope was collected on 30 March which apparently represents the first at-sea collected specimen on the project. It is possible that all sightings were of this species, but these are difficult to separate from Sanderlings.

Bristle-thighed Curlew A=0 B=0 C=11

A flock of 11 birds were noted a few miles north of Palmyra on 17 May. These likely represent birds migrating north to the breeding grounds.

Pomarine Jaeger A=0 B=0 C=3

One bird was recorded north of Palmyra and two others just south of Oahu. 70 were noted near the Honolulu harbour in January, but this area was covered after sunset during the present cruise. Eight unidentified jaegers were noted at various points throughout the cruise.

Long-tailed Jaeger A=1 B=0 C=1

This species has been observed at sea in low numbers at extreme distances from land. No positive sightings occurred during the January-March cruise, but low numbers were recorded the previous fall.

Arctic Tern A=0 B=0 C=1

One individual was sighted at very close range on 21 May south of Oahu. The species was positively recorded by a collected spec-

Arctic Tern cont.

imens from near the Southern Grid area the previous fall. Very low numbers are likely present throughout the area of interest but these could easily be mistaken for Sooty or Gray-backed Terns.

Sooty Tern A=2260 B=2003 C=5017

The Sooty Tern, by far the most abundant species during the cruise, was present in varying numbers each day and accounted for 54 % of the total birds recorded. Distribution was irregular with several peak days. In area A an abundance of birds (1007) were noted on 1 April E-NE Johnston Atoll. A second area of concentration was noted on 4 April (807 birds) between 7.5 and 6° N. A broad area fluctuating roughly between 3 and 7° N has shown high concentrations on other cruises. Schools of milling tuna were noted here again during the present cruise. A small percentage of immature birds were present in feeding flocks.

In area B high concentrations were noted between Hull and McKean Islands. Hull Island did not have a population of breeding birds at that time.

In area C concentrations were noted on 13 May upon approach to Palmyra and on 20 May, one day south of Oahu. The concentrations near Palmyra could have been from that island since the breeding colony was just terminating a cycle.

A Christmas Island banded immature was collected just E of the Southern Grid, roughly 700 miles distant from origin. A few Hull Island banded immatures collected in the Southern Grid last fall showed north and westward dispersion. Rich feeding areas such as that of 3-7° N might be utilized by immatures from the Line and Phoenix Islands during their non-breeding years.

TABLE 1. Summary of SIC 12 Non-Grid pelagic observations, 30 March to 21 May 1966.

A. Oahu to Southern Grid via Johnston Atoll, 30 March-5 April 1966.

<u>Date</u>	<u>No. Miles</u>	<u>DIURNAL No. Hours</u>	<u>No. Birds</u>	<u>No. Species</u>
30 March	124	12.43	198	15
31	138	12.40	116	13
1 April	134	12.01	1439	17
2	127	12.27	242	12
3	121	12.25	132	9
4	101	12.23	1212	14
5	<u>111</u>	<u>11.78</u>	<u>258</u>	<u>13</u>
TOTALS	856	85.37	3597	26 (13.3/day)

<u>NOCTURNAL</u>				
1 April	1	0.11	4	2
1-2 April	89	8.33	58	3
2-3 April	<u>66</u>	<u>6.31</u>	<u>21</u>	<u>2</u>
TOTALS	156	14.75	83	6 (2.3/night)

TABLE 1 cont.

DIURNAL

B. Southern Grid to Samoa & Return via Phoenix Islands,
12 April-1 May 1966.

<u>Date</u>	<u>No. Miles</u>	<u>No. Hours</u>	<u>No. Birds</u>	<u>No. Species</u>
12 April	102	11.95	129	13
13	26	2.10	80	7
14	38	3.50	135	10
16	78	9.07	1401	11
17	22	1.03	134	11
19	99	9.20	94	11
20	101	11.80	254	14
21	118	11.71	77	5
27	77	7.41	699	11
28	101	9.05	36	4
29	131	11.94	347	8
1 May	<u>85</u>	<u>7.85</u>	<u>170</u>	<u>9</u>
TOTALS	978	96.61	3556	25 (9.5/day)

C. Southern Grid to Oahu via Palmyra Island, 10-21 May 1966.

DIURNAL

10 May	103	12.11	238	7
11	109	12.13	348	10
12	103	12.21	153	11
13	70	6.97	2155	13
17	65	5.88	1143	13
18	115	12.55	362	12
19	121	12.77	226	17
20	117	12.97	4578	15
21	<u>95</u>	<u>10.00</u>	<u>846</u>	<u>21</u>
TOTALS	898	97.59	10049	33 (13.2/day)
GRAND TOTAL DIURNAL	2732	279.57	17202	40
GRAND TOTAL NOCTURNAL	156	14.75	83	6
GRAND TOTAL (Diurnal + Nocturnal)	2888	294.32	17285	40

TABLE 2. Diurnal Density of Species Groups (Non-Grid) SIC 12,
30 March-21 May 1966.

<u>Species Group</u>	<u>No. Birds</u>	<u>Birds/Sq. Mile</u>	<u>% Total Birds</u>
Albatrosses	15	0.001	0.09
Shearwater-Petrel	3673	0.672	21.35
Storm Petrel	143	0.052	0.83
Terns	11753	1.434	68.32
Tropicbirds	65	0.012	0.38
Boobies	1327	0.243	7.71
Frigatebirds	130	0.012	0.76
Shorebirds	54	0.019	0.31
Jaegers	13	0.002	0.08
Miscellaneous	<u>29</u>	<u>0.005</u>	<u>0.17</u>
TOTALS	17202	3.149	100.00 %

TABLE 3. Diurnal abundance of species At-Sea (Non-Grid) SIG 12,
30 March-21 May 1966.

<u>Species</u>	<u>No. Birds</u>	<u>Birds Linear Mi.</u>	<u>No. Coll. over Jan-Mar.</u>	<u>Status</u>
Laysan Albatross	2	0.001		0
Black-footed Albatross	13	0.005		+
Wedge-tailed Shearwater	2015	0.74	5	+
Sooty/Slender-billed Shearwater	561	0.21		+
Christmas Island Shearwater	32	0.01		-
Audubon's Shearwater	23	0.01		+
Newell's Shearwater	192	0.07		+
New Zealand Shearwater	2	0.001		+
Pale-footed Shearwater	4	0.002		+
Juan Fernandez Petrel	16	0.005		-
White-necked Petrel	17	0.005		+
<u>Pterodroma externa</u> ssp.?	3	0.001		0
Bonin Island Petrel	8	0.002		+
Black-winged Petrel	18	0.005		+
<u>Pterodroma hypoleuca</u> ssp.?	48	0.02	1	+
Phoenix Island/Tahitian Petrel	10	0.003		-
Kermadec Petrel	3	0.001		-
Mottled Petrel	47	0.02		+
Herold's Petrel	1	0.001		+
Cook's Petrel	3	0.001		+
<u>Pterodroma</u> sp. ?	41	0.014		+
Bulwer's Petrel	328	0.12	6	+
Shearwater-Petrel	301	0.11		+
White-throated Storm Petrel	1	0.001		-
Wilson's Storm Petrel	1	0.001	1	+
Leach's Storm Petrel	6	0.002	5	-

TABLE 5. SIC 12 At-Sea banded and/or color-tagged birds observed or collected, March-May 1966.*

<u>Species</u>	<u>Date</u>	<u>Band or Tag</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Miles from Origin</u>
Red-footed Booby	17 May	orange paint applied on Palmyra	06-04 N	161-57 W	14
Sooty Tern	imm. 11 May	763-98200	03-22 N	168-51 W	690

* For other SIC 12 color-marked or banded bird records, see Southern Grid reports 1 & 2 and Northern Grid report.

Gould

SOUTHERN GRID

PRELIMINARY REPORT AT-SEA SURVEY NO. 6

6-11 April 1966

5.15.13

by

Richard S. Crossin

SOUTHERN GRID

PRELIMINARY REPORT AT-SEA SURVEY NO. 6

6-11 April 1966

This report is based upon the observations and collections made within the Southern Grid during the period 6-11 April 1966. The cruise track for April was entirely different from those followed during past surveys (Fig. 1). Due to shorter overall distances involved, there was ample time to stop the ship and drift during the nights. Hence, practically the entire grid pattern was covered by diurnal observations.

The Smithsonian survey party included Richard Crossin (Biologist in Charge), Max Thompson, Dayle Husted, Brian Harrington, Norman Heryford, James Lewis, Frank Smith, Philip Shelton, Kenneth Balcomb and David Hoff. The grid cruise was made aboard the U.S.N.S. SHEARWATER (T-Ag 177). Excellent cooperation and assistance were received from the officers and crew members.

A total of 494 miles and 73 hours of diurnal observations was completed during the grid period (Table 1). During this time 4,062 birds of 26 species were recorded and 134 birds of 12 species were collected.

Nocturnal observations were maintained from sunset to sunrise each night during the grid period (5-6 --- 11-12 April). A total of 312 miles and 83 hours were completed during nocturnal operations. A total of 798 birds of 17 species were recorded and 20 birds of 9 species were collected (Tables 1 and 4). Of interest among these were 3 Mottled Petrels and a Tahitian Petrel. Two Leach's Storm Petrels and a Christmas Island Shearwater were captured alive, banded and released.

Roughly a threefold increase in birds was noted during the present cruise over last month. Density (birds/linear mile) rose from 1.91 in March to 8.22 in April. This increase has been gradual since the low of 1.15 recorded in November-December 1965. There was some increase in practically all species groups, but most significantly in terns (almost exclusively Sooty Terns). Frigatebirds also showed a considerable increase. The start of a new breeding cycle on Howland Island is almost certainly the reason for increased numbers of birds in the area.

Two peak days were noted. On April 7 W-SW of Howland, 1,314 birds were recorded. Most of these were in feeding or traveling flocks; 92.2 % terns, 0.2 % Shearwater-Petrel. On 9 April practically the entire day was spent in close proximity to Baker Island (up to 12 miles distant) where large concentrations of Sooty Terns and lesser numbers of other species were encountered. A total of 1,406 birds were recorded. Practically all were in feeding flocks; 87 % terns, 0.6 % shearwater-petrels. Large schools of milling fish were noted under feeding flocks. A total of 76 birds was collected throughout the day, primarily Sooty Terns. A Sooty Tern and a Red-footed Booby, both banded on Howland, were collected and a blue streamered Blue-faced Booby was noted. One Enderbury-banded Red-footed Booby was also collected. Although the direct evidence is meager, one must postulate that these concentrations were Howland-based birds. The exact stage of the breeding cycle of Sooty Terns is not known since no landing was made on Howland Island, but from behavioral observations and specimens collected offshore at night, the colony appears to be in or very close to the egg-laying stage.

Blue-faced Booby (106 + 6 nocturnal)

Numbers were somewhat higher than last month. The majority of birds were recorded on the two peak bird days (7 and 9 April), in mixed feeding flocks. One Howland Island blue-streamered bird was observed in the vicinity of Baker Island. One specimen was collected.

Brown Booby (9)

Eight of the nine sightings were recorded on 7 April W-SW of Howland Island. Grid birds are likely based on this island. One specimen was collected.

Red-footed Booby (27 + 3 nocturnal)

All birds were recorded on three days; 6 April E of Howland, 7 April W-SW of Howland, and 9 April in the vicinity of Baker Island. The vast majority of birds were encountered in mixed feeding flocks. A total of 8 specimens was collected.

Great Frigatebird (11)
Lesser Frigatebird (33)
frigatebird species (159)

Apparently both species are starting a new breeding cycle on Howland Island and numbers can be expected to increase. Only 36 frigatebirds were recorded during March. Most frigatebirds were noted in mixed feeding flocks on 7 April W-SW of Howland and on 9 April in close proximity to Baker Island. One Howland-banded Great Frigatebird was collected W-SW of Howland.

Ruddy Turnstone (1 + 1 nocturnal)
Golden Plover (1 nocturnal)
shorebird species (8 nocturnal)

Shorebirds are still abundant on most of the southern islands. Apparently the mass spring migration northward has not yet begun. Approximately the same low numbers were encountered at sea last month.

Jaeger species (2)
Skua (1)

The two jaegers (probably Long-tailed) and Skua were recorded on 6 April E-NE Howland Island. All were encountered in mixed feeding flocks.

Sooty Tern (3290 + 648 nocturnal)

This was the dominant species on practically every day during the grid period (more white-rumped storm petrels were recorded on 8 April). Sooty Terns accounted for over 97 % of total birds recorded in the grid (both diurnal and nocturnal). Numbers were greatest on the two peak days (7 and 9 April). Greater numbers can probably be expected in the grid with buildup of the current breeding colony on Howland Island. The large concentrations of feeding birds in close proximity to Baker Island on 9 April was unexpected, since this area has not previously shown such high densities of terns. A total of 90 specimens was collected (86 diurnal, 4 nocturnal). Only one of these was banded (Howland).

Gray-backed Tern (1 + 11 nocturnal)
Common Noddy (5 + 1 nocturnal)
White-capped (Hawaiian) Noddy (4 + 1 nocturnal)
Blue-gray Noddy (2)
White (Fairy) Tern (10)

All 5 species have been recorded in the grid in low numbers during all previous cruises. Specimens of all but the Blue-gray Noddy have been collected within the grid. Most of the Gray-backed Terns recorded during nocturnal observations during the present cruise were detected by call notes. Low numbers of all 5 species can be expected in the grid at all times.

TABLE 1. Summary of Southern Grid observations during the period 5-11 April 1966.

<u>DIURNAL</u>				
<u>Date</u>	<u>No. Miles</u>	<u>No. Hours</u>	<u>No. Birds</u>	<u>No. Species</u>
6 April	90	12.18	783	15
7	80	12.18	1314	12
8	86	12.00	128	7
9	50	12.05	1406	14
10	87	12.18	233	15
<u>11</u>	<u>101</u>	<u>11.98</u>	<u>198</u>	<u>13</u>
TOTALS	494	72.57	4062	26 (12.7/ day)
 <u>NOCTURNAL</u>				
5-6 April	68	11.88	26	6
6-7	15	11.91	343	6
7-8	20	12.08	32	4
8-9	35	11.90	210	8
9-10	43	11.90	79	8
10-11	25	11.93	101	12
<u>11-12</u>	<u>106</u>	<u>11.81</u>	<u>7</u>	<u>3</u>
TOTALS	312	83.41	798	17 (6.7/night)
GRAND TOTALS (Diurnal + Nocturnal)	806	155.98	4860	28

TABLE 2. Diurnal density of species groups in the Southern Grid, 6-11 April 1966.

<u>Species Group</u>	<u>No. Birds</u>	<u>Birds/Sq. Mi.</u>	<u>Estimated population/ 57,600 Sq. Mi.</u>	<u>% Total Birds</u>
Shearwater-Petrel	191	0.192	11,000	4.70
Storm Petrel	196	0.397	23,000	4.83
Terns	3312	2.235	129,000	81.54
Tropicbirds	3	0.003	200	0.07
Boobies	143	0.145	8,200	3.52
Frigatebirds	203	0.103	6,000	5.00
Shorebirds	2	0.004	200	0.05
Jaegers & Skuas	3	0.006	350	0.07
Miscellaneous	<u>9</u>	<u>0.010</u>	<u>600</u>	<u>0.22</u>
TOTALS	4062	4.111	237,000	100.00 %

TABLE 3. Diurnal abundance of species within the Southern Grid, 6-11 April 1966.

<u>Species</u>	<u>No. Birds</u>	<u>Birds/ Linear Mile</u>	<u>Number Collected</u>	<u>Status over last month</u>
Wedge-tailed Shearwater	69	0.140	7	+
Sooty/Slender-billed Shearwater	32	0.064		+
Christmas Island Shearwater	3	0.006		+
Audubon's Shearwater	1	0.002		0
Juan Fernandez Petrel	1	0.002		0
Phoenix Island/Tahitian Petrel	4	0.008		+
Black-winged Petrel	1	0.002		+
Cook's Petrel	4	0.008	2	+
Mottled Petrel	9	0.018		+
Bulwer's Petrel	40	0.081	1	-
Shearwater-petrel	27	0.054		+
Leach's Storm Petrel	22	0.038	22	-
White-rumped storm petrels	173	0.356		+
Red-tailed Tropicbird	2	0.004	1	-
Blue-faced Booby	106	0.214	1	+
Brown Booby	9	0.018	1	+
Red-footed Booby	27	0.054	8	+
Greater Frigatebird	11	0.022	2	+
Lesser Frigatebird	33	0.066	2	+
Frigatebird species	159	0.322		+
Ruddy Turnstone	2	0.004		0
Jaeger species	2	0.004		+
Skua	1	0.002		+
Sooty Tern	3290	6.660	86	+
Gray-backed Tern	1	0.002		0
Common Noddy	5	0.010	1	+
White-capped (Hawaiian) Noddy	4	0.008		+
Blue-gray Noddy	2	0.004		0
White (Fairy) Tern	10	0.020		+
Miscellaneous unidentified	12	0.024		+
TOTALS	4062	8.222	134	+

TABLE 4. Nocturnal abundance of species within the Southern Grid, 5-12 April 1966.

<u>Species</u>	<u>No. Birds</u>	<u>Birds/Linear Mile</u>	<u>No. Collected</u>
Wedge-tailed Shearwater	23	0.074	4
Sooty/Slender-billed Shearwater	1	0.003	
Audubon's Shearwater	4	0.013	1
Phoenix Island/Tahitian Petrel	1	0.003	
Tahitian Petrel	1	0.003	1
Mottled Petrel	3	0.010	3
<u>Pterodroma species</u>	3	0.010	
Bulwer's Petrel	4	0.013	
Shearwater-petrel	15	0.048	
Leach's Storm Petrel	8	0.026	4
White-rumped storm petrel	25	0.080	
Storm petrel species (rump ?)	5	0.016	
Tropicbird species	3	0.010	
Blue-faced Booby	6	0.019	
Red-footed Booby	3	0.010	
Booby species	3	0.010	
Golden Plover	1	0.003	
Ruddy Turnstone	1	0.003	
Shorebird species	8	0.026	
Sooty Tern	648	2.077	4
Gray-backed Tern	11	0.035	1
Common Noddy	1	0.003	1
Hawaiian Noddy	1	0.003	1
Bird species unidentified	<u>19</u>	<u>0.061</u>	<u> </u>
TOTALS	798	2.558	20

TABLE 6. Diurnal Abundance of Flocks in the SOUTHERN GRID, 6-11 April 1966.

<u>Date</u>	<u>No. Flocks</u>	<u>No. Birds</u>	<u>% Shearwater-Petrel</u>	<u>% Tern</u>
6 April	25	685	2.2	94.2
7	23	1204	0.2	92.3
8	3	20	35.0 (Storm Petrels)	65.0
9	28	1340	0.6	87.0
10	4	113	18.6	81.5
11	<u>2</u>	<u>127</u>	<u>7.9</u>	<u>91.3</u>
TOTALS	85	3389	Ave. 1.9 %	Ave. 92.8 %

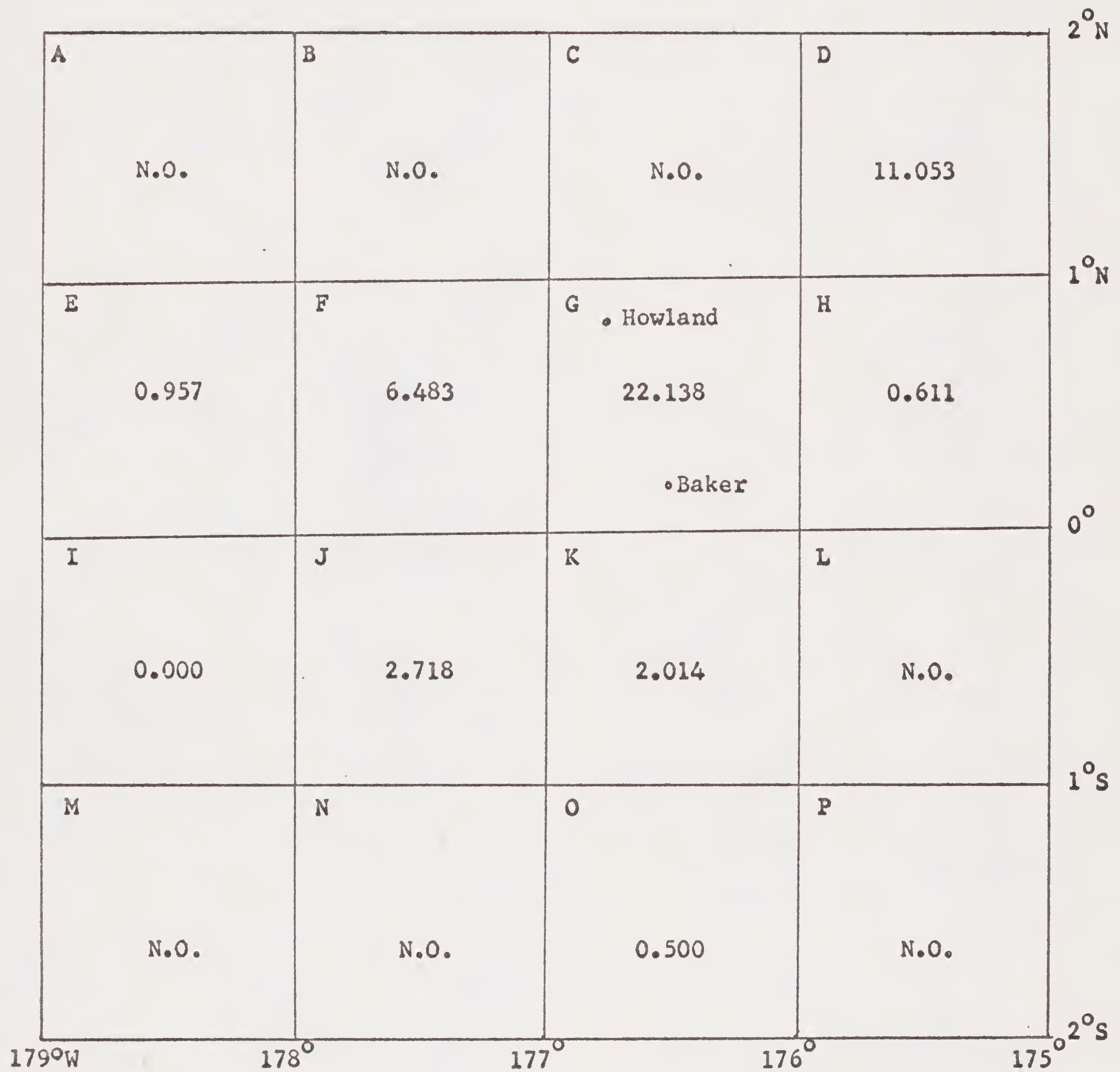


Figure 2. Diurnal bird densities (birds/linear mile) by square degrees throughout the Southern Grid area (6-11 April 1966).

N.O. = no observations.

PHS

Area A

(Oahu to Southern Grid via Johnston Atoll)

30 March - 5 April 1966

SIE 13

Summary SIC 12 AT-SEA (NON-GRID) bird numbers--Area B Southern Grid
to Samoa- 12-21 April 1966.

<u>Species</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>16</u>	<u>17</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>Totals</u>
Wedge-tailed Shearwater	4	1	5	17	1	4	47	40	119
Sooty/SI-bill Shearwater				3		1			4
Christmas Island Shearwater	1			1					2
Audubon's Shearwater					7	1	1		9
<u>Pterodroma hypoleuca</u>							1		1
Cook's Petrel	2			1					3
Mottled Petrel	2								2
Bulwer's Petrel	2		7	5		4	1		19
<u>Pterodroma species</u>	2	1	1						4
shearwater-petrel	11	1	2	15			4	5	38
White-throated Storm Petrel					1				1
Wilson's Storm Petrel							1		1
white-rumped storm petrels	23	2	2	1		4	7		39
Red-tailed Tropicbird							2	1	3
White-tailed Tropicbird							6	2	8
Blue-faced Booby	3	6	43	1	2	6			61
Brown Booby		2	1						3
Red-footed Booby			4	3			2		9
Booby species				2					2
Great Frigatebird					2				2
frigatebird species	1	1	1	5	2	1	8		19
Golden Plover						2			2
Ruddy Turnstone					13				13
Shorebird species							1		1
Jaeger species	1						1		2
Sooty Tern	57	47	58	1343	76	44	86	15	1726
Gray-backed Tern		19	9		19	12			59
Common Noddy	1			4	2		50		57
White-capped Noddy	4								4
Blue-gray Noddy					8				8
White Tern	14		1		1	1	33	14	64
Tern species	1		1			13	1		16
bird species						1	2		3
TOTALS	129	80	135	1401	134	94	254	77	2304

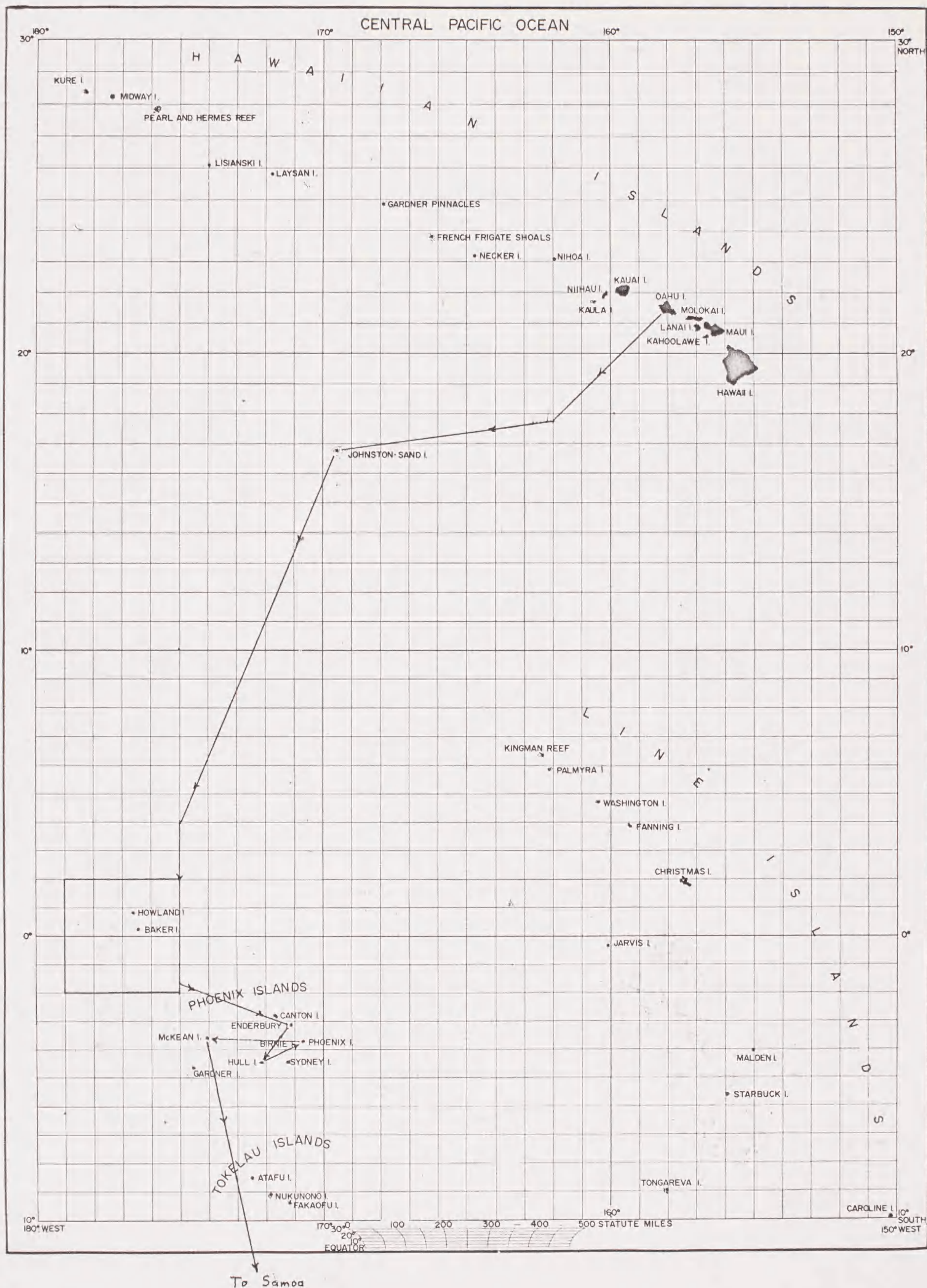


Fig. 1. SIC 12 Cruise Track (1st half) 29 March- 21 April 1966.

AT-SEA ONLY
 Summary of birds collected on SIC 12 (first half)
 29 March-- 21 April 1966

<u>Species</u>	<u>Oahu to Southern Grid</u>	<u>Southern Grid</u>	<u>Southern Grid to Samoa</u>	<u>TOTALS</u>
Wedge-tailed Shearwater	2	11	1	14
Audubon's Shearwater		1		1
Cook's Petrel		2		2
Mottled Petrel		3		3
Tahitian Petrel		1		1
Bulwer's Petrel		1		1
Leach's Storm Petrel	4	26		30
Wilson's Storm Petrel			1	1
Red-tailed Tropicbird		1		1
White-tailed Tropicbird	1			1
Blue-faced Booby		1		1
Brown Booby		1		1
Red-footed Booby		8		8
Greater Frigatebird		2		2
Lesser Frigatebird		2		2
Red Phalarope	1			1
Sooty Tern	7	90	29	126
Gray-backed Tern		1		1
Common Noddy		2		2
White-capped (Hawaiian) Noddy		1		1
White (Fairy) Tern			1	1
TOTALS	<u>15</u>	<u>154</u>	<u>32</u>	<u>201</u>

SIC 13

PRELIMINARY REPORT AT-SEA SURVEY
2-3 April 1966

SMITHSONIAN GRID # I ONLY

NORTHERN GRID SURVEY NO. 30

by

Richard S. Crossin

PRELIMINARY REPORT AT-SEA SURVEY
April 1966

SMITHSONIAN GRID # I ONLY

The following brief report covers the observations and collections made within the Smithsonian Grid # I area during the period 2-3 April 1966. POBSP personnel assigned to SIC 12 aboard the U.S.N.S. SHEARWATER (TAG-177) entered the grid at 0418, 2 April at position $15^{\circ}-40'$ N; $170^{\circ}-04'$ W and departed at 0055, 3 April at position $12^{\circ}-27'$; $171^{\circ}-38'$ W. Diurnal observations were made from sunrise to sunset on 2 April and nocturnal operations were held from time of entry into the grid until time of departure.

The number of birds recorded in the grid during diurnal observations on 2 April was much lower than that recorded during 1 April to the east and northeast of Johnston Atoll. During 1 April, 1,439 birds were recorded; throughout 2 April in the grid, only 242 were recorded. Although the close proximity of Johnston Atoll during the 1 April observations unbalances the comparison, there were unquestionably greater densities of feeding birds present to the east and northeast of Johnston than south of it in the grid area. Large numbers of Red-footed Boobies and Greater Frigatebirds were observed east and northeast of Johnston, whereas these species were practically absent from the grid.

Sooty Terns were dominant during both diurnal and nocturnal observations within the grid area. This species accounted for over 54 % of the total diurnal birds recorded, and 90 % of the nocturnal total. Sooty/Slender-billed Shearwaters were the second most abundant species. The tern and shearwater-petrel groups together accounted for roughly 96 % of total birds.

TABLE III
At-Sea
Species Account

<u>April 1966</u>	<u>Smithsonian Grid # I</u>		
<u>Species</u>	<u>No. Birds</u>	<u>Birds/linear mi.</u>	<u>No. Collected</u>
Wedge-tailed Shearwater	3	0.024	
Christmas Island Shearwater	1	0.008	
Sooty/Slender-billed Shearwater	79	0.622	
Pale-footed Shearwater	1	0.008	
Juan Fernandez Petrel	2	0.016	
Bonin Island Petrel	1	0.008	
Black-winged Petrel	4	0.031	
Mottled Petrel	3	0.024	
unidentified shearwater-petrel	5	0.039	
Red-footed Booby	1	0.008	
Long-tailed Jaeger	1	0.008	
jaeger species	3	0.024	
Red Phalarope/Sanderling	4	0.031	
Sooty Tern	131	1.031	1
Fairy Tern	1	0.008	
misc. unidentified	<u>2</u>	<u>0.016</u>	<u> </u>
TOTALS	242	1.906	1

TABLE IV

At-sea Banded and/or Orange-tagged Birds
Observed or Collected

<u>April 1966</u>	<u>Species</u>	<u>Band or Tag</u>	<u>Smithsonian Grid # I</u>		<u>Miles from Origin</u>
			<u>Latitude</u>	<u>Longitude</u>	
	Sooty Tern	Orange Streamer	15-05 N	170-25 W	111
	Sooty Tern	Orange Streamer	14-20 N	170-40 W	159
	Sooty Tern	Orange Streamer	13-40 N	171-04 W	205

TABLE V

Comparison between Grid and nearest Island (50 mile radius)
Birds per linear mile

<u>April 1966</u>	<u>Date</u>	<u>Island</u>		<u>Smithsonian Grid # I</u>	
		<u>Total Birds</u>	<u>Sooty Terns</u>	<u>Total Birds</u>	<u>Sooty Terns</u>
	1 April	1,207	887		
	2 April			242	131
		<u>Density (Birds/Linear Mile)</u>			
		24.14	17.74	1.906	1.031

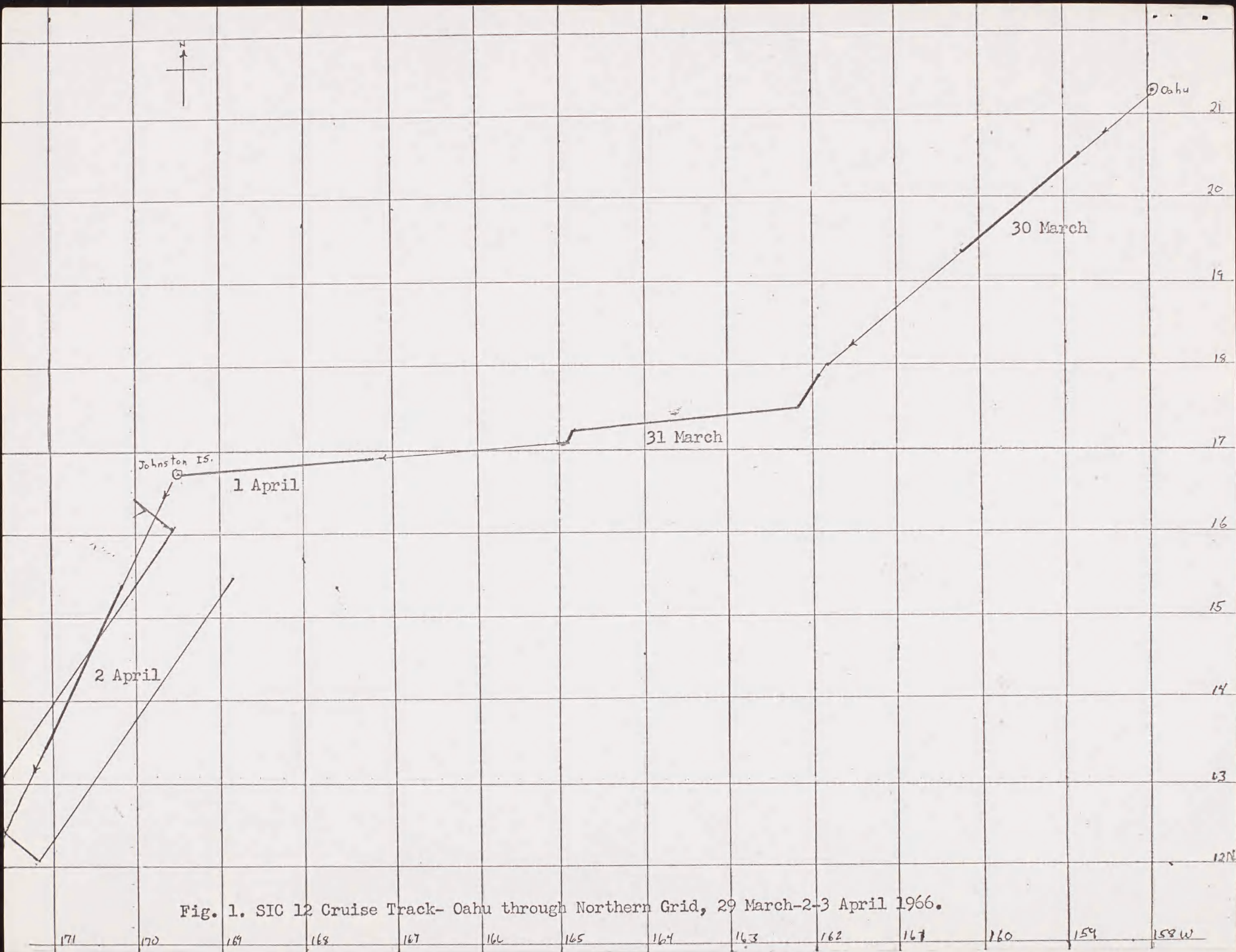


Fig. 1. SIC 12 Cruise Track- Oahu through Northern Grid, 29 March-2-3 April 1966.

171 170 169 168 167 166 165 164 163 162 161 160 159 158 W

SIC 12 13
N. GRID SURVEY NO. 29

SMITHSONIAN GRID

Survey No. ~~27~~ 29

April 1966

Observations were made in Smithsonian Grid No. 1 from 1 - 5 April, 1966. The Smithsonian Party consisted of Robert DeLong, Paul Woodward, and Richard Maze. Normal grid procedure was followed with the exception that the easternmost leg was not included. Continuous observations were made throughout the grid. During diurnal periods 552 miles were traveled in 53.5 hours; during nocturnal periods 526 miles were traveled in 48.7 hours.

Moderate to heavy seas and accompanying strong northeast winds made observing difficult. Due to these conditions many birds were undoubtedly missed, especially shearwaters and petrels.

During diurnal observations 1359 birds of fourteen species were recorded. This total represents a 67% increase over last month. Sooty Terns numbering 1231 accounted for 91% of the total. Procellarids accounted for 7.4% of the total. Twenty-seven flocks were seen in diurnal periods. They accounted for 1182 birds (or 87%) of the total. The flocks consisted almost entirely of Sooty Terns. Forty-eight birds—43 of them Sooty Terns—were recorded during night watches.

The following changes were noted from March: Shearwaters-Petrels increased 188%; Terns increased 65%; Tropicbirds did not change; Boobies decreased 83%; Frigatebirds decreased 100%; Storm Petrels increased 100%. In addition six species recorded last month were not seen this month. The lack of Bulwer's Petrels and frigatebirds, and the great reduction in the number of Red-footed Boobies is noteworthy. These species may be concentrated around Johnston Atoll and not ranging far out to sea. Five new species were seen this month including

migrant Sooty Shearwaters and Mottled Petrels. The first Wedge-tailed Shearwaters of the year were also seen.

Three orange streamered birds, all Sooty Terns, were seen in the grid (Table 5). No birds were collected. A blood sample was taken from a Brown Booby that landed on the ship.

members of the crew who attempted to catch it. It then circled, again landed, and was captured. The bird was bled, color-marked with black paint, and released.

Red-footed Booby

There was a notable decrease in this species over the last month. Last month 31 birds were recorded and this month there was only one.

Sooty Tern

This species showed a 76% increase over last month. Large concentrations were found throughout the grid in comparison to last month when there was only one large concentration in the northwest corner of the grid. The largest number, 396, were seen throughout the day on April 3rd over 200 miles southeast of Johnston. Birds were recorded every night in the grid.

Three orange streamered birds were seen on 4 April due west of Johnston Atoll.

Over 90% of the birds were seen in flocks. Of the twenty-seven flocks twenty were feeding flocks.

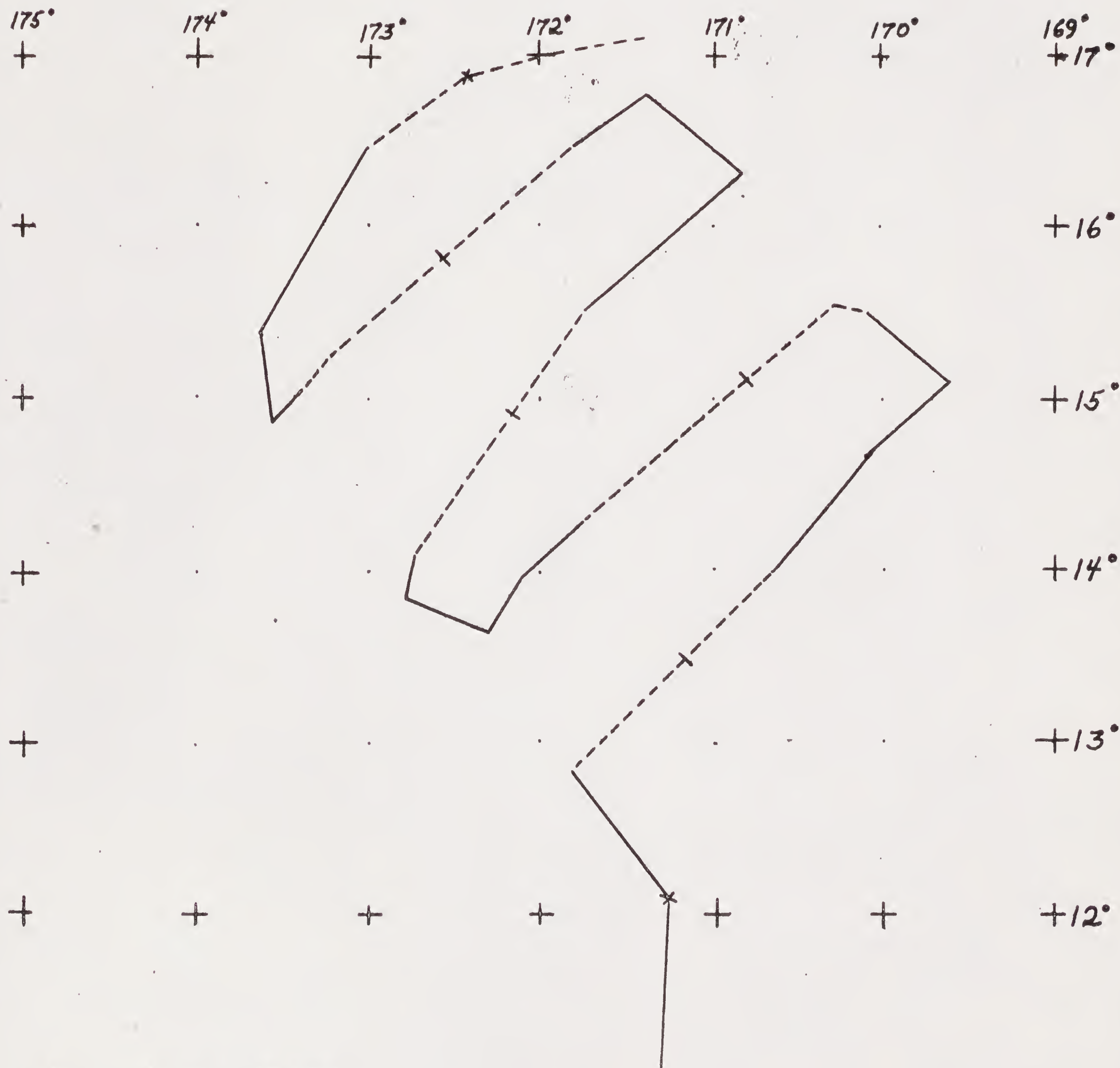
Fairy Tern

This species decreased 80% from last month.

Phalarope ?

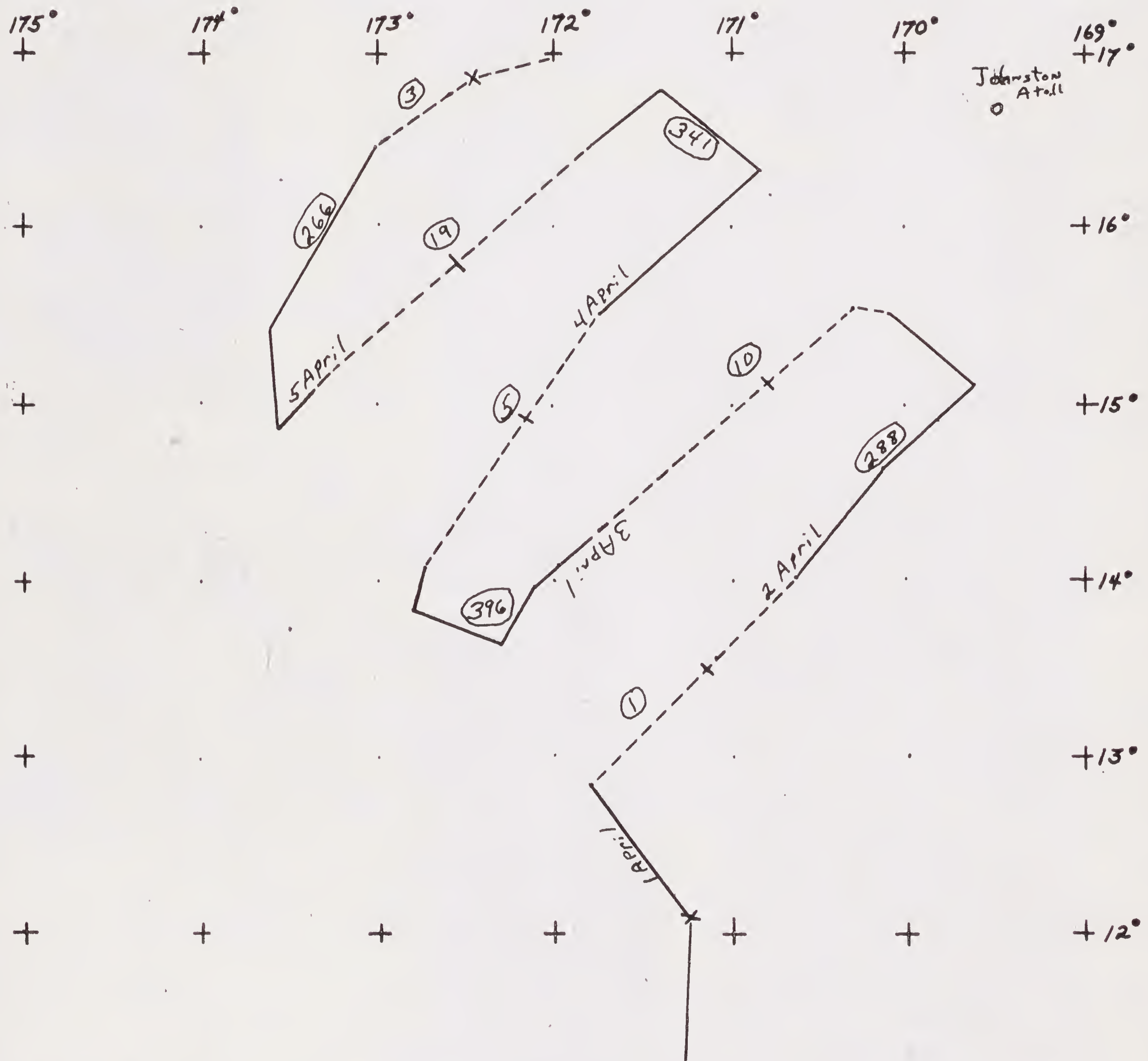
On 5 April what was believed to be a phalarope was observed flying in a northerly direction.

FIGURE 1. Smithsonian Grid Track, April 1966.



1 Inch = 1 = 60 Miles
X -- Entry and Departure Points
———— Diurnal Travel
----- Nocturnal Travel

FIGURE 2. Sooty Tern distribution in the Grid, April 1966.



1 inch = 1 = 60 miles
 X -- Entry and Departure Points
 ——— Diurnal Travel
 - - - - Nocturnal Travel

TABLE 4. Diurnal abundance of species in Grid, April 1966.

<u>Species</u>	<u>No. Birds</u>	<u>Birds / linear mile</u>
Wedge-tailed Shearwater	14	0.025
Sooty Shearwater	20	0.036
Sooty/Slender-billed Shearwater	8	0.014
Juan Fernandez Petrel	2	0.004
<u>Pterodroma externa</u>	8	0.014
Black-winged Petrel	1	0.002
<u>Pterodroma hypoleuca</u>	2	0.004
Mottled Petrel	1	0.002
Pterodroma sp.	22	0.039
Shearwater-Petrel	23	0.041
Leach's-type Storm Petrel	3	0.005
Storm Petrel sp.	1	0.002
Red-tailed Tropicbird	3	0.005
Blue-faced Booby	4	0.007
Brown Booby	1	0.002
Red-footed Booby	1	0.002
Sooty Tern	1231	2.230
Common Noddy Tern	2	0.004
Fairy Tern	4	0.007
Tern sp.	2	0.004
Shorebird sp.	1	0.002
Miscellaneous	<u>5</u>	<u>0.009</u>
Totals	1359	2.460

TABLE 5. Streamer sightings in the Grid, April 1966.

<u>Date</u>	<u>Species</u>	<u>Streamer Color</u>	<u>Location of Sighting</u>	<u>Origin of Bird</u>	<u>Distance from Origin</u>
4 April	Sooty Tern	Orange	16-7N 171-11W	Sand Island (Johnston Atoll)	83 Miles
4 April	Sooty Tern	orange	16-7N 171-11W	"	83 Miles
4 April	Sooty Tern	Orange	16-31 171-8W	"	72 Miles

13
SIC-12 At-Sea Ectoparasites

March 29-May 21, 1966

Bird	collections of combined FM, M, etc.
<u>Phalaropus fulicarius</u>	1
<u>Phaethon lepturus</u>	22 1
<u>Oceanodroma leucorhoa</u>	12
<u>Sterna fuscata</u>	1
<u>Bulweria bulwerii</u>	1
<u>Fregata ariel</u>	1
<u>Anous stolidus</u>	1
<u>Pterodroma cookii</u>	2
<u>Pterodroma inexpectata</u>	3
<u>Pterodroma rostrata</u>	1
<u>Puffinus assimilis</u>	1
<u>Anous minutus</u>	1
<u>Sterna lunata</u>	1
<u>Oceanites oceanicus</u>	1
<u>Puffinus lherminieri</u>	1
<u>Pterodroma externa externa</u>	1
<u>Pterodroma hypoleuca</u>	1
total	31

SIC-12 Island Ectoparasites and general Insects

	Bird	Number of Samples
Berlese:		
	Christmas Island Shearwater nest	1
	Miscellaneous	22
	Brown Booby nest	15
	Red-tailed Tropicbird nest	3
	Audubon's Shearwater nest	5
	rabbit burrows	3
	Great Frigatebird nest	5
	Lesser Frigatebird nest	15
	Blue-faced Booby nest	10
	White-throated Storm Petrel nest	4
	Sooty Tern nest	11
	Total	<u>94</u>

Ticks: Three live tick collections. Two on McKean, one on Phoenix. Tick specimens collected at Phoenix, McKean and Howland. Larval ticks found at Phoenix. Hard tick on Fairy Tern at Phoenix.

Chiggers: Heavy infestation at Phoenix, especially on rabbits found on Phoenix, McKean and possibly Baker.

Ectoparasites collected:	bird	number of collections
	Christmas Island Shearwater ch.	1
	Christmas Island Shearwater ad.	1
	Red-tailed Tropicbird	2
	Common Noddy Tern	1
	Fairy Tern	2
	Reef Heron	<u>1</u>
	total	8

SIC ~~12~~ ¹³

AREA A.

Oahu → Southern Grid

29 March - 11 April 1966

Map missing

Species	30	31	1	2	3	4	5	TOTAL	No. Coll.
Laysan Albatross	1	1						2	
Black-footed Albatross	7	4	1					12	
Wedge-tailed Shearwater	48	11	41	3		97	23	223	2
Sooty/Slender-billed Shearwater	19	25	176	79	50	156	2	507	
Christmas Island Shearwater			1	1				2	
Newell's Shearwater	1							1	
Pale-footed Shearwater				1				1	
Juan Fernandez Petrel			1	2		4	1	8	
Phoenix Island/Tahitian Petrel			1			1		2	
Bonin Island Petrel				1				1	
Black-winged Petrel		3	1	4	1	1		10	
<u>Pterodroma hypoleuca</u> (unid. to race)		3	1			2	1	7	
Mottled Petrel		2		3		7	25	41	
Bulwer's Petrel	3					12	11	26	
<u>Pterodroma</u> species	2	1					2	5	
unid. Shearwater-Petrel	4	13	27	5	9	64	6	128	
Leach's Storm Petrel						3	2	5	4
unid. White-rumped Storm Petrels		2	3		4	24	18	51	
Storm Petrel species (runup?)						1		1	
White-tailed Tropicbird		1	4			1	1	7	1
Red-tailed Tropicbird	1		16		2		1	20	
tropicbird species	1				2			3	
Blue-faced Booby			3		1		3	7	
Brown Booby			2					2	
Red-footed Booby	4	3	109	1		4	1	122	
Great Frigatebird	9	5	23					37	
Lesser Frigatebird							1	1	
Frigatebird species							9	9	
Red Phalarope/Sanderling	9	8	2	4				23	1-RP
Shorebird species			1		1			2	
Long-tailed Jaeger				1				1	
Jaeger species	1			3		2		6	
Sooty Tern	73	25	1007	131	50	807	167	2260	7
Gray-backed Tern	6		8					14	
Common Noddy			7			4		11	
White (Fairy) Tern	4			1	3	5	4	17	
Tern species				1				1	
Miscellaneous unidentified	5	8	5	1			2	21	
TOTALS	198	116	1439	242	132	1212	258	3597	15

Summary SIC ¹³ ~~12~~ AT-SEA (NON-GRID) bird numbers--Area B Southern Grid
to Samoa- 12-21 April 1966.

<u>Species</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>16</u>	<u>17</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>Totals</u>
Wedge-tailed Shearwater	4	1	5	17	1	4	47	40	119
Sooty/SI-bill Shearwater	1			3		1			4
Christmas Island Shearwater	1			1					2
Audubon's Shearwater					7	1	1		9
<u>Pterodroma hypoleuca</u>							1		1
Cook's Petrel	2			1					3
Mottled Petrel	2								2
Bulwer's Petrel	2		7	5		4	1		19
<u>Pterodroma species</u>	2	1	1						4
shearwater-petrel	11	1	2	15			4	5	38
White-throated Storm Petrel					1				1
Wilson's Storm Petrel							1		1
white-rumped storm petrels	23	2	2	1		4	7		39
Red-tailed Tropicbird							2	1	3
White-tailed Tropicbird							6	2	8
Blue-faced Booby	3	6	43	1	2	6			61
Brown Booby		2	1						3
Red-footed Booby			4	3			2		9
Booby species				2					2
Great Frigatebird					2				2
frigatebird species	1	1	1	5	2	1	8		19
Golden Plover						2			2
Ruddy Turnstone					13				13
Shorebird species							1		1
Jaeger species	1						1		2
Sooty Tern	57	47	58	1343	46	44	86	15	1726
Gray-backed Tern		19	9		19	12			59
Common Noddy	1			4	2		50		57
White-capped Noddy	4								4
Blue-gray Noddy					8				8
White Tern	14		1		1	1	33	14	64
Tern species	1		1			13	1		16
bird species						1	2		3
TOTALS	129	80	135	1401	134	94	254	77	2304

TOTAL BIRDS COLLECTED ON SIC -12 13

<u>Species</u>	<u>Total At-Sea Non-Grid</u>	<u>Southern Grids 1 & 2</u>	<u>Ender- bury Island</u>	<u>Howland Island</u>	<u>Hull Island</u>	<u>Phoenix Island</u>	<u>McKean Island</u>	<u>Palmyra Island</u>	<u>TOTAL</u>
Wedge-tailed Shearwater	5	15							20
Christmas Island Shearwater							1		1
Audubon's Shearwater		4						1	5
Sooty Shearwater		1							1
Cook's Petrel		2							2
<u>Pterodroma hypoleuca</u> ssp. ?	1								1
Mottled Petrel		3							3
Tahitian Petrel		1							1
Juan Fernandez Petrel	1								1
Bulwer's Petrel	6	1							7
Leach's Storm Petrel	5	29							34
Harcourt's Storm Petrel		3							3
Wilson's Storm Petrel	1								1
White-throated Storm Petrel						1			1
Red-tailed Tropicbird	1	1						1	3
White-tailed Tropicbird	3								3
Blue-faced Booby		1							1
Brown Booby		1						3	4
Red-footed Booby		10						4	14
Greater Frigatebird		2						3	5
Lesser Frigatebird		2						3	5
Reef Heron				1					1
Golden Plover							1		1
Ruddy Turnstone							1		1
<u>Erolia</u> sp.			2			3	1		6
Red Phalarope	1								1
Franklin's Gull								2	2
Sooty Tern	40	210		27	2		26	51	356
Gray-backed Tern		1					10		11
Common Noddy		3		1			14	4	22
White-capped (Hawaiian) Noddy		1		1				5	7
Blue-gray Noddy							13		13
Fairy (White) Tern	<u>1</u>	<u>1</u>				<u>1</u>	<u>1</u>	<u>4</u>	<u>8</u>
TOTALS	65	293	2	30	2	10	68	78	543

PRELIMINARY REPORT

McKEAN ISLAND

(SIC 12) 13

by

Richard S. Crossin

PRELIMINARY REPORT

McKEAN ISLAND

ITINERARY

30 April 1966	Landed on McKean Island	0830
1 May 1966	Departed McKean Island	0930

This report is based on the operations performed on McKean Island by P.O.B.S.P. personnel during the period 30 April- 1 May 1966. Survey party members were Richard Crossin (Biologist in Charge), Dayle Husted, Norman Heryford, Brian Harrington, Jeff Tordoff, Frank Smith, James Lewis, Ken Balcomb, and Dave Hoff.

Very little change was apparent since the survey made during 17-19 April 1966. The vegetation remains lush and dense and will probably continue so if present rain conditions persist; throughout the early morning of 1 May, intense rain squalls passed over the island.

A nearly full moon with no cloud cover until nearly 0200 a.m. during the night of 30 April-1 May defeated all attempts to band birds. Most of the crew was eventually put to capturing birds for blood sampling. Since the boobies and frigates had been sampled only 11 days earlier, all blood samples were taken from terns (see Table 2). A total of 26 Sooty Terns, 14 Common Noddies, and 9 Gray-backed Terns was collected for nasal mite studies. A total of 13 Blue-gray Noddies was collected for study skins. All collected terns served a dual purpose in that blood samples were first taken. Heryford headed the ectoparasite collecting which included live tick and chigger collections plus Berlese samples (see Table 3).

SPECIES ACCOUNTS

Wedge-tailed Shearwater - Only a few were seen flying over the island at dusk on 30 April. Since the small colony in the guano mound was worked on 18 April, it was not further investigated.

Christmas Island Shearwater - Only a few were seen; one specimen was collected.

Audubon's Shearwater - Common over entire island where rocks are present for nest sites; very abundant about the old walls on lee side of island. Pairs are still selecting nest sites and a few have eggs. A total of 130 was banded and 60 returns were taken.

White-throated Storm Petrel - Very common on the lee side of island. Numbers begin coming in over the island from at sea at about dusk. Apparently most pairs are still in the process of selecting nest sites beneath rocks and heavy grass cover. Only one egg was noted.

Red-tailed Tropicbird - Status remained the same as earlier April survey; 38 nests with eggs, 3 nestlings, and a few courting groups of from 3-5 birds were noted.

Blue-faced Booby - Several small to medium sized clubs were scattered about the lagoon area. Population remained at about the same level as previous report, i.e., 1000 birds. A few pairs had eggs.

Brown Booby - Seven of the nests with eggs noted on the previous survey now had chicks. Otherwise, status remained essentially the same.

Red-footed Booby - Scattered birds were noted roosting on the Sida at night. one individual was noted carrying nest material near the lagoon on the evening of 30 April.

Table 2. Numbers of birds banded, returns recorded and blood samples collected on McKean Island, 30 April-1 May 1966.

<u>Species</u>	<u>Number Banded</u>	<u>Number Returns</u>	<u>Blood Samples</u>
Christmas Island Shearwater			1
Audubon's Shearwater	130	60	
White-throated Storm Petrel		1	
Blue-faced Booby		1	
Brown Booby		1	
Red-footed Booby		1	
Sooty Tern		1	59
Gray-backed Tern			16
Common Noddy	26		25
Blue-gray Noddy	25	2	5
White (Fairy) Tern	<u>44</u>	<u>5</u>	<u>1</u>
TOTALS	225	72	107

Table 3. Ectoparasite collections made on McKean Island, 30 April-1 May 1966.

<u>Berlese Samples</u>	
<u>Species</u>	<u>No. Samples</u>
Audubon's Shearwater	3
White-throated Storm Petrel	3
Blue-faced Booby	4
Lesser Frigatebird	<u>13</u>
	23

Live Ticks

Between 1000 and 1200 Ornithodoros adults and nymphs in all stages of development were collected from beneath large rocks. One larval tick collected from flannel cloth drag.

Chiggers

Several larval trombiculids were collected with flannel cloth drag. No adults were noted during tick collecting.

Besides routine examination of birds handled during banding, etc., 10 Great Frigatebirds and 2 Blue-faced Boobies were checked for ectoparasites--all negative.

DATE 29 MAR. 1966

$\frac{1}{8} = \frac{2}{10}$
 $\frac{1}{10} = \frac{1}{10}$

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID/O	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700															
0800															
0900															
1000															
1100															
1200															
1300															
1400															
1500															
1600															
1700															
1800															
1900															
2000	21-13N	158-01W	FEWCLDS	20	1016	76	67	74	2	1	CONF	77	AIRS		247-10.5
2100	21-08N	158-12W	"	20	1017	76	67	74	1	1	020-5-4	77	8 020		247-10.5
2200	21-04N	158-22W	"	20	1017	76	67	74	1	1	020-5-4	77	8 020		247-10.5
2300	21-00N	158-32W	"	20	1017	75	69	82	1	1	020-5-4	77	8 020		247-10.5
2400	20-56N	158-43W	"	20	1017	75	69	82	1	1	020-5-4	77	8 020		247-10.5

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
 12-5-63

DATE 31 March 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID %	TOT SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	18-33 N	162-16 W	PH/Clody	20	1018	74	58	58	9	8	010-6-10	77	21	020	220 10.5
0200	18-25 N	162-24 W	"	20	1017	74	58	58	8	6	010-6-10	77	15	030	220 10.5
0300	18-16 N	162-31 W	"	20	1017	74	58	58	7	5	010-6-10	77	15	030	220 10.5
0400	18-07 N	162-38 W	"	20	1016	74	58	58	7	6	010-6-10	77	13	035	220 10.5
0500	17-57 N	162-49 W	O'CAST	20	1017	72	63	73	10	10	010-6-10	77	15	030	220-10.5
0600	17-50 N	162-56 W	"	20	1018	72	63	73	10	10	010-6-10	77	15	030	220-10.5
0700	17-42 N	163-03 W	"	20	1018	73	63	73	10	9	010-6-10	77	15	030	220-10.5
0800	17-34 N	163-10 W	"	20	1018	75	63	66	9	8	020-6-8	77	16	030	220-10.5
0900	17-28 N	163-18 W	"	20	1018	75	63	64	9	7	020-6-10	77	18	030	263-10.5
1000	17-24 N	163-29 W	"	20	1018	75	65	69	9	7	020-6-10	77	18	035	263-10.5
1100	17-23 N	163-40 W	"	20	1017	75	65	69	8	7	020-6-10	77	20	035	263-10.5
1200	17-22 N	163-52 W	"	20	1016	75	65	69	7	5	020-7-14	77	21	040	263-10.5
1300	17-21 N	164-04 W	"	20	1015	75	65	69	7	5	020-7-14	77	21	040	263-10.5
1400	17-19 N	164-18 W	"	20	1015	75	65	69	8	7	020-7-14	77	20	045	263-10.5
1500	17-18 N	164-29 W	"	20	1014	75	65	69	6	5	020-7-14	77	20	045	263-11
1600	17-16 N	164-40 W	"	20	1014	75	65	69	4	2	010-7-12	77	18	050	263-11
1700	17-11 N	164-49 W	CLOUDY	20	1014	74	65	74	7	6	010-7-10	77	23	045	220-11
1800	17-06 N	164-58 W	O'CAST	20	1014	74	65	74	10	9	020-7-10	77	23	045	265-11
1900	17-05 S N	165-10 W	"	20	1013	73	66	78	10	9	020-7-10	77	21	045	265-11
2000	17-04 N	165-21 W	CLOUDY	20	1015	73	66	78	8	7	020-7-10	77	21	045	265-11
2100	17-02 N	165-32 W	"	20	1016	74	65	74	10	10	045-6-8	77	15	045	265-11.0
2200	17-00 N	165-44 W	"	20	1017	74	65	74	10	10	045-6-7	77	12	050	265-11.0
2300	16-59 N	165-56 W	"	20	1017	74	65	74	10	10	045-6-7	77	10	060	265-11.0
2400	16-58 N	166-08 W	"	20	1017	74	65	74	10	10	045-6-7	77	10	060	265-11.0

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE 2 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16-12N	169-45W	O'cast	20	1014	75	66	74	9	8	Cont.	77	15	090	204 11
0200	16-01N	169-50W	Partly cldy	20	1015	75	66	74	6	4	"	77	13	080	204 11
0300	15-51N	169-55W	" "	20	1014	75	66	74	4	3	"	77	12	080	204 11
0400	15-41N	169-59W	" "	20	1014	75	66	74	5	5	"	77	11	080	204 11
0500	15-35N	170-04W	" "	20	1014	74	65	74	6	7	070-7-6	77	12	080	204 11
0600	15-25N	170-15W	Cloudy	20	1015	74	65	74	8	7	070-7-6	77	12	080	204 11
0700	15-16N	170-21W	"	20	1016	75	66	74	9	8	070-7-6	77	12	080	200 11
0800	15-06N	170-25W	"	20	1016	75	66	74	10	9	070-7-6	78	12	080	200 11
0900	14-57N	170-25W	FEW Cldy	20	1017	76	65	57	1	1	070-7-6	78	15	075	200 11
1000	14-43N	170-29W	"	20	1017	76	65	57	1	1	070-7-6	78	15	075	200 11
1100	14-34N	170-33W	"	20	1017	76	65	57	1	1	070-7-6	78	15	075	200 11
1200	14-24N	170-38W	"	20	1017	76	65	57	1	1	070-7-6	78	15	075	204 11
1300	14-14N	170-44W	" "	20	1015	79	67	68	1	0	070-7-7	78	15	075	204 11
1400	14-04N	170-48W	" "	20	1014	79	67	68	3	1	070-7-7	78	17	075	204 11
1500	13-55N	170-52W	" "	20	1013	79	67	68	2	1	070-7-7	78	17	075	200 11
1600	13-45N	170-56W	" "	20	1013	79	67	68	2	1	070-7-7	78	17	075	200 11
1700	13-31N	171-03W	"	20	1012	79	67	68	2	1	070-7-6	79	16	065	200-11
1800	13-22N	171-08W	"	20	1012	79	67	68	2	1	070-7-6	79	19	065	200-11
1900	13-13N	171-13W	"	20	1012	79	67	68	2	1	070-7-6	79	19	065	200-11
2000	13-04N	171-17W	"	20	1013	78	68	71	3	2	070-7-6	79	20	065	200-10.5
2100	12-54N	171-21W	"	20	1014	78	68	71	3	2	070-6-6	79	20	070	200 10.5
2200	12-45N	171-26W	"	20	1015	78	68	71	3	2	070-6-6	79	20	070	200 10.5
2300	12-35N	171-30W	"	20	1015	78	68	71	3	2	070-6-6	79	20	070	200 10.5
2400	12-25N	171-35W	"	20	1015	78	68	71	3	2	070-6-6	79	20	070	200 10.5

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

DATE 4 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID/O	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SFD.
0100	8-34 N	173-14 W	Partly Cloudy	20	1013	81	74	79	7	5	070-6-6	81	15	060	190 10.5
0200	8-28 N	173-16 W	" "	20	1012	81	74	79	5	4	070-6-6	81	16	060	190 10.5
0300	8-12 N	173-18 W	" "	20	1012	81	74	79	6	3	070-6-6	81	15	060	190 10.5
0400	8-02 N	173-20 W	" "	20	1011	81	74	79	5	3	070-6-6	81	15	060	190 10.5
0500	7-53 N	173-25 W	Cloudy	20	1011	82	75	80	8	7	070-6-6	81	19	060	200 10.5
0600	7-44 N	173-30 W	"	20	1010	82	75	80	9	8	070-6-6	81	19	060	200 10.5
0700	7-34 N	173-34 W	"	20	1011	82	75	80	10	9	070-6-6	81	19	060	200 10.5
0800	7-27 N	173-38 W	"	20	1011	82	75	80	9	8	070-6-6	82	19	060	200 10.5
0900	7-17 N	173-41 W	O'cast	20	1012	84	76	76	10	7	060-6-6	82	15	060	200 10.5
1000	7-07 N	173-46 W	"	20	1012	84	76	76	10	7	060-6-6	82	15	060	200 10.5
1100	7-03 N	173-47 W	"	20	1013	84	76	76	10	7	060-6-6	82	15	060	200 10.5
1200	6-55 N	173-50 W	"	20	1013	84	76	76	10	7	060-6-6	82	15	060	200 10.5
1300	6-54 N	173-54 W	"	20	1012	84	74	73	10	8	060-6-6	82	17	060	200 10.5
1400	6-47 N	173-56 W	"	20	1011	84	74	73	10	8	060-6-6	82	17	060	200 10.5
1500	6-39 N	173-59 W	"	20	1012	84	74	73	10	8	060-6-6	82	17	060	200 10.5
1600	6-31 N	174-04 W	"	20	1009	82	75	80	10	7	060-6-6	82	17	090	200 10.5
1700	6-22 N	174-03 W	"	20	1010	80	72	75	10	9	060-6-6	80	15	060	195-10.5
1800	6-13 N	174-07 W	"	20	1010	78	72	83	10	10	060-6-6	80	16	060	195-10.5
1900	6-03 N	174-10 W	"	20	1010	78	72	83	10	10	060-6-6	79	15	060	195-10.5
2000	5-54 N	174-13 W	"	20	1010	78	72	83	10	9	060-6-6	79	14	060	195-10.5
2100	5-44 N	174-17 W	"	20	1011	80	70	72	10	9	060-6-5	79	10	060	195 10.5
2200	5-34 N	174-20 W	"	20	1011	80	70	72	10	9	060-6-5	79	10	060	195 10.5
2300	5-25 N	174-24 W	"	20	1012	80	70	72	10	9	060-6-5	79	10	060	195 10.5
2400	5-15 N	174-27 W	"	20	1012	80	70	72	10	9	060-6-5	79	10	060	195 10.5

REMARKS:

ALL TIMES LOCAL (WILKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

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DATE 5 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMID	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SFD.
0100	5-05 N	174-30 W	3 cast/dk	15	1012	78	74	87	10	9	060-6-4	79	11	045	195-10.5
0200	4-55 N	174-34 W	" "	10	1011	78	75	91	10	10	060-6-4	79	7	000	195-10.5
0300	4-45 N	174-37 W	" "	20	1010	78	74	87	10	9	060-6-4	79	11	010	195-10.5
0400	4-35 N	174-40 W	" "	20	1010	78	74	87	10	9	060-6-4	82	12	050	195-10.5
0500	4-21 N	174-39 W	" "	20	1009	78	74	87	10	9	060-6-4	82	10	050	195-10.5
0600	4-11 N	174-42 W	Cloudy	20	1009	78	74	87	8	7	060-6-4	82	10	050	195-10.5
0700	4-01 N	174-45 W	" "	20	1010	78	74	87	9	8	060-6-4	82	10	050	199-10.5
0800	3-51 N	174-48 W	0'cast	20	1010	81	74	80	10	9	060-6-4	84	11	055	199-10.5
0900	3-41 N	174-54 W	Cloudy	20	1011	85	75	73	6	4	050-6-4	84	10	045	199-10.5
1000	3-31 N	174-54 W	" "	20	1011	85	75	73	6	4	050-6-4	84	10	045	179-10.5
1100	3-20 N	174-54 W	" "	20	1012	85	75	73	6	4	050-6-4	84	10	045	179-10.5
1200	3-10 N	174-54 W	" "	20	1012	85	75	73	6	4	050-6-4	84	10	045	179-10.5
1300	3-03 N	174-56 W	Partly Cloudy	20	1010	86	76	73	3	2	050-6-4	84	10	045	179-10.5
1400	2-54 N	174-56 W	" "	20	1009	86	76	73	3	1	050-6-4	84	11	045	179-10.5
1500	2-50 N	174-56 W	" "	20	1008	86	76	73	4	2	050-6-4	84	11	045	179-10.5
1600	2-46 N	174-56 W	" "	20	1008	86	76	73	3	1	050-6-4	84	11	045	179-10.5
1700	2-37 N	174-56 W	" "	20	1008	85	75	73	3	2	050-6-4	84	10	050	179-10.5
1800	2-27 N	174-57 W	" "	20	1008	84	76	76	3	2	050-6-4	84	10	050	179-10.5
1900	2-16 N	174-57 W	" "	20	1008	84	76	76	3	2	050-6-4	84	10	050	179-10.5
2000	2-09 N	174-58 W	" "	20	1008	84	76	76	4	3	050-6-4	84	10	050	179-10.5
2100	1-58 N	174-59 W	Few Cls	20	1010	83	76	80	4	2	060-6-4	84	10	060	179-10.5
2200	1-48 N	174-59 W	" "	20	1010	83	76	80	4	2	060-6-4	84	10	060	179-10.5
2300	1-37 N	175-00 W	" "	20	1012	83	76	80	4	2	060-6-4	84	10	060	176-10.5
2400	1-27 N	175-00 W	" "	20	1012	83	76	80	4	2	060-6-4	84	10	060	176-10.5

REMARKS:

ALL TIMES LOCAL (WILKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955
12-5-63

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 6 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	1-15N	175-00W	Partly Cldy	20	1011	82	77	84	2	5	060-6-4	84	10	050	Drifting
0200	1-13N	175-00W	" "	20	1010	82	77	84	3	1	050-6-3	84	7	045	"
0300	1-12N	175-01W	" "	20	1010	82	77	84	2	0	050-6-3	84	8	045	"
0400	1-12N	175-01W	" "	20	1009	82	77	84	1	0	050-6-3	84	8	045	"
0500	1-10N	175-02W	" "	20	1009	82	77	84	3	2	050-6-3	84	7	045	"
0600	1-10N	175-02W	" "	20	1009	82	77	84	3	2	050-6-3	84	7	050	"
0700	1-09N	175-02W	" "	20	1009	82	78	84	3	2	050-6-3	84	12	040	257-9.5
0800	1-07N	175-16W	" "	20	1000	84	79	84	3	2	050-6-3	83	11	050	257-9.5
0900	1-05N	175-20W	" "	20	1011	86	78	77	4	2	060-6-4	83	12	060	242-9.0
1000	1-03N	175-23W	" "	20	1011	86	78	77	4	2	060-6-4	83	12	060	242-9.0
1100	1-02N	175-28W	" "	20	1011	86	78	77	4	2	060-6-4	83	12	060	242-9.0
1200	1-02N	175-36W	" "	20	1011	86	78	77	4	2	060-6-4	83	12	060	242-9.0
1300	1-00N	175-42W	" "	20	1010	89	78	71	3	1	060-6-4	83	10	060	242-9.0
1400	0-59N	175-49W	" "	20	1010	89	78	71	2	1	060-6-4	83	10	060	260-9.0
1500	0-57N	175-58W	" "	20	1009	87	78	74	2	1	060-6-4	83	9	060	260-10.0
1600	0-55N	176-08W	" "	20	1008	87	78	74	2	1	060-6-4	83	9	060	265-10.0
1700	0-54N	176-18W	" "	20	1008	85	78	80	3	2	060-6-4	83	8	050	260-10.0
1800	0-56N	176-27W	" "	20	1009	85	78	80	4	3	CONF	83	7	050	260-10.0
1900	0-54N	176-35W	" "	20	1009	85	78	84	5	4	CONF	83	7	070	230-10.0
2000	0-48N	176-39W	" "	20	1010	84	78	84	5	4	"	83	AIRS	DRIFTING	
2100	0-48N	176-40W	" "	20	1010	82	77	84	3	1	"	83	AIRS	"	
2200	0-48N	176-40W	" "	20	1010	82	77	84	3	1	"	83	7	050	"
2300	0-47N	176-41W	" "	20	1011	82	77	84	4	1	"	83	8	060	"
2400	0-47N	176-41W	" "	20	1012	82	77	84	3	1	"	83	7	060	"

REMARKS:

ALL TIMES LOCAL (^{XRAY}WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 7 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	0-48N	176-40W	Partly Cloudy	20	1011	82	77	84	3	1	Coast	83		050	Drifting
0200	0-47N	176-42W	"	20	1011	82	77	84	3	2	"	83	7	050	"
0300	0-48N	176-39W	"	20	1011	82	77	84	2	0	"	83	7	070	"
0400	0-48N	176-39W	"	20	1011	82	77	84	1	0	"	83	8	070	"
0500	0-48N	176-39W	"	20	1010	82	78	88	2	1	"	83	6	050	"
0600	0-48N	176-39W	"	20	1010	82	78	88	2	3	"	83	6	070	"
0700	0-48N	176-39W	"	20	1010	82	78	88	3	2	"	83	6	070	"
0800	0-47N	176-43-5W	"	20	1011	84	79	84	4	3	"	83	7	100	258-9-5
0900	0-45N	176-53W	Few Cls	20	1012	86	78	77	4	3	Coast	83	7	070	258-
1000	0-43N	176-56W	"	20	1012	86	78	77	4	2	Coast	83	8	070	258-
1100	0-40N	177-03W	"	20	1013	86	78	77	4	2	"	83	10	070	258-
1200	0-39N	177-10W	"	20	1013	86	78	77	4	2	"	83	10	070	260-
1300	0-40N	177-15W	"	20	1011	86	78	77	3	1	"	83	10	070	var-
1400	0-39N	177-21W	"	20	1010	86	78	77	4	3	"	83	10	070	var-
1500	0-39N	177-25W	"	20	1009	87	78	74	5	3	"	83	10	070	256-7
1600	0-37N	177-33W	Cloudy	20	1009	86	78	77	8	7	080-6-3	83	7	070	256-7-5
1700	0-33N	177-45W	"	20	1008	85	77	80	9	8	080-6-3	83	7	070	256-7-5
1800	0-31N	177-54W	O'CAST	20	1008	85	77	80	10	9	080-6-4	83	7	070	256-7-5
1900	0-30N	178-00W	"	20	1009	85	77	80	10	9	080-6-4	83	7	070	DRIFTING
2000	0-29N	178-02W	"	20	1009	85	77	80	10	9	080-6-4	83	7	070	"
2100	0-28.5N	178-02.5W	Cloudy	20	1010	84	77	80	7	6	080-6-4	83	10	080	"
2200	0-28N	178-03W	"	20	1010	84	77	80	7	6	080-6-4	83	10	080	"
2300	0-27N	178-04W	"	20	1011	84	77	80	7	6	080-6-4	83	10	080	"
2400	0-26N	178-05W	"	20	1011	84	77	80	7	6	080-6-3	83	10	080	"

REMARKS:

ALL TIMES LOCAL (WILSKY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 8 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	0-28 N	178-11 W	Partly cldy	20	1011	84	77	80	7	5	080-6-3	83	10	080	Drifting
0200	0-28 N	178-13 W	" "	20	1011	84	76	76	6	4	080-6-3	83	11	080	"
0300	0-27 N	178-14 W	" "	20	1010	84	76	76	5	2	080-6-3	83	11	080	"
0400	0-27 N	178-16 W	" "	20	1010	84	76	76	4	1	080-6-3	83	12	080	"
0500	0-27 N	178-17 W	" "	20	1009	83	76	80	7	4	080-6-3	83	10	080	"
0600	0-27 N	178-18 W	" "	20	1008	83	76	80	7	4	080-6-3	83	10	090	"
0700	0-26 N	178-18 W	" "	20	1009	83	76	80	8	7	080-6-3	83	10	090	116-9-0
0800	0-22 N	178-13 W	Cloudy	20	1010	84	76	76	9	7	080-6-3	83	12	090	116-8.5
0900	0-19 N	178-06 W	Partly cldy	20	1011	82	78	88	7	7	090-6-3	83	8	090	116-8.0
1000	0-15 N	177-52 W	" "	20	1011	82	77	88	8	7	090-6-3	83	8	090	093-8.0
1100	0-15 N	177-49 W	" "	20	1011	82	77	88	6	3	090-6-3	83	8	090	093-8.0
1200	0-14 N	177-41 W	" "	20	1011	82	78	88	6	3	090-6-3	83	8	090	092-8.0
1300	0-14 N	177-36 W	" "	20	1010	85	77	77	7	4	090-6-3	83	9	090	093-8.5
1400	0-13 N	177-31 W	" "	20	1009	85	77	77	6	4	090-6-3	83	10	090	093-8.5
1500	0-13 N	177-24 W	" "	20	1009	85	77	77	6	4	090-6-3	83	10	090	093-8.5
1600	0-12 N	177-16 W	" "	20	1008	85	77	77	6	4	090-6-3	83	10	090	093-8.5
1700	0-17 N	177-10 W	Partly cldy	20	1008	85	77	77	7	6	090-6-3	83	10	090	093-8.5
1800	0-17 N	177-03 W	" "	20	1008	85	77	77	7	6	090-6-3	83	10	090	093-8.5
1900	0-16 N	176-56 W	" "	20	1009	84	76	76	7	5	090-6-3	84	10	090	093-8.5
2000	0-15 N	176-47 W	" "	20	1009	84	76	76	7	5	090-6-3	84	8	090	101-8.5
2100	0-14 N	176-39 W	Partly cldy	20	1010	83	76	80	2	7	090-5-3	84	8	090	101-8.5
2200	0-13 N	176-34 W	" "	20	1010	83	76	80	2	1	090-5-3	84	8	090	DRIFTING
2300	0-13 N	176-35 W	" "	20	1011	83	76	80	2	1	090-5-3	84	8	090	"
2400	0-13 N	176-36 W	" "	20	1011	83	76	80	2	1	090-5-3	84	8	090	"

REMARKS:

ALL TIMES LOCAL (WILKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 9 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	0-14 N	176-38 W	Partly Cl	20	1010	82	77	84	3	1	090-5-3	84	8	090	Drifting
0200	0-14 N	176-39 W	" "	20	1009	82	77	84	3	1	090-5-3	84	8	080	"
0300	0-14 N	176-40 W	" "	20	1009	82	77	84	2	1	090-5-3	84	9	080	"
0400	0-15 N	176-41 W	" "	20	1008	82	77	84	2	1	090-5-3	84	9	070	"
0500	0-15 N	176-43 W	" "	20	1008	82	77	84	3	2	090-6-3	84	8	050	"
0600	0-16 N	176-45 W	" "	20	1008	82	77	84	3	2	090-6-3	84	8	050	"
0700	0-15 N	176-43 W	" "	20	1008	82	77	84	3	2	090-6-3	84	9	050	112-8-0
0800	0-12 N	176-36 W	" "	20	1009	84	76	76	7	2	090-6-3	83	8	060	112-8-0
0900	0-09 N	176-33 W	Few Cls	20	1010	86	75	70	1	1	070-6-3	83	10	070	DRIFTING
1000	0-09 N	176-32 W	" "	20	1010	86	75	70	1	1	070-6-3	83	10	070	"
1100	0-09 N	176-31 W	" "	20	1011	86	75	70	1	1	070-6-3	83	10	070	"
1200	0-09 N	176-33 W	" "	20	1011	86	75	70	1	1	070-6-3	83	10	070	"
1300	0-09 N	176-32 W	" "	20	1009	84	76	76	5	1	070-6-3	83	11	060	Var.
1400	0-08 N	176-35 W	" "	20	1009	84	76	76	3	1	070-6-3	83	9	060	Var.
1500	0-08 N	176-40 W	" "	20	1008	86	75	70	3	1	070-6-3	83	9	060	"
1600	0-07 N	176-46 W	" "	20	1008	86	75	70	4	2	070-6-3	84	9	060	VARIOUS-
1700	0-09 N	176-36 W	PART-CLD	20	1007	85	75	73	5	4	070-6-3	84	8	060	093-8-0
1800	0-10 N	176-27 W	" "	20	1007	85	75	73	5	4	070-6-3	84	10	050	088-8-0
1900	0-10 N	176-19 W	" "	20	1008	85	75	73	5	4	060-6-3	84	10	060	088-8-5
2000	0-10 N	176-11 W	" "	20	1008	85	75	73	5	3	060-6-3	84	10	060	088-8-5
2100	0-10 N	176-02 W	Few Cls	20	1009	83	76	80	3	2	050-5-3	84	8	050	180-9-0
2200	0-01 N	176-02 W	" "	20	1009	83	76	80	3	2	050-5-3	84	8	050	DRIFTING
2300	0-00 N	176-03 W	" "	20	1010	83	76	80	3	2	050-5-3	84	8	050	"
2400	0-00 N	176-05 W	" "	20	1010	83	76	80	3	2	050-5-3	84	8	050	"

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 10 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	0-00	176-07W	Cloudy rain	15	1010	83	76	80	9	8	050-5-3	84	11	045	Drifting
0200	0-00	176-09W	Cloudy	15	1009	81	76	81	9	8	050-5-3	84	13	050	"
0300	0-01 S	176-10W	"	20	1009	81	76	81	8	8	050-5-3	84	11	045	"
0400	0-01 S	176-11W	"	20	1008	81	76	82	8	7	050-5-3	84	11	045	"
0500	0-01 S	176-13W	O'CAST RAIN	10	1007	79	78	96	10	10	050-6-3	84	12	050	"
0600	0-02 S	176-14W	"	10	1006	79	78	96	10	10	050-6-3	84	12	050	"
0700	0-02 S	176-17W	"	10	1009	79	78	96	10	10	050-6-3	84	12	050	260-9
0800	0-04 S	176-26W	O'CAST	20	1009	79	76	91	10	10	050-6-3	84	10	050	260-9
0900	0-04 S	176-31W	O'CAST	20	1009	79	75	91	10	10	050-6-3	84	5	050	260-9
1000	0-06 S	176-40W	w/ squalls	15	1010	78	75	91	10	10	050-6-3	84	5	050	260-9
1100	0-07 S	176-49W	"	12	1011	78	75	91	10	10	050-6-3	84	5	050	260-9
1200	0-09 S	176-57W	"	11	1011	78	75	91	10	10	050-6-3	84	5	050	260-9
1300	0-10 S	177-07W	Cloudy squalls	15	1010	79	75	87	10	10	050-6-3	84	6	330	260-9
1400	0-12 S	177-16W	"	15	1009	79	75	87	10	10	Cont.	84	5	330	260-9
1500	0-13 S	177-25W	O'cast	20	1008	80	76	87	10	10	"	84	11	050	260-9
1600	0-15 S	177-33W	"	20	1008	80	76	87	10	9	"	84	11	050	260-7
1700	0-15 S	177-34W	"	20	1008	81	75	84	10	10	050-6-4	84	12	070	DRIFTING
1800	0-15 S	177-35W	"	20	1008	81	75	84	10	10	050-6-4	84	13	070	"
1900	0-18 S	177-41W	"	20	1009	82	77	84	10	9	050-6-3	84	10	080	"
2000	0-19 S	177-43W	"	20	1009	82	77	84	10	9	050-6-3	84	10	080	"
2100	0-19 S	177-45W	"	20	1010	82	77	84	10	9	050-6-3	84	12	050	"
2200	0-20 S	177-46W	Partly Cds	20	1010	82	77	84	10	6	050-6-3	84	12	050	"
2300	0-20 S	177-47W	"	20	1011	82	77	84	4	3	050-6-3	84	14	050	"
2400	0-20 S	177-48W	Few Cds	20	1011	82	77	84	3	2	050-6-3	84	14	050	"

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 13 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	2-42 S	172-15 W	Ptly cldy	20	1009	84	77	80	7	7	090-6-4	84	13	060	107-9
0200	2-44 S	172-08 W	" "	20	1009	84	77	80	9	8	090-6-4	84	15	065	107-9
0300	2-48 S	172-03 W	" "	20	1008	84	77	80	9	8	090-6-4	84	15	060	107-9
0400	2-51 S	171-52 W	" "	20	1008	84	74	73	9	8	070-6-4	84	15	060	107-9
0500	2-55 S	171-42 W	(CLOUDY)	20	1008	84	74	73	9	8	070-6-4	84	14	065	115-9-5
0600	2-58 S	171-34 W	" "	20	1008	84	74	73	9	8	070-6-4	84	14	065	110-9-5
0700	3-01 S	171-25 W	" "	20	1009	84	74	73	9	7	070-6-4	84	14	065	110-9-5
0800	3-04 S	171-16 W	" "	20	1010	86	78	77	9	8	070-6-3	85	13	060	110-9-5
0900						86	75	78	7	3	070-6-3	85			148
1000															
1100															
1200															
1300															
1400															
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (^{CRAY}WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 14 APRIL 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700															
0800															
1000	3-09 S	171-06W	PARTLY CLOUDY	20	1080	85	78	81	4	3	090-6-3	85	12	090	143 - 10K
1100	3-18 S	171-00W	PARTLY CLOUDY	20	1080	85	78	81	4	3	090-6-3	85	12	090	143 - 10K
1200	3-26 S	170-55W	"	20	1080	85	78	81	4	3	090-6-3	85	12	090	143 - 10K
1300	3-34 S	170-49W	" "	20	1080	85	78	81	4	3	090-6-3	85	12	090	143 - 10K
1400	PHOENIX.														
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (^{XRAY}WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 16 APRIL 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	3-50 S	170-56 W	CLOUDY	20	1008										
0200	3-55 S	171-04 W	"	20											
0300	3-50 S	170-56 W	CLOUDY	20	1008	84	77	80	9	8	040-6-3	85	12	010	244-10
0400	3-55 S	171-04 W	"	20	1008	84	77	80	9	8	040-6-3	85	16	015	244-10
0500	3-00 S	171-14 W	O'CAST ^{RAIN}	10	1008	77	77	99	10	10	040-6-3	85	26	015	244-10
0600	4-04 S	171-25 W	O'CAST	20	1008	81	77	87	10	10	040-6-3	85	16	015	244-10
0700	4-10 S	171-35 W	"	20	1009	83	78	84	10	9	040-6-3	85	14	015	244-10
0800	4-16 S	171-45 W	"	20	1010	83	78	84	10	9	045-6-3	86	14	010	244-11
0900	4-20 S	171-56 W	"	20	1010	84	77	80	10	9	045-6-3	86	10	010	244-11
1000	4-25 S	172-06 W	"	20	1009	84	77	80	10	9	"	86	10	000	VARIOUS
1100															
1200	HULL ISLAND														
1300															
1400	4-29 S	172-15 W	O'cast 4/8	20	1008	84	79	84	10	9	045-6-3	85	12	015	297-7
1500	4-29 S	172-26 W	O'cast	20	1008	84	79	84	10	9	"	85	"	"	297-7
1600	4-25 S	173-26 W	"	20	1008	84	77	88	10	9	"	85	"	"	297-7
1700	4-24 S	172-29 W	"	20	1007	84	77	88	10	9	"	85	"	"	VARIOUS
1800	4-24 S	172-32 W	"	20	1008	85	78	81	10	9	"	86	"	"	"
1900	4-24 S	172-35 W	"	20	1009	85	78	81	10	9	"	86	"	"	300 7
2000	4-22 S	172-40 W	"	20	1009	85	78	81	10	9	"	86	"	"	300 7
2100	4-19 S	172-47 W	"	20	1009	84	77	80	10	8	045-6-3	85	5	045	300 8
2200	4-15 S	172-54 W	"	20	1009	84	77	80	10	8	045-6-3	85	5	045	300 8
2300	4-11 S	173-01 W	"	20	1009	84	77	80	10	8	045-6-3	85	5	045	300 8
2400	4-07 S	173-08 W	"	20	1009	84	77	80	10	8	045-6-3	85	5	045	300 8

REMARKS:

ALL TIMES LOCAL (^{XRAY}WILKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 17 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	24-03.5	173-15 W	Partly cldy	20	1009	84	76	76	7	6	045-6-3	85	13	075	300-8
0200	3-59.5	173-22 W	Few cldys	20	1008	84	76	76	1	0	040-6-3	85	14	060	300-8
0300	3-54.5	173-29 W	" "	20	1008	84	74	73	1	0	040-6-3	85	13	060	300-8
0400	3-51.5	173-36 W	" "	20	1008	84	76	73	1	0	045-6-3	85	13	060	300-8
0500	3-45.5	173-40 W	" "	20	1008	84	76	76	3	2	035-6-3	85	10	050	300-7
0600	3-41.5	173-46 W	" "	20	1009	84	76	76	3	2	035-6-3	85	10	050	300-7
0700	3-39.5	173-54 W	Part. cldy	20	1009	84	76	76	5	4	035-6-3	85	10	050	283-9
0800	3-37.8	174-03 W	" "	20	1009	86	75	70	5	4	035-6-3	85	10	050	283-9
0900															
1000															
1100															
1200															
1300															
1400															
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (²⁷⁰⁰WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 20 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	6-14 S	173-13 W	Phy Cls 4/8 squalls	20	1010	84	77	80	4	2	850-6-3	86	7	090	158-10.5
0200	6-24 S	173-09 W	Phy Cls	20	1009	84	76	76	2	1	850-6-3	86	5	090	158-10.5
0300	6-34 S	173-06 W	" "	20	1009	84	76	76	2	0	850-6-3	86	6	085	158-10.5
0400	6-44 S	173-03 W	" "	20	1008	84	76	76	1	0	850-6-3	85	5	090	158-10.5
0500	6-55 S	172-58 W	" "	20	1008	84	76	76	3	2	860-6-3	85	6	050	158-10.5
0600	7-06 S	172-54 W	" "	20	1008	84	76	76	3	2	860-6-3	85	6	050	158-10.5
0700	7-16 S	172-50 W	" "	20	1007	85	75	73	5	4	860-6-3	85	7	045	158-10.5
0800	7-25 S	172-47 W	" "	20	1009	85	75	73	4	3	860-6-3	85	7	045	158-10.5
0900	7-34 S	172-43 W	FEW Cls	20	1010	86	76	73	3	2	870-6-3	85	10	070	158-10.5
1000	7-45 S	172-40 W	" "	20	1010	86	76	73	3	2	870-6-3	85	10	070	158-10.5
1100	7-53 S	172-35 W	" "	20	1010	86	76	73	3	2	870-6-3	85	10	070	158-10.5
1200	8-03 S	172-31 W	" "	20	1010	86	76	73	3	2	870-6-3	85	10	070	158-10.5
1300	8-12 S	172-25 W	" "	20	1009	87	77	73	3	2	870-6-3	85	5	070	158-10.5
1400	8-12 S	172-26 W	Phy Cls	20	1009	88	77	71	7	8	870-6-3	85	3	070	Drifting
1500	8-13 S	172-27 W	Phy Cls 4/8 squalls	20	1008	84	74	73	8	6	870-6-3	85	5	110	"
1600	8-22 S	172-24 W	" "	20	1008	84	74	73	6	5	870-6-3	85	AIRS		158-10.5
1700	8-31 S	172-22 W	PARTLY CLD	20	1007	84	76	76	4	3	855-6-3	86	"		158-10.5
1800	8-41 S	172-18 W	" "	20	1008	84	76	76	4	3	855-6-3	86	"		158-10.5
1900	8-51 S	172-15 W	" "	20	1008	84	76	76	4	3	855-6-3	86	"		158-10.5
2000	9-02 S	172-11 W	" "	20	1008	85	75	73	5	4	860-6-3	87	AIRS		158-10.5
2100	9-11 S	172-07 W	FEW Cls	20	1009	85	75	73	3	2	860-6-3	86	AIRS		158-10.5
2200	9-21 S	172-03 W	" "	20	1009	85	75	73	3	2	860-6-3	86	"		158-10.5
2300	9-30 S	172-00 W	" "	20	1010	85	75	73	3	2	860-6-3	86	"		158-10.5
2400	9-40 S	171-57 W	" "	20	1010	85	75	73	3	2	860-6-3	86	"		158-10.5

REMARKS:

ALL TIMES LOCAL (^{CRAY}WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 21 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	9-57.5	171-53 W	Partly Clody	20	1010	84	76	76	2	0	060-6-3	86	6	135	158 10.5
0200	10-00.5	171-50 W	" "	20	1009	84	77	80	3	1	060-6-3	86	9	170	158 10.5
0300	10-10.5	171-47 W	" "	20	1009	84	76	76	1	0	060-6-3	86	10	150	158 10.5
0400	10-20.5	171-43 W	" "	20	1009	84	76	76	1	0	060-6-3	86	9	140	158 10.5
0500	10-31.5	171-36 W	" "	20	1009	83	76	80	5	3	060-6-3	86	9	130	158-10.5
0600	10-40.5	171-32 W	" "	20	1009	83	76	80	7	5	060-6-3	86	10	125	158-10.5
0700	10-50.5	171-29 W	Cloudy	20	1009	84	76	76	9	7	060-6-3	86	10	130	163-10.5
0800	11-00.5	171-26 W	"	20	1009	85	77	77	9	7	070-6-3 110-6-3	86	14	100	163-10.5
0900	11-10.5	171-23 W	"	20	1010	86	78	77	7	6	110-6-3	86	12	110	163 10.5
1000	11-20.5	171-20 W	"	20	1010	86	78	77	7	6	110-6-3	86	12	110	163 10.5
1100	11-31.5	171-17 W	"	20	1010	86	78	77	7	6	110-6-3	86	12	110	163 10.5
1200	11-42.5	171-15 W	"	20	1010	86	78	77	7	6	110-6-3	86	12	110	163 10.5
1300	11-50.5	171-12 W	Partly Clody	20	1000	86	76	73	6	4	110-6-3	86	14	100	163 10.5
1400	12-02.5	171-09 W	" "	20	1009	86	76	73	6	4	110-6-3	86	12	100	163 10.5
1500	12-12.5	171-06 W	" "	20	1009	86	78	77	6	4	110-6-3	86	11	090	163 10.5
1600	12-23.5	171-03 W	" "	20	1008	86	78	77	5	2	110-6-3	86	12	080	163 10.5
1700	12-29.5	170-59 W	" "	20	1008	86	78	77	6	4	100-6-3	87	12	100	163-8.5
1800	12-37.5	170-56 W	" "	20	1008	85	77	77	6	4	100-6-3	87	13	100	163-8.5
1900	12-45.5	170-54 W	" "	20	1008	85	77	77	6	4	100-6-3	87	14	110	166-8.5
2000	12-54.5	170-52 W	" "	20	1009	85	77	77	7	5	100-6-3	87	14	110	166-8.5
2100	13-02.5	170-50 W	Cloudy	20	1010	84	77	80	9	7	120-6-4	87	12	110	166 8.5
2200	13-10.5	170-48 W	"	20	1010	84	77	80	9	7	120-6-4	87	12	110	166-8.5
2300	13-18.5	170-46 W	"	15	1011	84	77	80	9	7	120-6-4	87	10	110	166-8.5
2400	13-27.5	170-44 W	"	15	1011	84	77	80	9	7	120-6-4	87	10	110	166-8.5

REMARKS:

ALL TIMES LOCAL (1121); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 22 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	13-34S	170-42W	Cloudy	20	1010	83	76	80	9	7	120-6-4	87	13	090	166 8.5
0200	13-42S	170-40W	Ptly Cldy	15	1010	82	77	84	6	5	120-6-4	87	12	110	166 8.5
0300	13-50S	170-38W	" "	20	1010	82	77	84	7	5	120-6-4	87	14	110	166 8.5
0400	13-58S	170-36W	Cldy 4/10	10	1010	82	78	88	10	10	120-6-4	86	21	110	166 8.5
0500															
0600															
0700															
0800															
0900															
1000															
1100															
1200															
1300															
1400															
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (^{CRAY}WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 27 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700															
0800															
0900															
1000															
1100	14-19 S	170-38 W													
1200	14-15 S	170-32 W													
1300	14-05 S	170-34 W	Ptly Cldy	20	1009	84	73	69	5	3	110-6-8	85	17	125	350-10
1400	13-54 S	170-35 W	" "	20	1009	84	73	69	3	1	110-6-8	85	17	125	350-10.5
1500	13-44 S	170-32 W	" "	20	1008	84	74	73	8	6	110-6-8	85	17	130	350-10.5
1600	13-34 S	170-38 W	" "	20	1008	82	75	80	8	6	115-6-8	85	18	130	350-10.5
1700	13-26 S	170-40 W	Cloudy	20	1009	82	75	80	9	7	120-6-8	85	14	125	350-10.5
1800	13-15 S	170-42 W	" "	20	1009	82	75	80	9	7	120-6-8	85	14	125	350-10.5
1900	13-05 S	170-44 W	CLAST	20	1009	81	76	83	10	9	110-6-8	85	15	100	350-10.5
2000	12-54 S	170-45 SW	" "	20	1010	81	76	83	10	8	110-6-8	85	15	100	350-10.5
2100	12-45 S	170-47 W	Cloudy w/ rain	20	1011	83	78	84	7	6	110-6-6	85	10	110	350-10.5
2200	12-34 S	170-49 W	" "	20	1011	83	78	84	7	6	110-6-5	85	10	110	350-10.5
2300	12-23 S	170-51 W	" "	20	1011	83	78	84	7	6	110-6-5	85	8	110	350-10.5
2400	12-14 S	170-52 W	" "	20	1011	83	78	84	7	6	110-6-5	85	8	110	350-10.5

REMARKS:

ALL TIMES LOCAL (^{XPAY}WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

13-30 13-40 13-50

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 28 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	12-02 S	170-54 W	Few clds	20	1012	83	76	80	1	0	110-6-5	85	11	110	350-10.5
0200	11-51 S	170-56 W	" "	20	1012	84	76	76	1	0	110-6-5	85	9	100	350-10.5
0300	11-45 S	170-58 W	Clear	20	1011	84	76	76	0	0	110-6-5	85	12	110	350-10.5
0400	11-30 S	171-00 W	Few clds	20	1011	84	76	76	1	0	110-6-5	85	9	110	350-10.5
0500	11-20 S	171-02 W	" "	20	1011	85	77	77	2	1	130-6-4	85	9	120	350-11-0
0600	11-09 S	171-06 W	PART CLDY	20	1011	85	77	77	3	2	150-6-4	85	9	120	VARIOUS
0700	11-03 S	171-05 W	" "	20	1012	86	78	77	5	4	CONF	85	8	130	DRIFTING
0800	11-03 S	171-05 W	" "	20	1012	86	78	77	5	4	CONF	85	8	130	"
0900	SWAILS		" "	20	1012	86	78	77	3	2	120-6-4	85	10	120	"
1000	10-54 S	171-09 W	Few clds	20	1012	86	78	77	3	2	120-6-4	85	10	120	333-10.5
1100	10-45 S	171-14 W	" "	20	1012	86	78	77	3	2	120-6-4	85	10	120	333-10.5
1200	10-35 S	171-19 W	" "	20	1012	86	78	77	2	-	120-6-4	85	10	120	333-10.5
1300	10-25 S	171-28 W	" "	20	1011	86	78	77	2	0	CONF	85	7	100	333-10.5
1400	10-17 S	171-32 W	" "	20	1011	85	77	77	1	0	"	85	9	090	333-10.5
1500	10-08 S	171-37 W	" "	20	1010	85	77	77	1	0	"	85	7	090	335-10.5
1600	9-58 S	171-42 W	" "	20	1009	85	78	80	1	0	"	85	8	100	325-10.5
1700	9-48 S	171-49 W	" "	20	1009	85	78	80	2	1	CONF	85	8	110	335-11-0
1800	9-39 S	171-55 W	" "	20	1010	85	78	80	3	2	"	86	8	110	335-11
1900	9-29 S	172-00 W	" "	20	1010	85	78	80	3	2	"	86	8	110	355-11
2000	9-18 S	172-02 W	" "	20	1011	85	78	80	3	2	"	86	8	110	355-11
2100	9-08 S	172-04 W	" "	20	1012	85	78	80	5	2	"	86	8	110	345-11.0
2200	8-57 S	172-07 W	" "	20	1012	85	78	80	2	1	"	86	8	110	345-11.0
2300	8-47 S	172-11 W	" "	20	1012	85	78	80	2	1	"	86	8	110	345-11.0
2400	8-38 S	172-15 W	" "	20	1012	85	78	80	2	1	"	86	8	110	345-11.0

REMARKS:

ALL TIMES LOCAL (WILSON); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 30 April 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	4-27 S	173-44W	Clody	15	1012	84	79	84	8	8	Conf.	86	12	090	339 10.5
0200	4-18 S	173-48W	"	15	1011	84	79	84	8	8	"	86	12	090	339 10.5
0300	4-08 S	173-52W	"	15	1011	84	79	84	5	4	"	86	13	120	339 10.5
0400	3-59 S	173-57W	"	15	1010	84	79	84	8	7	"	86	15	090	339 10.5
0500	3-49 S	174-01W	"	20	1010	84	79	84	8	7	"	86	14	080	339 -11
0600	3-32 S	174-05W	"	20	1011	84	79	84	8	7	"	86	14	075	334 -11
0700			"	20	1011	84	79	84	8	7	"	86	14	075	VARIOUS
0800	McKEAN IS.		PART Clody	20	1012	86	77	81	6	5	"	86	14	080	ANCHORED
0900															
1000															
1100															
1200															
1300															
1400															
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (^{XXAY}WILSKY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES; WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS