SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 3 July 65
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
1513	Begin Observations					
1528	Wedgetail	1				
1529	"	4				
1534	"	1				
1538	"	2+1				
1540	"	1				
1541	"	1				
1542	"	5				
1550	sooty tern	3				
1554	wedgetail	1				
1555	Frigate bird	1				
1557	"	1				
1600	Wedgetail	1				
1602	shear-pet	1				
1607	Wedge-tail	1				
1614	Bulwers Pet	1				
1619	Bulwers Pt.	1				
	wedgetail	2				
1620	"	1				
		~~30~~ 20			3 feeding flock, 15 wedgetails on H2O	
1627	Sootys					
1627	wedgetail	~~7~~ 35				
1627	noddies	25				
1634	Wedgetail	3				
1640	"	4				
1645	Bulwers	1				
1645	Wedgetail	1				
1647	newells	1				
	R Foot Booby	1				
1650	Wedgetail	1				
1652	Wedgetail	1				
1656	sooty Tern	1				
1700	sooty tern	~~5~~ 1				
"	wedgetail	~~1~~ 5				
1702	"	1				
1704	Bulwers P.	1				
"	Shear pet	2				
"	Sooty tern	6				
1706	" "	1				
1707	"	2				
"	wedgetail	1				
1708	noddy T	2				
1710	"	1				
1711	wedgetail	1				
1713	Sooty tern	2				
1724	Wedgetail	2				

Cooks = Blackwinged Pet

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 24 Feb 65
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1725	Sooty T	1				
1726	"	3				
1727	Wedge tail	2				
1729	"	2				
1731	"	3				
1734	"	2				
1736	Pterodroma	1				
1740	Sooty Tern	1				
1743	" "	2				
1744	" "	3				
1745	Wedgetail	1				
1748	Frigate	1				
1752	wedgetail	1				
1754	Noddy Tern	1				
1756	Bulwers Pet	1				
1757	Wedge tail	1				
1759	"	1				
1800	Dk rumped Pet	2				
1802	Wedge tail	1				
1802	Sooty tern	3				
1805	wedge tail	2				
1807	"	2				
1810	Tropicbird Sp.	2				
1810	wedgetail	2				
1812	Sooty tern	4				
1815	Wedge tail	2				
1817	Wh-tailed Trop.	3			1 done from height of about 50 yds. into H_2O	
1817	Sooty Tern	1				
1818	wedgetail	1				
1822	Sooty tern	4				
1822	Wedgetail	2				
1830	"	1				
1830	Sooty tern	3				
1833	" "	3				
1853	Wedge tail	1				
1840	"	2				
1840	"	1				
1846	"	1				
1848	Bulwers Pet	1				
1852	Sooty tern	1				
1853	Newell's Shea	1				
1857	" "	1				
1857	Wedgetail	1				
1916	Sunset					

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DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 3 July 65
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
	0555 Begin Observations					
	0558 Pterodroma sp.	1				
	0558 wh. tailed trope	1			dove from about 400 yds ups. remained submerged for about 15 sec.	
	0607 "	1				
	0611 Juan Fernandez retired	1				
	0615 wh tail trope	1				
	0624 Juan Fernandez	1				
	0625 Wedgetail	1				
	0632 Frigate bird	1				
	0636 ~~Juan Fernandez~~ Sheer_Pet	1				
	0645 " "	1				
	0647 Wedgetail	1				
	0649 Sheer pet	1				
	0656 wedgetail	1				
	0702 Sooty tern	2				
	0705 Cooks Pet	1				
	0708 Frigate bird	2				
	0723 Wedgetail	1				
	0725 "	5				
	0726 "	1				
	sm. pterod.	1				
F.	0740 Frigate	4			feeding flock	
	Sooty tern	15+5				
	wedgetail	10+5				
	0745 RTTB	2				
	WTTB	1				
	0805 Frigate	1				
	0809 Sheer - Pet	1				
	0816 wedge tail	20			~~feeding flock~~	
	Sooty tern	30				
	0818 nereolla 5	2				
	0824 Bulwers Pet	1				
	0825 Wedgetail	1				
	0827 "	2				
	0831 sooty tern	1				
	0834 Bulwer's	1				
	0839	1				
	0842 Red-tail Trop	1			flock	
	frigate	3				
	Sooty tern	68				
F	0845 wedge tails	30+				
	nereolla 5.	2				
	0848 dk. wedgetail	1			dark	
	0850 Sooty Tern	1				
	0850 Wedgetail	1				
	0856 Wedgetail	1				
	0857 Wedgetail	3				

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SW

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 3 July '65
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	0856	Bonin L. Pet.	1				
	0911	RTTB	2				
?	0919	D. ru. Pelrel	1				
	0921	Wedgetail	2				
	0924	RTTB	1				
	~~0925~~	~~Wedge tail~~	~~2~~				
	0927	Bonin L. Pet.	1				
	0929	wedgetail	2				
	"	sm. Pteradr.	1				
	0940	Sooty tern	3				
	"	Shearpet	1				
	0944	Sooty t	1				
	0950	wedgetail	1				
	0952	"	1				
	0958	"	4				
	1002	Bulwers P	1				
	"	wedgetail	1				
	1015	Bulwer's	1				
	"	Wedgetail	1			1015 RTTB	
	1017	"	1				
	1023	Bulwer's	1				
	1025	wedgetail	2				
	1026	Sooty Tern	4				
	2035	Large Ptero.	1				
	"	Cook's Petrel	1				
	1045	Sooty Tern	2				
	1048	Wedgetail	1				
	1054	Kermadec P.	1		Dark		
	1102	Bonin L.P.	1				
	1105	wedgetail	1				
	1106	Bulwer's	1				
	1113	Wedge tail	1				
	1127	Shear-Petrel	1				
	1130	Sooty tern	1				
	1135	" "	2				
		wedgetail	1				
	1136	RTTB	1				
	1146	wedgetail	1				
	1152	Wedgetail	1				
	1158	Wedgetail	1				
	1200	"	1				
	"	Bulwer's	1				
	1204	Wedgetail	1				
	1207	Wedgetail	3				
	1213	"	1				
	1217	"	2				
		Sooty tern	2				
	1221	Wedgetail	1				
	1224	"	1				
	1225	"	2				
	1226	Sooty Terns	3				

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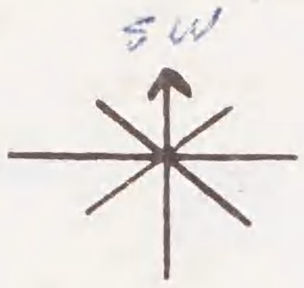
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 3 July 1965
Pg.# 3



time	species	#	dir.	hgt.	remarks	loc.
1233	Bulwer's Pet.	1				
1244	wedge tail	1				
1245	"	1				
1255	"	1				
1301	"	1				
1306	Sm. Ptrod.	1				
1314	wedgetail	1				
1327	"	1				
1332	C. I. Shear	1			intermediate	
1352	wedgetail	1				
1356	Sooty Tern	3				
1400	Bulwer's	1				
1401	RTTB	1				
1402	Wedgetail	1				
1405	"	2				
1416	"	1			hung about ship until 1427 = 9 min	
1418	WT Trop.	1				
"	Sooty T.	2				
1435	wedgetail	1				
1437	Frigate	1				
1438	Wedgetail	2				
1500	"	1				
1502	"	1				
1513	"	1				
1527	Cook's Pet	1				
1549	wedgetail	1				
1554	"	2				
1608	"	1				
1622	"	1				
1633	"	1				
1637	RTTB	1				
1648	wedgetail	1				
1709	"	2				
1714	"	1				
1719	wedgetail	1				
"	Bulwers	1				
1724	Sooty Tern	1				
1726	wedgetail	1				
1730	Frigate	1			followed about ship until 1755 = 23 min	
1742	wedgetail	3				
1752	Bulwer's	1				
1800	Shear-Pet	1				
"	Sm. Prod.	1				
"	wedgetail	1				

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SW

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 3 July 1965
Pg.# 4

time	species	#	dir.	hgt.	remarks	loc.
1803	Bulwer's	1				
1805	Frigate	1				
1811	WTTB	1			hung about til 1815 = 8 min	
1813	Wedgetail	1				
1818	"	1				
"	~~Bulwer's~~					
	C.I. Shear.	1				
1827	Lge. Prerod.	1				
1831	Sooty Tern	1				
1838	shear-pet	1				
1839	Tropic Bird sp.	1				
1843	Wedgetail	1				
1844	Bulwers	1				
1849	Tern sp.	1				
1855	Shear Pet.	1				
1900	Bulwer's	1				
1905	Wedgetail	1				
1910	Am. pteradr.	1				
1930	Sunset				End observation	

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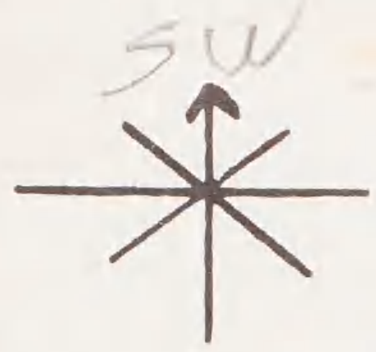

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 4 July 65
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0510	— Begin observations					
0514	Wedgetail	1	SW			
Sunrise 0523						
0530	"	1	E			
0532	Sooty tern	2	ESE		low over H2O, one immature distinct light ~~[illegible]~~ crown and mid-dorsal region	
0526	Cookes Petrel	1	"			
0552	Cooks Pet	1	NW			
0605	Newell's Shear	1	SW			
0606	Sooty Tern	60±	SE		flock	
	Wedgetail	25±				
0613	Sooty Tern	18	SE		[illegible] flock, [illegible] and heading for flock	
0614	RTTB	1	[illegible]			
0623	wedgetail	1				
0623	shear-petrel	1				
0627	[illegible]	1				
0634	Sooty Tern	2	SE		2 flocks of 5 + 8	
0644	" "	13			1 with each flock going south	
"	Frigate	2				
0659	RTTB	2				
0702	shear-petrel	2				
0709	Wedgetail	1				
0717	P. hypoleuca					
0720	Cooks Pet	5			2 on H2O	
0734	cooks Pet	1	SW			
0741	Sooty Tern	2	NE			
0747	" "	1	W			
0750	" "	2	SE			
0751	RTTB	1				
0800	cook's	1				
0806	P. hypoleuca	1				
0812		1				
0812	"cooks"	1				
0819	shear-pet	2	E			
0820	Newells S.	1	SE			
0823	JF petrel	1				
0830	p. hypoleuca	1				
0831	shear-pet.	1				
0843	Tropicbird Sp.	1	S			
0850	Wedgetail	1			dark	
0859	"	1				
0931	P. hypoleuca	1				
0950	Cooks P.	1				
1013	Wedgetail	1				
1022	"	1				
1036	"	1	S			
1101	Bulwers	1				
1123	cook's P.	1				
1136	Frigate	1	±5		flock	
"	Sooty Tern	55				
"	Wedgetail	7+				
"	P. hypoleuca	3+				
1141	Cook's Pet	3			feeding flock	
F 1149	Sooty Tern	15			→ unable to distinguish other birds as at great distance	
	Fairy "	1				
1155	Sooty T.	1				
F 1205	"	14			feeding flock	
	Shear-Pet.	5				

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

DATE 4 Sept
Pg.# 2

	time	species	#	dir.	hgt.	remarks	loc.
	1217	Wedgetail	2			sitting on water when flushed	
F.	1225	Sooty T.	14			Dark FLOCK (feeding)	
		Wedgetail	12				
		Cook	5				
	1231	Sooty T.	1				
	1239	Cooks	1				
F	1250	Sooty T.	50			feeding flock	
		Wedgetail	7				
	1250	WTTB	1				
	1303	Short-tail	1				
	1325	Wedgetail	1			dark	
	1331	"	1			dark	
	1343	WTTB	1	E			
	1344	Sooty T.	1	S			
	1358	Wedgetail	1	S			
	1359	Sooty Tern	1				
	1410	Wedgetail	1	S.			
	1412	Cook's	1	S			
	1418	Sooty Tern	14			1 really	
		Wedgetail	3+				
		Sooty Tern	1				
		WTTB	1				
		Sooty Tern	1				
	1511	"	1				
	1513	Short-tail	1				
	1514	Sooty Tern	10+				
		Wedgetail	10+			Dark	
		Tropicbird sp.	1				
	1519	Short-tail	1				
		Wedgetail	1				
	1524	Sooty Tern	2	N			
	1528	" "	2	"			
			1				
	1541	Wedgetail	1			dark	
	1544	Sooty Tern	95				
		Wedgetail	20				
		Cook's	3				
	1614	W. tropicbird	6				
		Wedgetail	4			4 dark	
		Sooty T.	2			Flock (feeding)	
	1616	"	1				
	1635	Sooty Tern	5			Feeding Flock	
	1641	W. tropicbird	1				
	1643	Wedgetail	1				

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE
Pg.#

time	species	#	dir.	hgt.	remarks	loc.

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 5 July 1964
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0526	start observations					
0529	Sooty T.	1				
0534	Wedgetail	1			light	
F 0542	P. hypoleuca	1				
"	Sooty T.	5			Non-feeding flock	
0543	SUNRISE				SUNRISE	
0543	Wedgetail	2				
0547	"	3			dark: landing frequently on water	
	Sooty T.	3			feeding flock	
0549	Wedgetail	3			light	
0549	Sooty T.	5				
0556	" "	57			Flock, 2 imm.	
0600	" "	1				
0600	P. hypoleuca	1				
0603	RTTB	1			Bill not red or orange; dark — No long tail.	
0604	wedgetail	1			light	
0607	"	1			"	
0607	P. hypoleuca	1	NW			
0611	Cooks	1			sitting on water	
0614	shear-pet.	1	NW			
0617	Cook	1	NE			
0623	Sooty tern	2	NE			
0627	P. hypoleuca (Cook)	1	NW			
0630	wedgetail	1	NW		light	
0633	P. hypoleuca	1	NW			
0658	Shear-pet	1				
0705	Sooty Tern	13			feeding flock	
"	Wedgetail	4				
"	P. hypoleuca	2				
0712	Cook's	1				
"	Shear-Pet	1				
0718	P. hypoleuca	1				
"	Wedgetail	1				
0719	P. hypoleuca	1				
0732	"	1				
0749	"	1				
0755	P. hypo	1				
0805	" "	1	SW			
0809	RTTB	1				
0816	Wedgetail	1				
0819	RTTB	1				
0820	"	2				
0836	Wedgetail	2	NE			
0842	Shear-Pet	1				
0847	P. hypo.	2	S			
0855	Sooty Tern	65+			feeding	
	P. hypo.	10+				
	Wedgetail	8+				
	TFP	5+				
0902	Cooks Pet	6	SW			
0906	Sooty Tern	1	NW			
0910	Cooks Pet	1	S			
0916	P. hypoleuca	1	N		Hung about for	
0936	Sooty Terns	2	S		2 more came by at 0941 that may have been the same pair. Were going in opposite direction.	
0946	RTTB	1				

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SW

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

DATE 5 July 1965
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
0954	RTTB	2				
0956	Sooty Terns	S	NE		1 Red ~~tail coats~~ streamer on 1	
1000	Cook's	1	NE			
1009	Sooty tern	6	W			
1014	" "	~~8~~	NE			
1018	" "	1	SW			
1028	RBTB	2				
1031	wedgetail	1	NW		dark	
1035	Sooty T	3	NE			
1047	" "	2	"			
1058	" "	1	W			
1103	" "	5				
1106	" "	11	S			
1128	COOKS	1				
1210	Wedgetail	1				
1215	RTTB	3			one with stubby white tail shafts	
1217	Wedgetail	1			Frigate had w T in water, ship steered off Frigate	
	Frigate	1				
1242	Wedgetail	1			dark phase	
1251	Sooty Tern	1	NE			
"	RTTB	3			all 3 with full red rectrices	
1303	Sooty t. 7	~~3~~ 2	~~NE~~	NE	very low over H2O	
1308	RTTB	1				
1320	"	2				
1321	Sooty T	1	NE			
1328	" "	4	SW			
1340	" "	57			feeding flock	
"	wedgetail	2				
1351	Sooty Tern	8			Travelling	
1400	" "	3				
1416	" "	~~18~~	14		Travelling	
1423	" "	1				
1430	RTTB	1				
1433	Sooty t	1				
1436	" "	50			Feeding (on horizon)	
	Shear. pet	10+				
1443	RTTB	3				
1444	Sooty T	2				
1446	Sooty "	3				
"	Frigate	1				
1456	Sooty Tern	38			flock traveling	
"	Wedgetail	2				
1502	Sooty t.	45			flock traveling.	
	Shear-pet	15				
1525	Sooty t.	24			flock	
1532	"	2				

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SW

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 5 July 1965
Pg.# 3

	time	species	#	dir.	hgt.	remarks	loc.
	1538	Sooty Tern	1	SW			
F	1544	Frigate	2	}		Rookway off estimated 250 ± 10% Feeding (At least 225 counted)	
		Sooty Tern	-	}			
	1547	" "	2	S			
		" "	1				
	1557	Red-Footed Booby	1			immature	
	1602	Sooty Tern	2	SW			
	1606	"	7	S			
	"	Frigate	2				
	1607	Sooty Tern	2	SW			
	1610	"	2	NE			
	1611	"	2	SW			
	1612	"	4	SW			
	1615	Cooks Pet	1	NE			
	1616	Sooty Tern	1	S			
	1617	"	7	W			
	1618	Frigate	1	(6)			
	1620	Sooty Tern	9	W			
	1621	"	2	W			
	1623	"	2	S			
	1624	"	6+	(6)			
	"	"	2	S			
	1630	"	1	S			
	1631	"	6	NE			
	1632	"	5	SW			
	1641	"	60+	}		} Feeding — this & heading for home below	
		Short-Pet	9±	}			
	1635	Sooty Tern	4	SW			
	1637	" "	200+	}		Feeding	
		Short-Pet	20±	}			
	1640	Sooty Tern	5	W			
	1642	" "	2	SW			
	1646	" "	1	W			
	1648	" "	3	W			
	1652	" "	25+				
	1653	Sooty Tern	1	NE		flocks	
	1656	" "	6	SE		flock	
	1657	" "	41	SW		flock	
	1704	" "	7	SE		flock	
		" "	8			flock	
	1707	" "	5			flock	
	1708	" "	6			Spotted Loran tower on Sand	
	1711	Sooty T.	2	NE			
	1714	" "	6	W			
	1718	" "	150	~~NE~~ NE			
	"	Wedgetail	1				
	1720	Sooty Tern	7	NE			

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

DATE 5 July 1965
Pg.# 4

time	species	#	dir.	hgt.	remarks	loc.
1721	Sooty Tern	~~9~~	N			
1724	" "	4	W			
1727	" "	400+	ENE		+ 2 going E.	
1730	" "	7+	NW		on water	
1733	" "	4				
1740	" "	6	W			
1743	" "	5	NW			
1744	" "	2	NE			
1745	" "	6	NE			
1747	" "	9	NE			
1748	" "	6	"			
1751	" "	12	"			
1800	" "	76	"			
1800	Frigate	1.				
1801	Wedgetail	5				
1808	Sooty tern	113				
"	Red-footed Booby	3				
"	Wedgetail	4				
1820	Sooty Tern	101				
"	Frigate	7			no actual count made alongside	
1852	"	2			Sand-Johnston Is. because of	
"	Sooty t.	40			huge numbers all about.	
1854	Red-foot Booby	3			flying toward sand, one with	
1857	Sooty Tern	1			orange streamer.	
1858	ship observation					

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE _____
Pg.# _____

time	species	#	dir.	hgt.	remarks	loc.
0815	[illegible]	2				
0821	[illegible]	1	W			
0902	[illegible]	1				
1155	Cooky	1	S			
1226	P. hypoleuca	1	NW			
1315	[illegible]	1	SW			
1318	[illegible]	1	NE			
1403	[illegible]	1				
1406	Wilson's	2				
1409	[illegible]	1				
1412	[illegible]	1				

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 6 July 1965
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1414	cooki	1				
1421	[illegible]	1				
1430	Shear Pt	2				
1434	JFP	1				
1432	hypoleuca	1				
~~1435~~	~~Shear Pt~~	1			Light	
1440	Kermadec	1				
	~~JFP~~ WNP					
1441	wh Pt	1				
1445	Shear Pt	1				
1446	cooki Pt	1				
1455	WNP	1				
1500	cooki Pt	1				
1505	JFP	2				
1508	Wedge-t	3			dark sitting on H_2O	
1510	WNP	1				
1511	WNP	1				
1514	JFP	1				
1519	cooki Pt	1			sitting on water	
1522	" "	1				
1525	Shear Pt	2				
1528	Wedge-tail	1				
1617	"	1				
1630	"	13			Flock sitting on H_2O. All dark (1 coll.)	
1634	WNP	1				
1703	P. hypoleuca	1	NW			
1706	WNP	2				
1709	shear-pet	1	W			
1713	Cookis P	2			on H_2O (1 coll)	
1714	Sooty Tern	1				
1746	shear Pet	1				
1800	JFP	1				
1803	WNP	2			sitting on H_2O	
1832	cooky	1	W			
1846	hypoleuca	1				

Stop Observations

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7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 7 July 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0555	Begin Observations					
0700	Pterodroma hyps.	2	SW			
0706	Pterodroma sp.	1			large, probably white or FF?	
0714	Pterodroma hypo	1	SW			
0727	P. hypoleuca	1				
0728	FF	2	NE			
0745	Cooks	1	W			
0804	Cooks	1				
0807	Cook's	1				
0816	Sooty Tern	1	SW			
0827	FF	1				
0831	Cook's	1				
0900	P. hypoleuca	7			FLOCK	
"	FF	1				
0912	Shear-Pet	1				
0946	Cook's	1				
1000	Shear-Pet	1				
1048	Cooks	1				
1132	Shear-Pet	1				
1209	"	1				
1337	Cooks P	1	SW			
1410	white-neck.	1	-NW			
1416	Cook's	1				
1456	Wh-headed P	1				
1517	Sooty Tern	2				
1521	Cook's Pet	1				
1524	Shear Pet	1				
1540	Shear-Pet	1	-SW			
1600	FF	1				
1611	Cook's	1				
1652	"	1			1 heavy molt on upper wings (appears noted)	
"	Juan Fernan	2				
1653	"	1				
1656	Shear-Pet	1				
1700	FF	1				
1712	P. hypoleuca	1				
1720	Cook's	1				
1726	"	1				
1746	WNP	1	S			
"	Cook's	1	S			
1745	WNP	3	S			
1800	Cook's	2	S			
1806	WNP	1	S			
1850	Cook's	1	S			
1952	SUNSET				Conclude Observations	

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 3 JULY 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
530	Begin observation					
554	Sunrise					
622	shear-pt	1				
0637	Wedg tail	1				
0641	" "	1				
644	F-hypoleuca	#2				
"	JFP	1				
701	Newells	1				
703	hypoleuca	1				
0707	Wedgetail	1			DARK	
"	hypoleuca	1				
0720	cooks	1				
0730	JFP	1				
"	hypoleuca	1				
0746	"	1	W			
0750	RTTB	1			coll. (BAH)	
0803	Newells	1	NW			
0815	Shear Pet	1	NW			
0817	Cooks Pet	1	NW			
0820	" "	1	W			
0852	RTTB	1			coll (BAH)	
"	Sooty T.	1				
0855	Cooks P.	1				
1005	cooks Pet	2				
1011	hypoleuca	1				
1016	WNP	1				
1051	cooks Pet	1				
1052	Sooty Tern	3	SW			
1110	" "	1				
1111	JFP	1				
1145	Cooks Pet	1				
1150	Sooty Tern	1				
1157	cooks	1			Sit on H2O	
1205	cook	1	S			
1240	Wedgetail	1			sit on H2O dark	
1510	"	3			" " " "	
1510	WNP	2			1 coll (DAH)	
1520	Sooty T	25			feeding flocks., large school of fish jumping	
"	Cooks P.	10				
"	Wedge tail	3				
"	Juan Fern P	3				
1400	RTTB	1			collected & Hosted	
1450	SootyTern	5			Flocks, Feeding	
	Wedgetail	3				
	Cooks	3				
	Tropicbird sp	1				

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 8 July 65
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1550	Cooks Pet	1				
1554	J. FP	1				
1610	WNP	1	NE			
1616	WTTB	1				
1616	WNP	1	SE			
1621	JFP.	1	E		upper molt on wings - shows mottled	
1636	WTTB	1			coll. (X14)	
1714	JFP	1				
1745	P. hypoleuca	1	NE			
1749	sheor-pet	1				
1802	wedg tail	1	WNW		dark	
1805	JFP	5	WNW		traveling?	
1840	RTTB	1			collected (BAU)	
1900	END Observations					

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NW

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

DATE 9 July 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0603	Start Observations					
0634	Wedgetail	1				
0654	Herdmans sp	1	W			
0712	Cooks	1	W			
0758	Hypoleucus	1				
0810	WNP	1				
0813	Cook's	1				
0818	"	1				
0820	RTTB	3				
0829	WNP	1				
"	Hypoleucus	1				
0831	WNP	1				
0[illegible]	Cooks					
[illegible]	WNP					
0930	Shear-Pet	1				
0956	"	1				
1012	WNP	1	SW			
1136	Cooks	2	SW			
1106	Cooks	1	S			
1127	shear-pet.	1	SE			
1145	Cooks	1				
1206	WNP	1				
1207	Cooks	2				
1250	WNP	1				
1325	Shear-Pet	1				
1335	"	1				
1417	RTTB	1				
1447	"	1				
1506	COOK	1				
1645	Cooks Pet	1				
1715	RTTB	1			collected by Husted	
1806	Shear Pet	1	SW			
1829	Phypoleucus	1				
1835	Cooks	5			traveling flock	
"	TEP	1				
1904	Stop Observations					

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7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 10 July
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0600	Begin observations				Sunrise	
0600	WNP	1	NW			
0610	Wedgetail	1				
0610	~~WNP~~	1			WNP	
0620	WTP	2				
0622	WNP	1	NW			
0622	"	1	NW			
0632	Sooty Tern	7	NW		Travelling Flock	
0646	R externa	1				
0647	Wedgetail	1			DARK	
0650	"	1			DARK	
0702	Sooty Tern	5				
0705	RTTB	1			Sitting on water	
0710	P externa E	1				
0715	"	2				
0716	Sooty Tern	2				
0718	P externa	1				
0726	"	1				
0730	RTTB	1				
"	Sooty Tern	2				
"	~~P externa~~	1			WNP	
0731	P externa	2				
0737	WNP	1				
"	Shear-Pet	1				
0748	WNP	1	NW			
"	P externa	1	NW			
0749	Wedgetail	1				
0800	Sooty T	1				
0802	P hypoleuca	1				
0805	Sooty T	1				
0807	Shear-Pet	1			50 wnt 75 estimate; 25% dark	
0835	Sooty tern	50			feeding flock, Tuna pushing large schools flying fish out.	
"	Wedgetail	12			Coll. (1 Sooty T. (crossin)	
"	WNP	8			1 wedgetail coll. (husted)	
"	Cooks	5			1 WNP (crossin))	
"	Newell's S.	2				
08:54	Sooty T.	1				
0856	Wedgetail	2				
0903	WNP	5				
0915	wedgetail	1			dark	
0926	CE Shear	1	E		E	
0933	Sooty T	3				
0935	wedgetail	1			light	
0940	WNP	4			sitting on H_2O	
0943	"	1				
0947	wedgetail	1			dark	

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

DATE 10 July
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
0951	Sooty T.	1				
1006	Wedgetail	1				
1003	"	1			dark	
1014	Sooty T.	4			2 collected (DH)	
1049	Shear-Pet	1				
1120	WNP	1				
1127	Shear-Pet	1				
1202	Shear-pet	1			close to ship. Uniform dark gray-black on whole top side. ~~Un~~ Size intermediate between P. hypoleuca & P. externa. Underwing very similar in pattern to a cook's petrel (P. hypoleuca) (black on whole leading & trading edge. Flight petrel-like. Heavy body. Breast & belly white. No distinct facial pattern what-so-ever.	
1210	WNP	12			feeding flock — 2 wh NP collected (RST)	
"	Cooks P	2				
1239	Sooty T.	1				
1242	WNP	4			possibly of above flock — 1 shot down - disappeared	
1302	Sooty T.	12			flock	
"	Shear Pet	5				
1308	Sooty T	30±			flock	
1314	" "	5			flock traveling	
1316	RTTB	1				
1318	Sooty T	2			dark.	
"	Wedget.	1				
1325	Sooty T	7			feeding flock	
"	Wedgetail	2				
"	JFP	1			1320 WNP 1.	
1329	Kermadec P	1			light phase	
1335	Sooty T	140±			Trav flock. 1 coll (RST - ~~[illegible]~~)	
1341	WNP	2				
1350	WNP	1				
1358	" "	1				
1403	WNP	4			dark wedges flock (feeding) 3 Wedgetail call	
"	Wedgetail	10			1 WNP "	
1425	Sooty Tern	12			Feeding then they started travelling	
	JFP	2				
	WNP	3				
	cooks	1				
1429	Sooty Tern	23			travelling DARK	
	wedgetail	7				
	WNP	5				
1433	Shear Pet	1				
1440	Wedgetail	1			dark	

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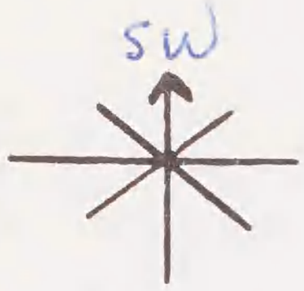

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 10 July 1965
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1445	WNP	3			on H2O	
1450	Newells Shear	1				
1451	Wedgetail	1				
1457	WNP	1			light	
1514	Sooty Tern	4		SW		
	Wedgetail	2			Traveling flocks	
	WNP	2				
1530	P. externa	1				
1545	Shear-Pet	2				
1549	Cook's	1				
1554	"	1				
"	Wedgetail	1				
"	Sooty Tern	1			collected (crossing)	
1600	Shearpet	1				
1611	Wedgetail	2			DARK	
1615	WNP	1				
1620	Pter. Hypo	1				
1621	Wedge	1			Light	
	Cook	1				
1625	Shear. Petrel	1				
1630	WNP	1				
1632	Wedgetail	1				
"	Shearpet	1				
1637	Wedgetail	1			dark	
1638	WNP	1				
1705	Sooty Tern	3		NW		
1707	Wedgetail	1				
1712	"	1			dark	
1720	Kermadec	1			on water (sitting)	
1730	WNP	1		NW		
1740	P. hypoleuca	1		SE		
1751	Wedgetail	1		NW	dark	
1800	Sooty T	25			1 coll. H.T.C.	
"	Wedge tail	25			15 dark — feeding flock	
"	WNP	4				
1816	Wedgetail	1		NW	light	
1826	WTTB	1				
1827	Wedgetail	1			dark	
1843	WNP	2				
1845	RTTB	1				
1853	WNP	1				
1856	Wedge	2		NW	1 dark	
1905	Stop Observations					

55

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5E

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

DATE 11 July 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0602	Start Observations					
0651	Shear-Pet	1	5E			
0705	" "	1				
0730	RTTB	1			coll. (DH)	
0801	Wedgetail	1			dark	
	P. hypoleuca	1				
0802	Dark Pomp. Jr.	1			→	
0807	WNP	1			→ 0815 WNP 1	
					0817 " 1	
					0825 JFP 1	
0826	shear-pet	2				
0835	wedgetail	1			light	
0840	"	2			dark → 0837 ST 14+	
0845	JFP	1				
0851	"	1			" WT 8+	Feeding flock
0855	"	1			P. externa 5+	
0910	WTTB	1				
0914	JFP	1				
0959	P. externa	1				
1016	Wedgetail	1			dark	
1025	WNP	1				
1110	Sooty T	27			feeding flock 45T coll. H2½C1½	
Flock	Wedgetail	5				
1200	Wedgetail	1			dark	
1202	"	2				
1202	WNP	1				
1207	Wedgetail	4			all dark - sitting on water	
1236	"	1			dark	
1245	RTTB	1				
1250	Cooks P	1				
1257	Sooty T	1			feeding - distal	
1301	WNP	1			a few primaries outgrown the appearance of white wristmarks as in Kermadec	
1303	" " "	2				
"	Sooty T	1			flying fish surveying (Flying too!)	
1313	shear-pet	1				
1315	Cook	1				
1326	JFP	1				
1415	Cooks Pt	1				
1425	WNP	1				
1432	" "	8			feeding flock	
1445	Shear Pet	1				
1508	Tropicbird sp.	1				
1510	WNP	1				
"	Cooks	1				

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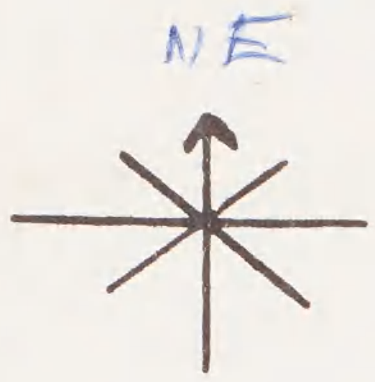

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 11 July 1965
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1604	shear-pet	1				
1632	Cocky	1	SE			
1642	"	1	NW			
1655	wedgetail	1	—		light	
1710	Sooty Tern	26+			1 with orange streamer	
	Wedgetail	4			dark; flock	
	TFP	1				
	webs pet	2				
1728	WNP	1				
1730	Wedge	1			cell (Cassin) - light phase	
1744	Cook's	1				
1740	[illegible]	1				
1753	WNP	1				
1800	Cook's	1				
1817	shear-pet	1				
1832	Wedgetail	2			dark	
1842	hypoleuca	1				
1850	Wedgetail	1				
1910	Stop Observation					

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7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 12 July 1965
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0600	Begin Observation				— Sunrise	
~~0600~~	~~[illegible]~~					
~~[illegible]~~ 0609	Wedge T.	12				
0655	WNP	1			no. 1 primaries missing giving appearance of Kermadec petrel	
0659	Wedgetail	~~21~~	3			
~~0700~~	~~Cook's P~~	1			on H_2O	
0705	"	1			0700 P. externa 1	
0700	[illegible]	1				
0714	wedgetail	2			0710 Cooks 1	
0717	WTTB	1				
0722	wedgetail	3				
0727	WTTB	2				
0738	wedgetail	2				
"	Sooty T.	1				
0739	Shear Pet	1				
0742	Shear Pet	1				
0744	P hypoleuca	1				
0753	wedgetail	1			light	
0755	"	1				
0800	"	1				
0804	"	1				
"	sooty T	1				
0810	"	7			Feeding Flock	
	wedgetail	6			Feeding Flock	
0833	Lewis	1				
0853	P. hypoleuca	1				
0917	cavy	1				
0919	Sooty T.	1				
0925	"	5			Feed Flock	
	Wedge	3			Feed Flock	
	P. hypoleuca	1			Feed Flock	
0927	wedge	2			light	
0930	"	1				
0930	P. hypoleuca	1				
0938	sooty T.	3	SW			
0944	"	5	SW			
0946	"	6			Feeding	
1000	"	1	S			
1000	wedgetail	1				
1001	Sooty Tern	2				

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

DATE 24 IV 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
1011	Sooty T.	1				
1015	WNP	1				
1018	Cook's	1				
1019	P-externa	1				
1027	wedgetail	2			ARK	
1040	"	1				
1054	"	1				
1059	w TTB	1			landed on water	
1110	Shear-Pet	1				
1116	Wedgetail	1				
1125	Sooty Tern	7			flock	
	Shear-Pet	3				
1134	Shear-Pet	1				
1138	wedgetail	2				
1143	RTTB	2				
1246	Sooty T.	1				
1250	Wedgetail	1				
1253	RTTB	1				
1258	Shearpet	1				
1303	JFP	1				
1303	WHP	1				
1303	Wedgetail	1				
1307	"	2				
1315	"	2				
1322	"	3			on H_2O	
1327	"	1				
1328	Sooty tern	4				
1329	Wedgetail	2				
1330	"	13			All light - sitting on water	
1340	"	3			" "	
1341	RTTB	1				
1342	wedge	1			" "	
1346	"	1				
1348	coony	1				
1352	Wedge	3				
1355	shear-pet	1				
1357	Wedge	2				
1407	Wedgetail	7			trav. flock	
"	Sooty T.	2				
1415	Wedgetail	1				
1428	WTTB	1				
1434	Wedgetail	1				
1441	Wedgetail	1				
"	Sooty Tern	2				
1450	Cook's	1				
1453	Shear-Pet	1				

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 12 July 1965
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1503	Wedgetail	1				
1507	"	1				
1513	"	1				
1523	"	1				
1530	"	1				
1533	"	1				
[illegible]	"	2				
[illegible]						
1539	"	2				
1546	Shear-Pet	1				
1548	wedgetail	1				
1551	"	1				
1552	"	1				
1559	cooks Pet	1				
1600	Shear-pet	1				
1601	Wedge	1				
1605	P. hypoleuca	1				
1610	sooty T.	2				
1610	Wedge	1				
1615	Sooty T.	1				
1621	"	11			Feeding flock	
	Wedgetail	1				
1623	Sooty T.	1				
1630	Wedgetail	1				
1632	"	1				
1638	"	1				
1136	COOKS	1				
1640	WTTB	1				
1651	Wedgetail	1				
1656	"	1				
1709	"	4			sitting on water	
1710	Sooty Tern	3				
1711	Wedgetail	1				
1713	"	1				
11	Sooty Tern	2				
1726	Wedge	1				
1733	"	1				
"	Shear Pet	1				
1735	Wedge	2				
1747	cook	1				
1756	Wedge	1				
1821	hypoleuca	1				
1825	Frigate	1				
1848	Wedge	3				
1548	P. externa	1				
1104	wedgetail	1				
[illegible]	RTTB	1				

1525 RTTB & WTTB, hang around ship for about 25 minutes, [illegible]
(1) (1)

1535

end observations

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

DATE 13 July 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0550	START OBSERVATIONS					
0555	sooty T.	1				
0557	"	2				
0557	Wedgetail	1				
0557	hypoleucus	1				
0559	Sooty T	2				
	SUNRISE					
0603	hypoleucus	1				
0606	Sooty T.	2				
0611	wedge	1				
0622	Sooty	1	N			
0627		3				
0633	wedge	1				
0641		1				
0645	sheartail	1				
0655	Bucket	1				
0733	Sooty	1				
0743	Sooty T	3				
0743	Turnstone	1				
0743	Wedge tail	1				
F 0801	Sooty T	12			Feeding Flock — Many of the Sooties left the Flock and headed N.	
	Wedge	25				
	Frigate	12				
0730	Sooty T	1	N			
0737	Wedge T	1	S			
0737	" "	2	S			
0740						
0746	Wedgetail	3				
0754	Cooks Pet	1	N			
0815	Wedgetail	2			Sitting on water	
0820	Shear-Pet	1	N			
0826	Sooty Tern	2	N			
0846	Wedgetail	1				
0857	Wedgetail	3				
0910	Sooty Tern	14			Travelling	
	Wedgetail	3				
	Shear-Pet	5				
0916	Wedgetail	1				
0925	Wedgetail	1				
0937	Sooty Tern	1	SE			
0940	" "	1				
0943	" "	1				
0943	" "	1	S			
0946	" "	1	E			
0954	Frigate	1				
0954	Wedgetail	1				
1000	"	1				
1018	Sooty T	7			Trav. flock	
1022	Shear Pet	1				

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

DATE 13 July 1965
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1025	Sooty T	60	N		Trav. flock	
"	Wedge T.	3				
1045	Sooty T	52	N		Trav flock	
"	Wedge T	5				
"	Frigate	1				
1055	Sooty T	1				
1057	Wedge T.	1				
1058	Sooty T	2				
1101	" "	1				
1102	Wedge T.	1				
1145	Sooty Tern	225			Travelling	
	Wedgetail	3				
1123	Audubon's Pet	1				
1130	Sooty Tern	125	E	10	Travelling	
	Wedgetail	20±				
	Audubon's Pet	8±				
1235	Sooty Tern	1				
1237	Wedgetail	2				
1245	Bulwer's Pet	1	N			
1248	Sooty Tern	1				
1249	" "	1				
1251	" "	1				
1257	Sooty Tern	130±				
	Wedgetail	15±			Feeding	
	Frigate	2			many immature	
1303	Sooty Tern	18±				
1305	" "	1	S		Travelling	
1321	Wedgetail	1				
1330	Short-Pet'l	2	SW			
1332	Sooty Tern	1	W			
1334	Wedgetail	3			sitting on water	
1336	Sooty Tern	15±			Feeding	
	Wedgetail	3±				
1355	Sooty T	1				
1405	Wedge T	1				
1407	Sooty T	1				
1410	" "	2				
1411	" "	3				
1416	" "	1				
1421	Gray Back T.	1				
1428	Sooty T	7	N		Trav f.	
1432	" "	1	W			

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 13 July 1965
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1444	Wedgetail	2			Flaneting, scattered	
1447	Sooty †	5				
1447	Tropicbird sp.	1				
"	Wedgetail	1				
1454	Sooty †	3				
1456	Shear-Pet	1				
1501	Sooty †	1				
1501	Cooks P	1				
1504	Sooty †	1	S			
1506	" †	1	S			
1508	Wedge †	1	S			
1510	" "	2	S			
"	Cooks P	1	S			
1511	Sooty †	1				
1515	" "	1	N		loose flock Trav.	
"	" "	3	N			
"	Wedge †	1	N			
1518	Sooty †	2				
1520	Wedge †	1				
1535	" "	1				
1540	" "	1				
"	Cooks P	1				
1541	Sooty †	1				
1543	Shear Pet	1				
1556	Wedge †	1				
1559	Sooty †	1				
1605	" "	1				
1607	" "	3	W			
1608	" "	1				
1610	Wedgetail	1				
1623	"	1				
"	Sooty †	1	N			
1629	" "	2				
1629	Wedge †	1				
1630	Sooty †	1	S			
1640	Wedgetail	1				
1715	Shear-Pet	1				
1725	Wedge †	1				

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

DATE 13 July 1965
Pg.# 4

time	species	#	dir.	hgt.	remarks	loc.
1730	RTTB	1				
1737	Sooty Tern	2				
1745	Wedgetail	1				
1750	Frigate	1				
1754	RTTB	1				
1756	Wedgetail	1				
1757	"	1				
1758	Pterodroma hypoleuca	1				
1807	wedgetail	1				
1811	wedgetail	1				
1816	wedgetail	1				
1853	wedgetail	1				
1905	Wedgetail	1				
1920	Sooty Tern	3				
1921	Christmas Shear	1				
1926	End of Observations					

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

DATE 14 July 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0554	Begin observation				sunrise 0555	
11	BrownBooby	1			Sitting on ship	
0556	Sooty Tern	2				
11	wedgetail	2				
0559	11	1			F	
11	Sooty Tern	15				
0603	Short-tail	1				
0604	Frigate	1				
11	Sooty Tern	7			travelling F	
0609	11	3			travelling F	
0610	wedgetail	1				
0611	Sooty T.	10+			TF	
0612	11	5				
11	wedgetail	4			TF	
11	Short-tail	1				
0624	Sooty T	12			Cone flock	
0626	11 11	76+			TF	
0628	11 11	45+			TF	
11	Frigate	2				
11	wedgetail	1				
0630	Sooty Tern	1			0630 TF	
11	11	20+			TF	
11	Noddy					
	Tern sp.	1				
0631	Sooty Tern	25+			0631 TF	
0632	N.G.	1				
11	wedgetail	1				
0633	Sooty Tern	1				
0633	11	35				
11	Frigate	2				
11	Red-f	5			Feeding flock	
11	wedgetail	26				
0644	Sooty T.	35+			TF	
0649	11	5			TF	
11	wedgetail	4				
0651	11	5			TF	
11	Sooty T	2				
0653	11	9			TF	
0655	Frigate	1			TF	
11	wedgetail	7				
11	BFA	1				

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DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 14 July 1965
Pg.# 22

time	species	#	dir.	hgt.	remarks	loc.
0617	Sooty Tern	25	I		TF	
0701	Wedgetail	2				
"	Sooty Tern	3			TF	
0705	Wedgetail	2				
"	Sooty Tern	1				
0708	Wedgetail	1				
0711	C. I. Shear.	1				
0714	Sooty Tern	4			TF	
"	Wedgetail	5				
0718	"	5			TF	
"	Sooty T.	4				
0719	"	3				
0725	RFB	1				
"	Wedgetail	1				
0726	Sooty T.	1				
"	Wedgetail	1				
0729	"	2				
"	Sooty T.	2				
0730	Frigate	1				
"	Wedgetail	1				
0732	"	2				
"	Sooty T.	2				
0735	Wedgetail	4				
0742	Sooty	14			TF	
	Wedge	5				
2745	CF Shear	1				
0751	RFTB	2				
0751	Sooty T.	15			TF	
0751	Wedgetail	6			TF	
0755	Lay. Albatross	1				
0755	Sooty	3				
0755	Wedgetail	6			TF	
0800	Sooty	2				
0800	Brown booby	1				
0800	Wedge	3				
0800	RTTB	5			TF	
0800	Frigate	1			Island spotted	
0805	Wedge	5			TF	
0805	Sooty T.	19			TF	
0805	BF Booby	1				
0810	Wedge	11			TF	
0810	Sooty T	23			TF	
0815	Frig.	1				
0815	Wedge	8			TF	
0815	Sooty	15			TF	
0820	Noddy	20			TF	
0820	Sooty	100			TF	
0822	BFB	2			TF	
0820	Wedge	5				

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

DATE 14 Sept
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
0820	Brown booby	2				
0825	Frig.	2			TF	
0825	Brown boob.	2				
0825	Sooty T.	50				
0825	Wedge	10				
0825	Noddy	5			TF Tuscaloosa from 5 mi.	
0830	Sooty T.	7			TF	
0832	C I shear	1			TF	
0832	BFB	2				
0832	Frig	3				
0832	Sooty	9			TF	
0835	Frigate	2			2 frigates and Br Book chasing Red for T.	
"	Br. booby	1				
"	Red F Book	1				
0840	C. I. Shear	2				
"	Sooty T.	22			TF	
"	Wedge	1				
0842	Sooty T.	14			TF	
	Red F. Boob	1				
	~~Sooty~~ Wedge	2				
	Noddy	1				
	C I Shear	2				
	Frig.	1				
0850	B F Boob	2				
0855	Brown "	1				
	Sooty T.	20			TF	
	Wedge	4				
	Frig.	1			TF	
0900	Sooty T.	15				

at top observations.

distance circa 4 mi. from I at 0900.

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

DATE 22 July 65
Pg.# 8 of 9

time	species	#	dir.	hgt.	remarks	loc.
0535	Begin observations					
0555	Wedgetail	1				
0602	Sooty Tern	3				
0604	" "	3				
0610	" "	1				
0612	" "	1				
0614	" "	5			TF	
0615	Wedgetail	1				
0616	Silver Pet	1				
0617	Sooty Tern	2				
0618	" "	1				
0624	" "	3				
"	Wdgetail	1				
0627	"	1				
"	"	1				
0635	Sooty T	6			Trav. flock	
0636	Blue Fake B	1				
0637	Wedgetail	2				
0641	" "	1				
0647	Sooty T	2				
0653	Wedge t.	1				
0700	Sooty T	1				
0702	" "	1				
0717	BFB	1				
0727	Sooty Tern	3				
0738	Wedgetail	2				
0745	Sooty Tern	2				
0746	Wedgetail	1				
0755	"	1				
0801	Sooty T	9			Trav Flock	
0803	" "	1				
0804	" "	2				
~~0814~~	~~Wedget~~	~~1~~			~~took~~	
0819	Bulwers P.	1				
0831	Frigate	1			feed. flock	
"	Sooty T.	4				
0912	Wedget	1				
0930	" "	1				
0945	Sooty T	1				
0950	Wedge T	1				
0952	Sooty T	1				
0958	" "	1				
1004	Frigate	1			feeding flock	
"	Sooty T	29				
"	Wedge T.	10				
1010	RTTB	1				

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

DATE 22 July 65
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
1020	Sooty Tern	40±			Feeding	
	Wedgetail	30±				
	Frigate	1				
	Jaeger sp	3				
1035	R T T B	1				
1045	Sooty Tern	2				
1052	Wedgetail	3				
1104	Sooty Tern	35±			Travelling	
	Wedgetail	6±				
1110	Sooty Tern	18			Travelling	
	Wedgetail	3				
1115	R T T B	2				
1120	Bulwers Pet	1				
1132	Wedgetail	1				
1141	Sooty Tern	4				
1148	Wedgetail	2				
1150	Jaeger Pet	1				
1207	Sooty T.	1				
1217	Fairy T	1				
1221	B F B	1				
1228	Frigate	1				
1232	R F B	1			sitting on log	
1253	Sooty T	4				
1257	" "	10			train flock	
"	Fairy T	1				
1258	Frigate	1				
1415	wedgetail	1				
1419	Wedgetail	1				
1420	Sooty Tern	1				
1434	R F B	1				
1445	R F B	1			Sitting on water	
1453					15± porpoise	
1502	Wedgetail	1				
1515	"	1				
1521	Sooty Tern	1				
1527	Wedgetail	1				
1528	Bulwers Pet	1				
1532	Wedgetail	1				
1535	Sooty Tern	20±			Feeding	
[illegible]	Wedgetail	3				
1536	Jaegers Pet	1				
1540	Sooty Tern	9±			Travelling	
	Wedgetail	2				
1541	Sooty Tern	1				
1545	Wedgetail	2				

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DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 22 July 65
Pg.# 3 of 5

time	species	#	dir.	hgt.	remarks	loc.
1519	Wedgetail	2				
1554	"	1				
1556	Bulwer	1				
1602	Wedget	2				
1610	Shear Pet	1				
1612	Wedget	8			7 on H2O	
1616	" "	1				
1620	" "	3				
"	Frigate	1				
1622	Sooty +	1				
1625	Blue F. Boob	1				
1630	Wedge +	3				
1631	" "	1				
1632	Bulwers P	1				
1633	P. hypoleucus	1				
1641	Wedget	1			First sighted FF shoals	
1645	Red F. Boob	1			these within sight	
"	Wedgetail	2			till sunset 17	
1650	Sooty +	4			FF	
"	Fairy +	1				
"	BFB	2				
"	RFB	1				
"	Frigate	2				
1706	Bulwers Pt	1				
1706	Sooty Tern	3				
1707	Sooty Tern	4				
1708	Wedgetail	2				
1708	"	1				
1709	Frigate	1				
1715	Bulwer	1				
1715	wedget.	1				
1716	"					
1717	sooty T.	4				
1717	wedge	1				
1719	wedget.	1				
1722	"	1				
1725	"	2				
1730	"	1				

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

DATE 22 July 1965
Pg.# 4

time	species	#	dir.	hgt.	remarks	loc.
1940	Sooty T	45				
"	Noddy T	25				
"	Wedge T	15			Trav flock	
"	Frigate	1				
"	Fairy T	1				
"	RFB	2				
1742	Bulwers	1				
1746	Wedge T	3				
1755	Sooty T	1				
"	Bulwers	1				
"	Frigate	1				
1802	Sooty T	17			TF	
"	RFB	2				
"	Wedge T	3				
1804	Sooty T	11			TF	
1805	RTTB	1				
1806	Noddy T	15			TF	
1807	"	4				
1808	Sooty T	7			TF	
1809	RTTB	1				
1809	Wedge T	2				
1810	Noddy T	7			TF	
1811	RFB	1				
1811	GFB Tern	1				
1812	Haw. Noddy	2				
1812	Wedge T	1				
1813	Noddy T	3				
1813	RFB	1				
1816	Haw Noddy	6			TF	
1817	Sooty T	11			TF	
1817	Wedge T	9			TF	
1817	RFB	2				
1822	Sooty T	45			TF	
"	Noddy T	25				
"	Wedge T	20				
1830	Frigate	2				
1830	Sooty T	30			TF	
1830	Wedge T	8				
1835	Sooty T	77			TF	
1835	Haw Noddy	25			TF	
1835	RFB	2				
"	Wedge T	15			TF	
1840	Haw Noddy	18			TF	

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DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 22 July 1965
Pg.# 5

time	species	#	dir.	hgt.	remarks	loc.
1844	Br. Booby	1				
"	Wedgetail	5			FF	
1845	RFB	3			FF	
"	Sooty	25				
"	Haw noddy	7				
"	Frigate	1				
1846	Sooty	15			TF	
"	Wedgetail	5				
1847	Noddy	25			FF	
"	Wedgetail	10				
1850	Noddy	30			FF	
"	Sooty	15				
"	Haw Noddy	20				
1854	Sooty	25			TF	
1855	RFB	1				
1856	"	3				
1900					STOP Observation	

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E

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

DATE 23 July 1965
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0516	Start Observations					
0526	Wedgetail	1				
0527	Bulwers Pet.	1				
0558	Sooty T	6			TF	
0605	Bulwers Pet	1				
0615	Shear. Pet	1				
0617	Wedge tail	1				
0629	" "	1				
0633	" "	1				
"	sooty tern	1				
0635	Wedge tail	1				
0654	" "	1				
0655	" "	1				
0716	" "	1				
0718	Bulwers Pet	1				
0725	Wedgetail	1				
0728	C.I Shear	1				
0729	Wedgetail	1				
0732	" "	2				
0732	Shear-Pet	1				
0733	Sooty T.	1				
0751	Wedgetail	1				
0755	Sooty T.	1				
0800	Wedge	1				
0800	Bulwers	1				
0807	Sooty t.	3				
0811	P. hypoleuca	1				
0811	Wedgetail	1				
0813	Wedgetail	2				
0815	Wedgetail	2				
0815	"	3				
0817	"	9			→ Flock sitting on water	
0818	"	1				
0828	Fairy Tern	2				
0831	Bulwer's	1				
0832	Wedgetail	1				
0835	"	2				
0836		1				
0837	Bulwer	1				
0839	Wedgetail	1				
0842	WTTB	1				
0845	Wedgetail	1				
0848	Bulwers	1				
0850	Wedgetail	2				
0852	G.B. Tern	2				
0853	C.I. Shear	1				
0853	Wedgetail	2				
0855	"	1				
0855	Bulwer's	1				
0856	Wedgetail	1				
0859	Fairy Tern	1				
0900	Wedget.	1				
0909	Newell's shear.	1				
0911	Wedget.	1				

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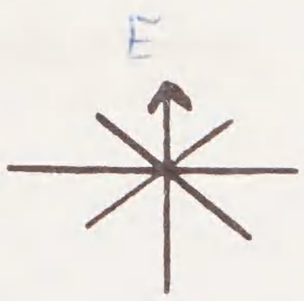

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 23 July 1965
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
0913	Wedgetail	3				
0916	"	2				
0916	Bulwer's	1				
0917	Wedgetail	1				
0917	Fairy Tern	1				
0926	Bulwer	1				
0921	wedgetail	2				
0924	Bulwers	1				
0926	"	1				
0926	Wedgetail	2				
0927	"	3				
0930	"	1				
0932	"	1				
0932	Bulwer's	1				
0933	Fairy Tern	1				
0934	Wedgetail	2				
0937	Sooty tern	2				
0937	wedge.	2				
0940	Bulwers	2				
0940	Wedge	3				
0940	RTTB	1				
0951	Bulwers	1				
0955	shear-pet.	1				
0955	~~WTTB~~ RTTB	1				
0957	Fairy Tern	2				
0959	WTTB	1				
1002	Wedget	1				
1005	" "	1				
1018	Fairy t	1				
1018	Bulwer's P	1				
1019	Wedget	1				
1022	" "	1				
1025	Fairy T	1				
1027	Bulwers	1				
1027	WTTB	1				
1028	Wedget	1				
1032	" "	1				
1037	" "	1				
1043	" "	1				
1048	Tropicbrdsp.	2				
1048	Wedgetail	1				
1055	Bulwers	1				
1058	Wedget	2				
1102	" "	1				
1104	Bulwers	1				
1106	Wedget	1				
1108	Bulwers	1				
1109	Wedget	1				
1110	" "	1				
1112	Bulwers	1				
1113	Fairy T	1				

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

DATE 23 July 1965
Pg.# E 3

time	species	#	dir.	hgt.	remarks	loc.
1118	Bulwers p	1				
1123	" "	1				
1127	" "	1				
1131	Fairy T	1				
1131	Bulwers P	3				
1132	" "	2				
1136	Frigate	1			FF	
"	Fairy T	1				
"	Wedge t.	7				
"	Sooty T	50				
1142	Bulwers P	2				
1142	Sooty T	1				
1145	Fairy T	1				
1147	Bulwers P	1				
1157	Bulwers	1				
1158	Bulwers	1				
1159	Bulwers	1				
1208	RTTB	3				
1209	Bulwers	1			5 following ship at once	
1214	Bulwers	1				
1217	RTTB	2				
1217	Wedgetail	1				
1221	RTTB	1			6 " " " "	
1221	Fairy Tern	4				
1221	wedgetail	1			dark phase.	
1226	"	2				
1227					all tropicbirds stop following ship & go to ~~west~~ South	
1230	Bulwers	1				
1231	Wedgetail	1				
1233	Fairy Tern	1				
1245	" "	2				
1257	Wedge t.	1			sitting on H_2O	
1303	Cooks	1				
1320	RTTB	1				
1325	Bulwers	1				
1330	"	1				
1341	RTTB	1			sitting on H_2O	
1347	Bulwers	1				
1355	"	1				
1359	"	1				
1401	Wedgetail	3			sitting on H_2O	
1415	Fairy T	1				
1415	Bulwers	2				
1421	"	1				
1421	Frigate	1				
"	Sooty T	2				
1423	Bulwers	1				

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

DATE 23 July 1965
Pg.# 4

time	species	#	dir.	hgt.	remarks	loc.
1426	Bulwers	1				
1428	"	2				
1436	"	2				
"	Sooty T	1				
1440	Wedge T	1				
1445	Bulwers P	1				
1452	Wedge T	1				
1458	Bulwers P	1				
1501	Wedge T	1				
1502	Bulwers	1				
1504	Sooty T	1				
1512	Bulwers P	1				
1512	" "	1				
1516	" "	1				
1522	" "	2				
1529	" "	1				
1531	" "	1				
1533	" "	1			on H20	
1540	Sooty T	55			FF	
"	Noddy T	20				
"	Wedge T	5				
"	Fairy T	1				
"	RTTB	1				
"	Bulwers P	3				
1546	Bulwers P	1				
1548	" "	1			1555 Spotted Hibou to N	
1552	Wedge T	1				
1558	Bulwers	1				
1559	Sooty T	2				
1602	Bulwers P	1				
1607	Fairy Tern	2				
1620	Bulwers	1				
1620	Heron sp?	1			Heron about the size of a snowy egret flying towards NIHOA. Was dark in color, but no distinguishing field marks seen. Poor light, 1/2 mile off.	
1622	Fairy T.	4			Feeding flock	
	G. B. Tern	1				
1624	Bulwers	1				
1624	Fairy T.	1				
1630	Noddy Tern	1				
1630	Fairy Tern	1				
1631	" "	1			Feeding flock	
	Bulwer	3				
	Shear-pet	1				

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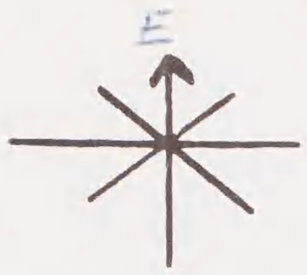
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 23 July 1965
Pg.# 5



time	species	#	dir.	hgt.	remarks	loc.
1637	Bulwers	1				
1638	Wedgetail	1			200+ sooties	
1642	Sooty tern	15			Large feeding flock on horizon	
	Booby sp?	7			10 BFB — Booby sp, 10±	
	Wedgetail	10			45±	
	Fairy tern	3			C. Noddy & 45	
1645	Bulwers	2			— Blue grey Noddy 25±	
1650	"	2				
1650	Fairy Tern	1				
1652	" "	2				
1707	Sooty Tern	40±				
	Wedgetail	15±			Feeding	
	BFB	5				
	AFB	3±				
	C. Noddy	15±				
	Fairy Tern	4				
1708	Fairy Tern	3			TF	
1709	" "	6				
1710	Wedgetail	3				
1712	Sooty Tern	35±				
	Fairy Tern	25±				
	C. Noddy	20±			Feeding	
	H. Noddy	15±				
	Wedgetail	15±				
	BFB	2				
	Blue grey Noddy	10±				
1715	Wedgetail	2				
1714	Fairy Tern	1				
1716	BFB	1				
1716	Bulwers Pet	1				
1725	" "	1				
1727	" "	1				
1730	shear-pet	1				
1732	Fairy Tern	2				
1734	Wedgetail	1				
1735	Bulwers	1				
1737	Sooty	1			T — TF	
1737	H. Noddy	4				
1737	Fairy Tern	2				
1740	RFB	1				
1740	Bulwer	1				
1749	"	1				
1749	Fairy T.	6			do Fairies flock? if so this is a "traveling flock"	
1749	RFB	2				
1749	C. I. Shear	1				
1751	Bulwer	3				
1752	"	2				
1752	Wedgetail	1				
1755	C. I. Shear	2				
1755	Bulwers	4				
1758	"	1				
1758	C. I. Shear	1				
1758	Wedgetail	1				

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

DATE 23 July 1965
Pg.# 6

time	species	#	dir.	hgt.	remarks	loc.
1801	Wedgetail	1				
1801	Bulwer's	1				
1802	"	2				
1803	W tail	1				
1803	Fairy T.	~~2~~				
1805	Bulwers	2				
1805	Wedgetail	2				
1808	RTTB	1				
1810	G.B. Tern	1				
1814	L.I. Shear	1				
1815	"	1				
1815	GB Tern	1				
1815	Fairy T.	1				
1815	Bulwer P.	3			feeding - hovering & dabbling feet in H2O.	
1817	Fairy tern	3				
1817	" "	2				
1817	" "	2				
1817	" "	1				
1820	Bulwer Pet.	1				
1823	" "	1				
1830	" "	1				
1835					Finish observations	

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 24 July
Pg.# 1

time	species	#	dir.	hgt.	remarks	loc.
0550	Begin observation					
0550	RTTB	1				
0550	Wedgetail	3				
0552	"	4				
0556	RFB	2				
0558	Wedgetail	9			TF	
0558	Bulwer's	3				
0601	"	1				
0601	Wedgetail	3				
0605	"	5			TF	
0605	Bulwer's	3			TF	
0605	RFB	5				
0607	Wedgetail	3			Idork	
0605	RFB	2				
0609	Frigate	2				
0610	Wedgetail	4				
0610	"	4				
0610	"	3				
0610	RFB	1				
0611	Frigat	1			passing Nilhau 0615	
0615	Wedgetail	4				
0615	RFB	2				
0617	"	2				
0617	BB	1				
0617	Wedgt	4				
0618	RTTB	1				
0618	Wedgetail	3				
0620	RFB	6			TF	
0621	"	4				
0621	Frigate	2				
0621	Wedgetail	3			TF	
0623	Sooties	5			TF	
0625	RFB	5				
0626	"	2				
0627	Wedgetail	4				
0627	RFB	2				
0629	Wedgetail	3				
0629	Storm Petr	1				
0630	RFB	3				
0630	BB	1				
0631	Wedgetail	2				
0631	RFB	3			= 3	
0632	BB	1				
0632	Wedgetail	2				
0632	Sooty	1				
0633	Frigate	1				

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 24 July 1965
Pg.# 2

time	species	#	dir.	hgt.	remarks	loc.
0633	Sooty †	3				
0633	Wedget †	1				
0634	Sooty †	2				
~~0635~~	~~Sooty~~				TF 1 on H2O definitely sitting	
0635	Sooty †	5				
0637	Bulwers	1				
0638	Wedget †	1				
0638	RFB	1				
0639	Sooty †	6			TF	
0639	Wedget †	2				
0640	" "	1				
0640	RFB	1				
0640	"	2				
0641	Wedget †	1				
0642	" "	1				
0642	RFB	1				
0642	Wedget †	1				
0643	" "	2				
0643	Noddy †	1				
0644	" "	2				
0644	Wedget †	1				
0644	Shear Wat †	1				
0645	Newells	1			FF	
0645	Wedget †	~~8~~ 5			FF	
0646	" "	4				
0647	Newells	3			TF	
0647	Wedget †	5				
0648	" "	1			on H2O	
0649	BB	1				
0650	Wedget †	7			TF	
0651	" "	1				
0652	" "	2				
0653	" "	4				
0654	" "	6			loose FL	
0654	" "	2				
0654	RFB	1				
0655	Wedget †	3				
0655	Leachs Pet †	1				
0656	Newells	2				
0656	Wedget †	3				
0657	Sooty †	2				
0657	Newells	2				
0657	Leachs P.	1				
0658	Wedget †	2				
0659	" "	1				

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 24 July 1965
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
0659	Wedge T	1				
0659	RFB	1				
0659	Wedge +	1				
0659	" "	3			2 on H2O	
0659	" "	3				
0700	" "	1				
0700	Newells	1				
0701	Bulwers Pet	1				
0702	Wedgetail	2				
0703	"	1				
0703	Newells Shw	1				
0704	Sooty Terns	30±			Travelling	
0704	Wedgetail	9				
0705	Wedgetail	92±			Feeding	
0705	Newells Shw	1				
0705	Leachs S.P.	1				
0706	RFB	1				
0707	Wedgetail	10			scattered	
0708	RFB	1				
0709	Wedgetail	8			Travelling	
0710	"	2				
0710	Sooty Tern	1				
0711	Wedgetail	4				
0711	Leachs	2				
0711	Sooty Terns	2				
0712	Newells Shw	1				
0712	" "	1				
0712	Sooty Terns	4				
0712	Wedgetail	4				
0713	"	6			scattered	
0714	Wedgetail	50±			sitting on H2O	
	Noddy Terns	50±				
0715	Wedgetail	15			scattered	
0715	Brn Booby	3				
0715	Newells Shw	1				
0716	Bulwers Pet	1				
0716	Wedgetail	5			scattered	
0717	Sooty Terns	1				
0718	Wedgetail	2				
0719	"	2				
0719	Newells Shw	1				
0720	Wedgetail	4				
0720	Wedgetail	2				
0721	Wedgetail	4				
0721	Wedgetail	3				
0722	"	6			Travelling	
	Booby sp	1				
0722	Wedgetail	3				
0723	"	2				
0724	Sooty Terns	7			TF	
0724	Bulwers Pet	1				
0724	Wedgetail	27			Feeding	

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

DATE 24 July 65
Pg.# 4

time	species	#	dir.	hgt.	remarks	loc.
0725	wedgetail	19			TF	
0726	RFB	2				
0726	wedgetail	3			FF	
0727	" "	80				
0727	" "	9			TF	
0727						
0728	RFB	1				
0728	Bulwers	1				
0729	wedgetail	8			TF	
0729	Sooty T	1				
0730	wedgetail	6			scattered	
0730	Newells Shear	1				
0731	wedgetail	3				
0731	"	1				
0731	"	4				
0732	Newells Shear	1				
0732	CNoddy Tern	2				
0733	Bin Booby	3				
0733	RFB	2				
0733	Sooty Tern	3				
0734	CNoddy Tern	2				
0734	wedgetail	12			scattered	
0734	Newells Shear	1				
0734	Leaches Storm P	1				
0735	wedgetail	70±			Feeding	
	Newells Shear	3				
	CNoddy Tern	23±				
0736	wedgetail	1				
0736	Newells Shear	1				
~~0737~~						
0737	C Noddy	4				
0737	Leaches	1				
0738	wedgetail	3				
0738	Bulwers	1				
0738	RFB	2				
0739	Bin Booby	1				
0739	Sooty Tern	2				
0739	Bin Booby	1				
0739	CNoddy	2				
0740	wedgetail	10			sitting	
0740	"	5			scattered	
0740	Bin Booby	1				
0741	wedgetail	3			sitting	
0741	Sooty Tern	2				
0742	Leaches	1				
0742	Newells	1				
0743	wedgetail	3				
0743	"	2				
0743	C. Noddy	4				
0744	RFB	1				
0744	wedgetail	1				
0745	"	4				
0745	"	3				

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 24 July 65
Pg.# 3 of 5

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time	species	#	dir.	hgt.	remarks	loc.
0746	Sooty Tern	2				
0750	wedgetT	2				
0750	"	3				
0750	" "	40	—		on H2O 2 ducks	
0751	Leach's Pet	1				
0752	Wedgets	30	~		TF	
0758	"	42	—		on H2O	
0802						
0805	Tropicbird sp	20	~		TF	
0805	G.B. Tern	1				
0807	~~Sooty~~ Sooty T.	2				
0810	wedgeT	29	—		TF	
0812	Sooty T	1				
0815	wedgeT	1				
0815	C T S	1				
0815	Sooty T	500	}		FF	
0816	wedgeT	300				
"	Sooty sp.	7				
0821	Sooty T	1				
0823	" "	1				
0824	wedgeT	1				
~~0825~~						
0832	Sooty T	28	}		TF	
"	wedgeT	9				
0835	" "	25	—		SF	
0837	Sooty T	300	}		TF	
"	WedgeT	150				
0838	GBT	1			TF	
0840	wedgeT	7	—		FF	
0842	" "	27	—			
0844	newells	2				
0846	"	2				
0847	wedgeT	8	—		LF	
0850	" "	4				
0857	" "	8	—		SF	
0902	Audubens	1				
0902	wedgeT	9	—		Loose FL	
"	Sooty T	25				
0910	wedgeT	75	—		FP	
"	GBT	2				
0910	wedgeT	1				
"	" "	2				
0911	newells	1				
0912	wedgeT	2				
0912	" "	12	—		on H2O SF	
0915	" "					
0920	newells	1				
"	wedgeT	3				

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E-SE

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 24 July 1965
Pg.# 6

time	species	#	dir.	hgt.	remarks	loc.
0925	Newells	3				
0930	Bulwers	1				
0937	newells	1				
0945	"	1				
0946	wedge T	3				
0952	" "	1				
"	RTTB	1				
0955	Newells	1				
0956	Wedge T	1				
0958	Sooty T	5			TF	
0959	newells	1				
1012	RTTB	1				
1014	Wedge T	2				
1016	"	1				
"	newells	2				
1019	Wedge T	1				
"	Sooty T	2				
1025	newells	1				
1026	Wedge T	1				
1027	WTTB	1				
1029	Sooty T	20			FF	
"	Wedge T	9				
1030	" "	1				
1032	Sooty T	2				
1034	Wedge T	2				
"	Tropicbird sp	1				
1037	Wedge T	1				
1042	Tropicbird sp	1				
1045	Wedge T	1				
1051	" "	1				
"	WTTB	1				
1052	Wedge	1				
1054	"	1				
1056	"	1			FF	
"	Sooty T	4				
1104	Wedge T	1				
1106	Newells	1				
1107	Wedge	1				
1120	Sooty T	75				
"	Booby sp	1			FF	
"	Wedge T	~5				
1125	RFB	1				
1130	Wedge	3				
1136	RTTB	1				

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E

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 24 July
Pg.# 7

time	species	#	dir.	hgt.	remarks	loc.
1145	Wedgetail	1				
1147	ATTB	1				
1150	a/wells shear	2				
1154	Wedgetail	1				
1201	Townsh Shear	1				
1211	Wedgetail	1				
1215	" " "	2				
"	Leachs Pet	1				
1217	newells S	1				
1219	Sooty +	3			TF	
"	wedget +	5				
1225	" "	1				
1226	newells S	2				
1228	"	1				
"	Leachs Pet	1				
1229	Bulwers P.	1				
"	Wedget +	1				
1230	RFB	1				
1232	Newells	1				
1232	Wedget	3			on H20	
1240	"	1				
1240	Sooty 7	1				
1240	Tropicbird sp.	1				
1242	Wedget	5			SF on H20	
1246	" "	5				
1252	" "	1				
1252	newells	1				
1255	Fairy +	1				
1258	Bulwers P	1				
1300	" "	1				
1302	wedgetail	1				
1305	"	1				
1309	GBTern	1				
1310	Newells	2				
1315	"	1				
1326	RFB	1				
1322	Sheam Pet	1				
1334	Bulwers	1				
1336	Wedgetail	1				
1345	GB tern	2				
1346	Bulwers	1				
1348	Wedget +	2				
1350	Bulwers	1				
1358	"	1				
1400	Newells	1				
1406	Bulwers	1				

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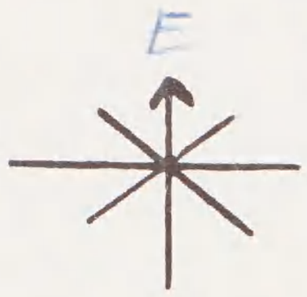

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

DATE 24 July 1965
Pg.# 5

time	species	#	dir.	hgt.	remarks	loc.
1410	RTTB	1				
1411	Bulwers	1				
1411	Pterodroma	1				
1421	Bulwers	1				
1424	Wedgetail	1				
1427	Shear Pet	1				
1429	Bulwers P	1				
1436	Newells	1				
1439	wedgetail	1				
1441	" "	1				
1444	Newells	1				
1453	Bulwers	1				
1456	"	1				
1457	Newells	1				
1458	"	1				
1458	Bulwers	1				
1459	Newells	1				
1500	wedge-tails	2				
	JFP	7				
1504	wedge t	1				
1514	Bulwers	1				
1516	Shear-pet	2				
1520	scoty tern	25			feeding flock	
1523	wedgetail	70				
	Newels	56				
	Frigate	2				
1526	Newells	3				
1526	"	2				
1530	"	4				
1530	wedgetail	1				
1532	WTTB	1				
1535	shear pet	1				
1535	wedgetail	1				
1542	"	2				
1543	"	1				
1543	Bulwers	1				
1545	wedgetail	2				
1547		1				
1547	Newells	3				
1547	Bulwers	1				
1548	W tail	2				
1553	Newels	1				
1555	Bulwer	1				
1600	wedgetail	2				
1600	scoty t.	2				
1607	Wedge tail	2				
1610	"	2				

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E

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 24 July
Pg.# 9

time	species	#	dir.	hgt.	remarks	loc.
1615	sooty T.	1				
"	Wedgetail	2				
1616	Sooty T.	2				
1617	Newells	1				
1620	Wedge	2				
1620	Newells	1				
1620	sooty T.	3				
1623	Dark R. Petrel	1				
1626	Shear-pet	3				
1630	Wedgetail	1				
1633	"	1				
1642	shear-pet.	1				
1643	" "	1				
1643	Wedgetail	1				
1645	"	2				
1650	wedgetail	4				
1653	"	1				
1655	"	1				
1656	"	1				
1656	Wedgetail	1				
1700	Sooty Tern	9			Travelling	
1703	Wedgetail	2				
1706	Wedgetail	3				
1707	Newells Shear	1				
1710	" "	1				
1711	wedgetail	4				
1712	"	3				
1713	"	4				
1714	"	4				
1715	"	1				
1716	"	3				
1717	GB Tern	1				
1719	B. Noddy	1				
1720	Wedgetail	2				
1720	Shear-Pet	4				
1722	Newells	1				
1722	Wedget.	2				
1724	"	7				
1726	Wedgetail	3				
1729	HARCOURT'S	1			The white on rump in a much broader strip across than any leaches I have ever seen. White visable even when bird was "bottom towards us." (BAH.) Although it may have been the light, the bird also was a second slightly browner than leaches.	
1734	sooty T.	13			circling high.	
1735	Newells	6				
1736	Wedgetail	4				
"	"	2				
1740	"	3				
1740	Leaches P.	1				
1750	Wedgetail	3				
1754		5				
"	"	4				

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E

DATE 25 July
Pg.# 10

time	species	#	dir.	hgt.	remarks	loc.
1757	Newell's	1				
"	Wedgetail	5			scattered	
"	"	6			scattered	
1800	"	5			~~scattered~~ (2 scattered)	
"	"	4				
"	Cata. carneipes	1				
1805	Bulwers	1				
"	Wedgetail	6			scattered	
"	"	7			"	
1817	"	10			not a flock, scattered	
"	"	3			(5 sightings)	
1824	end observations					

DATE SAT., 24 JULY 1965

Time at sunrise = 0610 Position at sunrise L 22°-05'N, λ 160°-09'W

Time at sunset = Position at sunset = L 21-16N, λ 157°-58'

Miles traveled from 0000 hours to sunrise = 56

Miles traveled from sunrise to sunset = 132

Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE W.	LATITUDE N.
1.	0600	VIS/RADAR	160°-10'	22-05N
2.	0300	LORAN	160°-37'	22-14N
3.	1030	VIS/RADAR	159°-45'	21-47
4.	1500	VIS/RADAR	158°-32'	21-30
5.				
6.				

DATE

Time at sunrise = Position at sunrise =

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise =

Miles traveled from sunrise to sunset =

Miles traveled from sunset to 2400 hours =

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

DATE 2 July 1965

Time at sunrise = Position at sunrise =

Time at sunset = ~~1930~~ 1916 Position at sunset = L 21°-02'N, λ 158°-33'W

Miles traveled from 0000 hours to sunrise =

Miles traveled from ~~sunrise~~ HONOLULU to sunset = 40

Miles traveled from sunset to 2400 hours = 46

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	~~0530~~	~~Stars/Loran~~	~~160°08'~~	~~20°23'~~
2.	1645	VISUAL	158°-07'W	21°-01'N
3.	1930	LORAN	158°-35'	21°-02'
4.	2255	"	159°-08'	20°-49'
5.				
6.				

DATE 3 JULY 1965 (SAT)

Time at sunrise = 0606 Position at sunrise = L 20°-20'N, λ 160°-14W

Time at sunset = 1930 Position at sunset = L 19°.37'N, λ 162°-03'W

Miles traveled from 0000 hours to sunrise = 58

18 Miles traveled from sunrise to sunset = 112

Miles traveled from sunset to 2400 hours = 49

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0530	STARS/LORAN	160°-04'	20°-23'
2.	0145	LORAN	159°-34'	20°-38'
3.	1100	LORAN	160°-59'	20°-01'
4.	1900	"	161°-58'	19°-39'
5.	2300	"	162°-38'	19°-27'
6.				

DATE SUN 4 JULY 1965

Time at sunrise = 0523 Position at sunrise = L 19°-02'N, λ 163°-47'W

Time at sunset = 1843 Position at sunset = L 18°-10'N, λ 165°-49W

Miles traveled from 0000 hours to sunrise = 57

Miles traveled from sunrise to sunset = 127

Miles traveled from sunset to 2400 hours = 53

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0115	LORAN	163°-06'	19°-18'
2.	0500	Loran/Stars	163-43	19-04
3.	1100	LORAN	164°-40'	18°-39'
4.	1400	LORAN/Q	165°-09'	18°-29'
5.	2000	LORAN	166°-01'	18°-05'
6.	2300	LORAN	166°-29'	17°-52'

DATE MON 5 JULY 1965

Time at sunrise = 0540 Position at sunrise = L 17°-25'N 167°-28'W

Time at sunset = 1854 Position at sunset = L 16°-31'N 169°-29'W

Miles traveled from 0000 hours to sunrise = 58

Miles traveled from sunrise to sunset = 127

Miles traveled from sunset to 2400 hours = 52

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0200	LORAN	166°-54'	17°-40'
2.	0500	S/Stars	167-25	17-28
3.	1100	Q/LORAN	168°-14'	17°-03'
4.	1906	Visual/Q/Radar	169-28	16-36
5.	2300	LORAN	169°-17'	15°-56'
6.				

DATE TUES. 6 JULY 1965

Time at sunrise = 0550 Position at sunrise = L 14°-51'N, λ 168°-55'W

Time at sunset = 1852 Position at sunset = L -13-06N, λ 170°-19'W

Miles traveled from 0000 hours to sunrise = 58

Miles traveled from sunrise to sunset = 139

Miles traveled from sunset to 2400 hours = 49

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0530	Stars/Moon	168-56	14-53
2.	0200	LORAN	169°-08'	15°-27'
3.	1200	LAN/LORAN	169°-24'	13°-59'
4.	1530	LORAN	169°-54'	13°-29'
5.	2100	*/LORAN	170°-31'	12°-53'
6.				

DATE WED, 7 JULY 1965

Time at sunrise = 0605 Position at sunrise = L 12°-35'N, λ 171°-41'

Time at sunset = 1855 Position at sunset = L -13°-58'N, λ 170°-33'W

Miles traveled from 0000 hours to sunrise = 69

Miles traveled from sunrise to sunset = 115

Miles traveled from sunset to 2400 hours = 44

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0200	LORAN	171°-09'	12°-11'
2.	0530	Stars	171-37	12-32
3.	1200	LAN/LORAN	171°-12'	13°-18'
4.	1900	*	170°-32'	13°-59'
5.	2300	RK/LORAN	170°-08'	14°-24'
6.				

DATE THURS. 8 JULY 1965

Time at sunrise =0553 Position at sunrise = L 15°-08'N, λ 169°-38'W

Time at sunset =1859 Position at sunset = L 14°-31'N, λ 171°-12'W

Miles traveled from 0000 hours to sunrise = 52

Miles traveled from sunrise to sunset = 131

Miles traveled from sunset to 2400 hours = 54

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0010	*/D/LORAN	169°-54'	14°-35'
2.	0530	stars	169-55	15-05
3.	1000	⊙/LORAN	~~169-38~~ 170°-10'	~~15-08~~ 15°-32'
4.	1210	⊙/LORAN	170°-25'	15°-14'
5.	1900	STARS	171°-12'	14°-31'
6.	2300	*/LORAN	171°-47'	14°-02'

DATE FRI. 9 JULY 1965

Time at sunrise =0610 Position at sunrise = L 13°-36'N, λ 172°-40'W

Time at sunset =1902 Position at sunset = L 15°-06'N, λ 171°-52'W

Miles traveled from 0000 hours to sunrise = 62

Miles traveled from sunset to 2400 hours = 114

Miles traveled from sunset to 2400 hours = 43

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0530	stars	172-35	13-32
2.	0800	⊙/LORAN	172°-52'	13°-49'
3.	1100	⊙/LORAN	172°-43'	14°-09'
4.	1900	stars	171-57	15°-05
5.	2300	LORAN	171°-33'	15°-24'
6.				

DATE SAT. 10 JULY 1965

Time at sunrise =0558 Position at sunrise = ∠16°-16'N, λ 170°-39'W

Time at sunset =1904 Position at sunset = ∠ 15°-59'N, λ 172°-02'W

Miles traveled from 0000 hours to sunrise = 65

Miles traveled from sunrise to sunset = 110

Miles traveled from sunset to 2400 hours = 53

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0500	* LORAN	170-42	16°-12
2.	0854	⊙/LORAN	170-56	16°-34'
3.	1200	⊙/LORAN	171°-17	16°-37
4.	1600	⊙/LORAN	171°-45	16°-14'
5.	1930	*/LORAN	172°-06'	15°-55'
6.	2300	*/LORAN	172°-34'	15°-30'

DATE SUN 11 JULY 1965

Time at sunrise =0611 Position at sunrise = ∠ 14°-34'N, λ 173°-36'W

Time at sunset =1909 Position at sunset = ∠ 15°-56'N, λ 173-28W

Miles traveled from 0000 hours to sunrise = 70

Miles traveled from sunrise to sunset = 119

Miles traveled from sunset to 2400 hours = 44

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0230	LORAN	173°-05'	15°-03'N
2.	0600	*'S	173°-34'	14°-34'
3.	1100	⊙/LORAN	174°-12'	15°-04'
4.	1400	⊙/LORAN	173°-57'	15°-18'
5.	1912	*'S	173°-29'	15°-56'
6.	2300	LORAN	173°-30'	16°-30'

DATE MON. 12 JULY 1965

Time at sunrise = 0606 Position at sunrise = L 17°-42'N, λ 173°-39'W

Time at sunset = 1918 Position at sunset = L 19°-44'N, λ 173°-44'W

Miles traveled from 0000 hours to sunrise = 63

Miles traveled from sunrise to sunset = 122

Miles traveled from sunset to 2400 hours = 50

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0530	stars	173°-38'	17°-36'
2.	1000	⊙/LORAN	173°-40'	18°-18'
3.	1500	⊙/LORAN	173°-43'	19°-04'
4.	1812	LORAN	173°-47'	19°-34'
5.	2300	LORAN	173°-48'	20°-24'
6.				

DATE TUES. 13 JULY 1965

Time at sunrise = 0601 Position at sunrise = L 21°-32'N, λ 173°-53'W

Time at sunset = 1926 Position at sunset = L 23°-46'N, λ 174°-03'W

Miles traveled from 0000 hours to sunrise = 58

Miles traveled from sunrise to sunset = 135

Miles traveled from sunset to 2400 hours = 46

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0530	stars	173-52	21-26
2.	1100	⊙/LORAN	173-57	22-21
3.	1445	⊙/LORAN	173-57	23-00
4.	2000	STARS	174-04	23-52
5.				
6.				

DATE 14 JULY 1965

Time at sunrise = 0553 Position at sunrise = L 25°-32'N, λ 174°-07'W

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise = 60

Miles traveled from sunrise to ~~sunset~~ LISIANSKI I. = 33

Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0000	D.R	174°-06'	24°-32'
2.	0300	LORAN/η	174°-06'	25°-03'
3.	0530	STARS	174°-07'	25°-27'
4.	0800	RADAR	174°-04'	25°-53'
5.				
6.				

DATE _____

Time at sunrise = Position at sunrise =

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise =

Miles traveled from sunrise to sunset =

Miles traveled from sunset to 2400 hours =

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

DATE Thur. 22 July 1965

Time at sunrise =0536 Position at sunrise = ∠ 24°-36'N, λ 168°-31'W

Time at sunset =1854 Position at sunset = ∠ 23°-51'N, λ 166°-02'W

Miles traveled from 0000 hours to sunrise = 55

Miles traveled from sunrise to sunset = 144

Miles traveled from sunset to 2400 hours = 52

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0500	stars	168°-37'	24°-38'N
2.	0700	⊙/LORAN	168°-14'	24°-31'
3.	1200	⊙/LORAN	167°-14'	24°-16'N
4.	1654	RADAR	166°-24'	24°-00'N
5.	1824	RADAR/VIS.	166°-08'	23°-53'N
6.	2312	LORAN	165°-17'	23°-38'

DATE FRI 23 JULY 1965

Time at sunrise =0522 Position at sunrise = ∠ 23°-19'N, λ 164°-13'W

Time at sunset =1833 Position at sunset = ∠ 22°-38'N, λ 161°-59'W

Miles traveled from 0000 hours to sunrise = 53

Miles traveled from sunrise to sunset = 129

Miles traveled from sunset to 2400 hours = 52

	TIME OF FIX	TYPE OF FIX	LONGITUDE W	LATITUDE N
1.	0100	LORAN/RADAR	164°-59'	23°-32'
2.	0500	LORAN	164°-16'	23°-20'
3.	1200	⊙/LORAN	163°-06'	22°-57'
4.	1700	Visual ϕ, radar fixes/loran	162-16	22-43
5.	2200	LORAN	161°-23'	22°-28'
6.				

SMITHSONIAN GRID I SURVEY NO. 23 July 1965

CRUISE REPORT

I. Cruise period: 2-24 July
II. Cruise vessel: U.S.N.S. SHEARWATER (T-AG 177)
III. Personnel: Dayle Husted (Biologist in charge), Richard Crossin, Brian Harrington, Jeff Tordoff

Itinerary

2 July - departed Honolulu 1445
6 July - arrived Smithsonian Grid I 0741
11 July - departed Grid after diurnal observations ended
12 July - arrived Lisianski; put party ashore 1120
17 July - departed Lisianski 0500 - boarded ship
17 July - arrived Laysan - put party ashore 2000
21 July - departed Laysan 1000 - boarded ship
24 July - arrived Honolulu 2000

Deviations from the proposed itinerary are as follows:

a) Since only approximately one hour of diurnal observations would have been accomplished on the 12th of July, it was decided to go directly N after finishing observations on the 11th so as to give time for the forthcoming island work.
b) Because of the preceeding, Lisianski was reached on the 14th, a day ahead of schedule.
c) Arrived Honolulu 2000 on the 24th instead of the following day as expected.

Pelagic work outside Grid

a) Oahu to Smithsonian Grid I

Diurnal observations of birds were carried on shortly after leaving Honolulu (2 July) until 0741 on 6 July when the Grid was entered. A total of 426 miles and 45.8 hours were covered during these observations, 3,782 birds of 15 species were noted. Because of time limitations no collecting of birds was undertaken until reaching the Grid.

b) Smithsonian Grid to Lisianski and Laysan

After leaving the Grid on the evening of 11 July, diurnal observations were carried on from the morning of 12 July until the morning of 14 July when Lisianski was reached. During this time all bird specimens remaining from collections made in the grid were prepared. Final preparations and packing of equipment for the forthcoming island work were undertaken at this time. No collecting was undertaken. 29.7 hours of observations were completed and 290 miles were covered.

c) Laysan to Oahu

After boarding the party from Laysan shortly after 1000 on 21 July, final work on the blood sera collected on Laysan was completed. Diurnal observations were undertaken from sunrise on 22 July until near sunset on 24 July when the ship arrived in the Honolulu complex. Preparation of the few specimens collected on Laysan were also completed during this time. 38.8 hours of observation were completed and 398 miles were covered.

Pelagic work inside Grid

Arrived in grid at 0241 on 6 July and left after finishing diurnal observations on 11 July. During this time 76.4 hours of observations were carried on and 708 miles were covered. 1084 birds of 11 species were noted. 31 birds of 6 species were collected. Ectoparasite and blood sera samples were collected when appropriate on all specimens. The sea was generally too rough to permit use of the skiff. Few large flocks were encountered.

Island Work

Lisianski

Arrived 1120 on 14 July and set up camp. A count, around the whole island was then made of seals and turtles. Tick collecting was undertaken during the afternoon. Sooty Terns were banded throughout the night. Several showers occurred during the night. Throughout the morning of the 15 showers occurred periodically and by 1100 rain began falling hard and continued throughout the day and most of the night. The tent was useless as a means of keeping things dry and all contents were thoroughly soaked. Little banding was accomplished throughout the day and night of the 15. Tick investigations, banding and Burlese samples were collected on the 16 and about 112 blood sera samples were taken during the night. Boarded SHEARWATER at 0500 on morning of 17. The blood sera was processed enroute to Laysan. A few soft ticks, but no Ixodes were encountered.

Laysan

Landed on island shortly before 2000. No problems were experienced on any of the landings and boarding at Lisianski or Laysan. Camp was set up after landing and the rest of the night devoted to banding Sooty Terns. Tick investigations, banding of Sooty Terns, Wedgetails and Albatross and collection of Berlese samples were undertaken from 18-20. A small number of Ixodes were collected from Sooty and Noddy Terns. Approximately 115 blood sera samples were collected the night of 20. All remaining albatross bands were finished up during the morning of 21 and ship was boarded at 1000.

Amerson

ISLAND REPORT

Smithsonian Grid I Survey No. 23 July 1965

Itinerary

14 July	Landed on Lisianski	1120
17 July	Departed Lisianski	0500
17 July	Landed on Laysan	2040
21 July	Departed Laysan	1000

This report is based on observations made on Lisianski and Laysan Islands by P.O.B.S.P. personnel during the period 14-21 July 1965. Party members were Dayle Husted (Biologist in Charge), Richard Crossin, Brian Harrington and Jeff Tordoff.

Approximate population estimates of birds were made on both islands. Breeding status was noted for all species present. A total of 19 species was observed on Lisianski and 21 species were observed on Laysan. Nearly all seabirds were in some stage of the breeding cycle. A total of 22,700 birds of 7 species was banded and 26 returns of 4 species were recorded. One specimens was collected on Lisianski and four on Laysan. One hundred four sera samples of seven species were collected on Lisianski and 106 samples of eight species were taken on Laysan.

The numbers of Hawaiian Monk Seals and turtles were determined for Lisianski but on Laysan no attempt was made to circle the entire island for this purpose. On 13 July 161 seals were counted on Lisianski and 13 turtles were noted. On 15 July a marked turtle (tag # 1016) was noted on Lisianski.

A search for ticks was made on both islands. Ixodes laysanensis was found to be very scarce on Laysan and Lisianski at this time. Orni-

thodoros was found in small numbers on both islands. Both species were encountered only on Sooty, Hawaiian Noddy and Common Noddy Terns. Nestlings of all three species were more heavily infested with Ornithodoros than were adults. All Ixodes encountered were likewise on immatures or nestlings. Most species of birds present (except shorebirds and Laysan Teal) were checked for incidence rate of any ticks. Berlese samples were collected from nesting areas of all nesting species.

The following section presents accounts of each bird species observed:

Laysan Albatross

The status of this species was practically identical on both islands. Practically 100 per cent of the individuals present were birds of the year. No adults were observed on Lisianski but on Laysan an occasional adult was seen to come in and feed a young bird. While banding birds at night on Laysan a few adults were encountered standing by chicks. The feet of adult birds tend to be pinkish as opposed to the grayish black feet of immatures. The young birds varied greatly in weight. Many of the smaller, down-covered individuals were practically emaciated and undoubtedly will not survive. The larger, stronger individuals were practicing their flying and an occasional individual was seen to fly out and settle on the water. Take off from the water by these individuals appeared to be quite easy.

Birds were distributed over the island pretty generally in all types of cover. There was more congregating in open areas and more invasion of the beach areas during the daytime with a withdrawal back into the Scaevola at night. A considerable number of carcasses was noted on Laysan but relatively few were found on Lisianski.

Black-footed Albatross

Very few individuals were present on Lisianski but the population was close to one-half that of the Laysan Albatross on Laysan. All birds seen were birds of the year and closely paralleled the Laysans in size and probably age. Black-feet appeared to be slightly heavier than Laysans when birds of comparable size were compared. Large concentrations of this species were located on the North and East sides of Laysan along the extensive beach area. As with the Laysan Albatross, the larger, older individuals were practicing their flying. They would fan their wings especially hard when a pronounced breeze blew.

Wedge-tailed Shearwater

Next to the Sooty Tern this was the most abundant species on both islands. The majority of birds in both areas were in the process of nesting. Burrows were located in all types of cover, but were especially numerous in the bunch-grass association on both islands. This type of area also coincided with large portions of the Sooty Tern colonies. The burrows practically undermine certain parts of this cover. Many burrows were also encountered on the extensive beach area on the North side of Laysan. Many burrows were also excavated under coral slabs in this area.

Burrows normally were less than two feet deep. An occasional bird was found incubating in the open beside a tuft of grass or beneath a bush. All nests examined contained eggs in varying stages of incubation. No chicks were found. Several to many individuals often congregate in open areas at night and at least some of these appear to be in the process of mating.

Christmas Island Shearwater

This species was occasionally seen flying offshore on Lisianski but was rarely encountered on the island. No burrows were found on Lisianski. On Laysan considerable numbers were observed flying over the Scaevola fringe and beach. One pair was discovered at their burrow in the bunch grass area on the West side. This burrow contained a completely down-covered chick almost the size of the parents. Another chick of about the same size was found crawling in Scaevola bushes. Last September project personnel found nearly fledged young along the inner Scaevola rim and much younger chicks along the beach. If breeding seasons are comparable from year to year this would indicate a fairly lengthy period of nesting.

Bonin Island Petrel

A few individuals were seen on Lisianski, usually sitting at the entrance of wedge-tail burrows. There was no evidence of nesting at this time. None was observed on Laysan.

Bulwer's Petrel

On Lisianski a few individuals were observed flying about at evening. None was ever encountered on the ground. On Laysan many more were observed flying over the Scaevola rim on the West side during early morning and late evening. Individuals were occasionally found sitting in open spots at night. Two pairs were found at burrows with newly-hatched chicks.

Red-tailed Tropicbird

This species was found nesting in considerable numbers under Scaevola

on both islands. No nest is constructed, the egg being deposited in a shallow scrape in the sand. A few nests contained partially incubated eggs, but most were in an advanced stage of incubation. Chicks ranged from newly hatched to fully feathered and adult size. Some nests were only a few feet apart where Scaevola was dense. Last September project personnel visiting Laysan found all stages of nesting from eggs to young attempting to fly. Apparently the nesting season covers a considerable portion of the year.

Masked Booby

On Lisianski a few birds were still incubating eggs. Others were caring for young which ranged from newly-hatched to individuals starting to fly. On Laysan the young ranged from half to full grown. No particular area on either island seemed to have a concentration of birds. On Lisianski the eggs were laid on shallow scrapes on the ground.

Brown Booby

On Lisianski a small colony of about six pairs were rearing nearly full-grown chicks. At least one of these birds was able to fly a little. On Laysan a colony of about six pairs were incubating eggs or tending newly-hatched chicks. On Laysan the stick nests were built on the ground amidst scattered Scaevola bushes. A number of adults were observed in other parts of the island.

Red-footed Booby

Birds were about equally common on both islands. Scaevola and other larger bushes were used for nesting. There was a tendency for the birds

to colonize on both islands but many nests were scattered among the frigatebird nests. Young on both islands ranged from half-grown to fully-feathered individuals.

Greater Frigatebird

Birds were equally abundant on both islands. There was a tendency for nesting congregations but nests were found over most of the Scaevola area. All nests contained young which ranged from newly-hatched chicks to fully-feathered individuals. Immatures on the wing were common about both islands.

Laysan Teal

One adult was observed at night in the bunch grass association amid the Sooty Tern colony on the West side of the island. Several individuals were flushed from the dense vegetation surrounding the lagoon. Last September project personnel found some partially grown ducklings but none was seen during this visit. The adults may have been incubating and hence appeared to be scarce but no nests were found.

Golden Plover

None was observed on Lisianski. A few were observed about the lagoon shore on Laysan. One individual was captured at night in the midst of the Sooty Tern colony on the West side of the island.

Ruddy Turnstone

A flock of over 100 was observed on the bare rocks along the shore on Lisianski. Smaller groups and single individuals were seen along most of the beach areas. On Laysan the birds appeared to be in greater numbers and were mainly seen along the lagoon shore.

Sharp-tailed Sandpiper (?)

A flock of about 70 birds on Laysan were believed to be of this species. The flock usually remained fairly compact and was seen flying about the lagoon on several occasions. The birds were extremely wary.

Bristle-thighed Curlew

A group of about 17 birds was observed along the beach on Lisianski. Other groups of a few individuals and singles were seen along the sandy beach areas. Only a few birds were noted on Laysan. These were scattered along the South and West beaches.

Sooty Tern

This was by far the most abundant bird on either island. The colony on Lisianski was largely confined to the center of the island in the bunch grass area. Immatures formed a sizeable percentage of the flying population. Chicks were quite abundant; the majority of them fully feathered. A few birds were still incubating eggs.

On Laysan the birds were distributed around the island between the lagoon and the Scaevola fringe wherever openings permitted segments of the colony to nest. Laysan had few chicks compared to Lisianski and the colony was segmented into portions containing chicks of various age groups. Very few fully-feathered chicks were about and many portions of the colony had neither eggs nor chicks. A small segment of the colony on the North side were sitting on heavily incubated eggs. No immatures were seen in the large flying population. About six orange-tagged birds were seen or captured and released.

Gray-backed Tern

On Lisianski relatively few were seen. These were confined to the edges of the Sooty Tern colony. Only adult and fully-feathered immatures were seen; most of the latter already flying. On Laysan the number was much greater and the birds were scattered along segments of the Sooty Tern colony and along the beach outside the Scaevola fringe. Young birds ranged from half-grown on up to flying age. The birds were often prone to form small aggregations along the outer rim of Scaevola on the beaches at night.

Common Noddy Tern

Birds were distributed uniformly over much of the area of both islands wherever shrubbery grew. Nests were found both in the Scaevola and other shrubs and on the ground under Scaevola. The ground nests were very frail in comparison to those built in shrubbery. The nesting cycle was comparable on both islands and ranged from half-incubated eggs to young on the wing.

Hawaiian Noddy Tern

On Lisianski the population was mainly concentrated along the North side of the island in the few Casuarina trees and in areas of Scaevola where the shrubbery grew over 8-10 feet high. Nesting was well along with young ranging from half-grown to flying immatures. Status was similar in all respects on Laysan except that the birds were more widely distributed over the island, probably due to the more widespread clumps of high shrubbery.

Fairy Tern

This species was not very abundant on either island but was definitely

more numerous on Laysan for comparable areas. On Lisianski the birds were practically confined to the few Casaurina trees present. Some roosted in the taller Scaevola. The young on Lisianski ranged from newly hatched chicks to flying immatures. On Laysan the birds used the Casaurina trees, palms and rocks along the beaches. Young ranged from chicks to flying immatures as on Lisianski, one egg was being incubated on a rock on the west beach.

Laysan Finch

Very abundant over the whole island of Laysan. Birds appeared to be distributed throughout all types of vegetative cover. Many flying fully feathered young still beg the parents for food, but none was seen to be fed. Practically all adults appear to be in some stage of molt. Brood patches were refeathering on adult females examined.

Prepared by Richard S. Crossin

TABLE 4 Band-returns or Orange-tagged Birds.

Species	Band or tag	Date
LISIANSKI		
Laysan Albatross	757-17024	14 July
"	757-16125	14 July
"	757-17032	14
"	757-17030	14
"	757-16182	14
"	757-16313	14
"	757-17287	14
"	757-16086	14
"	757-16359	14
"	757-16743	14
"	757-16371	15
"	757-16437	15
"	757-16414	15
"	757-17277	15
"	757-17258	15
"	757-16399	15
"	757-15602	15
Hawaiian Noddy	5 orange tagged	14
LAYSAN		
Laysan Albatross	757-11732	19 July
"	757-10871	19
"	757-10775	19
Wedge-tailed Shearwater	615-06789	19
Bulwer's Petrel		
Sooty Tern	793-82109	18
"	753-23285 & orange tagged	18
"	753-20707 & orange tagged	19
"	753-82465	18
"	2 orange tagged	20
Blue-faced Booby	1 orange tagged	20

TABLE 1 Population estimates of the birds of Lisianski and Laysan Islands (14-21 July 1965).

Species	Lisianski (14-17)	Laysan (17-21)
Laysan Albatross		
Adult		20
Young	2,000	10,000
Black-footed Albatross		
Young	200	4,500
Wedge-tailed Shearwater	45,000	100,000
Christmas Is. Shearwater		
Adult	400	2,500
Young		500
Bonin Is. Petrel	200	
Bulwer's Petrel		
Adult		1,800
Young		200
Red-tailed Tropicbird		
Adult	1,000	2,000
Young	200	1,000
Blue-faced Booby		
Adult	300	600
Young	100	400
Brown Booby		
Adult	100	250
Young	20	50
Red-footed Booby		
Adult	500	1,000
Young	200	500
Greater Frigatebird		
Adult	1,000	3,300
Immature	200	200
Nestling=	400	1,500
Laysan Teal		200
Golden Plover		50
Ruddy Turnstone	200	250
Sharp-tailed Sandpiper		100
Bristle-thighed Curlew	50	25
Sooty Tern		
Adult	250,000	450,000
Immature	50,000	
Nestling	50,000	50,000
Grey-backed Tern		
Adult	300	3,000
Young	100	2,000

TABLE 1 con't.

	Lisianski	Laysan
Common Noddy Tern		
Adult	10,000	15,000
Young	3,000	5,000
Hawaiian Noddy Tern		
Adult	1,500	3,500
Young	300	1,500
Fairy Tern		
Adult	500	1,500
Nestling	150	500
Laysan Finch		
Adult		10,000
Immature		5,000

TABLE 2 Blood sample number, Tick incident rate and banding status for Lisianski Island, 14-17 July 1965.

Species	Blood Samples	Tick Incident rate	No. Banded	Returns
Laysan Albatross	1	125 birds examined all negative	184	17
Black-footed Albatross	-	8 birds examined all negative	2	
Wedge-tailed Shearwater	36	120 birds examined all negative		
Red-tailed Tropicbird				
Adult				
Young				
Blue-faced Booby	5	12 birds examined (ad.&chicks) all neg.	11	
Adult				
Young			9	
Brown Booby				
Adult				
Young			2	
Red-footed Booby				
Adult	1			
Young				
Greater Frigatebird				
Adult	7			
Immature				
Nestling			7000	
Sooty Tern				
Adult	45	100 adults - all neg.		
Immatures		150 examined-40 with soft ticks- 4 adults with hard ticks*		
Nestling				
Gray-backed Tern				
Adult				
Young				
Common Noddy Tern	9	55 birds examined all negative		
Adult				
Young		25 examined - 3 with soft ticks		
Hawaiian Noddy Tern				
Adult			5	
Nestling		25 birds examined- 6 with soft ticks under wings (nest in Casaurina)		orange tagged
Fairy Tern				
Adult				
Nestling		5 birds examined 1 with soft ticks		

* Due to rain, specimens of both hard and soft ticks were lost.

TABLE 3 Blood Sample number, tick incident rate and banding status for Laysan Island, 17-21 July 1965.

Species	Blood Samples	Tick Incident rate	No. Banded	Returns
Laysan Albatross	3	100 birds examined- all neg.	1891	3
Black-footed Albatross		100 birds examined- all neg.	600	
Wedge-tailed Shear-water	32	200 birds examined - all neg.	1000	1
Christmas Is. Shear water	1			
Red-tailed Tropicbird				
Adult	4	8 birds examined- all neg.		
Young		4 birds examined- all neg.		
Blue-faced Booby				
Adult	2	18 adults & chicks examined all neg.	1	1 orange tagged
Young				
Red-footed Booby				
Adult				
Young				
Greater Frigatebird				
Adult	9			
Immature				
Nestling		7 birds examined- all neg.		
Sooty Tern			12,000	
Adult	54	100 birds examined- 7 with hard ticks		4 orange
Immatures		225 birds examined- 74 with soft ticks		tagged
Nestling		5 found with hard ticks		
Gray-backed Tern				
Adult	1			
Young		18 birds examined- all neg.		
Common Noddy Tern				
Adult				
Young		24 birds examined-8 with soft ticks 3 found with hard ticks		
Hawaiian Noddy Tern				
Adult		15 birds examined - 2 had soft ticks		
Young				
Fairy Tern				
Adult				
Nestling				
Laysan Finch				
Adult				
Immatures				

SMITHSONIAN GRID I Survey No. 23 b

PRELIMINARY REPORT At-Sea Survey
July 1965

Outside Grid only

This report summarizes the observations made at sea by Smithsonian personnel aboard the U.S.N.S. SHEARWATER during July 1965. The Smithsonian team consisted of Dayle Husted (Biologist in charge), Richard Crossin, Brian Harrington and Jeff Tordoff. Excellent cooperation was received from the officers and crew of the U.S.N.S. SHEARWATER.

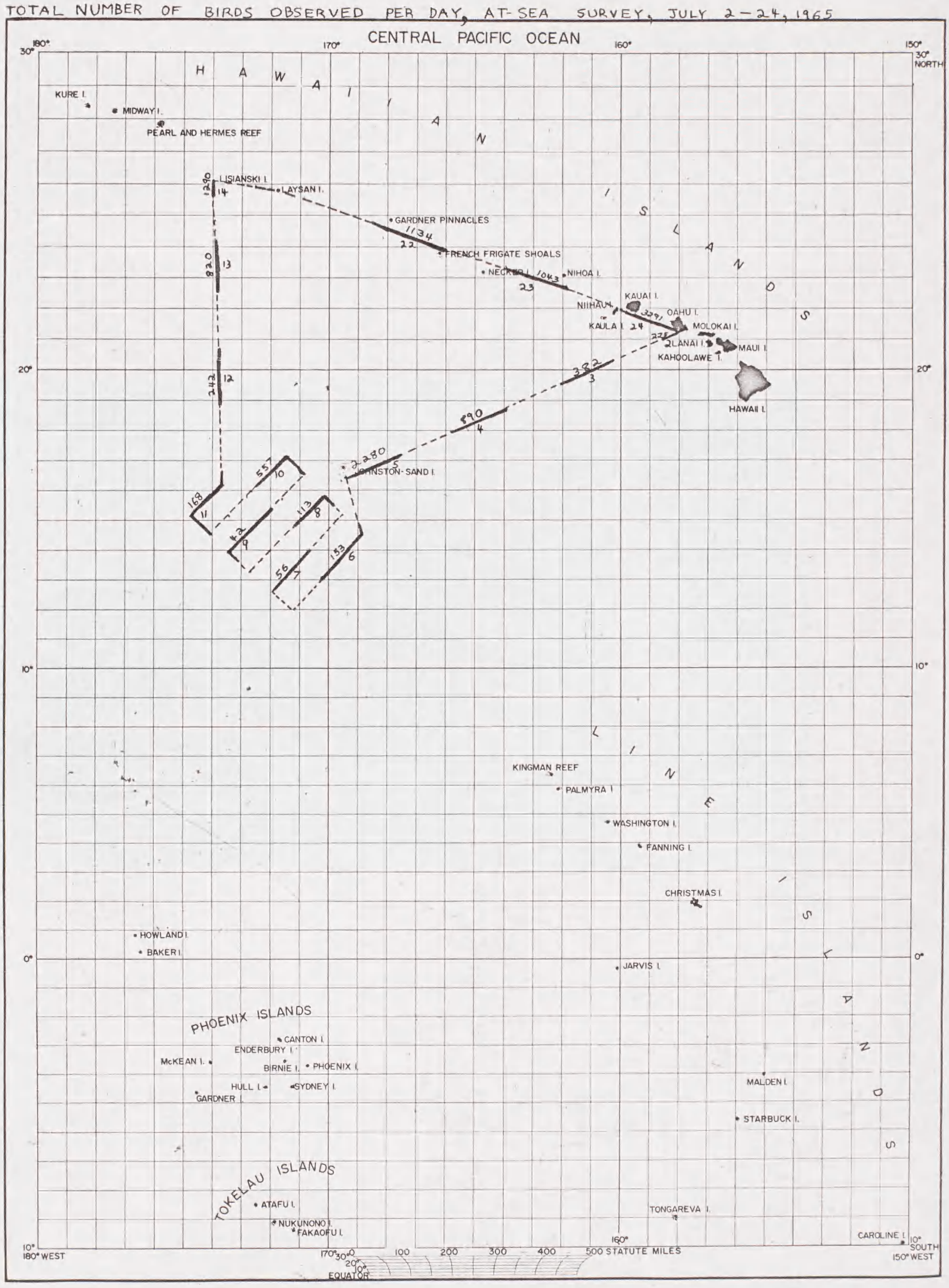
A total of 11 days (2-6, 12-14, 22-24 July) was completed covering a total of 1114 miles and 114.3 hours of diurnal observations. The cruise included both the normal operations within the Smithsonian Grid and visits to Lisianski and Laysan Islands before returning to Oahu.

As would be expected, numbers of birds increased substantially upon approach to any islands. This was most noticeable while approaching Sand Island during the 5th of July.

Twenty-five species were recorded during the present at-sea cruise. This compares closely to 24 recorded during June 1965, but is considerably above July 1964 when 17 were recorded. Total numbers of birds during the present cruise were far above both those of July 1964 and June 1965 for comparable areas.

Discussions of the principal species groups follow, as well as pertinent aspects concerning the less abundant species.

TOTAL NUMBER OF BIRDS OBSERVED PER DAY, AT-SEA SURVEY, JULY 2–24, 1965



Species Accounts

SHEARWATER-PETREL

The Wedgetailed Shearwater, as usual, was the most abundant species in this group. Dark phase individuals increased as we proceeded southwest from Oahu, but were practically absent during the cruise from the grid to Lisianski-Laysan and back to Oahu. Distribution of the species was fairly uniform throughout the cruise, except for a tremendous increase on the last day (24 July) returning through the Leewards.

Christmas Island Shearwaters were thinly distributed except for larger numbers near Lisianski and the larger Leewards.

Few Newell's Shearwaters were seen during the cruise until the last day when 135 (more than 94% of the total number observed) were encountered northwest of Oahu. Last July very few were recorded although the ship returned through the Leewards.

Bonin Island Petrels were much more abundant in comparable areas than last month, but the number of Cook's Petrels was lower. The combined numbers of both types were fairly comparable to July 1964. Cook's Petrels exceeded Bonin Islands by approximately 5-1.

Juan Fernandez Petrels (including white-necked) remained fairly low in number until the grid was approached, whereupon the numbers greatly increased. Practically none were observed after the grid area enroute to Lisianski and thence to Oahu. A few individuals showed molt in the flight feathers. The complete absence of this species in the grid last July cannot be explained at this time. Very large numbers were observed last month when the cruise extended southeastward near the Line Islands.

Bulwer's Petrels nearly doubled over July 1964, but over eighty percent of these were encountered during the last two days of the cruise through the larger Leewards.

TERNS

Sooty Terns increased in number as we proceeded from Oahu to the grid. Over six times as many as last July were recorded in this portion of the cruise. Large numbers, including many immatures, were again encountered south of Lisianski. Just east of Oahu one bird was observed sitting on the water for over thirty seconds. It then flew from the water and joined others which were flying along.

Gray-backed Terns, Noddy Terns and Fairy Terns combined made up approximately 9 percent of all terns observed. Most of these were encountered through the Leeward Islands. The two species of Noddy Terns (Hawaiian and Common) usually were encountered in 'respective' flocks or forming mixed flocks. In comparison, the Fairy Tern was often observed singly or in two's and tended to range farther from land than did either of the Noddies.

TROPICBIRDS

The Red-tailed Tropicbird outnumbered the White-tailed by over three to one throughout the at-sea area. Red-tailed Tropicbirds were also more likely to be seen at greater distances from islands. Both species appear to be attracted to the ship--moreso than any other species in the area.

BOOBIES

Red-footed Boobies were approximately four times as numerous as either the Blue-faced or the Brown. Most individuals were seen through the Leeward

chain from the 22nd through the 24th. All others, except for a few Red-foots at sea, were within the Lisianski-Laysan complex. All species were found in much greater numbers than last July.

FRIGATEBIRDS

Frigatebird numbers were over twice as great as last July. Usually individuals were seen, but occasionally two or more would follow a large mixed feeding flock. Frigatebirds were seen to attack Boobies on numerous occasions near islands. At sea where boobies were relatively scarce, Wedge-tailed Shearwaters appeared to be a common prey.

MISCELLANEOUS

One Ruddy Turnstone was observed on 14 July about fifteen miles south of Lisianski Island. One dark colored heron was observed flying within sight of Nihoa on the 23rd.

Prepared by Richard S. Crossin

TABLE 1 Summary of non-Grid pelagic observations, July 1965.

Date	No. Miles	No. Hours	No. Birds	No. Species
Oahu to Smithsonian Grid I				
02 July	40	4.0	225	9
03	112	13.4	382	12
04	127	13.3	890	10
05	127	13.2	2280	7
06	20	1.9	5	4
Total	426	45.8	3782	15 (8.4/day)
Smithsonian Grid I to Lisianski				
12 July	122	13.2	242	7
13	135	13.4	820	8
14	33	3.1	1290	12
Total	290	29.7	2352	17 (5.7/day)
Laysan to Oahu				
22 July	144	13.3	1134	13
23	129	13.2	1043	16
24	125	12.3	3291	16
Total	398	38.8	5468	20 (6.7/day)
Grand Total	1114	114.3	11602	

TABLE 2 Diurnal density of species groups outside the Grid, July 1965.

Species Group	No. Birds	Birds/sq.mi.	Est. Pop./ 50,000 sq.mi.	% Total Birds
Oahu to Smithsonian Grid I				
Shearwater-Petrel	641	0.752	37,600	17.0
Terns	3037	2.377	118,850	80.3
Tropicbirds	58	0.068	3,400	01.5
Boobies	8	0.009	450	0.2
Frigatebirds	38	0.022	1,100	1.0
Total	3782		161,400	100.0
Smithsonian Grid I to Lisianski				
Shearwater-Petrel	469	0.590	29,500	20.0
Terns	1809	1.515	75,750	76.9
Tropicbirds	24	0.030	1,500	1.0
Boobies	24	0.030	1,500	1.0
Frigatebird	25	0.017	850	1.0
Shorebirds	1	0.003	150	<0.1
Total	2352		109, 250	100.0
Laysan to Oahu				
Shearwater-Petrel	2521	3.167	158,350	46.1
Terns	2723	2.281	114,050	49.8
Tropicbirds	37	0.046	2,300	0.7
Boobies	148	0.186	9,300	2.7
Storm Petrels	14	0.035	1,750	0.3
Frigatebirds	24	0.015	750	0.4
Miscellaneous	1	0.001	50	<0.1
Total	5468		286,550	100.0

TABLE 3 Abundance of species outside the Grid, July 1965.

Species	No. Birds	Birds/li.mi.	# Coll.	Status over last month	Status over last year
Laysan Albatross	1	0.0009	*		
Black-footed Albatross	1	0.0009			
Wedge-tailed Shearwater	2989	2.683			
Christmas Is. Shearwater	19	0.017			
Newell's Shearwater	144	0.129			
Juan Fernandez Petrel	17	0.015			
Bonin Is. Petrel	16	0.015			
Cook's Petrel	75	0.070			
Dark-rumped Petrel	4	0.004			
Kermadec Petrel	1	0.0009			
Bulwer's Petrel	175	0.157			
Red-tailed Tropicbird	82	0.074			
White-tailed Tropicbird	23	0.021			
Blue-faced Booby	29	0.026			
Brown Booby	22	0.020			
Red-footed Booby	110	0.099			
Great Frigatebird	87	0.078			
Ruddy Turnstone	1	0.0009			
Sooty Tern	6907	6.200			
Grey-backed Tern	16	0.014			
Common Noddy	356	0.319			
Hawaiian Noddy	147	0.132			
Blue-Grey Noddy	35	0.031			
Fairy Tern	107	0.096			
Leach's Petrel	13	0.012			
Total	11,602	10.415			

* Specimens collected only on Laysan

TABLE 4 Location of banded or color-marked birds, July 1965.

Species	Band or Tag	Latitude	Longitude
NEAR Sand Island			
Red-footed Booby	Orange tag	16°36' N	169°28' W
NE Sand Island			
Sooty Tern	Red Tag	17 07 N	168 06 W

SMITHSONIAN GRID I Survey No. 23 a

PRELIMINARY REPORT AT-SEA Survey
July 1965

Smithsonian Grid Only

This report is based on the collections and observations made within the Smithsonian Grid during early July 1965. A total of 6 days (6-11 July) were completed covering a total of 708 linear miles and 76.4 hours of diurnal observations.

The Smithsonian team consisted of Dayle Husted (Biologist in charge), Richard Crossin, Brian Harrington and Jeff Tordoff. Excellent cooperation was received from the officers and crew of the U.S.N.S. SHEARWATER.

Certain species such as the Blue-faced and Brown Boobies, Bulwer's Petrels and Fairy Terns which were recorded in small numbers during the July 1964 cruise were not observed during the present trip. Sooty Terns and shearwater-petrel group were found in much greater numbers and were largely responsible for the total number of birds being almost double that of July 1964. The total of 1084 birds observed during the present month is very close to double that observed last month when 549 were recorded. The most outstanding variance from the previous July trip was the total of 188 Juan Fernandez Petrels (including white-necked variety) observed this year as compared to none observed last year.

Weather conditions during the present grid cruise were on the whole favorable, but the sea was usually a bit too rough to allow the use of the small skiff for collecting. A fair representation (31) of the more abundant species was collected from the SHEARWATER.

Species Accounts

Wedge-tailed Shearwater (182)

Wedge-tails comprised nearly 17 percent of the total birds observed within the grid. Over twice as many wedgetails were present in the grid this month as compared to last June and nearly three times as many as were encountered July 1964. Although the numbers were high, distribution within the grid was erratic. On the 7 and 9 July no wedgetails were recorded. Positions during these two days were primarily in the south and west quadrants of the grid. Dark phase individuals comprised over 51 percent of the total. A good number of dark phase birds were also seen northwest of the grid between Johnston and Oahu. These dark phase birds were already present within the grid area last month, forming over 70 percent of the wedgetail population.

Newell's Shearwater (4)

The low number recorded is slightly under that encountered last July within the grid. Very large concentrations were seen through the Leewards this cruise, but apparently were absent from that area last July.

Christmas Island Shearwater (2)

This number compares exactly with last July. None were observed last month within the grid.

Juan Fernandez Petrel (61)
White-necked Petrel (127) (188)

The large concentration of this species within the grid area this month cannot be explained at this time. During July 1964 not a single individual of either form was observed in the grid area. Last month a total of 32 was observed. At that time the white-necked variety was present in about equal number to the Juan Fernandez.

Bonin Island Petrel (29)

This represents a large influx over last month when none were seen in the grid area. Comparison with last July is difficult because these were not distinguised from Cook's Petrel. However, the combined total of these small Pterodroma during this month was over double that of last year.

Cook's Petrel (99)

This represents a three fold increase over last month when 34 were seen.

Dark-rumped Petrel (1)

A comparable paucity of this species was noted in July 1964 when 2 individuals were seen. None were observed last June.

Kermadec Petrel (3)

This represents a slight decrease from last month when 4 were observed. Only one individual was seen during July 1964.

Red-tailed Tropicbird (21)

This number is somewhat greater than was observed during July 1964 and over double the number encountered within the grid last month. Most individuals were observed in the northern half of the grid.

White-tailed Tropicbird (3)

The low number is comparable with those encountered last June and July 1964. All three individuals were in the northern part of the grid.

Sooty Tern (490)

These made up over 45 percent of the total number of birds observed throughout the grid. There was a considerable increase over the number observed last June and nearly twice as many as was observed during July 1964. In accordance with the distribution of most species in the grid, the majority

Sooty Tern con't.

of terns was distributed throughout the northern half. Nearly 70 percent of the total were encountered on 10 July in the northern-most part of the grid east of Sand-Johnston.

Gray-backed Tern (1)

This single individual was collected on 10 July in the northern part of the grid from a scattered flock of Sooty Terns. This represents one of the few individuals taken at any great distance from land.

Prepared by Richard S. Crossin

TABLE 1 Summary of observations within the Grid, July 1965.

Date	No. miles	No. Hours	No. Birds	No. Species
06 July	119	11.1	148	7
07	115	12.9	56	3
08	131	13.2	113	7
09	114	13.0	42	4
10	110	13.1	557	10
11	119	13.1	168	7
Total	708	76.4	1084	11 (6.3/day)

TABLE 2 Diurnal density of species groups within the Grid, July 1965.

Species Group	No. Birds	Birds/sq.ml.	Estimated population/ 50,000 sq.mile	% Total Birds
Shearwater-petrel	567	0.401	20,050	52.3
Tern	491	0.231	11,550	45.3
Tropicbird	26	0.018	900	02.4
Total	1084		32,500	100.0

TABLE 3 Abundance of species within the Grid, July 1965.

Species	No. Birds	Birds/linear mile	No. collected	Status Over Last Month	Status Over Last Year
Wedge-tailed Shearwater	182	0.257	6		
Newell's Shearwater	4	0.005	-		
Christmas Island Shearwater	2	0.003	-		
Juan Fernandez Petrel	188	0.266	4		
Bonin Island Petrel	29	0.041	2		
Cook's Petrel	99	0.140	-		
Dark-rumped Petrel	1	0.001	-		
Kermadec Petrel	3	0.004	-		
Red-tailed Tropicbird	21	0.030	7		
White-tailed Tropicbird	3	0.004	-		
Sooty Tern	490	0.692	11		
Grey-backed Tern	1	0.001	1		
Unidentified small Pterodroma	8				
Unidentified Shearwater-Petrel	51				
Unidentified Tropicbird sp.	2				
Totals	1084	1.531	31		

TABLE 4 Diurnal distribution of birds by Grid quadrants, July 1965.

Date	North # Birds	North # Miles	South # Birds	South # Miles	East #Birds	East #Miles	West #Birds	West # Mile
06 July			27	22	121	97		
07			55	108	1	7		
08					113	131		
09			0	5			42	109
10	557	110						
11							168	119
Totals	557	110	82	135	235	235	210	228

Date	North Birds/linear mile	South Birds/linear mi	East Birds/linear mi	West Birds/linear
06 July		1.222	1.247	
07		0.509	0.14	
08			0.863	
09		0.000		0.385
10	5.064.			
11				1.412
Totals	5.064	0.607	1.000	0.921

TABLE 5 Comparative densities within the Grid and within a 50 mile radius of Sand-Johnston Island, July 1965.

Date	Island Total Birds	Island Sooty Terns	Grid Total Birds	Grid Sooty Terns
05 July	1791	1699	1084	490

TABLE 6 Location of banded or color-marked birds, July 1965.

Species	Band or tag	Latitude	Longitude
Sooty Tern	Orange Tag	15° 40'N	173° 39'W

PRELIMINARY REPORT AT-SEA SURVEY

JULY 1965

NORTHERN GRID SURVEY NO 23

-Smithsonian Grid Only

This report is based on the collections and observations made within the Smithsonian Grid during early July 1965. A total of six days (6-11 July) were completed covering a total of 708 linear miles and 76.4 hours of diurnal observations (see Table 1).

The Smithsonian team consisted of Dayle Husted (Biologist in charge) Richard Crossin, Brian Harrington and Jeff Tordoff. Excellent coop - eration was received from the officers and crew of the U.S.N.S. SHEARWATER.

TABLE 1

DAILY SUMMARY

Date	No. Miles	No. Hours	No. Birds	No. Species
06	119	11.1	~~153~~ 148	7
07	115	12.9	56	3
08	131	13.2	113	7
09	114	13.0	42	4
10	110	13.1	557	10
11	119	13.1	168	7
Total	708	76.4	1,084	11 (6.3/day)

Certain species such as the Blue-faced and Brown Boobies, Bulwer's Petrels and Fairy Terns which were recorded in small numbers during the July 1964 cruise were not observed during the present trip. The more abundant species such as Wedge-tailed Shearwaters, Bonin Island Petrels, and Sooty Terns were found in much greater numbers than the previous year and were largely responsible for the total number of birds being ~~more~~ almost

~~than~~ double that of July 1964. The most outstanding variance from the previous July trip was the total of 188 Juan Fernandez Petrels observed this year as compared to none observed last year. Both P. e. externa and P. e. cervicalis were present; P. e. cervicalis being approximately twice as abundant as P. e. externa.

Weather conditions during the present cruise were on the whole favorable, but the sea was usually a bit too rough to allow the use of the small skiff for collecting. A fair representation of the more abundant species were was collected.

TABLE 2

SPECIES OBSERVED WITHINTHE GRID AREA

Species	Number	Per linear miles	Number collected
Wedge-tailed Shearwater	182	0.257	6
Newell's Shearwater	4	0.006	
Christmas Island Shearwater	2	0.003	
Juan Fernandez Petrel	188	0.266	4
Bonin Island Petrel	136	0.181	2
Dark-rumped Petrel	1	0.001	
Kermadec Petrel	3	0.004	
Red-tailed Tropicbird	22	0.031	7
White-tailed Tropicbird	2	0.003	
Sooty Tern	490	0.692	11
Grey-backed Tern	1	0.001	
Total Birds	1,031	1.456	31

TABLE 3

DIURNAL DENSITY OF SPECIES GROUPS WITHIN THE GRID

Group	Number of birds	Birds/sq. mile	Estimated population
Shearwater-Petrel	~~567~~ ~~516~~ 567	0.401 ~~0.364~~	20,050 ~~18,200~~
Tropicbird	~~24~~ 26	0.018	900 ~~850~~
Tern	491	0.231	11,550
Total Birds	1,0~~31~~4		32,500 ~~30,600~~ plus

TABLE 4

SPECIES GROUP PERCENTAGE OF TOTAL BIRDS OBSERVED IN GRID

Group	Percent
Shearwater-Petrel	~~50.0~~ 52.3
Tropicbird	~~02.3~~ 02.4
Tern	~~47.7~~ 45.3
	~~100.0~~ 100.0

TABLE 5

BANDED AND/OR COLOR-TAGGED BIRDS OBSERVED IN THE GRID

Species	Tag or Band	Latitude	Longitude	Miles from Johnston Atoll
Sooty Tern	orange tag	15-40 N	173-39 W	

TABLE 6

DIURNAL DENSITY OF BIRDS IN DIFFERENT GRID QUADRANTS

North		South		East		West	
Miles	Birds	Miles	Birds	Miles	Birds	Miles	Birds

North	South	East	West
Birds/ lin. mile	Birds/ lin.mile	Birds/ lin.mile	Birds/ lin.mile

At-Sea
Daily Summary

July 1965 — Oahu to Grid

Date	no. Miles	no. Hours	no. Birds	no. Species
02	40	4.0	225	9
03	112	13.4	382	12
04	127	13.3	890	10
05	127	13.2	2280	7
06	20	1.9	5	4
Totals	426	45.8	3782	15 (8.4/day)

At Sea
Daily Summary

July 1965 — Smithsonian Grid to Hisiansk

Date	no. miles	no Hours	no. Birds	no. Species
12	122	13.2	242	7
13	135	13.4	820	8
14	33	3.1	1290	12
total	290	29.7	2352	17 (5.7/day)

July 1965 — Laysan to Oahu

Date	no. miles	no. Hours	no. Birds	no. Species
22	144	13.3	1134	13
23	129	13.2	1043	16
24	125	12.3	3291	16
Total	398	38.8	5468	20 (6.7/day)

At Sea totals

	114	10.3	1203	

	Species Observed in Grid	July 1964	July 1965
	Wedge-tailed Shearwater	62	182
	Newell's Shearwater	5	4
	Christmas Island Shearwater	2	2
	Juan Fernandez Petrel	0	188
	Bonin Island Petrel	73	136
	Dark-rumped Petrel	2	1
	Kermadec Petrel	1	3
x	Bulwer's Petrel	2	0
	Red-tailed Tropicbird	17	~~22~~ 21
	White-tailed Tropicbird	2	~~2~~ 3
x	Blue-faced Booby	1	0
x	Brown Booby	1	0
x	Red-footed Booby	0	
x	Great Frigatebird	0	0
	Sooty Tern	285	490
	Grey-backed Tern	0	1
x	Common Noddy Tern	0	0
x	Fairy Tern	5	0
	totals	458	1031

SI-MNH-332
4-9-54

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
PRESENT AND PAST MONTHLY SUMMARY OF BIRD ACTIVITIES -
ISLANDS OF THE CENTRAL PACIFIC

* SPECIES ACCOUNT-SPECIMEN
1 1963
2 1963
P POPULATION OR NUMBERS
B BREEDING INFORMATION

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.

PRELIMINARY REPORT AT-SEA SURVEY (N. GRID SORUEY CRUISE NO 23)

JULY 1965

Not including grid

NON-GRID PELAGIC OBSERVATIONS

This report summarizes the observations made at sea by Smithsonian personnel aboard the U.S.N.S. SHEARWATER during July 1965. The Smithsonian team consisted of Dayle Husted (Biologist in charge), Richard Crossin, Brian Harrington and Jeff Tordoff. Excellent cooperation was received from the officers and crew of the U.S.N.S. SHEARWATER.

A total of 11 days (2-6, 12-14, 22-24 July) was completed covering a total of 1114 miles and 114.3 hours of diurnal observations. The cruise included both the normal operations within the Smithsonian Grid and visits to Lisianski and Laysan Islands before returning to Oahu.

As would be expected, numbers of birds increased substantially upon approach to any islands. This was most noticeable while approaching Sand Island during the 5th of July.

Twenty-five species were recorded during the present at-sea cruise. This compares closely to 24 recorded during June 1965, but is considerably above July 1964 when 17 were recorded. Total numbers of birds during the present cruise were far above both those of July 1964 and June 1965 for comparable areas.

Discussions of the principal species groups follow, as well as pertinent aspects concerning the less abundant species.

The Wedgetailed Shearwaters, as usual, ~~were~~ was the most abundant species in this group. Dark phase individuals increased as we proceeded southwest from Oahu, but were practically absent during the cruise from the grid to Lisianski-Laysan and back to Oahu. Distribution of the species was fairly uniform throughout the cruise, except for a tremendous increase on the last day (24 July) returning through the Leewards.

Christmas Island Shearwaters were thinly distributed except for larger numbers near Lisianski and the larger Leewards.

~~A~~ Few Newell's Shearwaters were seen during the cruise until the last day when 135 (more than 94% of the total number observed) were encountered northwest of Oahu. Last July ~~1964~~ very few were recorded although the ship returned through the Leewards.

Bonin Island Petrels were much more abundant in comparable areas than last month, but the numbers of Cook's Petrels ~~were~~ was lower. The combined numbers of both types were fairly comparable to July 1964. Cook's Petrels exceeded Bonin Islands by approximately 5-1.

Juan Fernandez Petrels (including white-Necked) remained fairly low in number until the grid was approached, whereupon the numbers greatly increased. Practically none were observed after the grid area enroute to Lisianski and thence to Oahu. A few individuals showed molt in the flight feathers. The complete absence of this species in the grid last July can not be explained at this time. Very large numbers were observed last month when the cruise extended southeastward near the Line Islands.

Bulwer's Petrels nearly doubled over July 1964, but over eighty percent of these were encountered during the last two days of the cruise through the larger Leewards.

TERNS

Sooty Terns increased in number as we proceeded from Oahu to the grid. Over six times as many as last July were recorded in this protion of the cruise.

Large numbers, including many immatures, were again encountered south of Lisianski. Just east of Oahu one bird was observed sitting on the water for over thirty seconds. It then flew from the water and joined others which were flying along.

Gray-backed Terns, Noddy terns and Fairy Terns combined made up approximately 9 percent of all terns observed. Most of these were encountered through the Leeward Islands. The two species of Noddy Terns (Hawaiian and Common) usually were encountered in 'respective' flocks or forming mixed flocks. In comparrison, the Fairy Tern was often observed singly or in twos and tended to range farther from land than did either of the Noddies.

TROPICBIRDS

The Red-Tailed Tropicbird outnumbered the White-Tailed by over three to one throughout the at-sea area. Red-Tailed Tropicbirds were also more likely to be seen at ~~farther~~ greater distances from islands. Both species appear to be attracted to the ship moreso than ~~all~~ any other species ~~concerned~~ in the area.

BOOBIES

Red-Footed Boobies were approximately four times as numerous as either the Blue-Faced or the Brown . Most individuals were seen through the Leeward chain from the 22nd through the 24th. All others, except for a few Red-Foots at sea, were within the Lisianski-Laysan complex. All species were found in much greater numbers than last July.

FRIGATEBIRDS

Frigatebird numbers were over twice as great as last July. Usually individuals were seen, but occasionally two or more would follow a large mixed feeding flock. Frigatebirds were seen to attack Boobies

on numerous occasions near islands. At sea where boobies were relatively scarce, ~~the~~ Wedge-tailed Shearwaters appeared to be a common prey.

Miscellaneous

One Ruddy Turnstone was observed on 14 July about fifteen miles south of Lisianski Island. One dark colored heron was observed flying within sight of Nihoa on the 23rd.

table I

Summary of non-gis pelagic observations July 1965

At-Sea
Daily Summary

July, 1965

Oahu to Smithsonian Grid

Date	No. Miles	No. Hours	No. Birds	No. Species
02	40	4.0	225	9
03	112	13.4	382	12
04	127	13.3	890	10
05	127	13.2	2280	7
06	20	1.9	5	4
Totals	426	45.8	3782	15(8.4/day)

Smithsonian Grid to Lisianski

12	122	13.2	242	7
13	135	13.4	820	8
14	33	3.1	1290	12
Totals	290	29.7	2352	17 (5.7/day)

Laysan to Oahu

22	144	13.3	1134	13
23	129	13.2	1043	16
24	125	12.3	3291	16
Totals	398	38.8	5468	20 (6.7/day)

At-Sea Totals: No. miles,1114; No. hours, 114.3; No. Birds,11602

Diurnal density of species groups outside the Oahu-Grid, July 1965

At-Sea Diurnal Density of Species Groups

Tbls II

July 1965 — Oahu to Grid

Shearwater - Petrel	641	0.752	37,600	~~16.9~~ 17.0
Terns	~~3036~~ 3037	~~3.565~~ 2.377	118,850	80.3
Tropicbirds	58	0.068	3,400	01.5
Boobies	~~1~~ 8	0.009	450	0.2
Frigatebirds	38	0.022	1,100	1.0
	3782		161,400	100.0

July 1965 — Grid to Lisianski

Shearwater Petrel	469	0.590	29,500	~~19.9~~ 20.0
Terns	1809	1.515	75,750	76.9
Tropicbirds	24	~~0.003~~ 0.030	1,500	1.0
Boobies	24	~~0.003~~ 0.030	1,500	1.0
Frigatebird	25	0.017	850	1.0
Shorebirds	1	0.003	150	<0.1
Totals	2352		109,250	100.0

Diurnal density of species groups outside the Bird, July 1965

Table II cont.

At-Sea Diurnal Density of Species Groups

July 1965 — Laysan to Oahu

Species Group	No. Birds	Birds/sq.mi	Est. Population Per 50,000 sq. mi.	Percent total Birds
Shearwater - Petrel	2521	3.167	158,350	46.1
Terns	2723	2.281	114,050	49.8 ~~50.0~~
tropicbirds	37	0.046	2,300	0.7
Boobies	148	0.186	9,300	2.7
Storm Petrels	14	0.035	1,750	0.3
Frigatebirds	24	0.015	750	0.4
misc.	1	0.001	50	<< 0.1
Totals	5468		286,550	100.0

Table III

abundance of species outside the Grid, July 1965

~~At Sea~~

Species Account

(No specimens collected outside Grid except on Laysan)

July 1965

Outside Grid (Oahu - Grid; Grid - Kisianski; Laysan - Oahu)

Species	No. Birds	Birds / linear mile	no. collected	status over last month	status over last year
Laysan Albatross	1	0.0009	*	+	+
Black-footed Albatross	1	0.0009		0	+
Wedge-tailed Shearwater	2989	2.683		+	+
Christmas Island Shearwater	19	0.017		+	+
Newell's Shearwater	144	0.129		+	+
Juan Fernandez Petrel	17	0.015		—	+
Bonin Island Petrel	~~68~~ 16	~~0.120~~ 0.015		+	+
Coobs Petrel	75	0.070			
Dark-rumped Petrel	4	0.004		—	+
Kermadec Petrel	1	0.0009		—	+
Bulwers Petrel	175	0.157		+	+
Red-tailed Tropicbird	82	0.074		+	+
White-tailed Tropicbird	23	0.021		+	+
Blue-faced Booby	29	0.026		—	+
Brown Booby	22	0.020		+	+
Red-footed Booby	110	0.099		+	+
Great Frigatebird	87	0.078		+	+
Ruddy Turnstone	1	0.0009		+	+
Sooty Tern	6907	6.200		+	+
Grey-backed Tern	16	0.014		+	+
Common Noddy	356	0.319		+	+
Hawaiian Noddy	147	0.132		+	+
Blue-Grey Noddy	35	0.031		+	+
Fairy Tern	107	0.096		+	+
Leach's Petrel	13	0.012	*	+	+

Table III
cont

at sea species account cont

Outside Grid

Total Birds (outside Grid) = 11,602

Total Birds / linear mile (non grid) = 10.415

Table IV Location of banded or color-marked birds, July 1965.

At Sea, Banded and/or Orange-tagged, Birds Observed or Collected

July 1965				near Sand Island
Species	Band or tag	Latitude	Longitude	miles from orig.
Red-footed Booby	orange tag	16°36'N	169°28'W	
July 1965				NE Sand Island
Sooty Tern	Red tag	17°07'N	168°06'W	

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 2 July 1965 Total Minutes: 241 Total Miles 40

1. Total Abundance of birds: ~~225~~

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
84	225	2.68	5.63

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
56	43	2	6	~~115~~ 122	107	2	6	~~2.04~~ 2.18	2.49	1.00	1.00	2.89	2.68	0.05	0.15

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	0	1	5	0	3	2.50	0	3.00	0.13	0	0.08

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
24	94	3.91	2.35

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
1	0	1	0	1	0	1	0	1.00	0	1.00	0	0.03	0	0.03	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
3	3	1.00	0.08

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
4	~~225~~ 96	0.10	1	80	0.03

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 3 July 1965 Total Minutes: 804 Total Miles 112

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
154	382	2.48	3.41

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
116 70	10	15		198	150	10	15	1.71	2.14	1.00	1.00	1.77	1.34	0.09	0.13

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
14	7	6	16	9	6	1.14	1.29	1.00	0.14	0.08	0.05

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
19	~~145~~ 154	~~7.63~~ 8.10	1.29

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
8	14	1.75	0.13

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
4	196	0.04	1	39	0.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 4 July 1965 Total Minutes: 800 Total Miles 127

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
94	890	9.47	7.01

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
65	28	24	1	180	114	49	1	2.75	4.07	2.04	1.00	1.42	0.90	0.39	0.01

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
12	6	3	13	7	3	1.08	1.17	1.00	0.10	0.06	0.02

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
33	693	21.00	5.46

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
3	4	1.33	0.03

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
18	704	0.14	10	470	0.08

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 5 July 1965 Total Minutes: 794 Total Miles 127

1. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
155	2280	14.70	17.95

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
63	21	24	0	138	36	44	0	2.19	1.71	1.83	0.00	1.09	0.28	0.35	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
13	13	0	23	23	0	1.77	1.77	0.00	0.17	0.17	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
93	2095	22.53	16.50

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
3	0	3	0	7	0	7	0	2.33	0.00	2.33	0.00	0.06	0.00	0.06	0.00

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
7	17	2.43	0.13

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
52	2100	0.41	7	803	0.06

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 6 July 1965 Total Minutes: 782 Total Miles 139

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
75	153	2.04	1.10

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
67	16	43	0	104	44	50	0	1.55	2.75	1.16	0.00	0.75	0.32	0.36	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
5	5	0	5	5	0	1.00	1.00	0.00	0.04	0.04	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	44	11.00	0.32

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
2	70	0.014	1	57	0.007

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 7 July 1965 Total Minutes: 770 Total Miles 115

1. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
42	56	1.33	0.49

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
40	0	33	0	53	0	46	0	1.33	0.00	1.40	0.00	0.46	0.00	0.40	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	3	1.50	0.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
1	8	0.009	0	0	0.00

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 8 July 1965 Total Minutes: 786 Total Miles 131

1. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
51	113	2.22	0.86

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
44	8	31	0	70	14	51	0	1.60	1.75	1.65	0.00	0.53	0.11	0.39	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
7	5	1	7	5	1	1.00	1.00	1.00	0.05	0.04	0.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
6	36	6.00	0.28

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
3	58	0.023	2	53	0.015

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 9 July 1965 Total Minutes: 772 Total Miles 114

1. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
33	42	1.27	0.37

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
30	1	23	0	36	1	29	0	1.20	1.00	1.26	0.00	0.32	0.01	0.25	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
4	4	0	6	6	0	1.50	1.50	0.00	0.05	0.05	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
1	6	0.009	0	0	0.00

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 10 July 1965 Total Minutes: 786 Total Miles 110

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
107	557	5.21	5.06

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
97	30	53	0	212	85	108	0	2.19	2.83	2.04	0.00	1.93	0.77	0.98	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
5	4	1	5	4	1	1.00	1.00	1.00	0.05	0.04	0.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
24	340	14.17	3.09

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
14 ~~15~~	434	0.13	6	187	0.05

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 11 July 1965 Total Minutes: 778 Total Miles 119

1. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
59	168	2.85	1.41

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
53	14	33	0	~~85~~ 95	40	46	0	1.79	2.86	1.39	0.00	0.80	0.34	0.39	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
4	2	1	4	2	1	1.00	1.00	1.00	0.03	0.02	0.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
5	69	13.80	0.58

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
5	108	0.04	3	67	0.03

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 12 July 1965 Total Minutes: 792 Total Miles 122

1. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
128	242	1.89	1.98

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
100	62	23	0	156	118	24	0	1.56	1.90	1.04	0.00	1.28	0.97	0.20	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
9	5	4	13	8	5	1.44	1.60	1.25	0.11	0.07 ~~0.06~~	0.04

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
22	72	3.27	0.59

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.008

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
8	80	0.07	4	43	0.03

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 13 July 1965 Total Minutes: 805 Total Miles 135

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
122	820	6.72	6.04

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
71	57	9	1	163	132	16	1	2.30	2.59	1.78	1.00	1.21	0.98	0.12	0.01

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
4	2	0	4	2	0	1.00	1.00	0.00	0.03	0.01	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
60	647	10.78	4.79

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
5	6	1.20	0.04

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
13	679	0.10	3	311	0.01

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 14 July 1965 Total Minutes: 187 Total Miles 33

1. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
97	1290	13.30	39.09

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
41	30	0	0	150	139	0	0	3.66	4.63	0.00	0.00	4.55	4.21	0.00	0.00

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
2	2	0	7	7	0	3.50	3.50	0.00	0.21	0.21	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
45	1090	24.22	33.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.03

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
14	7	9	8	24	7	9	8	1.71	1.75	2.25	1.33	0.73	0.21	0.27	0.24

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
12	18	1.50	0.55

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
44	606	1.33	1	368	0.03

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 22 July 1965 Total Minutes: 798 Total Miles 144

1. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
184	1134	6.72	7.88

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
76	61	4	9	232	217	6	9	3.05	3.56	1.50	1.00	1.61	1.51	0.04	0.63

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
5	5	0	6	6	0	0.83	0.83	0.00	0.04	0.04	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
72	850	11.54	5.90

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
20	6	13	1	29	7	21	1	1.45	1.17	1.77	1.00	0.20	0.05	0.15	0.01

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
12	14	1.17	0.10

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
34	958	0.24	6	232	0.04

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 23 July 1965 Total Minutes: 791 Total Miles 129

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
239	1043	4.36	8.08

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
176	79	2	83	321	197	2	108	1.82	2.50	1.00	1.30	2.49	1.53	0.02	0.84

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
13	9	2	17	12	3	1.31	1.33	1.50	0.13	0.09	0.02

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
66	663	10.05	5.14

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
5	2	5	0	39	15	14	0	7.80	7.50	2.80	0.00	0.30	0.12	0.11	0.00

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	2	1.00	0.02

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
13	739	0.10	7	701	0.05

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY OBSERVATIONS SUMMARY

DATE: 24 July 1965 Total Minutes: 735 Total Miles 125

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
409	3291	8.05	26.33

II. Abundance of the Shearwater-Petrel-Albatross Group:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	WT	P	B	T	WT	P	B	T	WT	P	B	T	WT	P	B
315	198	3	31	1830	1777	3	35	5.81	8.97	1.0	1.13	13.92	14.22	0.02	0.28

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
14	7	3	14	7	3	1.0	1.0	1.0	0.11	0.06	0.02

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
58	1209	20.84	9.67

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile

VI. Abundance of Boobys:

No. Sightings				No. Birds				Birds/Sighting				Birds/Mile			
T	BF	RF	B	T	BF	RF	B	T	BF	RF	B	T	BF	RF	B
40	0	29	9	80	0	58	13	6.50	0.00	2.00	1.44	0.64	0.00	0.48	0.10

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
5	8	1.60	0.06

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
66	2,699	0.53	12	1557	0.11

DATE 2 July 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															
0700															
0800															
0900															
1000															
1100															
1200															
1300															
1400	21.30	58.00													
1500	21.25	58-02													
1600	21-18	58-06													
1700	21-10	158-10	Hazy Clds	20	1017	84	76	76	5	3	110/4	80	13	060	247 10kts
1800	21-07	158-20	" "	20	1018	81	69	69	4	3	110/4	80	13	060	" "
1900	21-03	158-30	" "	20	1018	81	69	69	7	4	110/4	80	14	060	" "
2000	20-59	158-40	" "	20	1018	80	72	72	5	3	110/4	80	14	060	" "
2100	20-55	158-50	"	20	1018	79	68	71	8	6	110-5-7	80	20	090	247-10
2200	20-52	158-59	"	20	1018	79	68	71	8	6	110-5-7	80	20	090	247-10
2300	20-49	159-09	Few Clds	20	1018	79	68	71	3	2	110-5-7	80	20	090	247-10
2400	20-45	159-18	"	20	1017	79	68	71	2	1	110-5-7	80	20	090	247-10

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 3 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20-41	159-27	CLEAR	20	1018	78	71	79	1	1	110-5-7	80	16	065	247-10
0200	20-37	159-37	"	20	1018	79	69	71	1	1	110-5-7	80	15	070	247-10
0300	20-34	159-45	"	20	1018	78	69	75	1	1	110-5-7	80	16	075	247-10
0400	20-30	159-55	"	20	1017	78	69	75	1	1	110-5-7	80	15	070	247-10
0500	20-25	160-04	04 Cldy	20	1017	78	69	75	3	1	110-5-7	80	20	080	" 9.5
0600	20-20	160 13	" "	20	1017	78	69	75	3	1	110-5-7	80	15	070	" 9.5
0700	20-17	160-23	" "	20	1017	80	72	75	7	5	110-5-7	80	17	070	" "
0800	20-14	160-31	" "	20	1017	80	72	75	5	2	110-5-7	81	17	070	" "
0900	20-10	160-41	Few Clds	20	1017	82	69	65	3	2	090-5-7	81	15	080	247 10
1000	20-06	160-51	"	20	1017	82	69	65	3	2	090-5-7	81	15	080	247 10
1100	20-01	160 59	"	20	1017	82	69	65	3	2	090-5-7	81	15	080	247 10
1200	19-57	161-09	"	20	1017	82	69	65	3	2	090-5-7	81	15	070	247 10
1300	19-55	161-11	"	20	1017	81	70	69	4	2	090-5-7	81	16	075	247 10
1400	19-~~44~~52	161-21	PT CLDY	20	1017	80	70	72	5	3	090-5-7	81	15	070	~~247~~ 0
1500	19-49	161-27	" "	20	1017	80	70	72	5	3	090-5-7	81	16	070	~~247~~ 0
1600	19-48	161-30	" "	20	1017	80	70	72	4	2	090-5-7	81	15	075	247 10
1700	19-44	161-38	" "	20	1017	81	69	69	4	2	090-5-7	81	16	075	" "
1800	19-41	161-48	" "	20	1016	81	69	69	5	3	090-5-7	81	17	075	" "
1900	19-39	161-58	" "	20	1016	81	69	69	5	2	090-5-7	81	18	080	" "
2000	19-35	162-08	" "	20	1017	80	72	75	4	2	090-5-7	80	17	080	" "
2100	19-31	162-17	"	15	1017	80	72	75	6	5	090-5-7	80	15	080	247 10
2200	19-28	162-27	"	15	1017	80	72	75	6	5	090-5-7	80	15	080	247 10
2300	19-27	162 38	"	15	1017	80	72	75	6	5	090-5-7	80	15	080	247 10
2400	19-22	162 51	"	15	1017	80	72	75	6	5	090-5-7	80	15	080	247 10

+10h 20m

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 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	WAVES (5 SWELL)	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	19-19	163-00	O'CAST	15	1017	78	69	75	9	8	090-5-7	80	15	065	247 - 10
0200	19-16	163-11	FEW CLDS	15	1016	78	72	83	2	2	090-5-7	80	11	105	242 - 10
+10h 0300	19-13	163-22	O'CAST	15	1016	79	71	79	9	9	090-5-7	80	14	080	242 - 10
40m 0400	19-08	163-32	O'CAST	15	1016	79	71	79	9	9	090-5-7	80	12	075	242 - 10
0500	19-04	163-43	PTLY CLDY	20	1016	77	71	83	8	7	090-5-7	80	17	100	" "
0600	19-00	163-52	" "	20	1016	78	69	75	5	3	090-5-7	80	14	080	" "
0700	18-56	164-01	" "	20	1016	80	70	72	4	2	090-5-7	80	14	090	" "
0800	18-52	164-11	" "	20	1017	83	70	66	4	2	090-5-6	80	14	080	" "
0900	18-47	164-21	FEW CLDS	20	1016	85	71	66	2	1	100-6-5	81	15	090	242 10
1000	18-44	164-31	"	20	1016	85	71	66	2	1	100-6-5	81	15	090	242 10
1100	18-39	164-40	"	20	1016	85	71	66	2	1	100-6-5	81	15	090	242 10
1200	18-35	164 49	"	20	1016	85	71	66	2	1	100-6-5	81	15	090	242 10
+11 1300	18-32	164-58	"	20	1015	86	69	57	3	1	100-6-5	81	14	080	242 10
1400	18-29	165-09	"	20	1015	86	75	70	3	1	100-6-5	81	14	075	242 10
1500	18-25	165-18	"	20	1014	86	75	70	3	1	100-6-5	81	13	070	242 10
1600	18-22	165-28	"	20	1014	86	75	70	4	2	100-6-5	81	12	065	242 10
1700	18-18	165-37	"	20	1014	86	75	70	3	1	100-6-5	81	12	065	" "
1800	18-13	165-47	"	20	1014	85	77	70	3	1	100-6-5	81	11	065	" "
1900	18-08	165-56	"	20	1014	83	73	75	3	1	100-6-5	81	11	065	" "
2000	18-03	166-06	"	20	1014	82	74	76	4	2	100-6-5	81	11	065	" "
2100	18-01	166-11	"	20	1014	80	68	68	2	1	100-6-5	81	12	070	242 10
2200	17-57	166-20	"	20	1014	80	68	68	2	1	100-6-5	81	12	070	242 10
2300	17-52	166-30	"	20	1014	80	68	68	2	1	100-6-5	81	12	070	242 10
2400	17-47	166-39	"	20	1014	80	68	68	2	1	100-6-5	81	12	070	242 10

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY AFTER 0500); 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 MONDAY 5 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	17-43	166-46	FEW CLDS	20	1014	80	72	75	2	1	100-6-5	80	14	070	242 - 10
0200	17-40	166-54	" "	20	1013	80	73	79	1	1	100-6-5	80	12	090	242 - 10
0300	17-36	167-03	" "	20	1013	80	73	79	1	1	100-6-5	80	14	090	242 - 10
0400	17-32	167-12	" "	20	1012	80	73	79	1	1	100-6-5	80	14	090	242 - 10
0500	17-28	167-28	" "	20	1012	80	72	75	2	1	100-6-5	80	14	080	242 9.5
0600	17-24	167-30	" "	20	1012	80	72	75	3	2	100-6-5	80	15	080	245 9.5
0700	17-19	167-39	" "	20	1012	81	73	75	3	1	100-6-5	80	16	085	248 9.5
0800	17-15	167-48	" "	20	1012	84	73	69	3	1	100-6-5	80	15	085	247 9.5
0900	17-11	167-58	" "	20	1013	86	70	60	3	2	110-6-5	81	12	090	247 9.5
1000	17-07	168-06	" "	20	1013	86	70	60	3	2	110-6-5	81	12	090	247 9.5
1100	17-03	168-14	" "	20	1013	86	70	60	3	2	110-6-5	81	12	090	247 9.5
1200	17-00	168-24	" "	20	1013	86	70	60	3	2	110-6-5	81	12	090	249 9.5
1300	16-58	168-33	" "	20	1013	86	70	60	2	1	110-6-5	81	10	080	249 9.5
1400	16-55	168-42	" "	20	1012	86	72	63	2	1	110-6-5	81	10	080	249 9.5
1500	16-51	168-52	" "	20	1012	88	74	64	1	1	110-6-5	81	11	080	249 9.5
1600	16-48	169-01	" "	20	1012	88	73	61	2	1	110-6-5	81	12	085	249 9.5
1700	16-45	169-13	" "	20	1012	85	72	70	3	1	110-6-5	81	11	075	249 9.5
1800	16-40	169-25		20	1012	87	72	72	4	2	110-6-5	81	10	070	270 8
1900	16-36	169-28	"	20	1012	80	73	79	6	3	110-6-5	81	10	070	163 10
2000	16-26	169-25	" "	20	1012	80	72	75	4	2	110-6-5	81	10	070	163 10
2100	16-17	169-22	"	20	1012	83	72	75	2	1	110-6-5	81	10	070	163 10
2200	16-07	169-19	"	20	1012	80	72	75	2	1	110-6-5	81	10	070	163 10
2300	15-57	169-16	"	20	1012	80	72	75	1	1	110-6-5	81	10	070	163 10
2400	15-45	169-13	"	20	1012	80	72	75	1	1	110-6-5	81	10	070	163 10

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 TUES 6 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	~~WAVES~~ SWELL	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	15-37	169-10	FEW CLDS	20	1012	80	73	79	1	1	110-6-5	80	12	080	163 - 10
0200	15-27	169-08	" "	20	1012	80	74	83	1	1	110-6-5	80	12	080	163 - 10
0300	15-18	169-06	" "	20	1011	80	73	79	1	1	110-6-5	80	14	085	163 - 10
0400	15-08	169-03	" "	20	1011	80	73	79	1	1	110-6-5	80	12	080	163 - 10
0500	14-58	168-59	PTLY CLDY	20	1011	80	72	75	4	2	110-6-5	80	15	075	163 -10
0600	14-48	168-56	" "	20	1012	79	73	83	8	5	110-6-5	80	9	070	163 -10
0700	14-40	168-54	" "	20	1012	79	73	83	8	5	110-6-5	80	13	070	163-10
0800	14-30	168-52	" "	20	1013	80	72	75	8	6	110-6-5	81	17	065	163-10
0900	14-21	169-00	FEW CLDS	20	1012	83	71	69	8	4	100-6-5	81	15	100	225-10
1000	14-13	169-07	"	20	1012	83	71	69	8	4	100-6-5	81	15	101	225-10
1100	14-05	169-17	"	20	1012	83	71	69	8	4	100-6-5	81	15	100	225-10
1200	13-57	169-25	"	20	1012	83	71	69	8	4	101-6-5	81	15	100	225-10
1300	13-50	169-33	PT. CLDY	20	1012	83	71	69	8	5	100-6-5	80	16	070	224-10
1400	13-43	169-41	CLOUDY	20	1011	84	73	69	10	8	100-6-5	80	16	080	224-10
1500	13-36	169-48	O'CAST	15	1011	83	73	72	10	8	100-6-5	80	16	075	223-10
1600	13-27	169-56	" "	15	1010	82	74	76	10	8	100-6-5	81	17	080	223-10
1700	13-19	170-03	" "	20	1011	81	74	79	10	8	100-6-5	81	17	085	223-10
1800	13-12	170-14	" "	20	1011	81	74	79	12	8	100-6-5	81	17	090	220-10
1900	13-05	170-20	" "	20	1011	81	74	79	9	7	100-6-5	81	16	065	220-10
2000	12-57	170-27	" "	20	1012	81	74	79	8	6	100-6-5	81	15	060	220-10
2100	12-	170-31	Cloudy	20	1012	81	74	79	8	5	090-6-5	81	17	090	220 10.5
2200	12-	170-39	"	20	1012	81	74	79	8	5	090-6-5	81	17	090	220 10.5
2300	12-	170-45	"	20	1012	81	74	79	8	5	090-6-5	81	18	090	220 10.5
2400	12-	170-52	"	20	1010	81	74	79	8	5	090-6-5	81	18	090	220 10.5

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 WED, 7 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	12-20	171-01	CLOUDY	20	1011	81	75	83	8	5	090-6-5	81	16	060	225-10.5
0200	12-11	171-09	FEW CLDS	20	1011	80	74	83	3	2	090-6-5	81	13	080	225-10.5
0300	12-12	171-17	" "	20	1010	80	74	83	2	1	090-6-5	81	15	070	315-10.0
0400	12-20	171-25	" "	20	1010	80	74	83	2	1	090-6-5	81	18	070	315-10.0
0500	12-27	171-33	" "	20	1010	80	73	79	4	2	090-6-5	81	18	065	315-10.5
0600	12-35	171-41	" "	20	1011	80	73	79	5	2	090-6-5	81	18	060	315-10.5
0700	12-39	171-47	" "	20	1011	80	73	79	2	1	090-6-5	81	15	060	315-9.5
0800	12-46	171-40	" "	20	1012	81	76	83	3	1	090-6-5	81	16	065	315-9.5
0900	12-54	171-34	PARTLY CLD	20	1012	82	74	76	5	4	070-5-7	82	18	070	045-9.0
1000	13-02	171-28	"	20	1012	82	74	76	5	4	070-5-7	82	18	070	045-9.0
1100	13-10	171-20	"	20	1012	82	74	76	5	4	070-5-7	82	18	070	045-9.0
1200	13-17	171-14	"	20	1012	82	74	76	5	4	070-5-7	82	18	070	047-9.0
1300	13-21	171-10	"	20	1011	82	74	76	4	3	070-5-7	82	16	075	047-9.0
1400	13-26	171-05	"	20	1011	82	74	76	4	3	070-5-7	82	15	090	047-9.0
1500	13-32	170-58	FEW CLDS	20	1011	82	74	76	3	2	070-5-7	82	15	080	047-9.0
1600	13-38	170-52	" "	20	1010	82	74	76	3	2	070-5-7	82	14	085	047-9.0
1700	13-46	170-45	" "	20	1010	82	74	76	4	2	070-5-7	82	17	090	047-9.0
1800	13-52	170-38	" "	20	1011	82	74	76	3	1	070-5-7	82	15	090	047-9.5
1900	13-59	170-32	" "	20	1011	81	73	76	2	1	070-5-7	82	15	085	047-9.5
2000	14-06	170-25	" "	20	1012	81	73	76	3	1	070-5-7	82	15	085	047-9.5
2100	14-12	170-19	" "	20	1012	80	73	79	3	2	090-5-7	82	15	090	047-8
2200	14-18	170-13	" "	20	1012	80	73	79	3	2	090-5-7	82	15	090	047-8
2300	14-24	170-07	" "	20	1012	80	73	79	3	2	090-5-7	82	15	090	047-8
2400	14-30	170-01	" "	20	1012	80	73	79	3	2	090-5-7	81	15	090	047-8

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 THURS 8 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	SWELLS WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	14-42	169-30	FEW CLDS	20	1011	80	72	75	3	2	090-5-7	79	15	090	047-8.5
0200	14-49	169-~~39~~45	" "	20	1011	80	72	75	2	1	090-5-7	79	15	090	047-8.5
0300	14-56	169-~~45~~39	" "	20	1011	80	72	75	1	1	090-5-7	79	18	085	047-8.5
0400	15-02	169-33	" "	20	1011	80	72	75	1	1	090-5-7	79	16	075	047-8.5
0500	15-01	169-31	" "	20	1012	79	72	79	3	1	090-5-7	79	17	080	047-8.5
0600	15-09	169-39	" "	20	1012	79	69	72	5	3	090-5-7	79	13	025	315 10.5
0700	15-16	169-47	" "	20	1012	80	72	75	4	3	090-5-7	79	14	075	325 10.5
0800	15-23	169-53	" "	20	1013	80	72	75	3	1	090-5-7	79	14	075	315 10.5
0900	15-32	170-02	" "	20	1013	83	69	65	3	2	100-5-8	80	18	090	315 10.5
1000	15-32	170-09	" "	20	1013	83	69	65	3	2	100-5-8	80	18	090	223 10.5
1100	15-24	170-17	" "	20	1013	83	69	65	3	2	100-5-8	80	18	090	223 10.5
1200	15-17	170-25	" "	20	1013	83	69	65	3	2	100-5-8	80	18	090	223 10.5
1300	15-09	170-30	" "	20	1012	83	73	72	3	2	100-5-8	~~80~~ 81	15	065	225 10.5
1400	15-02	170 38	" "	20	1012	83+	72	69	3	2	100-5-8	81	16	070	225 10.5
1500	14-55	170-45	" "	20	1011	83	72	69	3	2	100-5-8	81	15	070	225 10.5
1600	14-48	170-53	" "	20	1011	82	71	69	4	3	100-5-8	81	17	070	225 10.5
1700	14-41	170-~~57~~	" "	20	1011	81	71	72	4	2	100-5-8	81	17	065	225 10.5
1800	14-34	171-05	" "	20	1012	81	71	72	3	2	100-5-8	81	17	065	225 10.5
1900	14-31	171-12	" "	20	1012	81	71	72	4	3	100-5-8	81	17	065	225 10.5
2000	14-24	171-21	" "	20	1012	80	72	75	3	2	100-5-8	81	17	065	225 10.5
2100	14-16	171-30	"	20	1011	80	72	75	2	1	100-5-6	81	18	100	225 10.5
2200	14-08	171-38	"	20	1011	80	72	75	2	1	100-5-6	81	18	100	225 10.5
2300	14-02	171-47	"	20	1011	80	72	75	2	1	100-5-6	81	18	100	225 10.5
2400	13 54	171-55	"	20	1011	80	72	75	2	1	100-5-6	81	18	100	225 10.5

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 FRIDAY 9 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUMO/o	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	13-46	172-01	O'CAST	20	1011	80	74	83	10	9	100-5-6	81	16	070	223 - 10.5
0200	13-38	172-08	CLOUDY	20	1010	80	74	83	8	7	100-5-6	81	17	075	223 - 10.5
0300	13-29	172-16	PT. CLDY	20	1010	80	74	83	6	5	100-5-6	81	18	075	223 - 10.5
0400	13-21	172-23	FEW CLDS	20	1010	80	74	83	3	2	100-5-6	81	17	085	223 - 10.5
0500	13-28	172-31	" "	20	1010	80	74	83	3	1	100-5-6	81	17	080	315 10.5
0600	13-38	172-39	" "	20	1010	80	74	83	3	2	100-5-6	81	18	075	315 10.5
0700	13-42	172-46	" "	20	1011	83	74	73	2	1	100-5-6	81	17	075	315 10.5
0800	13-50	172-54	" "	15	1011	82	74	76	4	2	100-5-6	81	17	080	345 10.5
0900	13-55	172-57	"	20	1011	82	74	76	2	1	090-5-6	81	18	080	045 10.5
1000	14-02	172-50	"	20	1011	82	74	76	2	1	090-5-6	81	18	080	045 8.5
1100	14-09	172-43	"	20	1011	82	74	76	2	1	090-5-6	81	18	080	045 8.5
1200	14-16	172-36	" "	20	1011	82	74	76	2	1	090 5-6	81	18	080	045 8.5
1300	14-22	172-31	" "	20	1011	82	74	76	2	1	090-5-6	81	16	090	045 8.5
1400	14-28	172-24	" "	20	1011	82.6	74	76	3	2	090-5-6	81	14	095	045 8.5
1500	14-34	172-18	" "	20	1011	82	75	80	4	3	090-5-6	81	15	100	045 8.5
1600	14-41	172-11	" "	20	1010	82	75	80	2	1	090-5-6	81	14	100	045 8.5
1700	14-48	172-09	" "	20	1010	82	75	80	3	1	090-5-6	81	14	090	045 8.5
1800	14-54	172-04	" "	20	1011	81	74	79	3	1	090-5-6	81	13	085	" "
1900	15-00	171-57	" "	20	1011	81	74	79	3	1	090-5-6	81	15	090	" "
2000	15-06	171-52	" "	20	1012	80	72	76	4	2	090-5-6	81	14	090	" "
2100	15-12	171-45	Cld. O'Cast	15	1013	80	72	76	10	10	090-5-6	81	10	090	047 8.5
2200	15-17	171-39	"	"	1013	80	72	76	10	10	090-5-6	81	10	090	047 8.5
2300	15-24	171-32	"	15	1013	80	72	76	10	10	090-5-6	81	10	090	047 8.5
2400	15-30	171-26	"	"	1013	80	72	76	10	10	090-5-6	81	10	090	047 8.5

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 SAT. 10 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	15-37	171-20	O'CAST	15	1013	80	73	79	10	10	090-5-6	81	12	120	047 8.5
0200	15-43	171-13	"	15	1012	79	72	79	10	10	090-5-6	81	14	135	047 8.5
0300	15-49	171-07	CLOUDY	15	1011	79	72	79	9	8	090-5-6	81	16	100	047 8.5
0400	15-55	171-02	FEW CLDS	20	1011	79	22	79	3	2	090-5-6	81	14	100	047 8.5
0500	16-09	170-47	Pt. Cldy	20	1012	80	72	75	1	0	090-5-6	81	14	090	047 8.5
0600	16-16	170-40	" "	20	1012	80	73	79	5	3	090-5-6	81	17	080	047 9
0700	16-24	170-47	" "	20	1013	80	73	79	4	2	090-5-6	81	15	080	315 10.5
0800	16-31	170-55	" "	20	1013	80	73	79	3	1	090-5-6	81	16	075	315 10.5
0900	16 34	170-54	"	20	1013	83	72	72	5	4	090-5-6	81	15	090	315 10.5
1000	16-39	170-06	"	20	1013	83	72	72	5	4	090-5-6	81	15	090	315 10.5
1100	16-42	171-11	"	20	1013	83	72	72	5	4	090-5-6	81	15	090	225 10.5
1200	16 35	171-19	"	20	1013	83	72	72	5	4	090-5-6	81	15	090	225 10.5
1300	16-32	171-23	"	20	1013	83	73	72	4	3	090-5-6	81	12	080	225 10.5
1400	16-25	171-30	"	20	1012	83	73	72	3	2	090-5-6	81	14	065	225 10.5
1500	16-19	171-38	"	20	1012	83	72	69	3	2	090-5-6	81	10	065	225 10.5
1600	16-12	171-46	PT. CLOY	20	1012	82	72	72	5	3	090-5-6	81	10	065	225 10.5
1700	16-08	171-51	" "	20	1012	82	72	72	7	4	090-5-6	81	13	065	225 10.5
1800	16-04	171 55	" "	21	1012	81	73	75	8	6	090-5-6	81	13	065	225 10.5
1900	15-58	172-02	" "	20	1012	81	73	75	8	6	090-5-6	81	13	065	225 10.5
2000	15-51	172-10	" "	20	1012	81	73	75	8	6	090-5-6	81	12	070	225 10.5
2100	15-44	172-18	FEW Clds	20	1012	80	73	75	3	2	090-5-6	81	10	070	225 10.5
2200	15-37	172-26	"	20	1012	80	73	75	3	2	090-5-6	81	10	070	225 10.5
2300	15-30	172-34	"	20	1012	80	73	75	3	2	090-5-6	81	10	070	225 10.5
2400	15-22	172 42	"	20	1012	80	73	75	3	2	090-5-6	81	10	070	225 10.5

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 SUN. 11 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.	
0100	15-15	172-52	PT. CLDY	20	1013	81	74	79	6	4	090-5-6	81	14	070	225	10.5
0200	15-07	173-00	"	20	1012	81	74	79	4	2	090-5-6	81	16	085	225	10.5
0300	14-59	173-09	"	20	1011	81	74	79	6	4	090-5-6	81	15	080	225	10.5
0400	14-52	173-17	"	20	1011	81	74	79	7	5	090-5-6	81	15	070	225	10.5
0500	14-42	173-27	" "	20	1011	80	73	79	8	7	090-5-6	81	17	090	225	10.5
0600	14-34	173-34	" "	20	1011	80	73	79	8	6	090-5-6	81	12	090	225	10.5
0700	14-34	173-42	" "	20	1012	81	73	76	7	4	090-5-6	81	10	090	315	11
0800	14-41	173-50	" "	20	1012	81	73	76	8	5	090-5-6	81	12	090	315	11
0900	14-49	173-58	"	20	1012	82	75	80	6	5	090-5-6	81	18	080	315	11
1000	14-57	174-05	"	20	1012	82	75	80	6	5	080-5-6	81	18	080	315	11
1100	15-04	174-12	"	20	1012	82	75	80	6	5	080-5-6	81	18	080	315	11
1200	15-06	174-10	"	20	1012	82	75	80	6	5	080-5-6	81	18	080	045	8.5
1300	15-12	174-04	"	20	1012	82	75	80	5	4	080-5-6	81	13	090	045	8.5
1400	15-18	173-57	"	20	1012	82	74	76	5	3	080-5-6	81	14	100	045	8.5
1500	15-25	173-51	"	20	1011	82	74	76	4	3	080-5-6	81	15	100	045	8.5
1600	15-31	173-45	"	20	1011	82	74	76	5	4	080-5-6	81	16	095	045	8.5
1700	15-39	173-40	"	20	1011	81	74	79	7	5	080-5-6	81	14	100	045	8.5
1800	15-46	173-35	"	20	1011	81	74	79	5	3	080-5-6	81	15	100	045	8.5
1900	15-53	173-30	"	20	1012	81	74	79	7	5	080-5-6	81	14	095	357	10
2000	16-06	173-30	"	20	1012	81	74	79	7	4	080-5-6	81	14	095	357	10
2100	16-12	173-29	"	15	1013	79	72	83	8	6	080-5-5	81	10	080	357	9
2200	16-21	173-30	"	15	1013	79	72	83	8	6	080-5-5	81	10	090	357	9
2300	16-30	173-30	"	15	1013	79	72	83	8	6	080-5-5	81	10	090	357	9
2400	16-39	173-31	"	15	1013	79	72	83	8	6	080-5-5	81	10	090	357	9

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 MON. 12 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16-49	173-32	PT. CLDY	20	1013	80	74	83	4	3	080-5-5	81	10	075	357 - 9
0200	16-58	173 32	" "	20	1013	80	74	83	8	7	080-5-5	81	20	095	357 - 9
0300	16-08	173-32	" "	20	1012	80	73	29	3	2	080-5-5	81	14	090	357 - 9
0400	16-17	173-33	" "	20	1012	80	73	29	9	8	080-5-5	81	16	075	357 - 9
0500	17-33	173-37	" "	20	1012	80	74	83	7	5	080-5-5	80	17	090	357 9.5
0600	17-41	173-38	" "	20	1012	80	74	83	7	4	080-5-5	81	15	090	358 9.5
0700	17-51	173-39	" "	20	1013	82	74	76	4	2	080-5-5	81	15	090	358 9.5
0800	18-00	173-40	" "	20	1014	82	74	76	4	2	080-5-5	81	15	090	358 9.5
0900	18-09	173 40	"	20	1015	81	72	75	4	3	080-5-5	81	18	080	359 9.5
1000	18-18	173-40	"	20	106	81	72	75	4	3	080-5-5	81	18	080	359 9.5
1100	18-28	173-41	"	20	1015	81	72	75	4	3	080-5-5	81	18	080	359 9.5
1200	18-37	173-41	"	20	1015	81	72	75	4	3	080-5-5	81	13	080	359 9.5
1300	18-46	173-42	FEW CLDS	20	1015	81	74	79	3	2	080-5-5	81	18	100	359 9.5
1400	18-55	173-42	"	20	1015	82	74	76	3	2	080-5-5	81	18	110	359 9.5
1500	19-04	173-42	"	20	1014	82	74	76	4	3	080-5-5	81	16	110	359 9.5
1600	19-14	173-43	"	20	1014	81	74	79	3	2	080-5-5	81	18	100	359 9.5
1700	19-23	173-44	Hzy Cldy	20	1014	81	73	76	2	1	080-5-5	81	13	110	359 9.5
1800	19-32	173-44	" "	20	1015	80	72	75	4	2	080-5-5	81	15	110	359 9.5
1900	19-41	173-45	" "	20	1015	80	72	75	3	1	080-5-5	81	17	100	359 9.5
2000	19-50	173-45	" "	20	1015	80	72	75	3	2	080-5-5	81	14	100	359 9.5
2100	20-03	173-46	FEW CLDS	20	1017	80	72	75	3	2	090-5-5	81	15	090	359 9.5
2200	20-13	173-47	"	20	1017	80	72	75	3	2	090-5-5	80	15	090	359 9.5
2300	20-23	173-48	"	20	1017	80	72	75	3	2	090-5-5	80	15	090	359 9.5
2400	20-33	173-49	"	20	1017	80	72	75	3	2	090-5-5	80	15	090	359 9.5

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 TUES. 13 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELLS WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20-43	173=49	FEW CLDS	20	1017	80	74	83	3	2	090-5-5	80	10	100	359 - 9.5
0200	20-52	173-49	" "	20	1017	80	74	83	3	2	090-5-5	80	11	105	359 - 9.5
0300	21-02	173-50	" "	20	1017	80	74	83	2	1	090-5-5	80	12	110	359 - 9.5
0400	21-12	173-50	" "	20	1017	80	74	83	2	1	090-5-5	80	12	105	359 - 9.5
0500	21-22	173-51	" "	20	1017	79	73	83	4	2	090-5-5	80	15	100	359 10
0600	21-31	183-52	" "	20	1018	79	73	83	3	1	090-5-5	80	16	100	359 10
0700	21-41	173-53	" "	20	1018	80	72	75	3	1	090-5-5	80	15	090	359 10
0800	21-50	173-54	" "	20	1018	80	72	75	2	1	090-5-5	80	16	100	352 10
0900	22-02	173-53	"	20	1019	80	72	75	2	1	070-5-6	80	15	070	359 - 10
1000	22-10	173-56	"	20	1019	80	72	75	2	1	070-5-6	80	15	070	359 - 10
1100	22-21	173 57	"	20	1019	80	72	75	2	1	070-5-6	80	15	070	359 - 10
1200	22-31	173-58	"	20	1019	80	72	75	2	1	070-5-6	80	15	070	359 - 10
1300	22-41	173-57	" "	20	1019	80	~~74~~ 72	~~83~~ 75	1	1	070-5-6	80	14	085	000 - 10
1400	22 57	173-58	" "	20	1018	80	72	75	2	1	070-5-6	80	13	080	000 - 10
1500	23 02	173-58	" "	20	1018	80	72	75	2	1	070-5-6	80	12	080	000 - 10
1600	23 12	173-58	" "	20	1018	80	72	75	2	1	070-5-6	80	12	080	000 - 10
1700	23 23	173 59	" "	20	1018	80	72	75	3	1	070-5-6	80	12	070	000-10
1800	23 33	173 59	" "	20	1018	80	72	75	3	1	070-5-6	80	11	070	000-10
1900	23 42	173 59	" "	20	1019	79	73	83	4	2	070-5-6	80	12	060	000-10
2000	23 52	174 00	" "	20	1019	79	73	83	1	0	070-5-6	80	12	060	000-10
2100	24-02	174-04	"	20	1019	79	73	83	1	0	070 5-4	80	10	070	000 - 10
2200	24-13	174-04	"	20	1019	79	73	83	1	0	070 5-4	80	10	070	000 10
2300	24-22	174-05	"	20	1019	79	73	83	1	0	070-5-4	80	10	070	000 10
2400	24 32	174-06	"	20	1019	79	73	83	1	0	070-5-4	80	10	070	004 - 10

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 WED 14 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	24-42	174-05	FEW CLDS	20	1018	78	72	83	2	1	070-5-4	79	5	075	004 - 9.5
0200	24-52	174-05	" "	20	1018	78	72	83	2	1	070-5-4	79	8	045	004 - 9.5
0300	25-02	174-04	" "	20	1018	78	72	83	2	1	070-5-4	79	8	035	004 - 9.5
0400	25-12	174 04	" "	20	1018	78	72	83	2	1	070-5-4	79	8	040	004 - 9.5
0500	25-22	174-04	" "	20	1018	78	71	79	2	1	070-5-4	79	8	020	004 - 10
0600	25-32	174-06	" "	20	1018	78	71	79	3	1	070-5-4	79	8	030	010 - 10
0700	25-42	174-05	" "	20	1018	79	70	75	3	1	070-5-4	79	8	020	010 - 10
0800	25-52	174-04	" "	20	1018	80	72	75	8	1	070-5-4	79	8	015	010 - 10
0900															
1000															
1100															
1200															
1300															
1400															
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 Thurs 22 July 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600	24-34	168-26	Pt Cldy	20	1019	78	72	83	5	2	090-5-5	80	9	100	109 10.5
0700	24-31	168-15	" "	20	1019	79	72	79	4	2	090-5-5	80	9	100	109 10.5
0800	24-28	168-02	" " 4/10 Cu	20	1019	78	67	74	6	3	090-5-5	80	10	100	109 10.5
0900	24-24	167-49	Few Cbs	20	1020	81	72	75	3	2	090-5-4	80	8	090	109 10.5
1000	24-21	167-38	"	20	1020	81	72	75	3	2	090-5-4	80	8	090	107 10.5
1100	24-18	167-27	"	20	1020	81	72	75	3	2	090-5-4	80	8	090	107 10.5
1200	24-14	167-17	"	20	1020	81	72	75	3	2	090-5-5	80	8	090	107 10.5
1300	24-12	167-04	"	20	1019	81	71	72	2	1	090-5-5	79	8	100	107 10.5
1400	24-10	166-55	"	20	1019	81	71	72	1	1	090-5-5	79	9	105	109 10.5
1500	24-06	166-45	"	20	1019	81	71	72	1	1	090-5-5	79	9	100	112 10.5
1600	24-02	166 34	"	20	1018	81	71	72	2	1	090-5-5	79	8	100	112 10.5
1700	23 59	166 22	"	20	1018	80	72	75	3	2	090-5-4	79	10	100	112 10.5
1800	23 55	166 12	"	20	1018	80	72	75	4	2	090-5-4	79	11	095	108 10.5
1900	23 51	166 02	"	20	1019	80	72	75	3	1	090-5-4	79	10	090	108 10.5
2000	23 48	165 51	"	20	1019	80	72	75	2	1	090-5-4	80	11	090	108 10.5
2100	23	165	"	20	1019	79	71	79	2	1	090-5-4	20	8	090	108 10.5
2200	23	165	"	20	1019	79	71	79	2	1	090-5-4	79	8	090	108 10.5
2300	23	165	"	20	1019	79	71	79	2	1	090-5-4	79	12	090	108 10.5
2400	23	165	"	20	1019	79	71	79	2	1	090-5-4	79	12	090	108 10.5

REMARKS:

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 FRI- 23 JULY 1965

TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	23-32	164-59	FEWCLDS	20	1019	79	72	79	3	2	090-5-4	78	14	095	108 - 10.5
0200	23-29	164-48	SHOWERS	10	1018	78	72	83	8	8	090-5-4	78	16	100	108 - 10.5
0300	23-26	164-39	FEW CLDS	20	1018	78	71	79	3	2	090-5-4	78	14	090	108 - 10.5
0400	23-23	164-29	FEW CLDS	20	1018	78	71	79	2	1	090-5-4	78	12	085	108 - 10.5
0500	23-20	164-16	" "	20	1018	78	69	75	4	2	090-5-4	78	11	090	108 9.0
0600	23-17	164-06	Hzy Cldy	20	1018	79	69	72	7	4	090-5-4	78	11	090	108 10.5
0700	23-13	163-58	" "	20	1019	79	69	72	3	1	090-5-4	78	11	080	108 10.5
0800	23-10	163-47	" "	20	1019	80	70	72	3	1	090-5-4	78	12	080	108 10.5
0900	23-06	163-36	FEW Clds	20	1019	81	70	72	3	2	080-5-5	78	12	060	108 10
1000	23-03	163-26	"	20	1019	81	70	72	3	2	080-5-5	78	12	060	108 10
1100	23-00	163-15	"	20	1019	81	70	72	3	2	080-5-5	78	12	060	108 10
1200	22-57	163-05	"	20	1019	81	70	72	3	2	080-5-5	78	12	060	108 10
1300	22-53	162-57	CLOUDY	20	1018	80	70	72	8	5	080-5-5	80	11	075	108 10
1400	22-49	162-47	"	20	1018	80	68	68	7	5	080-5-5	80	12	070	108 -10
1500	22-47	162-37	"	20	1017	80	68	68	9	6	080-5-5	80	11	070	183 - 10
1600	22-44	162-27	"	20	1017	80	68	68	9	7	080-5-5	80	11	070	105 - 10
1700	22-43	162-16	"	20	1017	79	69	71	9	7	080-5-5	80	12	050	108 10
1800	22-39	162-06	Hzy cldy	20	1017	79	69	71	7	5	080-5-5	80	14	060	108 10
1900	22-36	161-56	" "	20	1017	79	69	71	7	5	080-5-5	80	12	060	108 10
2000	22-34	161-46	" "	20	1018	79	67	68	3	4	080-5-5	80	11	070	108 10
2100	22 31	161-35	Clear	20	1018	79	67	68	0	0	080-5-4	79	10	070	108 10.5
2200	22 28	161 23	"	20	1018	79	67	68	0	0	080-5-4	79	10	070	108 10.5
2300	22 -24	161 12	"	20	1018	79	67	68	0	0	080-5-4	79	10	070	108 10.5
2400	22 -22	161 05	"	20	1018	79	67	68	0	0	080-5-4	79	10	070	108 10.5

REMARKS;

ALL TIMES LOCAL (~~WHISKEY~~ XRAY); 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 SAT - 24 JULY 1965

	TIME	LAT N	LONG W	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM%	TL SKY	OPA SKY	SWELL WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.	
+10h 40m	0100	22-17	160-56	FEW CLDS	20	1017	78	72	83	3	2	080-5-4	78	10	075	108	10.5
	0200	22-16	160-48	SHOWERS	15	1017	78	72	83	8	6	080-5-4	78	13	090	108	10.5
	0300	22-13	160-38	FEW CLOUD	20	1016	78	72	83	2	1	080-5-4	78	13	085	108	10.5
+10 20	0400	22-11	160-28	" "	20	1016	78	72	83	1	1	080-5-4	78	15	065	108	10.5
	0500	22-07	160-16	" "	20	1016	78	72	83	1	0	080-5-4	78	10	060	108	10
	0600	22-05	160-10	" "	20	1017	78	71	79	1	0	Conf	78	12	060	108	10
	0700	22-02	159-58	" "	20	1017	78	69	75	1	0	Conf	78	8	210	114	10.5
	0800	21-57	159-49	" "	20	1017	78	69	75	1	0	"	80	Vbl.	Vbls	116	10.5
	0900	21-53	159-39	"	20	1018	79	66	67	2	1	080-5-4	80	080	8	114	10
	1000	21-49	159-30	"	20	1018	79	66	67	2	1	080-5-4	80	080	10	114	10
	1100	21-45	159-21	"	20	1018	79	66	67	2	1	080-5-4	80	080	10	114	10
+10	1200	21-41	159-11	"	20	1018	79	66	67	2	1	080-5-4	80	080	10	114	10
	1300	21-37	159-01	" "	20	1017	79	69	71	1	1	080-5-4	81	070	12	114	~~10~~ 9.5
	1400	21-33	158-51	" "	20	1017	79	69	71	1	1	080-5-4	81	060	12	114	~~10~~ 9.5
	1500	21-29	158-42	" "	20	1016	78	69	75	1	1	080-5-4	81	060	14	114	~~10~~ 9.5
	1600	21-26	158-33	" "	20	1016	78	69	75	2	1	080-5-5	81	055	16	114	9.5
	1700	21-22	158-21	" "	20	1016	83	70	66	3	1	Conf.	81	300	8	114	12.0
	1800	21-16	158-10	" "	20	1016	80	70	72	2	1	Conf.	81	070	15	110	10.0
	1900																
	2000																
	2100																
	2200																
	2300																
	2400																

REMARKS:

ALL TIMES LOCAL (WHISKEY) AFTER 0500; 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