

DATE 3 Dec 63
Pg. # 1

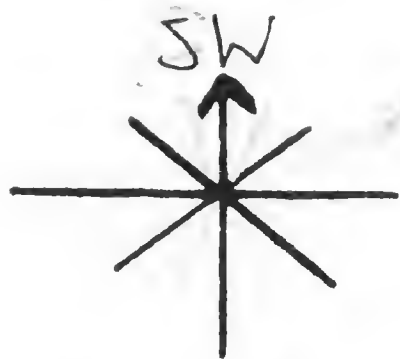
time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
1100	commence	observation				
1117	Jaeger SP	1	SE	50ft	1000 to starboard	
1128	B. F. Albatross	2	SW		- one sat in water to starboard astern	
	frigate ♀	1	SW			
1129	Brown Booby	1	N		Immature	
1131	Frigate	1	E	100ft	1500 off bow	
1155	B. F. Albatross	2	-	-	one flying astern; other sat on ^{water} deck amidships. May be same as before.	
12:16	B. F. Albatross	3	SE	-	Following ship - off fantail	
12:30	Wedge-Tail	1	N	-	off fantail - landed on water	
12:35	Brown Booby	2			following off fantail	
12:37	adult + Imm.	1				
12:38	New Zealand S. ? B. F. Albatross	3			very light flight - flapped 6 or 7 times throughout M pattern on back - underwing similar to wedgetail joined other 3 B. F. Albatrosses following off fantail	
12:41	Pomarine Jaeger	1	SE		white on upper primaries; central tail feather extended	
12:41	Frigate bird ♀	1	⊙	100ft	came from rear to land off bow - 75 yards to starboard	
1256	Pomarine J.	2	E	50ft	off port 400 yds	
1257	Pom. Jaeger	1	NE	50ft	500 off bow	
1315	Pom Jaeger	1	W	50ft	1500 off bow	
1319	Wedgetail?	1	W		75 yds to starboard - probably a young bird - feathers looked new - light edges to secondary wing coverts on dorsal side - flapped often - somewhat like 1237 bird	
1324	Black foot A.	1	NW		75 yds across bow - young bird - no white at base of tail - slightly mottled on dorsal primaries - circled behind ship - still circling at 1335	
1331	Jaeger SP Pom Jaeger	1			landed in water 500 to port	
1336	Pom Jaeger	2	⊙		500 to port	
1357	B. F. Albatross	1	↖		75 yds off bow	
1359	Pom Jaeger	1	NW		100 yds to port - blunt tail feathers	
1404	B. F. Albatross	4	⊙			
1412	Wedgetail?	1	⊙		same as 1319 - 6 knot wind may account for much of flapping	
1412	B. F. Albatross	3	⊙		joined 4 at 1404 to make total of 7 around ship	

290







New Zealand =
wedge-tail (2)

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time	species	#	dir.	hgt.	remarks	loc.
1427	New Zealand S	1	E ^{to} N		dark back with clear pattern - black cap - white underthroat - flaps + glide more typically shearwater than wedgetails - previous wedgetails? were quite similar to these birds. May all have been N.Z. S's - underwing similar to wedgetail	
1428	New Zealand S	1	S			
1430	New Zealand S	1	S		feeding in water 600 or so to starboard. Landed, made a few dabs with bill, took off, sometimes at right angles to previous flight, flew for 50ft or so then dropped in again - typical shearwater flight pattern. white visible in trailing edges of dorsal surface of wings, due probably to light edges of feathers in W pattern on back of wings	
1438	Pom. Jaeger	2	NW	soft		
1448	Porpoise Est. 200	110 count	S		all black - constantly jumping out of water straight up, coming down sharply on abdomen.	
1453	Pom. Jaeger	2				
1514	Masked Booby	1	NE			
1514	New Zealand Shearwater				- prob. same bird.	
	8 Black-footed Albatross -					
1529	P. Jaeger N.Z. Shearwater	4 K2			circularly aft.	
	7 Albatross B.F.					
	5 Pomarine Jaeger					
	4 New Zealand Shearwater					
	} following ship					
1600	B.F. Albatross	1			collected on fish line by R. Fleet from stern of ship.	
1619	New Zealand?	1	E			
1630	New Zealand?	5	EE		- following astern - prob. same as before.	
1632	Pom. Jaeger	3	EE		circling low. prob. same as before = 2 sat on water	
1648					birds on water & in air; 6 Jaegers; 5 Shearwaters; 13 B.F. Albatross.	



time	species	#	dir.	hgt.	remarks	loc.
1700	New Zealand?	13	all	-	sitting & circling stern.	
1703	Pom. Jaeger	8	-	-	- sitting on water off bow.	
1708	Pom Jaeger	41	SE	75'	from starboard bow	
1755 Sun set						
1800					flock of birds has been around ship for some time. observations made from stern by all.	
maximum no.	B footed albatross	12			1 albatross caught on hook + line.	
	P. jaeger	12				
	wedge-tail	7			these were apparently immatures + are the same that we were calling New Zealand?. Saw pink feet + legs (1 was banded W.K.) + wedge tails. the wing coverts + back feathers have light edges + this gave the strongly contrasted upperparts which we had called N. Zealand?. albatross + jaeger collected at garbage. - wedgetails were also attracted (by other birds?) but did not alight near or apparently feed on garbage.	
1829					secured bird watch.	

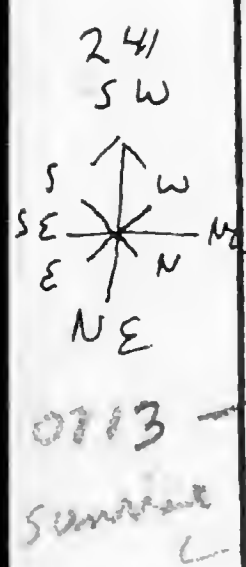


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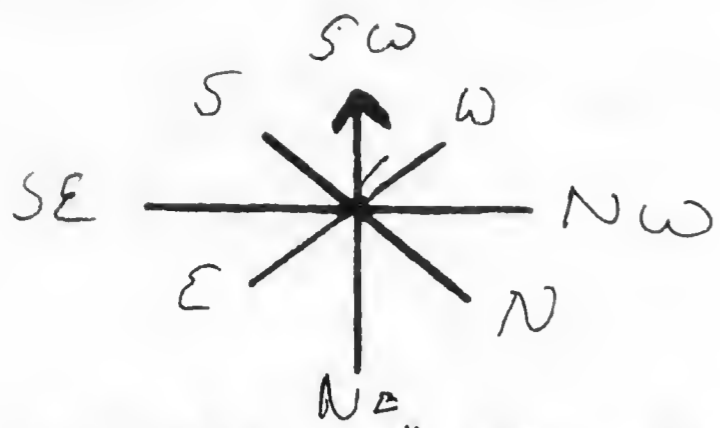
DATE Dec 4, 63
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Obs. began @ 0630

time species E # dir. hgt. remarks loc.



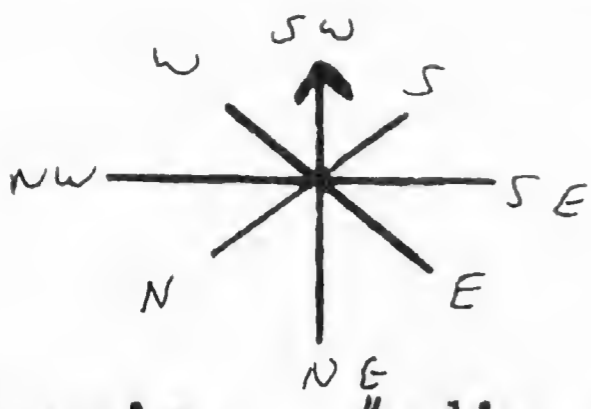
time	species	E #	dir.	hgt.	remarks	loc.
0636	B.F. Albatross	2	-	-	following ship.	
0644	Sooty Tern	1	S	40'	-	
0648	Wedgetail Shearwaters	3	-	-	following astern	
0652	Frigate	1	E	100'	-	
0704	Wedgetails	5	-	-	following astern	
0710	Wedgetail	1	-	-	one following astern - five birds of 0704 came across bow + flew west	
0713	Wedgetail	1	-	-	feeding in large school (300yds x 200yds) of fish 5" to 8"	
0722	Wedgetail	1	-	-	feeding flock in school of 5" to 8" fish	
0729	Flock				seen actually feeding	
	Sooty Tern	1			flock disrupted by ship + wedgetails played down to bow	
	Fairy Tern	1			SOFT ABOVE WATER PORT SIDE CALLED ONCE	
	Wedgetail	2			CAME IN FROM SE FOLLOWING SHIP	
0741	sooty tern	2	NE	50ft	STARBOARD SIDE PASSING AFT.	
0743	wedge tail	1	-	-		
0753	Wedge tail	2	E	-		
0758	Sooty Tern	2	N	-		
0758	White Tern	2	N	-	diving	
	Shearwaters	2				
0759	Wedgetail	1	NW	-		
0804	White Tern	1	N	-		
0812	Wedgetail	1	N	-		
0825	wedgetail	1	NE	-	11 to ship ↓	
0827	wedgetail	2	S	-	500yds ± off starboard	
0831	wedgetail	1	NE	-		
0835	White tern	12	NE	-		
flock	Sooty tern	3		-	actively feeding flock - much diving.	
	large booby	1				
	wedgetail	4				
0842	shearwater	1	SE	-	1500yds + across bow.	
0844	wedgetail	2	SW	-	200 + 300yds off starboard.	
0846	B.F. albatross	1	SE	-	800yds off bow	
(0846)	B.F. albatross	-	none	-	at front.	



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time species # dir. hgt. remarks loc.

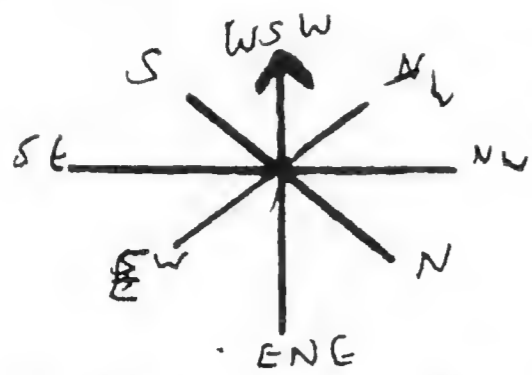
0852	Wedgetail	1	SE		500 off starboard	
0855	Wedgetail	1	SE		600 off starboard astern	
0907	wedgetail	1	SE			
0907	Sooty tern	1	SE		150 yds across bow.	
0915	frigate (imm.)	1	NE		directly over ship from bow.	
0930	{ Sooty tern white tern Barn Swallow (sp.) { 1 frigate imm.) wedgetail	14 1 1 1 8	NE		{ feeding flock - actively diving fish jumping but no flying fish seen. 1 B. f. albatross joined flock.	
0944	sooty tern	1	NE	150'	flying 11 to ship + calling loudly.	
0958	Harcourt's storm petrel	1	S?		just off bow.	
1009	Harcourt's storm Petrel	2	SW		flying off port 100-300 yds with ship	
1010	Wedge-Tail	2	SE		circling ship	
1021	Wedge-Tail	1	SE		50 yds off Port.	
1036						
1039					only 1 albatross at fantail.	
1101	White Tern	5	SE		now 2 " " "	
1101	wedge-Tail	1	NE		flew past bow - 300 yds off starboard 200 yds	
1155					now 3 albatross at fantail	
1205	white T. tropic Isl	1	SE	200'	300-400 yds off bow.	
1218	Wedge-Tail	2	S		200 yds off starboard bow	
1235	B. f. Albatross	1	-	-	737-45002 - captured and banded by W. King - fish line.	
1300	R.T Tropic	1	NE		ON WATER TO STARBOARD	
1341	Shearwater	1	SE		STARBOARD TO PORT DARK UNDER WING white stomach SHEARWATER FLIGHT	
1355	JAPANESE WHITE EYE?	42	S	200ft	TO Port Bow Heard calls before spotted.	
1413	WHITE NECKED	1	W		Petrel FLIGHT	
1425	Booby Petrel	1	S	50ft	Bill cream colored BROWN DORSALLY THROAT BROWN BREST DIRTY WHITE UNDER WING DIRTY WHITE EDGED WITH BROWN UNDER TAIL BROWN MUCH FLAPPING	
	Pterodroma	1	S			
	Wedge Tail	1	W			
	B. f. Albatross	1	-		ALBATROSS LANDED IN MIDDLE OF GROUP NOW following	
1449	Bonin Isl.	1	NE		50ft OFF STARBOARD BOW	
1450	Bonin Isl.	1	NE		" " " "	
1513	BOOBY RFP	1	N	50ft	Light Blue FACE BROWN wing Tips SNOW WHITE STOMACH BROWN SPOTS ON BACK FLEW OVER SHIP TWICE	
1522	Wedge Tail	1	N		100 FT OFF BOW	
1545	Japanese white-eye	1	S	50ft	Heard call - circled ship twice, once flying over bow	
1635	B. f. albatross	2	still		off fantail	
1650	none	seen	off		fantail.	



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time species # dir. hgt. remarks loc.

1650 1700	red footed booby	1	SW	100'	low over ship + off bow - dark immature.		
1700	B. footed albatross	1	SW		1 mostly around fantail		
1712	wedgetail	1	SW		100 yds off starboard.		
1715	red footed booby	1	SW		around fantail + both sides of ship - for few hundred to 1000 yds out for 7 minutes (also 1 albatross) then close up along port side to bow + return - within 50 yds.		
1722	white n. petrel	1	NE		200-300 yds off port		
1725	wedgetail	1	SW		100 yds off fantail. red footed booby still off port - 1734.		
1736	B. tern	1	NE		} around fan tail.		
	wedgetail	1	NE				
1745	wedgetail	5	NE		500-1000 yds off starboard + aft.		
1746	red footed booby	1	SW		off port stern		
1801	Bonin Is. Petrel	1	NE				
1801	shearwater/petrel	1	N				
	wedgetail	2	N				
1823 sunset	shearwater	1	SE		1000 yds +		
1824	Harcourt's storm petrel	1	NE		20-30 yds off starboard bow		
1824	red footed booby	1	SW		100-200 yds off port.		
1833	wedgetail	1	NE		100 yds off starboard		
1840	red f. booby	1	NE		probably same bird - still feeding on port + stern of ship.		
1850	- second bird watch						



DATE Dec. 5, 1963
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wind light but higher than yesterday - deep smells.
mostly overcast.

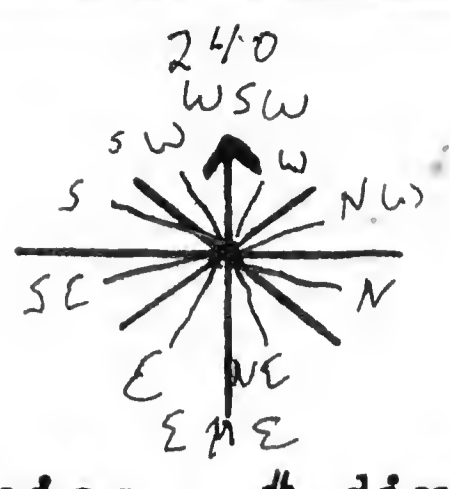
time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
0630					observations began - too dark to see birds	
0647	Sooty tern	1	?		heard calling near ship.	
0735	R.F. Booby	1	W	60 FT.	IMMATURE PASSED OVER SHIP SHIP STOPPED	
0730	Japanese White EYE	2	-	-	Landed on ship, collected	
0844	R.F. Booby	1	NE	50 FT.	400 to port	
1008	R.T. Tropic	1	ENE	150 FT.		
1018	WHALE	1	-	-	1000 yd. STARBOARD BOW, SPEW TO 20 FT.	
1028	R.F. Booby	1	N	-	IMMATURE SUB ADULT	
1105	WHITE NECKED	1	SE	-	600 yd. OFF BOW	
1110	Pterod. / shearwater	1	SE	-	1500 yds off bow	
1125	Wedgetail	1	SE	-	800 off bow	
1147	dark petrel / shearwater	1	SE	-	1000+ yds off bow - maybe storm-petrel sp?	
1206	Brown booby	1	WSW	100'	150 yds off starboard - down.	
1322	Harcourt's Storm Petrel	1	ENE	-	-	
1448	Harcourt's Storm Petrel	1	WSW	-	-	
1522	Harcourt's	2	NW	-	-	
	Pterodroma?	1	SE	-	-	
1533	Harcourt's S.P.	1	NE	-	50 yds to starboard	
1606	Storm Petrel sp? or Storm Petrel sp? or Shearwater?	1	SE	lower water	300 across bow - well seen - small - storm petrel size but with thin ternlike pointed wings - body dark? underwing white with black edges like Bonin I.S.P. Flies with erratic fast wingbeats like a chimney swift interspersed with level glides - didn't band like Bonin I.S.P. wings held stiffer than Storm Petrel - dorsal surface all dark incl. rump. ventral surface of body?	
1623	WHALE	1	-	-	2000 yd STARBOARD BOW BROKE SURFACE TWICE	
1628	Wedgetail	1	SE	-	600 yds off bow	
1628	Harcourt's S.P.	1	-	-	300 off bow	
1724	Wedgetail	1	SE	-	400 off bow	
1728	Wedgetail	1	SE	-	500 off bow	
1850	suspend observations					

0715
Sunrise

1829
Sunset

st = start
E = end
shows



0700 watch started

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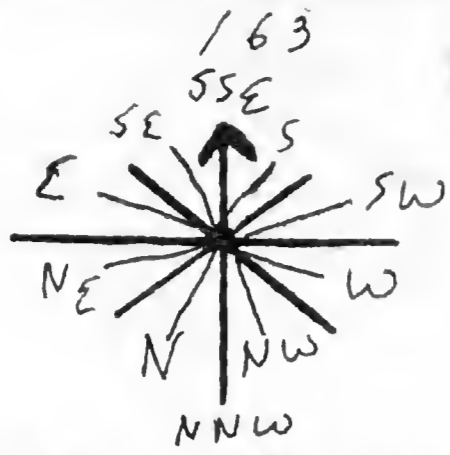
time	species	#	dir.	hgt.	remarks	loc.
0727	Flock Bonin Is P. Shearwaters / Petrel Harcourt's SP	2 1 1	ENE		Not actively feeding - just milling - ship split flock in half. One Bonin Is. had more than normal black underwing, hushmark very pronounced	
0825	Laysan Albatross	1	S	upto 50ft	followed ship for 10 or 15 minutes	
0830	White Necked Petrel	1			Passed astern of ship while stopped for plankton. 50 yds or so	
0913	Wedge-Tail	2	ESE		Passed bow at about 200 yds out	
0916	Wedge-Tail R-F. Booby	8 1	WNW WSW		" " " " 200-300 yds starboard apparently feeding off port side	
0923	Wedge Tail	2	WNW		off Bow 150 yds	
0926	White-Necked Petrel	2	WNW		" " 150 yds, had followed up port side	
0932	Bonin Island	1	ESE		200 yds off bow	
0933	Harcourt's st. Petrel ?	1	ENE		flying very slowly hardly moving wings & following water very closely. Had white rump. very atypical storm petrel flight - more like a petrel	
1003	SHARK	1	ENE	-3 FT.	100 FT. STARBOARD SWIMMING CASUALY 15 FT. LONG 5 FT WIDE LIGHT YELLOW GREEN WELL SEEN BROKE TAIL TWICE	
1057	WHITE NECKED	1	SE	-	PORTSIDE 200 FT.	
1100	Bonin Isl.	1	SSE	-	STARBOARD TO PORT 100 yd OFF BOW	
1110	Bonin Isl.	1	NW	-	PORT TO STARBOARD 100 yd OFF BOW	
1111	Brown Booby	1	ENE	50 FT.	50 FT. TO STARBOARD TO STRAIGHT AFT	
1143	Frigate	2	SSE	200 FT	IMMATURE STARBOARD TO PORT PASSED OVER SHIP AMID SHIPS	
1145	RED TAIL Tropic Bird	1	ENE	200 FT.	FRIGATE DOVE AT TROPIC BIRD	
1215	R-F Booby Bird?	1 1	NW ?		200 yds off port bow " " " "	
1217	Pter/shearwater	1	E			
1221	wedge-Tail (imm)	1	NW		50 yds of bow	
1253	shearwater?	1	SE			
1253	shearwater?	1	SE			
1253	petrel?	4	SE			
1335	Sooty Shear?	1	S		1000 off bow - scaling high - no hood at wing base but flight & all dark color & medium size & shape were sooty shearlike	
1340	Frigatebird	1	⊙	75 ft.		
1425	Flock Sooty Tern R.F. Booby Booby SP shear/petrel	20+ 1 4+ 100+	SW		flock spread out over at least 1/2 mile large black fish swimming in midst of flock area probably more petrels than shearwaters	

0744
Sunrise

1200 st

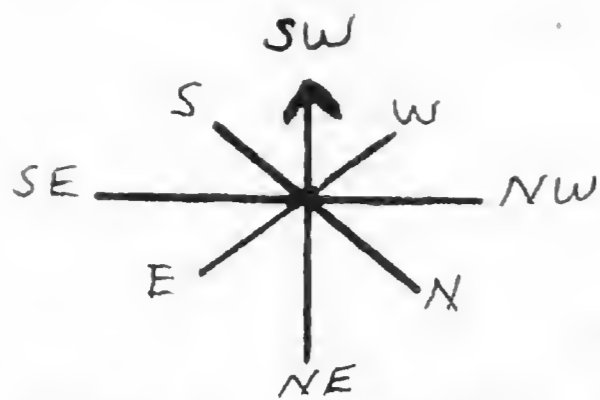
1221
became heavier

7 yds



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time	species	#	dir.	hgt.	remarks	loc.
1527	Harcourt's SP.	1	↖		came within 100 yds of ship on starboard bow	
1544	Fewer					
	Bonin Is. P.	1				
	Sooty Tern	6				
	Shearwater	4				
	Petrel					
	Red Foot Booby	30			some active feeding	
	Booby SP.	10				
1624	Booby (R.F.?)	2	N			
1645	Bonin Is. P.	1	SSE			
1702	R.F. Booby?	6	N	low		
1710	Frigate ♀	1	NW		2 immatures, 4 adults	
1715	FLOCK		NNW			
	R.F. Booby	35+				
	Shearwater	60+			in rain small prob. many more birds boobies probably R.F.	
	Petrel					
1719	R.F. Booby	1	N			
1719	Bonin Is.	1	N			
1725	Nark Nymphal	1	N		sat in water just off bow.	
1840	SOOTY STORM	1	SSE			
1844	PETREL?	1			well seen	
1847	storm Petrel with Sooty	1			could not see well enough to determine sp.	
	Harcourt's	2				
	storm P.	2	SSE			
1853	Secured Hatch				sat in water just off bow.	



DATE 7 Dec. 1963

Pg. # 1

" STARTED OBSERVATION AT 0650 "

time	species	#	dir.	hgt.	remarks	loc.
0750	W.T. Tropic	1	NE	—	ON WATER 300yd STARBOARD BOW FLEW AFT	
0800	plankton detail					
0850	SECURED FROM				PLANKTON DETAIL 50FT STARBOARD	
0807	WedgeTAIL	1	E	—		
0816	WT. Tropic	1	N	150FT	FLEW OVER SHIP	
0850	RT. Tropic	2	NE	150FT	" " "	
0943	Wedgetail	1	NE	—	300yd. STARBOARD BOW	
1144	Harcourts S.P.	1	W	—	50-75 yds off starboard	
1225	R.T. Tropic	1	W	—	ON WATER 500yd. STARBOARD	
1240	Wedge-Tail	1	NW	—	200 yds off bow	
1410	R.T. Tropic bird	2	SW	300'	circled ship. - collected at 1442 by R. Fleet	
1620	resume course after shipboard recoveries					
1707	Harcourts S.P.	1	↖	—	150 yds off starboard bow	
1845	Wedgetail	1	SE	—	400 yds off bow	

0127 summit

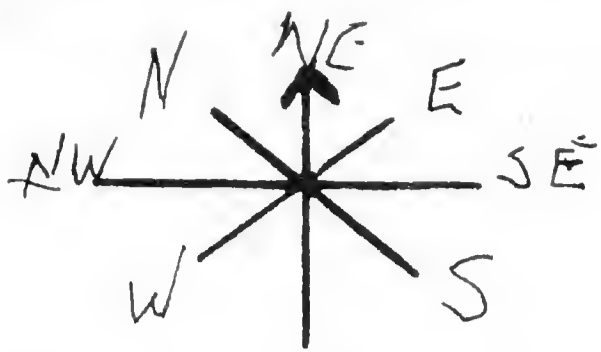
1050 summit

W-T. Tropicbird : 11

R-T Tropicbird : 111

Wedge-Tailed shearwater : ~~111~~ 111

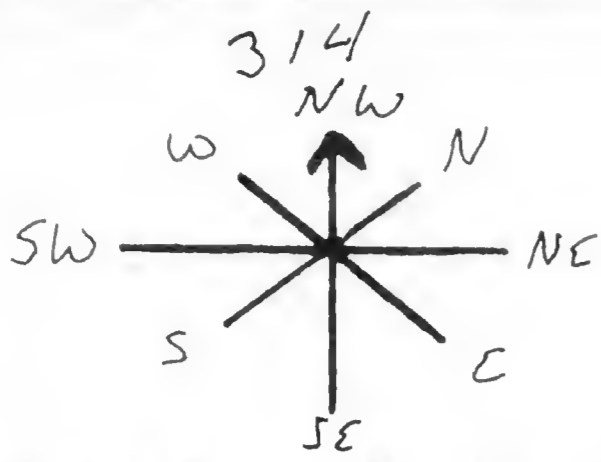
Harcourt's St. Petrel : 1



DATE Nov. 8
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obs begun at 0700

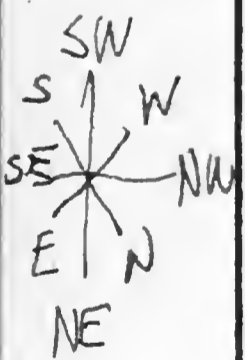
time	species	#	dir.	hgt.	remarks	loc.
0735 Sunrise						
0755	Stop for plankton sample.					
0826	R.T. Tropicbird	1	NE	150'	without rectrices	
0837	under-way					
0843	Pterodroma	1	NW	—	—	
0903	R.T. Tropicbird (imm)	1	NE	—	100 yds off starboard. - without rectrices - probably same one as sighted before.	
0955	Pterodroma	1	NW	—	—	
1100	wedgetail	1	NW	—	200 yds off bow imm.	
1240	Pterodroma	1	SE	—	500 yd. STARBOARD BOW	
1241	R.T. Tropic	1	SE	80FT	50 yd. STARBOARD	
1329	Bird sp.	3	SE	—	800 yds off bow.	
1337	Bird sp. Ptero. sp	1	E	—	1000 yd off bow	
1350	Fairy Tern? / wt Tropicbird	1	S	—	either this sp. or white-tailed tropicbird - never came closer than 1000 yds.	
1410	R.T. Tropicbird	1	SE	—	apparently flushed from H ₂ O on port side - flew across	
1458	R.T. Tropicbird	1	NE	—	bow to right	
1628	HARCOURTS	1	SE	—	200 yd OFF TO STARBOARD	
1657	Masked Booby	2	NE	60'	1 collected by R. [unclear] - immature	
1710	Sargasson albatross?	1	NE	low	not positive but I think I saw a strongly hooked beak. black tail, wings + back. rump white + head white. white below. flew low to H ₂ O with few wing beats - joined by masked booby (imm) but too far out by that time, several times flew around ship - after dove & once picked up fish.	
1710	masked booby	1	NE	—	—	
1852	wedgetail	1	SW	—	— well seen	
1910	Obs - stop!					
1952 Sunset						

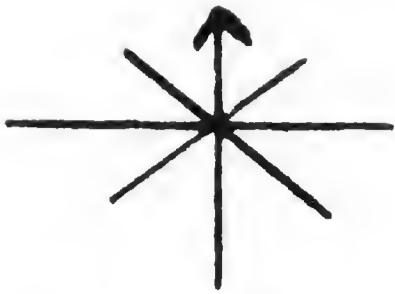


DATE 09, DEC. 1963
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observation begun 0715

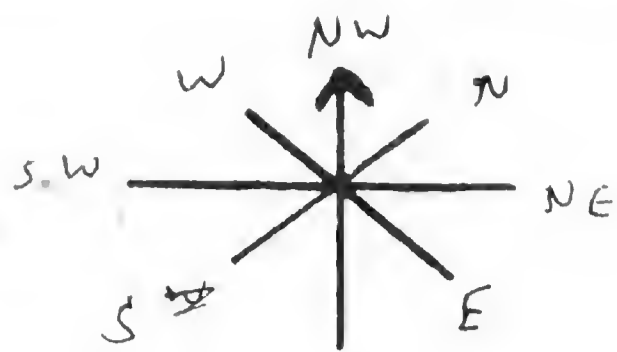
time	species	#	dir.	hgt.	remarks	loc.
0733 0756	plankton detail					
0811	Masked Booby	1	⊙	30 ft	imm.	
0839	secured plankton detail					
0845	White Necked	1	—	—	700 yd To STARBOARD LANDED ONCE TOOK OFF immediately	
0911	Masked booby	1	NW		flying + feeding off starboard + stern. after shot at	
0933	Tropic RT.P?	2	SE		departed at 0930 returned at 0935 departed at 0945	
1000	White Necked P. Wedgetail?	1. 1.	NE		crossed bow at 500 yds - white neck seen well other had darker underwing. smaller - flapped more	
1015	White - Necked	1	SE		300 yds off starboard	
1026	White - Necked	1	NE		" " " "	
1027	Masked Booby (imm)	1	NW		1000 yds off starboard	
1034	Bonin Is. Petrel	1	NE	—	—	
1040	White necked Petrel	1	SW	—	—	
1059	wedge-tail	1	NE to SW		75 yds off bow	
1101	Bonin Is.	1	NE		100 yds off starboard	
1110	Shearwater/Petrel	1	SW		400 yds off port - flying very rapidly	
1127	bird sp. SHEARWATER PETREL	1	SW			
1132	turned to		SW		course	
1149	R.T. Tropicbird	1	SE	—	sitting on water + flew at about 60' alt. adult.	
1256	White necked P. Wedgetail?	1. 1.	E	—	—	
1458	ad-fledged booby	1	SE	50'	50 yds off starboard bow.	
1506	Masked booby	1	SE		800 yds off port side.	
1525	Kermadec petrel	1	SW		flying very fast - dark above ind. head, light below EC + CE both saw white spots in wing. well seen.	
1543	WHITE NECKED	1	E	—	PASSED 100 yd AFT	
1543	Bonin Isl.	1	SE	—	PASSED 100 yd ON THE BOW To Port	
1744	R.T. Tropicbird	1	⊙	150'	over ship, etc.	
1801	R.T. Tropicbird	1	SW	100 ft	came off water passed to port	
1859	Harcourt's S.P.	1	⊙		55 yds off starboard	





DATE 9 Dec 63
Pg.# 2

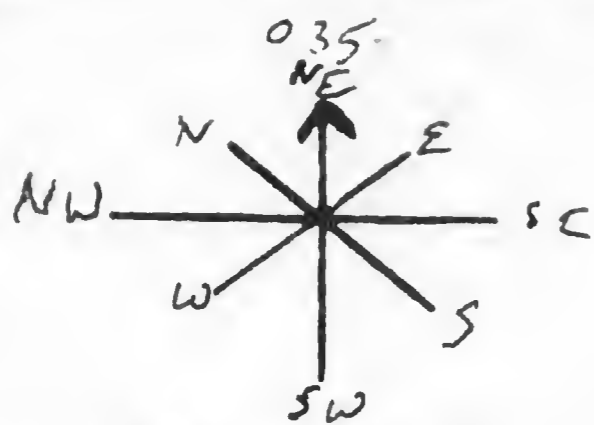
time	species	#	dir.	hgt.	remarks	loc.
1900	Wedgetail	2	W		50 yds off bow	
1901	dark shearwater	1	W		medium to small dark shearwater - typical shearwater flight several quick flaps + long glide, often with high scale-above horizon - seemed smaller than Sooty Shear light bad 300 yds off bow	
1907	Wedgetail	3	⊙		dark edges on wings <u>much</u> thinner than on other Wedgetails - otherwise appeared the same	
	wedgetail?	1	⊙			
1912	Storm Petrel SP	1	SE		400 yds	
1919	Masked Booby Imm	1	SE	40 ft	250 yds to port	



DATE Dec. 10, 1963
Pg. # 1

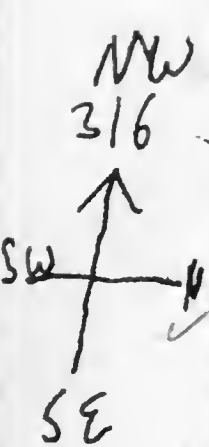
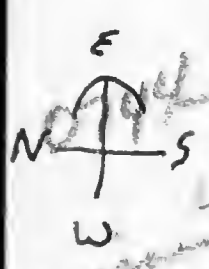
Cooler, strong NW wind, deep swells, heavy seas.
partly overcast by haze

time	species	#	dir.	hgt.	remarks	loc.
0645	observation began					
0742 0700	changed course to NW					
0800	plankton detail.					
0832	secured plankton detail				+ resumed course + speed	
0910	wedgetail ✓	1	SE		heavy seas 300 yds.	
0945	small <u>Shearwater</u>	1	SE			
1040	Red Footed Booby Imm.	1	⊙	50ft		
1117	White Noddy P ✓ Wedgetail ✓	1 1	N		200 to starboard	
1349	Rain Squall entered					
1414	left rain squall					
1455	entered rain squall					
1505	out of rain squall					
1648	shearwater	1	NE		long wings? long wings	
1648	petrel	1	NE			
1815	Red footed booby	1	NE			
1845	wedgetail ✓ wedgetail ?	1 2	NW NW		together 200 yds + then 600 yds off star	
1915	secured bird watch					

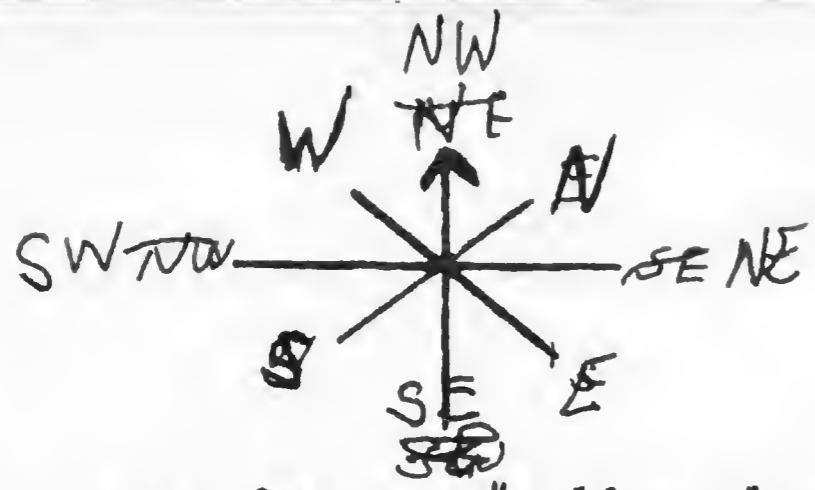


DATE 11 Dec 63
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0728	Wedgetail	1	NE		200 to port into wind escorting ship for 10 minutes	
0740	change course to 090				young variety with sharp contrasting back pattern	
0746	dark shearwater	1	S		flies like sooty shear - very fast flying - easily twice as fast as most birds observed. 800 yds off bow	
	shearwater/petrel	1	?			
0750	Wedgetail	1	SW		25 yds off bow	
0800	set plankton detail					
0810	Wedgetail	1				
0815	Pterodroma sp.	1	SW		100 aft	
0816	Wedgetail	1	S	40ft	scaling very high - up to 40ft or more - considerably above horizon	
0820	Wedgetail	1	NE		Post side stern	
0830	Dark-rumped	1	NE		Post side stern	
0835	Wedge-tail (imm)	1	SW		circling 50-150 off starboard bow	
0844	set plankton detail				50 yds off starboard	
0935	White Neck P	1	SW		100 yds aft	
0939	Wedgetail	1	SW		50 yds off bow	
0941	Wedgetail	2	SW		200 yds to starboard	
1006	Pterodroma	1	NE		300 yds off port	
1036	masked booby	1	NE			
1038	Wedgetail	24				
	Bonin Is. P.	1	NE		circling but not feeding	
	D. n. sp. P.	1				
	w. neck P.	1				
	Red-foot Booby	2				
1254	wedgetail	2	SW		200 yds off starboard	
1329	Wedgetail	1	S		500 off starboard bow	
1330	change course to					
1352	Bonin Is. P.	1	NW		400 off bow	
1405	Wedgetail	1	NE		500 off starboard	
1410	Bonin Is. P.	1	NW			
1428	W.T. Tropic	1	NW		350 off bow FLEW OVER SHIP	
1615	R.F. Booby	1	NW		collected by R. Fleck	
	under way at 1639					
1700	Wedgetail	2	NE			



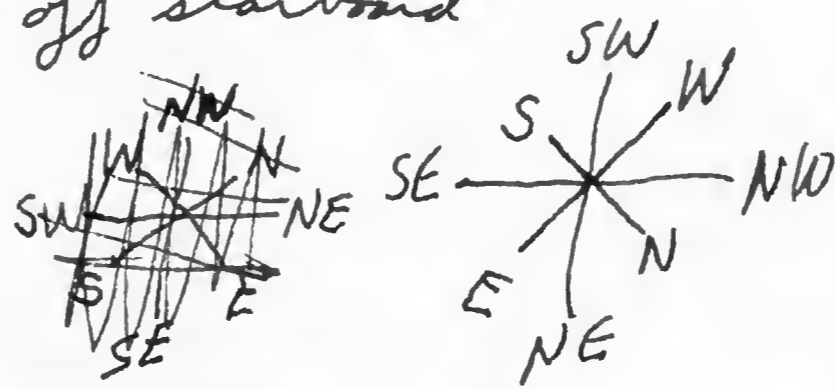
37
24
6/8



DATE Dec. 11
Pg. # 2

time species # dir. hgt. remarks loc.

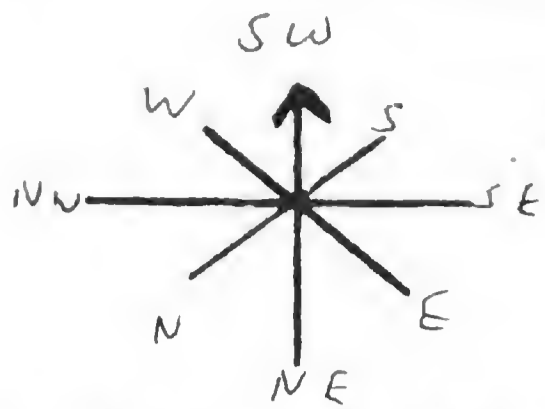
1715	White-Necked (Trinidad Petrel)	? 1	NW		100 yds off bow. appeared as if under wing linings were all dark. very large almost appeared jaeger-like - whitish head - stout		
1725	Harcourt's	1	NW				
1748	R-F. Booby	1	NE		100 yds off starboard		
1800	turn to		SW	course			
1818	Wedgetail	1	SE				
1845	R-F Booby	1	SW				
1855	R-F. Booby	1	SW		- flew over helm. deck - 150 yds off port		
1905	end observations						
Total		61					



1953
correct

1121

1121



DATE Dec. 12, 1963

Pg. # 1

16

almost completely overcast, low seas (few whitecaps)
wind NE, 13 ± K. swells NE-S ft. scattered showers.

time species # dir. hgt. remarks loc.

0746
Sunrise

320
NW
↑
NE SE
SE

N E
NE SE
W R S
SW

1900
Sunset

time	species	#	dir.	hgt.	remarks	loc.
0700	started watch					
0734	light enough for observation					
0802	plankton detail					
0830	red t. bird	1	E	200'	across bow 100+ yds.	
0840	secure plankton detail					
1015	small Pterodroma	1	SE		500 off bow	
1022	Red Foot Booby	1	⊙	50ft	came right over hila deck	
1029	Shearwater Petrel	1	NW		750 yds off bow	
1112	Red footed B. mature	1	SE	25ft	150 yds aft to starboard adult plumage	
1225	White-Necked P.	1	NW		200 yds off bow	
1330	Change course to		320			
1545	BIRD	1				
1615	golden plover	1	NW		Seen by watch officer over ship	
1625	Wedgetail	1	NE			
1753	Sooty Tern	1	S		100 yds aft	
1830	course change				400 off starboard	
1845	Tropicbird sp / Fairy Tern	1	SW	50ft	1000 to port	
1900	bird watch secured.					

1 die	a	2
1	5	14
2	10	7
2	10	14
3	15	14

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6x3 a

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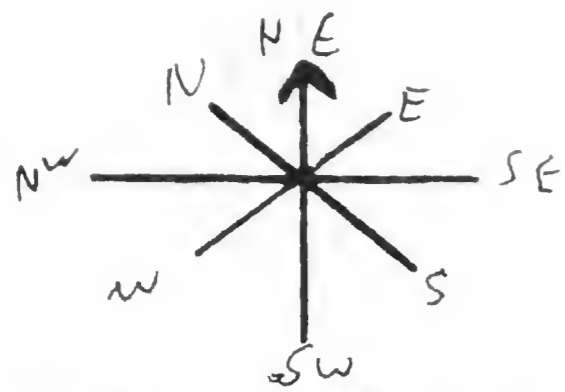
15 21
5 to 7
3 to 2

~~35 to 49
21 to 14
56 to 63~~

10 20
1 to 2

2 in 6

1 in 3



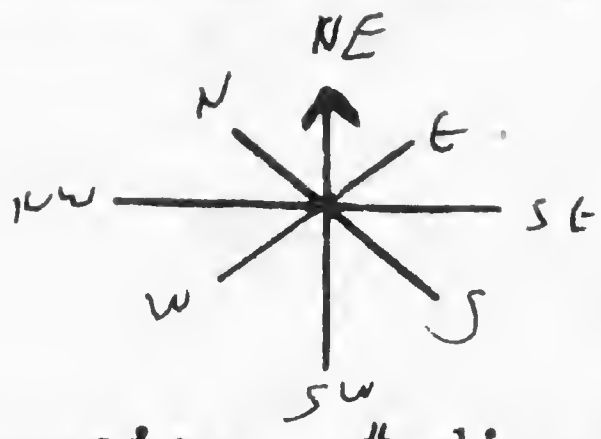
DATE Dec. 13
Pg. # 1

high winds die into bow, lower sea - few whitecaps
partly cloudy - low swells

time species # dir. hgt. remarks loc.

0715	leaper under					
0725	wedgetail	1	NE		11 ship 20-100 yds. starboard	
0806	wedgetail	1	NE		off starboard with previous bird	
0902	Dark Rumped P.	1	W		400 off port	
0925	Wedgetail	3	SE		to port 400 to 1200	
	Pterodroma	1	SE			
0930	Wedgetail	8	SE		following ship - may have been more	
1010	wedgetail	1	NE			
1042	Bonin Is.	1	see			
1117	FLOCK	10	NE		frontail	
	wedgetail	10				
	Bonin Is.	4				
	Bon Booby	1				
1130	CHANGE COURSE				TO 088	
1140	Wedge Tail	1	E		CROSSED BOW TO 400YD STARBOARD THEN E	
1145	Wedgetail	2				
1145	Red Footed Booby	1			Booby WAS SITTING ON WATER NEXT TO A BOARD (Bow)	
					THE WEDGE TAILS WERE FLYING AROUND HIM	
					THEY FLOATE WEST. SOUTH	
1204	Wedgetail	1	W			
1205	red-footed booby	1	NE		stayed with ship 10 mins.	
1404	Petrel/shear.	2	E		800+ yds to port	
1405	Wedgetail	1	NW		100 off bow	
1436	wedgetail	1	SE		500 yds off bow	
1437	lg. Ptero.	1	SW		off port side	
1452	Wedgetail	1	W			
1503	Masked Booby	1	SE	40ft	immature	
1518	wedgetail	1	SW		250 yds off port	
1550	wedgetail	2	E		600 yds off port	
1716	wedgetail	1			seen by crew.	
1830						
1920	wedgetail	1			second bird watch	





DATE Dec. 14

Pg. # 1

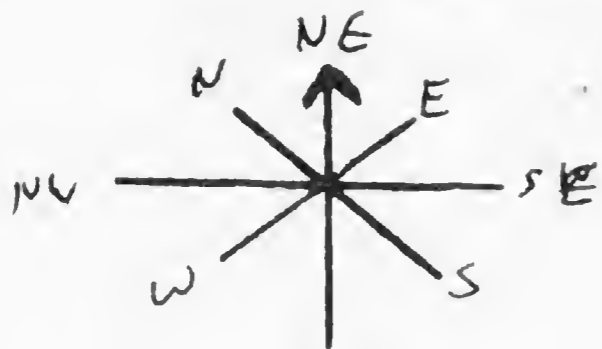
strong wind; mostly cloudy, low horizon.
few whitecaps

time	species	#	dir.	hgt.	remarks	loc.
0645	started observation					
0720	red f. booby	1	NW		about 10 mi N of Johnston Is.	Camera 5 min - slow
0723	" "	1	NW		200 yds	
0724	booby egg (ex. n. forked)	6	NW		600 yds	
0725	Red Foot B.	1	NW		400	
0725	Red Foot B	4	NW		800	
0726	Red Foot B	1	NW		300	
0728	" "	2	NW		600 yds. adult	
0729	" "	4	NW		400 aft adult	
0730	" "	1	NW		aft adult	
0731	" "	2	NW		1000 off bow	
0734	" "	1	NW		100 yds off bow	
0745	" "	1	NW		150 yds off bow	
0747	" "	6	NW		200 aft adults all	
0748	" "	1	NW		400 off bow	
0752	" "	7	NW		same flock 200 yds off bow	
0802	" "	1	NW		200 aft adult	
0806	and chick	1	NW		1000 yds port	
0806	boobies?	4	NW		" "	
0807	fugate	1	-		crabbing toward Johnston	
0810	boobies?	2	-		1000 yds port	
0813	fugate	1	-		feeding just N. Johnston	
	boobies	5	-			
0844	booby	1			700 yds starboard	
0951	RF Booby	3	NW		Adult	
0959	RF Booby	2	NE		Adults - followed ship for 10-15 min.	
1110	Bonin Is.	1	SW			
1114	R-F Booby	1	SE		immature	
1351	Wedgetail	1	SW			
1553	Bonin Is.	1	SW			
1600	red t. bird	1	N			
1645	masked booby	1	NW		11 to port side 150-400 yds.	
1814	White-Necked?	1	S			
1819	Masked Booby	1	NE		300 yds off bow	
1910	Secured watch				following ship	

Kaiser Hawaiian Hotel
Helicopter

0739
sun

1940
sun



DATE Dec. 15, 1963

Pg. # 1

time species # dir. hgt. remarks loc.

0700	started observations					
0725	L. footed albatross	1			following star closely	1st ob. by fantail watch about 0645. cne
0735	wedgetail	1	SE		100yds across star	
0827	wedgetail	1	SW			
1134	shearwater/A.	1	SE		600yds off bow.	unsuccessfully snagged at 1115 sat in H2O.
1210	shearwater?	1	SE		500 off starboard bow - medium large, dark	
1252	Bonin Is P.	1	SE		shearwater?	
1323	wedgetail	1	W		300 to starboard bow	
1332	red t. t. bird	1	SE		fleshed from water - port side.	
1433	red t. t. bird	1	SE		100yds across bow. paralleled ship on starboard side for few minutes	
1515	Bonin Is P.	1	SW			
1815	WHALE	1	SW		1000yds Port Bow Swimming casually	
1820	Wedgetail	1	SE		blowed several times	
1845	Wedgetail?	1	S		following aft in company of B.F.A. aft 100yds	

secured bird watch 1850

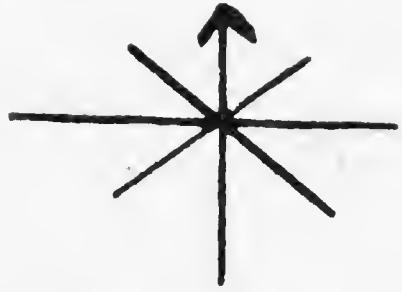
albatross followed ship until at least 1730 cne.



DATE 16 Dec 63
Pg. # 1

start observations 0700

time	species	#	dir.	hgt.	remarks	loc.
0717 0720	Dark Rumped P.?	1	↪		100 yds off starboard bow or less - somewhat smaller + more delicate than typical D. R. P. flew very lightly with numerous wing beats slightly swiftlike -	
0738	White Neck P. Shearwater/ Petrel	1	↗			
0738	Red Foot Booby	1	⊙	35ft	immature	
0740	Phaethon P.	1	NW		large bird 500+ aft	
0747	R.T. Tropicb.	1	Σ	100ft		
0756	Shearwater/Petrel	5	NNW		400 yds off fantail.	
0825	R.T. Tropicb.	1	SE	100ft		
0852	Shearwater/Petrel	1	SSE		600 yds off bow	
0906	White Neck P.	1	↗		500 off bow	
0925	Whale SP	1	E		1000 off port bow	
0935	R.T. Tropicb.	1	⊙	100ft	dived twice to feed from considerable height	
0951	White Neck P.	1	W		checking his fall once or twice before hitting	
0959	Whale	1	W		300 to port	
0959	R.T. Tropicb.	1	⊙			
1007	SHEARWATER Petrel	1	WSW	-	600 yd Port Bow	
1251	R.F. Booby	1	ENG	-	OVERSHIP	
1415	Sooty Tern	1	↙	50ft		
1425	Bonin's Petrel Wedgetail? Wind petrel	1 2 1	N		{ flock? dark brown above; wings dark below with large (long) white patch - not distinct circle as in Hawaiian. gray on throat	
1427	Phoenix Is. B.?	1	N		prob. part of above flock. brown not black under wing	
1430 ?	1	NE		prob. above bird - looked very chunky; dark above, white below. mottled white + brown under wing.	
1435	sooty tern	1	NE			
1452	H. Storm petrel	1	NE		200 yds off port. flight more deliberate, less erratic than usual.	
1457	w.t.t. bird	1	NE	200'		
1540	sea birds ?	9			2-3 mi off starboard - high above horizon forgets or turns	
1645	Wedgetail	1	WSW			

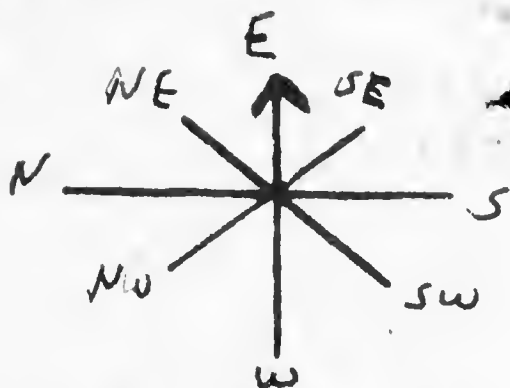


DATE Dec. 14, 1963

Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1743	wedgetail fang tern sooty tern	1 1 16	NW		very long loose flock - not feeding. 12 sooties high up	
1838	seared bird watch					

1567
Somed



DATE Dec. 17
Pg. # 1

Cool mod NE wind, low sea, no whitecaps.
partly cloudy, occ. showers during night

time species # dir. hgt. remarks loc.

time	species	#	dir.	hgt.	remarks	loc.
0645	watch started					
0730	bl. ft. albatross	1			according to fantail watch has been following ship since about 0600 at least.	
0942	w.t. f. bird	1	E	50'	off fant.	
1012	B-F. Albatross (imm)	1			joined the first bird off fantail	
1027	B-F. albatross (adult)	1			followed off fantail	
1044	B.F. Albatross (imm)	1			joined other 3 off fantail	
1048	B.F. albatross (imm)	1			joined off fantail	
1053	B.F. Albatross (imm)	1			" " "	
1054	B.F. Albatross (adult)	1			" " "	
1101	B.F. Albatross (imm)	1			joined others off fantail (total now 8)	
1109	Pomarine Jaeger	2			following off fantail } two of the 3, 2 } but have extended venturis. 1 only slightly	
1111	Pomarine Jaeger	1			" " "	
1119	W.-T. Tropicbird	1	E	80'	seemed to have much difficulty flying into wind. 200 yds off post	
1129	Pomarine Jaeger	1			joined others off fantail (total now 4)	
1146	Pomarine Jaeger	1			joined others to make a total of 5 - all with dark breast with band - varying shades on throat making cap sometimes visible	
1210	Pomarine Jaeger	1			joined others	
1325	Frigate ♀	1	E	200'		
1354	2 Jaegers + 2 Albatross				following ship; prob. same as above	
1400	Jaeger R.F. Booby?	1	E			
1430	2 Albatross				following ship (Black-footed)	

Date: 3 DEC. 1963 Sunrise: Time: 0713W Position: 30°30'N 161°05'W

Time: 1755
Sunset: Position: 20°45.00

	Fix	Type	Time
1	L 21°15.1'N λ 157°57.0'W	VISUAL	1100
2	L 20°45.0'N λ 158°50.0'W	DR	1755
3	L 20°30.0'N λ 159°50.0'W	DR	2400
4			
5			

Hourly position:

0000		
0200		
0300		
0400		
0500		
0600		
0700		
0800		
0900		
1000	Latitude	Longitude
1100	21° 15.1' N	157° 57.0' W
1200	21° 10.5' N	158° 00' W
1300	21° 02' N	158° 03' W
1400	21° 00' N	158° 12' W
1500	20° 50' N	158° 33' W
1600	20° 50' N	158° 33' W
1700	20° 45.0' N	158° 42' W
1800	20° 45.5' N	158° 52' W
1900	20° 44.1' N	159° 01.3' W
2000	20° 42.9' N	159° 14.0' W
2100	20° 37.0' N	159° 22.0' W
2200	20° 30.0' N	159° 31' W
2300	20° 30.0' N	159° 40.0' W
2400	20° 30.0' N	159° 49.3' W

Miles from 2400 to sunrise UNDERWAY 1000
Miles from sunrise to sunset 60 mi 58 mi
Miles from sunset to 2400 57 mi

Date: 4 DEC. 1963 Sunrise: Time: 0713W Position: 30°30'N 161°05'W

Time: 1830W
Sunset: Position: 19°37'N 162°37'W

	Fix	Type	Time
1	L 30° 45' N λ 161° 55' W	LORAN	1210
2	L 29° 35' N λ 162° 34' W	LORAN	1915
3			
4			
5			

Hourly Position

	Latitude	Longitude
0100	20° 30.0' N	159° 37.5' W
0200	20° 30.0' N	160° 09.1' W
0300	20° 20.0' N	160° 19.0' W
0400	20° 30.0' N	160° 30.0' W
0500	20° 30.0' N	160° 30.0' W
0600	20° 30.0' N	160° 45.1' W
0700	20° 31' N	161° 07' W
0800	20° 35' N	161° 16' W
0900	20° 33' N	161° 30' W
1000	20° 18' N	161° 35' W
1100	20° 13' N	161° 43' W
1200	20° 08' N	161° 53' W
1300	20° 03' N	162° 02' W
1400	19° 56.5' N	162° 03.5' W
1500	19° 53' N	162° 08' W
1600	19° 49' N	162° 35' W
1700	19° 40' N	162° 36' W
1800	19° 37' N	162° 48' W
1900	19° 36.0' N	162° 50.0' W
2000	19° 31.0' N	162° 50.0' W
2100	19° 28.0' N	162° 12.0' W
2200	19° 28.0' N	162° 20' W
2300	19° 17.0' N	162° 25.0' W
2400	19° 12.0' N	162° 31.0' W

Miles from 2400 to sunrise 89 mi
Miles from sunrise to sunset 112 mi OK
Miles from sunset to 2400 55 mi

Date: 5 Dec 1963

Sunrise: Position: 18-40.0 164-59.0 W
Time: 0715

Sunset: Position: 18-47.0 163-24.0 W
Time: 1827

Fix	Type	Time
1 L 18° 38.2' N λ 164° 46.2' W	LORAN	0800
2 L 18° 08.5' N λ 165° 44.2' W	LORAN	1425
3 L 17° 49.0' N λ 166° 31.0' W	LORAN	1810
4		
5		

Hourly position:	Latitude	Longitude
0100	19° 07.5' N	163° 47.3' W
0200	19° 03.0' N	163° 56.0' W
0300	18° 58.0' N	164° 05.0' W
0400	18° 53.0' N	164° 14.0' W
0500	18° 48.0' N	164° 23.0' W
0600	18° 43.0' N	164° 32.0' W
0700	18° 40' N	164° 41.0' W
0800	18° 35.0' N	164° 50.0' W
0900	18° 30.0' N	165° 00.0' W
1000	18° 25.0' N	165° 09.0' W
1100	18° 20.0' N	165° 18.0' W
1200	18° 21' N	165° 27.0' W
1300	18° 16' N	165° 36.0' W
1400	18° 11' N	165° 45.0' W
1500	18° 06' N	165° 54.0' W
1600	18° 02' N	166° 03.0' W
1700	17° 58' N	166° 12.0' W
1800	17° 53' N	166° 21.0' W
1900	17° 48' N	166° 30.0' W
2000	17° 43' N	166° 39.0' W
2100	17° 38' N	166° 48.0' W
2200	17° 32' N	166° 57.0' W
2300	17° 28' N	167° 06.0' W
2400	17° 23' N	167° 15.0' W

Miles from 2400 to sunrise 67.5 mi
 Miles from sunrise to sunset 113.0 mi 113
 Miles from sunset to 2400 55.0 mi

Date: 6 Dec 1963

Sunrise: Position: L 17° 50.0' N
λ 168° 20.0' W
Time: 0744

Sunset: Position: L 16° 19.0' N
λ 169° 16.0' W
Time: 1844

Fix	Type	Time
1 L 16° 56.0' N λ 168° 31.0' W	LORAN	0810
2 L 16° 47.0' N λ 168° 58.0' W	LORAN	1215
3 L 16° 25.0' N λ 169° 17.0' W	LORAN	1620
4		
5		

Hourly position:	Latitude	Longitude
0100	17° 22.0' N	167° 22.0' W
X 0200	17° 20.0' N	167° 32.0' W
X 0300	17° 16.0' N	167° 40.0' W
X 0400	17° 12.0' N	167° 51.0' W
X 0500	17° 08.0' N	168° 00.0' W
X 0600	17° 03.0' N	168° 09.0' W
X 0700	16° 58.5' N	168° 20.5' W
0800	16° 54.0' N	168° 30.0' W
0900	16° 57.0' N	168° 33.0' W
X 1000	16° 52.5' N	168° 42.5' W
X 1100	16° 49.0' N	168° 52.0' W
X 1200	16° 47.0' N	168° 57.0' W
X 1300	16° 44.0' N	169° 05.0' W
X 1400	16° 41.0' N	169° 15.0' W
X 1500	16° 37.0' N	169° 24.0' W
X 1600	16° 25.0' N	169° 17.0' W
X 1700	16° 19.0' N	169° 15.0' W
X 1800	16° 10.0' N	169° 13.0' W
X 1900	16° 00.0' N	169° 11.0' W
X 2000	15° 50.0' N	169° 09.0' W
X 2100	15° 40.0' N	169° 06.0' W
X 2200	15° 30.0' N	169° 03.0' W
X 2300	15° 20.0' N	169° 02.0' W
X 2400	15° 10.0' N	168° 56.0' W

Miles from 2400 to sunrise 77.0 mi
 Miles from sunrise to sunset 100.0 mi 89
 Miles from sunset to 2400 55.0 mi

0744
1844

Date: 7 DEC. 1963

Sunrise: Time 0727
 Position: 14° 13.0' N

Sunset: Time: 1854
 Position: 13° 09.0' N
~~170° 23.0' W~~
 13 02 47 170 23.0' W

~~115~~
 14° 16.0' N 169° 04.0' W
 14° 16.0' N 169° 20.0' W

Fix	Type	Time
1 L-14-12 N λ-169-23.1 W	Stars	0700
2 L-13-49.4 N λ-169-42.0 W	LOPAN	1225
3 L-12-55 N λ-170-35 W	Stars	1925
4		
5		

Hourly Position:

Time	Latitude	Longitude
0100	15° 00.0' N	168° 55.0' W
0200	14° 41.0' N	168° 53.0' W
0300	14° 23.0' N	168° 50.0' W
0400	14° 23.0' N	168° 48.0' W
0500	14° 25.0' N	168° 37.0' W
0600	14° 20.5' N	169° 06.0' W
0700	14° 19.0' N	169° 17.0' W
0800	14° 12.0' N	169° 24.0' W
0900	14° 07.0' N	169° 31.0' W
1000	14° 00.0' N	169° 37.0' W
1100	13° 50.5' N	169° 42.5' W
1200	13° 43.0' N	169° 49.0' W
1300	13° 38.0' N	169° 54.0' W
1400	13° 29.0' N	170° 02.0' W
1500	13° 25.0' N	170° 07.0' W
1600	13° 18.0' N	170° 14.0' W
1700	13° 11.0' N	170° 20.0' W
1800	13° 05.0' N	170° 26.0' W
1900	13° 01.5' N	170° 29.0' W
2000	12° 55.0' N	170° 35.0' W
2100	12° 47.0' N	170° 43.0' W
2200	12° 39.5' N	170° 49.0' W
2300	12° 31.0' N	170° 56.0' W
2400	12° 24.0' N	171° 03.1' W

Miles from 2400 to sunrise: 75.0 mi

Miles from sunrise to sunset: 100.0 mi

Miles from sunset to 2400: 53.0 mi

reached grid at 0400;

still there (baler trouble) at 0500.

Date: 8 DEC Sunrise: Time: 0735
 Position: L-12-55 N
λ-171-49 W

Sunset: Time: 1852
 Position: L-13° 56' N
λ-170° 46' W

Fix	Type	Time
1 L-12-57.2 N λ-171-45.5 W	STARS	0700
2 L-13-21 N λ-171-24 W	LOPAN	1220
3		
4		
5		

Hourly Position:

Time	Latitude	Longitude
0100	12° 16.6' N	171° 10.0' W
0200	12° 08.0' N	171° 16.9' W
0300	12° 14.2' N	171° 25.0' W
0400	12° 21.0' N	171° 33.0' W
0500	12° 27.8' N	171° 40.0' W
0600	12° 34.9' N	171° 47.1' W
0700	12° 41.0' N	171° 48.9' W
0800	12° 57.1' N	171° 45.5' W
0900	13° 04.0' N	171° 38.2' W
1000	13° 11.0' N	171° 31.0' W
1100	13° 17.2' N	171° 23.5' W
1200	13° 21.0' N	171° 24.0' W
1300	13° 28.0' N	171° 15.5' W
1400	13° 34.2' N	171° 08.0' W
1500	13° 41.0' N	171° 00.5' W
1600	13° 41.0' N	171° 00.5' W
1700	13° 41.0' N	171° 00.0' W
1800	13° 51.0' N	170° 52.0' W
1900	13° 57.0' N	170° 45.0' W
2000	14° 00.0' N	170° 41.5' W
2100	14° 07.0' N	170° 34.4' W
2200	14° 13.0' N	170° 27.5' W
2300	14° 19.5' N	170° 19.9' W
2400	14° 25.7' N	170° 13.8' W

Miles from 2400 to sunrise: 83 mi

Miles from sunrise to sunset: 88 mi

Miles from sunset to 2400: 46 mi

Date: 9 Dec 1963

Sunrise: Time: 0733

Sunset: Time: 1854

Position: L-15-10.0 N
λ-169-44.1 W

Position: L-14-54.0 N
λ-171-01.2 W

Fix	Type	Time
1 L-15° 05.2' N λ-169° 40.6' W	STARS	0700
2 L-15° 30.0' N λ-170° 11.0' W	COAST	1230
3 L-14° 30.5' N λ-171° 13.8' W	STARS	1930
4		
5		

Hourly Position		
	Latitude	Longitude
X 0100	14° 31.8' N	170° 07.1' W
X 0200	14° 38.0' N	170° 00.5' W
X 0300	14° 44.0' N	169° 53.2' W
X 0400	14° 50.0' N	169° 46.8' W
X 0500	14° 56.7' N	169° 40.0' W
X 0600	15° 01.5' N	169° 35.2' W
X 0700	15° 05.7' N	169° 36.0' W
X 0800	15° 13.0' N	169° 48.0' W
X 0900	15° 17.6' N	169° 53.4' W
X 1000	15° 23.0' N	169° 57.2' W
X 1100	15° 27.3' N	170° 02.3' W
X 1200	15° 31.5' N	170° 01.5' W
X 1300	15° 34.8' N	170° 03.2' W
X 1400	15° 38.0' N	170° 07.0' W
X 1500	15° 40.9' N	170° 35.5' W
X 1600	15° 03.1' N	170° 44.1' W
X 1700	14° 37.0' N	170° 53.0' W
X 1800	14° 49.0' N	171° 01.0' W
X 1900	14° 40.2' N	171° 31.2' W
X 2000	14° 31.0' N	171° 37.0' W
X 2100	14° 30.7' N	171° 23.1' W
X 2200	14° 25.0' N	171° 27.5' W
X 2300	14° 19.4' N	171° 33.8' W
X 2400	14° 14.0' N	171° 37.6' W

Miles from 2400 to sunrise: 65 mi

Miles from sunrise to sunset: 108 mi

Miles from sunset to 2400: 50.5 mi

Date: 10 Dec

Sunrise: Time: 0742

Sunset: Time: 1829

Position: L-13-39.0 N
λ-170-31.0 W

Position: L-14-52.1 N
λ-171-59.0 W

Fix	Type	Time
1 L-13° 37.2' N λ-170° 31.0' W	COAST	0850
2 L-14° 30.1' N λ-172° 21.3' W	COAST	1445
3		
4		
5		

Hourly Position:		
	Latitude	Longitude
X 0100	14° 03.6' N	171° 43.0' W
X 0200	14° 03.6' N	171° 48.0' W
X 0300	13° 58.0' N	171° 53.2' W
X 0400	13° 53.3' N	171° 51.0' W
X 0500	13° 47.0' N	172° 04.0' W
X 0600	13° 42.3' N	172° 10.1' W
X 0700	13° 37.8' N	172° 16.2' W
X 0800	13° 33.7' N	172° 32.9' W
X 0900	13° 29.2' N	172° 27.5' W
X 1000	13° 25.0' N	172° 33.3' W
X 1100	13° 21.0' N	172° 39.0' W
X 1200	13° 16.1' N	172° 46.0' W
X 1300	13° 11.0' N	172° 33.8' W
X 1400	13° 06.0' N	172° 31.5' W
X 1500	13° 01.0' N	172° 30.5' W
X 1600	12° 56.0' N	172° 14.2' W
X 1700	12° 51.0' N	172° 08.4' W
X 1800	12° 46.0' N	172° 24.0' W
X 1900	12° 41.0' N	171° 58.1' W
X 2000	12° 36.0' N	171° 54.0' W
X 2100	12° 31.0' N	171° 50.0' W

Miles from 2400 to sunrise: 91.5 mi

Miles from sunrise to sunset: 114 mi

Miles from sunset to 2400: 59 mi

X 2200	12° 26.0' N	171° 38.0' W
X 2300	12° 21.0' N	171° 46.0' W
X 2400	12° 16.0' N	171° 45.0' W

Date: 11 Dec.

Sunrise: Time 0744
 Position: Lat- 16° 35.0' N
λ- 171° 24.0' W

Sunset: Time: 1853
 Position: Lat- 16° 35.0' N
λ- 171° 14.2' W

Fix	Type	Time
1 Lat- 16° 17.0' N λ- 171° 30.0' W	Stars	0705
2 Lat- 16° 35.5' N λ- 171° 15.9' W	LOCIAN	1000
3 Lat- 16° 31.8' N λ- 170° 58.0' W	LOCIAN	1210
4 Lat- 16° 29.9' N λ- 171° 22.8' W	Stars	1923
5		

Hourly position:

Time	Latitude	Longitude
X0100	15° 31'	171° 23.1'
X0200	15° 24'	171° 21.7'
X0300	15° 46'	171° 40.0'
X0400	15° 23.4'	171° 31.2'
X0500	16° 22.0'	171° 26.9'
X0600	16° 05.0'	171° 36.0'
X0700	16° 16.0'	171° 33.0'
X0800	16° 22.5' N	171° 31.5' W
X0900	16° 25.0'	171° 29.0'
X1000	16° 22.0' N	171° 15.0' W
X1100	16° 20.5'	171° 10.0'
X1200	16° 22.0' N	171° 00.0' W
X1300	16° 19.0'	170° 50.0' W
X1400	16° 18.2'	170° 41.0' W
X1500	16° 25.0' N	170° 49.5' W
X1600	16° 31.5' N	170° 56.2' W
X1700	16° 37.9' N	171° 04.0' W
X1800	16° 39.5' N	171° 10.6' W
X1900	16° 53.4' N	171° 18.2' W
X2000	16° 24.5' N	171° 27.7' W
X2100	16° 18.0' N	171° 34.2' W
+2200	16° 11.0' N	171° 42.1' W
+2300	16° 05.0' N	171° 49.0' W
X2400	15° 59.0' N	171° 56.0' W

Miles from 2400 to sunrise *** 60.3 mi

Miles from sunrise to sunset 86 mi 97

Miles from sunset to 2400 63 mi

Date: 12 Dec.

Sunrise: Time 0746
 Position: Lat- 15° 05.6' N
λ- 172° 57.0' W

Sunset: Time: 1908
 Position: Lat- 15° 07.1' N
λ- 172° 11.1' W

Fix	Type	Time
1 Lat- 15° 09.0' N λ- 172° 53.5' W	Stars	0718
2 Lat- 14° 43.5' N λ- 173° 26.0' W	LOCIAN	1200
3 Lat- 15° 13.0' N λ- 174° 06.0' W	STARS	1945
4		
5		

Hourly Position:

Time	Latitude	Longitude
+0100	15° 52.6' N	172° 03.2' W
X0200	15° 43.9' N	172° 10.4' W
X0300	15° 40.0' N	172° 17.2' W
X0400	15° 33.0' N	172° 25.2' W
X0500	15° 26.7' N	172° 32.3' W
X0600	15° 20.1' N	172° 39.0' W
X0700	15° 14.0' N	172° 47.0' W
X0800	15° 04.0' N	172° 58.5' W
X0900	15° 01.0' N	173° 02.2' W
X1000	14° 54.8' N	173° 10.2' W
X1100	14° 47.8' N	173° 17.2' W
X1200	14° 43.5' N	173° 26.0' W
X1300	14° 34.1' N	173° 32.3' W
X1400	14° 34.8' N	173° 40.5' W
X1500	14° 43.7' N	173° 47.2' W
X1600	14° 50.4' N	173° 54.2' W
X1700	15° 01.0' N	173° 57.0' W
X1800	15° 04.2' N	174° 08.0' W
X1900	15° 10.2' N	174° 07.9' W
X2000	15° 14.2' N	174° 03.5' W
X2100	15° 20.2' N	173° 57.7' W
X2200	15° 26.2' N	173° 51.0' W
X2300	15° 32.0' N	173° 44.6' W
X2400	15° 38.0' N	173° 38.0' W

Miles from 2400 to sunrise 79.4 mi

Miles from sunrise to sunset 102 mi 102

Miles from sunset to 2400 40.5 mi

Date: 13 DEC

Sunrise: Time: 0730
Position: 16° 29' N
172° 43.2' W

Sunset: Time: 1853
Position: 16° 59.9' N
171° 09.0' W

	Fix	Type	Time
1	L- 16° 25.0' N λ- 172° 47.0' W	Stars	0715
2	L- 16° 55.0' N λ- 172° 10.5' W	LORAN	1225
3	L- 16° 51.2' N λ- 171° 00.0' W	R 2ix	2000
4			
5			

Hourly position:

0100	15° 44.0' N	173° 32.0' W
0200	15° 50.0' N	173° 25.7' W
X0300	15° 56.2' N	173° 18.5' W
X0400	16° 01.7' N	173° 12.8' W
X0500	16° 09.5' N	173° 04.2' W
X0600	16° 16.0' N	172° 55.0' W
X0700	16° 22.0' N	172° 52.7' W
X0800	16° 30.5' N	172° 42.0' W
X0900	16° 36.6' N	172° 35.0' W
X1000	16° 43.7' N	172° 27.0' W
X1100	16° 49.5' N	172° 21.1' W
X1200	16° 52.0' N	172° 16.5' W
X1300	16° 52.5' N	172° 08.9' W
X1400	16° 53.0' N	171° 58.0' W
X1500	16° 53.1' N	171° 48.0' W
X1600	16° 54.0' N	171° 37.5' W
X1700	16° 54.0' N	171° 27.2' W
X1800	16° 54.0' N	171° 17.1' W
X1900	16° 54.0' N	171° 07.1' W
X2000	16° 51.0' N	171° 00.0' W
X2100	16° 50.2' N	170° 52.0' W
X2200	16° 50.5' N	170° 43.0' W
X2300	16° 50.5' N	170° 33.3' W
X2400	16° 50.5' N	170° 24.0' W

Miles from 2400 to sunrise 74 mi

Miles from sunrise to sunset 100 mi 010

Miles from sunset to 2400 43 mi

end of grid about sunset
cor

Date: 14 DEC

Sunrise: Time: 0738
Position: 16° 54.0' N
169° 35.0' W

Sunset: Time: 1844
Position: 17° 29.0' N
167° 53.0' W

	Fix	Type	Time
1	L- 16° 57.0' N λ- 169° 14.5' W	LORAN	1000
2	L- 17° 05.0' N λ- 168° 57.0' W	LORAN	1200
3	L- 17° 32.5' N λ- 167° 53.0' W	Stars	1915
4			
5			

Hourly Position:

X0100	16° 50.5' N	170° 16.0' W
X0200	16° 50.5' N	170° 06.9' W
X0300	16° 52.0' N	170° 01.0' W
X0400	16° 53.0' N	169° 55.2' W
X0500	16° 54.5' N	169° 49.8' W
X0600	16° 55.0' N	169° 44.1' W
X0700	16° 55.2' N	169° 39.8' W
X0800	16° 55.0' N	169° 32.5' W
X0900	16° 55.0' N	169° 22.4' W
X1000	16° 57.0' N	169° 14.0' W
X1100	17° 02.0' N	169° 05.0' W
X1200	17° 05.0' N	168° 57.0' W
X1300	17° 09.5' N	168° 46.5' W
X1400	17° 10.5' N	168° 39.0' W
X1500	17° 14.0' N	168° 30.0' W
X1600	17° 17.0' N	168° 22.0' W
X1700	17° 21.0' N	168° 12.0' W
X1800	17° 26.0' N	168° 02.0' W
X1900	17° 32.0' N	167° 55.0' W
X2000	17° 34.0' N	167° 46.0' W
X2100	17° 37.0' N	167° 38.0' W
X2200	17° 40.0' N	167° 29.0' W
X2300	17° 43.0' N	167° 20.5' W
2400	17° 48.0' N	167° 11.0' W

Miles from 2400 to sunrise 49 mi

Miles from sunrise to sunset 101 mi 110

Miles from sunset to 2400 48 mi

SR) - 0728

15 DEC 1963

L - 18-10.0N

λ - 166-10.0W

SS) - 1824

L - 18-43.0N

λ - 164-36.0W

Time

Latitude

Longitude

Time	Latitude	Longitude
0100	17 - 50.9 N	167 - 02.5 W
0200	17 - 54.0 N	166 - 53.0 W
0300	17 - 57.0 N	166 - 44.0 W
0400	18 - 00.5 N	166 - 35.0 W
0500	18 - 04.8 N	166 - 26.2 W
0600	18 - 07.1 N	166 - 18.0 W
0700	18 - 10.5 N	166 - 12.5 W
0800	18 - 13.9 N	166 - 03.5 W
0900	18 - 26.9 N	165 - 54.2 W
1000	18 - 30.0 N	165 - 46.0 W
1100	18 - 33.0 N	165 - 36.5 W
1200	18 - 24.6 N	165 - 29.7 W
1300	18 - 38.0 N	165 - 19.8 W
1400	18 - 31.0 N	165 - 10.8 W
1500	18 - 34.0 N	165 - 03.5 W
1600	18 - 37.0 N	164 - 53.0 W
X 1700	18 - 40.9 N	164 - 44.0 W
1800	18 - 40.0 N	164 - 37.0 W
1900	18 - 43.5 N	164 - 28.0 W
2000	18 - 46.7 N	164 - 19.9 W
2100	18 - 49.5 N	164 - 11.0 W
2200	18 - 52.8 N	164 - 02.0 W
2300	18 - 56.0 N	163 - 53.5 W
2400	18 - 59.9 N	163 - 45.2 W

IS DAC 1963

Lat. Long. Type Time

18-10.5N	166-12.5W	STARS	0700
18-24.6N	165-29.7W	LORAN	1200
18-38.7N	164-41.0W	LORAN	1730

mi. from	2400	to "SR"	<u>64 mi</u>
" "	"SR"	to "SS"	<u>91 mi</u> 107 97
" "	"SS"	to 2400	<u>49 mi</u>

SR- 0717
L- 19-25.5N
R- 162-39.5W

16 Dec. 1963

SR- 1807
L- 20-10.5N
R- 160-56.1W

Time

Latitude

Longitude

0100	19 - 05.5N	163 - 36.2W
0200	19 - 09.5N	163 - 28.0W
0300	19 - 14.7N	163 - 19.5W
0400	19 - 19.2N	163 - 10.9W
0500	19 - 23.2N	163 - 02.0W
0600	19 - 27.0N	162 - 53.0W
0700	19 - 32.1N	162 - 42.5W
0800	19 - 36.5N	162 - 33.8W
0900	19 - 39.5N	162 - 24.2W
1000	19 - 43.2N	162 - 16.0W
1100	19 - 46.5N	162 - 04.8W
1200	19 - 49.0N	161 - 55.5W
1300	19 - 52.5N	161 - 47.0W
1400	19 - 55.5N	161 - 38.1W
1500	19 - 59.0N	161 - 28.9W
1600	20 - 02.0N	161 - 19.5W
1700	20 - 05.8N	161 - 10.2W
1800	20 - 09.0N	161 - 02.1W
1900	20 - 12.0N	160 - 51.2W
2000	20 - 15.3N	160 - 43.0W
2100	20 - 19.0N	160 - 34.2W
2200	20 - 22.5N	160 - 25.5W
2300	20 - 25.5N	160 - 16.2W
2400	20 - 28.9N	160 - 07.8W

16 Dec. 1963

Lat.	Long.	Type	Time
19-36.5N	162-33.8W	Loran	0800
19-49.5N	161-53.9W	Loran	1210
20-03.0N	161-09.0W	Loran	1800

M. LFS Team	3400 to "SR"	<u>70 mi</u>	
" "	"SR" to "SS"	<u>100 mi</u>	120
" "	"SS" to 3400	<u>54 mi</u>	

3 December 1963

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TIME	WIND	DIR	TYPE	NO	WIND S	WIND E	DIR	TEMP	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND
21.10.5	158.00	20set 120 set Hi set	10	1018.6	80.2	71.1	67.0	64	.3	.3	1300705	81.0	9.5	096	209	10.0
21.02	158.03	20set 120 set Hi set	10	1017.7	77.9	70.2	66.6	68	.4	.4	1300705	81.0	9.0	092	209	10.0
21.00	158.12	20set E120bk 20set	10	1016.9	80.0	70.6	66.2	62	.7	.7	1300705	81.0	6.0	095	209	10.0
21.00	158.12	E 120 Bkn	10	1016.5	81.0	73.0	69.1	65	.6	.6	1300705	81.0	7.0	124	270	10.0
20.56	158.33	20set 120set	10	1016.4	82.0	74.0	70.7	68	.4	.4	1300706	81.0	7.0	078	246	10.0
20.52	158.43	20set 120set	10	1016.3	80.9	73.0	69.6	68	.4	.4	1300706	81.0	5.0	102	246	10.0
20.48.5	158.52	20set 120set	10	1016.6	77.0	71.5	69.1	76	.4	.4	1300706	81.0	5.0	056	246	10.0

4 December 1963

20.31	161.07	20set120set Hi set	10	1015.5	75.0	70.0	67.7	78	.4	.4	1300706	81.0	6.0	097	270	10.0
20.31	161.07	20set120set Hi set	10	1015.5	75.0	70.0	67.7	78	.4	.4	1300706	81.0	6.0	097	270	10.0
20.28	161.16	20setE120bkn 20set120set	10	1015.5	75.9	70.1	67.4	75	.6	.4	1500707	81.0	7.0	070	241	10.0
20.23	161.26	Ubkn	10	1016.3	78.0	70.5	67.1	69	.7	.6	1500707	81.0	6.5	078	241	10.0
20.18	161.35	20setHithnov	10	1016.5	79.8	71.5	67.8	66	1.0	.5	1500706	81.0	7.0	080	241	10.0
20.13	161.43	20setHithnov	10	1016.2	81.8	72.2	68.0	63	1.0	.5	1500706	81.0	8.0	092	242	10.0
20.08	161.53	20setHithnov	10	1015.7	82.5	73.0	68.9	63	1.0	.5	1500706	81.0	9.0	074	241	10.0
20.03	162.02	20setHithnbk	10	1014.5	86.0	73.5	68.1	55	.7	.3	1500706	81.0	9.0	084	241	10.0
19.56.5	162.13.8	20setHithnsc 20set 150set	10	1014.0	86.0	73.0	67.3	53	.5	.4	1500706	81.0	8.0	084	241	10.0
19.53	162.22	Hi set 20set 150set	10	1013.5	79.5	70.0	65.5	62	.3	.2	1500706	81.0	8.0	112	241	10.0
19.49	162.29	Hisct	10	1013.3	80.0	70.4	65.9	62	.3	.2	1500706	81.0	9.0	110	241	10.0
19.44	162.38	20set hi set 20set 120set	10	1013.5	80.1	70.0	65.2	60	.3	.2	1500706	81.0	8.0	092	241	10.0
19.37	162.48	Hi thn set	10	1013.9	79.9	70.0	65.3	61	.3	.2	1500707	81.0	6.5	077	241	10.0

5 December 1963

18.40 16

18.40	164.41	20set40set U bkn	10	1012.5	75.4	71.0	69.0	80.0	.8	.7	1500705	80.0	10.0	114	241	10.0
18.40	164.41	20setHithnsct 20set 120set	10	1012.4	77.0	70.9	68.1	74	.4		1400706	81.0	5.0	084	190	0.0
18.39	164.46.5	Hi thn bkn 20set 120set	10	1013.1	79.0	72.0	68.9	71	.9	.4	1400706	81.0	9.0	080	241	10.0
18.30	165.04	U ovc E20bkn120bkn	10	1013.7	80.7	73.4	70.3	70	1.0	.8	1400706	81.0	10.00	074	241	10.0
18.26	165.12	Hi ovc	10	1013.4	82.3	72.5	68.2	62	1.0	.9	1400707	81.0	10.0	089	241	10.0
18.21	165.21	20setHithnsct	10	1013.0	83.0	72.5	67.9	60	1.0	.4	1400707	81.0	9.0	097	241	10.0
18.16	165.29	20setHithnove	10	1015.5	86.0	74.0	68.0	57	1.0	.4	1100706	81.0	9.0	072	241	10.0
18.11	165.40	20setHithnevc	10	1011.4	85.0	74.0	69.4	61	1.0	.3	1100706	81.0	9.0	076	241	10.0
18.06	165.49	20setHithnove	10	1010.6	83.0	72.1	67.2	59	1.0	.4	1100706	81.0	9.0	078	241	10.0
18.02	165.58	20setUove	10	1010.8	80.0	72.0	68.5	68	1.0	.6	1100706	81.0	9.0	036	241	10.0
17.56	166.06	20set Uove 20set U bkn	10	1011.2	79.9	72.0	68.5	68	1.0	.9	1100706	81.0	12.0	044	241	10.0
17.51	166.15	Hi ovc 20set 40set	10	1011.5	79.0	72.0	69.0	71	1.0	.8	1200707	81.0	11.0	025	241	10.0
17.44	166.30	Hi thn bkn	10	1012.0	78.1	71.8	69.1	74	.8	.6	1200706	81.0	14.0	029	241	10.0

6 December 1963

16.54 ⁸	168.30	20set E70 Bkn r-	6	1012.5	74.5	71.1	69.6	85	1.0	1.0	1500505	80.0	11.0	050	248	10.0
16.57	168.33	20setE70ovc	7	1013.0	75.7	72.9	71.7	87	1.0	1.0	1500505	80.0	18.0	039	110	0.0
16.52.5	168.42.5	20setE70bkn 20set 40set	7	1013.2	74.3	71.0	69.5	85	.9	.9	1500606	80.0	17.0	050	248	10.0
16.49	168.53	U bkn 15setE30bkn	10	1013.5	78.0	72.8	70.6	78	.9	.9	1500606	80.0	17.0	062	248	10.0
16.47	168.57	70ovc R 15setE30bkn	1	1013.2	74.5	72.5	71.7	91	1.0	1.0	1500606	80.0	14.0	075	248	10.0
16.47	168.57	70ovc R 8setE15bkn	1	1013.2	74.5	72.5	71.7	91	1.0	1.0	1500606	80.0	14.0	075	248	10.0
16.44	169.05.5	45ovc B 15setE40bkn	4	1012.5	74.0	72.5	71.9	93	1.0	1.0	1500707	80.0	20.0	078	248	10.0
16.41.8	169.50 ¹⁵	70ovc 20set40set	8	1011.6	78.3	73.0	70.8	78	1.0	1.0	1500707	80.0	25.0	071	248	10.0
16.37	169.24	E 80 bkn	10	1010.9	78.0	73.5	71.6	81	.8	.8	1500707	80.0	19.0	042	158	10.0
16.25	169.17.5	20set Ubkn 20setE70bkn	10	1010.9	77.0	73.0	71.3	82	.7	.7	1500707	80.0	17.0	110	220	10.0
16.19.5	169.15	RWU 8set 20set	10	1010.9	80.0	74.0	71.5	75	.8	.8	1500707	80.0	17.0	045	163	10.0
16.10	169.13	E 70 ovc	10	1011.3	75.0	72.5	71.4	88	1.0	1.0	1000608	80.0	22.0	080	163	10.0
16.00	169.11	UNABLE TO DETERMINE THIS OB DUE TO HEAVY RAIN SQUALL, NO PERSONNEL WERE ALLOWED ON DECK.														

14.12.8	169.28.6	E20bkn70ovc	10	1011.0	78.0	74.0	72.4	83	1.0	1.0	0900505	80.0	16.0	057	225	10.0
14.12.0	169.23.1	20sctE40bkn	10	1011.1	78.9	73.8	71.7	79	.7	.7	0900707	80.0	14.0	045	225	10.0
14.07	169.31	20sctE40bkn	10	1012.0	80.2	74.9	72.8	78	.7	.7	0900505	80.0	13.0	061	225	10.0
14.00	169.37	20sct 40sct	10	1012.5	83.2	75.0	71.7	68	.5	.5	0900505	80.0	13.0	051	225	10.0
13.50.5	169.42.5	20sct	10	1012.5	84.0	76.0	72.9	71	.5	.5	0400705	80.0	12.0	038	218	10.0
13.43	169.49	20sct	10	1012.0	85.0	77.0	74.0	69	.4	.4	0400705	80.0	11.0	066	218	10.0
13.38	169.54	20sct	10	1011.3	87.3	76.0	71.5	59	.4	.4	0400705	80.0	10.0	061	218	10.0
13.29	170.02	20sct	10	1010.3	85.0	75.2	71.2	63	.5	.5	0500605	80.0	14.0	055	218	10.0
13.25	170.07.5	20sct	10	1009.6	84.0	74.3	70.3	63	.5	.5	0500605	80.0	10.0	078	160	0.0
13.18	170.14	20sct	10	1009.3	83.0	74.9	71.6	69	.5	.5	0400605	80.0	MANEUVERING			
12.11	170.20	20sct	10	1009.1	83.8	75.5	72.2	68	.3	.3	0400605	80.0	11.0	051	218	10.0
13.11	170.20	20sct	10	1009.1	83.8	75.5	72.2	68	.3	.3	0400605	80.0	11.0	051	218	10.0
13.05	170.26	20sct	10	1009.0	84.0	76.0	72.9	69	.3	.3	0400605	80.0	10.0	056	218	10.0

9 Dec. 1963

15.13	169.48	20set100set	10	1011.1	77.2	73.0	71.2	82	.4	.4	3600705	80.0	11.0	010	314	10.0
15.17.6	169.52.5	20set100set	10	1011.9	78.8	73.4	71.2	77	.3	.3	0100605	81.0	10.0	074	325	10.0
15.22	169.57.7	20set	10	1012.4	80.3	72.5	69.1	69	.2	.2	0100605	81.0	9.0	010	326	10.0
15.27.3	170.03.2	20set	10	1012.3	80.2	73.0	69.9	70	.4	.4	0100605	81.0	10.0	005	326	10.0
15.32.5	170.07.5	20set	10	1011.1	79.0	72.6	69.9	73	.3	.3	0100605	81.0	15.0	103	326	10.0
15.24.8	170.18.2	20set100set	10	1011.4	80.0	71.5	67.7	66	.3	.3	0100605	71.0	12.0	006	225	10.0
15.32.5	170.07.5	20set100set	10	1010.6	81.2	76.4	74.6	81	.3	.3	0100605	81.0	13.0	350	225	10.0
15.10.9	170.20	E20bkn	10	1010.4	80.3	72.5	69.1	69	.6	.6	0100605	81.0	12.0	352	225	10.0
15.27.5	170.52.3	E20bkn	10	1009.5	78.3	74.0	72.3	82	.6	.6	3200606	81.0	17.0	360	225	10.0
14.00	170.00	20set	10	1009.2	79.0	72.8	70.2	75	.4	.4	3200606	81.0	16.0	013	225	10.0
14.49.9	171.01.0	20set	10	1009.5	78.9	72.0	69.0	72	.2	.2	3200606	81.0	15.0	006	225	10.0
14.10.0	171.37.2	E20bkn	10	1009.6	78.8	73.4	71.2	77	.7	.7	3200606	81.0	12.0	004	225	10.0

WAW

10 December, 1963

13.12.6	172.26	20sctE4Obkn	10	1009.7	79.0	72.8	70.2	75	.8	.8	3400808	80.0	15.0	042	330	10.0
13.24	172.37	20sctE4Obkn RWU	10	1009.8	78.0	71.5	68.6	73	.7	.7	3400808	80.0	16.0	038	330	10.0
13.39.2	172.22.5	20sctE4Obkn	10	1011.1	79.0	73.0	70.5	75	.6	.6	3400808	80.0	20.0	038	325	10.0
13.45.5	172.33.3	20sctE4Obkn	10	1011.9	78.0	72.0	69.4	75	.6	.6	3400808	80.0	18.0	047	325	10.0
13.51	172.39.5	20sct	10	1012.2	79.0	71.9	68.8	71	.5	.5	0100810	80.0	17.0	055	325	10.0
13.58	172.46	E2Obkn100bkn	10	1011.7	80.0	72.0	68.5	68	.7	.7	3300810	80.0	19.0	064	325	10.0
14.09.5	172.33.8	E2Obkn70bkn	10	1011.1	79.5	71.9	68.5	69	.8	.8	3501015	80.0	23.0*	059	030	10.0
14.20.6	172.36.5	E2Obkn40ovc RWU	10	1010.5	79.9	72.9	69.9	71	1.0	1.0	3501015	80.0	26.0	064	030	10.0
14.32	172.20	E2Obkn RWU	10	1010.3	79.0	72.9	70.3	74	.9	.9	3501015	80.0	24.0	022	030	10.0
14.37	172.14.2	E2Obkn	10	1010.6	78.9	72.0	69.0	72	.9	.9	3501015	80.0	20.0	104	030	10.0
14.38.6	172.08.4	E2Obkn70bkn	10	1010.1	79.0	71.0	67.4	67	.8	.8	3501015	80.0	25.0	106	030	10.0
14.48	172.04	E2Obkn70bkn	10	1009.6	78.8	70.8	67.1	68	.8	.8	3501015	80.0	23.0	015	030	10.0
14.54	17.58.1	E2Obkn70bkn RWU	10	1009.4	77.8	70.8	67.6	71	.8	.8	3501012	80.0	16.0	003	030	10.0

* ALL WIND SPEEDS ARE ESTIMATED FROM THIS OBSERVATION ON DOWN DUE TO INACCURACY OF HAND ANEMOMETER. SHIPS WIND EQUIPMENT IS ALSO INOPERATIVE.

13 December, 1963

16.30.5	172.42	20set100set	10	1013.0	77.8	71.5	67.7	71	.5	.52	0200505	80.0	15.0	023	047	10.0
16.35.6	172.35	20set	10	1013.9	78.7	72.0	69.1	72	.5	.5	0200505	80.0	12.0	047	047	10.0
16.43.7	172.27.6	20set	10	1014.1	79.5	72.2	69.0	70	.5	.5	0200505	80.0	10.0	035	047	10.0
16.49.5	172.21.1	20set120set	10	1015.0	80.0	73.0	70.0	71	.4	.4	0200505	80.0	15.0	053	047	10.0
16.53	172.18.5	20setE120bk	10	1014.6	80.0	73.5	70.8	73	.8	.8	0200505	80.0	15.0	002	085	10.0
16.52.5	172.08.9	20setE100bk	10	1014.0	80.0	73.0	70.0	71	.9	.9	0200505	80.0	17.0	025	088	10.0
16.53	173.18.5	20setE100bk	10	1013.0	80.9	74.1	74.3	80	.9	.9	0200505	80.0	16.0	008	088	10.0
16.53.1	172.34	20set100set	10	1011.9	81.0	73.0	69.6	68	.4	.4	0200505	80.0	23.0	360	088	10.0
16.54.6	172.27	20set100set	10	1011.7	80.2	73.2	70.2	72	.5	.5	0200505	80.0	20.0	018	088	10.0
17.01.2	172.20	20set100set	10	1011.8	80.0	73.5	70.8	73	.4	.4	0200505	80.0	20.0	023	088	10.0
17.06.3	172.00	20set100set	10	1011.1	79.5	72.2	70.0	70	.5	.5	0200505	80.0	10.0	057	088	10.0
17.10	171.56.2	20setE100bk	10	1011.3	78.7	72.0	69.1	72	.6	.6	0200505	80.0	12.0	048	088	10.0

December

Locality

DATE	MILES from 0441		MILES from 2400		Sx	Ss	MILES Traveled	
	1200	0441	1200	2400			Sx-Ss	TRAVEL
3	75	16 WSW	72 ENE	608 ENE	—	1755	30	57
4	244 WSW	350	480 ENE	374 ENE	0712	1823	112	135
5	476 WSW	605 WSW	248 ENE	119 ENE	0715	1829	113	122
6	679 WSW	748 WSW	37 ENE	120 SSE	0744	1849	89	132
7	852 WSW	960 WSW	185 S	282 SSE	0727	1854	104	128
8	934 WSW	844 WSW	225 SSE	150 SSE	0735	1852	88	125
9	682 WSW	913 WSW	77 SSE	199 SW	0733	1854	108	115
10	978 WSW	879 WSW	258 SW	155 WSW	0742	1859	114	105
11	806 WSW	880 WSW	81 W	154 WSW	0744	1853	97	123
12	990 WSW	982 WSW	265 SW	255 WSW	0746	1909	102	119
13	35 WSW	773 WSW	158 W	53 W	0750	1853	100	117
14	680 WSW	586 WSW	44 E	136 ENE	0728	1849	110	97
15	482 WSW	370 WSW	242 ENE	354 ENE	0728	1829	97	113
16	245 WSW	134 WSW	479 ENE	590 ENE	0717	1807	120	124
17	17 WSW	Port	707 ENE	Port	0703	1818	70	68

Dec 26. Sky

Inside

	7	8	9	10	11	12	13		
1	.7	.5	.4	.7	.7	1.0	.5	45/7	.064
2	.7	.5	.3	.6	.7	.8	.5	41/7	.058
3	.5	.5	.2	.6	.6	.7	.5	36/7	.051
4	.5	.5	.4	.5	.7	.5	.4	35/7	.051
5	.4	.5	.3	.7	.7	.4	.8	39/7	.054
6	.4	.5	.3	.8	.8	.6	.9	43/7	.061
7	.5	.5	.3	1.0	.7	.4	.9	42/7	.061
8	.5	.8	.6	.9	.6	.4	.4	42/7	.06
9	.5	1.0	.6	.9	.5	.3	.5	43/7	.061
10	.3	.9	.4	.8	.5	.3	.4	34/7	.051
11	.3	.7	.2	.8	.5	.4	.5	34/7	.048

Outside

	3	4	5	6	14	15	16	17		
1		.4	.4	1.0	.7	13	.5	15	38/7	.054
2		.6	.9	.9	.7	13	.4	-	40/7	.054
3		.7	1.0	.9	.7	0	.3	.9	42/7	.064
4		1.0	1.0	1.0	.6	.1	.2	.7	40/7	.062
5	.3	1.0	1.0	1.0	.5	.1	.2	.6	42/7	.061
6	.4	1.0	1.0	1.0	.5	.2	.3	.5	42/7	.061
7	.7	.7	1.0	1.0	.4	.4	.3		43/7	.056
8	.6	.5	1.0	.8	.4	.4	.3		42/7	.057
9	.4	.3	1.0	.7	.2	.4	.2		42/7	.045
10	.4	.3	1.0	.8	.3	.5	.3		42/7	.051
11	.4	.3	1.0	1.0	.3	.6	.5		42/7	.058

Deer.
Wares

Inside

	7	8	9	10	11	12	13				
1	07	05 ⁴	07 ⁵	08	08 ¹⁰	06 ⁵	05	44	6.3	46	065
2	05	075	075	08	08 ¹⁰	075	05	43	6.1	45	064
3	05	075	065	08	08	075	05	41	5.9	45	064
4	05	075	065	08	08	075	05	41	5.9	47	067
5	05	075	065	08 ¹⁰	08	075	05	43	6.1	47	067
6	05	075	065	08 ¹⁰	08	075	05	43	6.1	47	067
7	05	076	065	08 ¹⁵	08	06	05	50	7.1	48	068
8	05	076	065	08 ¹⁵	08	06	05	50	7.1	48	068
9	05	076	06	08 ¹⁵	08	06	05	51	7.3	48	068
10	05	076	06	08 ¹⁵	08	06	05	51	7.3	48	068
11	05	076	06	08 ¹⁵	08	06	05	51	7.3	48	068

Outside

	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17				
1		06 ⁰⁶	05	05	05	04	03 ³	04 ³²	4.6	37	052								
2		07	06	05	05	04	03 ³	- ³⁰	5.0	32	045								
3		07	06	06	05	04	03	04 ³⁵	5.0	35	054								
4		06	06	06	05	04	03	04 ³⁴	4.9	38	054								
5	08	06	07	06	05	04	03	04 ⁴⁰	5.0	36	048								
6	05	06	07	06	05	04	03	36	5.1	40	057								
7	05	06	06	07	05	04	03	36	5.1	41	058								
8	05	06	06	07	05	04	03	36	5.1	42	058								
9	08	06	06	07	04	04	03	37	5.3	41	058								
10	06	06	06	07	04	04	03	36	5.1	41	058								
11	06	06	06	07	04	04	03	36	5.1	41	058								

West Side

December

									TOTAL	AVE	
note	12-5	12-8	12-7	12-10	12-11	12-12	12-13				
		M		15	16		(1200)				
1	11.0	11.0	11.0	16.0	14.0	16.0	15.0		101.0 / 7	14.4	
2	14.0	13.0	10.0	20.0	16.0	15.0	12.0		110.0 / 7	15.7	
3	13.0	10.0	9.0	18.0	22.0	13.0	10.0		95.0 / 7	13.5	
4	13.0	11.0	10.0	17.0	17.0	18.0	15.0		101.0 / 7	14.4	
5	12.0	10.0	15.0	19.0	20.0	18.0	15.0		109.0 / 7	15.5	
6	11.0	10.0	12.0	23.0	20.0	18.0			94.0 / 6	15.6	
7	10.0	10.0	13.0	26.0	19.0	16.0			93.0 / 6	15.5	
8	14.0	10.0	12.0	24.0	16.0	22.0			140.0 / 6	16.6	
9	15.0	10.0	17.0	20.0	18.0	21.0			96.0 / 6	15.9	
10	-	11.0	16.0	25.0	17.0	20.0			87.0 / 6	14.8	
11	11.0	11.0	15.0	23.0	15.0	22.0			101.0 / 6	16.8	
	11.0	11.0	12.0		15	13					
Outside	12-3	12-4	12-5	12-6	12-13	12-14	12-15	12-16			
1	08.0	6.0 6.0 7.0	10.0 5.0	11.0 18.0	(1300) 17.0	15.0	14.0	10.0		69.0 / 6	11.4
2		6.5	7.0	12.0		16.0	15.0	9.0		72.5 / 6	12.0
3		11.0	10.0	19.0		13.0	15.0	11.0		73.0 / 6	12.1
4		8.0	10.0	14.0		14.0	11.0	13.0		72.0 / 6	11.6
5	7.5	7.0	7.0	14.0		12.0	15.0	14.0		82.0 / 7	11.7
6	9.0	7.0	7.0	20.0	17.0	13.0	15.0	15.0		107.0 / 8	13.3
7	4.0	7.0	7.0	25.0	16.0	18.0	12.0	17.0		111.0 / 8	13.8
8	7.0	8.0	7.0	19.0	23.0	16.0	14.0	13.0		109.0 / 8	13.6
9	7.0	9.0	7.0	11.0	20.0	14.0	14.0	12.0		102.0 / 9	12.9
10	2.0	8.0	12.0	17.0	20.0	14.0	15.0	14.0		105.0 / 8	13.1
11	5.0	11.0	11.0	22.0	11.0	15.0	17.0	15.0		97.5 / 8	12.1
					12	16		13			

% Humidity

December

								TOTAL	AVE	
<i>Inside</i>	12-7	12-8	12-9	12-10	12-11	12-12	12-13 (300)			
1	79	77	82	73	91	74	71	$\frac{589}{7}$	75.5	
2	78	80	77	75	67	70	72	$\frac{447}{7}$	63.9	
3	68	61	69	75	67	70	70	$\frac{480}{7}$	68.5	
4	71	75	70	71	69	67	71	$\frac{495}{7}$	70.7	
5	69	75	73	68	67	68	73	$\frac{493}{7}$	70.4	
6	59	74	66	69	67	64		$\frac{399}{6}$	66.4	
7	63	75	81	71	69	72		$\frac{431}{6}$	71.8	
8	63	75	69	74	64	66		$\frac{411}{6}$	68.4	
9	69	72	82	72	67	71		$\frac{435}{6}$	72.4	
10	68	77	75	67	67	68		$\frac{422}{6}$	70.3	
11	62	76	72	68	67	73		$\frac{424}{6}$	70.6	
<i>Outside</i>	12-3	12-4	12-5	12-6	12-13 (300)	12-14	12-15	12-16		
1		75	74	87		80	77	77	$\frac{470}{6}$	78.3
2		69	71	85		76	78	74	$\frac{453}{6}$	75.4
3		66	70	78		77	71	69	$\frac{431}{6}$	71.8
4		63	62	71		70	73	70	$\frac{429}{6}$	71.4
5	64	63	60	71		68	71	69	$\frac{486}{7}$	69.4
6	68	55	57	73	71	71	71	69	$\frac{555}{8}$	69.3
7	62	53	61	78	80	67	70	67	$\frac{539}{8}$	67.3
8	65	62	57	71	68	70	73	71	$\frac{549}{8}$	68.6
9	62	62	67	82	72	72	72	74	$\frac{570}{5}$	71.2
10	68	60	68	75	73	72	72	69	$\frac{558}{8}$	69.7
11	74	61	71	88	70	68	70	70	$\frac{571}{5}$	71.7

Dry Bulk Storage Dec.

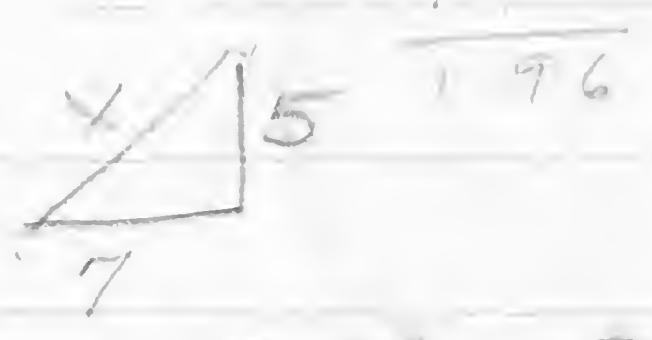
								TOTAL	AVE	
<u>Inside</u>	12-7	12-8	12-9	12-10	12-11	12-12	12-13 (1200)			
1	88.9	78.5	87.2	67.6	82.0	78.5	77.8	$\frac{5355}{7}$	76.4	
2	82.2	88.8	78.9	70.5	89.2	77.5	78.7	$\frac{5435}{7}$	77.6	
3	80.2	84.0	80.3	67.4	82.5	81.5	77.5	$\frac{5534}{7}$	79.0	
4	84.0	81.3	80.2	67.8	77.5	80.0	80.0	$\frac{5538}{7}$	79.1	
5	85.0	81.0	89.0	67.5	78.3	83.2	80.0	$\frac{5550}{7}$	79.2	
6	87.3	81.3	80.0	87.5	76.3	83.4		$\frac{4788}{6}$	79.7	
7	85.0	81.5	81.2	82.7	78.3	81.2		$\frac{4771}{6}$	79.4	
8	84.0	81.3	80.3	80.3	78.8	82.0		$\frac{4777}{6}$	79.5	
9	87.0	80.8	88.3	68.0	88.3	80.8		$\frac{4684}{6}$	78.2	
10	83.8	80.5	87.0	67.4	89.2	83.2		$\frac{4722}{6}$	78.6	
11	83.8	80.0	78.9	87.1	77.0	81.2		$\frac{4681}{6}$	77.9	
<u>Outside</u>	12-3	12-4	12-5	12-6	12-13 (1200)	12-14	12-15	12-16		
1		85.9	75.0	75.7		77.0	75.0	76.2	$\frac{461.8}{6}$	77.1
2		80.0	77.0	74.3		77.0	75.3	78.0	$\frac{466.5}{6}$	77.7
3		77.8	80.7	78.0		80.0	80.0	88.0	$\frac{4767}{6}$	79.4
4		81.8	82.3	71.5		80.0	77.5	77.5	$\frac{477.6}{6}$	79.5
5	80.2	82.5	83.0	71.5		81.0	80.0	78.0	$\frac{559.2}{7}$	79.8
6	77.9	86.0	86.0	74.0	80.0	83.0	80.0	77.2	$\frac{645.1}{8}$	80.6
7	80.0	86.0	85.0	78.3	80.9	81.0	70.0	77.0	$\frac{650.2}{8}$	81.2
8	81.0	77.5	83.0	78.0	81.0	82.0	80.0	77.3	$\frac{641.8}{8}$	80.2
9	82.0	80.0	80.0	77.0	80.2	81.0	80.0	78.0	$\frac{638.2}{8}$	79.7
10	80.9	80.1	79.9	80.0	80.0	79.0	80.0	77.0	$\frac{640.1}{8}$	80.0
11	77.0	78.9	79.0	75.0	79.5	81.0	81.0	78.5	$\frac{628.9}{8}$	78.6

49
36
85

64
73

36
144
180

14
14



$$5^2 + 7^2 = x^2$$

$$x^2 = 25 + 49$$

$$x^2 = 74$$

$$x = 8.6$$

frigate 136100x
BF albatross 121110
WTS 122510
B. Booby 133217
N. Zeland Sk. 122518

Pom Jaye 144101
BF white necked Booby 133206

12/08 without ⁶ rectangle
12/08 fairy tern on wh tail ⁶⁴ 81
↳ hippocamp

Sooty Tern 146867
Wh Fairy Tern 146301

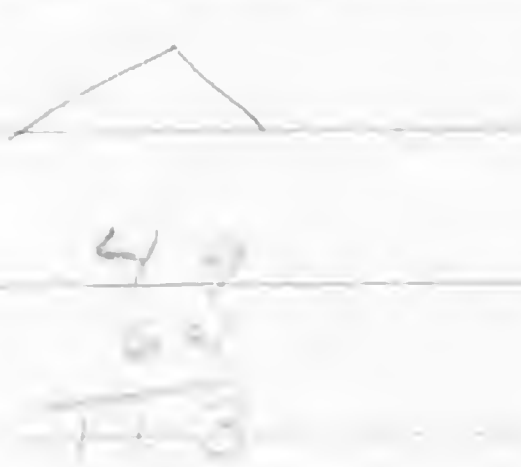
RF Booby 133213
Wh Tailed TB 131112

12/12 ~~12/11~~
12/12 1112 RFB - 0 last ^{8.5} damage 72

RT Tropicbird 131106
Harcourt SP 123404

64
100
64

Pterodroma 122600
wh necked Petrel 122609



Brown Island 122630

49
64
113

81
36
117



Time	Species	#	dir.	height	Remarks	loc.
1427	New Zealand S	1	E ^{to} N		dark back with clear pattern - black cap - white undermost - flaps + glide more typically shearwater than wedgetails - previous wedgetails? were quite similar to these birds. May all have been N.Z. S. - underwing similar to wedgetail?	
1428	New Zealand S	1	S			
1430	New Zealand S	1	S		feeding in water 600 or so to starboard. Landed, made a few dabs with bill, took off, sometimes at right angles to previous flight, flew for 50 ft or so then dropped in again - typical shearwater flight pattern. white visible in trailing edges of dorsal surface of wings, due probably to light edges of feathers in W pattern on back of wings	
1438	Pom. Jaeger	2	NW	50 ft		
1448	Porpoise	10	S		all black - constantly jumping out of water straight up, coming down sharply on abdomen.	
1453	Pom. Jaeger	2				
1514	Masked Booby	1	NE			
1514	New Zealand Shearwater				- prob. same bird.	
8 Black-footed Albatross -						
1529	P. Jaeger	4	}		circularly aft.	
	N.Z. Shearwater	4				
7 Albatross B.F.						
5 Pom. Jaeger						} following ship
4 New Zealand Shearwater						
1600	B.F. Albatross	1			collected on fish line by R. Fleet from stern of ship.	
1619	New Zealand?	1	E			
1630	New Zealand?	5	SE		- following astern - prob. same as before.	
1632	Pom. Jaeger	3	SE		circling low. prob. same as before = 2 sat on water	
1648					birds on water & in air; 6 Jaegers; 3 Shearwaters; 13 B.F. Albatross.	



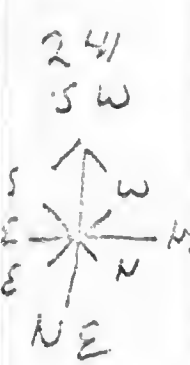
	time	species	dir.	dist.	remarks	loc.	
	1700	New Zealand?	13	ell	-	Sitting & circling stern.	
	1703	Pom. Jaeger	8	-	-	- sitting on water off bow.	
	1708	Pom Jaeger	11	SE	75'	From starboard bow	
75' small	1755						
	1800	flock of birds has been around ship for some time. observations made from stern by all.					
maximum no.		3 footed albatross	2			1 albatross caught on hook & line.	
		P. jaeger	2				
		wedge-tail	7			these were apparently immatures & are the same that we were calling New Zealand?. Saw joint feet & legs (1 was banded W.K.) & wedge tails. the wing coverts & back feathers have light edges & this gave the strongly contrasted appearance which we had called N. Zealand?. albatross & jaeger collected at garbage. - wedge-tails were also attracted (by other birds?) but did not alight near or apparently feed on garbage.	
	1829	secured bird watch.					

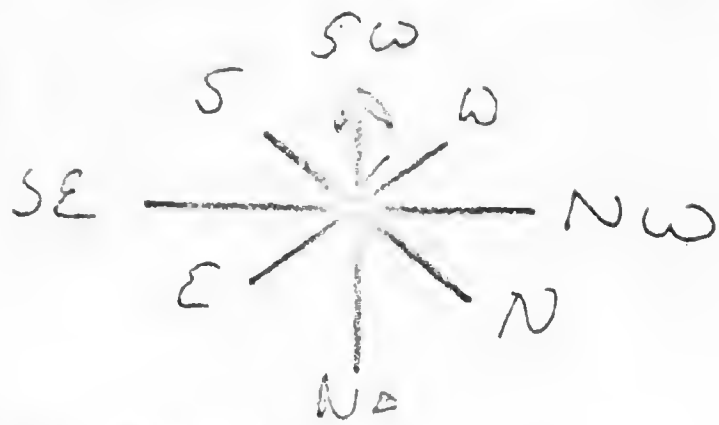


DATE Dec 4
Pg. # 1

Obs. began @ 0630

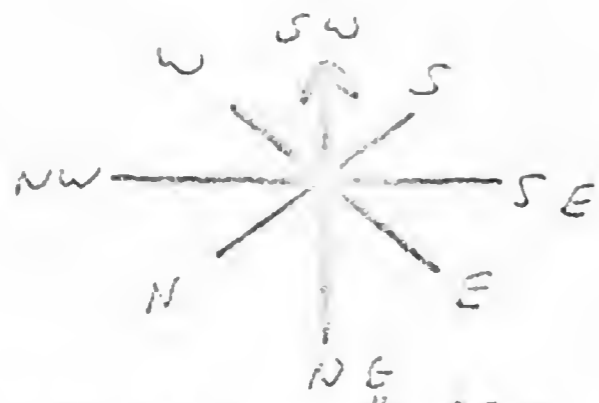
Time	Species	E	dir.	dist.	Remarks	Loc.
0636	B.F. Albatross	2	-	-	following ship.	
0644	Sooty Tern	1	S	40'	-	
0648	Wedgetail Shearwaters	3	-	-	following stern	
0652	Frigate	1	E	100'	-	
0704	Wedgetails	5	-	-	following stern	
0710	Wedgetail	1	-	-	one following stern - five birds of 0704 came across bow + flew west	
0722	Wedgetail	1	-	-	feeding in large school (300yds x 200yds) of fish 5" to 8"	
0724	Flock				feeding flock in school of 5" to 8" fish seen actively feeding	
	Sooty Tern	1				
	Fairy Tern	1				
	Wedgetail	2			flock disrupted by ship + wedgetails played close to bow	
0741	sooty tern	2	NE	50ft	SOFT ABOVE WATER PORT SIDE CALLED ONCE	
0743	wedgetail	1	-	-	CAME IN FROM SE FOLLOWING SHIP	
0753	Wedge tail	2	E	-	STARBOARD SIDE PASSING AFT.	
0758	Sooty Tern	2	N	-	-	
0758	White Tern	2	N	-	-	
	Shearwater	2	N	-	-	- diving
0759	Wedgetail	1	NW	-	-	
0804	White Tern	1	NE	-	-	
0812	Wedgetail	1	N	-	-	
0825	wedgetail	1	NE	-	11 to ship ↓	
0827	wedgetail	2	S	-	500yds ± off starboard	
0831	wedgetail	1	NE	-	-	
0835	white tern	12	NE	-	-	
	Sooty tern	3				
	large birds	1				
	wedgetail	4				actively feeding flock - much diving.
0842	shearwater	1	SE	-	1500yds + across bow.	
0844	wedgetail	2	SW	-	200 + 300yds off starboard.	
0846	B.F. Albatross	1	SE	-	800yds off bow	
(0846)	B.F. Albatross	-	NE	-	at front.	





DATE 4 Dec 63
Pg. # 2

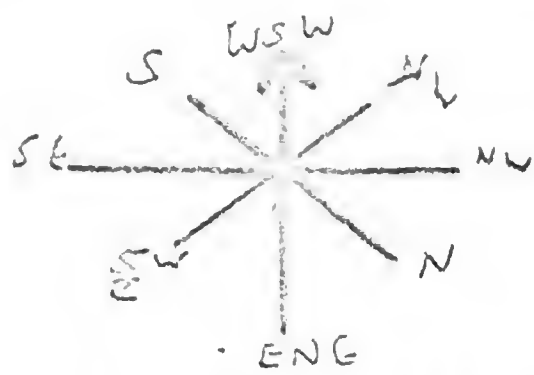
Time	Species	Count	Direction	Distance	Notes
0852	Wedge-tail	1	S		board
0855	Wedge-tail	1	S		600 off starboard astern
0907	Wedge-tail	1	SE		
0907	Sooty tern	1	SE		150 yds across bow.
0915	Frigate (imm)	1	NE		directly over ship from bow.
0930	Sooty tern	14	NE		feeding flock - actively diving fish jumping but no flying fish seen. 1 B.F. albatross joined flock.
	White tern	1			
	Brown booby (ad.)	1			
	1 frigate imm	1			
	Wedge-tail	8			
0944	sooty tern	1	NE	150'	flying 11 to ship + calling loudly.
0958	Shearwater	1	S?		just off bow.
1009	Harcourts Storm Petrel	2	SW		flying off port 100-300 yds with ship
1010	Wedge-Tail	2	SE		circling ship
1021	Wedge-Tail	1	S		50 yds off port.
1036					only 1 albatross at fantail.
1039					two 2 " " " "
1101	White Tern	5	SE		stew past bow - 300 yds
1101	wedge-tail	1	NE		off starboard 200 yds
1155					two 3 albatross at fantail
1205	white t. tropic bird	1	SE	200'	300-400 yds off bow.
1218	Wedge-Tail	2	S		200 yds off starboard bow
1235	B.F. Albatross	1	-	-	737-45002 - captured and banded by W. King - fish line.
1300	R.T. Tropic	1	NE	-	ON WATER TO STARBOARD
1341	Shearwater	1	SE	-	STARBOARD TO PORT DARK UNDER WING white stomach SHEARWATER FLIGHT
1355	JAPANESE WHITE EYE?	42	S	200ft	TO Port Bow Heard calls before spotted.
1413	WHITE NECKED	1	W	-	PETREL FLIGHT
1425	Booby	1	S	50ft	Billicream colored BROWN DORSALLY THROAT BROWN
	Ternadroma	1	S	-	BREAST DIRTY WHITE UNDER WING DIRTY WHITE EDGED WITH BROWN UNDER TAIL BROWN MUCH FLAPPING
	Wedge Tail	1	W	-	ALBATROSS LANDED IN MIDDLE OF GROUP NOW following
	B.F. Albatross	1	-	-	50ft OFF STARBOARD BOW
1449	Cannin Isl.	1	NE	-	Light " " " "
1450	Cannin Isl.	1	NE	50ft	Brown wing tips SNOW WHITE STOMACH
1513	BOOBY RFP	1	N		BROWN SPOTS ON BACK FLEW OVER SHIP TWICE
1522	Wedge Tail	1	N		100 FT OFF BOW
1545	Japanese white-eye	1	S	50ft	Heard call - circled ship twice, once flying over bow
1635	B.F. albatross	2	still	off fantail	
1650	shearwater	1	off	fantail.	



Loc.

Time	Species	Count	Dir.	Dist.	Remarks
1653	red-footed booby	1	SW	100'	low over ship off bow - dark immature.
1700	B. frigatebird	1	SW		1 mostly around fantail
1712	wedge-tail	1	SW		700 yds off starboard
1715	red-footed booby	1	SW		around fantail + both sides of ship - from few hundred to 1000 yds out for 7 minutes (also 1 albatross) then close up along port side to bow + return - within 50 yds.
1722	white n. petrel	1	NE		200-300 yds off port
1725	wedge-tail	1	SW		100 yds off fantail. red-footed booby still off port - 1734.
1732	B. tern	1	NE		} around fan tail.
	wedge-tail	1	NE		
1745	wedge-tail	5	NE		500-1000 yds off starboard + aft.
1746	red-footed booby	1	SW		off port stern
1801	Bonin's Petrel	1	NE		
1801	shearwater/petrel	1	N		
1801	wedge-tail	2	N		
1823	shearwater	1	SE		1000 yds +
1824	shearwater	1	NE		20-30 yds off starboard bow
1824	red-footed booby	1	SW		100-200 yds off port.
1833	wedge-tail	1	NE		100 yds off starboard
1840	red-footed booby	1	NE		probably same bird - still feeding on port + stern of ship.
1850	- sunset bird watch				

1823 sunset



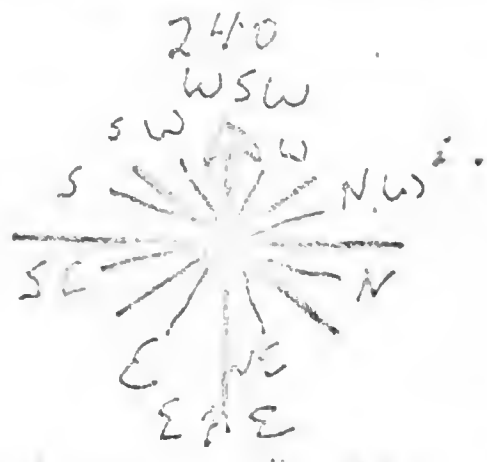
254°

DATE Dec. 5, 1963
 PG.# 1

wind light but higher than yesterday. deep swell.
 mostly overcast.

Time	Species	Count	Direction	Distance	Observations
0630					observations began - too dark to see birds
0647	Sooty Tern	1	?		heard calling near ship.
0735	R.F. Booby	1	W	60 FT.	IMMATURE PASSED OVER SHIP SHIP STOPPED
0730	Spanish White EYE	2	-	-	landed on ship, collected
0844	R.F. Booby	1	NE	50 ft	400 to port
1008	R.T. Tropic	1	ENE	150 FT.	1000 yd. STARBOARD BOW, SPEW TO 20 FT.
1018	WHALE	1	-	-	IMMATURE SUB ADULT
1028	R.F. Booby	1	N	-	600 yd. OFF BOW
1105	WHITE NECKED	1	SE	-	
1110	Pterod. / Shearwater	1	SE	-	1500 yds off bow
1125	Wedgetail	1	SE	-	800 off bow
1147	dark petrel / Shearwater	1	SE	-	1000+ yds off bow - maybe storm-petrel sp?
1206	Shearwater	1	WSW	100'	150 yds off starboard - down.
1322	Harcourt's Storm Petrel	1	ENE	-	-
1448	Harcourt's Storm Petrel	1	WSW	-	-
1522	Harcourt's	2	NW	-	-
	Phaethon?	1	SE	-	-
1533	Harcourt's S.P.	1	NE	-	50 yds to starboard
1606	Storm Petrel sp? or Storm Petrel sp? or Shearwater?	1	SE	lower water	300 across bow - well seen - small - storm petrel size but with thin temlike pointed wings - body dark? underwing white with black edges like Bonin Is. P. Flies with erratic fast wingbeats like a chimney swift interspersed with level glides - didn't bank like Bonin Is. P. wing held stiffer than Storm Petrel - dorsal surface all dark incl. wing. ventral surface of body?
1623	WHALE	1	-	-	2000 yd STARBOARD BOW BROKE SURFACE TWICE
1628	Wedgetail	1	SE	-	600 yds off bow
1628	Harcourt's S.P.	1	-	-	300 off bow
1724	Wedgetail	1	SE	-	400 off bow
1728	Wedgetail	1	SE	-	500 off bow
1850	suspend observations				

Start
End
Shannon



0700 watch started

DATE 6 Dec 63
Pg. 1

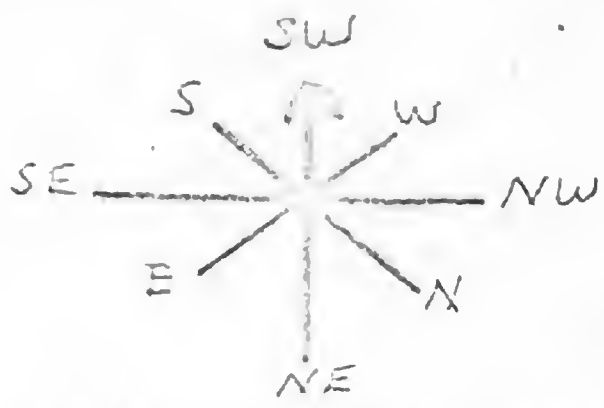
loc.

0727	Flock					
	Bonin Is. P.	2				Not actively feeding - just milling - ship split flock in half. One Bonin Is. had more than normal black underwing, hushmarks very pronounced
	Shearwater / Petrel	1	ENE			
	Harcourt's SP	1				
0825	Laysan Albatross	1	S	upto 50ft		followed ship for 10 or 15 minutes
0830	White Necked Petrel	1				Passed astern of ship while stopped for plankton 50 yds or so
0913	Wedge-Tail	2	ESE			Passed bow at about 200 yds out
0916	Wedge-Tail	8	WNW			" " " " 200-300 yds on starboard side apparently feeding
	R-F. Booby	1	WSW			off Bow 150 yds
0923	Wedge Tail	2	WNW			" " 150 yds, had followed up port side 200 yds off bow
0926	White-Necked Pet.	2	WNW			flying very slowly hardly moving wings & following water very closely. Had white rump. very atypical storm petrel flight - more like a petrel
0932	Bonin Island	1	ESE			
0933	Harcourt's sp. Petrel?	1	ENE			
1003	SHARK	1	ENE	-3 FT.	100 FT. STARBOARD	swimming casually 15 FT. Long 5 FT WIDE LIGHT YELLOW GREEN WELL SEEN BROKE TAIL TWICE
1057	WHITE NECKED	1	SE	-	PORTSIDE 200 FT.	
1100	Bonin Isl.	1	SSE	-	STARBOARD TO PORT 100yd OFF BOW	
1110	Bonin Isl.	1	NNW	-	PORT TO STARBOARD 100yd OFF BOW	
1111	Brown Booby	1	ENE	50 FT.	50 FT. TO STARBOARD TO STRAIGHT AFT	
1143	Frigate	2	SSE	200 FT.	IMMATURE STARBOARD TO PORT PASSED OVER SHIP AMID SHIPS	
1145	Red Tail Tropic Bird	1	ENE	200 FT.	FRIGATE DROVE AT TROPIC BIRD	
1215	R-F Booby	1	NW		200 yds off port bow	
	Bird?	1	?		" " " "	
1217	Pterod/shoanwater	1	E			
1221	wedge-Tail (imm)	1	NNW		50 yds of bow	
1253	shearwater?	1	S E			
1253	shearwater?	1	S E			
1253	petrel?	4	S E			
1335	Sooty Shear?	1	S		1000 off bow - scaling high - no hood at wing base but flight & all dark color & medium size & shape were sooty shearlike	
1340	Frigatebird	1	⊙	75 ft.		
1425	Flock					flock spread out over at least 1/2 mile large black fish swimming in midst of flock area probably more petrels than shearwaters
	Sooty Tern	20+				
	R.F. Booby	1	SW			
	Booby SP	4+				
	shear/petrel	100+				



DATE 6 Dec 63
Pg. # 2

Time	Species	Count	Dir.	Remarks
1527	Harcourt's S.P.	1	W	Came within 100 yds of ship on starboard bow
1544	Fovea			
	Bonin Is. P.	1		Some active feeding
	Sooty Tern	6		
	Shearwater Petrel	4		
	Red Foot Booby	30		
	Booby SP	10		
1624	Booby (R.F.?)	2	N	
1645	Bonin Is. P.	1	SSE	
1702	R.F. Booby	6	N	low - 2 immatures, 4 adults
1710	Frigate	2	NW	
1715	FLOCK		NNW	
	R.F. Booby	35+		- in rain squall prob. many more birds feeding particularly to E.
	Shearwater Petrel	60+		
1719	R.F. Booby	1	N	
1719	Bonin Is.	1	N	
1725	Wedge Tailed Petrel	1	N	- sat in water just off bow.
1840	SOOTY STORM PETREL?	1	SSE	- well seen
1847	storm Petrel with Sooty Harcourt's SP	1		- could not see well enough to determine sp.
1853	Secured Hatch	2	SSE	- sat in water just off bow.



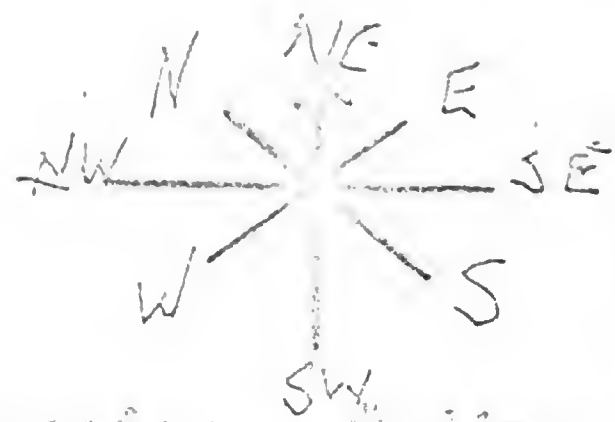
DATE 7 Dec. 1963

Pg. # 1

" STARTED OBSERVATION AT 0650 "

0750	W.T. Tropic	1	NE	-	ON WATER 300yd STARBOARD BOW. FLEW AFT
0800	<i>phantom data!</i>				
0850	SECURED			FROM PLANKTON DETAIL	
0907	Wedge-tail	1	E	-	50FT STARBOARD
0816	W.T. Tropic	1	N	150FT	FLEW OVER SHIP
0850	R.T. Tropic	2	NE	150FT	" " "
0943	Wedge-tail	1	NE	-	300yd. STARBOARD BOW
1144	Harcourt's S.P.	1	W		50-75yds off starboard
1225	R.T. Tropic	1	W	-	ON WATER 500yd. STARBOARD
1240	Wedge-Tail	1	NW	-	200 yds off bow
1410	R.T. Tropic bird	2	SW	300'	circled ship. - collected at 1442 by R. Fleet
1620	resume course with shipboard recoveries				
1707	Harcourt's S.P.	1	W		150 yds off starboard bow
1845	Wedge-tail	1	SE		400 yds off bow

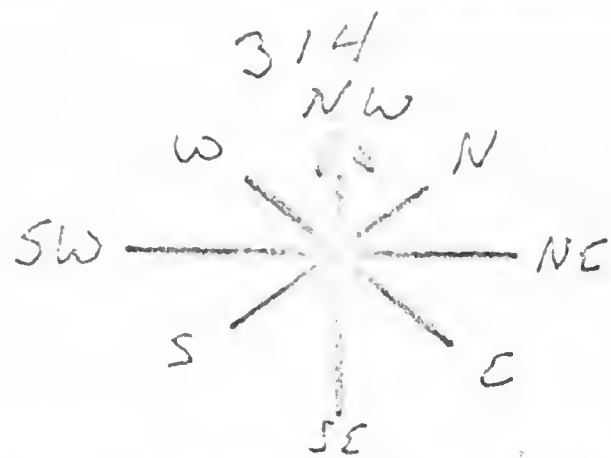
1845
Wedge-tail



DATE Nov. 8
Pg. # 7

Obs begun at 0700

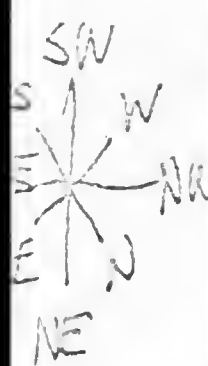
0755	Stop for plankton sample.			
0826	R.T. Tropicbird	1	NE	150' without rectories
0937	under-wing			
0943	Pterodroma	1	NW	—
0903	R.T. Tropicbird (imm)	1	NE	100 yds off starboard. - without rectories - probably same one as sighted before.
0955	Pterodroma	1	NW	—
1100	wedgetail	1	NW	200 yds off bow stern.
1240	Pterodroma	1	SE	500 yd. STARBOARD BOW
1241	R.T. Tropic	1	SE	80 FT 50 yd. STARBOARD
1329	Bird sp.	3	SE	800 yds off bow.
1337	Bird sp. Ptero. sp	1	E	1000 yd off bow
1350	Fairy Tern ? WT Tropicbird	1	S	either this sp. or white-tailed tropicbird - never came closer than 1000 yds.
1410	R.T. Tropicbird	1	SE	apparently flushed from H ₂ O on port side - flew across
1458	R.T. Tropicbird	1	NE	bow to right
1628	HARCOURTS	1	SE	200 yd 6 FT, STARBOARD
1657	Red Booby	2	NE	60'
1710	Laysan albatross?	1	NE	low
1710	masked booby	1	NE	1 collected by R. May - immature not positive but I think I saw a strongly hooked beak, black tail, wings + back. very white + head white. white below. flew low to H ₂ O with few wing beats - joined by masked booby (imm) but too far out by that time, several times flew around ship - often dove + once picked up fish.
1852	wedgetail	1	SW	— well seen
1910	Obs - stop!			



DATE 09 DEC. 1963
Pg. # 1

observation begun 0715

time	species	#	dir.	hgt.	remarks	loc.
0756	Shearwater adult					
0811	Masked Booby	1	⊙	30 ft	imm.	
0839	secured Shearwater detail					
0845	White Necked	1	-	-	700yd To STARBOARD LANDED ONCE TOOK OFF IMMEDIATELY	
0911	Masked booby	1	NW		flying + feeding off starboard + stem. after shot at	
0933	Tropic RT.P.	2	SE		departed at 0930 returned at 0935 departed at 0945	
1000	White Necked P.	1	NE		crossed bow at 500 yds - white neck seen well other had darker underwing. smaller - flapped more	
	Wedgetail?	1				
1015	White - Necked	1	SE		300 yds off starboard	
1026	White - Necked	1	NE		" " " "	
1027	Masked Booby (imm)	1	NW		1000 yds off starboard	
1034	Bonin Is. Petrel	1	NE		-	
1040	White necked Petrel	1	SW		-	
1059	wedge-tail	1	NE to SW		75 yds off bow	
1101	Bonin Is.	1	NE		100 yds off starboard	
1110	Shearwater/Petrel	1	SW		400 yds off port - flying very rapidly	
1127	Shearwater SHEARWATER PETREL	1	SW			
1132	turned to SW		course			
1149	R.T. Tropicbird	1	SE		sitting on water & flew at about 60' alt. adult.	
1256	White necked P.	1	?			
	Wedgetail?	1	E			
1458	ad-fledged booby	1	SE	50'	50 yds off starboard bow.	
1506	Masked booby	1	SE		200 yds off port side	
1525	Shearwater petrel	1	SW		flying very fast - dark above ind. head, light below EC + CE both saw white spots in wing. well seen.	
1543	WHITE NECKED	1	E		PASSED 100 YD AFT	
1543	Bonin Isl.	1	SE		PASSED 100 YD ON THE BOW TO PORT	
1744	R.T. Tropicbird	1	SE	150'	over ship, etc.	
1801	R.T. Tropicbird	1	SW	100ft		
1859	Harcourt's S.P.	1	⊙		came off water passed to port 55 yds off starboard	





DATE 9 Dec 63
Pg. # 2

Time	Species	#	dir.	height	Remarks	Loc.
1900	Wedgetail	2	W		50 yds off bow	
1901	dark shearwater	1	W		medium to small dark shearwater - typical shearwater flight several quick flaps + long glide, often with high scale-above horizon - seemed smaller than Sooty Shear right back 300 yds off bow	
1907	Wedgetail	3	⊙			
	wedgetail?	1	⊙		dark edges on wings <u>much</u> thinner than on other Wedgetails - otherwise appeared the same	
1912	Storm Petrel SP	1	SE		400 yds	
1919	Mashed Booby Imm	1	SE	40 ft	250 yds to port	

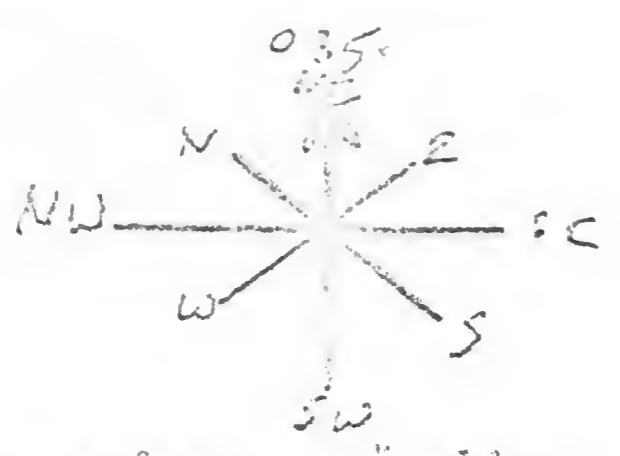


DATE Dec. 10, 1963
Pg. # 1

Cooler, strong NW wind, deep swell, heavy slo.
partly obscured by haze

0645	shearwater began			
0700	changed course to NW			
0800	shearwater detail			
0832	secured shearwater detail + secured course + speed			
0910	wedgetail ✓ 50	SE		heavy seas 300 yds.
0945	small shearwater 1	SE		
1040	Red Footed Booby Evens.	1	⊙	50 ft
1117	White Noddy P Wedgetail ✓	1 1	N	200 to starboard
1349	Rain Squall entered			
1414	left rain squall			} observation still continued
1455	entered rain squall			
1505	out of rain squall			
1644	shearwater	1	NE	} together 200 yds + then 600 yds off star
1648	shearwater juv	1	NE	
1815	Red footed booby	1	NE	
1845	wedgetail ✓	1	NW	
	wedgetail ?	2	NW	
1915	secured bird watch			

shearwater? long wings



	0725	Wedgetail	1	NE		200 to port into wind escorting ship for 10 minutes
	0740	change course to 390				young variety with sharp contrasting back pattern
E W	0746	Red-tailed Shearwater	1	S		flies like Sooty Shear - very fast flying - easily twice as fast as most birds observed. 800 yds off bow
		Shearwater / Petrel	1	?		
	0750	Wedgetail	1	SW		25 yds off bow
	0800	set gladius net				
	0810	Wedgetail	1			
	0815	Pterodroma	1	SW		100 aft
	0816	Wedgetail	1	S	40ft	scaling very high - up to 40ft or more - considerably above horizon
	0820	Wedgetail	1	NE		Post side stern
	0830	Dark-rumped	1	E		circling 50-150 off starboard bow
	0835	Wedge-tail (imm)	1	SW		50 yds off starboard
	0844	seam plane				
	0935	White Neck P	1	SW		100 yds aft
	0939	Wedgetail	1	SW		50 yds off bow
	0941	Wedgetail	2	SW		200 yds to starboard
	1006	Pterodroma	1	NE		300 yds off port
	1036	masked booby	1	NE		
	1038	Wedgetail	24			
		Bonin Is P	1	NE		circling but not feeding
		D. mag P	1			
		w. neck P	1			
		Red-t. Booby	2			
	1054	Wedgetail	2	SW		200 yds off starboard
NW 316	1329	Wedgetail	1	S		500 off starboard bow
	1330	change course to				
SE	1352	Bonin Is. P.	1	NW		400 off bow
	1405	Wedgetail	1	NE		500 off starboard
	1410	Bonin Is. P.	1	NW		350 off bow
	1423	WT. Tropic	1	NW		PLEW OVER SHIP
	1615	R.F. Booby	1	NW		collected by R. Fleet
		under way at				1639
	1700	Wedgetail	2	NE		

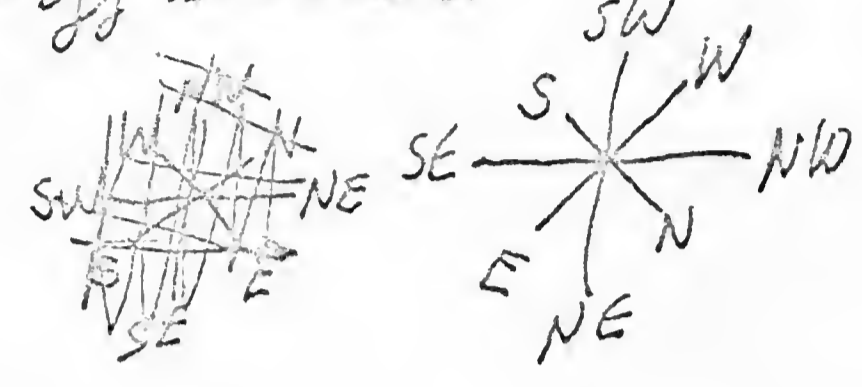
12/11/52



DATE Dec. 11
 Pg. # 2

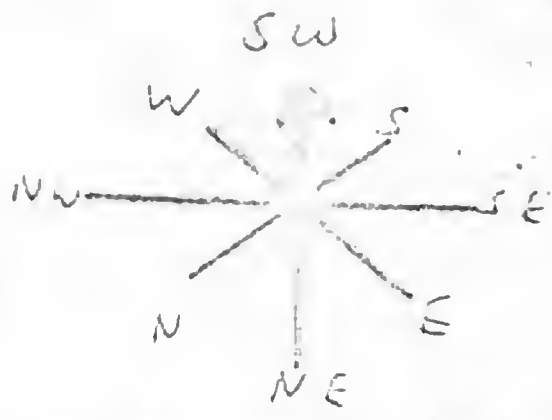
Time	Species	Count	Dir.
1715	White-necked? (Trinidad Petrel)	1	NW
1725	Masauito	1	NW
1748	R-F. Booby	1	NE
1800	turn to		SW course
1818	Wedgetail	1	SE
1845	R-P Booby	1	SW
1855	R-F. Booby	1	SW
1905	end observations		

100 yds off bow. appeared as if under wing linings were all dark. very large almost appeared jaeger-like - whitish head - stout
 100 yds off starboard



- flew over helm. back
 - 150 yds off port

Total 61

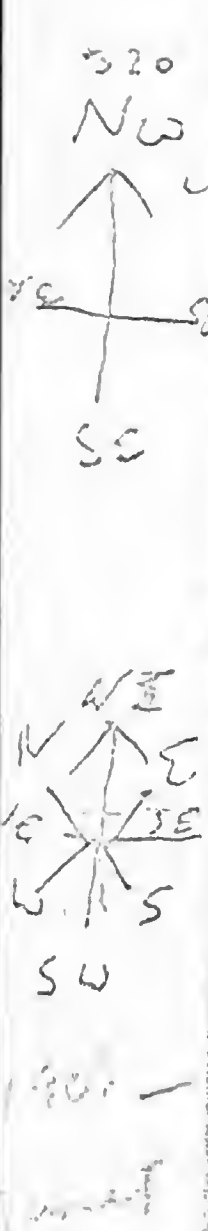


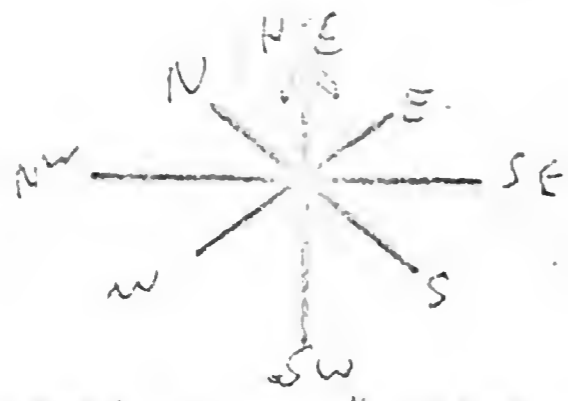
DATE Dec. 12, 1963
Pg. 1

almost completely overcast, low sea (few whitecaps)
wind NE, 13 K.R. swells NE-Sft. scattered showers.

100.

Time	Species	Count	Dir.	Dist.	Remarks
0700	started watch				
0734	light enough for observation				
0802	adult detail				
0840	immature bird	1	E	200'	across bow 100+ yds.
1015	small Pterodroma	1	SE		500 off bow
1022	Red Foot Booby	1	⊙	50ft	came right over hila deck
1029	Shearwater / Petrel	1	NW		750 yds off bow
1112	Red footed B. mature	1	SE	25ft	150 yds aft to starboard adult plumage
1225	White-necked P.	1	NW		200 yds off bow
1330	Change course to 320				
1545	BIRD	1			
1615	yellow plover	1	NW		Seen by watch officer
1625	Wedgetail	1	NE		over ship
1753	Sooty Tern	1	S		100 yds aft
1830	course change				400 off starboard
1840	Tropicbird sp / Fairy Tern	1	SW	50ft	1000 to port
1900	bird watch ended.				

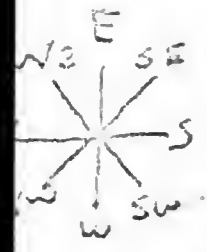


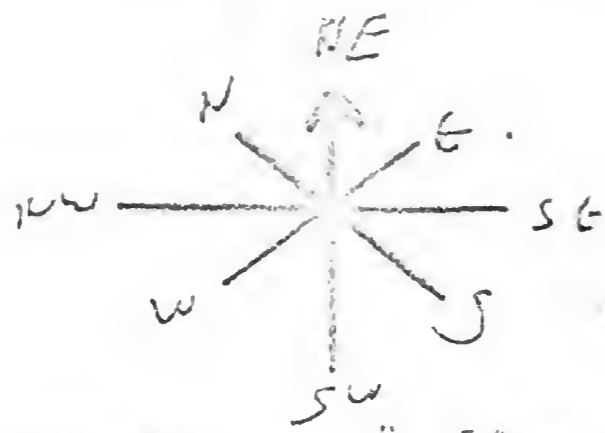


DATE Dec. 13
Pg. # 1

high winds die into low. lower sea - few whitecaps
partly cloudy. low swell

0715	Shear water				
0725	wedgetail	1	NE		
0806	wedgetail	✓ 1	NE		11 ship 20-100 yds. starboard
0902	Dark Rumped P.	1	W		off starboard with previous bird
0925	Wedgetail	✓ 3			400 off port
	Pterodroma	1	↻		to port 400 to 1200
0930	Wedgetail	✓ 8	⊙		following ship - may have been more
1010	wedgetail	✓ 1	NE		
1042	Bonin Is.	1	eee		
1117	FLOCK	NE			frontail
	{ wedgetail				
	{ Bonin Is				
	{ Brn Booby				
1130	CHANGE COURSE				TO 088
1140	Wedge Tail	✓ 1	E		CROSSED BOW TO 400YD STARBOARD THEN E
1145	Wedgetail	✓ 2			Booby was sitting on water next to a board
1145	Red Footed Booby	1			THE WEDGE TAILS WERE FLYING AROUND HIM (1200)
					THEY FLOATE WEST. SOUTH
1204	Wedgetail	✓ 1	W		
1205	red footed booby	1	NE		stayed with ship 10 min.
1404	Petrel/Shear.	2	E		800+ yds to port
1405	Wedgetail	✓ 1	NW		100 off bow
1432	wedgetail	✓ 1	SE		500 yds off bow
1437	lg. Ptero.	1	SW		off port side
1452	Wedgetail	✓ 1	W		
1503	Masked Booby	1	⊙	40ft	immature
1518	wedgetail	✓ 1	SW		
1550	wedgetail	✓ 2	E		200 yds off port 600 yds off port
1716	wedgetail	✓ 1			seen by crew.
1836	wedgetail	✓ 1			
1720	wedgetail	✓ 1			seen & bird watch



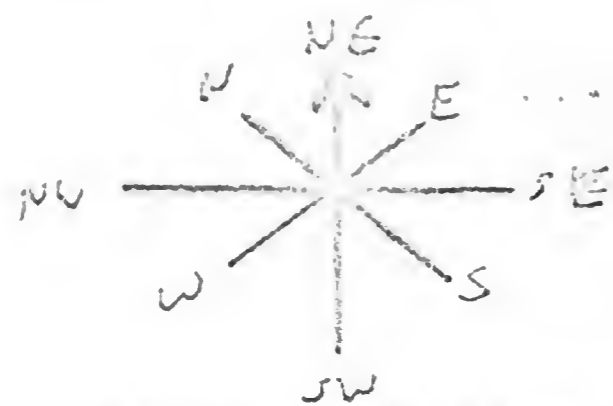


DATE Dec. 14
Pg. # 1

strong wind; mostly cloudy, low horizon
few whitecaps

Time	Species	Count	Dir.	Notes	Loc.
0645	started observations				
0720	Red-foot B.	1	NW	about 10 mi N of Johnston Is.	Camera 5 min - started
0723	"	1	NW	200 yds	
0724	Red-foot B. (2 or 3. 1. 1. 1.)	6	NW	600 yds	
0725	Red-foot B.	1	NW	400	
0725	Red-foot B.	4	NW	800	
0726	Red-foot B.	1	NW	300	
0728	"	3	NW	200 yds. adult	
0729	"	4	NW	400 aft adult	
0730	"	1	NW	aft adult	
0731	"	23	NW	1000 off bow	
0738	"	1	NW	100 yds off bow	
0745	"	1	NW	150 yds off bow	
0747	"	6	NW	200 aft adults all	
0748	"	1	NW	400 off bow	
0752	"	7	NW	large flock 200 yds off bow	
0802	"	1	NW	200 aft adult	
0806	and others	1	NW	1000 yds port	
0806	boobies?	4	NW		
0807	fugate	1	-	circling toward Johnston	
0810	boobies?	2	-	1000 yds port	
0813	fugate	1			
	boobies	55		following just N. Johnston	
0848	booby	1		200 yds starboard	
0951	RF Booby	3	NE	1 adult	
0959	RF Booby	2	NE	adults - followed ship for 10-15 min.	
1110	Bonin Is.	1	SW		
1114	R-F Booby	1	SE	immature	
1351	Wedgetail	1	SW		
1557	Bonin Is.	1	SW		
1600	rel. t. bird	1	N		
1605	masked booby	1	NW	11 to port side 150-400 yds	
1814	White-necked	1	S		
1819	Masked Booby	1	NE	300 yds off bow following ship	
1910	Secured watch				

Kaiser Hawaiian Hotel
Helicopter



DATE Dec. 15, 1963
Pg. # 1

time location dir. bot. remarks loc.

	0700	started observations				
725	0725	h. pointed albatross	1		following stem closely	1st ob. by fantail watch about 0645. CRG
	0735	wedgetail ✓	1	2	100 yds. across stem	
725	0827	wedgetail ✓	1	SW		unsuccessfully searched at 1115
	1134	shearwater/P.	1	SE	600 yds off bow.	sat in H2O.
	1210	shearwater?	1	↘	500 off starboard bow - (medium large, dark)	Came back + followed ship again - sev. times "nested" on H2O
	1252	Bonin Is P.	1	SE	shearwater?	
	1323	wedgetail ✓	1	W	300 to starboard bow	
	1332	red t. t. bird	1	SE	flushed from water - port side.	
	1433	red t. t. bird	1	SE	100 yds across bow. paralleled ship on starboard side for few minutes	
	1515	Bonin Is P.	1	SW	-	
	1615	WHALE	1	SW	1000 yd Port Bow Swimming casually	blowed several times
	1620	wedgetail ✓	1	⊙	following aft in company of B.F.A.	
1824	1845	wedgetail?	1	S	aft 100 yds	

secured bird watch 1850

albatross followed ship until at least 1730
CRG.



DATE 16 Dec 67
Pg. 6

start observations 0700

Time	Species	Count	Direction	Altitude	Notes
0720	White Noddy?	1	↘		100 yds off starboard bow or less - somewhat smaller & more delicate than typical D.R.P. flew very lightly with numerous wing beats slightly swift-like -
0730	White Noddy, Shearwater/Petrel	1	↘		
0738	Red-foot Booby	1	⊙	35ft	immature
0740	Pterodroma sp.	1	NW		large bird 500+ aft
0747	R.T. Tropicb.	1	Σ	100ft	
0756	Shearwater/Petrel	2	NNW		400 yds off fantail.
0825	R.T. Tropicb.	1	SE	100ft	
0852	Shearwater/Petrel	1	SSE		600 yds off bow
0906	White Noddy	1	↘		500 off bow
0925	Whale sp.	1	E		1000 off port bow
0935	R.T. Tropicb.	1	⊙	100ft	dived twice to feed from considerable height checking his fall once or twice before hitting 300 to port
0951	White Noddy	1	W		
0959	Whale	1	W		
0959	R.T. Tropicb.	1	⊙		
1007	SHEARWATER/PETREL	1	WSW	-	600 yd Port Bow
1251	E.F. Booby	1	ENE	-	OVERSKIP
1415	Sooty Tern	1	↘	50ft	
1425	Wedge-tail?	2	N		flock? dark brown above; wing dark below with large (long) white patch - not distinct circle as in shearwaters. gray or throat.
	Wedge-tail?	1			
1427	Phoenix Is. B?	1	N		prob. part of above flock. brown not black under wing
1430	" "	1	NE		prob. above bird - looked very chunky; dark above, white below. mottled white + brown under wing.
1436	Sooty Tern	1	NE		
1452	S. Storm Petrel	1	NE		200 yds off port. flight more deliberate, less erratic than usual.
1457	W.T. bird	1	NE	200'	
1540	seabird sp?	9			2-3 mi off starboard - high above horizon. flocks or terns
1645	Wedge-tail?	1	WSW	✓	



DATE Dec. 16, 1963

Pg. # 2

1743 weighed
long tail
short tail

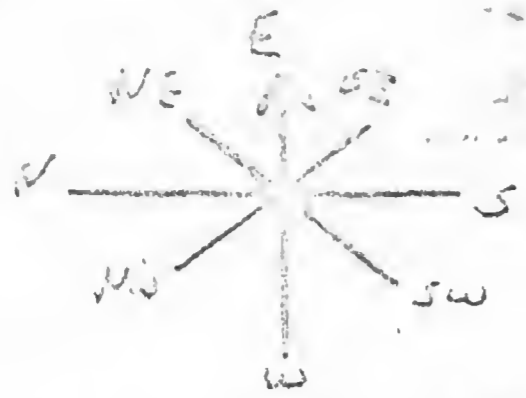
1
1
10

pw

very long loose folds - not feeding.
12 vertebrae high up

1807
1833

signed bird catch



DATE Dec. 17
 PG.# 1

Cool, mod NE wind, low sea, no whitecaps.
 partly cloudy, occ. showers during night

0645	with state			
0730	B.F. Albatross	1		according to fantail watch has been following ship since about 0600 at least.
0942	W.T. Tropicbird	1	E 50'	off fantail.
1012	B.F. Albatross (immature)	1		joined the first bird off fantail
1027	B.F. Albatross (adult)	1		followed off fantail
1044	B.F. Albatross (immature)	1		joined other 3 off fantail
1048	B.F. Albatross (immature)	1		joined off fantail
1053	B.F. Albatross (immature)	1		" " "
1054	B.F. Albatross (adult)	1		" " "
1101	B.F. Albatross (immature)	1		joined others off fantail (total now 8)
1101	Pomarine Jaeger	2		following off fantail } of the 3, 2
1111	Pomarine Jaeger	1		" " " } but have extended ventrices
1111	Pomarine Jaeger	1		" " " } 1 only slightly
1119	W.T. Tropicbird	1	SE 30'	seemed to have much difficulty flying into wind. 200 yds off post
1129	Pomarine Jaeger	1		joined others off fantail (total now 4)
1146	Pomarine Jaeger	1		joined others to make a total of 5 - all with dark breast band - varying shades on throat making cap sometimes visible
1210	Pomarine Jaeger	1		joined others
1325	Frigate ♀	1	200' E 200'	

1354: 2 Jaegers + 2 Albatross following ship; prob. same as above

1400 Jaeger
 B.B. Booby? 1 E - -

1430 - 2 Albatross following ship (Black-footed)

SR- 0703

17 DEC.

4- 20-40.0N

3- 159-10.0W

Time	Latitude	Longitude
0100	20 - 30.0 N	159 - 59.0W
0200	20 - 30.0 N	159 - 49.5W
0300	20 - 30.0 N	159 - 40.1W
0400	20 - 32.0 N	159 - 32.0W
0500	20 - 35.5 N	159 - 23.0W
0600	20 - 39.3 N	159 - 13.8W
0700	20 - 42.9 N	159 - 00.0W
0800	20 - 51.6 N	158 - 51.2W
0900	20 - 54.0 N	158 - 41.5W
1000	20 - 57.2 N	158 - 32.0W
1100	21 - 00.0 N	158 - 22.8W
1200	21 - 00.0 N	158 - 12.0W
1300	21 - 03.2 N	158 - 03.8W
1400	21 - 11.3 N	157 - 59.0W

Miles From 2400 to "SR" 68m.

" " "SR" TO "PH" 70m. 194

Latitude	Longitude	Type	Time
20-46.0N	159-00.0W	Coram	0700
21-00.0N	158-22.8W	Coram	1100