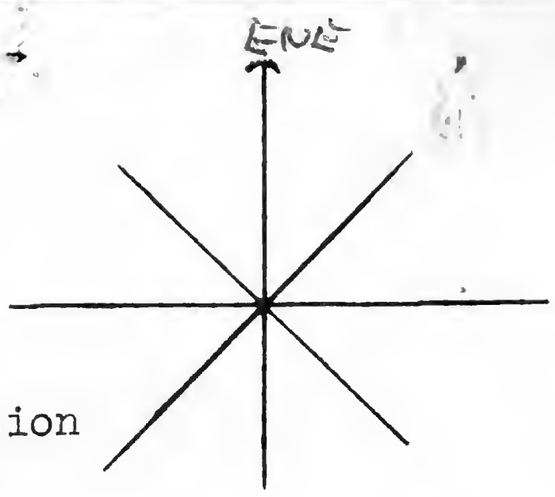

Ship Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
CHAN
HOFF

Date 10 JULY '67
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	1520					BEGIN OBS
	1523	WEDGETAIL	2	ad		lt ph.
	1526	"	1	ad		"
PF	1530	"	30±	ad		lt ph sev
		SOOTY TERN	3	ad		ad
		COM. NOD	20±			
	1531	WEDGETAIL	3	ad		lt ph
	1532	COM NOD	3	E		
R54	1536	RFB	1	ad		ad. lt ph.
R54	1537	RTTB	1	ad		ONH2O NO TAIL
	1540	RFB	1	ad		ad lt ph
R	1541	DRP/WTS	1	ad		DRP LOOKING searching?
	1542	WTS	3	ad		lt ph.
	1542	CNT	1	E		
	1545	SOOTY TERN	1	E		ad.
	1549	CNT	1	ad		
	1550	WTS	1	ad		lt ph
FF	1555	CNT	10±	ad		
	1603	WTS	1	ad		lt ad.
	1605	WTS	2	N		lt ph
	1606	SOOTY TERN	1	NE		ad
	1610	" "	3	ad		ad
	1611	WTS	3	ad		lt ph.
TF	1613	SOOTY TERN	1	E		ad.
		CNT	6+	E		
	1615	WTS	4	ad		lt ph.
	1616	"	2	N		lt ph.
	1619	"	1	N		lt ph
	1620	CNT	1	ad		
	1628	WTS	1	N		lt ph.
	1630					CLOSE OBS
	1800					OPEN OBS. - Molokai few miles to the right
	1809	CNT	1	E		

TOTS

NEW. - 2
WTS - 56
ST - 10
CNT - 43
RFB - 2
RTTB - 1
DRP? - 1

116 V

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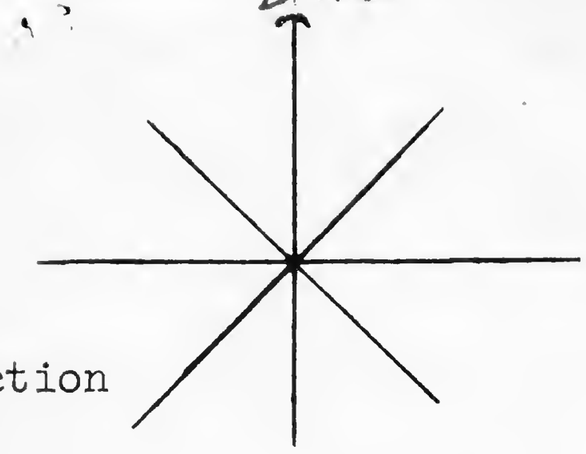
Rev. 5-66

ENE

2



Ship Direction

OBSERVERS:
H. & F.

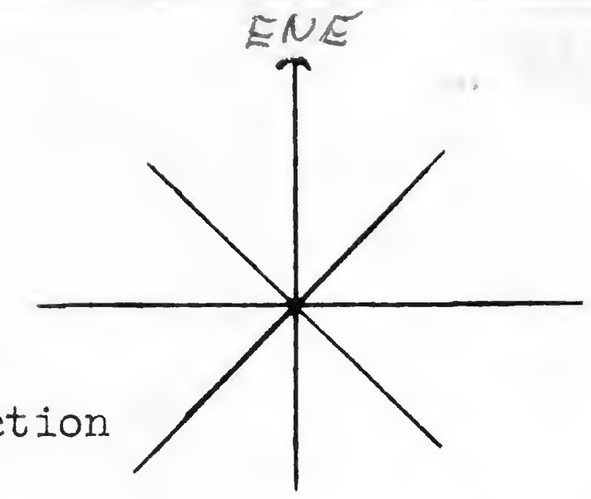
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 10 July '67
Pg.# 2

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
18 20	WTS	1	E		LT. PH.
18 35	WTS	1	E		" "
18 45	Newell's S.	1	E		
19 00	Sooty Tern	1	E		
19 05	Newells	1	E		
1913					Above Obs. SS

$$
\begin{array}{r}
20.7 \\
\hline
9.5 \,\big)\, 1970. \\
\quad 190 \\
\quad\quad 700
\end{array}
$$

$$
\begin{array}{r}
8.6 \\
\hline
24 \,\big)\, 207 \\
\quad 192 \\
\hline
\quad\quad 150
\end{array}
$$



Ship Direction

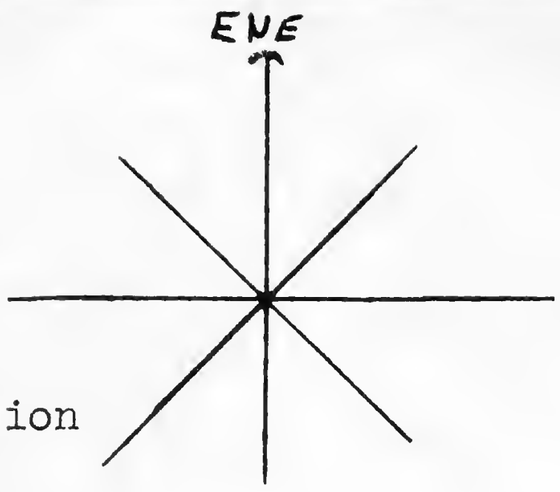
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
0715-0845 CHAN
0845-1015 HOFF
1015-1130 CHAN
12:30-2:00 HOFF
2:00-3:30 chan
3:30-

Date 11 JULY 1967
Pg.# 1

	TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
	0715					BEGIN OBS.
	0820	SOOTY TERN	3	W		1 ad, 2 ? NOT SEEN WELL
TF	1000	"	26	E		traveling F.
	1040	BWP	1	ccel		
	1055	Sm. PTERO SP	1	cc		BWP prob. - DISTANT
FF	1102	SOOTY TERN	40±5	cc		
		WTS	3+	cc		ltpl.
R	1128	SOOTY TERN	1	c		ad astern, no albatross following but crew reported a possible Laysan? AROUND 1000
	1130	NO OBS				
	1230					
	1310	Sooty Tern	4	SW		Ad. - Traveling
	1320	" "	2	cc		above the ships bow - no bands or streamers - Ad.
	1410	WTS	1	NE		lt ph.
	1425	SOOTY TERN	3	cc		2 ads 1 imm calling
R	1500	WW? P	1	S		SMALL, DARK W/ WHITE HEAD? LITTLE BLACK BORDERS
R	1505	SHEARWATER	1	c		dark S/Sh/OR PH WEDGEE MOST LOOKED LIKE
	1512	WTS	3	cc		ltpl. dk ph WEDGEE
FF	1515	SOOTY TERN	160±20	cc		distant
		WTS	5+	cc		lt ph seen; probably many more → 25?
	1516	SOOTY TERN	3	SW		ads.
FF	1520	" "	60±5	cc		
		WTS	3+	c		lt ph
R		BUL./S SP	1	cc		large stomp pet Tail not seen well Bulwers or Sooty
FF	1615	Sooty Tern	23	cc		fading
FF	1630	" "	150±15	cc		
FF	1630	WTS	10	cc		WT below the sooties
	1640	PTR. SP	2	NE		2 small - distant
	1650	WTS	1	cc		
	1700	BWP	1	SE		
	1710	PT. EXPERIENCE	1	cc		JFP TYPE
	1715	PT. SP.	2	cc		
	1743	SM. PTERO SP	1	S		
	1755	WTS	1	cc		lt ph
	1810	SOOTY TERN	1	S		ad
	1815					CLOSE OBS 1815

ST-	466
BWP -	2
SPTERO -	5
WTS -	27
SHRWTR -	1
STORM -	1
PTER -	2
PEX -	1
	505 ✓



Ship
Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
SHAN & HOFF

Date 12 JULY 1967
Pg.# 1

	TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
	0700					BEGIN OBS
	0845	PTEROSP	1	ccw		distant
	0925	PTEROSP	1	cw		EXTERNA ?
R	0940	STEG. SP	2	cw		
	1130					CLOSE OBS
	1200					RESUME
	1700					CLOSE
	1815					RESUME
	1895					CLOSE OBS FOR DAY 55 CA 1895

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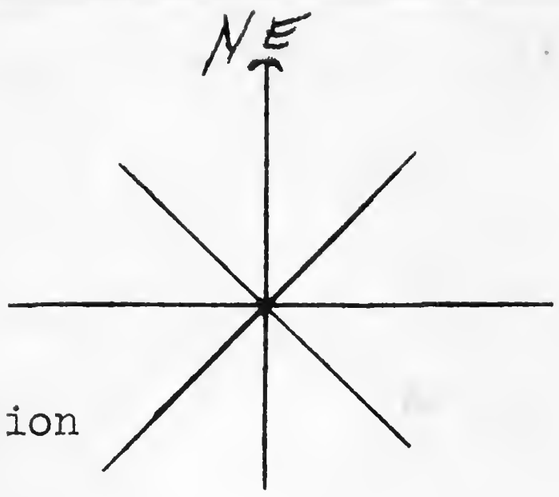
Rev. 5-66



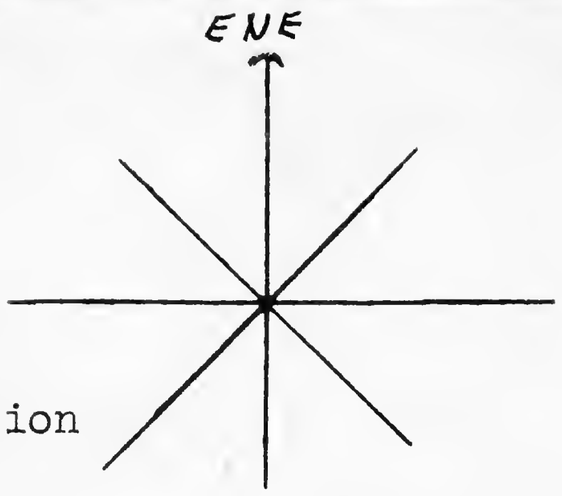
Ship Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
Chan
HoEF 11:00-

Date 13 July
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0930					BEGIN OBS
1530	WTTB	1	W		sitting on water, flushed by the ship
1930					close observations
1947					Sunset



Ship Direction

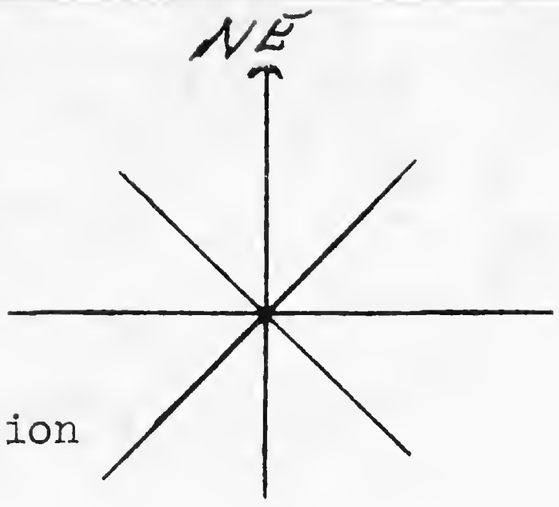
OBSERVERS:
HOFF & CHAN

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 14 JULY 1967
Pg.# 1

	TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
	0800					BEGIN OBS.
2	0820	S/BB.	1	W		lite underwing
	0930					CLOSE OBS.
	1200					RESUME OBS
2	1500	TROPICBIRDSP	1	ese		SITTING ON H_2O, LARGE, PINK, SAMOLE DARK BILL, LONG LITE TAIL
	1640	S/BB.	1	SW		
	1730					CLOSE OBS
	1830					RESUME OBS.
	1930					CLOSE OBS 55 1937

8.0 HRS.



Ship Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
H. FF 8:00

Date 15 July
Pg. # 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
630	B.F. Alb.				possible Layson - sighted by Mr. Howard
800					- open obs.
1100					CLOSE OBS.
1230					
1245	BFA	1	ca		OPEN OBS
					dark rump
1830					close obs.

PUT ON GREEN SHEET

3
6
9.0 hrs

1.

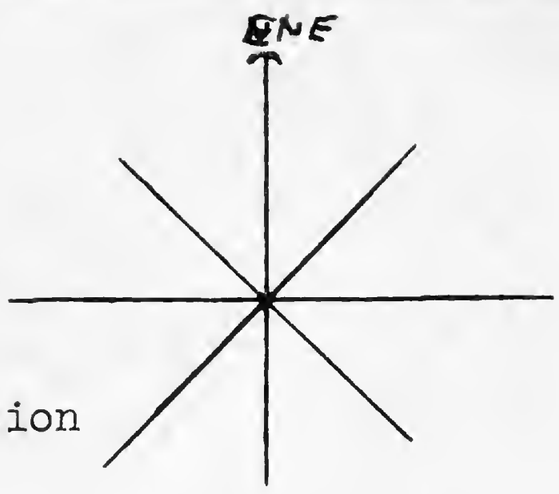
6 6 8 0.

6 6

+ 4 0

8.2

8 1 6 6



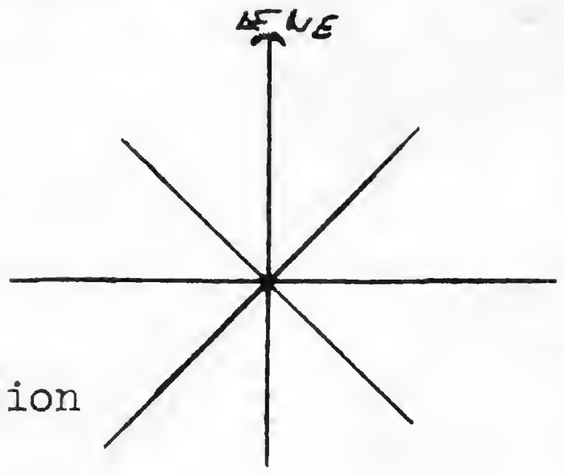
Ship Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
HOFFSCHAV

Date 16 July
Pg.# 1

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	1230					BEGIN OBS
15	30	BFA	1			WT. sp. - 1610 PRESENT
	1645	"	2			eating refuse astern & lite rump, 1 darker - light on top
	1740	"	3			2 lite 1 dk astern
	1750	SHEAR/PET	1	CCR		WTS SIZE DARK BR ABOVE NO UPPER PATTERN ON WINGS OR BACK; BELLY-WHITE UNDERSIDE OF WINGS WITH BROAD WHITE CENTER MORE PRONOUNCED TOWARD PRIMARIES; DARKER CLOSE TO AXILLARY REGION. DEEP WING BEATS FLAPPING ERRATICALLY AND CONSTANTLY BRINGS WING HIGH ABOVE BACK NIGHTHAWK LITE APPEARANCE? LT PH KERM?
	1810	SHEAR-PET	1	CCR		ALL DARK w/ WHITE PATCH UNDERSURFACE OF WING TIP — ? DK PH. KERM ?
R	1900	Shear/pet	1	W		low on water / narrow wings slate-white difficult + distant, no discernible pattern
	1900					CLOSE OBS.



Ship Direction

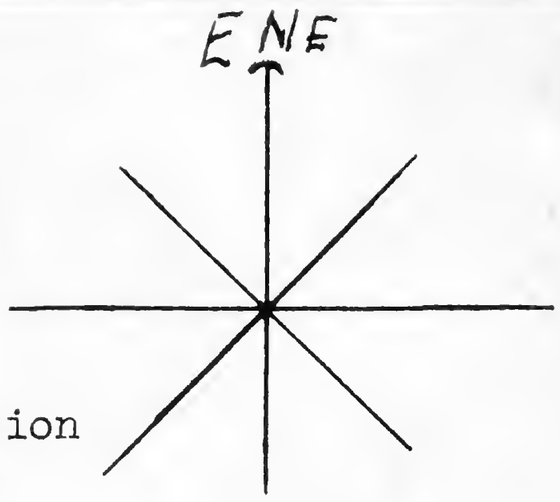
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
CHAN & HOFF

Date 17 JULY 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700					BEGIN OBS
0700	BFA	2	a		dk imms
0715	JAEGER SP	2	aa		1 dark immature 1 subad?? with parasitic-type pointed central rect.
0750	BFA	3	aa		eating garbage eaten
0800					3 NOBS
0900					
0900	RTTB	1			had a suspiciously short tail - like a few Enderbury birds I know. - close obs.
0920	BFA	1	a		dk. ph.
0955	BFA	2	aa		dk. ph.
1145					close obs.
1300					open
1400					close
1600					open
1845					CLOSE OBS 551857

1.0
2.75
1.0
2.75
7.50



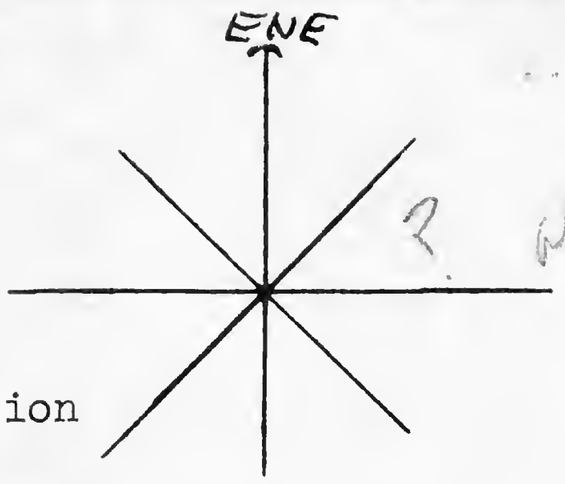
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS: Haff + Chase

Date 18 July 1967
Pg.# 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0800					open observations 6 BFA were feeding off portside at 730
0800	BFA	2			db. rumps.
0900	BFA	6			2 wt. rumps, 4 db. rumps
1000					CLOSE
1200					OPEN
1400					CLOSE
1500					OPEN
1830					CLOSE

7.5 hrs.



Ship Direction

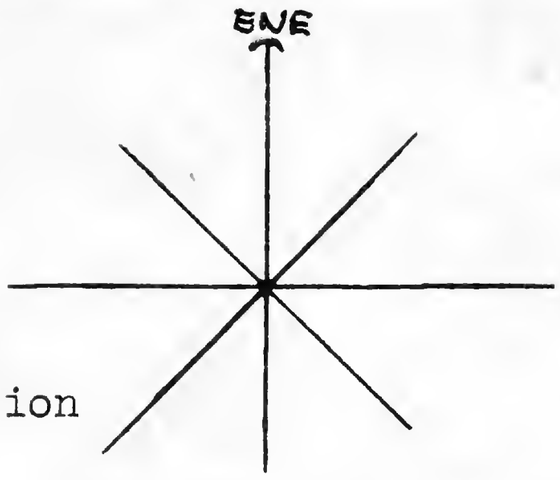
? altitude 52.

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS: HOFFMAN

Date 19 JULY 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0700					BEGIN OBS
0700	BFA	2	ca		1 lt
0730	"	3	ca		
0930	BFA	4	ca		2 lt.
1200					CLOSE
1430					OPEN
1800	BFA	4	ca		astern
1928					SUNSET CLOSE OBS.



OBSERVERS:

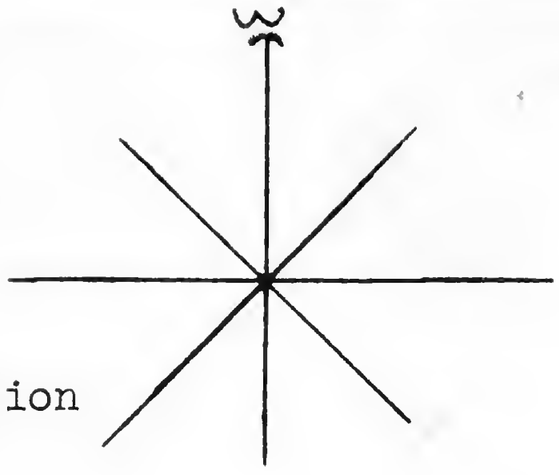
HOFF & CHAN

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 20 JULY 1967
Pg.# 1

GRID AREA
SPECIMEN NON-TRACK
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0630					open obs
0620	BFA	(1)			dk. sp.
0730	BFA	(3)			1 dk. sp.
0820	Shear/pet	1			dusky brown both dorsally + ventrally wing of PT. hypoleuca, fast, fluttering flight relatively close to the water, stayed with the ship a long time, in front of bow - pointed wings bent at wrist, pointed tail
0900	Dove	1			lt brown belly, darker dorsally - large dove - no light markings
0945	STORM PET	1	N		Leach type dark rump.
0950	BFA	(4)	ccc		
1010	TERN	1	cc		flushed common/arctic - type - adult no frosty wing tips
					1015 C/C → 030
					1030 C/C 030 → 015
					PM ? C/C 000
1730	BFA	4			2 lt sp., 2 dk sp.
1750	Shear/pet	1	SW		moving fast, gray + white PT. Externa size - distant
1840	STORM PET	1	cc		LEACH SIZE RUMP NOT SEEN
1848	" "	1	cc		" " " "
1903	BFA	(4)	ccc		
1920	STORM PET	1	ca		as above
1921					SS CLOSE OBS.



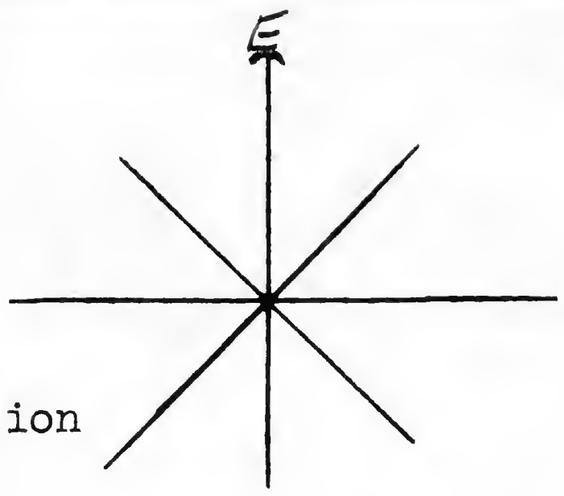
Ship Direction

OBSERVERS:
CHAN & HOAR

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 21 JULY 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0514					SR BEGIN OBS.
0519	WRSP	1	cal		
0545	BFA	6	cal		rep by frontal as all dark rumped.
0618	SABIUESG.	1	cal		
0624	" "	1	cal		flushed non breading (head not dark) different from 0618 bird I believe
0629	PHAL. N. SP.	2	cal		ALL WHITE BELOW, APPEARED TO BE NORTHERNS BUT POSSIBLY NONBREEDING REDS (VERY LATE!) RECORD AS NORTHERN - CHAN
0630	STORM PET	1	cal		GLIMPSED IN TROUGHS
0637	SOOTY SHEAR	1	cal		
TP 0732	N. PHAL.	6	SE		
0815					
1030	BFA	4			2 "WHALES" LIGHT OLIVE BROWN, SMALL STRAIGHT DORSAL 30-35°
1055					2 wht. up.
	SKua	1			flushed a skua type from water by a log, Smith chocolate brown white bands beyond wrist to tips both dorsal + ventral - very chunky short neck grouse like tail - slightly smaller than an albatross
1150	RED PHAL.	1	S		breeding or partly breeding plum.
1200	STORMPET	1	cal		DARK RUMP O HOMOCHROA / O. LEUCORHOA SOCORROENSIS
1245	~~Pom~~. Jaeger SP.	1	cal		Sub-adult? PARASITIC??
TF 1400	jaeger sp.	9	cal		appeared exactly as the above sighting
1602	PTERO (SMALL)	1	E		
1615	RED PHAL	1	cal		flushed
1820	Phal	1	E		light belly
1930	STORM PETREL	1	cal		db. rp.
1933					sunset
2300					
1					full moon - no birds noted.
2400					



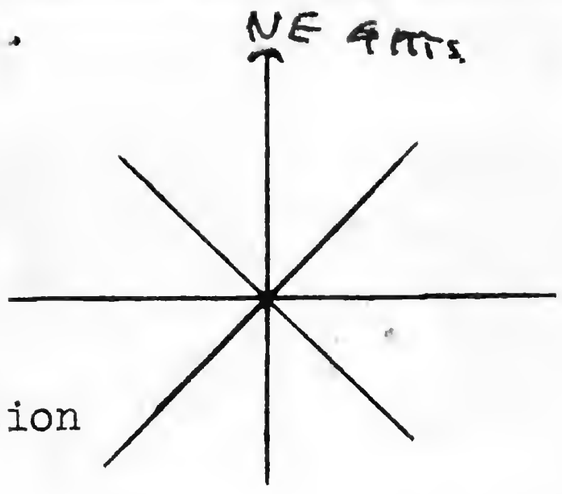
Ship Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS: CHAN & HOFF

Date 22 JULY 1967
Pg.# 1

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0615					BEGIN OBS. SR 0523 (NOCHILL)
0617	WRSP	1	ccw		
0630	BFA	9	ae		astern 1 lt & dk. 6 resp by watch at 0530
					0705 C/C 060 → 085
0740	SOOTY SHEAR	1	NW		
0743	WRSP	1	ae		
0746	WRSP	1	ae		
0810	WRSP	1	ae		
0900	WRSP	1	ae		fast, flipping flight low to water with occasional high & angular soars, fw tail + pointed wings -
0915	WRSP	1	ae		same as above
1105	WrSp	1	ae		"
1140	STORM PET	1	aae		dk rump.
1145	WRSP	1	ae		
1155	STORM PET.	1	ae		glimpsed
1200	WRSP	1	ae		sitting on H_2O
1432	STormPet.	1	ae		dorsal white slash on ~~outer~~ primaries - dark rump Leach's type
1622	WRSP	1	ae		
1702	JAEGER SP.	1	N		ad parasiticus ? no cent tail fr. seen.
1703	STORM PET	1	ae		astern
1705	STORM PET	1	aae		dk. rump underwings dark.
1710	" "	1	ae		distant
1725	WRSP	1	ae		astern - following ? 15 min.
1748	STORMPET	1	ae		rump ?
FF 1810	Storm Pet	6	ae		feeding with BFA astern on garbage
	BFA	4	ae		
1920					Sunset



Ship Direction

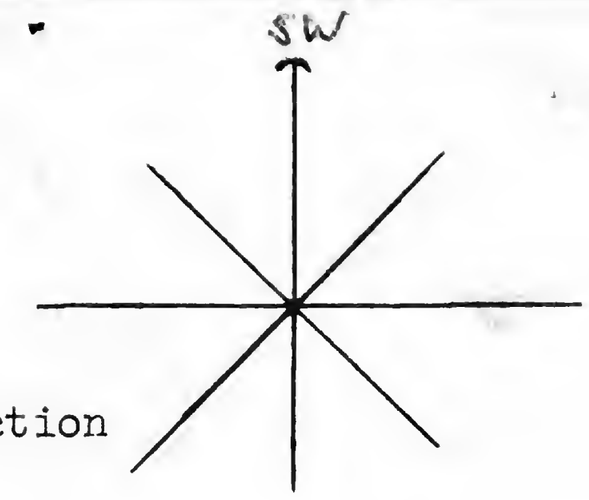
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

NON GRID

OBSERVERS:
CHANDHOFF

Date 23 JULY 1967
Pg.# 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0600					OPEN OBS JUST OUT OF GRID
0602	NIGHTHAWK	1	ccc		!
0610	LT JAEGER	1	a		ad.
	JSP.	3	ac		imm?
0611	PHAL. SP	3	SE		
0625	BFA	19+	ccc		1 lt rump seen, no bands seen
	STORM PET	17+	cc		1 dk rump seen mostly WRSP's many with } HSTERN
	CAL. GULL	1	cc		imm sitting
	JAEG. SP	1	cc		
0635	W. PHAL	4	S		0640 C/S 30-50 RPM 4.8 - 8.0 KTS - 10-6
0638	DRSP	1	cc		undersing ?
0650	STORM PET	7	cc		rump ? 0645 — MEANDERING
0657	HEERMANN'S	2	ca		adult 06-0700 5 MI.
0700	STORM PET	20+	ca		SCATTERED OVER AREA
0700					CLOSE OBS.
0800					BEGIN ON MENURS AT 10 KTS
0802	JAEG SP	1	ca		par.?
0807	STORM PET	10+	a		} IN MENUR AREA
	BFA	10+	a		
0817	LAUGHBIRD	1	cc		INVEST SHIP BROWN ABOVE HOUSE SPARROW? / FINCH?
0825	JAEG. SP.	3	cc		tailless
	GULL SP.	1	cc		being harassed imm! neat.?
0828	SOOTY SHEAR	1	a		
0830	STORM PET.	10+	cc		
0832					ON COURSE 040 FULL
	NIGHTHAWK				STILL PRESENT LANDING ON DECKS AND FLYING ABOUT SUPERSTRUCTURE
0838	STORM PET	4	cc		
0844	SOOTY SHEAR	1	SE		
0846	WRSP	1	c		} 100-125' !! ? ORSP WITH SOMETHING IN BILL WRSP CHASING BOTH FLUTTERED & STAYED ALOFT 15-20 SEC. RETURNED TO H2O AND DISPERSED OR W/THAVA STILL.
	ORSP	1	cc		
0857	GULL SP	1	cc		imm astern
	HEERM. GULL	1	ca		all dark juvenals. 08-0900 - 5 MI.
	STORM PET	10+	a		in area
	BFA	15+	ca		astern & in area.
0859 0900	ORSP	1	c		CLOSE OBS. ca 1:7-10 TRED ORSPS



Ship Direction

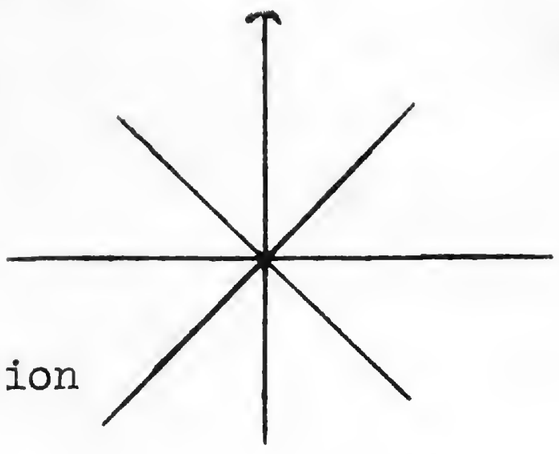
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:
CHAN

Date 23 JULY 1967
Pg.# 2

	TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
	1800					BEGIN OBS 11 MI.
	1500	WEST. G.	1	ad		ad winter
	1802	SOOTY SHEAR	7	W		SCATTERED
	1804	" "	4	S		"
	1805	WEST. G.	1	ad		ad.
	1807	SOOTY SH.	3	W		
	1807	BFA	1	ad		dk morph winter
	1810	SOOTY SHEAR	4	ad		SCATTERED
	1817	" "	7	ad		"
	1823	— SEAL sp				1 in sight ?
F	1825	SOOTY SHEAR	35±	ad		
		PINK FOOT SH.	3	ad		
P	1828	PINK FOOT SH.	4	ad		
		SOOTY SHEAR.	8	ad		
	1830	SM. GULL	2	SW		BON. NOT SAB. MAYBE TERN?
	1832	SOOTY SHEAR	5	ad		
	1833	BFA	3	ad		3 dk.
	1834	JAEGER sp	3	ad		imm. harassing seal.
		— SEAL sp				1
	1840	SOOTY SHEAR	7	ad		
		PINK FOOT S.	2	ad		
	1850	SOOTY SHEAR	7	ad		SCATTERED
	1855	" "	5	ad		flocked
	1857	" "	5	SW		
	1900					1900 PT ARGUELLO 20 MI.
						CLOSE OBS. SS 1917

SI-MNH-958-e
Rev. 5-66



Ship Direction

OBSERVERS:
H of F + Khan
Delong

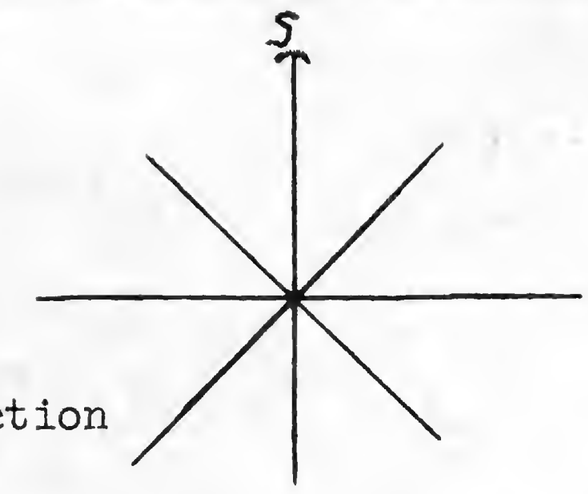
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

SECTION CE SR-CA1500
CW CA1500-SS

Date 24 July
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0515	~~BF~~				open obs.
0515	BFA	(4)			following ship
0720	DRSP	1	ca		
0750	BFA	(5)	ca		
0905	JAEGER SP.	2	cae		flocked (ad parasitic ??)
0913	WRSP	1	ca		
0911	WRSP	1	ca		
0922	PHAL SP	1	ca		white? below
0942	SKUA/JAEGER	1			on water - white in wings - light overall appearance.
0952	WRSP	1	sit		
0955	mammals.				Grampus 2 - one animal largely white on dorsal surfaces. Highly recurved dorsal seen on both animals. One blow seen, very short and stumpy.
0958	Storm Pet	1			over Grampus
1030	WRSP	1	sit		
1118	WRSP	1	sit		
1140	BFA	8	ca		3 dk sp., 5 WT. Ap.
1350	Storm Pet	1			Not well seen.
1410	Bird sp.	1			
1700	Storm Pet	1	sit		Feeding
1704	"	1	sit		Feeding
1745	Shear/pet	1	ca		
1830	Storm pet.	1	ca		distant
1923					Sunset

SI-MNH-958-e
Rev. 5-66



Ship Direction

OBSERVERS:
CHAN, DELONG, HOFF

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 25 JULY 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
0600					BEGIN OBS SR 0532
0615	BFA	3			2 dk., 1 mottled
0736	SM. PTERODR.	1	N		distant
0745	RED PHAL.	3			bread plum. flying and on H_2O
0758	WRSP	1			adult
0800	BFA	6			1 lt, 1 mott, 3 dark, 1 ?
0810	Cook's Pet	1			dk. bird
0815	WRSP	1			Leach's type
0834	Jaeger sp.	1			C6 - 80-90° (SE → E) harassing BFA behind ship
0845	Storm pet.	1			
1000	BFA	2			1 lt. ad.
1000-1045					close obs in Gp and D.C. Drills.
1045					begin
1315	SOOTY SHEM	2			
1600	BFA	5			
1735	BIRD SP	2			"medium size white" - JOHANSEN - "PTERODROMA"? CHAN.
1745	BFA	8			
1921					55

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS: Delong, Hoff, [illegible]

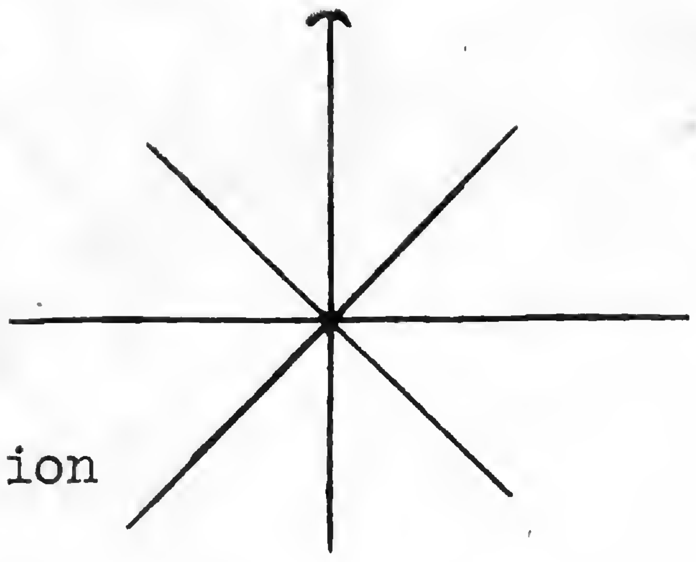
Ship Direction

Date 26 July 67
Pg.# 10

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0519					SR
0525					begin obs.
0530	BFA	1			following ship
0630	BFA	2			" "
1000	BFA	3			3 2 dk sp, 1 wt sp
~~10~~10	WRSP	1	ce		
1022	JAEGER SP.	1	ce		POM OR PAR. no central tail feathers - larger darker than LTJ
	LTJ	1	ce		small much white in wing - white neck imm.?
1023	STORM PET	1	ce		dk? sp. SAT ON H_2O w/ BFA's
1035	WRSP	1	ce		} DISTANT
	STORM PET	2	ce		WRSP?? } DISTANT
1042	WRSP	1	ce		LEACH'S DIV. RUMP.
1046	JAEG. SP	1	ce		dk. breast band - POM.? IMM?
1048	DRSP	1	ce		
1049	WRSP	1	ce		
1100	BFA	6	ce		5 dk, 1 lt } FOLLOWING ASTERN
	DRSP	2	ce		} FOLLOWING ASTERN
1107	WRSP	1	ce		
1110	"	1	ce		DIFF FROM 1107
1111	"	2	ce		SITTING ON H_2O 1110 BIRD IN SIGHT
1118	"	1	ce		
1125	"	1	ce		
1127	"	2	ce		1125 IN SIGHT — 1 on H_2O
1130	DRSP	1	ce		
1136	STORM PET	1	ce		dist.
1142	WRSP	1	888		Definite Leach's Petrel!
1152	Shorebird sp.	1	SW		Small - possible phalarope - [illegible] beak above water.
1158	WRSP	1			
1220	Jaeger	2	SE		[illegible], square white [illegible] - forked tail - [illegible] overall light appearance - gray [illegible] - wings tail [illegible] (1 bird with) probable parasitic?

SI-MNH-958-e
Rev. 5-66

OBSERVERS:
DeLong, Chan
~~[illegible]~~ / Huff

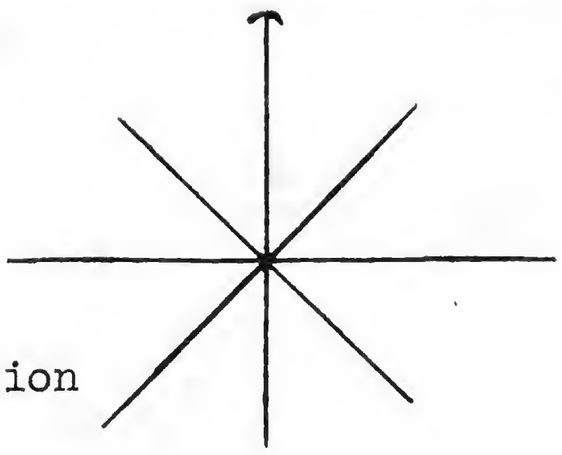


Ship Direction

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 26 July 67
Pg.# 2

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
1225	WRSP	2	SW		leucorhoa
1227	~~Red~~ Phalarope sp	1	?		identified by voice only - (code 9)
1235					whale sp. - baleen type - high columnar spout ca 25 feet. Bodies never seen. 2 miles off.
1241	WRSP	2	E		
1304	WRSP	1	SW		
1307	WRSP	1	SW		
1310	"	1	SW		
1315	"	4	SW		one feeding
1330	Storm Pet	2	SW		Rump color not seen
1330	Sabine Gull	1	SW		sd. } associated
1336	Tern	1	SW		sd. } associated
1334	Shorebird	4	Flocked - S		black cap - mantle med gray, white tail & Rump.
1337	~~Red~~ Phalarope sp.	10	SW		
1340	Storm Pet	1	SW		Rump dark - traces of white on sides of flanks. Chapmani or socorroensis
1347	N. Phalarope	4			not encountered by tone. Have lines of nuptial plumage around head & neck, bill long and slender, & back dark.
1345	Jaeger sp	2	SW		
1348	WRSP	1	SW		
1352	WRSP	2	SW		
	Storm Pet	1	SW		Faster flight??? - slight white on sides of flanks.
1413	BFA				Total of 8 following



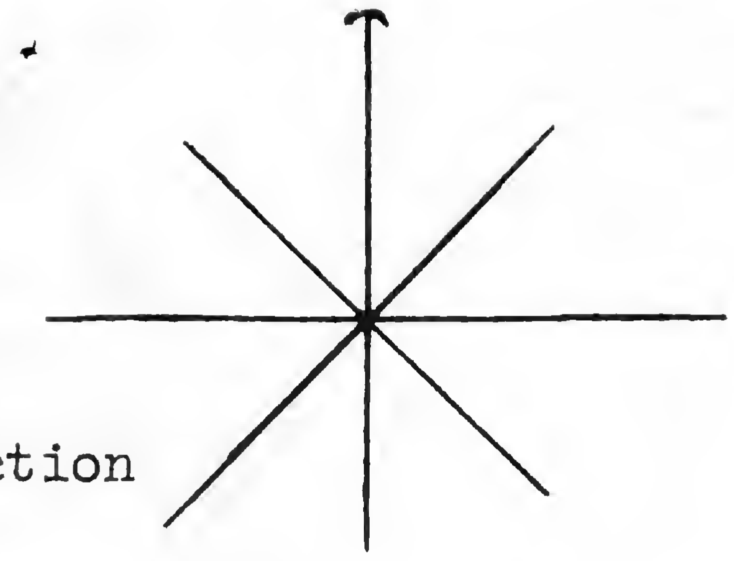
Ship Direction

OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 26 July
Pg.# 3 of

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
1415	WRSP	1	SSE		
1425	"	1	SSE		
1430	"	1	SE		
1505	BFA	8	∞		2° calm waters - exact count
1510	WRSP	1	∞		distant
1530	WRSP	1	∞		"
1533	WRSP	1	∞		"
1540	"	1	∞		"
1545	Alcidae	1	—		small white flushed light on bottom flew low & directly away.
1650	BFA	16	∞		
1610	JAEG. SP	1	SW		
1611	WRSP	3	SE		3 INDIVIDUALS
	STORMPET	2	SW		3 INDIVIDUALS
1617	STORMPET	1	SSE		
1619	WRSP	1	SE		
1619	STORMPET.	1	SSE		
1628	" "	1	SSE		
1633	" "	1	SSE		
1634	WRSP	1	SE		
1635	~~CURLEW~~ WHIMBREL	3	S		WHIMBRELS (I THINK), SAW NO RUMP OR BACK 150' SHORT BILL PATTERN
1644	DRSP	1	S		PROM. WING BARS, UNDERWINGS LIGHTISH?
1655	STORMPET	1	SSE		
1705	" "	1	SSE		
1706	" "	1	SE		
1716	DRSP	1	SSE		
1714	WRSP	2	S		
1715	"	1	SE		
1716	STORMPET	2	SSE		
1725	BFA	19	SSE		
	PTEROSP.	1	SE		SMALL EASTERN
	STORMPET	3	S		EASTERN
1734	" "	1	SSE		
1738	" "	2	SSE		
1739	SM. PTERO	1	SSE		PROB COOK'S
1740	STORMPET	2	SE		
1745					CC to 270°



Ship Direction

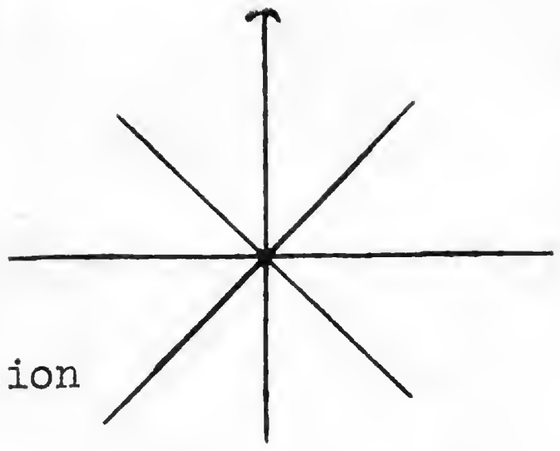
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 26 Sept
Pg.# 4

55/707

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
1747	Storm Pet	2	SW		1 feeding
1751	Phalaropes	3	SE		
1700	BFA				Total of 9.
1758	WRSP	1	SW		
1800	Phalarope	1	SW		
1804	WRSP	2	SW		feeding
1810	WRSP	1	S		
1813	Endomychura hypoleuca	2	N		Subspecies i.e. xantusi, Craveri etc. unk.
1823	Phalarope	3	SE		
1825	Storm Pet	1	SW		All dark
1828	ORSP	2	circ		
1830	RED PHAL	1	circ		calling
1831	WRSP	1	circ		
1833	STORM PET	2	circ		
1837	ORSP	2	W		
1845	(WR) (STORM PET)	1	circ		
1849	STORM PET	1	circ		
1854	STORM PET	1	circ		
1858	" "	1	circ		
1903	WRSP	1	circ		
1907					SS CLOSED OBS.



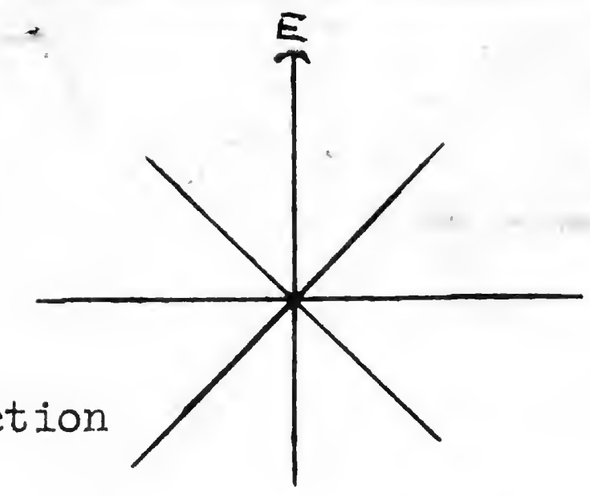
OBSERVERS: Chas Hoff DeLong

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 27 July
Pg.# 1

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0216					
0216	PHAE SP	6	a		60'
0220	"	6	e		SHAPE?
0240	BIRD	1	ese		
0245	ST. PET	1	se		
0246	PHAE SP	25±	sw		flying light flock R.
0250	"	8±	e		
0310	"	1+	e		calling
0315					CLOSE
0524					SR
0600	BFA	7			
0630	WRSP	1			
0807	WRSP	1			
0911	Jaeger Parasitic	1	SE		Rabi 3
0937	WRSP	1			
1024	STORM PET	1	sw		
1120	SM. PTERO.	1	e		
1128	STORM PET	1	se		
1129					SBFA @ 11:15 approached cook-size and habit
1200	Band-tailed Pigeon	1	—	collected	Hoff - flew on board @ 0930. Posit? Dolphinus 5 cm. at least two white in Dorsal. ca 5-6 feet in length.
1300	WRSP	1	∅		
1740	Shearwater	1	NW		Small all black. Flight pattern short, steep arcs. Occasional flapping at the top of the arch. CI Shearwater sized —???
1742	SOOTY SHEAR	—	NW		SOOTY SHEAR MAYBE
1924					SS CLOSE OBS.

SI-MNH-958-e
Rev. 5-66



Ship Direction

OBSERVERS:
CHAN HOFF DELONG

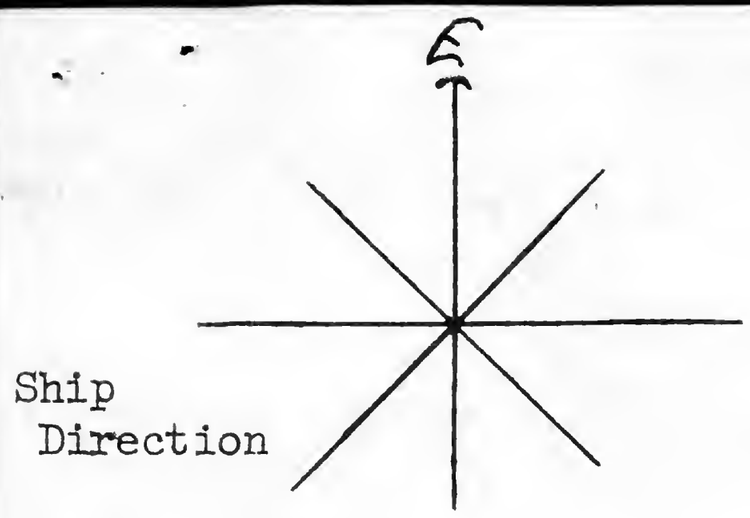
SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 28 JULY 1967
Pg.# 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
					SUNRISE
0536					LIGHT WINDS NW 7 KTS.
0540	BFA	3			all dark.
0645	"	5			0600 - 0630 5 MILES OF OIL SLICK NOT NATURAL FOUL OIL PROBABLY
0655	SM. PTERO.	2	N		COOKI PROB.
0658	RED PHAL.	4	ca		ONE 20 BREED. PLUM.
0700	" "	1	ca		" " "
0712	SM. PTERO	2	NW		COOK-TYPE
0715	BFA	6	ca		ALL DK.
0718	SM. PTERO	3	NW		diff from above.
0735	" "	1	N		COOK-TYPE
0737	" "	1	N		"
0738	" "	1	N		"
0743	" "	1	NW		"
0605	BFA	5	ca		2 lt 3 dk.
0838	SM. PTERO	1	caa		COOKS ?
0914	" "	1	N		"
0920	" "	1	N		FLUSHED FROM H_2O
0925	" "	2	N		COOK-TYPE
1015	" "	1	S		also Wheeler in the waters (1015)
1030	" "	2	S		dark small petrel
1035	" "	1	∞		noted by skiff
1035	Red Phalarope	1	∞		
C 1035	Pterodroma	1	ca		Pterodroma cook ?
1038	PT. cook ?	2			
1055	PT.	1			
C 1105	Long-eared owl	1	a		coll. Chan in skiff
1107	WRSP	1			
C 1125	Leach's Petrel	1	SSS		coll — coll skiff Chan.
CC 1145	PT. Cookii	2	cc		2 collected Chan.
C 1150	PT. cookii	1	C		1 collected Chan.
C 1155	SOOTY SHEAR	1	ca		1 coll skiff Chan.
C 1220	Cuckoo Pet	1			C - Chan skiff

BFA - 6
COOKI - 50 (11 COL)
RPHA. - 9 2 COL.
LEACH - 1 COL
WRSP - 7 1 LSHIP
STRT - 2

call: Chan



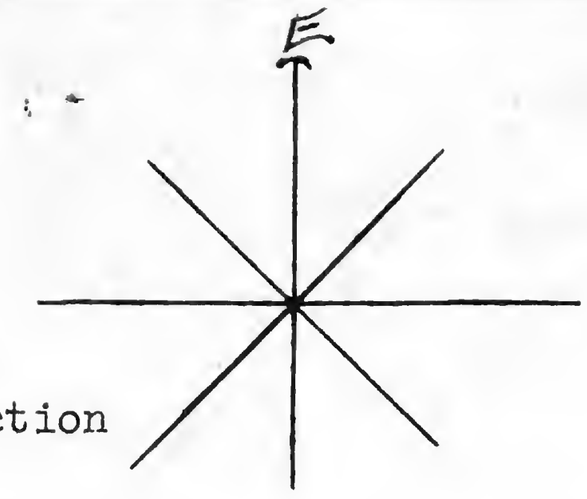
OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 28 July
Pg.# 2

	TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
C	1330	Phalarope sp.	1			special code #9 coll. Cham. Red-phalarope
	1330	Pt. Cookii	1			sighted by the skiff
C	1334	Pt. Cookii	1			collected Cham.
CC	1339	"	2			collected Cham.
	1343	"	5	N		
C	1345	"	1/2	∽		coll. Cham
	1345					
	1352	St. petrel	1	∽		
C	1407	P. cookii	1	SS		coll: cham.
C	1413	P cookii	0			coll cookii: cham
C	1426	Red Phalarope	1	SS		coll: cham
	1430	"	1	SW		
	1431	Cooks Pet	1			
	1438	"	1	SS		
	~~1610~~					
	1615					skiff out
	1630	WRSP	1	∽		
	1700	WRSP	1	∽		
	1705	WRSP	1	∽		
	1725	Cooks petrel	1	∽		
	1744	" "	2	N		
	1745					porpoise 4 seen
	1807	ST. PET.	1	N		
	1815	Cooks pet.	2	N		
	1820	WRSP	1	S		
	1845	Cooks Petrel	1	N		
	1850	WRSP	1	~~N~~		
	1911					SS

SI-MNH-958-e
Rev. 5-66



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 29 July
Pg. # 1

TIME	SPECIES	#	SPECIMEN or DIR.	BAND NO.	REMARKS
~~0545~~					× ~~all time~~ 0620 ~~daylight saving time~~ ship
0620					SR
0620	BFA	1			sitting in H2O
0640	St. petrel	1	N		
0654	cuvier? unidentified	1	E		circled the ship
0810	BFA	2			sitting in H2O
0810	STORM PET	1	cee		
0828	RED PHAL	1	S		
0829	WRSP	1			
0843	COOK PET	2			ON H2O
0846	" "	1			
0858	WRSP	1			
0908	STORM PET	1			
0909	WRSP	1			
0915	STORM PET	1			
0917	WRSP	1			
0942	COOK PET	1			
0949	" "	1			ON H2O
1011	JAEGER SP	1	N		
1012	STORM PET	1			
1015	WRSP	1			
1035	Storm Pet	1			Dark Rump.
1040	"	1			
1048	"	1			
1110	"	1			
1120	"	1			
1125	"	1			all black
1128	"	2			all black - Flight pattern is not as intermediate for Leach. About 4-1 flaps of the wing and a downward glide - covering a good linear distance - Flying down wind. Look too small for bonaparte.
1129	Storm Pet	1			all black - definite D.L.?
1138	"	1			

0830
COOK - 5
WRSP - 4
STORM - 13
JAE - 1
23

Ship Direction   E

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS: H.FF

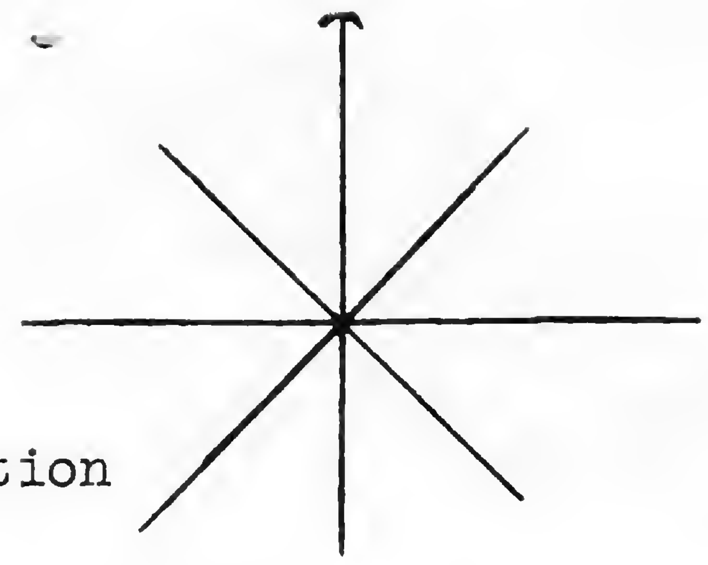
Date 29 July
Pg. # 2

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
1200	WRSP	1	S		
1215	WRSP	1	~		
~~1255~~ 1300	"	2	S		
1330	"	1	S		
1345	"	1	S		
1420	"	1	all		
1432	WRSP	1	all		
1435	"	1	all		
1436	"	1	all		
1442	"	1	all		
1443	"	1	all		
1452	STORM PET	1	all		rump?
1456	WRSP	1	all		
1507	"	1	all		
1525	STORM PET	1	all		"
1529	WRSP	1	all		
1532	ST PET.	3	all		
1534	STORM PET.	2	all		
1542	" "	1	all		
1555	SOOTY SHEAR	1	N		
1557	Storm Pet	1	SW		
1604	Puffinus sp.	1	SW		Brown mantle - Dark crissum, dark throat & Neck, white underwings. Looked to be longer than P.p. opisthomelas but was too fast for Creatopus (probably colored wrong also). Could it be townsendi? - check.
1606	Storm Pet	1	SW		
1615	Shear/pet	1	N		probable Sooty Shear - no [illegible]
1620	Storm Pet	1	SW		
1621	WRSP	1	N		
1627	"	1	S		
1628	WRSP	1	SW		
1629	Phalarope sp.	1	E		Flying 50 ft above surface & Vocalizing

WRSP - 18
STORM - 11
SS - 1
PUF - 1
S/P - 1
PHA sp - 1
33 ✓

SI-MNH-958-e
Rev. 5-66

Ship Direction



SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

OBSERVERS:

Date 29 July
Pg.# 3

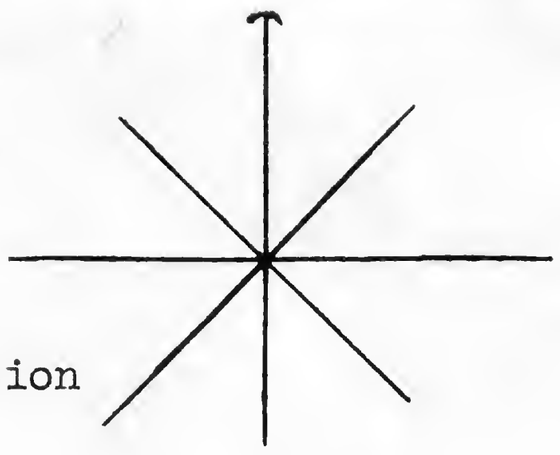
TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
1635					Fresh Nereocystis. one strand with fronds.
1638	Storm pet	1	SW		Dark Rumps
1652	Sooty Shear	1	N		Rel. 1
1700	WRSP.	1	SW		
1703	"	1	N		
1704	"	1	SW		
1705	BFA				total of 8 following
1708	WRSP.	1	S		
1710	S.P.	1	S		
1717	WRSP	1			Following Ship
1717	Sooty Shear	1			"
1727					Floating patch of Nereocystis
1730	WRSP	1	SW		
1732					White patches very small - divided by black
1810	WRSP	2	SW		Floating Macrocystis with fronds - fresh!
1815	Sooty Shear.	1	S		
1815					one otariid (eared-seal)
1820	BFA	2			following ship
1822	Sooty Shear	1	?		
1830	WRSP	2	E		
1845	S. Shear	1	S		
1850	WRSP	1	?		
1900	WRSP	1	?		
1910	Jaeger sp.	1	N		
1915	Sooty Shear.	1	~		
1925	S. Shear.	1	~		
1930					close obs

STORM - 2
SS - 7
WRSP - 11
Jsp - 1
21 ✓

SI-MNH-958-e
Rev. 5-66

Subspecific identifications

Globiceps Lab. is according to
Scheffer & Rice 1963. Please leave as is



OBSERVERS:

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG - E

Date 30 July
Pg.# 1, 0

TIME	SPECIES	#	DIR.	SPECIMEN or BAND NO.	REMARKS
0630					boy is abo - between Santa
0635	Western gull	1	W		Catalina and long beach
0640					Mola mola
0641	Western gull	1	W		
0647	Sooty Shear	1			
0650					
~~0700~~ 0710					Globicephala
					10 in one pod — 4 large animals leading, two cows with calves.
					5 in another pod — Globicephala.
0715	Sooty Shear	3	W		
0730	"	4	8888		
0732	Pink footed Shear	1			Rel 2
0732	Western gull	8			3 ad 5 imm.
0736					CLOSE OBS

E.A.C. CRUISE DATA SHIP YAG-40 DATE 7/24/67

	TIME	LAT.	LONG.
SUNRISE	0515	33-20 N	122-06 W
SUNSET	1923	33°22 N	124°24 W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 130

POSITION

TIME	LAT.	LONG.
~~0400~~ 0415	33-19.8 N	121-56 W
0600	33°19.5 N	122°15 W
0800	33-20 N	122-36 W
1000	33°20. N	123°00.0 W
1200	33-19.7 N	123-20.5 W
1400	33°21. N	123°41.5 W
1600	33°22 N	124° 03. W
1800	33°21 N	124°23 W
2000	33°19.0 N	124°48.2
2400	33°18.5 N	125°32.0

~~19~~ 22 0~~4.5~~ 5 0500

~~19~~ 22 2~~2.5~~ 4 - 0700

~~24~~ 2248 - 0900

~~21.5~~ 2311 - 1100

~~20~~ 2331 - 1300

~~21.5~~ 2351 - 1500

~~20~~ 2413 - 1700

~~25~~ 2436 - 1900

~~11~~ 2510

ON-CSE - 270° T
SP - 10.6 KTS

COURSE OR SPEED CHANGE

FROM	TO	(AT) LAT.	LONG.

2.8
8/62

8/00.

13
6/66
6
20

14.75/130

E.A.C. CRUISE DATA SHIP YAG-40 DATE 7/25/67

	TIME	LAT.	LONG.
SUNRISE	0502	33-06N	126-25W
SUNSET	1921	32°28N	124°20W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 130

POSITION

TIME	LAT.	LONG.
0400	33-17N	126-09W
0600	32-54N	126-20W
0800	32-36N	126-14W
1000	32-33N	125-59W
1200	32-34N	125-36W
1400	32° 30.0N	125° 16.2W
1600	32° 30.0N	124° 54.2W
1800	32° 28.0N	124° 35.0W
2000	32° 26.5N	124° 14.2'W
2400	32° 27.0N	123° 33.0W

0700 3245
0900 3235
1100 3234
1300 3232
1500 3230
1700 3229
2100 3227
2700 3227

COURSE OR SPEED CHANGE

FROM	TO	AT	LAT.	LONG.
269°T	180°T		33-18N	126-14W
180°T	090°T		32-33N	126-15W

E.A.C. CRUISE DATA SHIP YAG-40 DATE 7/26/67

	TIME	LAT.	LONG.
SUNRISE	0519	32°30 N	122°39 W
SUNSET	1907	31°40 N	122°11 W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 124

POSITION

TIME	LAT.	LONG.
0400	32°28.5 N	122°48.5 W
0600	32°30 W	122°26 W
0800	32°30.5 W	122°04.8 W
1000	32°29.8 N	121°42.7 W
1200	32°29.5 N	121°20 W
1400	32°22.0 N	121°04 W
1600	32°02.3 N	121°05.5 W
~~1800~~ 1746	31°47.0 N	121°07.0 W
2000	31-42.8 N	121-32.7 W
2400	31-45 N	122-17 W

COURSE OR SPEED CHANGE

FROM	TO	(AT) LAT.	LONG.
185	270	31°47.0 N	121°07.0 W

1746

E.A.C. CRUISE DATA SHIP VAG-40 DATE 7/27/67

	TIME	LAT.	LONG.
SUNRISE	0524	31-45N	123-10W
SUNSET	1924	31-45N	125-50W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 139

POSITION

TIME	LAT.	LONG.
0400	31-46N	123-02W
0600	31-45N	123-24W
0800	31-44N	123-46W
1000	31-43N	124-07W
1200	31-42 N	124-27.1W
1400	31-37.7N	124°54.2W
1600	31-37.0N	125°16.0W
1800	31-37.0N	125°39.0W
2000	31-34.6N	126-02.8W
2400	31-05.2N	126-15W

COURSE OR SPEED CHANGE

FROM	TO	(AT)	LAT.	LONG.
270	268		31-45N	123-10W
268	277		31-34N	126-19W

E.A.C. CRUISE DATA SHIP YAG-40 DATE 7/28/67

	TIME	LAT.	LONG.
SUNRISE	0536	30°51 N	125°35 W
SUNSET	1911	30°50 N	123°01 W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 126

POSITION

TIME	LAT.	LONG.
0400	30°58 N	125-42 W
0600	30°54.5N	125-21.5W
0800	30°54.0N	125-00.2W
1000	30°57 N	124°35 W
1200	30°58 N	124°16 W
1400	30°56 N	123°55.5W
1600	30° 54.2N	123°34 W
1800	30°51.5N	123°13.2W
2000	30°50 N	122°53 W
2400	30°50 N	122°16.8W

24 W

26

06

44

24

COURSE OR SPEED CHANGE

FROM	TO	AT: LAT.	LONG.
171	090	31-51N	1-26-17W

PRELIMINARY REPORT

EASTERN AREA CRUISE NO. 17

July 10-30, 1967

including

EASTERN GRID SURVEY NO. 10

Prepared by

Richard D. Chandler

Preliminary Report
Eastern Area Cruise No. 17
Eastern Grid Survey No. 10
prepared by
Richard D. Chandler

Cruise Itinerary:

10 July	0815	Chandler, Hoff depart Honolulu
19 July	1226	Arrive Eastern Grid area
21 July	0514	Begin nominate Grid Cruise Track
23 July	0900	Depart Grid area for helicopter rendezvous
23 July	1700	DeLong arrives via helicopter
24 July	0515	Resume regular Grid observations
29 July	0830	Depart Grid area
30 July	1000	Arrive Long Beach

Personnel : Robert DeLong (Biologist-in-Charge 23-31 July)
Richard Chandler (Biologist-in-Charge 10-23 July)
David Hoff

Methods : Diurnal observations were made from the helicopter deck when weather conditions permitted. During high seas the watch was held from the lee wing of the bridge. Nocturnal watches were held on the lee side of the quarterdeck. Other methods and procedures followed those established on previous cruises on this type of vessel. Birds were collected from the skiff on 28 July. No BT casts were made.

NON-GRID SECTIONS:

The non-Grid areas have been broken down into four sections as follows:

Section "A" Hawaiian Area 10-11 July

The observations during the first two days out of Honolulu (10-11 July) were strongly influenced by land-based populations from the main Hawaiian islands. Area "A" (see Figure #1) is best discussed separately from the next section.

Section "B" Deep Pelagic Area 12-19 July

Beyond 300 miles from the main Hawaiians the number of birds dropped sharply to a very low level and remained low to the western side of the Grid area (126°30' W, see Figure #1).

Section "C" Pt. Arguello 23 July

During the rendezvous with the helicopter, observations were taken from 11 to 20 miles off the California coast near Pt. Arguello/Pt. Conception (see Figure #2).

Section "D" Grid to Long Beach 29-30 July

Departed Grid area at 0830 hours 29 July. Eleven hours of observation 0-100 miles east of the Grid on 29 July, and 1.1 hours between Santa Catalina and Long Beach on 30 July constitute this section (see Figure #2).

Section "A" Hawaiian Area:

During 12.4 hours (100 miles) of diurnal observations on 10 and 11 July, 620 birds of 10 species were observed. Sooty Terns, Wedge-tailed Shearwaters, and Common Noddies were the dominant species accounting for 97 percent of the birds in this section. Several large feeding flocks were seen on the 11th, 100-200 miles from land. (See non-Grid Table #2 for summary.)

SPECIES ACCOUNTS

Wedge-tailed Shearwater (*Puffinus pacificus*) # Obs. = 83
% Section total = 13.4

Wedge-tails were abundant on 10 July when passing 10-30 miles north of Molokai, and were regular in the Sooty Tern flocks on 11 July. All birds observed were light-phase.

Newell's Shearwater (*Puffinus puffinus newelli*) # Obs. = 2

Two Newell's were seen alone on 10 July.

Black-winged Petrel # Obs. = 2
Small *Pterodroma* sp. # Obs. = 5
Pterodroma externa # Obs. = 1
Pterodroma sp. # Obs. = 2

The above sightings were all made on the second day out. One small *Pterodroma* was thought to be a White-winged Petrel, but probably most of the small birds were *P. hypoleuca*. No Bonin-type birds were observed. The *P. externa* was probably a Juan Fernandez.

Dark-rumped Petrel (*Pterodroma phaeopygia*) # Obs. = 1

A bird tentatively assigned to this species was seen north of Molokai on 10 July.

Bulwer (?) Petrel (*Bulweria bulweriae*) # Obs. = 1

A single large all-dark petrel seen in a Sooty Tern flock on 11 June was probably this species. It was not observed well enough to rule out the possibility of Sooty Storm Petrel.

Red-tailed Tropicbird (Phaethon rubricauda) # Obs. = 1

The single bird seen had no visible central tail feathers.

Red-footed Booby (Sula sula) # Obs. = 2

Two adult light-phase birds were recorded north of Molokai.

Sooty Tern (Sterna fuscata) # Obs. = 476
% Section total = 76.8

Only a few scattered sooties were seen the first day. Feeding flocks of up to 150 birds were observed over 150 miles from land on the second day. The land base of these birds is uncertain. Except for a single immature, all birds appeared to be adults.

Common Noddy (Anous stolidus) # Obs. = 43
% Section total = 10.2

All noddies were recorded within sight of Molokai where they were associating with Wedge-tailed Shearwaters in loose feeding flocks.

Section "B" Deep Pelagic Area 12-19 July

After leaving the area of typical Hawaiian breeding birds some 300 miles northeast of Hawaii, a barren area about 1600 miles in extent was traversed. Aside from the Black-footed Albatrosses following the ship, 14 birds were sprinkled over the 552 miles of diurnal observations in eight days. This averages out to one non-albatross bird in every 4-1/2 hours, or about one bird every 40 miles. Black-footed Albatrosses accounted for 18 of the 32 birds recorded (56%). Of significant note was the absence of this species during the first four days of the cruise.

Constant northeast trades averaging 17.5 knots accompanied most of this leg, shifting slightly to the north during the last 2-3 days. Relative gusting up to 50 m.p.h. made for generally poor observing conditions. Watch was held from the ship's bridge during most of this section.

Effects of colder north Pacific waters were felt around 26-28° N; 138-145° W, when surface temperatures dropped from 74° to 65° F. Winds increased and cloud cover obscured the sky (see Non-Grid Table #3). These changes only slightly affected bird observations.

SPECIES ACCOUNTS

Black-footed Albatross (Diomedea nigripes) # Obs. = 18

No albatrosses were seen from 10 July through 13 July. A bird was reported by the bridge at sunset on 14 July (27°20' N; 135°20'W). One bird was seen briefly on 15 July but birds were not regularly following the ship until 16 July (29° N; 138° W) when three were present most of the

day. Three to six birds were present for the last three days. The increase of albatrosses came at the same time a notable drop of surface temperature was recorded. Of the 14 birds for which rump color was noted six (42%) were white-rumped. This is about the same as the overall percentage of white-rumped birds in the present Grid survey (15 out of 42; 82%).

Sooty Shearwater (Puffinus griseus) # Obs. = 2

Two Sooty/Slender-bill Shearwaters were seen on 14 July. One had "light" underwings, the other was not seen well, but both were probably this species. Both birds were traveling in a west-southwest direction.

Pterodroma sp. # Obs. = 2

Both sightings were on 12 July. One may have been a P. externa.

Shearwater/Petrel # Obs. = 3

Three shearwater/petrels were observed on 16 July in the area of the most rapid surface temperature drop. Two of the birds were tentatively identified as Kermadec Petrels, one light- and one dark-phase.

Red-tailed Tropicbird (Phaethon rubricauda) # Obs. = 1

A short-tailed bird (subadult ?) on 17 July (ca. 30° N; 134° W) was closer to the North American coast than the Hawaiian Islands.

White-tailed Tropicbird (Phaethon lepturus) # Obs. = 1

This was the only bird seen on 13 July.

Tropicbird sp. # Obs. = 1

Seen on 14 July, this bird was noted as follows: "Sitting on water, large, pinkish hue, dark bill, long-light tail."

Jaeger sp. # Obs. = 2

Two birds were seen together on 12 July.

Section "C" Pt. Arguello 23 July

One hour of observation was run from the helicopter rendezvous 11 miles off Pt. Arguello to A Point 20 miles southwest of Pt. Arguello. One-hundred-sixteen birds of six species were observed. This area is well outside of "pelagic" areas (see Figure #2). Albatrosses were present but low in numbers; no storm petrels were seen. Sooty Shearwater was the dominant species. (See non-Grid Table #4 for summary of observations.)

SPECIES ACCOUNTS

Black-footed Albatross (Diomedea nigripes) # Obs. = 3

At point "Dogwood" during the morning of 23 July, at least 19 albatross were present around the ship. Twenty miles from point Dogwood, 11-20 miles from Pt. Arguello, only three were present.

Pink-footed Shearwater (Puffinus creatopus) # Obs. = 9

Pink-foots were found associated with Sooty Shearwater flocks at a ratio of approximately 1:10.

Sooty Shearwater (Puffinus griseus) # Obs. = 97

Sooty Shearwaters were scattered about in loose groups of 4-35. No obvious feeding concentrations were noticed.

Jaeger sp. # Obs. = 3

Three immature Jaegers were observed harassing a seal.

Western Gull (Larus occidentalis) # Obs. = 2

Two adults followed the ship's wake briefly.

Gull sp. # Obs. = 2

Two small gulls were seen at a distance. They were possibly Bonapartes.

Section "D" Grid to Long Beach 29-30 July

Eleven hours of observations on the eastern side of the Grid area on 29 July were much like the southeast section of the Grid with storm petrels the dominant form (70% total). During an hour's observation between Santa Catalina and Long Beach, Western Gulls and Sooty Shearwaters were seen. (See Non-Grid Table #5 for summary of observations.)

SPECIES ACCOUNTS

Black-footed Albatross (Diomedea nigripes) # Obs. = 8

The high numbers of albatross noted in conjunction with storm petrels during the Grid survey were not noticeable over this section.

Pink-footed Shearwater (Puffinus creatopus) # Obs. = 1

One bird was seen inside Santa Catalina.

NON-GRID TABLE #1. Summary of Observations, All Non-Grid Section
EAC 17, 10-30 July 1967

Species	Hawaiian "A"	Pelagic "B"	Pt. Arguello "C"	Grid-L.Beach "D"	Total
Black-footed Albatross		18	3	8	29
Pink-footed Shearwater			9	1	10
Wedge-tailed Shearwater	83				83
Sooty Shearwater		2	97	16	115
Newell's Shearwater	2				2
Puffinus sp.				1	1
Shearwater sp.	1				1
Cook Petrel				5	5
Black-winged Petrel	2				2
Small *Pterodroma*	5				5
Pterodroma Externa	1				1
Dark-rumped Petrel	1				1
Pterodroma sp.	2	2			4
Shearwater/Petrel		3		1	4
Bulwer Petrel	1				1
White-rumped Storm Petrel				33	33
Storm Petrel sp.				26	26
White-tailed Tropicbird		1			1
Red-tailed Tropicbird	1	1			2
Tropicbird sp.		1			1
Red-footed Booby	2				2
Phalarope sp.				1	1
Jaeger sp.		4	3	2	9
Western Gull			2	10	12
Gull sp.			2		2
Sooty Tern	476				476
Common Noddy	43				43
Total Birds	620	32	116	104	872
# Hrs. Obs.	12.4	63.5	1.0	12.1	89.0
# Miles Obs.	100	552	9	111	772
# Species	10	5	6	9	20
Linear Pens	6.200	.058	12.9		1.13

NON-GRID TABLE #2. Summary of Observations, Non-Grid Section "A" - Hawaiian Area, 10-11 July 1967
EAC 17, 10-30 July 1967

Species	10 July	11 July	Total	%	Lin. Dens.
Wedge-tailed Shearwater	56	27	83	13.4	.830
Newell's Shearwater	2		2	0.3	.020
Shearwater sp.		1	1	0.2	.010
Total Shearwater			86	13.9	.860
Black-winged Petrel		2	2	0.3	.020
Small Pterodroma		5	5	0.8	.050
Pterodroma externa		1	1	0.2	.010
Dark-rumped? Petrel	1		1	0.2	.010
Pterodroma sp.		2	2	0.3	.020
Total Pterodroma			11	1.8	.110
Bulwer? Petrel		1	1	0.2	.010
Red-tailed Tropicbird	1		1	0.2	.010
Red-footed Booby	2		2	0.3	.020
Sooty Tern	10	466	476	76.8	4.760
Common Noddy	43		43	10.2	.430
Total	115	505	620	100.0	6.200
# Hrs. Obs	2.4	10.0	12.4		
# Miles Obs.	20	80	100		
# Species	7	5	10		
Linear Dens.	5.750	6.320	6.200		

NON-GRID TABLE #3. Summary of Observations, Non-Grid Section "B" - Deep Pelagic Area, 12-19 July
EAC #17 10-30 July 1967

Species	12	13	14	15	16	17	18	19	Total	Percent	Linear Density
Black-footed Albatross			(1)	1	3	3	6	4	18	56.3	.033
Sooty/Slender B. Sh.			2						2	6.2	.003
Pterodroma sp.	2								2	6.2	.003
Shearwater/Petrel					3				3	9.4	.005
White-tailed Tropicbird		1							1	3.1	
Red-tailed Tropicbird						1			1	3.1	.001
Tropicbird sp.			1						1	3.1	.003
Jaeger sp.	2					2			4	12.6	.007
Total	4	1	4	1	6	6	6	4	32	100.0	.058
# Hrs. Obs.	10.0	10.0	8.0	9.0	6.5	7.5	7.5	5.0	63.5		
# Miles Obs.	80	90	66	79	59	65	68	45	552		
# Species	2	1	3	1	2	3	1	1	5		
Linear Dens.	.050	.011	.061	.013	.101	.092	.088	.089	.058		
Aug. Sea T in °F	76.0	74.5	74.5	74.0	71.5	67.3	64.8	64.0			
Aug. Cloud Cover (10ths.)	3	7	8	9	10	10	8	1			
Aug. Wind Vel. (kts.)	16	17	22	22	14	13	15	21	17.5		

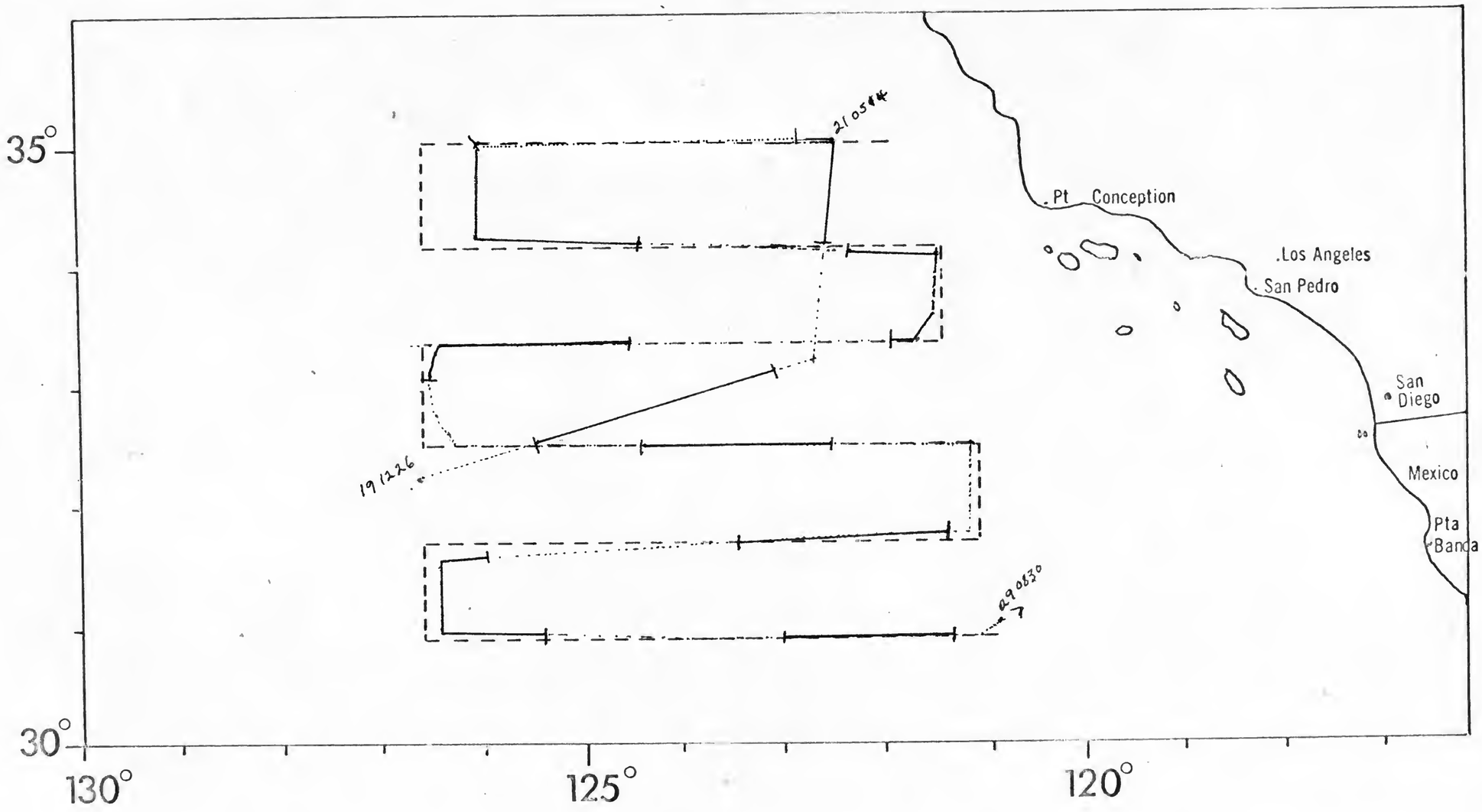
NON-GRID TABLE #4. Summary of Observations, Non-Grid Section "C"
Pt. Arguello Area 23 July, EAC 17, 10-30 July 1967

Species	23 July	%	Linear Dens.
Black-footed Albatross	3	2.6	.333
Pink-footed Shearwater	9	7.7	1.000
Sooty Shearwater	97	83.7	10.7
Jaeger sp.	3	2.6	.333
Western Gull	2	1.7	.222
Gull sp.	2	1.7	.222
Total	116	100.0	12.900
# Hrs. Obs.	1.0		
# Miles Obs.	9		
# Species	6		

NON-GRID TABLE #5. Summary of Observations, Non-Grid Section "D"
Eastern Grid to Long Beach, 29-30 July, 1967,
EAC 17, 10-30 July 1967

Species	29 July #	29 July % Day Tot.	29 July Lin. Dens	30 July #	30 July % Day	30 July Lin. Dens.	Total #	Total % T	Total Dens.
Black-footed Albatross	8	9.4	.075				8	7.7	.072
Pink-footed Shearwater				1	5.3	.25	1	1.0	.009
Sooty Shearwater	8	9.4	.075	8	42.1	2.0	16	15.4	.144
Puffinus sp.	1	1.2	.010				1	1.0	.009
Cooks Petrel	5	5.9	.047				5	4.8	.045
Shear/Pet.	1	1.2	.010				1	1.0	.009
White-rumped Storm Petrel	33	38.9	.308				33	31.6	.298
Storm Petrel sp.	26	30.5	.243				26	25.0	.234
Phalarope sp.	1	1.2	.010				1	1.0	.009
Jaeger sp.	2	2.3	.019				2	1.9	.018
Western Gull				10	52.6	2.5	10	9.6	.090
Total	85	100.0	.795	19	100.0	4.75	104	100.0	.937
# Hrs. Obs.		11.0			1.1			12.1	
# Miles Obs.		107			4			111	
# Species		7			3			9	
Linear Density		.795			4.75			.937	

FIG. #1 EASTERN GRID CRUISE TRACK



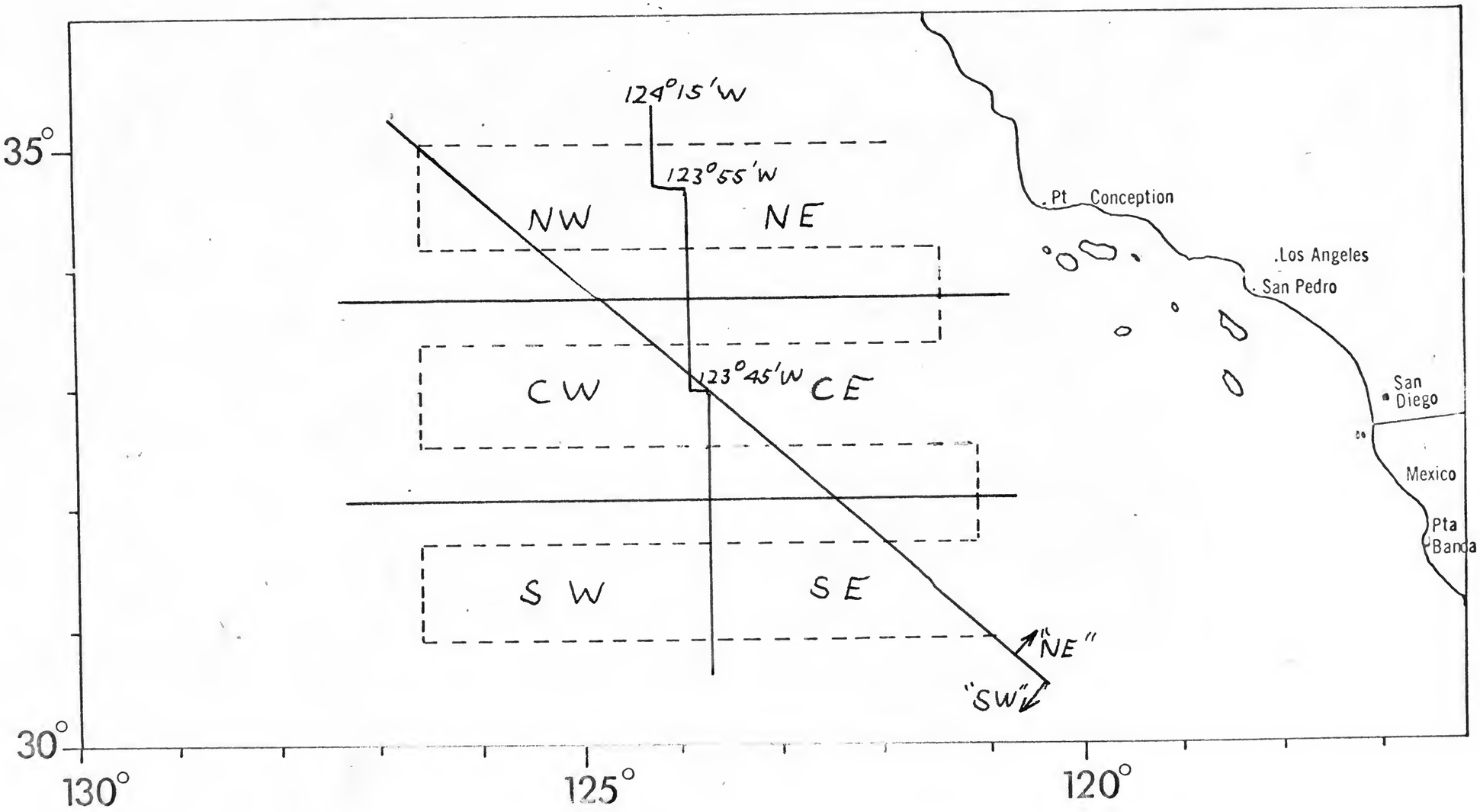
EASTERN AREA CRUISE NO. 17
EASTERN GRID SURVEY NO. 10
DATES 19 - 29 July 1967

NORMAL GRID TRACK
ACTUAL CRUISE TRACK (diurnal)
ACTUAL CRUISE TRACK (nocturnal)

FIG #2

EASTERN GRID CRUISE TRACK

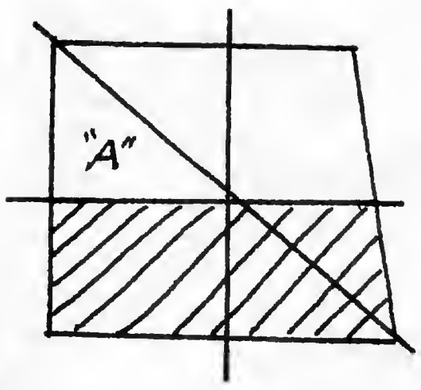
SUBDIVISIONS USED; EASTERN GRID #10, 19-29 JULY 1967.



EASTERN AREA CRUISE NO._____
EASTERN GRID SURVEY NO._____
DATES_____

----- NORMAL GRID TRACK
..... ACTUAL CRUISE TRACK (diurnal)
_____ ACTUAL CRUISE TRACK (nocturnal)

FIG. #3 DENSITY GAMES - SEE TEXT



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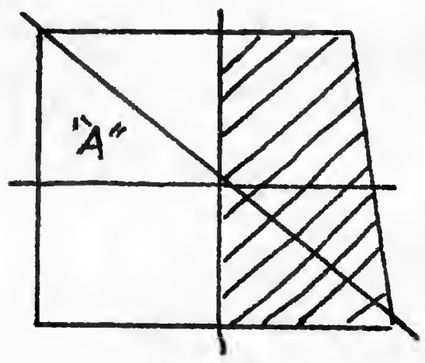

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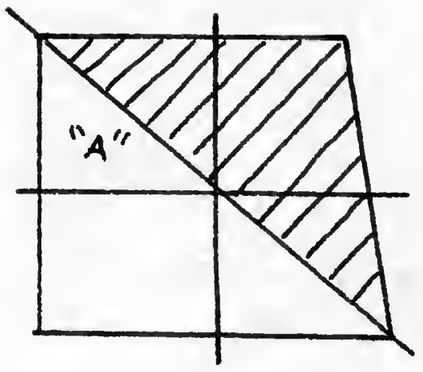
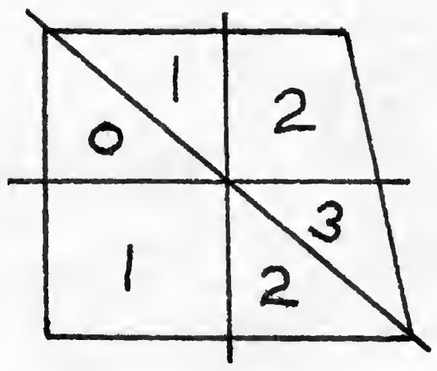


3

- LINEAR DENSITY -

	HATCHED	BLANK
1	.450	.203
2	.460	.234
3	.456	.195



SOL. "A" NO. OF TIMES A SECTION IS IN "DENSE HALF"

-7	-13
-26	+8
-8	+57

SOL. "C"

OVERALL LIN. DENS.: .471

.402	.346
.210	.554
.396	1.043

SOL. "B"

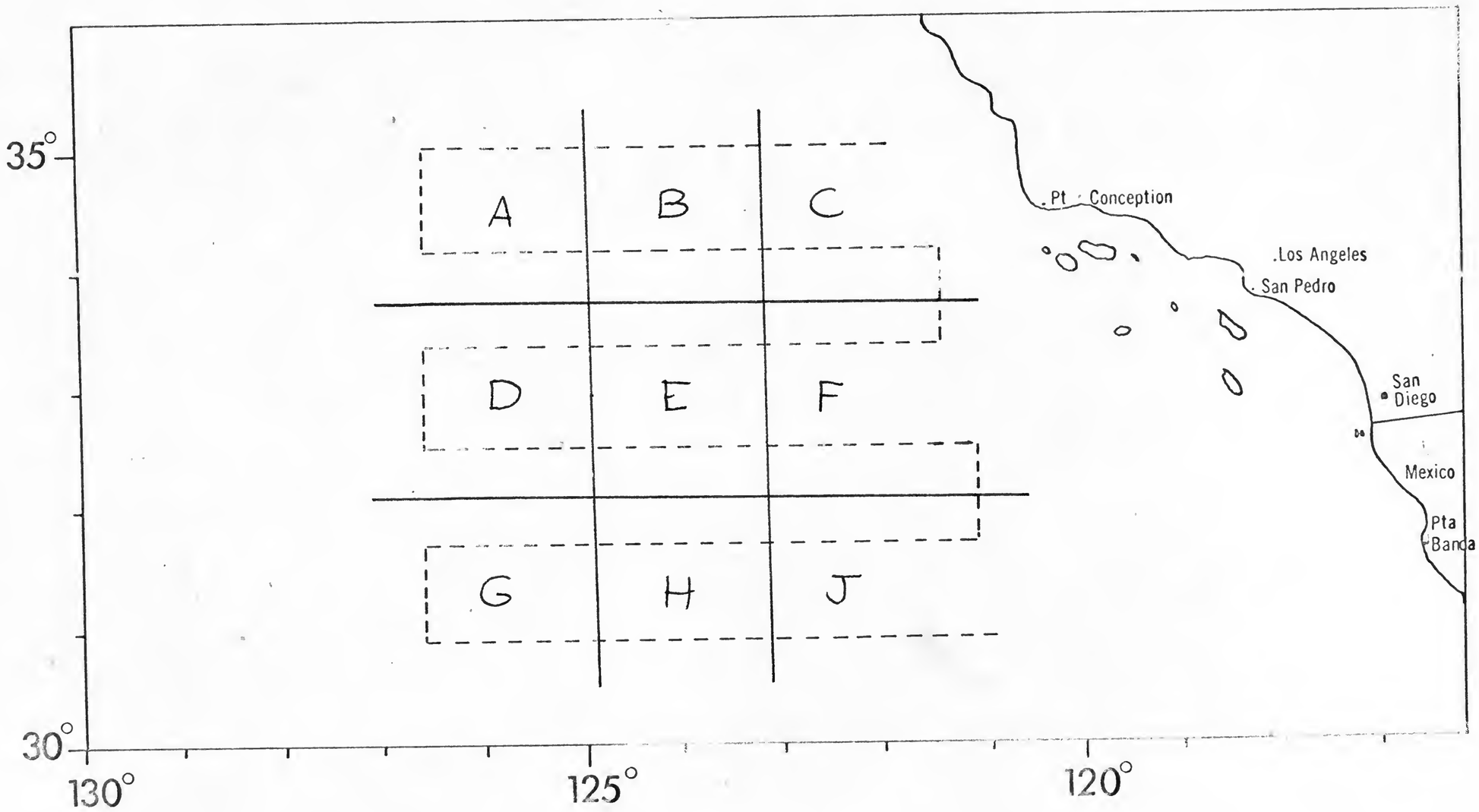
1	—
—	1
1	+

SOL. "D"

LINEAR DENSITIES

FIG #4 PROPOSED REDIVISION OF

EASTERN GRID CRUISE TRACK



EASTERN AREA CRUISE NO._____
EASTERN GRID SURVEY NO._____
DATES_____

----- NORMAL GRID TRACK
..... ACTUAL CRUISE TRACK (diurnal)
——— ACTUAL CRUISE TRACK (nocturnal)

Sooty Shearwater (Puffinus griseus) # Obs. = 16

Birds began to appear regularly some 50 miles east of the Grid area.

Puffinus sp. # Obs. = 1

The log reads "[29 July] Brown mantle - dark crissum, dark throat & neck, white underwings. Looked larger than P. p. opisthomelas but was too fast for [P.] creatopus (probably colored wrong also) could it be Townsends (?)-check" - DeLong.

Cook Petrel (Pterodroma cooki) # Obs. = 5

These birds appeared shortly after leaving the Grid. The bulk of the population appears to be centered around 125° W at this latitude and probably does not come much further east than 120° W.

White-rumped Storm Petrel # Obs. = 33
Storm Petrel sp. # Obs. = 26

Storm Petrel populations remained fairly high for all July 29, but were absent inside the Channel Islands.

Phalarope sp. # Obs. = 1
Jaeger sp. # Obs. = 2

Western Gull (Larus occidentalis) # Obs. 10

All 10 birds were seen between Santa Catalina and Long Beach.

EASTERN GRID SURVEY #10

The Grid area was entered from the west side just south of Point Ginko on 19 July at 1226 hours. Observations on 19 and 20 July, before beginning the nominal cruise track, have not been included in the regular summary statistics but are discussed in the species accounts. (See Table #1 for summary of this section.) The extreme northwest portion of the first leg was not covered due to allowances made for the helicopter rendezvous. On the morning of 23 July the ship was making maneuvers 4-8 miles south and southeast of Point Dogwood awaiting the helicopter transfer. Two hours of observations in this area are not included in the statistical Grid summary but are clearly an important part of the Grid area and are considered in the text. (See Table #1 for a summary of these observations.) [See Figure #1 - Cruise Track.]

Over the 891 diurnal miles of nominal Grid track, 378 birds of 15 species were observed. Sixteen specimens of six species were collected. An additional 143 birds over 150 diurnal miles were logged in the non-track areas. Forty-eight birds were recorded during 7.3 hours of nocturnal watch. (See Table #2). [See Table #1 for observation summaries for all areas.]

Moderately strong (18-20 knot) north winds in the north section gave way to light (5-10 knot) northwest winds in the southern sections. Only 28 July was favorable for skiff work.

Synoptic Highlights

1.) Six new species recorded for Grid area:

Band-tailed Pigeon	- 1 collected 27 July
Long-eared Owl	- 1 collected 28 July
Whimbrel	- 4 observed (26 July [3]; 29 July)
Northern Phalarope	- 16 observed (21, 23, 26 July)
Heerman's Gull	- 3 observed on 23 July
Nighthawk sp.	- 1 observed, 23 July

2.) High concentrations of Storm Petrels around Points "D," H," and "J."

3.) High concentrations of Cook Petrels in southern section.

4.) Overall preponderance of birds in eastern and southern sections.

5.) Occurrence of all dark (Leach's) Storm Petrels in regular numbers.

Table 6 was prepared to test the hypothesis that the east-to-west abundance of birds on the Grid is dependent in part on the distance to land. Grid track observations were divided in half along the oblique line connecting points "Birch" and Oak. Notice that this diagonal very nearly parallels the coastline (see Figure #2). It was hoped that this data would give more interpretable results than the east-west division in respect to distance from land. The results were somewhat surprising. Instead of showing great changes from the standard east-west split, inspection of Table 6 shows few discrepancies; the Jaeger data being the most notable. As a 45° rotation of the central dividing axis produced no marked changes in the density of the two halves, a further rotation of 45° was calculated. The overall densities are figured in Figure 3. Notice that by proper selection of bisectors, all areas except the 1/8 Grid section labeled "A" can be found to lie in that half which is consistently two times more dense than the opposing half. All is not entirely lost in this confusion if all three bisections are superimposed on one another and tabulated as indicated in "Solution 'A'" giving relative densities in six portions of the Grid. "Solution 'B'" shows the densities computed for the routine six subsections (see Figure #2). Where numbers are high enough, this approach to variation of bird densities within the Grid is fairly satisfactory. Even more graphically simple is "Solution 'C'" where the sections are assigned plus and minus values relative to the overall density. Any additive unit that will serve to give a quick summary of direction and degree of non-randomness, is applicable, as the measure is only relative. [In this case the formula is: the difference between the overall density and the subsection density X 100 roundoff, and attach appropriate sign.] When bird numbers are too low to be of statistical validity "Solution 'D'" may be most meaningful.

In this simplification only four symbols are used to describe the distribution:

0 = No bird(s) i.e., linear density 0.000

_ = Bird(s) present but at low density as compared to the overall

1 = Bird(s) present in "about the same"* density as the overall

+ = Bird(s) present at high relative density.

*(Solution "D" interprets "about the same" as being a single digit in Solution "C".)

Perhaps the best lesson learned from this exercise is the relatively inconsistent results obtained by not having the "correct" number of comparable subdivisions. Clearly, a single bisector has limited value on this particular Grid. The three north-to-south sections are better, but when compared alone are not nearly as effective as when divided by the north-to-south bisector and compared as six equal subdivisions. While six divisions is a fairly good number for the size of this Grid area, I feel that nine subdivisions would yield somewhat more useful information (see Figure #4). In the species accounts that follow the distribution patterns are indicated by six characters arranged according to Solution "D." These representations apply only to track data.

SPECIES ACCOUNTS

		Track	Nontrack	Total
Black-footed Albatross (Diomedea nigripes)	# Obs.	66	27	93

+ 1
1 1
_ 1

Albatross numbers are reported as the maximum seen during the day. From 3-19 birds were seen during the survey (mean 8.5/day, median = 7). Of 41 birds with rump color recorded, 15 (32%) were white-rumped. Nineteen birds were seen on 23 and 26 July in similarly high concentrations of Storm Petrels. At Point Dogwood, 42 miles from shore, 19 birds were seen, but later the same day, 11-20 miles from land (Pt. Conception), only three were present; Storm Petrels were absent at that distance from land (see Non-Grid Section "C"). About two-thirds of the albatrosses were seen in the eastern half.

		Track	Nontrack	Total
Sooty Shearwater (Puffinus Griseus)	# Obs.	6	2	8
	# collected = 1			

+ 1
+ 0
1 0

Five of the six sooties were seen in the western sections (unusual). Densities have dropped since April.

Cooks Petrel (Pterodroma cooki)		Track	Nontrack	Total
	# Obs.	56	0	56
	# Collected	11		

– 0
– 0
+ +

Ninety-four percent of the cooks were in the south section, predominantly in the western half. Since the southern sections have not been fully covered since early April it is possible that this species has been in the Grid for some time, but I think not. The birds were all flying in a north or northwest direction and appeared regularly crossing the ship's bow. This may be part of the populations observed off Southern Baja on EAC 13 in early June, just now reaching this latitude. The direction of travel could bring many birds off to the west of the Grid area before reaching 35° N. Birds were observed as singles and pairs, occasionally on the water.

		Track	Nontrack	Total
White-rumped Storm Petrel	# Obs.	80	1	81
Dark-rumped Storm Petrel	# Obs.	17	4	21
Storm Petrel sp.	# Obs.	58	81	139
	Total	155	86	241

– 1
– + (All Storm Petrel track)
– +

Over 46 percent of all Grid birds were Storm Petrels. While only some 9 percent of the total were recorded as dark-rumped, or all dark, the proportion was probably at least two times that; the lack of a white-rump being more difficult to ascertain than its presence. Distant or dubious birds were logged as "Storm Petrel sp." and doubtless include more dark birds than light. Unfavorable weather limited collecting and the subspecies present are not known. In addition to the dark form (5), 2 white-rumped forms may be present. Several large-appearing birds with broad white rumps were seen in contrast to smaller birds with more restricted white. Birds were very abundant around Point Dogwood (linear density ca. 10.0 birds/mile) and common in the southeast section (linear density ca. 1.2 birds/mile). Ninety percent of the Storm Petrels were seen in the eastern section. On 23 July a dark-rumped bird with an object (Food ?) in its bill was noted being harassed by a white-rumped bird 125-150 feet above the water. They fluttered together for several seconds at that height, then returned to the surface and disappeared, the dark-rumped bird still possessing the object. I have not observed any phase of this sequence (except mutual fluttering) before. The height was exceptional;the wind speed was ca. 5 knots.

Whimbrel (Numenius phaeopus) # Obs. = 4

0 0
0 0
0 +

Three immatures were seen flying east on 26 July. A single bird was seen near Point Oak.

		Track	Nontrack	Total
Red Phalarope	# Obs.	16	0	16
Northern Phalarope	# Obs.	12	4	16
Phalarope sp.	# Obs.	20	3	23 (+ 46 Noct.)
Shorebird sp.	# Obs.	5	0	6
	Total	53	7	60

Red	Northern	Total
1 –	0 +	– 1
1 0	0 1	– +
+ 1	0 0	– +

Phalarope numbers have dropped markedly since the high counts in April and May. Birds present in the Grid during July are likely non-breeding birds and late stragglers. Birds returning from the north are probably present by this time as well.As in past cruises, there seems to be little pattern or consistency to distribution within the Grid. Heavy concentrations were noted at night west of Point Juniper in the southeast section (46 birds/hour). The presence of Northern Phalaropes in the northeast area was unexpected. The five "shorebirds" were thought to be phalaropes. Two Red Phalaropes were collected on 28 July; neither bird was in full breeding plumage.

Jaeger sp.		Track	Nontrack	Total
	# Obs.	23	9	32

+ 1
– +
– –

Nearly all Jaegers were nonadult birds. One adult long-tailed was seen around Point Dogwood. One adult parasitic was also recorded, but the remainder were immatures and subadults. It is felt that a good many (ca. one-half), were parasitic and one-fourth each, pomarine and long-tailed. A "flock" of nine birds was seen in the northwest section.

Skua (Catharacta skua) # Obs. = 2

0 +
0 +
0 0

Heerman Gull (Larus Heermanni)		Track	Nontrack	Total
	# Obs.	0	3	3

0 +
0 +
0 0

Two adults and an immature followed behind the ship briefly at Point Dogwood, 42 miles from land.

Sabines Gull (Xema sabini)		Track	Nontrack	Total
	# Obs.	3	0	3

0 0
0 +
0 0

The fourth and fifth sightings of Common - Arctic - Forster's type on the Grid. The bird on 20 July did not appear to be Forsters and I believe Forsters is the least likely possibility for all four sightings. My feeling is that these are all probably Arctics.

Xantus Murrelet (Endomychura hypoleuca)		Track	Nontrack	Total
	# Obs.	2	0	2
Alcid sp.	# Obs.	1	0	1
		3	0	3

0 0
0 0
0 +

The one "Alcid sp." was probably a Xantus Murrelet. All three birds were seen in the southeast section.

Band-tailed Pigeon (Columba fasciata)		Track	Nontrack	Total
	# Obs.	1 (Col.)	0	1
Columbid sp.	# Obs.	0	1	1
				2

0 0
0 +
+ 0

The band-tail, a new species for the Grid area, was collected off the top of the after mast on 27 July. The unidenified Columbid seen on 20 July was possibly of this species, and not inconceivably the same individual that was collected.

Long-eared Owl (Asio otus) # Obs. = 1 Collected

0 0
0 0
+ 0

The bird was collected from the skiff as it investigated the ship on 28 July. It was a thin specimen.

Nighthawk sp. # Obs. = 1

O +
O O
O O

A nonadult bird fluttered about and occasionally landed on the ship while maneuvering at Point Dogwood. I am not able to identify the bird to species. The lesser would be the most probable as it ranged onto the Pt. Conception area, 42 miles from "Dogwood."

Passeriform sp. # Obs. = 1

O +
O O
O O

A small landbird flitted briefly about the ship at Pt. Dogwood, 23 July. It was about the size of a House Finch/Sparrow, and probably was one or the other.

Marine Mammals. EAC 17 10-30 July

Non-Grid Areas

Date	Time	Lat.	Long.	Species	#	Remarks
23 July	1834	34-23	120-47	Otarid sp.	1	Floating back down, being harassed by 3 Jaegers
23 July	1823			Otarid sp.	1	
29 July	1815			"	1	
30 July	0710	33-368N	118-26.9W	Globicephala	10	In one pod 4 large animals; 2 cows w/calves; 5 in another pod.

Grid

21 July	0815	34-58	123-26	"Whales"	-2	Light olive brown, small straight dorsal 20-25' possibly B. acutorostrata
24 July	0955	32-20	122-56	Grampus	2	One animal largely white on dorsal surfaces. Highly recurved dorsal seen in both animals - one blow seen, very short and stumpy.

Date	Time	Lat.	Long.	Species	#	Remarks
27 July	1129	31-42	124-27	Delphinus	5	All with some degree of white in dorsal 5-6 feet
28 July	1745	30°51'N	123°16'W	Porpoise	4	Drawing resembles Delphinus

TABLE #1. Summary of Diurnal Observations, All Grid Areas, Eastern Grid #10, 19-29 July 1967

Species	Nominal Track 21,22,24-29	Non-Track 19 & 20	"D"	Total	% Total	# Coll.	# Blood Samples
Black-footed Albatross	66	8	19	93	17.9		
Sooty Shearwater	6		2	8	1.5	1	
Cooks Petrel	56			56	10.8	11	5
Shearwater/Petrel	1	2		3	0.6		
White-rumped Storm Petrel	80		1	81	15.6	1	
Dark-rumped Storm Petrel	17	1	3	21	4.0		
Storm Petrel sp.	58	3	78	139	26.7		
Whimbrel	4			4	0.8		
Red Phalarope	16			16	3.1	2	
Northern Phalarope	12		4	16	3.1		
Phalarope sp.	20		3	23	4.4		
Shorebird sp.	5			5	1.0		
Parasitic Jaeger	1			1	0.2		
Long-tailed Jaeger	1		1	2	0.4		
Jaeger sp.	21		8	29	5.6		
Skua	2			2	0.4		
Heerman Gull			3	3	0.6		
Sabine's Gull	3			3	0.6		
Gull sp.			3	3	0.6		
Sterna sp.	1	1		2	0.4		
Xantus Murrelet	2			2	0.4		
Alcid sp.	1			1	0.2		
Band-tailed Pigeon	1			1	0.2	1	
Columbid sp.		1		1	0.2		
Long-eared owl	1			1	0.2	1	
Nighthawk sp.			1	1	0.2		
Passeriforme sp.			1	1	0.2		
Bird sp.	3			3	0.6		
Total Birds	378	16	127	521	100	17	5
# Miles	891	140	10	1041			
# Hours	98.0	17.8	2.0	117.8			
# Species	15	5	9	19			

TABLE #2. Summary of Nocturnal Observations, Eastern Grid #10, 19-29 July 1767

	20-21	21-22	23-24	24-25	25-26	26-27	28-29	Total
Storm Petrel sp.						1		1
Phalarope sp.						46		46
Bird sp.						1		1
Total	0	0	0	0	0	48	0	48
# Miles	5	9	9	9	9	9	17	67
# Hours	0.5	1.0	1.0	1.0	1.0	1.0	1.8	7.3

TABLE #3. Daily Summary of Observations, Diurnal, Eastern Grid #10, 19-29 July 1967

Date	# Birds	# Miles	# Hours	Linear Density	# Species
19	4	42	5.0	.096	1
20	12	98	12.8	.122	5
21	36	119	14.5	.303	9
22	35	111	13.1	.316	4
23	127	10	2.0	12.7	8
24	25	130	14.2	.193	5
25	21	119	12.6	.176	6
26	160	123	13.8	1.30	10
27	17	139	14.0	.122	6
28	76	126	13.6	.603	6
29	8	24	2.2	.333	4
Total	521	1041	117.8	.500	19
	47/Day	95/Day	10.7/Day		5.8/Day

TABLE #4. Sectional Breakdown, Norinal Track Only, Eastern Grid #10, Diurnal, 21-29 July 1967

	NORTH				CENTRAL				SOUTH			
Species	#	Species %	% Section	Birds/ Sq.Mi.	#	Species %	% Section	Birds/ Sq.Mi.	#	Species %	% Section	Birds/ Sq.Mi.
Black-footed Albatross	15	20	21.0	.016	24	32	18.6	.017	35	48	18.8	.028
Sooty Shearwater	2	33	2.8	.004	2	33	1.5	.003	2	34	1.1	.003
Cooks Petrel	1	2	1.4	.002	2	4	1.5	.003	53	94	28.6	.084
White-rumped Storm Pet	12	15	16.9	.052	41	51	31.8	.119	27	34	14.5	.085
Dark-rumped Storm Pet	5	30	7.0	.022	5	30	3.9	.015	7	40	3.8	.022
Storm Pet. sp.	11	19	15.6	.048	14	24	10.8	.041	33	65	17.7	.105
Whimbrel									4	100	2.2	.005
Red Phalarope	2	12	2.8	.018	3	8	2.3	.018	11	80	5.9	.070
Northern Phalarope	8	67	11.3	.070	4	33	3.2	.022				
Jaeger	11	48	15.6	.024	10	43	7.8	.014	2	9	1.1	.003
Skua	1	50	1.4	.002	1	50	0.8	.001				
Sabine's Gull	2	67	2.8	.005	1	33	0.8	.001				
Xantus Murrelet									2	100	1.1	.003
Band-tailed Pigeon									1	100	0.5	.001
Long-eared Owl									1	100	0.5	.001
Shear/Pet					1	100	0.8	.001				
Shorebird sp.					5	100	3.9	.030				
Phalarope sp.	1	5	1.4	.008	12	60	9.3	.070	7	35	3.8	.044
Sterna sp.					1	100	0.8	.001				
Alcid sp.									1	100	0.5	.006
Bird sp.					3	100	2.3	.004				
Total	71	18	100	.271	129	33	100	.358	186	49	100	.468
Storm Pet.	28	18	39.5	.122	60	39	46.5	.175	67	43	36.0	.212
Phalaropes	11	23	15.5	.096	19	40	14.8	.110	18	37	9.7	.114
Miles	230				345				316			

TABLE #5. Sectional Breakdown, Nominal Grid Track Only, Eastern Grid #10, Diurnal, 21-29 July 1967

Species	EAST #	% Species	% Section	Birds/ Sq.Mi.	WEST #	% Species	% Section	Birds/ Sq.Mi.
Black-footed Albatross	66	55	24.0	.036	42	45	29.2	.024
Sooty Shearwater	1	17	0.4	001	5	83	3.5	.005
Cooks Petrel	8	14	2.9	.008	48	86	33.3	.056
White-rumped Storm Petrel	69	86	25.0	.304	11	14	7.4	.050
Dark-rumped Storm Petrel	16	94	5.8	070	1	6	0.7	.004
Storm Petrel sp.	51	88	18.5	.224	7	12	4.9	.032
Whimbrel	4	100	1.5	.005				
Red Phalarope	3	19	1.1	.014	13	81	9.0	.060
Northern Phalarope	12	100	4.4	.052				
Jaeger	12	52	4.4	.013	11	48	7.7	.013
Skua	2	100	0.7	.002				
Sabines Gull	3	100	1.1	.004				
Xantus Murrelet	2	100	0.7	.008				
Band-tailed Pigeon					1	100	0.7	.001
Long-eared Owl					1	100	0.7	.001
Shearwater/ Petrel					1	100	0.7	.001
Shorebird sp.	5	100	1.8	.022				
Phalarope sp.	19	95	6.9	.082	1	5	0.7	.004
Sterna sp.	1	100	0.4	.001				
Alcid sp.	1	100	0.4	.004				
Bird sp.	1	33	0.4	.001	2	67	1.4	.002
Total	276	66	100	.849	144	34	100	.253
Storm Petrels	136	88	49.3	.598	19	12	13.0	.086
Phalaropes	34	71	12.4	.148	14	29	9.7	.064
Miles	455				436			

TABLE #6. Comparison of E-W Division vs. NW-SE Diagonal Division, Nominal Diurnal Track, Eastern Grid #10, 21-29 July 1967

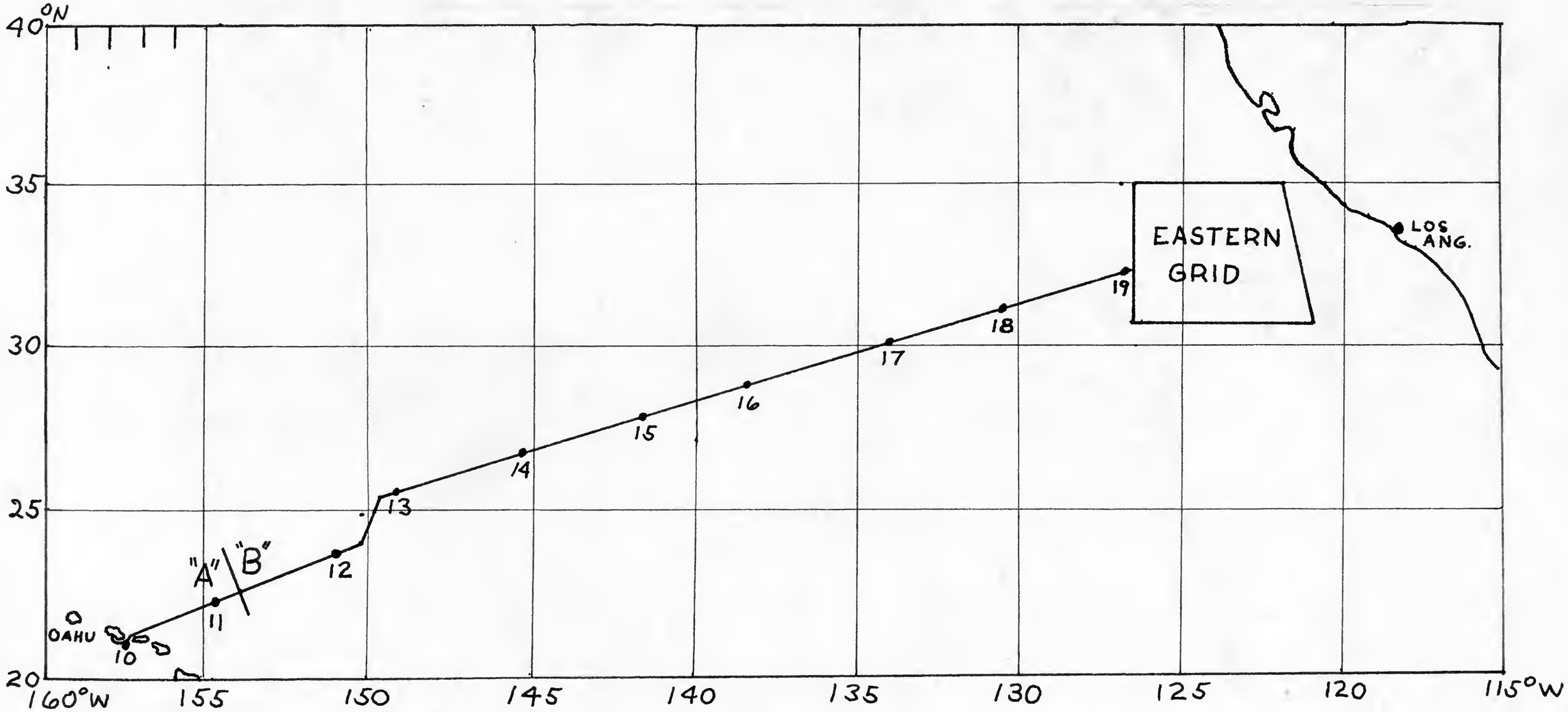
Species	Lin. Density East	Lin. Density " E"	Lin. Density West	Lin. Density "SW"
Black-footed Albatross	.146*	.090*	.096*	.062*
Sooty Shearwater #	.002	.004	.011	.008
Cooks Petrel #	.017	.006	.103	.103
White-rumped Storm Petrel	.152	.142	.025	.027
Dark-rumped Storm Petrel	.035	.037	.002	
Storm Petrel sp.	.112	.107	.016	.016
Whimbrel	.009	.006		.002
Red Phalarope #	.007	.006	.030	.025
Northern Phalarope	.026	.026		
Jaeger #	.026	.045	.025	.004
Skua	.004	.004		
Sabines Gull	.007	.006		
Xantus' Murrelet	.004	.004		
Band-tailed Pigeon			.002	.002
Long-eared Owl			.002	.002
Shearwater/Petrel			.002	.002
Shorebird sp.	.011	.011		
Phalarope sp.	.041	.043	.002	
Sterna sp.	.002	.002		
Alcid sp.	.002	.002		
Bird sp.	.002	.002	.005	.004
Total	.606(.460)	.546(.456)	.330(.234)	.257(.195
Storm Petrels	.299	.286	.043	.043
Phalaropes #	.074	.075	.032	.025
# Miles	455	465	436	515

*Albatross densities not comparable.
#-Notable discrepancies.
( ) -Albatross lin. dens.

TABLE #7. Diurnal Density of Species Groups, Eastern Grid, 19-21 July 1967

Group	# Track	# Total	Linear Density Track	Linear Density Total	Square Mile Density Track	Square Mile Density Total	% Track	% Total
Albatross	66	93	.074	.089	.018	.022	17.5	17.9
Shearwater/Petrel	63	67	.071	.064	.035	.032	16.7	12.9
Storm Petrel	155	241	.174	.231	.174	.231	41.0	46.2
Phalarope	48	55	.054	.053	.108	.106	12.7	10.5
Skua Jaeger	25	34	.028	.033	.014	.016	6.6	6.5
Gull	3	9	.003	.009	.001	.004	0.8	1.7
Tern	1	2	.001	.002	.001	.001	0.3	0.4
Alcid	3	3	.003	.003	.006	.006	0.8	0.6
Misc.	14	17	.016	.016	.018	.018	3.6	3.3
Total	378	521	.424	.500	.375	.436	100.0	100.0

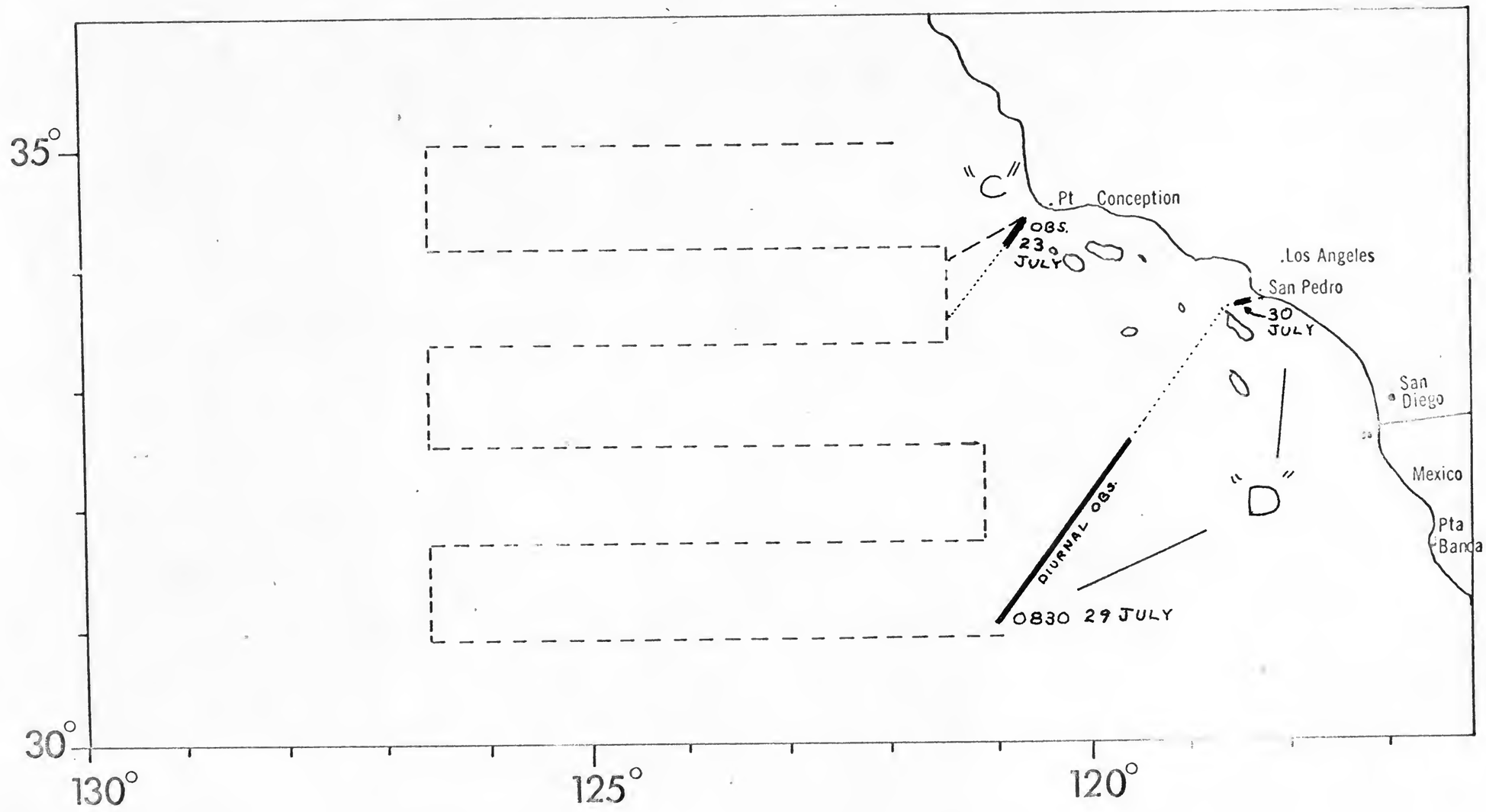
FIG. #1. CRUISE TRACK, NON-GRID SECTIONS "A" & "B", EAC 17, 10-19 JULY 1967.



NOON POSITIONS INDICATED

NON-GRID FIG #2 CRUISE TRACK, SECTIONS "C" & "D"

EASTERN GRID CRUISE TRACK



EASTERN AREA CRUISE NO. 17
EASTERN GRID SURVEY NO. _____
DATES 23, 29, 30 JULY

- - - - - NORMAL GRID TRACK
..... ACTUAL CRUISE TRACK (diurnal)
——— ACTUAL CRUISE TRACK (nocturnal)