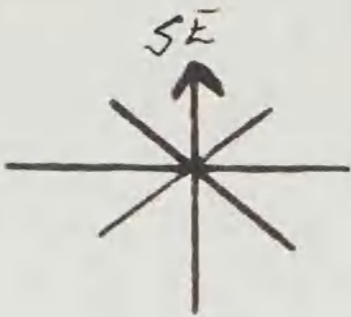


DATE Sept 64
Pg. # 1

time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
1330	Begin observations					
1415	Common Noddy	2	SW		low over water	
1419	Bulwer's	1	SE			
1420	Comm. Noddy	3	W			
1422	Frigate	1	S		High - just under cloud	
1425	C. Noddy	2	S		wave tops	
1426	" "	2	E		Sitting on the water	
1430	RFB	5	S		} feeding	
	WT	10	S			
	C. Noddy	15+	S			
1437	C. Noddy	2	SW		w tops	
1438	C. Noddy	1	SW		w tops	
1443	C. Noddy	1	SW		w tops	
1447	C. Noddy	1	SW			
"	C. Noddy	1	N			
1448	RFB	4	E		} Feeding near horizon	
	C. Noddy	25+				
1454	Frigate	1	S		High above flock	
1454	RFB	5+			} feeding near horizon	
	WT	15+				
	CN	30+				
1511	Common Noddy	15+	S W		Feeding	
1517	Common Noddy	1	SW			
1521	W. T. Tropicbird	1	SW			
1528	R.F. Booby	1	E			
1531	Common Noddy	1	E			
1538	R.F. Booby	2	SE			
1541	Wedgetail	1	SE			
1548	Wedgets	1	S			
1556	wedgetail	1	S			
1558	wedgetail	1	S			
1600	Noddy Tern	1	S			
1609	wedgetail	1	S			
1616	Common Noddy	1	S			

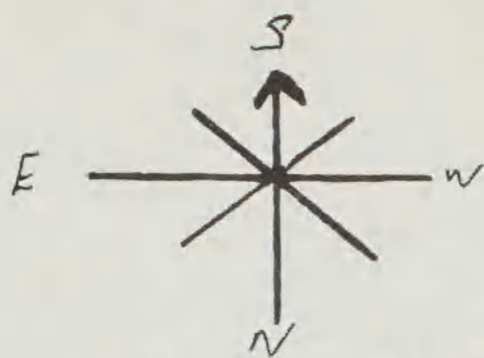


time	species	#	dir.	hgt.	remarks	loc.
1624	Wedgetail	2	NE			
1627	Common Noddy	1	SE			
1630	R.F. Booby	2	SE			
1634	Wedgetail	2	SE			
1635	Wedgetail	1	SE			
1637	Wedgetail	3	SE			
1638	Wedgetail	3	S			
1639	Wedgetail	1	S			
1642	WT	60	NE		3 dark phase not feeding	
	CN	140				
	RFB	3				
1652	R.F. Booby	1	SE			
① 1643	CN	1	E			
② 1643	WT	1	E			
1645	CN	3	E			
1646	WT	1	E			
1648	CN	2	E			
1649	CN	1	E			
1650	WT	1	E			
1658	RFB	1	NE			
1659	CN	1	E			
	WT	1	E			
	CN	3	E			
1702	G. Frigate	2	NE			
1708	RFB	6	SE		All northern white phase adults as far as I could tell; associated but flying singly	
1701	WT	1	NW			
1713	WT	1	SW			
	CN	2	SW			
1715	CN	1	SW			
	WT	1	W			
1717	CN	1	SW		} flying separately	
1717	CN	1	SW			
1726	Wedgetail	1	SW			
1729	CN	100+	ESE		} feeding	
	WT	40+				
	RFB	3+				
1734	WT	1	E			



DATE 1 Sept
Pg. # #3

time	species	#	dir.	hgt.	remarks	loc.
1735-40	WT	12		W	Not a flock, these 12 birds traveled as singles (equals 12 observations or sightings)	
1741	WT	2		W		
1742	WT	1		W		
1743	WT	5		E		
1744	WT	1		E		
1745	WT	4		E	In singles	
1745	WT	6		E	In singles	
1747	WT	4		E	"	
1747	RFB	1		E		
1748	WT	5		E	"	
1749	WT	18		E	Not a flock crossing bow as singles	
1753	WT	4		E	" " " "	
1755	WT	2		E		
1757	WT	6		E	1 immediate phase bird, note flock	
1800	WT	3		E		
1805	Wedgetail	3		SE		
1806	Bm Booby	1		SE		
1808	R.F. Booby	1		NE		
1810	Wedgetail	6		E	note a flock	
1811	Wedgetail	3		W		
1822	Wedgetail	4		E		
1830	Wedgetail	1		SE		
1831	Shear-petrel	1		SE	seen seen by mistal	
1834	Bulwers P	1		SE		
1850	Emulaberrata	1				



DATE 2 Sept 64
Pg. # 1

time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
6550	Observations		begin		begin	
0602	Sh-Pet. SP	1	W			
0619	WT	1	SW			
0624	Sh. petrel	1	S			
0629	WT	1	S			
0815	wedgetail	1	SW			
0828	wedgetail	1	S			
0833	Bulwers P	1	S			
0900	white-necked	1	W			
0903	wedgetail	1	SE			
0915	Tropicbird sp	1	S			
0919	Fairy Tern	1	SW			
0920	wedgetail	2	SE			
0921	Shear-Petrel	1	E			
0925	wedgetail	1	W			
0932	Petrel sp	1	SW		Dark on top light underneath (breast) about the size of a Bulwers, flies more like a storm petrel	
0945	Shear-Petrel	1	S			
0948	Pt. species	1	N		Dark-rumped?	
10:07	wedgetail	3	S			
10:07	W.N. Petrel?	1	S			
10:08	Bird SP	1	NE		Seen by the crewman, not me RBC	
1028	WT	1	S			
1030	WT	2	SW			
1036	WN Petrel	2	NW		One seen well, the other probably the same.	
1051	Bulwers	1	S			
1053	WT	1	—			
1054	Pt. sp.	1	N		large	
1109	Bonin Is P	2	SW			
1115	Bonin Is P	1	SW			
1130	wedgetail	1	SW			
1157	Bonin Is P	1	E			
1206	Shear-Petrel	1	W		sitting on water	
1209	wedgetail	1	E			
1211	DRP	2	S			
1213	wedgetail	1	SW			

P. 24

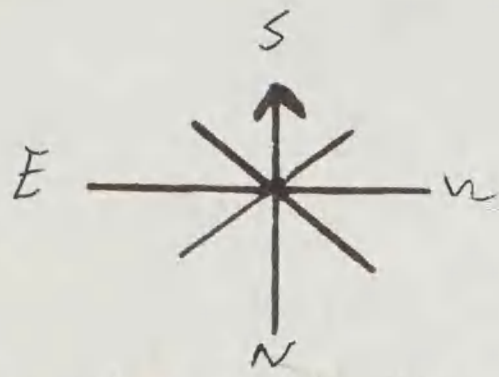
P. 24

P. 24

BWP

BWP

JEP

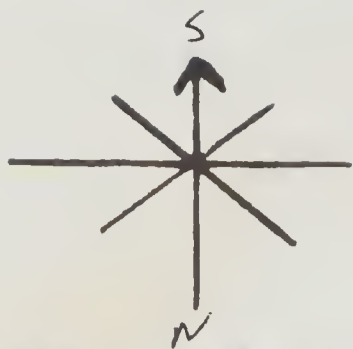


DATE 2 Sept 64
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.	
	1218	W. Shearwater	3	SW				
BWP	1223	Bonin Is P	2	W		1 sitting on water, the other circling around		
	1232	Bulwers	1	N				
	1234	Pt. sp.	1	N		Glumped briefly (1g)		
	1405	Frigate	1	SW				
	1406	Fern sp.	1	SE		Looked like it had a dark cap grey on top of wings and back white underneath and body		
	1411	Red T. Tropicbirds	3	S		Sitting on water, 2 of them had no tails		
	1510	Petrel sp.	1	SW		Believe it was same as one this morning. Small, brown on back wings on top and underneath, white body, tail under tail white, flew different, wind notes high.		
JFP	1523	BRP	1	SE				
BWP?	1600	Bonin Petrel	1	S				
BWP	1715	Bonin Is P	1	SW				
	1850	End Observations						



time	species	#	dir.	hgt.	remarks	loc.
06:10	Observations	begin				
0740	R.T. Tropicbird	1	E			
0846	Bur. Is. Petrel	1	N		Back appeared darker rather than lighter	
0859	Tern	10+			} in edge of rain squall - No possibility of more } concrete identification - Feeding?	
	Sh. Petrel	5+				
0900	WTZ Shear sp	1	S		All dark bird; flying more steadily than WTZs usually do; somewhat lighter underneath. Bobby thought it was probably a C. IS. Flight not very wt	
0927	Sooty Tern	6	NE		Travelling	
0928	DR Petrel	1	N		- Seen well - all white underneath, gray ^{black} on top with white sides to neck. Could not have been dark rumped since rump was distinctly lighter than rest of upperparts - a grayish white -	
0932	Tern sp	10+	SE		- Probably ^{Soil} right on the edge of a rain squall and nothing more than forms discernable. Travelling	
0936	DRP	1	W			
1017	Sooty Tern	10+	W		Feeding in rain	
1034	R.T. Tropicbird	1	S		Sitting on water, in rain	
1350	Bonin Is P	1	S			
1355	Bulwers	1	N		(Vide Perry) note	
1832	Sh. Petrel sp	1	SE		Too dark for proper identification	
1835	Observations	concluded				



DATE Sept. 4
Pg. # pg. 1

time species # dir. hgt. remarks loc.

0610 Observations begun

0614 WT 1 N

dark phase ← sunrise

0641 DR Petrel 1 SW

dark nump on this bird and some white on sides of neck but no more than that on the "white numped dark numped petrel seen yesterday"

0703 DR Petrel? 1 S

Not seen well; large Pterodroma certainly probably D.R.

0704 ? 1 S

" " C

0727 WT 1 S

DR phase

DR Petrel 1 S

WN Petrel 1 S

0810 Shear-Petrel 1 E

0811 Wedgetail 1 NW

0816 Wedgetail 1 SW

0821 DR P 2 SW

0845 Shear-Petrel 1 SE

0950 Wedgetail 1 W

Flight distinctly different under calmer weather conditions. Flight is generally more leisurely and the body axis remains near the ^{ventral} horizontal move of the time. (calmer) B+

1002 Bulwers 1 NE

Smaller than WT - all brown above + below; light "noddy" pattern noticeable on wings. Flight somewhat more rapid than WT just seen but generally similar. How would a big Pterodroma fly in a calm sea. A -

1028 Shear-Petrel 1 NE

Glimpsed once but briefly

1028 WN Petrel 1 S

Face and head very light; back a light gray-black with nump not distinguishably different in color. Some white extending up sides of throat. WN on basis of this and very light impressive green by head neck area

1029 Sh. Petrel 1 SW

→ Possibly same as above bird

1040 Golden Plover 1 S

→ A - Didn't circle ship but finally left heady in the vector between S and SE

1045 RTTB 1

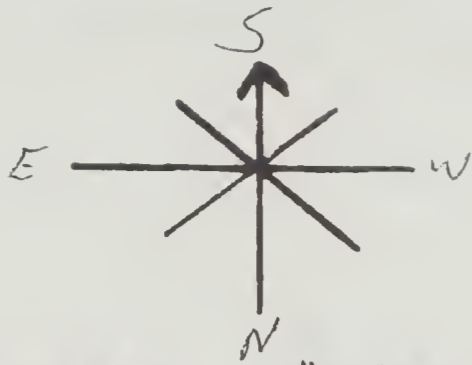
1045 - Plover back again

~~1054 P. Petrel~~


~~For gray for wedgetail~~

1054 WN Petrel 1 S

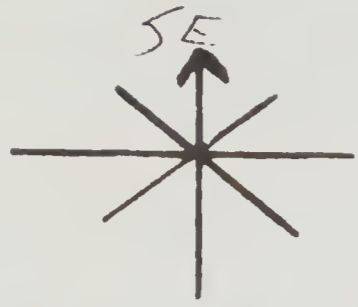
B+ neck patches obvious - decidedly gray-black nump patch not noted



DATE 4 Sept 64
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1145	WNP	1	SW		This bird definitely had a white rump.	
1155	Bonin Is P	1	S			
1200	Sooty Tern	2	E		Very low to water compared to other Sooty Terns I have seen	
1240	WNP	1	NW		Seen briefly - but at fairly close range - Back grey black; whitish impression of head and best look at rump which was whitish with a darker median area  B ⁺	
1315	DRP	1	NE		Neck appeared concolor with head and back despite what I thought were extensions of neck patches. These were not that predominant. The bird possessed a whitish rump and was clear white underneath. (No noticeable wing margin) B ⁺	
1404	Wedgetail	2	S		1 dark, 1 light	
1430	Bulwers P	1	SW			
1423	Shear-Petrel	2	S			
1424	DRP	1				
1458	Wedgetail	2	W			
1506	Wedgetail	1	S			
1508	Shear-Petrel	1	NE			
1517	Wedgetail	1	SE			
1530	Shear Petrel	1	NE		Seen by watch	
1603	DRP	1			Initially sitting in water. (Vide Ternite) Not seen by me (RBE)	
1607	CI Sh.	2	NW		Seen very well - Flight the "typical" horizontal flap-flap-flap soar. Color chunkiness all night - A ⁺	
1410					Small school (50 ⁵⁰⁺ ?) of small dolphins seen swimming ESE - Not seen well	
1713	WNP	2	NW		seen over small school of skipjack? tuna -	
	Sooty Tern	2	NE			
1715	Pt. sp.	2	SE		Cookilaria group - Dark head, top of wings, and back dark, with underwings ^{dark with varying white} and breast and under tail ^{light} white. flew about like a Bonin Is P, about the same size	

122629



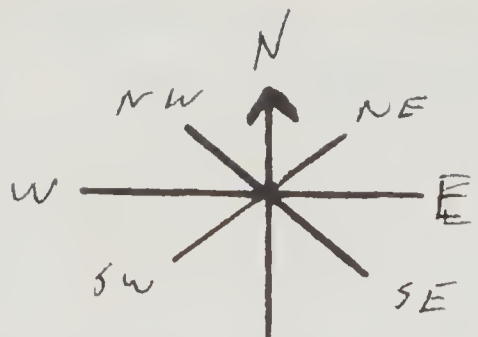
DATE 4 Sep
Pg.# 3

time	species	#	dir.	hgt.	remarks	loc.
1732	Petrel sp X	1	S			
1805	w.n.p	1	sw			
1807	Petrel sp X	1	SE			
1815	Petrel sp X	1	SE			
1819	Wedgetail	1	sw		light	
1823	Petrel sp X	1	sw			
1829	w.n.p	1	S			
1831	Christmas Is S	1	sw			
1833	Petrel sp X	1				
1850	E end O observations					



DATE 5-sept-64
Pg. # 1

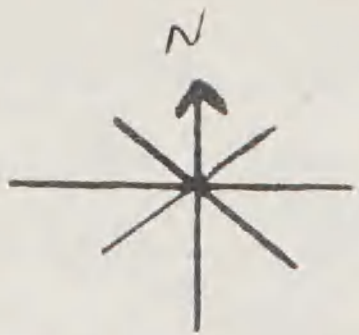
	time	species	#	dir.	hgt.	remarks	loc.
	0550	Bird C	1	S			
	0558	Shear-Petrel	1	S			
✓	0610	Petrel sp	1	SE			
	0635	Shear-Petrel	1	NE			
P. sp	0642	WNT	1	S			
	0656	Wedgetail	2	E			
	0658	Wedgetail	1	W		Dark	
	0706	Wedgetail	1	W		Dark	
	0707	Wedgetail	1	S		Dark	
BWP JFP	✓ 0709	Petrel sp x	1	E		seen by watch	
	0725	Shear-Petrel	1	SE			
P. sp	✓ 0900	Pterodroma sp.	1	S		large - externa or phaeopygia?	
JFP	0918	DRP	1	S		vide Termite (says see saw no white neck -)	
	0925	Bird sp	1	S		At limits of visibility - apparent only as a black dot. Flew low over water and thus (from estimated size) is probably a <u>Puffinus</u>	
P. sp	0934	WNT	1	SW		(WT) or <u>Pterodroma</u>	
	0940	Shear-Petrel	1	NE		dark	
	0941	Wedgetail	1	NE			
BWP JFP	✓ 0944	Petrel sp x	2	NE			
JFP	0945	DRP	1	NE			
	(0950)	Shear-Petrel	1	W			
JFP	0951	DRP	1	SE			
	0954	Wedgetail	2	NW			
BWP JFP	✓ 0958	Petrel sp x	2	NE			
	0959	Bulwers P	2	NE			
JFP	1000	DRP	2	NW			
	1006	Shear-Petrel	1	NW		} seen by watch	
	1007	Shear-Petrel	1	NW			
BWP JFP	✓ 1015	Petrel sp x	2	NE		— smaller than externa phaeopygia - Cookiana? B	
	✓ 1121	Pterodroma sp	1	NE		Definite tern gull flight - Termite very B + sure + was a jaeger!?	
JFP	1132	Term sp	1	S		Definite light rump, no pronounced patches on side on neck; nape-crown with both B +	
	1133	DRP	1	S			
	1134	C.I. Sn.	1	S		A	
	1245	Wedgetail	1	N			
BWP	1250	Bonin Is P	1	S		sitting on water	
BWP	1315	Bonin Is P	1	NW			



DATE 5 Sept 64
Pg.# 2

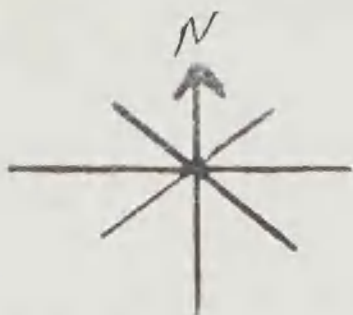
time	species	#	dir.	hgt.	remarks	loc.
1409	WT	2	N		} dark phase	
1459	WT	1	N			
1554	WNP	1	W			
1559	Bonin Is P	1	E		long ways off.	
✓ 1615	Patrol sp	1	E			
1655	WNP	2	SE			
1718	WNP	2	NE			
1738	WNP	1	E		A	
1835	- observations cancelled					
					Total birds	52
					Total sightings	42

✓



DATE Sept 6
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0600	Observations	begun	—			
0615	Sh-petrel sp	1	NW			
0628	WT	1	NE			
JFP 0630	DRP	1	S			
PFP 0655	WNP	1	S			
0656	Sooty Sh.	1	S		Flew somewhat reminiscent of Christmas Island - Dark above; dark below with silvery underings flashing when they caught the sun.	
0705	Sh. Petrel sp	1	S			
PFP 0708	WNP	1	N			
0716	WNP	1	S			
0720	Sh. Petrel	1	S			
1 { 0755	Sooty Tern	6	SE		apparently not feeding (Travelling)	
2	WT	3				
0766	Pet. sp	1	—			
0757	Newell's	1	SE		Black back, tail patch evident, very white underneath - Unusual flight. I did not know what this was never having seen one before but Termite assured me it was a Newell's and finally it crossed close across the bow and I got a good look at it.	
JFP 0803	DRP	1	W			
BWP 0804	Bonin Is P	2	W			
JFP 0805	DRP	3	SW			
0806	Sh. Petrel	1	W			
PFP 0810	WNP	1	W			
PFP 0811	Petrel sp.	2	SW		They are either DRP or WNP	
0817	WNP?	1	SW			
JFP 0821	DRP	2	SW			
0823	Petrel sp.	1	SW			
0837	Honolulu P	1	SW			
0844	Bonin Is P	1	SW			
0845	Shear-Petrel	1	S		Seen by watch	
JFP 0846	DRP	1	W			
0903	Shear-Petrel	1	SW		Seen by watch	
JFP 0906	DRP	1	SW		Sitting in water	
JFP 0907	DRP	1	E			



DATE 6 Sept 64
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
	0909	Shear-Petrel	1	SW			
JFP	0914	DRP Shear-Petrel	2 1	W W		all dark, stayed low to water, wasn't a WT	
	0916	Shear-Petrel	1	W		seen by watch	
P.24	0921	WNP	1	SW			
	0930	Sooty Tern	4	W			
	0931	Shear-Petrel	1	W		all dark, about size of WT, flew like a DRP, no white under wings	
BWP	1041	Petrel sp. x	1			The small <u>Pterodroma</u> petrel of southern waters normally listed as B.I. Petrel. but to conform with Husted here listed as Petrel x.	
	1047	Petrel-shear sp	1	SE		Dark	
	1104	Wedgetail	1	E			
	1113	Shear-Petrel	1	NE			
JFP	1116	DRP	1	NE			
	1132	Frigate	1	W			
	1142	Shear-Petrel	1	E		Seen by watch	
JFP	1154	DRP	1	E			
BWP	1201	Bonin P	1	S			
	1202	Shear-Petrel	1	S			
	1216	Shear-Petrel	2	W		All dark, flew like a petrel with high arcs and turning on its side frequently. No white was visible. Wings beats beats were infrequent. might be SS, but I don't let it.	
JFP	1234	DRP	1	SE		light phase	
	1235	WT	1	N			
	1241	RTTB	1	NW			
JFP	1356	Sooty Tern	100	±20		Feeding	
		Wedgetails	20	±10			
		Frigate	1				
		Shear-Petrel	20	±10			
		DRP	20	±5			
	1450	Wedgetail	1	SW		Dark	
JFP	1459	DRP	1	S			
JFP	1512	DRP	1	SW			



time species # dir. hgt. remarks loc.

1548 TB sp. 1 Near horizon

1600 Shear-Pet sp. 1 " "

1613 " " 1 NE " "

1623 Petrel sp. 1 W

Darkmt. This just might have been a light phase Kermadec but I just didn't get that good a look.

1634 Bird sp. 1 S Seen by bow but not by me REC

BWP 1635 ~~Shear-Pet~~ "Cook" Petrel 1 SE

BWP
P. 34
P. 10

1655 Sooty Tern 100
W.N. Petrel 20 ¹⁰/₁₀
Shearwater sp. 5
Frigate 2

feeding flock. This flock was very interesting in that of the some 20 ~~petrel~~ procellariids identified with it I was unable to spot a single WT. Of the 5 petrels I saw well and at close range 4 were decidedly w.b. while the fifth may have been dark-rump. I suspect though that it was probably one form or another of the white-neck - Dayle notes that some of the sooty terns were immature.

1709 Golden Plover 1

1712 WT 1

Dark phase

1715 WT 2

JFP 1817 DRP 1

1840 End observations



DATE 7 Sept
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
	0550	Begin Observations					
	0759	Wedge-tail	1				
	0802	Shear-Petrel	1				
Pax	0820	Petrel sp	1	N		large Pterodroma - At too great a distance	
Pax	0824	" " "	1	N		to distinguish whether DR or WN	
	0825	Shearwater sp	1	S		" " LI	
BWP	0859	"Cook" Petrel	1	N		Sooty? on Bonin?	
	0910	Shear-Petrel	1	W			
	0940	Frigate	1	N			
JFP	0942	DRP	1	N			
	0941	Sooty Tern	1	E			
1 {	0944	Sooty Tern	5	± N		Traveling	
JFP	0945	DRP	1	W			
JFP	1007	DRP	1	W			
2 {	1025	Sooty Tern	10	W			
JFP		Fairy Tern	1			feeding	
		DRP	5				
		Shear-Petrel	5	± 2			
JFP	1056	DRP	1	NW			
	1142	Shear-Petrel	1				
Pax	1159	WNP	1	N			
	1431	Shear-Petrel	1				
JFP	1447	DRP	1	S			
	1448	Shear-Petrel	1	S			
JFP	1552	DRP	2	NE			
JFP	1604	DRP	1	S			
	1610	Shear-Petrel	1	S		all dark, about size of DRP, flew more like a petrel	
	1720	" "	1	S		(Possibly WT)	
	1840	- observation concluded					

Clear



time	species	#	dir.	hgt.	remarks	loc.
0555	- Observations				begin	
0613	Sh-petrel	1	SE			
0624	Sooty Shw.	1	NE			
0636	WTTB	1	E		Obs	
0703	WT	1	S		light phase	
0716	WTTB	1	E		Same as 636? on hydro-station the whole time -	
0749	Sooty Sh	1	S			
JFP 1015	DRP	1	E			
1034	Shear-Petrel	1	E			
JFA {	1115	Sooty Tern	20	±2 NW	Feeding	
		DRP	8	±2		
		Shear-Petrel	25	±3		
		Frigate	1			
JFP 1125	DRP	1	S			
1247	WTTB	1	E			
JFP 1249	DRP	1	SW			
1301	Shear-Petrel	1	E			
JFP 1454	DRP	1	W			
1700	? Skua?	1			large with good wingspread. light-brown all over. flying high tropic bird ht. Not shearwater Ternite thought it was a skua - This on a jaeger but looked large for a jaeger - Rapid flight like tern but much too large for any tern in this area. Flight did not appear especially gull-like - Ternites. Identification may well be correct.	
1850	End Observations					



time	species	#	dir.	hgt.	remarks	loc.
0545	Bonin observations					
0641	Shear-Petrel	1	E			
0836	Wedgetail	1	E			
JFP 0729	DRP	1	SE			
0805	Sooty Shear	1	W			
0825	WT	1			DP	
JFP						
(1521)	DRP	23 ±			Somewhat doubtful if this was a flock; so at least they were not feeding. The first two birds seen (DRP) were sitting on the water. At least 1 WNP was seen well and although other petrels seen well (of some 10 were DRP it seems likely that several more were WNP.)	considered "feeding"
	WNP	53 ±				
	Frigate	1				
JFP / WNP 2	DRP	6	W		Feeding	
	Bonin h P	2				
	Wedgetail	4				
1704	Kermadec Petrel	1	W			
1711	Wedgetail	1	N			
1715	Wedgetail	1	W			
JFP 1716	DRP	1	SE			
1835	Observed accident					

JFP
E ↑ W
N ↓

JFP / WNP 2

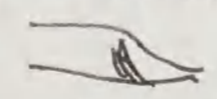


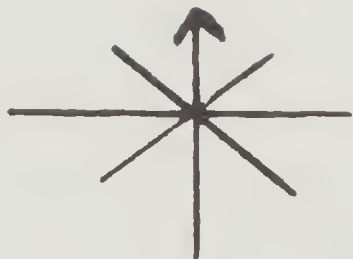
DATE Sept 10
Pg. # pg. 1

time	species	#	dir.	hgt.	remarks	loc.
0606	Observer's		Drayn			
0633	WT	2	SE			
0653	WT	1	S			
0807	DRP	2	E			
0934	WNP	1	NW			
1054	WNP	1	S			
	Petrel sp	1	S			
1108	DRP	1	SW			
	WNP	1	SW			
1434	DRP	1	SE			
1616	Sh.-petrel sp	2	S			
1651	" "	1	N			
1830	End Observations					



DATE 11 Sept 64
Pg. # 1

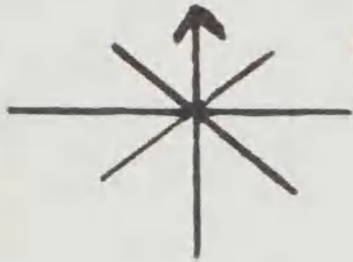
	time	species	#	dir.	hgt.	remarks	loc.
	0550	Bonin Obsolete					
	0725	Shear-Petrel	2	E		in the sun, but they were probably w.i.	
JFP	0810	DRP	1	S			
	0819	"Cook" Petrels BWP/P. leucosternus	2	S	BIP	Small Pterodroma not seen too well but apparently lacking black slash under wing characteristic of Bonin - Underwing apparently all whitish without black rim.	
	1008	Sooty Terns	60 ± 10	E		Feeding	
		Wedgetails	15 ± 5				
		DRP	30 ± 5				
		Shear-Petrel Shear-Petrel	20 ± 5				
		Frigate	2				
BWP	1035	Bonin Is P	1	S			
BWP	1109	" " " ?	1	N		Possessed prominent black wing slash margins but slash not noted.	
JFP	1113	DRP	1	S			
JFP	1142	DRP	1	N			
	1220	Shear-petrel sp	1	N			
	1238	Sooty Tern	1	N			
JFP		DRP	1	W			
	1335	Shear-Petrel	1	W			
JFP	1345	Sooty Tern	20	E		Feeding	
		DRP	10 ± 2				
		Wedgetail	2				
		Shear-Petrel	7 ± 3				
JFP	1355	DRP	1	W			
	1410	Petrel-Shearer sp	1	N		Brown above, with underwings brown with white towards tips of underwing - white slash  on top of wings - A partial albino. Kermadec? White belly throat not observed - Flight rather slow and leisurely -	
BWP	1555	Bonin Is P	1	SE			
JFP	1732	DRP	1	SE			
Rest	1713	WNP	1	S			
JFP	1720	Sooty Tern	25	N		Feeding	
		Wedgetail	10 ±				
		DRP	10 ±				
		Shear-Petrel	10 ±				
JFP	1737	DRP	2	S			
JFP	1742	DRP	1	N			
	1950	Observed	calculated				



time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
Observations beginning						
0605	Shear-petrel	15			(4 DR, 4 WNP - rest petrel shearwaters - Terns! occurring in singles - Awake about 5 minutes before (Should count as 15 sightings) (1 shorebird)	
0615	Shear-petrel sp	1	N			
0619	WNP	1	N			
0625	WNP	25	N		Not feeding all dark with white flash on primaries	
	DRP	10	N			
	Kermadec P	1	N			
0626	Petrel Sh	1	N			
0631	DRP	1	N			
0632	WNP	1	N			
0633	DRP	1	N			
0636	Storm-petrel HSP	1	E		white-rumped - Harcourt's	
0638	WNP	1	N			
0639	Petrel-Sh -	30 ±			circling - apparently not feeding? Prob. DRP + WNP	
0642	WNP	1	NE			
0643	WNP	1	WE			
0647	WNP	1	N			
0648	DRP	1	N			
0650	WNP	1	N			
0654	"Cook Petrel"	1	N			
0655	Petrel-Sh	1	NE			
0655	DRP	1	N			
0703	Petrel-Shear	5	NE		count as 5 sightings not a flock	
0705	Harcourt's Pet	6	NE 1 NW 3		white rump patch appeared broad across base of tail (not incipiently divided as in Leach's) Travelling	
0706	Kermadec?	1	N			
0707	DRP	1	N			
0713	WNP	1	N			
0714	DRP	1	N			
0715	WNP	1	N			
0718	Petrel-Shear	3	N		(DRP + WNP)	
0719	Storm Petrel HSP sp.	2	WC			
0720	Petrel-Shear	4	N			
0740	Petrel-Shear Sooty Tern	95+ ± 5 ±	W S		Probably Pterodroma and WT - Circling but not seen hitting ocean surface Feeding?	
0742	Petrel Shear	2	N			
0743	WNP	1				

lll

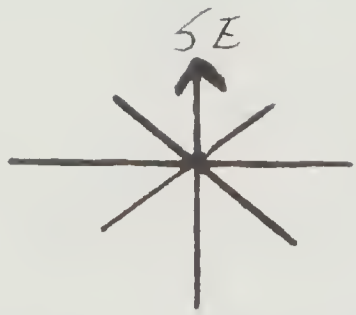


	time	species	#	dir.	hgt.	remarks	loc.
Pax	0749	WNP	1	E			
	0750	Newell's S	1	SE			
5 {	0754	Kermadec	1	W+		white belly - seen very well travelling	
		WNP Pax	6	± S			
		DRP JFP	4	±			
		Sooty Tern	6				
	0800	Petrel. Sh	3				
JFP	0809	DRP	4	⊙		Not a flock.	
Pax		WNP	3	⊙			
6 {	0811	Sooty Tern	5	S		Travelling	
		Wedgetail	3				
		DRP JFP	4				
		WNP Pax	1				
	0816	wedgetail	1	SW			
JFP		DRP	3				
	0818	Shear-Petrel	1	E			
Pax	0827	WNP	1	W		Dark	
	0832	wedgetail	1	W			
		WNP	1				
		DRP	2				
JFP	0837	DRP	1	SW			
JFP	0840	DRP	1	SE			
	0845	wedgetail	1	E			
JFP	0848	DRP	1	E			
Pax	0849	WNP	1	⊙			
QWP	0852	Bonin's P	1	E			
Pax	0900	WNP	2	SW			
JFP	0924	DRP	1	SE			
	0927	wedgetail	1	N		Dark	
JFP	0931	DRP	1	E			
Pax	0941	WNP	1	E			
JFP	0943	DRP	1	S			
	0955	Shear-Petrel	3	→		Two fish balls picked up - One normal, the other an orange plastic manstrosity	
	10:03	" "	1	N			



	time	species	#	dir.	hgt.	remarks	loc.
JFP	1006	DRP	1	E			
JFP	1010	DRP	5			Flying southwest in a compact string of five - Peeled off one by one from rearmost bird and headed northwesterly. Picked up another fish ball. travelling	
	1016	Sh. Petrel	1	SE			
	1022	" "	1	NE			
JFP	1034	DRP	1	E			
	1041	Leach's Harcourty	2	SW		White rumps but not seen well enough to note if anterior surface was impinged with gray-brown - Not seen by me (RBP)	
	1055	Bird sp	1				
	1155	Shear-Petrel	2	SE			
	1217	Shear-Petrel	1	NE		Seen by watch	
	1237	" "	1	NW			
8	1243	Sooty Tern	6	S		Travelling	
	1253	Shear Petrel	1	W			
9	1257	" "	50 ±	SE?		Right at the limits of visibility - Feeding	
JFP	1312	DRP	2	SE			
	1319	Shear-Petrel	1	NE			
JFP	1320	DRP	1	NE			
	1354	Leach's Harcourty	1	SE			
	1409	Leach's Harcourty	1	SE			
10	1416	Sooty Tern	5	NE		Feeding	
		Wedgetail	2				
		DRP - JFP	5				
	1427	Sooty Tern	1	E			
P. of	1434	WNP	2	NE			
11	1442	Sooty Tern	5	SE		4 dark Feeding	
		Wedgetail	8				
		DRP - JFP	3				
JFP	1449	DRP	1	S			
	1450	Shear-Petrel	1	SE			
Par	1455	WNP	1	NW			
JFP	1458	DRP	1	N			
JFP	1500	DRP	7	S		Not a flock	
Par		WNP	4				
	1507	Sooty Tern	1	SE			
JFP	1512	JFP	3	SW			
Par		WNP	1				

SE ↑



	time	species	#	dir.	hgt.	remarks	loc.
	1519	Wedgetail	1	SE			
12	1521	WNP	1	S			
	1524	Bonin Is P	1	S			
		DRP	3				
	1526	Bonin Is P	1	SE			
	1531	WT	2	SE		dark } sitting on water with white slashes symmetrically on several of the outer primaries - Feeding	
		DRP JSP	5	S			
		WNP Ray	1	S			
	1545	DRP	1	S			
	1547	Sh-petrel	1	SE			
13	1552	Sooty Tern	9	SE		- travelling	
	1553	DRP	2	S			
	1600	Pomarine Jaeger	1	SW		This came close and was observed closely by me (and Termite) It fit the description in Petersen to a T. It possessed the same overall color pattern, the barred rump, and the small slightly pointed central tail feathers. I have seen Pomarine Jaegers before and this bird appeared definitely smaller. It was light below and dusky toward the chest but barring of the underparts was not especially not noticeable. Returned at 1615 and circled behind the ship. At one point it circled above a large Pterodroma, turned and drove it into the water. Chase was not pursued -	
	1602	Sh. Petrel	2				
	1608	Petrel sp	3				
	1610	Harcourt SP.	2				
	1612	Petrel sp	1	SE			
14	1625	Sooty Tern	75 ±			- feeding - About a third of the Sooties were immature. - Feeding on Skipjack - dark	
		DRP	35 ±				
		WNP	15 ±				
		WT	12 ±				
	1659	Bonin Petrel	1	SE			
	1704	Petrel Shrike	1	N			
	1706	Sooty Tern	3	N			
	1708	Harcourt SP.	1	N			
	1716	Petrel-Sh.	1	W			
	1730	Wedgetail	1	SW			
	1735	DRP	3	SE			
	1740	DRP	2	SE			
15	1745	Sooty Tern	4	SE		Travelling	
		Shore Petrel	2	SW			



DATE 13 Sept 64
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
	0535	Bugetin observations					
	0602	Shear-Petrel	1	NE			
	0630	wedgetail	1	NW		Dark	
JFP?	0704	DRP?	1	W			
JFP	0705	DRP	2	NW			
	0710	Shear-Petrel	1	W		about the size of a DRP, flew like DRP, but had entirely brown underwings, white underparts and dark upperparts	
	0716	wedgetail	2	E			
JFP	0717	DRP	1	W			
	0718	wedgetail	1	E		Dark	
BWP	0812	Bonin Is	1	NW			
Coc	0821	WNP	1	W			
Pax	0852	WNP	1	S			
	0914	Petrel sp	1	W			
JFP	0921	DRP	1	NW			
	0926	Pet-Sh sp	1	ES			
JFP	0932	DRP	1	W			
	0942	Thraupis sp	1	SW			
JFP	0944	DRP	1	N			
JFP	0958	DRP	1	W			
	0959	wedgetail	1	W		Dark	
	1035	Shear-Petrel	1	E			
	1038	Sooty Tern	2	W			
JFP	1042	DRP	1	NW			
	1045	wedgetail	1	NW		Dark	
	1055	wedgetail	1	N		Dark	
BWP	1057	Bonin Is P	1	W			
BWP	1119	Bonin Petrel	1	W			
JFP	1134	DRP	1	W			
BWP	1148	Bonin Petrel	1	S			
BWP	1217	" "	1	E			
	1224	Sh. Pet. sp	1	S			
	1225	Shear-Petrel	1	NW			
BWP	1254	Bonin Is P	1	W			
JFP	1306	DRP	1	W			
	1310	Thraupis	1	NW			
	1350	Shear-Petrel	2	W			



DATE Sept. 13
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1412	Sh. petrel	1	S			
1415	Bonin Is.	1	W			
1515	WT	1	NE		Dark	
1631	wedgetail	1	W			
1636	DRP	1	E			
1650	DRP	1	E			
1732	Petrel sp	1	W			
1755	WT	1	S		Dark	
1815	Observations concluded				-	



	time	species	#	dir.	hgt.	remarks	loc.
	0535					Observations began —	
BWP	0540	SI Petrel	1	S			
	0600	Sh. Petrel	1	S			
	0639	Sh. Petrel	1	S			
	0646	Kermadec P.	1	N		light phase	
	0647	Sh. Petrel	1	W			
	0658	Leach's Harlequin	1	N			
Pex	0701	WNP	2	S+W			
	0705	Petrel sp	1	N			
BWP	0705	Bonin Is.	1	N			
JFP	0710	DRP	1	SW			
BWP	0725	Bonin Is	2	N			
	0726	Petrel sp	2	"			
13	0749	Sh. - Petrel	5±			at long range Travelling	
BWP	0750	Bonin Is	1	N			
JFP	0751	DRP	1	NW			
	0755	Newell's	1	NW		Head was almost entirely white.	
	0805	WNP	1	NW			
JFP	0810	DRP	1	NW			
	0813	Kermadec P	1	W		Dark	
	0855	RIT, Tropicbird	2	E			
Pex	0933	WNP	1	NE			
JFP	0946	DRP	1	N			
	0946	Sh. Petrel	1	N			
JFP	0957	DRP	16	S		These birds were seen actively pursuing a large school of small flying fish. At first only two birds were present but presently larger numbers appeared. Several appeared to strike at flying fish at the surface of the water, almost alighting temporarily and then regaining flight.	
Pex		WNP	1				
	1003	WT (light)	1				
BWP	1007	Bonin Is	1	N			
	10:30	Sh. Petrel	1				
JFP	10:47	DRP	1	E			
BWP	1111	Bonin Is P	1	W			
	1125	Sooty Tern	5	W		Feeding	
JFP		DRP	4				
		Wedgetail	3				
		WT Tropicbird	1				
		Sh. - Petrel	5				
JFP	1134	DRP	1	E			



DATE 14 Sept 64
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
JFP	1145	DRP	1	W			
BWP	1154	Bonin Is P	2	SE			
BWP	1155	Bonin Is P	1	NW			
	1159	Sooty Shear	1	W			
	1208	Shear-Petrel	1	SW		Seen by watch	
Pex	1215	WNP	2	N			
JFP	1217	Sooty Tern	6	NE		Feeding	
		DRP	1				
JFP	1220	DRP	1	E			
Pex	1221	WNP	1	W			
JFP	1222	DRP	1	N			
5	1224	Sooty Tern	15	E		Feeding	
		Shear-Petrel	5	W			
	1225	Sooty Shear	1	W			
	1234	Sh-Petrel	1	W			
JFP	1247	DRP	1	S			
	1255	Sh. Petrel	1	S			
JFP	1256	DRP	2	S			
JFP	1343	DRP	1	N			
	1400	Shear-Petrel	1	NE		about the size of a DRP, but with brown underwings	
JFP	1405	DRP	1	N			
	1432	Wedgetail	1	W		Park	
	1455	Shear Shear-Petrel	1	W			
JFP	1506	DRP	1	W			
Pex	1501	WNP	1	NE			
BWP	1505	Bonin Is P	1	W			
	1600	Sh. Petrel	1				
Pex	1602	WNP	1	W			
JFP	1617	DRP	1	W			
	1619	Sh-Petrel sp	1				
BWP	1715	Bonin Is P	1	NW			
JFP Pex 6 BWP	1720	DRP	4	E		Traveling	
		WNP	2				
		Wedgetail	3				
		Bonin Is P	1				
JFP	1723	DRP	1	W			
7	1738	Sooty Tern	40	E 10		Feeding	
		DRP JFP	35	E 10			
		WNP Pex	15	E 5			
		Shear Petrel	35	E 5			
		Wedgetail	10	E 3			
						1820 End observations	



DATE 15 Sept 64
Pg. # 1

	time	species	#	dir.	hgt.	remarks	loc.
	0535	Begin Observations					
	0535						
	0542	Wedgetail	1	S			
JFP	0557	DRP	1	NW			
JFP	0638	DRP	1	W			
JFP	0640	DRP	1	W			
	0642	Sh. Petrel	1	NW			
BSP	0654	Bonin Is P	1	NW			
	0704	Shear-Petrel	1	NW		About size of DRP, but brown and white mottled on breast, and underparts brown on back and tips of wings	
JFP	0714	DRP	3	W			
	0718	DRP JFP	4	NE		Feeding	
		WNP	1			Dark	
		Wedgetail	2				
	0750	Shear-Petrel	1	NE			
JFP	0755	DRP	1	N			
JFP	0759	DRP	1	NW			
	0829	Sooty Shrike	1	S			
	0835	RTTB	1	SE			
	0836	Sooty Tern	3	E			
	0844	Sh. Petrel	2	S		All dark some light on underwings Sooty Sh?	
	0857	" "	1	S		Not seen well.	
	0910	Sooty Sh.	1	S			
	0924	Sh. Petrel sp	1	E			
WSP	0949	Bonin Is P	1	W		Sitting in water	
	1000	RT. Tropicbird	1	W			
JFP	1002	DRP	1	NW			
JFP	1015	DRP	1	W			
JFP	1019	DRP	1	SW			
	1022	Wedgetail	1	NE		Dark	
JFP	1024	DRP	2	SW			
		Wedgetail	2			Sitting in water	
JFP	1026	DRP	1	NW			
	1030	Shear-Petrel	1	E			
	1031	Shear-Petrel	1	NW		Seen by water	
R.TTB	1032	RT Tropicbird	1	E			
JFP	1030	DRP	1	W			
JFP	1055	DRP	1	N			



time	species	#	dir.	hgt.	remarks	loc.
1110	Sh. Petrel	1	SW			
1200	Kermadec?	1	S		dusk	
1201	Sh. Petrel	1	S			
1202	RTTB	2	ES		One sitting on water	
BWP 1213	Bonin Is	1	S			
1228	RT Tropicbird	1	W			
1232	Shear Pet S shear Pet	1	W		all dark sooty shear? - couldn't see silver line on underwing does not fly like one.	
1311	wedge tail	1	NW			
BWP 1319	Bonin Is P	1	W			
(1410)	Shear Pet	1	E			
1545	Shear Petrel	1	E			
BWP 1617	Bonin Is P	1	E			
BWP 1623	Bonin Is P	1	NE			
1624	Wedge tail	1	SE			
1625	Shear Pet S P	1	SW			
1630	Kermadec P	1	SE			
JFP 1633	DRP	1	NE			
1635	Shear Petrel	1	NE			
1650	Shear Petrel	1	W		all dark, flies like a DRP, about same size, may be lighter brown underwing	
1655	RT Tropicbird	1	S			
1700	Shear Petrel	1	W			
1705	Shear Petrel	1	W		all dark	
JFP	DRP	1				
1720	Shear Petrel	1	E			
1755	" "	1	S			
1815	Observation concluded					



DATE Sept. 16
Pg. # pg. 1

	time	species	#	dir.	hgt.	remarks	loc.
BWP	0535	<i>B. eximius</i>					
BWP	0537	Bonin Petrel*	1	S		" type	
	0617	Sh. Petrel	1	NE			
	0618	" "	1	S		Every damn one of these SP went by	
	0620	" "	1			at some distance on the starboard	
	0621	" "	1	SE		side <u>in the sun</u> - At least three species	
	0625	" "	2	S		From flight several may have been Sooty	
	0633	" "	1	S		Shearwater.	
JFP	0639	DRP	1	S			
	0640	Sh. Petrel	1	E			
	0641	" "	1				
	0650	WT	1	NE		light	
	0707	Sh. Petrel	1	S			
	0709	Sooty Shearwater	1	S			
	0734	Sh. Petrel	1	S		Finally a bird on the port side -	
	0742	Sh. Petrel	1	S		} seen by watch while I was doing weather	
	0747	" "	1	S			
BWP	0751	Bonin Petrel*	1	E			
	0800	Golden Plover	1	S			
JFP	0809	DRP	1	E			
	0810	Sooty Shear?	1	S			
	0812	R.T. Tropicbird	1	S			
JFP	0814	DRP	1	W			
	0817	Shear-Petrel	2	S		all dark, flew like a DRP	
JFP	0841	DRP	1	S			
	0842	Wedgetail	1	E			
JFP	0844	DRP	1	SE			
	0845	Shear-Petrel	2	NE			
	0902	Sooty Shear	1	N			
JFP	0908	DRP	4	NW		Feeding	
		Sooty Tern	4				
		R.T.T.B.	1				
		Shear-Petrel	3				
		Leach's					
	0915	Harcourt's SP	1	W			
JFP	0917	DRP	1	S			
BWP	0926	Bonin's P	1	E			
	0930	Sh. Sooty Shear	1	S			
JFP	0945	DRP	1	S			
	0950	Sooty Sh	1	S			
	0950	Petrel Sh. sp	2	S			

4/4
5/3
NOI



DATE Sept. 16
Pg. # pg. 2

	time	species	#	dir.	hgt.	remarks	loc.
	16:00	Sooty Shear.	3	S	✓	Moving rapidly	
	10:03	RTTB	1	N		low over water	
	10:23	Sh. Petrel sp	1	SE			
JFP	10:25	DRP	1	SE			
	10:40	Sooty Shear	1	S	✓		
JFP	10:51	DRP	1	N		with a light rump	
JFP	11:53	DRP	1	E		sitting on water	
	11:56	Christmas Is 5?	1	E			
	1315	Shear pet	1	S			
JFP	1405	DRP	1	W			
	1407	W edgetail	1	SE		Dark	
	1428	Shear-Petrel	1	NW			
	1445	W edgetail	1	S			
	1507	Shear-Petrel	1	W			
	1510	W edgetail	1	E		Dark	
	1516	Christmas Is 5	1	W			
	1524	W edgetail	1	E			
	1526	Shear-Petrel	2	NE			
JFP	1530	DRP	1	SW			
	1556	Shear Petrel	1	S		} almost all of these birds appeared to be dark above and below and several showed flashing white underwing coverts and were listed as Sooty Shearwater. None occurred near the ship and almost all were characterized by a very rapid vigorous flight in which individuals occasionally looped high above the horizon.	
	1601	" "	1	S			
	1602	" "	1	S			
	1603	Sooty Shear	1	S	✓		
	1606	Shear. Petrel	1	S			
	1607	Sooty Shear	1	SE	✓		
	1615	Shear-Petrel	1	S			
	1618	" "	2	SE			
	1632	" "	1	NW			
	1637	" "	1	SE			
	1648	Sooty Shear?	1	S			
	1648	Shear-Petrel	3	S			
JFP	1650	DRP	1	E			
	1659	Sooty Shear	1	E	✓		
	1702	Sooty Shear	1	S	✓		
	1706	Shear-Petrel	1	S			
	1745	Shear-Petrel	1	SW			
	1747	Sooty Shear.	1	S	✓		
JFP	1754	DRP	1	NW			
	1815	End Observations					

576
1321
2621
5157



DATE: 7 Sept 64
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0520	Begin Observations					
0642	Shear-Petrel	1	SW			
0715	Sooty Shear?	1	SE			
0755	Shear-Petrel	1	SW		seen by watch	
BWP 500 0759	Bonin Is P	1	SW			
0805	DRP	1	S			
0807	Sooty Sh.	1	S	✓		
0809	Sh. Petrel	1	S			
0813	" "	1	S		dark bird S.S.?	
0821	WNP	1	E		Beautiful! Most definitive white collar I've yet seen on one of these birds -	
0824	Sh. Petrel	1	E		dark above below, white underwings? S.S.? Apeel hardly the typical SS flight though this bird was working its way low over the surface of the water.	
254 215 0831	Sh. Petrel	1	S		Dark (Not <u>Plaudium</u>)	
0836	"	2	S		"	
0915	WTTB	2				
5W ↑ BWP 0935	Sooty Sh.	1	SE	✓		
1054	Golden Plover	1	S		Calling	
1055	Bonin Is P	1	S			
1315	Sooty Shear	2	S	✓		
1325	RTTB	2	⊙			
1328	WTTB	1	SW			
1340	Sooty Shear	1	S	✓		
1342	Newell's Shear	1	NW			
1346	Newell's Shear	1	S			
1447	Petrel-Sh.	1	SE			
1453	Sooty Sh.	1	S	✓		
1535	Shear-Petrel	1	SE			
1713	whale sp	David An says it is a sperm whale				
1820	Observations concluded					



time	species	#	dir.	hgt.	remarks	loc.
0545	Observations				begun	
0645	Sh. - petrel	1	SE			
0650	" "	2	S			
0659	" "	1	S			
0735	to 0742	4	Petrel		Sh. seen by Cromwell watch while I was doing weather	
0747	Sh. petrel	1	E			
0748	Bonin IS	1	S			
0753	Sh. Petrel	1	—			
0801	Sh. Petrel	1	S		— Sooty Sh.?	
0806	" "	1	S		Fight as in sub Sh. as described by Doyle seen at very long range.	
0845	DRP	1	S			
0847	DRP	1	W			
0848	Shear-Petrel	1	W			
0907	Kermadec P	1	S			
0909	Bonin Is P	1	SW			
0935	WT	1	NE			
0957	? Sh. Pet.	1			Dam. fimo - I thought this bird had a dark throat and Suzuki confirmed it. Well marked white belly - underwings not seen that well but lightish (not white like WT) and almost appearing mottled. I could be mistaken on the throat in which case the highest probability is that this bird is a light phase Kermadec.	
1037	Sh-Pet	1	S		Dark	
1041	RTTB	1	S		Sitting on water	
1111	Wedgetail	1	S		Dark	
1315	Pet.-Sh. sp	1	SE			
1320	" "	1	NW		DR?	
1437	Sooty Shear?	1	S			
1455	Sooty Shear	1	S		✓	
1500	Sooty Shear	1	S		✓	
1501	Shear-Petrel	1	NW			
1520	Shear-Petrel	1	S			
1524	Murres Shear	1	S			
1548	RTTB	1	E			
1553	Shear Petrel	1	S			
1608	G. Frigate	1	E			
1635	Shear-petrel	1	S			
1638	" "	1	S			
1703	G. Frigate	1	E		Actively diving to surface of water fishing	
1712	Shear-petrel sp	2	S		} on horizon	
1715	" "	1	S			

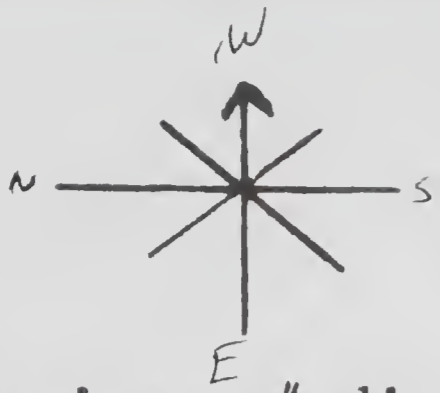


DATE 18 Sept 64
Pg. # 2

time species # dir. hgt. remarks loc.

1730	Shear Petrel	1	S			
1755	Sooty shear?	1	S			
1830	End Observations					

2 2



DATE 19 Sept 64
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0540	Begin observations					
0635	WNP	1	S			
0642	Newell's S	1	S			
0649	Newell's S	1	S			
0655	Newell's S	1	S			
0700	Newell's S	1	S			
0709	Sooty Shear	1	S		✓	
0713	WNP	1	S			
0724	Newell's S	1	S			
0741	Newell's S	1	S			
0746	Bonin Is P	1	S			
0750	Newell's S	1	S			
0752	Kermadec P	1	S			
0855	DRP	2	N			
0802	Shear-Petrel	1	N			
0806	" "	2	S		} at distance Bonin?	
0810	" "	2	S			
0825	" "	1	S			
0829	" "	1	S		} Newell's?	
0859	Bulwer's P	1	S			
0905	Sh. Petrel	1	S			
0908	" "	1	W			
0910	" "	2	S			
0929	" "	1	S			
0937	Bonin Is P	1	S			
0944	RTTB	3	⊙			
1031	Wedgetail	2	⊙			
1207	WT	1	SE		} light	
1228	WT	2	E			
1245	Bonin Is P	2	S			
1255	Frigate	1	NW			
1307	DRP	1	W			
1419	Newell's	1	NW		A A	
1433	"	1	NW			
1438	Sh. Petrel	1	W			
1455	Jaeger sp	1	SW			
1509	Newell's	1	NE			
1524	Sh. Petrel	1	N			
1529	Newell's	1	SE			

Seen well enough to only identify it as a jaeger - overall brown color, lighter on rump and with white flash at base of primaries - Darkness of underparts and upperparts implies immature form.
Flight as in skua? p. jaeger seen formerly but less ^{slow} than skua? individual

15,000

~ 750

3.14 x 750 x 750

$$\begin{array}{r}
 43 \\
 750 \\
 \hline
 750 \\
 000 \\
 3750 \\
 5250 \\
 \hline
 2562500 \\
 3.14 \\
 \hline
 2250000 \\
 562500 \\
 \hline
 1687500 \\
 \hline
 1766250.00
 \end{array}$$

12

144

288

1 bird in 355 miles cover 288

$$\begin{array}{r}
 117 \\
 75 \overline{) 176600} \\
 \underline{15} \\
 26 \\
 \underline{15} \\
 116 \\
 \underline{105} \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 355 \\
 5000 \overline{) 1,766,250} \\
 \underline{15000} \\
 26625 \\
 \underline{25000} \\
 16250
 \end{array}$$

$$\begin{array}{r}
 355 \overline{) 6288} \\
 \underline{2016} \\
 \hline
 \end{array}$$

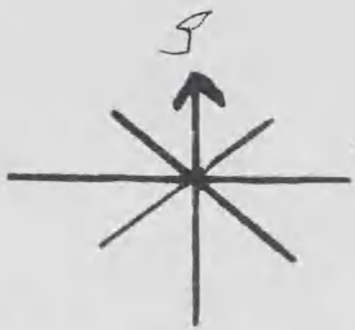
$$\begin{array}{r}
 5 \\
 2335 \overline{) 2017} \\
 \underline{1775} \\
 242 \\
 \underline{2335} \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 300 \\
 300 \\
 \hline
 90000
 \end{array}$$

$$\begin{array}{r}
 4 \\
 57 \\
 \hline
 6 \\
 \hline
 342
 \end{array}$$

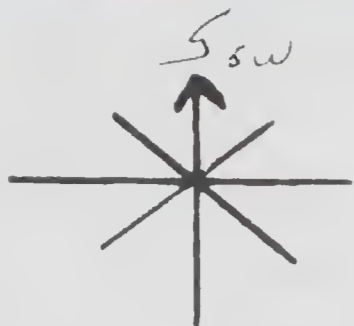
$$\begin{array}{r}
 2. \\
 390 \\
 \hline
 390 \\
 \hline
 17500 \\
 1050 \\
 \hline
 122500 \\
 90000 \\
 \hline
 412500
 \end{array}$$

$$\begin{array}{r}
 64 \\
 7 \overline{) 412500} \\
 \underline{36} \\
 120 \quad 505 \\
 \underline{480} \\
 1280 \quad 4500
 \end{array}$$



DATE 19 Sept 64
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1630	Murrelets	5	S			
BLP 1639	Bonin Is P	1	W			
1608	Shear-Petrel	1	W			
1615	Sooty Shear	1	S	✓		
1630	Shear-Petrel	1	S			
1639	Wedgetail	1	N			
1640	Wedgetail	1	S			
1641	Wedgetail	1	W			
BLP 1642	Bonin Is P	1	E			
PSK 1643	WNP	1	⊙			
1644	Shear-Petrel	1	N		all birds underwings about OAP size. Flw like a wedgetail dark head and tail and neck	
1648	Shear-Petrel	1	SW			
1650	Sooty Tern	2	W			
1652	Shear-Petrel	1	SW			
1654	Shear-Petrel	1	S			
1656	Shear-Petrel	1	SW			
1700	Wedgetails	2	W			
1704	Wedgetail	⊙	⊙			
1705	Wedgetail	1	W			
1707	Geyer sp	3	N		returned at 1734 - One of the three turning into the sun briefly flashed a silhouette of the tail there was a small but definite rounded projection from the central tail feathers. Presumably the other two birds were of the same species. - Dispersing	
	Wedgetail	4				
	Sooty Tern	2				
1718	Shear-Petrel	1	SE	✓		
1725	Sooty Sh	1				
1738	WT	2	SE			
1739	WT	1	SE			
1740	Sh-Petrel sp	1				
1742	WT	2	SE			
1743	WT	1	SE			
1746	Sh. Petrel sp	1				
1749	" "	1				
1756	" "	1	SE			
1803	" "	1			WT?	
1805	" "	1	SE			
1808	Sooty Shear	1		✓		
1830	observations concluded					



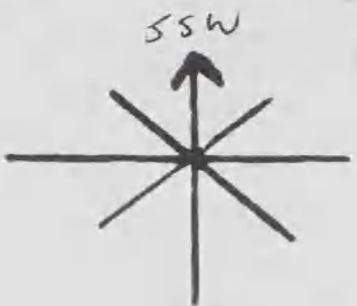
DATE Sept 20

Pg. # pg. 1

time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
0600	Ouse. Citrus	begun				
0600	Sooty Sh	1			✓	
0613	DRP	1				
0624	Petrel-Shwalk	1	SE			
0647	WTTB	1	E			
0649	WT	1				
0653	Sh. Petrel	3	SE			
0654	" "	2	SE			
0659	" "	1	N			
0700	Sooty Sh	1	S		✓	
0702	Sh. Petrel	2	S			
0703	Bonin Petrel	1	SW			
0705	Sooty Sh	1	S		✓	
0706	WT	1	S			
0708	Bonin Petrel	1	S			
0710	WT	1	W			
0712	Common Noddy	1	N			
0712	Newells	2	N			
0713	Sh. Petrel	1	N			
0714	Sh. Petrel	2	1S 1W			
0716	" "	1	SE			
0722	Bonin Petrel	1	S			
0723	RFB	2	N		adult with white plum	
0724	"	1	N			
0724	Sh. Petrel sp	1	N			
0725	" "	1	N			
0751	Sh Petrel sp	3			These birds seen during weather in sightings	
0753	" "	2	SE			
0757	WT	1	N			
0758	RFB	1	N			
0758	WT	1	W			
0802	RFB	1	SW			
0803	Wedgetail	2	S			
0804	Noddy Tern	2	W			
0805	Wedgetail	1	SW			
0806	Newells S	1	S			
0807	Sooty Shear	1	S		✓	
0808	Wedgetail	1	SW			
0809	Wedgetail	1	SW			
0810	RFB Booby	2	SW			
0811	Newells S	1	S			
1812	Sooty Shear	2	SE		✓	
1813	Bonin sp	1	SW			
1814	Sooty Shear	1	S		✓	
1815	Common Noddy	2	SE			

7/6
904
9000



time	species	#	dir.	hgt.	remarks	loc.
0816	Sooty Shear	3	SE	✓		
0817	Sooty Shear	1	SE	✓		
0818	Wedgetail	1	SE	✓	Dark	
0819	Sooty Shear	2	SE	✓		
0820	Wedgetail	1	SW	✓		
0821	RF Booby	1	SW	✓		
0822	Wedgetail	1	SE	✓		
0823	Sooty Shear	1	S	✓		
0824	Wedgetail	3	SW	✓		
0825	Sooty Shear	1	SW	✓		
0826	Sooty Shear	1	SW	✓		
0827	Common Noddy	1	S	✓		
0828	Sooty Shear	1	E	✓		
0829	Bonin Is P	1	SW	✓		
0830	Wedgetail	1	SE	✓		
0831	Sooty Shear	1	SW	✓		
0832	Sooty Tern	1	SW	✓		
0833	Noddy Tern	1	SW	✓		
0834	Wedgetail	2	SW	✓		
0836	Bonin Is P	1	SW	✓		
0837	Wedgetail	2	SW	✓		
0839	Wedgetail	1	SW	✓		
0841	Sooty Shear	1	E	✓		
0842	Wedgetail	1	SW	✓		
0843	Sooty Tern	1	S	✓		
0846	A.F. Booby	1	SW	✓		
0847	Wedgetail	1	S	✓		
0850	Wedgetail	2	SW	✓		
0851	Bonin Is P	1	NW	✓		
0853	Bonin Is P	1	NW	✓		
0855	Sooty Shear	2	NW	✓		
0858	Bonin Is P	1	SW	✓		
0900	Sooty Shear	1	SW	✓		
0904	RF B	1	W	✓		
0905	Wedgetail	1	SW	✓	Dark	
0906	Common Noddy	1	SW	✓		
0907	Wedgetail	6	SW	✓	2 dark - not a flock	
0908	Sooty Tern	1	SE	✓		
0908	Common Noddy	1	SW	✓		
	Sooty Shear	1	SE	✓		
0909	RF Booby	1	SW	✓		
0910	RF Booby	2	W	✓	Travelling	
	Noddy Tern	1	W	✓		
	Wedgetail	4	W	✓		
	Frigate	1	W	✓		
0911	Bonin Is P	1	SW	✓		
0912	Wedgetail	1	SE	✓		

BWP

BWP

BWP
BWP

BWP

1 {

BWP

10/12

SE = 7
S = 1
SW = 2 + 1 = 1
E = 1 - 1
NW = 1



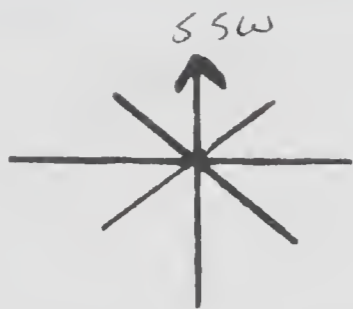
DATE 20 Sept 64
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
	0913	wedgetail	4	SW			
	0914	Sooty Shear	7	E	✓	not a flock	
BWP	0915	Bonin Is P	1	W			
	0916	Wedgetail	7	SW		not a flock	
		Common Noddy	2	W			
		Sooty Shear	1	W	✓		
BWP	0918	Bonin Is P	1	SW			
	0920	Shear-Pet	1	Swimming on		water	
	0926	Wedgetail	2	SW			
BWP	0927	Bonin Is P	2	SW			
	0928	wedgetail	1	S			
	0930	wedgetail	2	SW			
	0931	Sooty Shear	2	E	✓		
	0932	wedgetails	2	⊙			
BWP	0933	Bonin Is P	1	SW			
	0934	wedgetail	1	SW			
	0936	wedgetail	3	SW			
	0938	wedgetail	2	SW			
2 {	0940	wedgetail	10	SW		Feeding	
BWP	0941	Bonin Is P	1	SW			
	0943	wedgetail	8	SW		not a flock	
	0944	wedgetail	16	SW		not a flock	
BWP	0948	Bonin Is P	1	SW			
3 {	0950	wedgetail	700	- feeding		all scattered all over - feeding gathering?	
	0958	wedgetails	4	SW			
	1000	wedgetail	1	SW			
	1004	wedgetail	4	SW			
BWP	1005	Bonin Is P	1	E			
	1006	RF Booby	1	E			
	1007	wedgetail	2	SW			
	1008	wedgetail	2	SE			
	1011	wedgetail	2	S			
	1012	wedgetail	4	SW			
BWP	1014	Bonin Is P	1	SW			
	1017	Common Noddy	3	SW			
	1018	Common Noddy	2	W			

10/7

E = 9

W = 1



DATE 20 - Sept 64
Pg. # 4

time	species	#	dir.	hgt.	remarks	loc.
1019	RFB	1	W		immature - not a flock	
	Brn Booby	1				
	Common Noddy	6				
	Wedgetail	8				
	Barn Swallow	1				
1020	Wedgetail	2	SE		Travelling	
1024	Wedgetail	12	SE			
	Common Noddy	8				
1028	Common Noddy	1	SE		✓	
	Sooty Shearwater	1				
	Wedgetail	1				
1029	Common Noddy	1	E			
1030	Sooty Shear?	4	S		not a flock.	
	Common Noddy	4				
1031	BRN Booby	1	⊙		immature	
	Common Noddy	2	E			
1032	Sooty Shear	38	SE		✓ Travelling	
1033	Common Noddy	2				
1034	Sooty Shear?	6	SE		not a flock	
1035	Common Noddy	2	W			
1035	Common Noddy	3	S		not a flock	
	RFB	2	SW			
	Sooty Shear	7	SE		✓	
	Wedgetail	4	W			
1036	BRN Booby	1	⊙		immature	
1037	Common Noddy	5	S		not a flock	
1038	Sooty Shear	3	SE		✓	
1039	RFB	3	SW			
1042	BRN Booby	1	SE			
1045	BRN Booby	3	W		2 immature	
1046	RFB	4	W			
1048	Common Noddy	3	W			
1054	Common Noddy	1				
	RFB	2				
	Wedgetail	1				
1055	Common Noddy	3	S			
1055	RFB	1	S			
1057	Common Noddy	1	S			
1057	WT	1	S			
1058	RFB	1	S			
10						

10/10/7
SE-49



DATE Sept 20
Pg.# 5

time	species	#	dir.	hgt.	remarks	loc.
1100	CN	1	SW			
1103	RFB	1	NE			
1104	RFB	1	SW			
1106	CN	2	SW			
1108	RFB	2	ℓ			
1113	CN	1	SW			
1116	CN	3	SW			
1121	CN	1	W			
1125	CN	1	W			
1128	CN	2	W			
1129	RFB	1	SW			
1130	G. Flycatcher	1	NE			
1130	WT	1	SE			
1133	CN	3	SE			
6 { 1144	CN	10±	S		travelling	
1145	CN	4	S			
7 { 1147	CN	25±	E		travelling	
1149	CN	3	S			
1150	Obsen. Cuck					



DATE 12 Sept 64
Pg. # 5

0601 sunset

time	species	#	dir.	hgt.	remarks	loc.
JFM 1747	DAP	1	SW			
1752	Wedgetail	1	SE		Dark	
	WNP	1				
1753	Harporhynchus sp.	1	G			
JFM 1800	DAP	2	S			
JFM 1803	Bonin's P	1	SE			
JFM 1804	DAP	1	S			
JFM 1809	DAP	1	S			
7 1817	Endabrewations	9				

TC#8

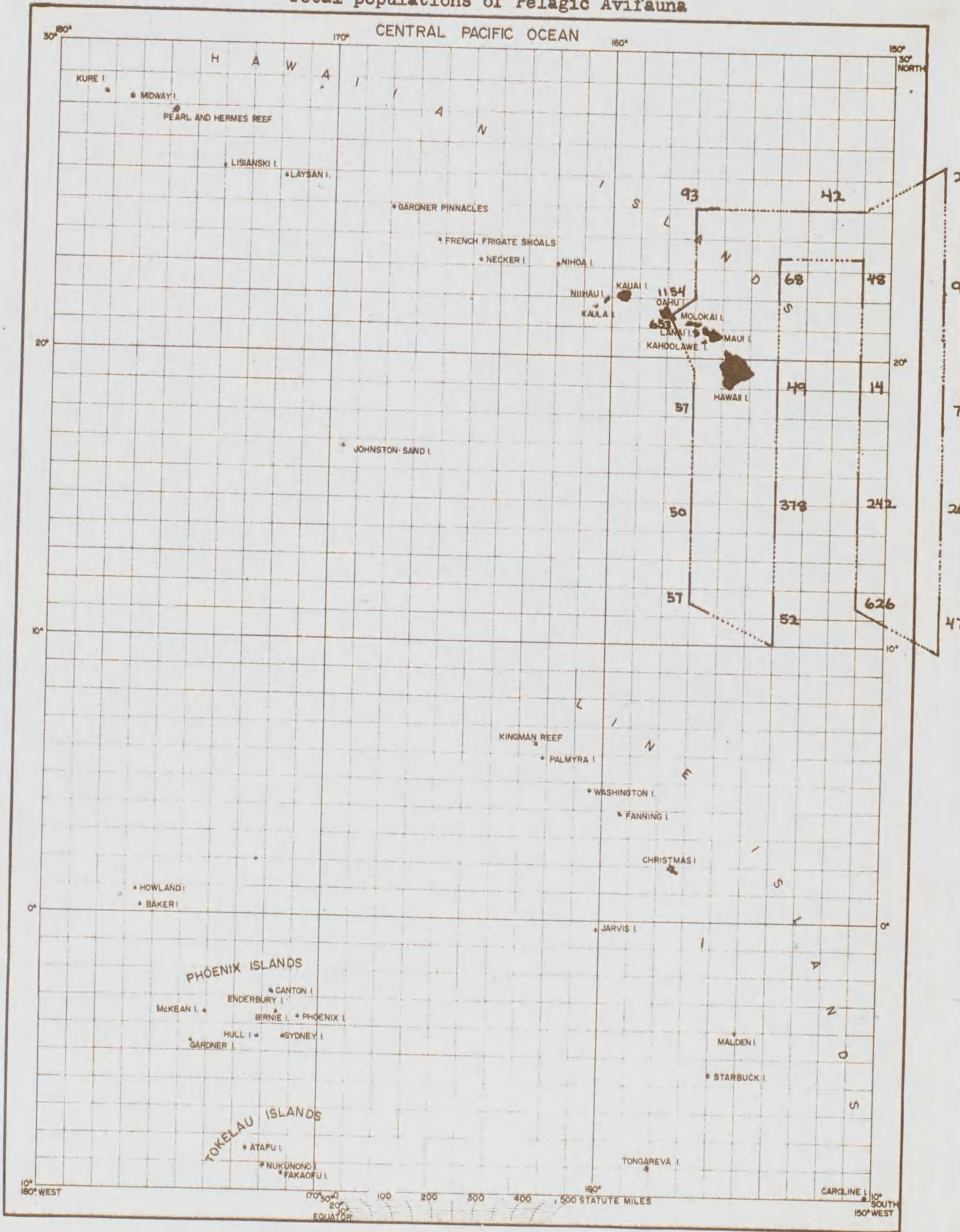
T. Crowell September 1964 Cruise

Distribution of Wedgetailed Shearwaters



T. Cromwell September 1964 Cruise

Total populations of Pelagic Avifauna



T.
T. Cromwell September 1964 Cruise

Distribution of Wedgetailed Shearwaters



T.
T. Crowell September 1964 Cruise

Distribution of Wedgetailed Shearwaters



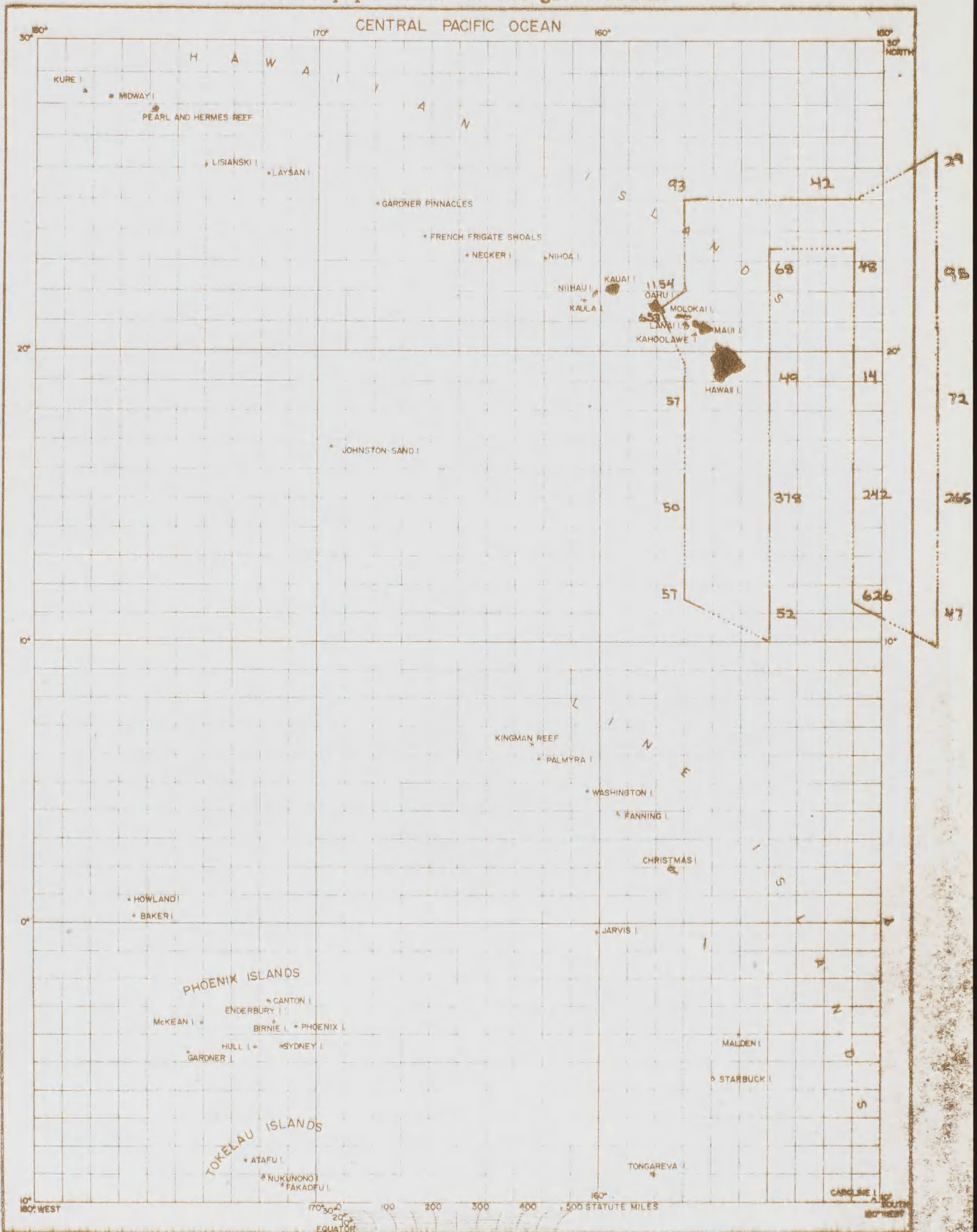
T. Cromwell September 1964 Cruise

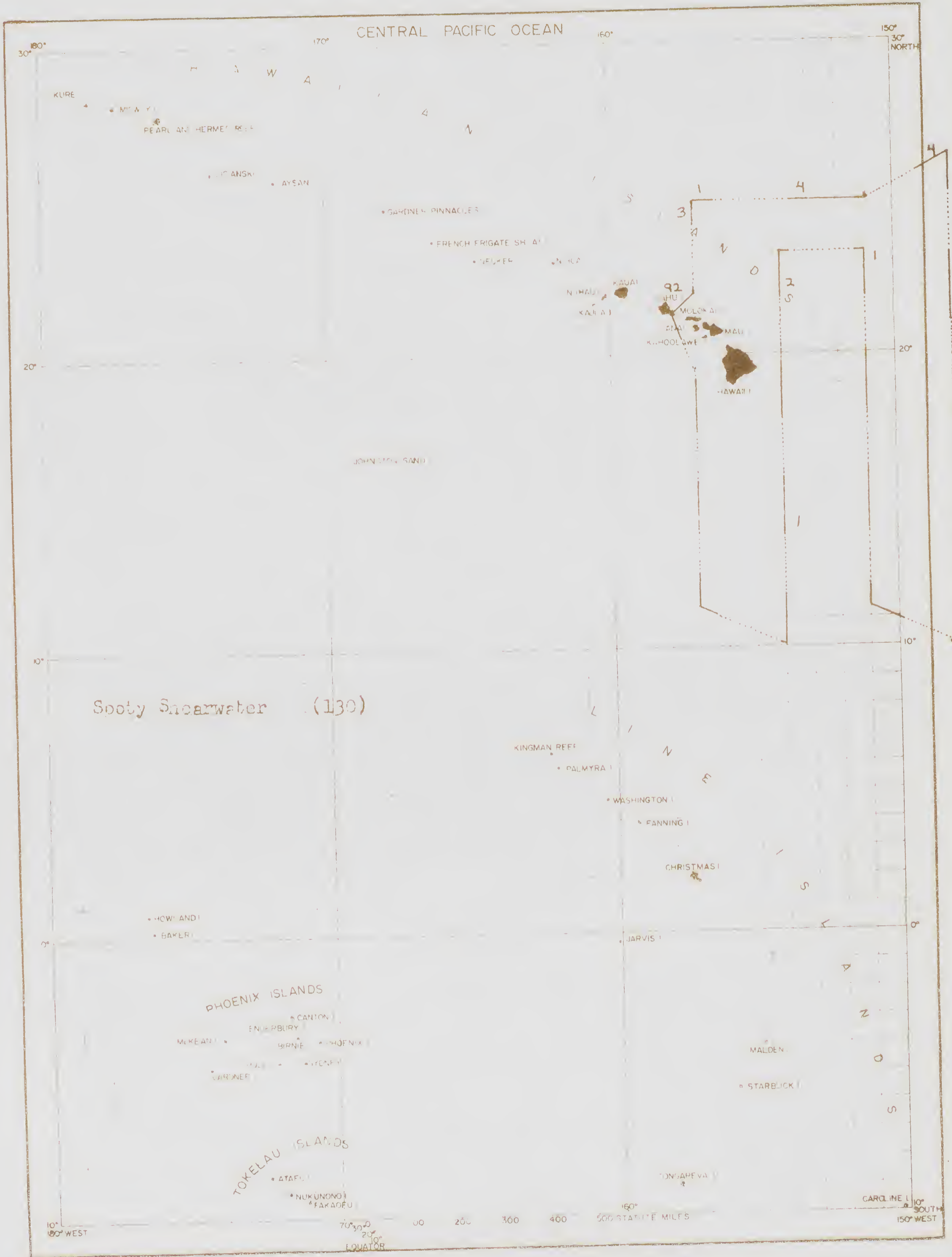
Total populations of Pelagic Avifauna

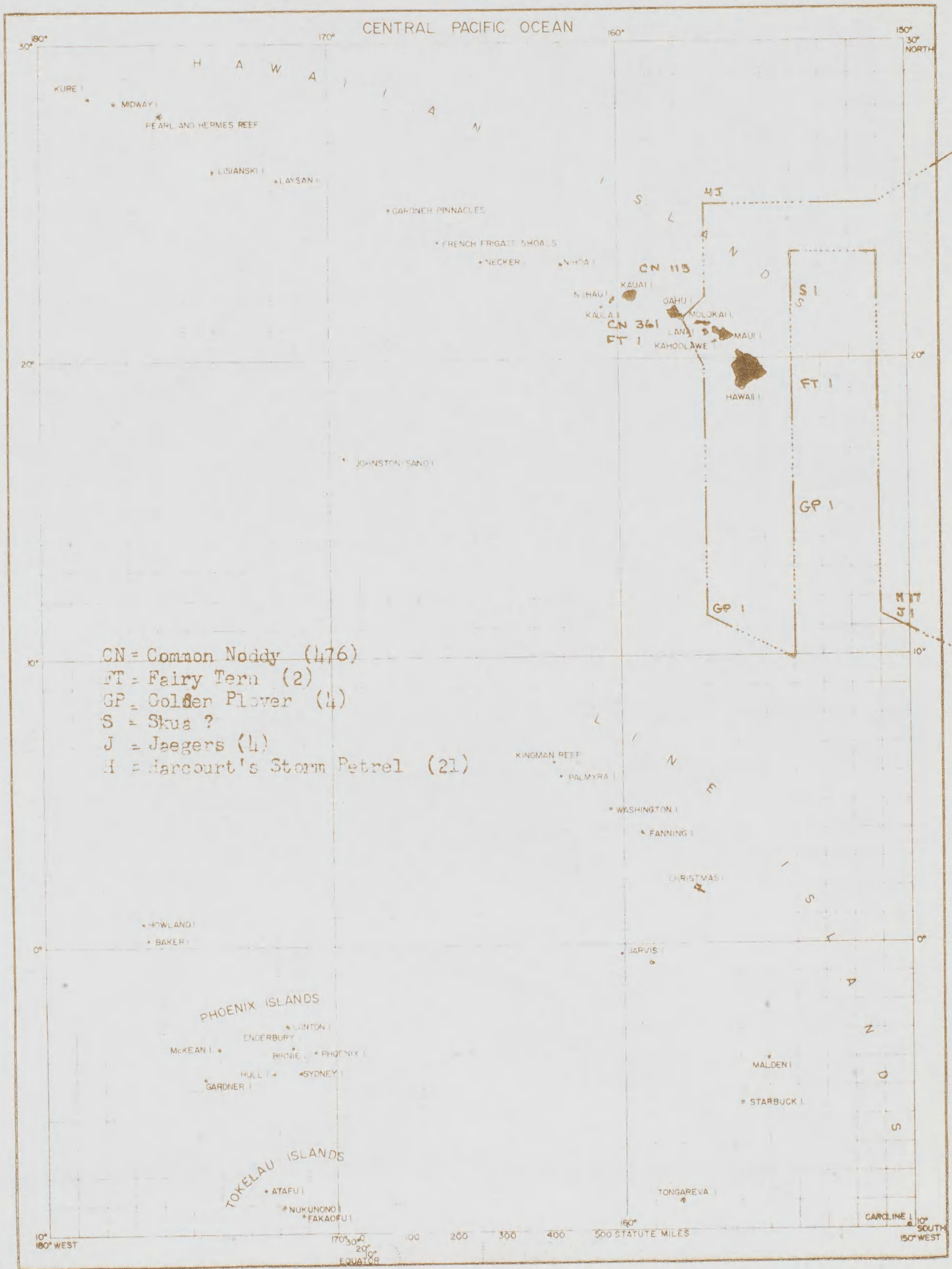


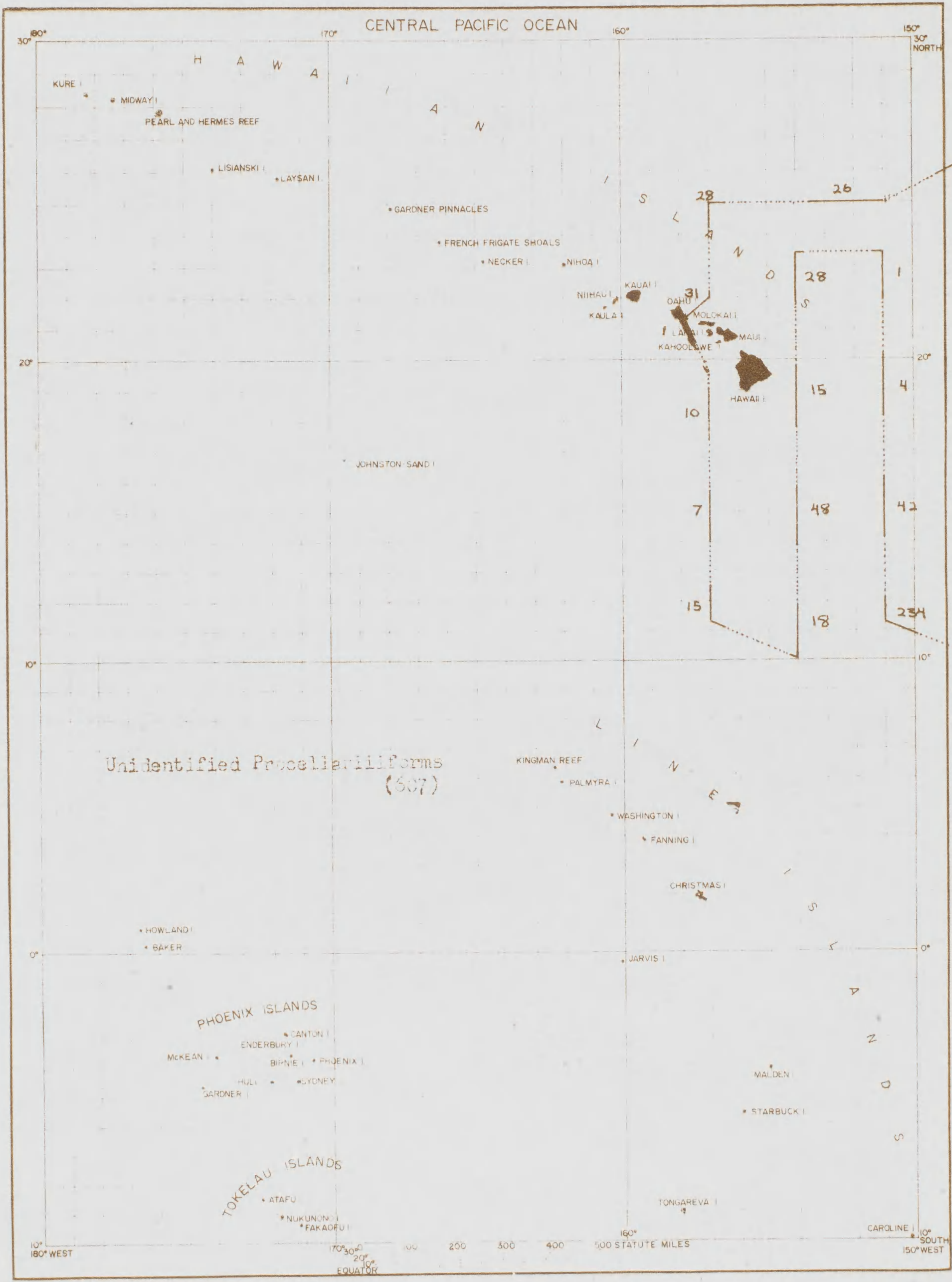
T. Cromwell September 1964 Cruise

Total populations of Pelagic Avifauna









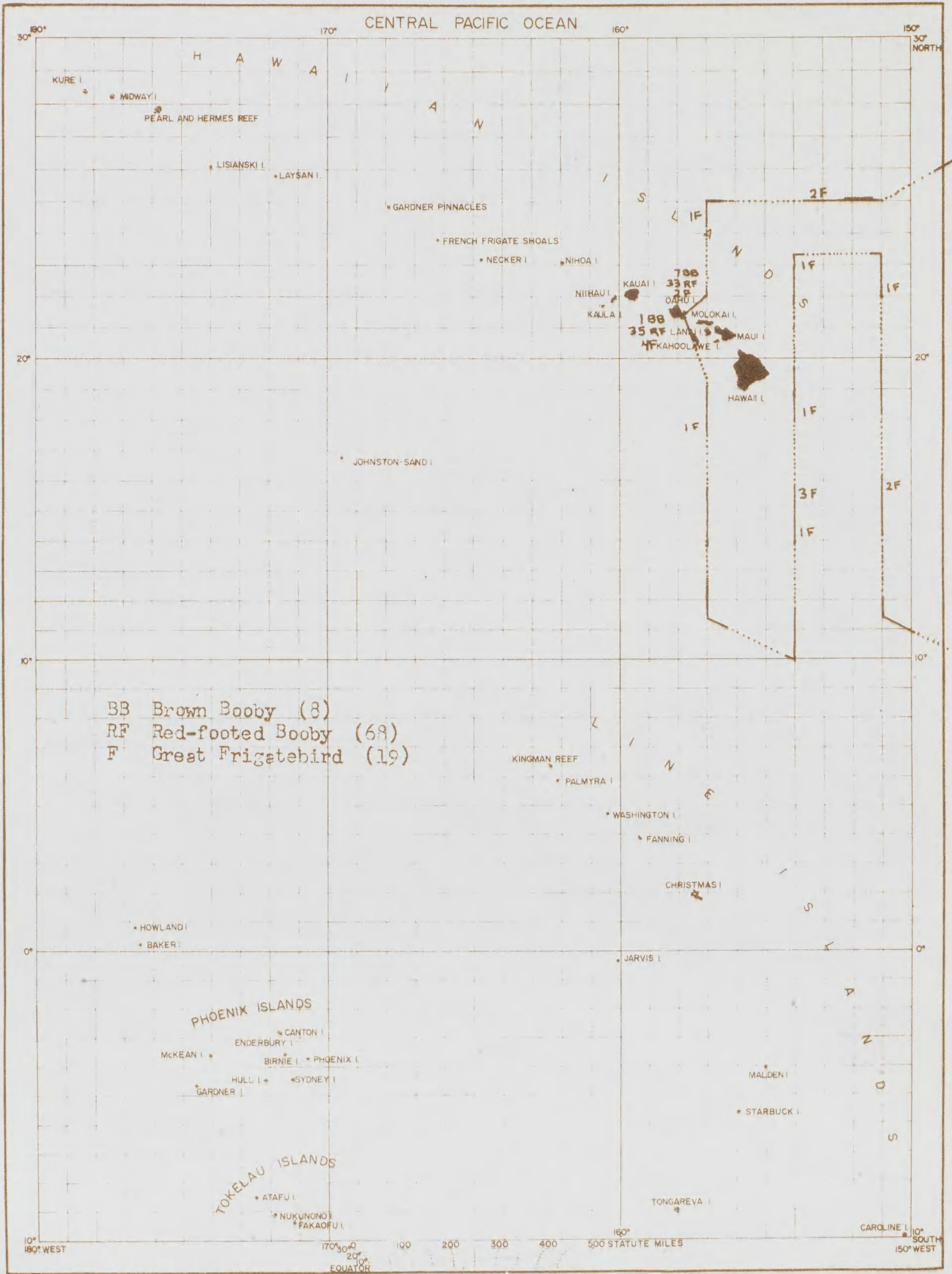
CENTRAL PACIFIC OCEAN

Unidentified Procellariiforms
(607)

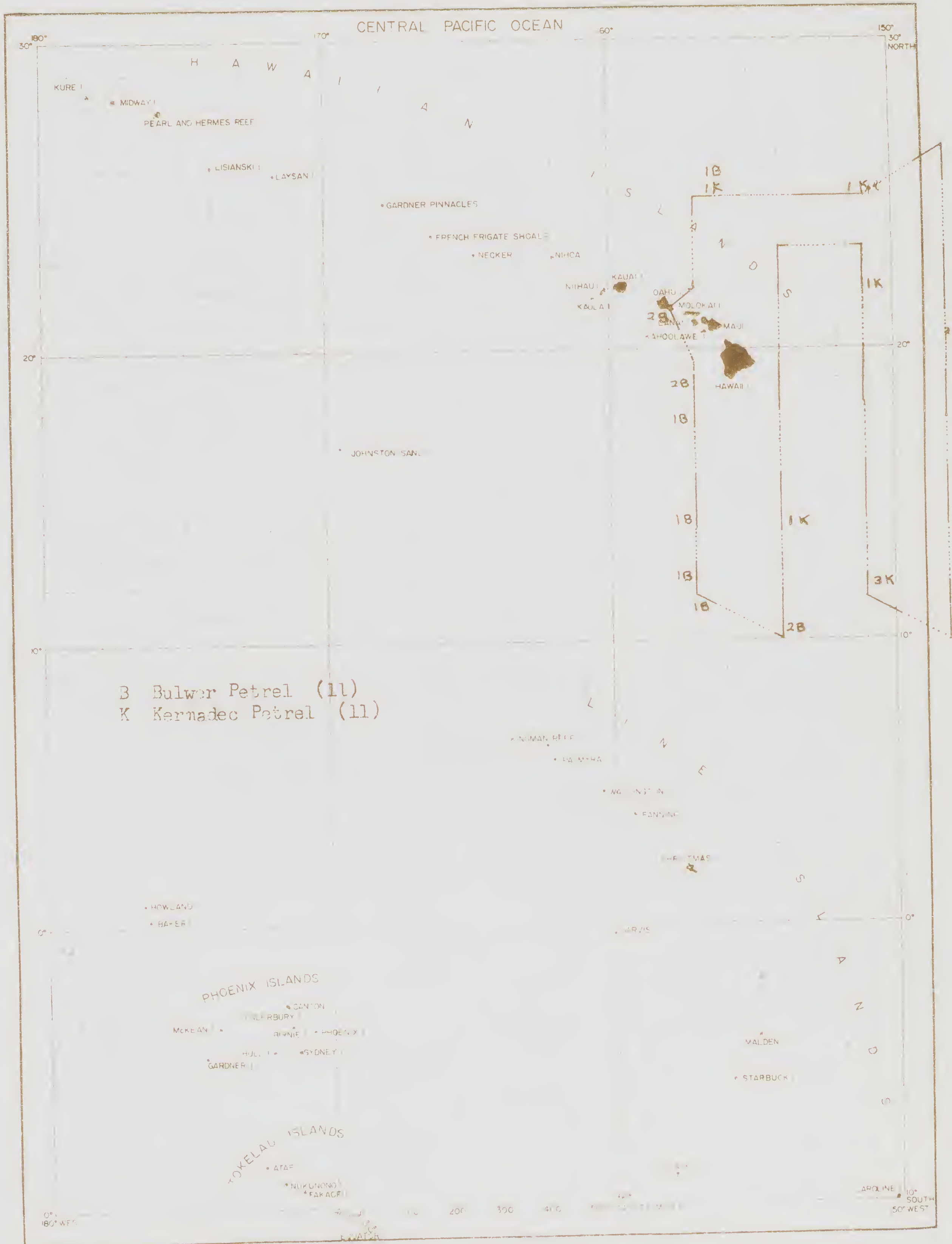
10° WEST 170° 30' 20' 10' EQUATOR 160° 150° WEST 500 STATUTE MILES

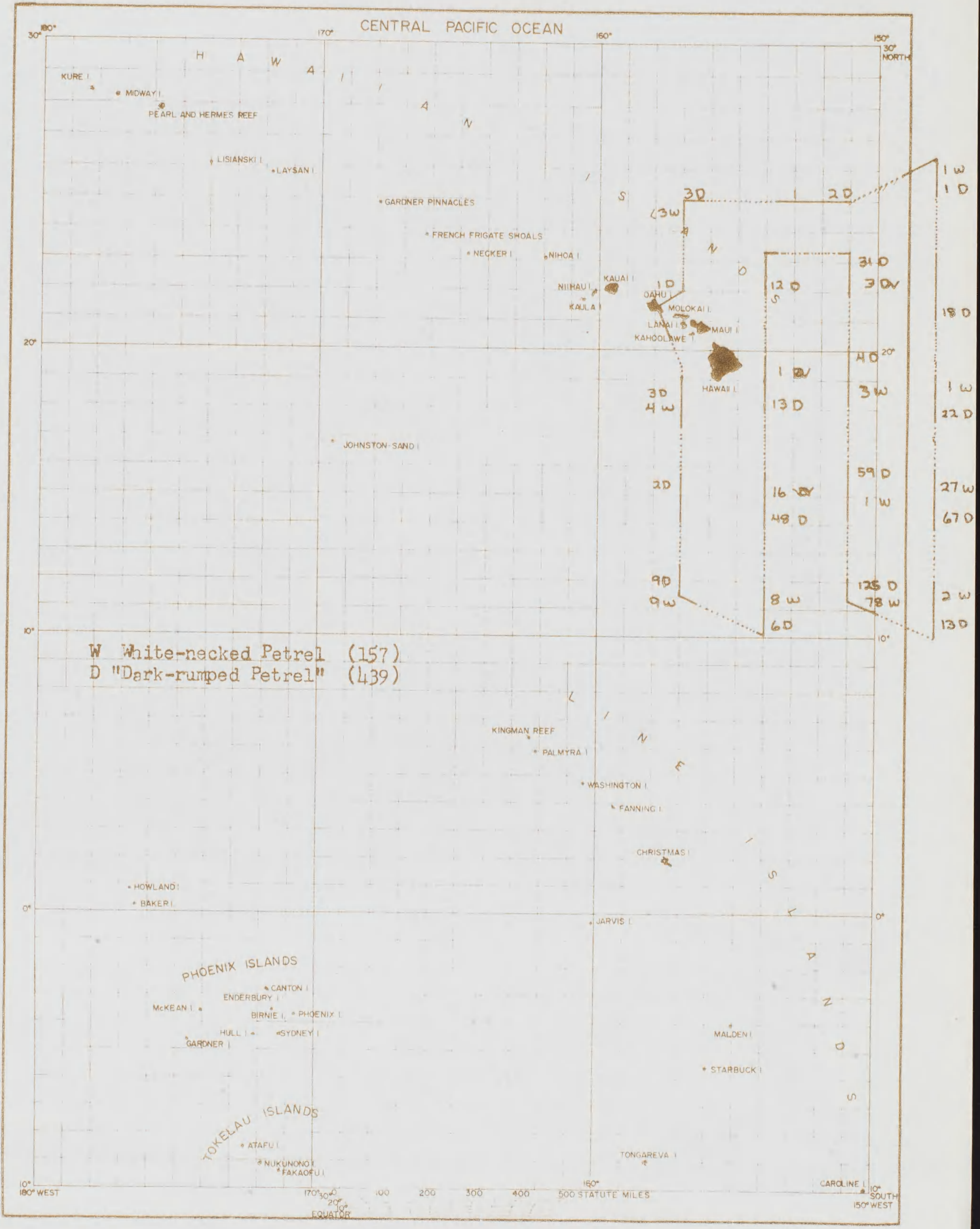












SI-MNH-955b
3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

AT SEA SURVEY CHART B

DATE 15 Sept 64

Time at sunrise = 1338 Position at sunrise = 21° 19' N 157° 58' W

Time at sunset = 1844 Position at sunset = 20° 39' N 157° 19' W

Miles traveled from 0000 hours to sunrise =

Miles traveled from sunrise to sunset = 53

Miles traveled from sunset to 2400 hours = 26

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
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1.

2.

3.

4.

5.

6.

20 19	10 67	17 29
15 0	17 29	17 29

DATE 2 Sept 64

Time at sunrise = 0613 Position at sunrise = 19° 3' N 158° 57' W

Time at sunset = 1641 Position at sunset = 17° 30' N 157° 21' W

Miles traveled from 0000 hours to sunrise = 66

Miles traveled from sunrise to sunset = 94

Miles traveled from sunset to 2400 hours = 51

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
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1.

2.

3.

4.

5.

6.

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3-4-64

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16 40
15
3
6
13

DATE 3 Sept 64

Time at sunrise = 0616 Position at sunrise = 15° 47' N 157° 50' W

Time at sunset = 1838 Position at sunset = 14° 12' N 159° 31' W

Miles traveled from 0000 hours to sunrise = 51

Miles traveled from sunrise to sunset = 95

Miles traveled from sunset to 2400 hours = 54

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

DATE 4 Sept 64

Time at sunrise = 0619 Position at sunrise = 12° 39' N 157° 51' W

Time at sunset = 1833 Position at sunset = 11° 07' N 156° 15' W

Miles traveled from 0000 hours to sunrise = 39

Miles traveled from sunrise to sunset = 118 120

Miles traveled from sunset to 2400 hours = 31

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

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AT SEA SURVEY CHART B

1036 136

DATE 5-Sept 64

Time at sunrise = ^{06⁰⁶} Position at sunrise = ^{005'} 10° 04' N ^{13'} 154° 15' W

Time at sunset = ^{18²⁴} Position at sunset = 11° 43' N 157° 00' W

Miles traveled from 0000 hours to sunrise = 47

Miles traveled from sunrise to sunset = 126

Miles traveled from sunset to 2400 hours = 64

12
11
3

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

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

10 02
10 33
117

12 48
12 48

DATE 6-Sept 64

Time at sunrise = ^{06⁰⁴} Position at sunrise = 13° 49' N 154° 14' W

Time at sunset = ^{18²⁴} Position at sunset = 15° 59' N 153° 59' W

Miles traveled from 0000 hours to sunrise = 62

Miles traveled from sunrise to sunset = 130

Miles traveled from sunset to 2400 hours = 47

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

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

17 114
16 46

DATE 7 Sept 64

Time at sunrise = ⁰⁶⁰³ Position at sunrise = 17° 44' N 153° 58' W

Time at sunset = ¹⁸²⁶ Position at sunset = 19° 54' N 154° 00' W

20 39
19 54
5

Miles traveled from 0000 hours to sunrise = 58

Miles traveled from sunrise to sunset = 130

Miles traveled from sunset to 2400 hours = 45

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
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1.

2.

3.

4.

5.

6.

600
120
23
743

600
120
23
743

71 53
20 39
12

DATE 8 Sept 64

Time at sunrise = ⁰⁶⁰¹ Position at sunrise = 21° 53' N 153° 59' W

Time at sunset = ¹⁸²⁶ Position at sunset = 23° 30' N 153° 32' W

Miles traveled from 0000 hours to sunrise = 77

Miles traveled from sunrise to sunset = 122

Miles traveled from sunset to 2400 hours = 55

77
26
122

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
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1.

2.

3.

4.

5.

6.

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 9 Sept 64

Time at sunrise = ⁰⁵⁵¹ Position at sunrise = ^{23° 58' N 151° 34' W}
Time at sunset = ¹⁸¹² Position at sunset = ^{22° 00' N 130° 11' W}
Miles traveled from 0000 hours to sunrise = ⁶¹
Miles traveled from sunrise to sunset = ¹¹⁷
Miles traveled from sunset to 2400 hours = ⁵²

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

DATE 10 Sept 64

Time at sunrise = ⁰⁵⁵⁰ Position at sunrise = ^{20° 28' N 150° 50' W}
Time at sunset = ¹⁸¹⁰ Position at sunset = ^{16° 20' N 130° 00' W}
Miles traveled from 0000 hours to sunrise = ⁴⁶
Miles traveled from sunrise to sunset = ¹³⁵
Miles traveled from sunset to 2400 hours = ³⁹

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

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 11 Sept 64

Time at sunrise = ⁰⁵⁵¹ Position at sunrise = ^{16° 15' N 109° 40' W}
Time at sunset = ¹⁸⁰⁹ Position at sunset = ^{14° 14' N 109° 45' W}
Miles traveled from 0000 hours to sunrise = ⁴⁸ Total miles 728
Miles traveled from sunrise to sunset = ¹²⁴
Miles traveled from sunset to 2400 hours = ¹²

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

DATE 12 Sept 64

Time at sunrise = ⁰⁵⁴³ Position at sunrise = ^{15° 30' N 109° 40' W}
Time at sunset = ¹⁸⁰¹ Position at sunset = ^{13° 30' N 109° 45' W}
Miles traveled from 0000 hours to sunrise = ⁵³ Total miles 728
Miles traveled from sunrise to sunset = ~~124~~ ¹²²
Miles traveled from sunset to 2400 hours = ⁶⁵

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

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 13 Sept 64

Time at sunrise = ⁰⁵⁴² Position at sunrise = ^{11° 58' N 147° 37' W}
Time at sunset = ¹⁷⁵⁵ Position at sunset = ^{11° 32' N 148° 54' W}
Miles traveled from 0000 hours to sunrise = 64
Miles traveled from sunrise to sunset = 117
Miles traveled from sunset to 2400 hours = 65

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

DATE 14 Sept 64

Time at sunrise = ⁰⁵⁴¹ Position at sunrise = ^{13° 47' N 147° 57' W}
Time at sunset = ¹⁷⁵⁶ Position at sunset = ^{15° 38' N 148° 32' W}
Miles traveled from 0000 hours to sunrise = 55
Miles traveled from sunrise to sunset = 122
Miles traveled from sunset to 2400 hours = 55

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.			^{14 54} ^{13 59}	
2.				
3.				
4.				
5.				
6.				

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SMITHSONIAN INSTITUTION
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AT SEA SURVEY CHART B

DATE 15 Sept 64

Time at sunrise = ⁰⁵⁴⁰ Position at sunrise = 17° 37' N 147° 31' W

Time at sunset = ¹⁷⁵⁴ Position at sunset = 17° 22' N 147° 33' W

Miles traveled from 0000 hours to sunrise = 33

Miles traveled from sunrise to sunset = 115

Miles traveled from sunset to 2400 hours = 17

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	17:00	18 37 16 34 32	147 31	17 37
2.	17:00	32	147 31	17 37
3.				24 45 23 21 36
4.				21 21 103
5.				
6.				

DATE 16 Sept 64

Time at sunrise = ⁰⁵³⁹ Position at sunrise = 17° 27' N 147° 31' W

Time at sunset = ¹⁷⁵⁵ Position at sunset = 17° 29' N 147° 31' W

Miles traveled from 0000 hours to sunrise = 57

Miles traveled from sunrise to sunset = 123

Miles traveled from sunset to 2400 hours = 56

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	17:00	21 21 20 29 37	147 31	17 27
2.				
3.				
4.				
5.				
6.				

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

AT SEA SURVEY CHART B

DATE 17 Sept 64

Time at sunrise = ⁰⁵³⁸ Position at sunrise = $25^{\circ} 6' N$ $147^{\circ} 54' W$

Time at sunset = ¹⁷³³ Position at sunset = $26^{\circ} 10' N$ $149^{\circ} 00' W$

Miles traveled from 0000 hours to sunrise = 51

Miles traveled from sunrise to sunset = 139

Miles traveled from sunset to 2400 hours = 88

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

DATE 18 Sept 64

Time at sunrise = ⁰³⁵¹ Position at sunrise = $24^{\circ} 55' N$ $151^{\circ} 00' W$

Time at sunset = ¹⁸¹⁸ Position at sunset = $24^{\circ} 00' N$ $153^{\circ} 43' W$

Miles traveled from 0000 hours to sunrise = 64

Miles traveled from sunrise to sunset = 144

Miles traveled from sunset to 2400 hours = 52

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1. 187h			
2.			
3.			
4.			
5.			
6.			

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600
120

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS

AT SEA SURVEY CHART B

DATE 19 Sept 64

Time at sunrise = ⁰⁶¹¹ Position at sunrise = 24° 57' N 157° 30' W

Time at sunset = ⁰⁸²⁷ Position at sunset = 23° 39' N 157° 00' W

Miles traveled from 0000 hours to sunrise = 62

Miles traveled from sunrise to sunset = 90 129 729 = total miles

Miles traveled from sunset to 2400 hours = 35

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
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1.

2.

3.

4.

5.

300

6.

DATE 20 Sept 64

Time at sunrise = ⁰⁶¹⁵ Position at sunrise = 21° 52' N 157° 05' W

Time at sunset = ¹²⁰⁰ Position at sunset =

Miles traveled from 0000 hours to sunrise = 62 346 total miles

Miles traveled from sunrise to sunset = 65

Miles traveled from sunset to 2400 hours =

TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
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1.

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3.

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5.

6.

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 1 Sept 64 Total Minutes: 314 Total Miles 53

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
79	653	8.27	12.32

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
46	43	0	2	251	248	0	2	5.43	5.77	0.00	1.00	4.74	4.66	0	.04
								5.46					4.68		

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
1	0	1	1	0	1	1.00	0.00	1.00	.02	0	.02

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
30	361	12.0	6.81

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.0	0.0

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	0	13	1	36	0	35	1	2.57	0.00	2.69	1.00	.68	0	.66	.02
								2.57							

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
3	4	1.33	.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.
6	470	.11	5	267	.10

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 2 Sept 64 Total Minutes: 734 Total Miles 94

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
45	57 57	1.27 1.27	.61

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
39	15	16	3	49	21	20	3	1.26	1.40	1.25	1.00	.52	.22	.21	.03

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	1	0	4 2	3	0	2.00	3.00	1.00	.04	.03	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	2	1.00	.02

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.00	0.00

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	.01

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0	0	0	0

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 3 Sept 64 Total Minutes: 742 Total Miles 95

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
11 13	50	3.58 3.85	0.53

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
8	0	4	1	12	0	4	1	1.50	0.00	1.00	1.00	.13	0	.04	.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
2	2	0	2	2	0	1.00	1.00	0.00	.02	.02	.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	36	9.00	0.38

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.00	0.00

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
0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.00	0.00

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 4	41 41	.04	2	25 25	0.02 0.02

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 4 Sept 64 Total Minutes: 73⁴¹ Total Miles ~~118~~ 120

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
42 42	57	1.36 1.36	0.48

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	10	22 2	2	51	12	26 2	2	1.16	1.20	1.18	1.00	0.43	0.10	0.22 .02	.02

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
1	1	0	1	1	0	1.00	0.00	0.00	.01	.01	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	4	2.00	.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	.01

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0.00	0.00

VIII. Abundance of Flocks:

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 5 Sept 64 Total Minutes: 738 Total Miles 126

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
42	52	1.24	0.41

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
40	9	29	1	50	12	35	2	1.25	1.33	1.21	2.00	0.40	0.10	0.28	0.02

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
0	0	0	0	0	0	0	0	0	0	0	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.01

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0	0	0	0

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 6 Total Minutes: 740 Total Miles 130

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
63	378	6.00	2.91

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
61	8	34	1	150	30	77	1	2.46	3.75	2.26	2.00	1.15	0.23	0.59	0.02

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	0	2	0	0	1.00	1.00	0.00	1.00 .02	.01	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	220	1.00 55.00	1.69



V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	6.01

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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.
3	307	0.03	1	127	0.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 7 Total Minutes: 943 Total Miles 130

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
24	49	2.04	0.38

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
22	1	2 ¹²	0	31	1	17	0	1.41	1.00	1.42	0.00	0.24	0.01	0.13	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
0	0	0	0	0	0	0	0	0	0	0	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	17	4.25	0.13

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.01

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	26	0.02	1	21	0.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 8 Total Minutes: 745 Total Miles 122

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
15	68	4.53	0.56

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
12	1	5	0	43	1	12	0	3.58	1.00	2.40	0.00	0.35	0.01	0.10	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
3	0	3	3	0	3	1.00	0.00	1.00	0.02	0.00	0.02

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	20	20.00	0.16

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.01

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	54	0.01	1	54	0.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 9 Sept 64 Total Minutes: 741 Total Miles 117

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>11</u>	<u>46</u>	<u>4.18</u>	<u>.41</u>

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
<u>14</u>	<u>4</u>	<u>7</u>	<u>0</u>	<u>47</u>	<u>8</u>	<u>37</u>	<u>0</u>	<u>3.36</u>	<u>2.00</u>	<u>5.29</u>	<u>0</u>	<u>.40</u>	<u>.07</u>	<u>.32</u>	<u>0</u>

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

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
<u>1</u>	<u>1</u>	<u>1.00</u>	<u>.01</u>

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
<u>2</u>	<u>39</u>	<u>.02</u>	<u>1</u>	<u>12</u>	<u>.01</u>

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 10 Total Minutes: 740 Total Miles 135

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
11	14	1.27	0.10

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
11	2	7	0	14	3	8	0	1.27	1.50	1.14	0.00	0.10	0.02	0.06	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
0	0	0	0	0	0	0	0	0	0	0	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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
0				0				0				0			

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0	0	0	0

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 11 Sept 64 Total Minutes: 738 Total Miles 121

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>20</u>	<u>242</u>	<u>12.10</u>	<u>1.93</u>

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
<u>26</u>	<u>3</u>	<u>14</u>	<u>0</u>	<u>124</u>	<u>27</u>	<u>63</u>	<u>0</u>	<u>4.15</u>	<u>7.00</u>	<u>4.06</u>	<u>0</u>	<u>1.63</u>	<u>.22</u>	<u>.32</u>	<u>0</u>

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
<u>1</u>	<u>106</u>	<u>24.30</u>	<u>1.83</u>

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
<u>1</u>	<u>2</u>	<u>2.00</u>	<u>.02</u>

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
<u>3</u>	<u>221</u>	<u>1.02</u>	<u>3</u>	<u>221</u>	<u>.02</u>

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 12 Sept, 64 Total Minutes: 728 Total Miles 124 122

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
116	626	5.40	5.05 5.13

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
146	12	133	0	498	34	463	0	3.41	2.83	3.47 3.42	0.00	4.02	0.27 2.8	3.73	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
0	0	0	0	0	0	0	0	0	0	0	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
12	125	10.42	1.01 1.02

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.01

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
15	451	0.12 .14	3	157	0.02

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: Sept. 13 Total Minutes: 733 Total Miles 119

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
43	47	1.09	0.39

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
42	9	25	0	45	10	26	0	1.07	1.11	1.04	0.00	0.38	0.08	0.22	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
0	0	0	0	0	0	0	0	0	0	0	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	2	2.00	0.02

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0	0	0	0

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 14 Sept 64 Total Minutes: 735 Total Miles 122

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
63	265	4.21	2.17

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	5	47	0	184 196	18	113	0	3.60 2.76	3.60	2.40	0.00	1.61	0.15	0.93	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	1	1	3	2	1	1.50	2.00	1.00	0.02	0.01	0.01

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
4	66	16.50	0.54

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
7	202	0.06	4	180	0.03

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 15, Sept, 1964 Total Minutes: 734 Total Miles 115

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
56	72	1.29	0.63

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
53	6	26	0	62	8	32	0	1.17	1.33	1.22	0.00	0.54	0.07	0.28	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
6	6	0	7	7	0	1.17	1.17	0.00	0.06	0.06	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	3	3.00	0.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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	7	0.01	1	7	0.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 16 Sept 64 Total Minutes: 736 Total Miles 175 1/2

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
73	95	1.30	.77-.79

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
72	6	19	0	87	6	22	0	1.21	1.00	1.16	0	.72	.05	.18	0

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
3	3	0	3	3	0	1.00	1.00	1.00	.02	.02	0

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	4	4.00	.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	.01

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
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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	12	.01	1	12	.01

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 17 Sept 64 Total Minutes: 740 Total Miles 135

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>25</u>	<u>29</u>	<u>1.16</u>	<u>.21</u>

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
<u>21</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>23</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>1.10</u>	<u>0</u>	<u>1.00</u>	<u>0</u>	<u>.17</u>	<u>0</u>	<u>.03</u>	<u>0</u>

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
<u>3</u>	<u>1</u>	<u>2</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>1.67</u>	<u>2.00</u>	<u>1.50</u>	<u>.12</u>	<u>.01</u>	<u>.02</u>

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u> </u>	<u> </u>	<u> </u>	<u> </u>

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>1</u>	<u>1</u>	<u>1.00</u>	<u>.01</u>

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
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u> </u>	<u> </u>	<u> </u>	<u> </u>

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 18 Sept 64 Total Minutes: 775 Total Miles 144

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
37	42	1.13	0.29

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
33	2	5	0	38	2	5	0	1.15	1.00	1.00	0.00	0.26	0.01	0.03	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	2	2	0	1.00	1.00	0.00	0.01	0.01	0.00

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	2	1.00	0.01

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
0	0	0	0	0	0

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 19, Sept, 1964

Total Minutes: 729

Total Miles 90129

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
72	93	1.29	1.05 .72

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	14	11	1	81	22	14	1	1.21	1.57	1.27	1.00	0.90 0.24	0.24 0.17	0.04 0.15	0.01
												.11			

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile					
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT			
1	1	0	3	3	0	3.00	3.00	0.00	0.05 0.05	0.05 0.02	0.00			
												.02 .02		

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
2	4	2.00	0.04 1.03

V. Abundance of Shorebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
0	0	0	0

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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
1	1	1.00	0.01

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	9	0.01	0	0	0

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART A

DATE: 20 Sept 64 Total Minutes: 340⁵ Total Miles 65

I. Total Abundance of birds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>165</u>	<u>1154</u>	<u>7.00</u>	<u>17.77-17.75</u>

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
<u>116</u>	<u>52</u>	<u>20</u>	<u>0</u>	<u>992</u>	<u>545</u>	<u>21</u>	<u>0</u>	<u>8.56</u>	<u>16.25</u>	<u>1.05</u>	<u>0</u>	<u>13.29</u>	<u>13.00</u>	<u>.32</u>	<u>0</u>

III. Abundance of Tropicbirds:

No. Sightings			No. Birds			Birds/Sighting			Birds/Mile		
T	RT	WT	T	RT	WT	T	RT	WT	T	RT	WT
<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1.00</u>	<u>0</u>	<u>1.00</u>	<u>.02</u>	<u>0</u>	<u>.02</u>

IV. Abundance of Terns:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>40</u>	<u>118</u>	<u>2.95</u>	<u>1.62</u>

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
<u>27</u>	<u>0</u>	<u>22</u>	<u>5</u>	<u>40</u>	<u>0</u>	<u>33</u>	<u>7</u>	<u>1.48</u>	<u>0</u>	<u>1.50</u>	<u>1.40</u>	<u>.12</u>	<u>0</u>	<u>.51</u>	<u>.11</u>

VII. Abundance of Frigatebirds:

No. Sightings	No. Birds	Birds/Sighting	Birds/Mile
<u>2</u>	<u>2</u>	<u>1.00</u>	<u>.23</u>

VIII. Abundance of Flocks:

Total No. Flocks	Total No. Birds	Total No. F/Mi.	No. Feeding Flocks	No. Feeding Birds	No. Feeding F/MI.
<u>7</u>	<u>811</u>	<u>.11</u>	<u>1</u>	<u>10</u>	<u>.02</u>

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 2 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	19 59	157 00														
0200	19 48	157 00														
0300	19 37	157 00														
0400	19 25	157 02														
0500	19 15	157 01														
0600	19 05	157 00														
0700	19 02	156 57														
0800	19 02	156 57	03		10	10150	213	21		5		90-5-8	261	17	100	S-12
0900	18 56	156 57														
1000	18 45	156 57														
1100	18 35	156 58														
1200	18 25	156 59														
1300	18 13	157 00														
1400	18 02	157 01	01		10	1014.4	259	21		2		90-5-4	25.9	24	80	S-12
1500	17 51	157 01														
1600	17 41	157 01														
1700	17 31	157 01														
1800	17 30	157 01														
1900	17 28	157 01														
2000	17 18	157 00	02		10	1014.2	261	21		1		90-5-5	26.4	24	70	S-12
2100	17 12	157 00														
2200	17 00	157 00														
2300	16 48	157 00														
2400	16 38	157 00														

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

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3-4-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 3 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16 27	157 01													
0200	16 16	157 01	02	10	1014.3	262	22		1		40-5-4	265	26	60	5-12
0300	16 07	157 01													
0400	16 02	157 01													
0500	16 02	157 01													
0600	15 53	157 01													
0700	15 39	157 01													
0800	15 28	157 01	16	5	1014.0	251	22		9		80-5-6	267	25	70	5-12
0900	15 18	157 00													
1000	15 04	156 59													
1100	14 52	156 59													
1200	14 40	156 59													
1300	14 30	157 01													
1400	14 30	157 01	50	2	1012.2	262	24		9		90-6-6	267	16	140	5-12
1500	14 30	157 01													
1600	14 30	157 01													
1700	14 30	157 01													
1800	14 20	157 01													
1900	14 09	157 00													
2000	13 57	157 00	02	5	1011.9	270	24		9		90-5-5	267	12	190	5-12
2100	13 50	157 00													
2200	13 40	157 01													
2300	13 29	157 02													
2400	13 18	157 03													

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

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SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE 4 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	13 07	157 04														
0200	13 01	157 04	01		10	1012.5	266	24		0		200-5-5	269	18	200	S-12
0300	13 01	157 04														
0400	13 01	157 04														
0500	12 55	157 04														
0600	12 43	157 05														
0700	12 30	157 03														
0800	12 18	157 02	01		10	1013.9	264	23		5		50-5-4	268	11	170	S-12
0900	12 06	157 01														
1000	11 53	157 00														
1100	11 42	157 00														
1200	11 30	157 00														
1300	11 30	157 00														
1400	11 27	156 58	03		10	1013.1	274	23		3		50-5-4	273	6	150	S-12
1500	11 23	156 48														
1600	11 18	156 38														
1700	11 13	156 28														
1800	11 09	156 18														
1900	11 04	156 09														
2000	10 58	155 58	02		10	1013.8	269	22		3		60-6-4	275	6	100	SE-12
2100	10 55	155 53														
2200	10 50	155 42														
2300	10 44	155 31														
2400	10 39	155 20														

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 5 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	10 33	155 09													
0200	10 28	154 58	03	2	1013.8	261	23		9		60-6-3	273	06	70	SE-12
0300	10 22	154 47													
0400	10 17	154 36													
0500	10 11	154 25													
0600	10 06	154 14													
0700	10 01	154 03													
0800	09 59	153 58	02	10	1013.9	259	23		6		49-6-2	271	07	130	E-12
0900	10 06	153 58													
1000	10 18	153 58													
1100	10 30	153 58													
1200	10 42	153 58													
1300	10 55	153 59													
1400	11 08	153 59	02	25	1012.5	290	23		5		49-6-2	277	10	70	N-12
1500	11 21	154 00													
1600	11 34	154 00													
1700	11 34	154 00													
1800	11 38	154 00													
1900	11 50	154 00													
2000	12 03	154 02	03	10	1013.0	261	23		5		49-6-2	275	12	40	N-12
2100	12 11	154 04													
2200	12 23	154 06													
2300	12 35	154 06													
2400	12 47	154 08													

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

*49 = confused

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 6 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	13 01	154 10														
0200	13 02	154 10	01		10	1013.0	263	22		3		50-5-0	271	14	50	N-12
0300	13 12	154 11														
0400	13 24	154 12														
0500	13 36	154 14														
0600	13 48	154 15														
0700	14 00	154 13														
0800	14 12	154 09	02		10	1014.0	266	24		4		30-5-4	268	18	30	N-12
0900	14 24	154 05														
1000	14 30	154 04														
1100	14 32	154 04														
1200	14 44	154 03														
1300	14 56	154 02														
1400	15 08	154 01	02		10	1012.3	268	22		4		20-5-3	269	16	30	N-12
1500	15 20	154 00														
1600	15 32	154 00														
1700	15 44	153 59														
1800	15 55	153 58														
1900	16 00	153 59														
2000	16 05	153 55	03		10	1014.3	263	23		5		20-5-5	263	16	50	N-12
2100	16 10	153 55														
2200	16 22	153 58														
2300	16 34	153 58														
2400	16 46	153 58														

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 7 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	16 58	153 58													
0200	17 10	153 58	01	10	1014.0	255	22		0		50-6-5	259	19	050	N-12
0300	17 22	153 58													
0400	17 31	153 58													
0500	17 32	153 58													
0600	17 43	153 58													
0700	17 54	153 58													
0800	18 06	153 57	03	10	1015.0	261	22		8		40-6-6	261	21	080	N-12
0900	18 17	153 58													
1000	18 28	153 58													
1100	18 39	153 58													
1200	18 49	153 58													
1300	19 00	153 58													
1400	19 01	153 58	01	10	1015.1	260	20		3		60-6-3	256	19	070	N-12
1500	19 13	153 58													
1600	19 25	153 59													
1700	19 37	153 59													
1800	19 49	154 00													
1900	20 00	154 00													
2000	20 12	154 00	02	10	1015.4	258	21		7		50-6-3	256	17	060	N-12
2100	20 18	154 00													
2200	20 30	154 00													
2300	20 32	153 59													
2400	20 39	153 59													

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 8 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20 52	153 58													
0200	21 04	153 59	02	10	1016.9	259	21		2		60-6-4	254	22	50	N-12
0300	21 16	153 59													
0400	21 29	153 59													
0500	21 41	153 59													
0600	21 53	153 59													
0700	22 00	153 58													
0800	22 05	153 59	02	10	1017.2	250	21		4		50-6-4	253	13	70	N-12
0900	22 17	153 57													
1000	22 29	153 56													
1100	22 41	153 58													
1200	22 52	154 00													
1300	23 05	154 00													
1400	23 17	153 59	01	10	1017.5	264	21		3		40-5-4	255	17	90	N-12
1500	23 28	153 58													
1600	23 30	153 57													
1700	23 30	153 47													
1800	23 30	153 35													
1900	23 30	153 24													
2000	23 30	153 12	18	5	1014.1	249	19		8		80-5-5	256	18	100	E-12
2100	23 30	153 07													
2200	23 30	152 55													
2300	23 30	152 43													
2400	23 30	152 32													

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

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3-4-64SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART CDATE 9 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	23 30	152 21													
0200	23 30	152 09	20	5	1019.0	239	18		7		100-6-5	254	16	100	E-12
0300	23 30	151 58													
0400	23 30	151 49													
0500	23 30	151 37													
0600	23 30	151 27													
0700	23 27	151 17													
0800	23 27	151 06	04	10	1020.2	235	19		7		50-6-5	250	17	70	E-12
0900	23 27	151 00													
1000	23 23	151 00													
1100	23 10	151 00													
1200	23 00	151 02													
1300	22 49	151 02													
1400	22 38	151 02	01	10	1018.8	240	19		6		130-6-5	249	14	140	S-12
1500	22 27	151 01													
1600	22 18	151 01													
1700	22 03	151 01													
1800	22 00	151 01													
1900	21 57	151 01													
2000	21 45	151 00	01	10	1019.0	251	19		3		60-6-5	276	23	60	S-12
2100	21 41	151 00													
2200	21 29	151 00													
2300	21 18	151 00													
2400	21 06	151 00													

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

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SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE 10 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20 55	151 55														
0200	20 43	151 20	50		2	1017.7	247	20		7		10-6-5	255	23	60	S-12
0300	20 30	150 50														
0400	20 30	150 50														
0500	20 20	150 49														
0600	20 15	150 42														
0700	20 05	150 35														
0800	19 57	150 30	02		10	1016.4	241	20		7		120-6-5	256	14	100	S-12
0900	19 47	150 20														
1000	19 35	150 17														
1100	19 18	150 08														
1200	19 07	150 00														
1300	19 00	150 37														
1400	18 48	150 30	01		10	1014.3	261	20		3		50-6-6	258	16	50	S-12
1500	18 44	151 00														
1600	18 32	151 00														
1700	18 20	151 00														
1800	18 07	151 01														
1900	17 55	151 51														
2000	17 43	151 02	16		2	1015.8	251	21		8		70-6-6	259	20	50	S-12
2100	17 35	151 02														
2200	17 31	151 02														
2300	17 20	151 07														
2400	17 06	151 03														

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 11 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	17 14	151 04													
0200	17 27	151 04	01	5	1040.3	248	21		5		70-6-7	23.2	21	90	S-12
0300	17 51	151 04													
0400	18 39	151 04													
0500	18 28	151 06													
0600	16 16	151 03													
0700	17 08	151 03													
0800	15 29	151 03	02	10	1039.4	247	22		5		70-5-7	21.0	20	60	S-12
0900	15 53	151 03													
1000	15 41	151 02													
1100	14 28	151 01													
1200	15 19	150 57													
1300	15 14	150 58													
1400	15 37	150 52	01	10	1037.9	243	23		4		70-1-3	24.1	20	70	S-12
1500	17 48	150 58													
1600	14 28	150 55													
1700	14 28	150 55													
1800	14 16	150 52													
1900	14 03	150 55													
2000	13 37	150 59	03	10	1044.2	268	23		8		70-1-3	24.0	17	70	S-12
2100	13 45	150 58													
2200	13 36	150 53													
2300	13 26	151 00													
2400	13 14	151 00													

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 12 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	12 06	151 21														
0200	12 37	151 51	02		5	1019.0	260	24		5		30-6-3	26.5	18	30	S-12
0300	12 36	151 51														
0400	12 34	151 51														
0500	12 32	151 51														
0600	12 28	151 52														
0700	12 23	151 52														
0800	11 57	151 53	02		10	1017.6	267	24		7		40-6-3	26.9	8	210	S-12
0900	11 46	151 52														
1000	11 36	151 50														
1100	11 28	151 49														
1200	11 27	151 49														
1300	11 22	151 48														
1400	11 17	151 37	01		10	1017.5	276	20		4		40-6-3	27.7	8	180	S-12
1500	11 12	151 26														
1600	11 08	151 15														
1700	11 04	151 05														
1800	10 59	150 55														
1900	10 54	150 45														
2000	10 43	150 35	02		10	1014.4	285	23		7		40-6-3	28.2	7	150	S-12
2100	10 35	149 58														
2200	10 31	149 18														
2300	10 23	149 07														
2400	10 22	148 56														

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-955c

3-4-64

SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE 13 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	10 17	148 45													
0200	10 15	148 34	01	10	10125	255	74		3		50-6-3	273	15	50	SE 12
0300	10 09	148 22													
0400	10 04	148 11													
0500	09 58	147 57													
0600	09 52	147 58													
0700	10 04	147 57													
0800	10 15	148 34	01	10	10139	269	24		4		20-5-5	271	19	50	N-12
0900	10 22	148 41													
1000	10 27	148 52													
1100	10 33	149 02													
1200	10 40	149 13													
1300	10 47	149 21													
1400	10 54	149 32	01	10	10125	270	24		2		40-5-5	271	19	50	N-12
1500	10 58	149 42													
1600	11 03	149 53													
1700	11 07	150 03													
1800	11 12	150 14													
1900	11 17	150 24													
2000	11 20	150 33	03	10	10130	272	24		6		40-5-5	269	15	50	N-12
2100	11 25	150 43													
2200	11 30	150 53													
2300	11 35	151 03													
2400	11 40	151 13													

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-955c

3-4-64

SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE 14 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	15 05	148 00													
0200	15 02	148 00	20	5	1014.0	259	25		6		40-5-5	269	18	40	N-12
0300	15 01	148 00													
0400	15 00	147 59													
0500	15 00	148 00													
0600	14 59	147 59													
0700	14 58	147 58													
0800	14 57	147 58	01	10	1015.3	260	25		3		20-5-5	266	19	70	N-12
0900	14 58	147 58													
1000	14 59	147 58													
1100	14 59	147 58													
1200	14 51	147 59													
1300	15 00	148 01													
1400	15 08	148 02	14	10	1013.9	270	24		6		40-5-5	263	20	80	N-12
1500	15 08	148 02													
1600	15 10	148 04													
1700	15 07	148 03													
1800	15 00	148 03													
1900	15 03	148 02													
2000	16 15	148 22	01	10	1016.6	265	23		8		40-5-5	263	21	80	N-12
2100	16 20	148 02													
2200	16 20	148 02													
2300	16 13	148 01													
2400	16 04	148 01													

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 15 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	17 06	148 01													
0200	17 15	147 59	50	05	1016.5	231	23		6		40-5-5	259	21	60	N-12
0300	17 27	147 57													
0400	17 37	147 56													
0500	17 27	147 59													
0600	17 29	147 59													
0700	17 35	147 58													
0800	17 43	147 58	01	10	1017.4	235	21		2		60-5-5	260	22	90	N-12
0900	17 52	147 58													
1000	18 07	147 56													
1100	18 19	147 59													
1200	18 25	147 58													
1300	18 40	147 57													
1400	18 51	147 54	02	10	1017.4	232	22		8		60-5-5	259	13	60	N-12
1500	18 58	147 54													
1600	18 02	147 56													
1700	18 13	147 59													
1800	18 24	147 57													
1900	18 35	147 58													
2000	18 47	147 57	01	10	1018.2	236	21		4		70-5-5	252	17	70	N-12
2100	18 53	147 58													
2200	19 03	147 58													
2300	19 13	147 58													
2400	19 24	147 58													

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 16 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	20 33	147 25													
0200	20 40	147 25	0 2	10	1018.0	240	20		4		60-5-5	253	17	40	N-12
0300	20 38	147 25													
0400	21 05	147 35													
0500	21 18	147 35													
0600	21 30	147 35													
0700	21 47	147 35													
0800	21 34	147 35	14	10	1018.4	248	20		6		20-5-5	253	10	60	N-12
0900	21 25	147 35													
1000	22 07	147 38													
1100	22 14	147 38													
1200	22 26	147 37													
1300	22 38	147 37													
1400	22 49	147 38	0 1	10	1016.8	252	20		2		30-5-5	250	18	80	N-12
1500	23 20	147 38													
1600	23 12	147 38													
1700	23 24	147 38													
1800	23 27	147 38													
1900	23 33	147 38													
2000	23 45	147 38	0 1	10	1019.0	246	19		3		30-5-5	250	15	80	N-12
2100	23 50	147 38													
2200	24 07	147 38													
2300	24 14	147 38													
2400	24 23	147 38													

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 19 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	24 32	145 33														
0200	24 42	145 50	102		10	1019.7	218	71		4		30-5-3	24.5	12	70	45-12
0300	25 00	146 17														
0400	25 08	146 36														
0500	25 08	146 59														
0600	25 20	147 23														
0700	25 32	147 59														
0800	25 45	148 00	101		10	1021.1	232	19		5		30-5-3	24.5	27	80	45-12
0900	25 50	148 00														
1000	25 10	148 00														
1100	26 21	148 00														
1200	26 23	148 10														
1300	26 27	148 06														
1400	26 11	148 17	101		10	1021.1	234	20		7		10-5-4	24.7	30	80	45-12
1500	26 16	148 28														
1600	26 11	148 39														
1700	26 08	148 49														
1800	26 01	149 01														
1900	25 55	149 13														
2000	25 49	149 25	101		10	1021.7	241	28		5		10-5-4	24.7	18	80	45-12
2100	25 46	149 30														
2200	25 40	149 43														
2300	25 34	149 54														
2400	25 23	150 05														

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 18 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	25 02	150 16														
0200	25 13	150 28	02		10	1020.9	23.7	20		3		49-50	20.4	12	70	09-15
0300	25 02	150 41														
0400	25 02	150 53														
0500	24 58	151 05														
0600	24 55	151 09														
0700	24 55	151 14														
0800	24 56	151 28	02		10	1020.9	24.2	20		3		40-50	20.0	12	70	09-12
0900	24 56	151 41														
1000	24 57	151 55														
1100	24 58	152 09														
1200	24 59	152 22														
1300	24 59	152 35														
1400	24 59	152 50	02		10	1020.1	27.0	20		3		40-50	20.2	12	70	09-12
1500	24 59	153 05														
1600	25 02	153 19														
1700	25 00	153 31														
1800	25 00	153 43														
1900	25 00	153 54														
2000	25 00	154 01	02		10	1020.5	27.4	15		3		40-50	20.0	12	70	09-12
2100	25 00	154 11														
2200	25 00	154 11														
2300	25 00	154 23														
2400	25 00	154 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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 19 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	25 04	154 58													
0200	25 00	155 05	01	10	1021.8	22.0	20		1		70-100	24.0	15	90	W-12
0300	25 00	155 22													
0400	25 00	155 30													
0500	25 00	155 50													
0600	24 57	156 05													
0700	24 57	156 20													
0800	24 55	156 34	02	10	1027.5	22.0	20		2		70-100	23.5	15	90	W-12
0900	24 55	156 47													
1000	24 55	157 00													
1100	24 59	157 00													
1200	24 59	157 00													
1300	24 57	157 00													
1400	24 26	157 00	04	5	1021.0	22.0	20		1		70-100	24.0	15	90	W-12
1500	24 14	157 00													
1600	24 02	157 00													
1700	23 53	157 00													
1800	23 42	157 00													
1900	23 33	157 00													
2000	23 29	157 30	01	5	1020.7	22.0	20		1		70-100	24.6	15	90	W-12
2100	23 28	157 30													
2200	23 18	157 30													
2300	23 06	157 30													
2400	22 54	157 30													

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

DATE 23 Sept 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	22 14	157 00													
0200	22 37	157 01	12	5	1016.9	29.5	29		7		120-2.5	25.5	27	50	5-12
0300	22 31	157 02													
0400	22 22	157 03													
0500	22 22	157 03													
0600	21 55	157 05													
0700	21 50	157 11													
0800	21 45	157 17	01	11	1017.8	26.7	27		3		100-1.4	25.6	23	50	5-12
0900	21 33	157 24													
1000	21 25	157 31													
1100	21 15	157 39													
1200	IN PORT														
1300	21 10	157 55													
1400															
1500															
1600															
1700															
1800															
1900															
2000															
2100															
2200															
2300															
2400															

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

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SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA SURVEY CHART C

72 12 12

DATE 15 Sept 64

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100																
0200																
0300																
0400																
0500																
0600																
0700																
0800																
0900																
1000																
1100																
1200																
1300	21 19	157 58														
1400	21 12	157 51														
1500	21 05	157 44														
1600	20 57	157 37														
1700	20 52	157 31														
1800	20 45	157 24														
1900	20 39	157 16														
2000	20 34	157 16														
2100	20 34	157 16														
2200	20 29	157 14														
2300	20 18	157 06														
2400	20 09	157 01														

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