

SI-MNH-958e  
7-28-64

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

DATE May 1966  
Pg. # 1



Noon Position McKean Is.

|    | time | species                                | #       | dir. | hgt. | remarks   | loc. |
|----|------|--|---------|------|------|---|------|
|    | 1045 |  |         |      |      | Begin observ. 2 mi from McKean.   |      |
|    | 1130 | Audobon ShearHd                        | 1       | NW   |      |   |      |
| FF | 1755 | Tern sp.                               | 8+      |      |      | feeding   |      |
|    |      | Fairy Tern                             | 1       |      |      |   |      |
|    | 1216 | Wedgetail                              | 1       | ∞    |      | dark  |      |
|    | 1228 | Sooty Tern                             | 1       |      |      | feeding and alternately searching   |      |
|    | 1242 | RB Tern                                | 2       | NW   |      |   |      |
|    | 1242 | Fairy Tern                             | 1       | NW   |      |   |      |
|    | 1247 | RB Tern                                | 2       | NW   |      |   |      |
|    | 1251 | B.F.B                                  | 1       | ∞    |      | Ad.   |      |
|    | 1252 | G.B. Tern                              | 5       | N    |      | not in flock - strung out   |      |
| FF | 1255 | G.B. Tern                              | 50 ± 10 |      |      | feeding   |      |
|    |      | Sooty Tern                             | 5 ± 2   |      |      |   |      |
|    |      | Fairy Tern                             | 5       |      |      |   |      |
|    |      | Audulionis                             | 1       |      |      |   |      |
|    |      | RFB                                    | 1       |      |      | adults  |      |
|    | 1327 | G.B. Tern                              | 1       | SE   |      |   |      |
|    | 1333 | " "                                    | 2       | N    |      |   |      |
|    | 1336 | " "                                    | 2       | N    |      |   |      |
| TF | 1337 | W.R.S.P.                               | 5       | N    |      |   |      |
|    | 1350 | <del>Wedgetail</del><br>Shearwater sp. | 1       |      |      | sitting on water <del>                    </del> , at least as large as Wedgetail, Audulion-like stubby wings, rapid wing beat. |      |
| FF | 1406 | Sooty Tern                             | 30 ± 5  |      |      |   |      |
|    |      | Fairy Tern                             | 3       |      |      |   |      |
|    |      | Wedgetail                              | 5       |      |      | dark phase  |      |
|    | 1424 | Wedgetail                              | 2       | ⊙    |      | dark phase  |      |
|    | 1428 | WRST                                   | 1       | ⊙    |      |   |      |
|    | 1450 | WRST                                   | 1       | ⊙    |      |   |      |
|    | 1457 | Bird sp                                | 1       |      |      |   |      |
|    | 1515 | B-F Booby                              | 1       | S    |      | adult   |      |
|    | 1524 | WRSP                                   | 1       |      |      |   |      |
|    | 1539 | Wedgetail                              | 1       | NE   |      | dark phase  |      |
|    | 1602 | "                                      | 1       | NE   |      | " "   |      |
|    | 1602 | Sooty Tern                             | 2       | E    |      | Ad.   |      |
|    | 1615 | " "                                    | 2       | N    |      |   |      |
|    | 1615 | Wedgetail                              | 1       | NW   |      | dark phase  |      |
|    | 1621 | Sooty Tern                             | 3       | E    |      | Ad.   |      |
|    | 1628 | Wedgetail                              | 1       | NE   |      | Dark phase  |      |

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

DATE 1 May 1966  
Pg. # 2

Noon Position: McKean I

| time | species    | # | dir. | hgt. | remarks    | loc. |
|------|------------|---|------|------|------------|------|
| 1645 | Sooty Tern | 4 | EE   |      |            |      |
| 1710 | Sooty Tern | 2 | E    |      | Ad.        |      |
| 1735 | Sooty Tern | 2 | E    |      | Ad.        |      |
| 1734 | Wedge      | 3 | NE   |      | Dark phase |      |
| 1758 | Sooty Tern | 4 | E    |      | Ad.        |      |
| 1820 | WRSP       | 1 | COO  |      |            |      |
| 1833 | Frigate Sp | 1 | NE   |      |            |      |
| 1834 | WRSP       | 1 | COO  |      |            |      |
| 1836 | Sunset     |   |      |      |            |      |

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1st Day Southern Grid  
SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG -- E

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Noon Position: 0-12N; 176-28W

DATE 2 May 66  
Pg. # 1

| time    | species         | # | dir. | hgt. | remarks   | loc. |
|---------|-----------------|---|------|------|---|------|
| 0630    |                 |   |      |      | begin observation   |      |
| 0639    |                 |   |      |      | sunrise   |      |
| 0650    | Wedgetail       | 1 | N    |      | dark phase  |      |
| 0652    | WRSP            | 1 | N    |      |   |      |
| 0702    | "               | 1 | ⊙    |      |   |      |
| 0706    | Bird Sooty tern | 1 | S    |      | adult   |      |
| 0710    | Sooty Tern      | 1 | S    |      | adult   |      |
| 0715    | "               | 1 | N    |      | "   |      |
| 0721    | Shear-Pet       | 1 | NE   |      |   |      |
| 0726    | Sooty tern      | 1 | S    |      | adult   |      |
| C 0729  | "               | 1 | N    |      |   |      |
| 0730    | "               | 1 | N    |      | 1 collected JPT.  |      |
| TF 0732 | "               | 5 | S    |      | "   |      |
| "       | BFB             | 1 | S    |      | "   |      |
| 0747    | Sooty Tern      | 3 | ⊙    |      | Ad  |      |
| 0751    | W.R. Storm Pet  | 1 | ⊙    |      |   |      |
| 0810    | BFB             | 1 | ⊙    |      | Ad  |      |
| 0811    | Sooty Tern      | 2 | ⊙    |      | Ad.   |      |
| 0814    | Wedgetail       | 1 | ⊙    |      | dark.   |      |
| 0815    | W.R. Storm Pet  | 1 | ⊙    |      | Marlin 10 ft +  |      |
| 0822    | "               | 1 | ⊙    |      |   |      |
| 0825    | Sooty Tern      | 1 | NE   |      | Ad  |      |
| 0825    | Shear/Pet       | 1 | W    |      | Small light underneath & uniformly dark back, - did not see |      |
| 0829    | Frigate SP      | 3 | ⊙    |      | underwing - far out.  |      |
| TF 0835 | Sooty Tern      | 6 | NE   |      | circling High   |      |
| 0850    | "               | 1 | NE   |      | Ad  |      |
| 0851    | "               | 2 | NW   |      | Ad  |      |
| TF 0852 | "               | 5 | NW   |      | Ad  |      |
|         | Frigate sp      | 1 |      |      |   |      |
| ⊙ 0855  | Sooty Tern      | 2 | NW   |      | Ad <del>far out</del>                                       |      |
| 0902    | Frigate sp      | 1 | ⊙    |      |   |      |
| 0903    | Sooty Tern      | 2 | NE   |      | Ad  |      |
| 0904    | W.R. Storm Pet  | 1 | ⊙    |      |   |      |
| 0905    | Sooty Tern      | 1 | NW   |      | Ad  |      |
| 0906    | "               | 2 | W    |      | Ad  |      |
| 0908    | "               | 1 | NE   |      | Ad  |      |
| 0915    | "               | 3 | NE   |      | Ad  |      |
| 0916    |                 |   |      |      | 30 porpoise heading N -                                     |      |
| 0921    | Sooty Tern      | 1 | NE   |      | Ad  |      |
| 0925    | "               | 1 | NW   |      | Ad  |      |
| 0927    |                 |   |      |      | same as below   |      |
| 0929    | Sooty Tern      | 1 | E    |      | Ad  |      |
| 0934    | "               | 2 | W    |      | "   |      |
| 0935    | sooty tern      | 3 | S    |      |   |      |
| 0935    | Bird sp.        | 1 |      |      | sitting on water - probably storm petrels                   |      |

30 porpoise heading N -  
↑ same as below

85±10 Stenella caeruleo-alba

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



DATE <sup>May</sup> ~~2 March~~ 1966  
Pg. # 2

Noon Position 0-12 N; 176-28 W

|    | time | species         | #  | dir. | hgt. | remarks                       | loc.             |
|----|------|-----------------|----|------|------|-------------------------------|------------------|
|    | 0936 | Sooty Tern      | 5  | SE   |      | Ad                            |                  |
| TF | 0937 | " "             | 6  | SE   |      | Ad                            |                  |
| TF | 0940 | Sooty Tern      | 8  | SE   |      | Ad                            |                  |
|    | 0941 | " "             | 2  | SE   |      | Ad                            |                  |
|    | 0943 | " "             | 3  | SE   |      | Ad                            |                  |
|    | 0950 | W-R Storm Pet   | 1  | N    |      |                               |                  |
|    | 0950 | Sooty Tern      | 1  | SW   |      | Ad                            |                  |
|    | 0951 | " "             | 3  | SW   |      | Ad                            |                  |
|    | 0952 | " "             | 2  | W    |      | Ad                            |                  |
|    | 0955 | " "             | 1  | S    |      | Ad                            |                  |
|    | 0955 | W-R S.P.        | 1  | N    |      |                               |                  |
|    | 1000 | wedge-tail      | 1  | N    |      | Darv's Phase                  |                  |
|    | 1007 | Sooty Tern      | 4  | SW   |      | Ad                            |                  |
|    | 1011 | " "             | 1  | ☉    |      | Ad                            |                  |
|    | 1011 | W-B Storm Pet   | 4  | ☉    |      | heavy broad white rump.       |                  |
| FF | 1014 | Sooty Terns     | 13 | ☉    |      | Ad Feeding                    |                  |
|    | 1017 | Wedge-tail      | 1  | E    |      | Dark Phase                    |                  |
|    | 1021 | Golden Plover   | 1  | ☉    |      |                               |                  |
|    | 1023 | W-B Storm Pet   | 3  | ☉    |      |                               |                  |
|    | 1023 | Sooty Tern      | 1  | N    |      |                               |                  |
|    | 1025 | " "             | 3  | N    |      | Ad                            |                  |
|    | 1030 | " "             | 4  | N    |      | Ad                            |                  |
|    | 1030 | W-B Storm Pet   | 3  | N    |      |                               | Baker Is. 11 mi. |
|    | 1033 | Sooty Tern      | 4  | N    |      | Ad                            |                  |
| FF | 1034 | " "             | 7  | ☉    |      | Ad                            |                  |
| SF | 1035 | " "             | 8  | ☉    |      | Ad                            |                  |
|    | 1036 | W-B Storm Pet   | 1  | ☉    |      |                               |                  |
|    | 1038 | Sooty/Shearbill | 1  | N    |      |                               |                  |
| SF | 1038 | Sooty Tern      | 6  | ☉    |      | Ad                            |                  |
| C  | 1040 | " "             | 5  | ☉    |      | Ad Frank Smith                |                  |
|    | 1048 | " "             | 1  | S    |      |                               |                  |
|    | 1050 | R.F.B.          | 1  | NE   |      | Int. Phase                    |                  |
|    | 1051 | Sooty Tern      | 2  | ☉    |      |                               |                  |
|    | 1053 | " "             | 8  | S    |      | Ad                            |                  |
|    | 1056 | " "             | 6  | S    |      | Ad                            |                  |
| FF | 1057 | " "             | 5  | ☉    |      |                               |                  |
|    | 1101 | R.F.B.          | 1  | ☉    |      |                               |                  |
|    | 1101 | Sooty Tern      | 2  | ☉    |      |                               |                  |
|    | 1102 | " "             | 5  | S    |      |                               |                  |
|    | 1102 | lesser Frigate  | 1  | ☉    |      | Ad ♂                          |                  |
|    | 1103 | wedge-tail      | 1  | E    |      |                               |                  |
| TF | 1107 | Sooty Tern      | 14 | S    |      | Ad - shot one - Not picked up | Island 5 mi.     |
|    | 1108 | " "             | 3  | N    |      | Ad                            |                  |

prob. Ziphiidae ~~dark~~ brownish gray above, high dorsal fin. some had mottled gray on neck

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SMITHSONIAN INSTITUTION  
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DATE 2 May 1966  
Pg. # 3

Noon Position 0-12 N; 176-28 W

|    | time | species       | #        | dir. | hgt. | remarks                                      | loc.   |
|----|------|---------------|----------|------|------|--|--|
| SF | 1111 | Sooty Tern    | 7        | ce   |      | Ad - Not Feeding but milling around.         |  |
|    | 1114 | " "           | 9        | ce   |      | Ad 2 calling - scattered all over the place. |  |
|    | 1115 | " "           | 2        | S    |      | Ad   |  |
|    | 1118 | " "           | 3        | SW   |      | Baker 4 miles                                |  |
|    | 1119 | " "           | 2        | ce   |      | Ad   |  |
| TF | 1120 | " "           | 13       | S    |      | Ad   | } all sooties coming from<br>Direction of Baker Island<br>Traveling in small flocks,<br>calling when near ships. |
|    | 1120 | W-B Storm Pet | 2        | NE   |      |  |  |
| TF | 1122 | Sooty Tern    | 22       | S    |      | Ad   |  |
| TF | 1123 | Sooty Tern    | 14       | S    |      | Ad   |  |
| TF | 1124 | " "           | 6        | S    |      | Ad Baker Is 2 miles                          |  |
|    | 1127 |               |          |      |      | close observations.                          |  |
|    | 1255 | Baker I.      |          |      |      | open observations                            |  |
| FF | 1300 | Sooty Tern    | 120 ± 10 |      |      | fish jumping                                 |  |
|    |      | BF Booby      | 1        |      |      |  |  |
|    | 1305 | Sooty Tern    | 2        |      |      | Ad.  |  |
| S  | 1307 | BF Booby      | 1        | W    |      | Blue-streamer Ad.                            |  |
|    | 1307 | Sooty Tern    | 6        | NW   |      | Ad.  |  |
|    | 1310 | " "           | 1        | N    |      | Ad.  |  |
|    | 1313 | " "           | 1        | S    |      | Ad.  |  |
|    | 1317 | " "           | 1        | SE   |      | ad.  |  |
|    | 1332 | Bird Sp       | 1        | E    |      |  |  |
|    | 1332 | Sooty Tern    | 2        | SE   |      | Ad.  |  |
|    | 1337 | Sooty Tern    | 3        | S    |      | ad   |  |
|    | 1347 | Sooty Tern    | 1        | SE   |      | Ad.  |  |
|    | 1352 | " "           | 2        | SE   |      | ad   |  |
|    | 1355 | " "           | 1        | W    |      | ad   |  |
|    | 1400 | " "           | 3        | NW   |      | ad   |  |
|    | 1403 | BFB           | 1        | NW   |      | ad.  |  |
|    | 1404 | Sooty Tern    | 3        | ce   |      | ad's.  |  |
|    | 1411 | Wadgetail     | 1        | NE   |      | dark phase                                   |  |
|    | 1412 | WRSP          | 1        | ce   |      |  |  |
|    | 1415 | Sooty Tern    | 3        | SW   |      | ad's   |  |
|    | 1417 | " "           | 2        | S    |      | ad's   |  |
| TF | 1430 | " "           | 16       | N    |      | ad's   |  |
| TF | 1431 | " "           | 12       | N    |      | ad's   |  |
| TF | 1432 | LV            | 6        | N    |      | ad's   |  |
|    | 1433 | " "           | 1        | N    |      | ad.  |  |

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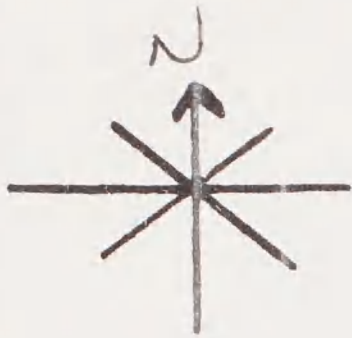
SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG -- E

DATE 2 April 1966  
Pg. # 4

Between Baker + Howland  
Moon Position 0-12N; 176-28W

|          | time | species     | #                   | dir.   | hgt. | remarks                               | loc.                            |
|----------|------|-------------|---------------------|--------|------|---------------------------------------|---------------------------------|
|          | 1440 | BFB         | 1                   | N      |      | ad                                    |                                 |
|          | 1441 | Wedgetail   | 1                   | N      |      | dark phase                            |                                 |
|          | 1442 | Sooty tern  | 2                   | N      |      | ad's.                                 |                                 |
|          | 1442 | BFB         | 1                   | SW     |      | ad.                                   |                                 |
|          | 1447 | Sooty Tern  | 1                   | W      |      | ad                                    |                                 |
| FF<br>BS | 1451 | Sooty tern  | <del>50</del><br>25 |        |      | ad's                                  | Feeding, 1 BFB w/ blue streamer |
|          |      | BFB         | 2                   |        |      | ad                                    |                                 |
|          |      | Wedgetail   | 2                   |        |      | dk phase                              |                                 |
| TF       | 1452 | sooty tern  | 14                  | W      |      | ad's                                  |                                 |
|          | 1454 | " "         | 4                   | N      |      | ad's                                  |                                 |
| TF       | 1459 | " "         | 7                   | ⊙      |      | ad's                                  |                                 |
|          | 1506 | BFB         | 2                   | 1E, 1N |      | ad's                                  |                                 |
| TF       | 1510 | sooty tern  | 33                  | NE     |      | ad's                                  |                                 |
| TF       | 1515 | sooty tern  | 150                 | N      |      | Transiting - most up high             |                                 |
| TF       | 1516 | " "         | 5                   | SE     |      | ad's.                                 |                                 |
| FF       | 1517 | sooty tern  | 100 <sup>±10</sup>  |        |      | ad's                                  | Feeding, fish jumping           |
|          |      | BFB         | 2                   |        |      | ad's                                  |                                 |
|          | 1520 | BFB         | 2                   | N      |      | ad's                                  |                                 |
| FF       | 1521 | Sooty Tern  | 19                  |        |      | Feeding                               |                                 |
|          |      | Frigate sp  | 1                   |        |      |                                       |                                 |
|          | 1527 | Wedgetail   | 1                   | E      |      | dk phase                              |                                 |
|          | 1527 | sooty tern  | 6                   | NE     |      | 3+3 Adult                             |                                 |
|          | 1528 | WRSP        | 1                   | N      |      |                                       |                                 |
| FF       | 1529 | sooty tern  | 90                  | ⊙      |      | adult (NINETY)                        |                                 |
|          |      | BFB         | 5                   |        |      | adult                                 |                                 |
|          | 1530 | sooty tern  | 3                   | N      |      |                                       |                                 |
|          | 1535 | RFB         | 2                   | N      |      |                                       |                                 |
|          |      | BFB         | 1                   | N      |      |                                       |                                 |
|          | 1543 | BFB         | 3                   | NE     |      | ad's                                  |                                 |
|          | 1541 | sooty tern  | 3                   | NE     |      | ad's                                  |                                 |
|          | 1542 | " "         | 2                   | S      |      | ad's                                  |                                 |
|          | 1544 | Brown booby | 1                   | S      |      | "                                     |                                 |
|          | 1545 | sooty tern  | 7                   | S      |      | ad not a flock - spread out           |                                 |
|          | 1545 | BFB         | 1                   | N      |      | Ad                                    |                                 |
|          | 1552 | Frigate     | 5                   | E      |      | lesser - 3 ad ♂, 2 ad ♀               |                                 |
|          |      | sooty tern  | 2                   | W      |      | ad. rain storm approaching from north |                                 |
|          | 1554 | " "         | 4                   | S      |      | ca. 5 mile front.                     |                                 |
|          | 1600 | " "         | 1                   | W      |      | ad                                    |                                 |
|          | 1602 | " "         | 2                   | W      |      | ad's                                  |                                 |
|          | 1605 | " "         | 3                   | E      |      | ad's                                  |                                 |
|          | 1606 |             |                     |        |      | 2 propense                            |                                 |

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SMITHSONIAN INSTITUTION  
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DATE 2 May 1966  
Pg. # 5

Base → Howland

Noon Position 0-12N; 176-28W

| time | species    | # | dir. | hgt. | remarks                                   | loc. |
|------|------------|---|------|------|---|------|
| 1610 | BFB        | 3 | N    |      | ad's                                      |      |
| 1611 | sooty tern | 2 | NE   |      | ad's                                      |      |
| 1612 |            |   |      |      | Howland str. <sup>ca.</sup> 6 miles ahead |      |
| 1615 | sooty tern | 1 | NE   |      | ad.                                       |      |
| 1616 |            |   |      |      | porpoise, ca. 3                           |      |
| 1616 | BFB        | 4 | N    |      | ad's                                      |      |
| 1617 |            |   |      |      | Suspend watch for island landing          |      |

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SMITHSONIAN INSTITUTION  
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AT SEA DAILY LOG -- E

Howland → Baker

DATE 3 May 1966  
Pg. # 1

|     | time                 | species     | #  | dir. | hgt. | remarks                            | loc.                                 |
|-----|----------------------|-------------|----|------|------|------------------------------------|--------------------------------------|
|     | 0715                 |             |    |      |      | Begin observations off Howland Is. |                                      |
|     | 0716                 | BFB         | 2  | ce   |      | ad                                 |                                      |
|     | 0716                 | BB          | 1  | ce   |      | imm.                               |                                      |
|     | 0717                 | BB          | 1  | ce   |      | ad                                 |                                      |
|     | 0717                 | Sooty tern  | 1  | S    |      | ad                                 | } most birds coming from the island. |
|     | 0718                 | " "         | 4  | S    |      | ad's                               |                                      |
|     | 0719                 | BFB         | 2  | S    |      | ad's                               |                                      |
| TF  | 0719                 | Frigate sp. | 7  | ce   |      | ad's                               |                                      |
|     | 0721                 | BFB         | 3  | S    |      | ad's                               |                                      |
|     | 0722                 | "           | 4  | S    |      | ad's                               |                                      |
|     | 0723                 | Sooty tern  | 4  | S    |      | ad's                               |                                      |
|     | 0726                 | " "         | 3  | S    |      | ad's                               |                                      |
|     | 0726                 | BFB         | 2  | S    |      | ad's                               |                                      |
| FF  | 0728                 | Sooty tern  | 25 |      |      | Feeding                            |                                      |
|     |                      | BFB         | 9  |      |      |                                    |                                      |
|     |                      | Frig. sp    | 3  |      |      |                                    |                                      |
|     | 0729                 | RFB         | 2  | SE   |      | ad.                                |                                      |
|     | 0729                 | Sooty tern  | 2  | E    |      | ad's                               |                                      |
|     | 0730                 | Frig. sp.   | 1  | ce   |      | ♀                                  |                                      |
| + F | 0733                 | Sooty Tern  | 43 | } E  |      | ad's                               | bird all strung out.                 |
|     |                      | BFB         | 17 |      |      |                                    |                                      |
|     | 0733                 | RFB         | 1  | SE   |      | ad.                                |                                      |
|     | 0734                 | Sooty tern  | 2  | N    |      | ad's                               |                                      |
|     | 0736                 | " "         | 3  | N    |      | Ad                                 |                                      |
|     | 0735                 | Brn. Booby  | 2  | ce   |      | Ad                                 |                                      |
|     | 0737                 | Sooty Tern  | 4  | ce   |      | Ad                                 |                                      |
|     | 0739                 | " "         | 2  | NW   |      |                                    |                                      |
|     | 0741                 | R. P. Booby | 2  | ⊙    |      | Ad one dark phase, 1 inter phase   |                                      |
| TF  | <del>0741</del> 0742 | Sooty Tern  | 23 | }    |      | ad                                 | dark - travelling E                  |
|     | 0742                 | wedgetail   | 3  |      |      |                                    |                                      |
|     | 0743                 | Sooty Tern  | 4  | N    |      | ad                                 |                                      |
|     | 0744                 | " "         | 3  | N    |      | ad                                 |                                      |
|     | 0745                 | BFB         | 1  | ⊙    |      | ad                                 |                                      |
|     | 0746                 | Sooty Tern  | 4  | N    |      | ad                                 |                                      |
| TF  | 0747                 | " "         | 9  | N    |      | Travelling - Ad                    |                                      |
|     | 0748                 | wedgetail   | 2  | N    |      | dark.                              |                                      |
| TF  | 0749                 | Sooty Tern  | 18 |      |      | Ad Travelling SE                   |                                      |
|     | 0750                 | " "         | 54 |      |      | Ad                                 |                                      |
| FF  |                      | BFB         | 8  |      |      | ad                                 |                                      |
|     |                      | wedgetail   | 6  |      |      | dark                               |                                      |
|     |                      | Brn. Booby  | 1  |      |      | Ad                                 |                                      |



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7-28-64

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

DATE 3 May 66  
Pg. # 2

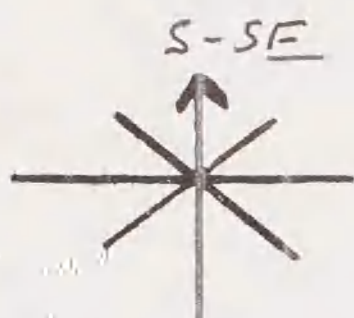


Noon Position: Baker I.

|    | time | species    | #  | dir. | hgt. | remarks                     | loc. |
|----|------|------------|----|------|------|-----------------------------|------|
|    | 0751 | Sooty Tern | 2  | N    |      | Ad,                         |      |
| TF | 0752 | " "        | 6  | N    |      | Ad                          |      |
| TF | 0753 | " "        | 9  | SE   |      | Ad                          |      |
| TF | 0754 | BFB        | 8  | SE   |      | 6 Ad, 2 SA                  |      |
|    | 0755 | BFB        | 2  | E    |      | Ad inter phase              |      |
|    | 0756 | wedgetail  | 2  | S    |      | dark                        |      |
|    | 0757 | Sooty Tern | 4  | SE   |      | Ad                          |      |
| TF | 0758 | " "        | 8  | N    |      | Ad                          |      |
|    | 0759 | " "        | 85 |      |      | Ad                          |      |
| FF |      | BFB        | 15 |      |      | 11 Ad 4 SA                  |      |
|    |      | wedgetail  | 12 |      |      | dark                        |      |
| TF | 0800 | Sooty Tern | 7  |      |      | Ad. heading for above block |      |
| TF | 0801 | " "        | 9  |      |      | " " " " " "                 |      |
|    | 0802 | BFB        | 4  | SW   |      | Ad                          |      |
|    | 0803 | Sooty Tern | 3  | S    |      | Ad                          |      |
|    | 0804 | " "        | 4  | SE   |      | Ad                          |      |
|    | 0805 | BFB        | 6  | S    |      | Ad                          |      |
|    | 0806 | Sooty Tern | 2  | N    |      | Ad                          |      |
| TF | 0807 | Sooty Tern | 17 | N    |      | Ad                          |      |
|    | 0808 | " "        | 2  | SE   |      | Ad                          |      |
|    | 0809 | " "        | 1  | W    |      | Ad                          |      |
|    | 0810 | " "        | 3  | SE   |      | Ad                          |      |
|    | 0811 | B. F. B.   | 1  | S    |      | Ad                          |      |
|    | 0812 | Fairy Tern | 1  | S    |      |                             |      |
|    | 0813 | C. N. Tern | 3  | SE   |      |                             |      |
|    | 0815 | Sooty Tern | 3  | W    |      | ad's                        |      |
|    | 0817 | " "        | 4  | S    |      | ad's                        |      |
| TF | 0820 | " "        | 7  | W    |      | ad's                        |      |
|    | 0821 | " "        | 2  | W    |      | ad's                        |      |
|    | 0829 | " "        | 2  | E    |      | ad's                        |      |
|    | 0835 | " "        | 3  | W    |      | ad's                        |      |
|    | 0836 | Fairy Tern | 1  | SE   |      |                             |      |
| TF | 0840 | Sooty tern | 6  | S    |      | ad } Travelling             |      |
|    |      | BFB        | 2  | S    |      | ad }                        |      |
| TF | 0841 | Sooty tern | 5  | S    |      | ad's                        |      |
|    | 0841 | BFB        | 3  | S    |      | ad's                        |      |
|    | 0843 | BFB        | 2  | S    |      | ad's                        |      |
|    | 0843 | BFB        | 2  | S    |      | ad's                        |      |
|    | 0844 | Sooty tern | 3  | S    |      | ad's                        |      |
| TF | 0845 | Sooty tern | 11 | S    |      | ad's low over H2O           |      |
|    | 0846 | BFB        | 1  | S    |      | ad                          |      |

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AT SEA DAILY LOG -- E

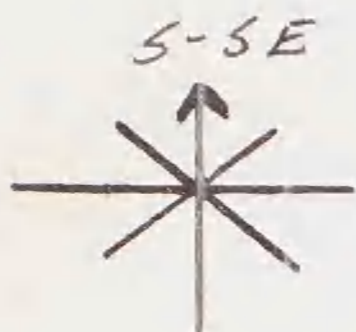


Hordland → Baker

DATE 3 May 1968  
Pg. # 3

|    | time | species     | #  | dir. | hgt. | remarks               | loc. |
|----|------|-------------|----|------|------|-----------------------|------|
|    | 0849 | BFB         | 1  | S    |      | imm.                  |      |
|    |      | BB          | 1  | S    |      | ad.                   |      |
| TF | 0850 | Sooty tern  | 5  | S    |      | ad's.                 |      |
|    |      | BFB         | 1  | imm  |      |                       |      |
|    | 0851 | WRSP        | 1  | OE   |      |                       |      |
|    | 0851 | BFB         | 1  |      |      | ad's (both)           |      |
|    |      | sooty tern  | 3  | S    |      |                       |      |
| TF | 0854 | " "         | 10 | N    |      | ad's                  |      |
|    | 0856 | " "         | 6  | N    |      | ad's                  |      |
|    | 0856 | Sooty/sl-b. | 1  | N    |      | light underwings      |      |
|    | 0858 | WRSP        | 2  | N    |      |                       |      |
|    | 0859 | sooty tern  | 6  | N    |      | ad's                  |      |
|    | 0901 | " "         | 1  | N    |      | ad                    |      |
|    | 0901 | RFB         | 1  | N    |      | ad.                   |      |
|    | 0904 | sooty tern  | 3  | W    |      | ad's                  |      |
|    | 0905 | RFTB        | 1  | SE   |      |                       |      |
|    | 0906 | sooty tern  | 1  | N    |      | ad                    |      |
|    | 0906 | " "         | 2  | N    |      | ad's                  |      |
|    | 0907 | BFB         | 1  | E    |      | ad                    |      |
|    | 0908 | sooty tern  | 2  | N    |      | ad's                  |      |
|    | 0908 | " "         | 4  | N    |      | "                     |      |
|    | 0908 | Fris. sp.   | 2  | OE   |      |                       |      |
|    | 0912 | sooty tern  | 2  | N    |      | ad's                  |      |
|    | 0912 | " "         | 1  | S    |      | ad.                   |      |
|    | 0917 | wedge tail  | 1  | E    |      | dark phase            |      |
|    | 0920 | sooty tern  | 9  | N    |      | ad's                  |      |
|    | 0921 | BFB         | 2  | S    |      | ad's                  |      |
|    | 0929 | " "         | 1  | S    |      | ad                    |      |
|    | 0933 | sooty tern  | 2  | N    |      | ad's                  |      |
|    | 0937 | " "         | 4  | N    |      | ad's                  |      |
|    | 0938 | " "         | 6  | N    |      | ad's                  |      |
|    | 0941 | " "         | 2  | N    |      | ad's                  |      |
|    | 0944 | BFB         | 2  | SE   |      | ad                    |      |
|    | 0946 | sooty tern  | 3  | N    |      | ad                    |      |
|    | 0949 | " "         | 2  | NE   |      | ad                    |      |
| TF | 0951 | " "         | 27 |      |      | Ad                    |      |
|    |      | Frigate sp  | 2  |      |      | heading N. Terns high |      |
|    |      | BFB         | 2  |      |      | ad                    |      |
|    |      | w. T.       | 3  |      |      | dark                  |      |
|    | 0954 | sooty tern  | 2  | N    |      | ad                    |      |
|    | 0955 | " "         | 2  | NE   |      | ad                    |      |

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

Honolulu → Baker

DATE 3 May 66  
Pg. # 4

|    | time | species    | #   | dir. | hgt. | remarks       | loc.                             |
|----|------|------------|-----|------|------|---------------|----------------------------------|
| JF | 0958 | Sooty Tern | 8   | N    |      | Ad            |                                  |
| FF | 1002 | " "        | 35+ |      |      | Ad            |                                  |
|    |      | Frigate sp | 1   |      |      |               |                                  |
|    |      | Wedgetail  | 4   |      |      | dark          |                                  |
| TF | 1004 | Sooty Tern | 13  |      |      | Ad - headed N |                                  |
|    | 1005 | Sooty Tern | 2   | S    |      | Ad            | 1004 Lighthouse at Baker Visible |
|    | 1009 | " "        | 3   | N    |      | Ad            |                                  |
|    | 1010 | " "        | 1   | N    |      | Ad            |                                  |
|    | 1012 | " "        | 4   | N    |      | Ad            |                                  |
| TF | 1013 | " "        | 6   | N    |      | Ad            |                                  |
| TF | 1014 | " "        | 10  | N    |      | Ad            |                                  |
|    | 1016 | " "        | 2   | N    |      | Ad            |                                  |
|    | 1017 | Wedgetail  | 1   | N    |      | dark          |                                  |
|    | 1019 | Sooty Tern | 4   | N    |      | ad.           |                                  |
| TF | 1020 | " "        | 14  | N    |      | Ad            |                                  |
|    | 1021 | " "        | 3   | S    |      | Ad            |                                  |
| TF | 1022 | " "        | 12  | N    |      | Ad            |                                  |
| TF | 1023 | " "        | 9   | N    |      | Ad            |                                  |
| TF | 1025 | " "        | 6   | N    |      | Ad            |                                  |
|    | 1027 | " "        | 2   | NW   |      | Ad            |                                  |
|    | 1030 | " "        | 2   | N    |      | Ad            |                                  |
|    | 1031 | " "        | 2   | S    |      | Ad            |                                  |
| TF | 1033 | " "        | 16  | SW   |      | Ad            |                                  |
| TF | 1035 | " "        | 24  | N    |      | Ad            |                                  |
| TF | 1036 | " "        | 6   | SW   |      | Ad            |                                  |
| TF | 1037 | " "        | 8   | N    |      | Ad            |                                  |
| TF | 1038 | " "        | 7   | N    |      | Ad            |                                  |
|    | 1039 | " "        | 2   | N    |      | Ad            |                                  |
|    | 1040 | " "        | 3   | N    |      | Ad            |                                  |
|    | 1041 | " "        | 4   | N    |      | Ad            |                                  |
| JF | 1042 | " "        | 7   | N    |      | Ad            |                                  |
|    | 1043 | " "        | 4   | N    |      | Ad            |                                  |
|    | 1044 | " "        | 2   | N    |      | Ad            |                                  |
|    | 1049 | " "        | 4   | N    |      | Ad            |                                  |
|    | 1053 | " "        | 2   | SW   |      | Ad            |                                  |
| JF | 1054 | " "        | 10  | S    |      | Ad            |                                  |
| JF | 1055 | " "        | 13  | S    |      | Ad            |                                  |
|    | 1056 | " "        | 2   | N    |      | Ad            |                                  |
|    | 1058 | " "        | 4   | N    |      | Ad            |                                  |
|    | 1100 |            |     |      |      |               | cease observations at Baker Is.  |

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

DATE 3 May 1966  
Pg. # 5



Moore position: Baker I.

|    | time | species       | #  | dir. | hgt. | remarks  | loc.                    |
|----|------|---------------|----|------|------|--|-------------------------|
|    | 1215 |               |    |      |      | Begin observations - leave Baker                         |                         |
| TF | 1221 | Sooty Tern    | 6  | S    |      | Ad.  |                         |
| TF | 1240 | " "           | 6  | S    |      | Ad.  |                         |
|    | 1250 | B.F. B        | 1  | ⊙    |      | Ad   |                         |
|    | 1300 | Sooty Tern    | 3  | S    |      | Ad   |                         |
|    | 1308 | " "           | 4  | SE   |      | Ad   |                         |
|    | 1329 | " "           | 1  | E    |      | Ad   |                         |
|    | 1333 |               |    |      |      | Rain Squall  |                         |
|    | 1343 | BFB           | 1  | ⊙    |      | Far out still in Rain                                    |                         |
|    | 1354 |               |    |      |      |  |                         |
| FF | 1409 | Sooty Tern    | 80 | 10   |      | beginning rain - squalls all around us                   |                         |
|    |      | Frigate Sp    | 2  |      |      | at edge of squall  |                         |
|    | 1411 | Sooty Tern    | 1  | S    |      | Ad   |                         |
|    | 1412 | " "           | 1  | N    |      | Ad   |                         |
|    | 1412 | " "           | 1  | S    |      | Ad   |                         |
|    | 1414 | " "           | 2  | S    |      | Ad   |                         |
|    | 1417 | W-R Storm Pet | 1  | N    |      |  |                         |
| FF | 1418 | Frigate Sp    | 20 | ⊙    |      | circum at edge of Rain. Frigates joined Sooties in adms. |                         |
|    | 1422 | Sooty Tern    | 80 | ⊙    |      | Ad   |                         |
|    |      | BFB           | 5  |      |      |  |                         |
|    | 1423 | Sooty Tern    | 2  | W    |      |  |                         |
|    | 1431 | B-F Booby     | 1  | NW   |      | ad, flying low   |                         |
|    | 1432 | Sooty Tern    | 2  | SE   |      | adult  |                         |
|    | 1435 | Sooty Tern    | 1  | S    |      | man, 3-5' above water                                    |                         |
|    | 1440 | Sooty Tern    | 3  | S    |      | flying low   |                         |
|    | 1442 | Sooty Tern    | 3  | S    |      | " " , adults   |                         |
|    | 1454 | B-F Booby     | 4  | NW   |      | adults, one broke formation to identify ship             |                         |
| TF | 1455 | Sooty Tern    | 6  | S    |      |  |                         |
|    | 1458 | Sooty Tern    | 4  | S    |      |  |                         |
|    | 1459 | " "           | 2  | N    |      | adults   |                         |
| TF | 1500 | " "           | 7  | N    |      |  |                         |
|    | 1501 | " "           | 4  | N    |      |  |                         |
|    | 1503 | " "           | 1  | NW   |      |  |                         |
|    | 1505 | B-F Booby     | 1  | S    |      | adult, flying low  |                         |
|    | 1507 | Sooty Tern    | 3  | ⊙    |      | adults   |                         |
|    | 1513 | B-F Booby     | 2  | ⊙    |      | adults   |                         |
|    | 1515 | B-F Booby     | 2  | ⊙    |      | adults   |                         |
|    | 1518 | Sooty Tern    | 3  | ⊙    |      | adults   | Howland Island sighted. |
|    | 1519 | B-F Booby     | 3  | ⊙    |      |  |                         |
|    | 1520 | Sooty Tern    | 4  | ⊙    |      | adults, inspected ship                                   |                         |
|    | 1521 |               |    |      |      | birds everywhere - closed observations                   |                         |

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

DATE 4 May 1966  
Pg. # 1



Noon Position: 0-40S; 176-03W

| time    | species           | # | dir. | hgt. | remarks   | loc. |
|---------|-------------------|---|------|------|---|------|
| 0638    |                   |   |      |      | SUNRISE: BEGIN DIURNAL OBSERVATIONS   |      |
| 0642    | Shear/pet         | 1 | N    |      | high, arcing flight.  |      |
| 0658    | Bulwer's Pet      | 1 | NE   |      |   |      |
| 0705    | wedgetail         | 1 | E    |      | dark  |      |
| 0720    | "                 | 1 | E    |      | "   |      |
| 0726    | Sooty Tern        | 1 | SE   |      | adult   |      |
| FF 0813 | "                 | 4 |      |      | adult   |      |
| 0816    | wedgetail         | 1 | S    |      | dark phase  |      |
| 0830    | Sooty Tern        | 4 | SE   |      | adults, flying low  |      |
| 0845    | "                 | 1 | SW   |      | adult   |      |
| 0900    | "                 | 1 | NE   |      | adult   |      |
| 0903    | W-R S Pet         | 1 | ⊙    |      | flying and flitting very fast   |      |
| 0909    | Frigate sp.       | 1 | ⊙    |      |   |      |
| 0938    | storm Pet         | 1 |      |      |   |      |
| 0939    | Sooty Tern        | 1 | ⊙    |      | adult   |      |
| 0946    | Lesser Frigate    | 1 | SW   |      |   |      |
| 1047    | wedgetail         | 1 | ⊙    |      | dark  |      |
| 1058    | WRSP              | 1 | S    |      |   |      |
| 1110    | Sooty Tern        | 3 | NW   |      | Ad  |      |
| C 1157  | "                 | 1 |      |      | coll. JPT - adult   |      |
| 1218    | "                 | 2 | NE   |      | adult   |      |
| C 1240  | "                 | 1 |      |      | ad. coll. RSC   |      |
| 1254    | Sooty Slb. Shear. | 1 | W    |      |   |      |
| 1347    | sooty Tern        | 1 | ⊙    |      | ad  |      |
| 1402    | BKUA              | 1 | BNW  |      | whale   |      |
| 1417    |                   |   |      |      |   |      |
| 1435    | WRSP              | 1 | ⊙    |      |   |      |
| 1453    | Fairy Tern        | 1 | ⊙    |      | whale - 2   |      |
| 1515    |                   |   |      |      |   |      |
| 1525    | Fairy Tern        | 2 | N    |      | adults  |      |
| 1541    | BFB               | 1 | ⊙    |      |   |      |
| 1559    | WRSP              | 1 | ⊙    |      |   |      |
| 1620    | Harcourt's SP.    | 1 | ⊙    |      |   |      |
| 1653    | Pterodroma        | 1 | ⊙    |      | whitish around base of bill, leading edge of upper wing dark, becoming light at trailing edge, under wing had dark border with diagonal central stripe, belly appeared dusky, not white, overall color brownish, appeared slightly larger than Bonin I. Petrel. |      |

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7-28-64

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

DATE 4 May 1965  
Pg. # 2



Noon Position: 0-40 S; 176-03 W

| time    | species    | #              | dir. | hgt. | remarks                                | loc. |
|---------|------------|----------------|------|------|--|------|
| 1705    |            |                | N    |      | 20-30 porpoises, not jumping very high |      |
|         |            |                |      |      | barely breaking water                  |      |
| FF 1755 | Sooty Tern | 2              |      |      | ad                                     |      |
|         | C. Noddy   | 1              |      |      |  |      |
| C       | Wedgetail  | 8              |      |      | Dark (BAH) coll)                       |      |
| C       | L. Frigate | <del>4</del> 5 |      |      | 4♀, 1♂ (1♀ coll N.H.)                  |      |
|         | Fairy T.   | 6              |      |      |  |      |
|         | B.G. Noddy | 1              |      |      |  |      |
| 1839    | Wedgetail  | 1              | ⊙    |      | dark                                   |      |
| 1849    |            |                |      |      | Sunset incl observations               |      |

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

DATE 4-5 May 66  
Pg. # 1

Nocturnal Observations

Noon position 0405; 176-03W

| time | species                     | #   | dir. | hgt. | remarks                                  | loc. |
|------|-----------------------------|-----|------|------|--|------|
| 1849 | Sooty tern                  | 1   |      |      | — sunset Begin Nocturnal Observations    |      |
| 2152 | Bird                        | 1   |      |      | — call                                   |      |
| 2203 | "                           | 1   |      |      | — Light color — flew toward light        |      |
| 2242 | <del>fairy</del> Sooty tern | 1   |      |      |  |      |
| 2248 | Sooty tern                  | 2   |      |      | — Adult — call & sight obs.              |      |
| 2328 | " "                         | 1   |      |      | — Adult                                  |      |
| 2334 | " "                         | 1   |      |      | — call                                   |      |
| 2355 | Bird                        | 1   |      |      |  |      |
| 0020 | BFB                         | 1   | ⊙    |      | — adult or sub-adult                     |      |
| 0028 | Sooty T                     | 4   | E    |      |  |      |
| 0033 | " "                         | 1   | E    |      |  |      |
| 0036 | " "                         | 3   | E    |      |  |      |
| 0042 | " "                         | 1   | NE   |      |  |      |
| 0055 | " "                         | 1   | ⊙    |      |  |      |
| 0114 | " "                         | 2   | SE   |      |  |      |
| 0125 | Petrel                      | 1   | ⊙    |      |  |      |
| 0140 | Sooty T                     | 2   | F    |      |  |      |
| 0144 | Wedgetail                   | 1   |      |      | — dark, coll. JPT                        |      |
| 0200 | Sooty Tern                  | 3   | E    |      |  |      |
| 0215 | Storm Pet                   | 1   | ⊙    |      | — adult, 1 coll. JPT                     |      |
| 0220 | Sooty Tern                  | 2   | E    |      | — calling                                |      |
| 0325 | Shear/Pet                   | 1   | S    |      | — way out                                |      |
| 0401 | Bird                        | 1   | S    |      |  |      |
| 0447 | G-P Tern                    | 1/2 | F    |      | — calling                                |      |
| 0505 | Audubons                    | 1   | ⊙    |      | — come into light, very closely observed |      |
| 0516 | Wedge-tail                  | 1   | S    |      | — Parv?                                  |      |
| 0545 | RFB                         | 1   | ⊙    |      | — Ad ♂ Int or ned int phase              |      |
| 0644 |                             |     |      |      | — sunrise — case nocturnal observations  |      |

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SMITHSONIAN INSTITUTION  
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AT SEA DAILY LOG -- E

DATE 5 May 1966  
Pg. # 1

Noon position 0-18.5 ; 177-51 W

|    | time | species        | # | dir. | hgt. | remarks   | loc. |
|----|------|----------------|---|------|------|---|------|
|    | 0644 |                |   |      |      | Sunrise - begin diurnal observations.   |      |
|    | 0645 | Frigate sp.    | 1 |      |      | up high.  |      |
|    | 0715 | Lesser Frigate | 1 |      |      | ad ♀  |      |
|    | 0718 | WRSP           | 1 | NW   |      | very rapid, swift flight.   |      |
|    | 0725 | wedgetail      | 1 | SW   |      | dark phase.   |      |
|    | 0733 | sooty tern     | 1 | W    |      | ad.   |      |
|    | 0745 | WRSP           | 1 | W    |      | straight flight   |      |
|    | 0750 | WRSP           | 2 |      |      | drifting around sitting on water & fluttering<br>both flew east as ship approached  |      |
|    | 0800 | Sooty Tern     | 1 |      |      | followed ship   |      |
|    | 0920 | WRSP           | 2 | ⊙    |      |   |      |
|    | 1013 | "              | 1 | NW   |      | carrying a light colored object<br>which he landed with occasionally<br>apparently he was trying to get out of the<br>ship's path to eat it |      |
|    | 1043 | Tern sp.?      | 4 | ⊙    |      | dark birds, probably noddy  |      |
|    | 1046 | WRSP           | 1 | NW   |      |   |      |
|    | 1055 |                |   |      |      | course change to 081°   |      |
|    | 1118 | Sooty tern     | 1 | ⊙    |      | adult   |      |
|    | 1133 | wedgetail      | 2 | N    |      | dark phase  |      |
|    | 1140 | WRSP           | 1 | ⊙    |      |   |      |
|    | 1145 | Shear-Pet      | 1 | ?    |      |   |      |
|    | 1226 | Kermadec P.    | 1 | SE   |      |   |      |
|    | 1230 | WRSP           | 2 | N    |      |   |      |
| TF | 1256 | Sooty Tern     | 5 | N    |      | adults  |      |
|    | 1301 | "              | 2 | NW   |      | adults  |      |
| C  | 1322 | "              | 1 |      |      | collected by HERYFORD Ad  |      |
|    | 1345 | "              | 4 | NE   |      | Ad.   |      |
| SF | 1415 | Sooty T        | 5 |      |      | all 7 adult.  |      |
|    |      | Fairy T        | 2 |      |      | searching flock   |      |
| SF | 1455 | Wedgetail      | 1 |      |      | dark  |      |
|    |      | WRSP           | 1 |      |      |   |      |
|    |      | Fairy Tern     | 2 |      |      |   |      |
|    |      | Sooty Tern     | 7 |      |      | all adult   |      |
|    | 1528 | Sooty Tern     | 1 | W    |      | ad  |      |
|    | 1543 | Wedgetail      | 1 |      |      | dark  |      |
|    | 1555 | WRSP           | 2 |      |      | E   |      |
| C  | 1605 | WRSP/leucis    | 1 |      |      | on water - call by R. Crossin   |      |
|    | 1620 | WRSP           | 2 | ⊙    |      |   |      |
|    | 1805 | Sooty Tern     | 2 | ⊙    |      | Ad  |      |
|    | 1848 |                |   |      |      | Sunset - cease diurnal  |      |



Noon Position 0-18 S, 177-51 W

SI-MNH-958e  
7-28-64

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

5-6  
DATE 5 May  
Pg. # 1



Nocturnal

1848 — sunset begin nocturnal obs.

| time      | species  | # | dir. | hgt. | remarks                                       | loc. |
|-----------|--|---|------|------|---|------|
| 2020      | Sooty Tern   | 1 |      |      | 1 note call                                   |      |
| 2150      | " "  | 2 |      |      | call  |      |
| 2202      | " "  | 1 |      |      | call & sight                                  |      |
| 2210      | " "  | 1 |      |      | call.   |      |
| 2214      | " "  | 1 |      |      | call  |      |
| 2218      | " "  | 1 |      |      | call  |      |
| C 2225    | Sooty tern   | 1 |      |      | adult - sight                                 |      |
| 2235      | Bird   | 1 |      |      | coll. KCB Ad                                  |      |
| 2300      | Sooty tern   | 1 |      |      | small, white, low to water                    |      |
| 2305      | Bird   | 1 |      |      | call  |      |
| 2308      | Sooty tern   | 4 |      |      | coll. 1 KCB Ad.                               |      |
| 2317      | " "  | 2 |      |      | call  |      |
| 2320      | " "  | 2 |      |      | 2 + 2 call                                    |      |
| C 2325    | <del>Puffinus</del><br><del>Heterosoma</del> <i>gris</i> | 1 |      |      | coll. by KCB imm.                             |      |
| 2332      | Sooty tern   | 3 |      |      | call  |      |
| 2352      | " "  | 1 |      |      | call  |      |
| 2355      | " "  | 3 |      |      | call  |      |
| 2358      | " "  | 2 |      |      | call  |      |
| 2400      | " "  | 1 |      |      | call  |      |
| 2403      | " "  | 6 |      |      | sight   |      |
| 2407      | " "  | 1 |      |      | 2 + 2 + 2                                     |      |
| 2400 0008 | " "  | 3 |      |      | sight<br>1 ad seen, 2 heard, double notes     |      |
| 0009      | G-Bucked tern  | 1 |      |      | heard calling                                 |      |
| 0009      | Wedgetail  | 1 |      |      | dark phase                                    |      |
| 0012      | " "  | 1 |      |      | " "   |      |
| C 0020    | Aud. Shear   | 1 |      |      | coll. RSC                                     |      |
| 0026      | " "  | 1 |      |      | coll.   |      |
| BS 0040   | RFB  | 1 |      |      | blue streamer - perched on boom. Int Phase Ad |      |
| 0051      | Wedgetail  | 1 |      |      | dark phase                                    |      |
| 0135      | " "  | 1 |      |      | " "   |      |
| 0155      | Aud. Shear   | 1 |      |      | coll.   |      |
| 0245      | Sooty tern   | 1 |      |      | coll.   |      |
| 0305      | Aud. Shear   | 1 |      |      | coll, but floated out of reach                |      |
| 0309      | Sooty tern   | 1 |      |      | calling - 2 note                              |      |
| 0315      | " "  | 2 |      |      | calling                                       |      |
| 0345      | Shear-pet  | 1 | ♂    |      |   |      |
| 0432      | Sooty Shear  | 1 | ♂    |      |   |      |
| 0457      | Shearwater   | 1 | ♂    |      | dark  |      |
| C 0503    | Audulorn   | 1 |      |      | coll. JPT                                     |      |
| 0530      | WPSL   | 1 | ♂    |      | coll. JPT                                     |      |
| C 0558    | Sooty tern   | 1 |      |      | Ad  |      |
| 0630      | " "  | 1 | W    |      | unusually                                     |      |
| C 0632    | RFB  | 1 |      |      | coll. Hunted                                  |      |
| 0641      | sunrise end observations                                 |   |      |      | int. Phase Bandol                             |      |

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



DATE 6 May 66  
Pg. # 1

Diurnal

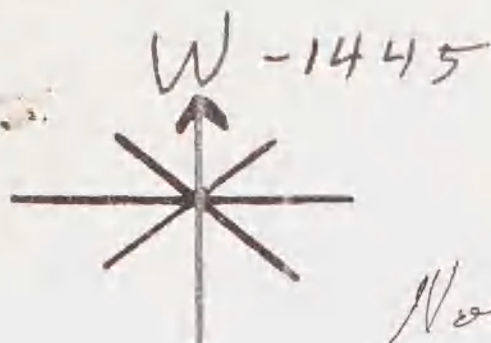
Noon Position: 0-035; 176-14 W

|    | time | species          | #             | dir. | hgt. | remarks   | loc. |
|----|------|------------------|---------------|------|------|---|------|
|    | 0641 |                  |               |      |      | Sunrise Begin observations                                      |      |
|    | 0653 | Sooty Tern       | 3             | SE   |      | Ad  |      |
|    | 0721 | Wedgetail        | 1             | 00   |      | dark  |      |
|    | 0746 | Sooty Tern       | 2             | W    |      | Ad  |      |
|    | 0748 | " "              | 3             | W    |      | Ad  |      |
|    | 0806 | Bird             | 1             | SE   |      |   |      |
|    | 0812 | Sooty T.         | 2             | SW   |      | ad  |      |
|    | 0835 | WRSP             | 1             | 000  |      |   |      |
|    | 0838 | SOOTY T.         | 1             | NE   |      | ad  |      |
| TF | 0838 | " "              | 6             | NE   |      | ad  |      |
|    | 0845 | " "              | 1             | W    |      | Ad  |      |
|    | 0850 | Wedgetail        | 1             | NE   |      | dark phase  |      |
|    | 0910 | Sooty T.         | 1             | 00   |      | ad  |      |
|    | 0935 | " "              | 1             | N    |      | ad  |      |
| TF | 0955 | " "              | <del>25</del> |      |      | no direction, adults  |      |
|    | 1015 | " "              | 2             | E    |      | Ad  |      |
| TF | 1025 | " "              | 6             | E    |      | The captain got us all wet                                      |      |
| TF | 1055 | " "              | 17            | NE   |      |   |      |
|    |      | Fairy Tern       | 1             |      |      |   |      |
| CF | 1038 | Sooty Tern       | 200±25        |      |      | 1 adult collected by Lewis<br>over jumping tuna                 |      |
|    |      | Wedgetail        | 2             |      |      | dark phase  |      |
|    |      | Frigates         | 7             |      |      |   |      |
|    | 1105 | Bl-Gr Noddy      | 1             | E    |      |   |      |
|    | 1221 | Sooty tern       | 3             | 00   |      | ad appear to be searching for food.                             |      |
| FF | 1237 | sooty terns      | 15±           |      |      | ad feeding lightly - <sup>flock</sup> broke early               |      |
|    | 1250 | Sooty tern       | 4             |      |      | ad.   |      |
| FF | 1406 | " "              | 400±50 @      |      |      | adults & some imm. 3 coll. by JT, 1 coll. KB<br>over large Tuna |      |
| CC |      | L. Frigate ♂     | 1             | 6    |      |   |      |
| CC |      | Wedgetail        | 15-20         | 0    |      | dark phase  |      |
|    | 1459 | Sooty Tern       | 2             | 0    |      |   |      |
| FF | 1520 | Sooty Tern       | 10±5          |      |      |   |      |
|    |      | Frigate          | 1             |      |      |   |      |
|    | 1525 | Sooty<br>Bl-bill | 1             | N    |      |   |      |
|    | 1532 | Sooty Tern       | 2             | SE   |      | possibly mottled feet.  |      |
|    | 1534 | Shear-Pet        | 1             | N    |      |   |      |
|    | 1540 | RFB              | 1             | 0    |      | sub-adult   |      |
|    | 1610 | Sooty Tern       | 5             | W    |      | Ad  |      |
|    | 1613 | Sooty/standstill | 1             | N    |      | dark underwings   |      |

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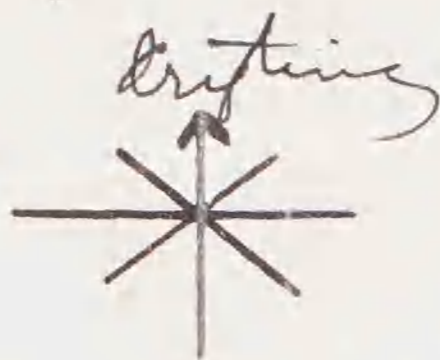
DATE 6 May 1966  
Pg. # 0



Noon Position: 0-03 S; 176-14 W

|    | time | species           | #   | dir. | hgt. | remarks   | loc. |
|----|------|-------------------|-----|------|------|---|------|
| FF | 1625 | Sooty Tern        | 155 | ⊙    |      | Ad  |      |
|    | 1625 | BFB               | 1   | ⊙    |      | Ad  |      |
|    | 1631 | Sooty Tern        | 1   | E    |      | Ad  |      |
| TF | 1636 | Sooty Tern        | 47  | E    |      | Ad  |      |
| C  | 1640 | Sooty Tern        | 25  | SE   |      | Ad - Hoff   |      |
|    | 1643 | " "               | 21  | ⊙    |      | Ad  |      |
|    | 1644 | " "               | 4   | E    |      |   |      |
|    | 1650 |                   |     |      |      | SKiff FF in (Crossin)<br>Baker I. 4 mi.             |      |
| SF | 1705 | Sooty Tern        | 12  | ⊙    |      |   |      |
| TF | 1705 | Sooty Tern        | 15  | NE   |      |   |      |
| FF | 1705 | Sooty Tern        | 48  | NE   |      |   |      |
| CC |      | Frigate sp        | 2   |      |      | ♀ crossin skiff                                     |      |
|    | 1714 | Frigate sp        | 3   |      |      | joined flock  |      |
|    | 1715 | Sooty Tern        | 2   | NE   |      | low on water  |      |
|    | 1718 | " "               | 1   | NE   |      | Ad  |      |
|    | 1725 | Sooty Tern        | 2   | W    |      | Ad  |      |
| TF | 1750 | Sooty Tern        | 5   | NE   |      | ad  |      |
| TF | 1755 | Sooty Tern        | 5   |      |      | adult   |      |
| TF | 1757 | Sooty Tern        | 9   |      |      |   |      |
|    | 1800 | R-F Booby         | 1   |      |      | immature circling ship                              |      |
|    | 1803 | Sooty Tern        | 3   | ⊙    |      | adult   |      |
| TF | 1805 | " "               | 17  | ⊙    |      |   |      |
| TF | 1807 | " "               | 45  | ⊙    |      | 3 collected by Crossin from skiff                   |      |
| CC | 1809 | Wandering Tattler | 1   | ⊙    |      | circling ship                                       |      |
| TF | 1845 | Sooty Terns       | 35  | NE   |      |   |      |
|    | 1846 |                   |     |      |      | sunset-end diurnal observations<br>skiff still out. |      |

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7-28-64



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

Nocturnal

Noon Position: 0-03 S ; 176-14 W

DATE 6<sup>7</sup> May 1966  
Pg. # 2

| time    | species    | #   | dir. | hgt. | remarks                   | loc. |
|---------|------------|-----|------|------|---------------------------|------|
| 2212    | Sooty Tern | 1   |      |      |                           |      |
| 2215    | " "        | 2   |      |      | call                      |      |
| 2218    | " "        | 2   |      |      |                           |      |
| C 2221  | " "        | 3   |      |      | Capt. Krull & Woody       |      |
| 2232    | " "        | 8   |      |      |                           |      |
| 2236    | " "        | 3   |      |      |                           |      |
| C 2238  | " "        | 4   |      |      | F. Smith                  |      |
| 2245    | " "        | 4   |      |      | call                      |      |
| 2249    | " "        | 4   |      |      |                           |      |
| 2250    | " "        | 4   |      |      |                           |      |
| 2253    | " "        | 1   |      |      |                           |      |
| 2255    | And Shear  | 1   |      |      |                           |      |
| 2258    | Sooty Tern | 1   |      |      |                           |      |
| 2300    | " "        | 1   |      |      |                           |      |
| 2301    | " "        | 3   |      |      |                           |      |
| 2304    | " "        | 1   |      |      | call                      |      |
| 2306    | " "        | 6   |      |      | call                      |      |
| 2307    | " "        | 2   |      |      |                           |      |
| 2310    | " "        | 1   |      |      |                           |      |
| 2315    | " "        | 3   |      |      |                           |      |
| 2318    | " "        | 5   |      |      |                           |      |
| 2320    | " "        | 5   |      |      |                           |      |
| 2325    | " "        | 3   |      |      |                           |      |
| 2332    | " "        | 5   |      |      |                           |      |
| C 2335  | " "        | 5   |      |      | F. Smith                  |      |
| CC 2358 | " "        | 3   |      |      | F. Smith & Walt           |      |
| CC 2400 | " "        | 2   |      |      | 2 coll. Walt.             |      |
| C 2405  | " "        | 20+ |      |      | ad call. RSC -            |      |
| 2410    | " "        | 2   |      |      | calling                   |      |
| C 2425  | " "        | 8   |      |      | ad - 1 coll. RSC + Walt.  |      |
| 2430    | " "        | 5   |      |      | ad's calling double note  |      |
| 2440    | " "        | 3   |      |      | ad calling                |      |
| 2442    | " "        | 4   |      |      | ad calling                |      |
| 2443    | And Shear  | 1   |      |      | ad                        |      |
| 2452    | Sooty Tern | 4   |      |      | ad 2 coll, but both lost. |      |
| 2453    | " "        | 3   |      |      | calling                   |      |
| 0103    | " "        | 6   |      |      | ads.                      |      |

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7-28-64



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

DATE <sup>7</sup> 6 MAY 66  
Pg. # 34

NOCTURNAL

Moan Position 0-035; 176-14 W

| time   | species    | # | dir. | hgt. | remarks                            | loc. |
|--------|------------|---|------|------|------------------------------------|------|
| 0555   | Sooty tern | 4 |      |      | call                               |      |
| 0556   | " "        | 4 |      |      | "                                  |      |
| 0605   | " "        | 3 |      |      | calling 2 note + other } very high |      |
| 0607   | " "        | 3 |      |      | " " "                              |      |
| C 0625 | " "        | 1 |      |      | coll. IPT                          |      |
| 0640   |            |   |      |      | Sunrise                            |      |

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7-28-64



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

DATE 7 May  
Pg. # 1

Diurnal observations

Approx Position: 0-11 N; 177-16 W

|       | time | species          | #  | dir. | hgt. | remarks   | loc. |
|-------|------|------------------|----|------|------|---|------|
|       | 640  |                  |    |      |      | Sunrise - Skiff in                                  |      |
| CC    | 0700 | Sooty Tern       | 2  |      |      | 16 mi. W-SW of Baker                                |      |
|       |      |                  |    |      |      | 2 collected (Tordoff)                               |      |
|       | 0715 | Sooty Tern       | 2  | SE   |      |   |      |
|       | 0715 | Wedgetail        | 1  | N    |      |   |      |
| CCCC  | 0730 | Sooty tern       | 4  |      |      | (Tordoff in SKIFF)                                  |      |
| TF    | 0750 | " "              | 17 | NW   |      |   |      |
| TF    | 0755 | " "              | 45 | E    |      | THH Tordoff 1                                       |      |
| CCCC  | 0800 | " "              | 4  | ⊙    |      |   |      |
| CC    | 0804 | " "              | 2  | NW   |      |   |      |
|       | 0807 | R-F Booby        | 1  | SE   |      |   |      |
|       | 0815 | Sooty tern       | 17 | S    |      |   |      |
| S     | 0816 | B-F Booby        | 1  | SB   |      | adult & blue streamer                               |      |
|       | 0822 | Shear pet        | 1  | ⊙    |      |   |      |
|       | 0825 | Sooty tern       | 4  | ⊙    |      | ad  |      |
|       | 0826 | B-F Booby        | 1  | SE   |      | adult   |      |
|       | 0831 | Frigate sp       | 1  | ⊙    |      |   |      |
|       | 0834 | Sooty tern       | 2  | ⊙    |      | adult   |      |
|       | 0837 | " "              | 4  | W    |      | "   |      |
|       | 0840 | " "              | 2  | NE   |      | "   |      |
| CC    | 0841 | " "              | 9  | NE   |      | " JPT in SKIFF with 12 shots (1 for six - B.A.-166) |      |
|       | 0845 | BFB              | 4  | S    |      | Ad  |      |
|       | 0849 | " "              | 1  | S    |      | "   |      |
|       |      | sooty tern       | 2  | E    |      | Adult   |      |
| C     | 0852 | wedgetail        | 1  | N    |      | dk phase - coll JPT in skiff                        |      |
| CC TF | 0852 | sooty tern       | 17 | N    |      | Adult - 2 coll JPT in skiff                         |      |
|       | 0854 | " "              | 23 | N    |      | Adult   |      |
| C     | 0904 | " "              | 1  | N    |      | Adult JT in skiff                                   |      |
| C     | 0911 | " "              | 7  | ⊙    |      | coll 1 KCB  |      |
|       | 0915 | " "              | 7  | W    |      | ad  |      |
|       | 0917 | " "              | 2  | W    |      | ad  |      |
|       | 0931 | BFB              | 1  | N    |      | ad.   |      |
|       | 0937 | " "              | 1  | S    |      | ad.   |      |
| C     | 0938 | sooty tern       | 3  | SW   |      | " 1 coll. by JPT in skiff                           |      |
|       | 0940 | sooty shearwater | 1  |      |      | seen by staff                                       |      |
|       | 0940 | common noddy     | 1  | NE   |      |   |      |
| C     | 0940 | sooty tern       | 1  |      |      | 1 coll by JPT in skiff                              |      |
|       | 0943 | BFB              | 1  | NE   |      | adult   |      |
| C     | 0944 | sooty tern       | 4  | N    |      | " 1 coll by JPT in skiff                            |      |
| TF    | 0947 | " "              | 8  | S    |      | ad  |      |
| TF    | 0948 | " "              | 25 | ⊙    |      | ad flying high                                      |      |

SI-MNH-958e  
7-28-64

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

DATE 7 May 1966  
Pg. # 2



Diurnal

Noon Position: 0-11 N; 177-16 W

|    | time | species          | #  | dir. | hgt. | remarks   | loc. |
|----|------|------------------|----|------|------|---|------|
|    | 0950 | Sooty/slender    | 4  | S    |      |   |      |
| TF | 0957 | sooty Tern       | 7  | SW   |      | 2 collected J Tordoff   |      |
|    | 1002 | " "              | 4  | SE   |      |   |      |
|    | 1010 | BFB              | 2  | ceer |      | ad's.   |      |
|    | 1033 | Sooty Tern       | 4  | ceer |      | ad's.   |      |
|    | 1101 | Frigate sp       | 1  | ☉    |      | far out.  |      |
| TF | 1105 | sooty Tern       | 9  | N    |      | ad's  |      |
|    | 1108 | " "              | 1  | N    |      | ad.   |      |
|    | 1120 |                  |    |      |      | skiff brought aboard  |      |
| TF | 1138 | Frigate sp       | 5  |      |      | ad loose traveling flock  |      |
|    |      | sooty Tern       | 2  |      |      |   |      |
| TF | 1140 | sooty Tern       | 21 |      |      | ad's scattered  |      |
|    | 1157 | Sooty Tern       | 2  | NE   |      | Ad  |      |
|    | 1200 | Sooty/slender    | 3  | NW   |      |   |      |
|    | 1215 | Sooty Tern       | 4  | N    |      |   |      |
|    | 1217 | " "              | 1  | W    |      | Ad  |      |
| TF | 1219 | " "              | 19 | N    |      | Ad  |      |
|    | 1234 | Fairy Tern       | 2  | ☉    |      | light underwing   |      |
|    | 1245 | Sooty/Slb. Shear | 1  | N    |      |   |      |
| CC | 1310 | Sooty Tern       | 2  | Ad   |      | coll SVIT   |      |
| TF | 1327 | " "              | 6  | N    |      | Ad  |      |
| C  | 1333 | " "              | 1  | Ad   |      | coll DNIT   |      |
| TF | 1358 | " "              | 5  | N    |      | Ad - calling  |      |
|    | 1400 | " "              | 4  | N    |      | Ad  |      |
| TF | 1400 | BFB              | 1  | ☉    |      | skiff out (Lewis)   |      |
| TF | 1402 | sooty T.         | 13 | ☉    |      | all adults  |      |
|    | 1415 | " "              | 4  | ?    |      | ad.   |      |
| TF | 1423 | " "              | 10 | E    |      | ad  |      |
|    | 1430 | " "              | 3  | NW   |      | ad  |      |
|    | 1430 | " "              | 4  | E    |      | ad  |      |
|    | 1440 | " "              | 4  | E    |      | Ad  |      |
|    | 1443 | " "              | 2  | E    |      | ad  |      |
|    | 1445 | " "              | 2  | NW   |      | ad  |      |
| TF | 1447 | " "              | 11 | ☉    |      | ad  |      |
| TF | 1456 | " "              | 10 | SW   |      | "   |      |
|    | 1512 | Sooty T.         | 1  | ☉    |      | ad  |      |
|    | 1527 | " "              | 2  | N    |      | ☉   |      |
|    | 1540 |                  |    |      |      | large porpoise (ca 10') jumping not quite clear of water, turning, and landing on back. dorsal fin. snout fairly blunt. |      |
|    | 1550 |                  |    |      |      | skiff returns.  |      |
|    | 1615 |                  |    |      |      | small whale blow  |      |

SI-MNH-958e  
7-28-64



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

DATE 7 May  
Pg. # 3

Diurnal

Noon Position: 0-11 N; 177-16 W

|    | time | species       | #  | dir. | hgt. | remarks   | loc. |
|----|------|---------------|----|------|------|---|------|
| TF | 1628 | Sooty tern    | 13 | E    |      | adult   |      |
|    |      | Frigate sp.   | 2  | E    |      |   |      |
|    | 1636 | Sooty tern    | 1  | SW   |      |   |      |
|    | 1644 | " "           | 1  | S    |      | "   |      |
|    | 1651 | W.T.S. Petrel | 1  | ⊙    |      |   |      |
| TF | 1700 | Sooty Tern    | 5  |      |      | adults  |      |
|    | 1700 | " "           | 2  | W    |      | Ad.   |      |
|    | 1715 | whale         | 1  |      |      | whale   |      |
|    | 1725 | Shear/pet     | 1  | ⊙    |      | Size of WR SP or slightly larger, white under wings & belly - short wings |      |
|    | 1758 | Sooty tern    | 1  | S    |      | adult   |      |
| TF | 1825 | Sooty Tern    | 17 | SE   |      | adults  |      |
|    | 1853 |               |    |      |      | sunset - closed diurnal observations                                      |      |



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SMITHSONIAN INSTITUTION  
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AT SEA DAILY LOG -- E



Nocturnal

DATE 7<sup>8</sup> May 1966  
Pg. # 1

Moon Position = 0-11 N; 177-16 W

| time   | species      | # | dir. | hgt. | remarks                               | loc. |
|--------|--------------|---|------|------|---------------------------------------|------|
| 1853   |              |   |      |      | sunset - begin nocturnal observations |      |
| 1835   |              |   |      |      | Drifting began                        |      |
| 1845   | Sooty Tern   | 2 |      |      | one note                              |      |
| 1855   | Sooty Tern   | 1 |      |      |                                       |      |
| 1900   | " "          | 1 |      |      | no call                               |      |
| C 1910 | " "          | 1 |      |      | Smith                                 |      |
| 1915   | " "          | 5 |      |      | calling                               |      |
| C 1925 | Comm. Noddy  | 1 |      |      | Smith                                 |      |
| 2132   | Sooty Tern   | 2 |      |      | 2 note call                           |      |
| 2145   | " "          | 1 |      |      |                                       |      |
| 2215   | " "          | 1 |      |      |                                       |      |
| 2223   | " "          | 1 |      |      |                                       |      |
| 2235   | " "          | 1 |      |      |                                       |      |
| 2239   | " "          | 1 |      |      |                                       |      |
| 2245   | " "          | 3 |      |      |                                       |      |
| 2246   | R.F.B.       | 1 |      |      |                                       |      |
| 2256   | Sooty Tern   | 3 |      |      | 2 calling                             |      |
| C 2300 | " "          | 1 |      |      | F. Smith                              |      |
| 2308   | " "          | 1 |      |      |                                       |      |
| 2310   | " "          | 1 |      |      |                                       |      |
| 2310   | Bird sp      | 1 |      |      | grayish black - seen by capt.         |      |
| 2325   | Sooty Tern   | 2 |      |      | calling                               |      |
| 2326   | " "          | 3 |      |      |                                       |      |
| 2336   | " "          | 3 |      |      | calling                               |      |
| 2400   | " "          | 1 |      |      | ad wide-awake call                    |      |
| 0003   | " "          | 2 |      |      | " "                                   |      |
| 0004   | " "          | 2 |      |      | " "                                   |      |
| 0015   | " "          | 1 |      |      | " "                                   |      |
| 0015   | shear/pet    | 1 |      |      | light underside.                      |      |
| C 0019 | Leach's S.P. | 1 |      |      | coll RSC                              |      |
| 0020   | Shear-Pet    | 1 |      |      | prob. and. Shear                      |      |
| 0025   | Sooty T.     | 1 |      |      | ad. wide-awake call                   |      |
| 0030   | " "          | 3 |      |      | ad                                    |      |
| 0040   | " "          | 1 |      |      | ad single note call                   |      |
| 0041   | Audubon's    | 1 |      |      |                                       |      |
| 0050   | Sooty T.     | 1 |      |      | ad wide awake                         |      |
| 0050   | Bird         | 1 |      |      | all dark                              |      |
| 0100   | Sooty T.     | 1 |      |      |                                       |      |
| 0100   | Wedgetail    | 2 |      |      | ad. wide-awake                        |      |
|        |              | 1 |      |      | dark                                  |      |

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SMITHSONIAN INSTITUTION  
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DATE 7-8 May  
Pg. # 2

Nocturnal (cont.)

Noon Position: 0-11 N; 177-16 W

| time   | species       | # | dir. | hgt. | remarks                               | loc. |
|--------|---------------|---|------|------|---------------------------------------|------|
| 0105   | Sooty T.      | 1 |      |      | calling - wide awake                  |      |
| C 0130 | "             | 1 |      |      | " single                              |      |
| 0130   | Audubon S.    | 1 |      |      |                                       |      |
| 0135   | Sooty T.      | 2 |      |      | call. wide awake                      |      |
| 0150   | "             | 3 |      |      | call. " and single note               |      |
| 0200   | Bird          | 1 |      |      |                                       |      |
| 0200   | Sooty T.      | 1 |      |      | ad. calling (wide awake)              |      |
| 0210   | "             | 1 |      |      | adult (silent)                        |      |
| 0230   | "             | 1 |      |      | adult (wide awake)                    |      |
| 0300   | Audubon S.    | 1 |      |      |                                       |      |
| 0307   | Sooty Tern    | 2 | ⊙    |      | calling                               |      |
| 0316   | Audubon Shear | 1 |      |      |                                       |      |
| 0320   | " "           | 1 |      |      |                                       |      |
| 0324   | Sooty Tern    | 2 |      |      | calling                               |      |
| 0332   | Audubon S.    | 1 |      |      |                                       |      |
| 0337   | Sooty Tern    | 1 |      |      | calling                               |      |
| 0341   | " "           | 1 |      |      | "                                     |      |
| 0344   | " "           | 2 | ⊙    |      | calling                               |      |
| 0351   | Audubon S.    | 1 |      |      |                                       |      |
| 0356   | Sooty Tern    | 1 | ⊙    |      | calling                               |      |
| 0401   | " "           | 1 |      |      | "                                     |      |
| C 0410 | Audubon Shear | 1 |      |      |                                       |      |
| 0428   | Sooty Tern    | 1 |      |      | Ad-silent                             |      |
| 0438   | " "           | 2 | ⊙    |      | Ad calling                            |      |
| 0447   | " "           | 2 |      |      | calling Ad                            |      |
| 0449   | " "           | 3 |      |      | Ad-calling                            |      |
| 0530   | " "           | 1 |      |      | Ad-silent                             |      |
| 0551   | " "           | 2 | ⊙    |      | Ad-1 note call                        |      |
| 0600   |               |   |      |      | stopped drifting. Course 086          |      |
| 0602   | Sooty Tern    | 1 |      |      | two note call                         |      |
| 0635   | Shear / Pet   | 1 | SW   |      |                                       |      |
| 0644   |               |   |      |      | sunrise - end Nocturnal observations. |      |

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DATE 8 May 66  
Pg. # 2

Noon Position: 0-40 N; 177-12 W

|          | time | species     | #                | dir.                | hgt. | remarks                            | loc.   |
|----------|------|-------------|------------------|---------------------|------|------------------------------------|--|
|          | 1325 | BFB         | 1                | SE                  |      | Ad                                 |  |
|          | 1340 | URST        | 1                | ⊙                   |      | ← After 5 shots                    |  |
| C        | 1417 | RFB         | 1                |                     |      | ad. coll. RSC. int. phase.         |  |
|          | 1418 | sooty tern  | 2                | ⊙                   |      | ad.                                |  |
|          | 1433 | sooty tern  | 1                | E                   |      | ad                                 |  |
|          |      | BFB         | 1                | E                   |      | ad                                 |  |
| CC       | 1435 | Sooty Tern  | 3                |                     |      | 2 collected (1 - Crossin 1 - Hoff) |  |
|          | 1450 | " "         | 15               | S                   |      | 2 phob + buer                      |  |
|          | 1503 | BFB         | 1                | ⊙                   |      | ad                                 |  |
|          |      | RFB         | 1                | ⊙                   |      | ad                                 |  |
|          | 1505 | RFB         | 2                | on H <sub>2</sub> O |      | ad.                                |  |
|          | 1505 | sooty tern  | 1                | ⊙                   |      | ad                                 |  |
| PF<br>CC | 1515 | sooty tern  | 100 <sup>+</sup> |                     |      | ad                                 | } 2 ST coll. 1 RSC, 1 DH.<br>all birds feeding intensely, BFBs diving from great heights. fish jumping |
|          |      | BFB         | 17               |                     |      | ad                                 |  |
|          |      | RFB         | 11               |                     |      | ad                                 |  |
|          |      | Wedgetail   | 4                |                     |      | ad. phase                          |  |
|          |      | Frigate sp. | 1                |                     |      | ad ♀.                              |  |
|          | 1538 | BFB         | 4                | N                   |      | ad's                               |  |
|          | 1539 | sooty tern  | 1                | S                   |      | ad.                                |  |
|          | 1542 | sooty tern  | 3                | W                   |      | ad's                               |  |
|          | 1545 | " "         | 1                | W                   |      | ad.                                |  |
|          | 1550 | " "         | 15               | W                   |      | ad's 1 coll RSC                    |  |
| C        | 1553 | " "         | 5                | W                   |      | Ad                                 |  |
|          |      | BFB         | 1                | W                   |      | Ad                                 |  |
| C        | 1559 | Sooty Tern  | 2                | W                   |      | 2 adults 1 collected by Crossin    |  |
|          | 1559 | " "         | 4                |                     |      | adults                             |  |
| TF       | 1603 | " "         | 20               | ⊙                   |      |                                    |  |
|          | 1604 | B-F Booby   | 3                | SW                  |      | adults                             |  |
|          | 1605 | sooty tern  | 15               | ⊙                   |      | ad's.                              |  |
|          | 1606 | RFB         | 1                | E                   |      | ad                                 |  |
|          |      | BFB         | 1                | W                   |      | ad                                 |  |
|          | 1607 | BFB         | 1                | W                   |      | ad                                 |  |
|          | 1607 | Sooty tern  | 2                | W                   |      | ad's.                              |  |
|          | 1612 | " "         | 7                | ⊙                   |      | Ad                                 |  |
|          | 1615 | BFB         | 1                | NE                  |      | Ad                                 |  |
|          | 1616 | sooty tern  | 2                |                     |      | Ad                                 |  |

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DATE 8 May 1966  
Pg. # 3



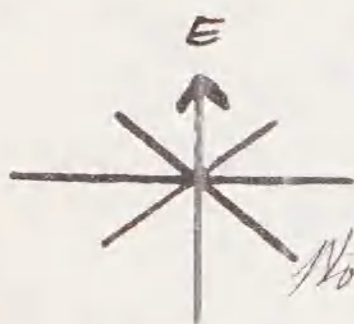
Noon Position 0-40N; 177-12W

| time            | species       | #  | dir. | hgt. | remarks                       | loc. |
|-----------------|---------------|----|------|------|-------------------------------|------|
| 1617            | Sooty Tern    | 2  | W    |      |                               |      |
| 1618            | " "           | 5  |      |      | adults                        |      |
| 1623            | " "           | 3  |      |      | Ad                            |      |
| 1623            | B.F.B.        | 1  |      |      | Imm                           |      |
| 1624            | Sooty Tern    | 4  |      |      | Ad                            |      |
| 1624            | BFB           | 2  |      |      | Ad                            |      |
| C 1626          | Sooty Tern    | 3  |      |      | Ad - Hahn                     |      |
| 1630            | " "           | 5  |      |      | Ad                            |      |
| 1631            | Sooty/Slender | 1  | S    |      |                               |      |
| FF 1632         | Sooty Tern    | 48 |      |      |                               |      |
| <del>1632</del> | R-F Booby     | 1  |      |      | Ad                            |      |
| 1633            | B-F Booby     | 2  | E    |      | Ad                            |      |
| 1636            | Sooty Tern    | 10 |      |      |                               |      |
| 1636            |               |    |      |      | close observations Howland Is |      |

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SMITHSONIAN INSTITUTION  
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DATE 9 MAY 1966  
Pg. # 1



Noon Position: C-59N ; 175-50W

|     | time            | species                    | #            | dir. | hgt. | remarks   | loc. |
|-----|-----------------|----------------------------|--------------|------|------|---|------|
|     | 0755            |                            |              |      |      | Begin observations after everyone overslept                 |      |
|     | 0806            | Sooty Slb. Shear           | 1            |      |      |   |      |
| CC  |                 | Sooty Tern                 | 7            |      |      | adult (two coll. by Lewis)                                  |      |
|     |                 | Sooty tern                 | 7            |      |      | adult   |      |
|     | 0814            | " "                        | 5            | N    |      | Ad  |      |
|     | 0818            | " "                        | 2            | E    |      | Ad  |      |
|     |                 | BF B                       | 2            | E    |      | Ad  |      |
|     | 0824            |                            |              |      |      | Mammal 1 (probably whale)                                   |      |
|     | 0826            | WRSTP                      | 1            | ☉    |      |   |      |
|     | 0829            | Sooty Tern                 | 2            | ?    |      |   |      |
|     | 0831            | " "                        | 1            | ☉    |      | following ship  |      |
|     | 0834            | Sooty Slb Shear.           | 1            | N    |      |   |      |
|     | 0842            | Sooty T.                   | 3            | SE   |      | ad  |      |
|     | 0842            | <del>70</del>              |              |      |      |   |      |
| TF  | 0845            | sooty T                    | 6            | NIE  |      | porpoise (1) jumping<br>Travelling                          |      |
|     | 0847            | WRSP                       | 1            | SE   |      |   |      |
|     | 0856            | " "                        | 1            | ☉    |      | (ca 25-50)  |      |
|     | 0857            |                            |              |      |      | porpoise - many scattered over a wide area.                 |      |
|     | 0920            | Sooty Tern                 | 3            | SW   |      | Ad variable shape dorsal fin, long snout, ca 6-7 feet long. |      |
|     | 0927            | " "                        | 1            | W    |      | Ad. 0915-541 ft In water - with RS Crossing                 |      |
|     | 0932            | " "                        | 1            | W    |      |   |      |
| C   | 0935            | " "                        | 3            | W    |      | Ad 1 coll RSC   |      |
| CC  | 0947            | " "                        | 3            | ☉    |      | Ad 1 " " , 1 BAH from ship                                  |      |
|     | 1000            | " "                        | 2            | NW   |      | Ad  |      |
|     | 1001            | WRSP                       | 1            | ☉    |      |   |      |
|     | 1002            | Sooty/Slb                  | 1            | E    |      |   |      |
|     | 1005            | Mottled Pet                | 1            | N    |      |   |      |
|     | 1006            | WRSP                       | 1            | ☉    |      |   |      |
|     | 1013            | BFB                        | 1            | SE   |      |   |      |
| CC  | 1014            | Sooty Tern                 | 2            |      |      | coll. RSE, skiff  |      |
| C   | 1015            | " "                        | 1            |      |      | coll RSC  |      |
| C   | 1020            | " "                        | 1            |      |      | coll RSC  |      |
| CC  | 1022            | " "                        | 2            |      |      | coll RSC  |      |
|     |                 | " "                        | 1            |      |      | " "   |      |
| C   | 1025            | " "                        | 1            |      |      | " "   |      |
| CC  | 1027            | " "                        | 2            |      |      | " "   |      |
| CC  | 1027            | " "                        | 2            |      |      | " "   |      |
| CCC | 1038            | " "                        | 20 ± 5       |      |      | 3 coll. RSC - skiff   |      |
| CC  | 1045            | " "                        | 15           |      |      | 5 coll. RSC   |      |
|     | <del>1100</del> | <del>WRSP</del>            | <del>7</del> |      |      | <del>coll RSC</del>   |      |
| C   | 1101            | Sooty Tern                 | 1            |      |      | RSC   |      |
| C   | 1103            | Harcourt's                 | 1            |      |      | " "   |      |
| C   | 1112            | <del>WRSP</del><br>Leach's | 1            |      |      | torsoff   |      |
|     | 1130            | Wedgetail                  | 1            | SE   |      | dark phase  |      |

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SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
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DATE 9 May 66  
Pg. # 2

Noon position: 0-59N; 175-50W

|       | time | species                | #  | dir. | hgt. | remarks                             | loc. |
|-------|------|------------------------|----|------|------|-------------------------------------|------|
|       | 1134 | WRSP                   | 1  | 0    |      |                                     |      |
|       | 1140 | Sooty Tern             | 2  | E    |      |                                     |      |
|       | 1157 | " "                    | 4  | W    |      |                                     |      |
|       | 1211 | WRSP                   | 1  | E    |      |                                     |      |
|       | 1212 | Sooty Tern             | 1  | W    |      |                                     |      |
|       | 1230 | WRSP                   | 4  | E    |      | possibly Harcourts                  |      |
|       | 1231 | Sooty Tern             | 2  | W    |      | adult                               |      |
| C     | 1236 | " "                    | 1  |      |      | Ad                                  |      |
|       | 1240 | " "                    | 1  | W    |      | Ad 793-45604 - Banded Island Feb 65 |      |
|       | 1304 | B-F Booby              | 1  | E    |      | adult                               |      |
|       | 1330 | WRSP                   | 1  | ⊙    |      |                                     |      |
|       | 1332 | "                      | 2  | ⊙    |      |                                     |      |
|       | 1335 | "                      | 2  | ⊙    |      |                                     |      |
| C     | 1340 | Sooty Tern             | 2  | W    |      | Ad - coll                           |      |
| TF    | 1345 | " "                    | 7  | N    |      | adults                              |      |
|       | 1353 | " "                    | 3  | S    |      |                                     |      |
| C     | 1356 | " "                    | 1  |      |      | adult collected by MF               |      |
|       | 1357 |                        |    |      |      |                                     |      |
| C     | 1406 | Sooty Tern             | 4  | E    |      | skiff out E J. Tordoff              |      |
|       | 1413 | " "                    | 2  | ⊙    |      | 1 collected by Lewis Ad             |      |
| C     | 1425 | Sooty Tern             | 1  | W    |      | Ad Tordoff                          |      |
| CC DF | 1430 | Sooty tern             | 35 |      |      | Dispersion flock Tordoff            |      |
|       |      | B.F.B.                 | 1  |      |      | Ad                                  |      |
|       |      | Frigate sp             | 1  |      |      |                                     |      |
| C     |      | Wedgetail              | 2  |      |      | Dark phase coll Tordoff             |      |
|       | 1506 | Sooty tern             | 2  | SW   |      | Ad                                  |      |
| C     | 1530 | Sooty Tern             | 2  | ⊙    |      | Crossin                             |      |
| CC    | 1503 | W.R.S.P<br>(Harcourts) | 3  |      |      | sitting on water                    |      |
|       | 1550 | B.F.B.                 | 1  | S    |      | Ad                                  |      |
|       | 1600 | BFB                    | 2  | ⊙    |      | "                                   |      |
|       | 1625 |                        |    |      |      | skiff in ..... crossin              |      |
|       | 1720 | WRSP                   | 1  | NE   |      | probobliey harcourts                |      |
|       | 1722 | "                      | 1  | NE   |      |                                     |      |
|       | 1724 | "                      | 1  | "    |      |                                     |      |
|       | 1725 | Sooty tern             | 2  | SW   |      | adult                               |      |
|       | 1735 | Wedgetail              | 2  | NE   |      | dark phase                          |      |
|       | 1740 | Sooty Slb Shear        | 1  | NE   |      |                                     |      |
|       | 1750 | WRSP                   | 1  | E    |      |                                     |      |
|       | 1750 | Sooty tern             | 1  | E    |      | adult                               |      |
|       | 1758 | WRSP                   | 2  | SE   |      |                                     |      |

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DATE 9 May, 66  
Pg. # 3

| time | species | # | dir. | hgt. | remarks          | loc. |
|------|---------|---|------|------|------------------|------|
| 1828 | WRSP    | 1 | ⊙    |      |                  |      |
| 1844 |         |   |      |      | Sunset off watch |      |

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SMITHSONIAN INSTITUTION  
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AT SEA DAILY LOG -- E

DATE 10 May  
Pg. # 1

F. J. R.



Noon Position: 02-06N; 172-35W

| time      | species          | #   | dir. | hgt. | remarks  | loc. |
|-----------|------------------|-----|------|------|--|------|
| 0625      |                  |     |      |      | open observations sunrise  |      |
| 0646      | WRSP             | 1   | N    |      |  |      |
| 0651      | Sooty Tern       | 1   | ☉    |      | Ad } Feeding - fish jumping - small<br>Dart phase }  |      |
|           | wedgetail        | 2   | ☉    |      |  |      |
| 0708      | BFB              | 1   | ☉    |      | Following Ship Ad  |      |
| 0721      | Pterodroma sp.   | 1   | ☉    |      | Small, white bellie - gray wing lining, black subma  |      |
| 0745      | Sooty Tern       | 1   | N    |      | calling  |      |
| 0750      | WRSP             | 2   | ☉    |      |  |      |
| FF 0820   | Sooty Tern       | 5   |      |      | ads feeding lightly  |      |
| FF 0830   | "                | 8   |      |      | " " "  |      |
| FF 0844   | WRSP             | 1   | E    |      | very bouncy flight   |      |
| 0900      | Sooty/Slender    | 1   | N    |      | could not see underwings   |      |
| Feed 0902 | Sooty Tern       | 5   |      |      | fish jumping   |      |
| SF 0904   | Sooty Tern       | 7   |      |      |  |      |
| 0915      |                  |     |      |      | ca. 15 dolphins, prob. <i>stenellids</i> , black, ca. 12' high dorsal fin → $\Lambda$ $\Lambda$ Behavior notes in Bakamba book |      |
| 0920      | Frigate sp       | 1   |      |      | Ad ♀   |      |
| 0933      | Sooty Tern       | 3   | ☉    |      | Ad.  |      |
| 0938      | Sooty Tern       | 1   | SW   |      | Ad.  |      |
| 1007      | Sooty/Slb. Shear | 1   | N    |      |  |      |
| FF 1015   | Sooty Tern       | 100 | 125  |      | ad. } feeding over tuna (at 07:15) (0-55)<br>dark }<br>imm. }  |      |
|           | wedgetail        | 8   | 12   |      |  |      |
|           | Frigate          | 2   |      |      |  |      |
| FF 1050   | Sooty tern       | 14  |      |      | ad } - prob from above flock   |      |
|           | wedgetail        | 6   |      |      | dark }   |      |
| 1057      | WRSP             | 1   | ☉    |      |  |      |
| TF 1110   | Sooty tern       | 23  | NE   |      | ad.  |      |
| 1116      | " "              | 1   | ENE  |      |  |      |
| 1127      | WRSP             | 1   | ☉    |      |  |      |
| C 1137    | Leach's          | 1   | ☉    |      | coll. by JPT   |      |
| 1145      | Shear/Pot        | 1   | ☉    |      |  |      |
| 1155      | Sooty Tern       | 4   | NW   |      |  |      |
| 1225      |                  |     |      |      | large water creature; narrow <sup>tall</sup> recurved dorsal fin, broad base;  |      |
| 1235      |                  |     |      |      | one only, circling,  |      |
| 1302      | Frigate          | 1   | E    |      | "whale", moving NE, large blow, prob. sperm whale<br>adult   |      |



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AT SEA DAILY LOG -- E

DATE 10 May 1966  
Pg. # 2



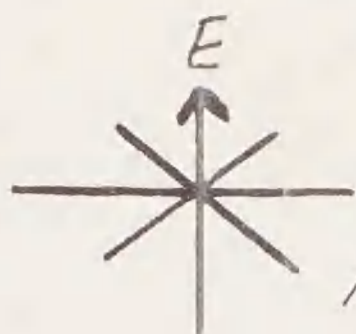
Noon Position: 02-06 N; 172-35 W

| time    | species       | #  | dir. | hgt. | remarks  | loc.                 |
|---------|---------------|----|------|------|--|----------------------|
| 1313    | Sooty/slender | 1  | W    |      |  |                      |
| 1325    | WRSP          | 1  | W    |      | possibly Harcourt's  |                      |
| 1330    |               |    |      |      | big whale came to surface<br>50 yards from ship, head + blow hole<br>out of water                            |                      |
| 1415    |               |    |      |      | 30 porpoise (spinner-type)   |                      |
| FF 1445 | Sooty tern    | 22 |      |      | } Feeding Porpoise also jumping<br>Dart's } Feeding Porpoise also jumping<br>} Feeding Porpoise also jumping | beneath floes        |
|         | Wedgetail     | 2  |      |      |  |                      |
| 1455    | Sooty Tern    | 1  | SE   |      | ad.  |                      |
| 1501    | " "           | 1  | S    |      | ad.  |                      |
| 1511    | Wedgetail     | 1  | W    |      | dark   |                      |
| 1523    | " "           | 2  | W/E  |      | dark   |                      |
| 1525    | sooty T.      | 1  | W    |      | ad   |                      |
| 1655    | BFB           | 1  | W    |      | ad   | 1645 Sperm whales 4+ |
| 1832    |               |    |      |      | sunset - closed observations.  |                      |


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7-28-64

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

DATE 11 May 1966  
Pg. # 1



Noon position 03-19 N; 169-15 W

|      | time | species           | #      | dir. | hgt. | remarks   | loc.              |
|------|------|-------------------|--------|------|------|---|-------------------|
|      | 0610 |                   |        |      |      | sunrise - begin observations  |                   |
|      | 0619 | WRSP              | 1      | W    |      |   |                   |
|      | 0719 | "                 | 1      | ⊙    |      |   |                   |
|      | 0745 | WTTB              | 2      | ⊙    |      |   |                   |
|      | 0805 | Sooty Tern        | 3      | ⊙    |      | Following ship in rain  |                   |
|      | 0807 | BFB               | 1      | ⊙    |      | Feeding at edge of rain Ad  |                   |
|      | 0810 | WRSP              | 3      | E    |      | Ad Following ship   |                   |
|      | 0817 | WRSP              | 1      | ⊙    |      | Edge of rain very broad white rump  |                   |
|      | 0820 | Sooty/Clb         | 1      | N    |      | Sitting on H <sub>2</sub> O   |                   |
|      | 0820 | Bulwers Pet       | 1      | E    |      | } in rain   |                   |
|      | 0839 | WRSP              | 1      | SE   |      |   |                   |
| FF   | 0847 | Sooty Tern        | 70±500 |      |      | Feeding   |                   |
|      | 0902 | Pterodroma sp     | 1      | N    |      | Mottled on the necks, Dark bellie   |                   |
|      | 0918 | Wedgetail         | 1      | NE   |      |   |                   |
|      | 0926 | Shear-Pet         | 1      | NE   |      | dark phase  |                   |
| FF   | 0935 | Sooty Tern        | 5      |      |      | light above, (like WNP or FFP) with white belly, almost no border on underwing, low, Newell's-like flight, alternately flapping                 |                   |
|      |      | Wedgetail         | 5      |      |      | ? gliding   |                   |
|      |      | 2. Frigate        | 3      |      |      |   |                   |
| DWC  | 1005 | Bulwers Pet       | 1      |      |      | ad, 1 coll. T Lewis   |                   |
| TF   | 1025 | Sooty Tern        | 23     |      |      | 4 dark, 1 light phase   | feeding over fish |
|      |      | Frigate sp        | 2      |      |      |   |                   |
|      | 1030 | Sooty Tern        | 3      | E    |      | Ad 1 ad ♂, 1 imm, 1 not determined  |                   |
|      | 1037 | " "               | 2      | S    |      | Ad  |                   |
|      | 1125 | Wedgetail         | 2      | ⊙    |      | dk. phase   |                   |
|      | 1255 | Bulwer's          | 1      | E    |      |   |                   |
|      |      | WRSP              | 1      | E    |      |   |                   |
|      | 1314 | Frigate sp        | 2      | ⊙    |      | at least 1 ad, other?   |                   |
| SF   | 1320 | "                 | 1      | ⊙    |      | ad ♀  |                   |
|      |      | Sooty Tern        | 22     |      |      | 2 imm, rest ad.   |                   |
|      |      | Wedgetail         | 1      |      |      | dark  |                   |
|      | 1325 |                   |        | W    |      | small whale - brown, low dorsal fin  prob. Kogia breviceps |                   |
|      | 1417 | Bulwer's Pet      | 1      | E    |      | together  |                   |
|      |      | And. Shear        | 1      | E    |      |   |                   |
| FF   | 1440 | Frigate sp        | 5      |      |      | 2 ♀ 3?  |                   |
| CC   |      | Sooty Tern        | 25     |      |      | 20 Ad 5 imm F. Smith  | 763-98200 band    |
|      |      | Phoenix IS/Th Pet | 1      |      |      |   |                   |
|      | 1507 | Frigate sp.       | 5      |      |      |   |                   |
| F.F. | 1515 | Sooty Tern        | 17     |      |      |   |                   |
|      |      | Frigate sp        | 1      |      |      |   |                   |
|      |      | Wedgetail         | 1      |      |      |   |                   |
| FF   | 1517 | Frigate sp        | 1      |      |      |   |                   |
|      |      | Sooty Tern        | 100±20 |      |      |   |                   |
|      |      | Shear/Pet         | 1      |      |      |   |                   |

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

DATE 1  
Pg. # 12 May 1966



Noon position 04-31 N 165-55 W

| time    | species        | #  | dir. | hgt. | remarks                                   | loc.                 |
|---------|----------------|----|------|------|---|----------------------|
| 0555    |                |    |      |      | Sunrise begin observation                 |                      |
| 0604    |                |    |      |      | Porpoise one (large 10-12 ft.) dorsal fin | upper body very dark |
| 0616    | Wedgetail      | 1  | NW   |      | Darwin Phase                              |                      |
| 0628    |                |    |      |      | 1 porpoise                                |                      |
| 0630    | Bulwer's Pet   | 1  | E    |      |   |                      |
| 0637    | " "            | 1  | NE   |      |   |                      |
| 0646    | Sooty/Slb      | 1  | N    |      |   |                      |
| 0648    | Wedgetail      | 1  | ∞    |      | Darwin phase on H <sub>2</sub> O          |                      |
| 0700    | "              | 1  | E    |      | Dark                                      |                      |
| 0710    | WTTB           | 1  | ∞    |      | Following ship                            |                      |
| 0720    | Frigatebird    | 2  | SE   |      | up high                                   |                      |
| 0742    | Sooty Tern     | 1  | SW   |      | ad.                                       |                      |
| 0801    | Sooty/slb.     | 1  | N    |      |   |                      |
| 0815    | Bulwer's Pet.  | 1  | ∞    |      |   |                      |
| 0832    | "              | 1  | ∞    |      |   |                      |
| 0833    | Sooty Tern     | 4  | W    |      | ad.                                       |                      |
| 0838    | " "            | 1  | W    |      | ad.                                       |                      |
| FF 0840 | " "            | 11 | ∞    |      | ad. feeding (11 Total, all adults.)       |                      |
|         | Bulwer's pet   | 1  | ∞    |      |   |                      |
| 0850    | " "            | 1  | ∞    |      |   |                      |
| 0850    | Shearwater sp. | 2  | NW   |      | dark birds.                               |                      |
| 0858    | WRS P          | 1  | S    |      |   |                      |
| 0859    | Sooty T.       | 3  | S    |      | ad. 1 ad, 2 imm                           |                      |
| 0903    | Wedgetail      | 1  | N    |      | dark                                      |                      |
| 0917    | Sooty T.       | 1  | S    |      | ad  |                      |
| C 0921  | Bulwer's P.    | 1  | ∞    |      | coll BAH                                  |                      |
| 0934    | "              | 1  | ∞    |      |   |                      |
| 0935    |                |    |      |      | rain squalls to NE & SE                   |                      |
| 0955    |                |    |      |      | ship enters rain squall.                  |                      |
| 1022    | Bulwer's Pet   | 1  | ∞    |      |   |                      |
| 1028    | Sooty Tern     | 2  | E    |      |   |                      |
| C 1037  | Bulwer's Pet   | 1  | E    |      | Hoff                                      |                      |
| 1042    | " "            | 1  | ∞    |      |   |                      |
| 1052    | Shear/Pet      | 1  | ∞    |      | dark                                      |                      |
| 1130    | W.R.S.P.       | 1  | ∞    |      | probably Harcourts                        |                      |
| 1135    | Bulwer's Pet   | 1  | ∞    |      |   |                      |
| 1140    | Kermadec Pet   | 1  | ∞    |      | hypoleuca type                            |                      |
| 1145    | SPTerodromus   | 1  | S    |      |   |                      |
| 1153    | Bulwer's       | 1  | N    |      |   |                      |
| 1159    | Mottled Pet    | 1  | N    |      |   |                      |
| 1159    | Bulwer's       | 1  | NE   |      | dark                                      |                      |
| 1209    | Wedgetail      | 1  | N    |      | sat on water, coll. JPT                   |                      |
| C 1212  | Bulwer's       | 1  | E    |      | dark phase, molting primaries             |                      |
| 1219    | Wedgetail      | 1  | ∞    |      |   |                      |

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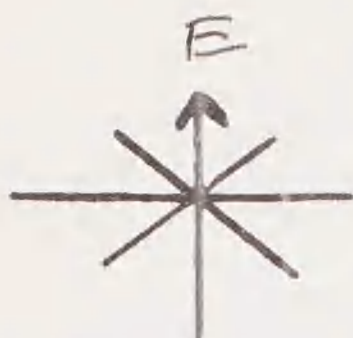
DATE 2  
Pg. # 12 May 66

Noon position: 04-31N; 165-55W

|    | time | species            | #  | dir. | hgt. | remarks  | loc. |
|----|------|--------------------|----|------|------|--|------|
| C  | 1237 | Bulwers            | 1  | ⊙    |      | coll. DPT  |      |
|    | 1246 | "                  | 1  | N    |      |  |      |
|    | 1250 | "                  | 1  | NE   |      |  |      |
|    | 1318 | "                  | 1  | SE   |      |  |      |
|    | 1320 | "                  | 1  | SE   |      |  |      |
|    | 1343 | "                  | 1  | SE   |      |  |      |
|    | 1345 | "                  | 2  |      |      | sitting on H <sub>2</sub> O, eating a large squid, approx 3 long |      |
|    | 1350 | "                  | 1  | ⊙    |      |  |      |
|    | 1351 | WTTB               | 1  | E    |      |  |      |
|    | 1356 | Bulwers Pet        | 1  | S    |      |  |      |
|    | 1400 | Sooty / Sanderbill | 1  | SE   |      |  |      |
|    | 1429 | Wedgetail          | 2  | SE   |      |  |      |
|    |      | Bulwer's Pet       | 1  |      |      |  |      |
|    | 1441 | Shear / Pet        | 1  | SW   |      |  |      |
|    | 1459 | Bulwers Pet        | 1  |      |      | sitting on water   |      |
|    | 1521 | " "                | 1  | W    |      |  |      |
| C  | 1533 | " "                | 1  |      |      | collected by Lewis, plankton in H <sub>2</sub> O                 |      |
| FF | 1548 | Sooty Tern         | 55 | S    |      |  |      |
|    |      | Bulwers Pet        | 2  |      |      | immature, rest adults  |      |
|    | 1602 | Tropic bird RT     | 1  | ⊙    |      | pink phase coll. by D. Husted                                    |      |
|    | 1622 | Bulwers pet        | 3  | ⊙    |      |  |      |
|    |      | Pterodroma         | 1  | ⊙    |      | probably mottled petrel  |      |
|    | 1647 | Fairy Tern         | 1  | E    |      |  |      |
|    | 1653 | Bulwers            | 1  | S    |      |  |      |
|    | 1658 | Bulwers            | 1  | E    |      |  |      |
|    | 1708 | Mottled petrel     | 1  | NW   |      |  |      |
| TF | 1710 | sooty tern         | 6  | W    |      | 2 adult, 4 imm.  |      |
|    | 1715 | Bulwers pet.       | 1  | ⊙    |      |  |      |
|    | 1729 | " "                | 1  | SE   |      |  |      |
|    | 1801 | Frigate sp.        | 1  | N    |      | ♀ greater according to D. Husted                                 |      |
|    |      | RTTB               | 1  | ⊙    |      |  |      |
|    | 1804 | Juan Fern. Petrel  | 1  | N    |      | white neck   |      |
|    | 1808 |                    |    |      |      | close observations sunset  |      |

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



DATE 13 May 1966  
Pg. # 1

Noon Position: 05-43 N; 162-31 W

| time | species                                 | # | dir. | hgt. | remarks                      | loc. |
|------|---|---|------|------|------------------------------|------|
| 0640 |   |   |      |      | Sunrise - Begin observations |      |
| 0658 | wedgetails                              | 2 | E    |      | dark phase.                  |      |
| 0706 | "                                       | 1 | E    |      | " "                          |      |
| 0711 | "                                       | 2 | E    |      | " "                          |      |
| 0715 | "                                       | 1 | E    |      | " "                          |      |
| 0718 | Sooty tern                              | 1 | E    |      | ad.                          |      |
| 0720 | RFB                                     | 2 | E    |      | int. phase, ad's.            |      |
| 0720 | Wedgetail                               | 1 | E    |      | dark phase.                  |      |
| 0729 | Sooty Tern                              | 1 | W    |      | Ad                           |      |
| 0729 | RFB                                     | 4 | E    |      | Int. phase                   |      |
| 0732 | Sooty Tern                              | 2 | SW   |      | Ad.                          |      |
| 0732 | Wedgetail                               | 1 | E    |      | dk. phase                    |      |
| 0734 | <del>Bulwer's pet</del><br>Bulwer's pet | 1 | E    |      |                              |      |
| 0750 | Sooty Tern                              | 4 | W    |      | Ad                           |      |
| 0755 | Bulwer's pet                            | 1 | E    |      |                              |      |
| 0758 | Sooty Tern                              | 1 | W    |      | Ad                           |      |
| 0759 | Wedgetail                               | 1 | E    |      | DK phase                     |      |
| 0800 | RFB                                     | 2 | E    |      | Int. phase                   |      |
| 0800 | Bulwer's pet                            | 1 | W    |      |                              |      |
| 0805 | Bulwer's pet                            | 1 | E    |      |                              |      |
| 0805 | RFB                                     | 1 | W    |      | dk. phase                    |      |
| 0811 | Bulwers Pet                             | 1 | S    |      |                              |      |
| 0815 |   |   |      |      | rain squalls TO N, E & S     |      |
| 0829 |   |   |      |      | rain squalls hit             |      |
| 0832 | Bulwer's pet                            | 1 | ⊙    |      | rain squalls stop            |      |
| 0840 |   |   |      |      |                              |      |
| 0842 | Sooty T                                 | 3 | ⊙    |      | 2 adult, 1 imm               |      |
| 0842 | "                                       | 3 | ⊙    |      | 3 ad                         |      |
| 0842 | RFB                                     | 1 | ⊙    |      | S.A., interm. phase          |      |
| 0845 | Bulwers                                 | 1 | S    |      |                              |      |
| 0852 | "                                       | 1 | E    |      |                              |      |
| 0854 | RFB                                     | 1 | ⊙    |      | subadult intermediate        |      |
| 0858 | "                                       | 1 | ⊙    |      | adult intermediate           |      |
| 0858 | Bulwers                                 | 1 | W    |      |                              |      |
| 0910 | RFB                                     | 1 | W    |      | SA intermediate              |      |
| 0914 | Bulwers                                 | 1 | W    |      |                              |      |
| 0917 | Phoenix I or<br>Tahiti Petrel           | 2 | W    |      |                              |      |
| 0920 |   |   |      |      | ship enters rain             |      |
| 0926 | Sooty T.                                | 1 | S    |      | ad                           |      |
| 0926 |   |   |      |      | RAIN STOPS                   |      |

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

DATE 13 May 1966  
Pg. # 2

Noon Position: 05-42N; 162-31W

| time    | species      | #   | dir. | hgt. | remarks                                    | loc.          |
|---------|--------------|-----|------|------|--|---------------|
| 0926    | RFB          | 1   |      |      | imm  |               |
| 0930    | Wedgetail    | 2   | sea  |      | dark                                       |               |
| 0930    | Bulwers      | 1   | sea  |      |  |               |
| 0935    | "            | 1   | E    |      |  |               |
| 0935    | RFB          | 1   | sea  |      | adult intermediate                         |               |
| 0938    | "            | 2   | sea  |      | intermediate subadult                      |               |
| 0938    | Sooty Tern   | 1   | SE   |      | adult.                                     |               |
| 0940    | Bulwers      | 1   | sea  |      |  |               |
| 0940    | Sooty Tern   | 1   | SE   |      | adult.                                     |               |
| 0942    | RFB          | 2   | sea  |      | intermediate SA                            |               |
| 0943    | Sooty Tern   | 3   | SE   |      | ads  |               |
| 0945    | Bulwers      | 1   |      |      |  |               |
| 0947    | RFB          | 3   | sea  |      | sub-adult.                                 |               |
| 0950    | Fairy Tern   | 1   | sea  |      |  |               |
| 0952    | RFB          | 1   | "    |      | light phase adult                          |               |
| 0955    |              |     |      |      |  |               |
| 1002    | Sooty Tern   | 1   | NE   |      | ad. rainsquall approaching                 |               |
| 1003    | Bulwers      | 1   | SE   |      |  |               |
| 1004    | Sooty Tern   | 3   | S    |      |  |               |
| FF 1004 | Fairy Tern   | 35  | S    | FF   | moving with unannus rain squall            |               |
| 1006    | Bulwers      | 1   | 0    |      |  |               |
| 1010    | RFB          | 2   | NE   |      | Dark Phase Ad                              |               |
| 1011    | Bulwers' Pet | 1   | S    |      |  |               |
| 1012    | RFB          | 1   | 0    |      | Sub Ad Dark Phase                          |               |
| 1016    | Bulwers      | 1   | SE   |      |  |               |
| 1018    | "            | 1   | SE   |      |  |               |
| 1018    | RFB          | 1   | S    |      | way out                                    |               |
| 1020    |              |     |      |      | passing thru huge storm (squall)           |               |
| 1021    | Bulwers      | 2   | SE   |      |  |               |
| 1021    | Hemadcock    | 1   | N    |      |  |               |
| 1024    | Bulwers      | 1   |      |      |  |               |
| 1028    | "            | 1   | 0    |      |  |               |
| 1030    |              |     |      |      | still                                      |               |
| FF 1030 | Sooty Shear  | 1   | NE   |      |  |               |
| FF 1050 | Sooty Tern   | 130 | ±15  |      | feeding                                    |               |
|         | Frigate      | 3   |      |      |  |               |
|         | Shear-Pet    | 50  | ±10  |      | mostly Bulwers? Wedgetail probably         |               |
| 1050    | Bulwers      | 1   | 0    |      | out too far for positive estimate on other |               |
| 1056    | Sooty/Slb    | 1   | NE   |      |  | Still in Rain |
| 1100    | " "          | 1   | NE   |      |  |               |
| 1100    | Sooty Tern   | 2   | E    |      | Ad   |               |
| 1105    | Bulwers      | 1   | 0    |      |  |               |
| 1112    | Sooty Tern   | 1   | E    |      | Ad   |               |
| 1115    | Bulwers      | 1   | SE   |      |  |               |
| 1117    | Fairy Tern   | 1   | E    |      |  |               |

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



Moon Position: 05-42N; 162-31W

DATE 13 May  
Pg. # 3

|    | time | species           | #        | dir. | hgt. | remarks   | loc. |
|----|------|-------------------|----------|------|------|---|------|
| TF | 1122 | Frigate sp        | 1        | E    |      | Translun E  | Rain |
|    |      | Fairy Tern        | 1        |      |      |   |      |
|    |      | Sooty Tern        | 13       |      |      |   |      |
|    | 1123 | Sooty Tern        | 3        | E    |      | Ad Translun   |      |
|    | 1127 | RFB               | 2        |      |      | Ad. sub-adult   |      |
|    | 1130 | Bulwers           | 1        | SE   |      |   |      |
|    | 1131 | RFB               | 3        | NW   |      | 1 sub-adult, 2 too far to determine   |      |
|    | 1135 | WBSP              | 1        | SE   |      |   |      |
|    | 1135 | Bulwers           | 1        | S    |      |   |      |
|    | 1136 | wedgetail         | 1        | W    |      | dark phase  |      |
|    | 1140 | Storm Pet         | 1        | W    |      | rump not visible  |      |
|    | 1143 | Fairy Tern        | 1        | SE   |      |   |      |
| FF | 1145 | Sooty Tern        | 45+      |      |      | mostly Ad.  |      |
|    |      | C.N. Tern         | 225+     |      |      | 150± light 50± int } Feeding dish (large & small)<br>many Boobies sitting on H <sub>2</sub> O |      |
|    |      | RFB               | 200      |      |      |   |      |
|    |      | B. Booby          | 6        |      |      |   |      |
|    |      | Wedgetail         | 10+      |      |      |   |      |
|    |      | Fairy Tern        | 35+      |      |      |   |      |
|    |      | G. Frigate        | 2        |      |      | Ad ♂  |      |
|    | 1206 | R.F.B.            | 2        | SE   |      | Ad light  |      |
|    | 1214 | Sooty/Slender     | 1        | N    |      |   |      |
| FF | 1215 | RFB               | 15       |      |      | light, adults   |      |
|    |      | CNT               | 35       |      |      |   |      |
|    |      | Fairy Tern        | 3        |      |      |   |      |
|    |      | Wedgetail         | 8        |      |      | dark phase  |      |
|    | 1218 | "                 | 2        | S    |      | " "   |      |
|    | 1225 | Sooty/Slenderbill | 1        | N    |      |   |      |
|    | 1228 | RFB Booby         | 1        | N    |      | adult-light   |      |
| FF | 1230 | RFB               | 65+      |      |      | Ad Light  |      |
|    |      | C.N. Tern         | 45+      |      |      |   |      |
|    |      | Wedgetail         | 9        |      |      | 8 dark 1 light  |      |
| FF | 1230 | Sooty/Slenderbill | 400 ± 50 | N    |      |   |      |
|    | 1231 | CNT               | 300 ± 50 |      |      |   |      |
|    |      | Sooty Tern        | 400 ± 50 |      |      |   |      |
|    |      | Fairy Tern        | 10 ± 5   |      |      |   |      |
|    |      | R-FB              | 20       |      |      |   |      |
|    |      | Wedgetail         | 20       |      |      |   |      |
|    |      | Frigates          | 2        |      |      |   |      |
| JF | 1232 | R-FB              | 6        | NB   |      | moving toward previous flock. light phase.  |      |
| JF | 1237 | Frigate           | 1        | NB   |      |   |      |
|    |      | R-FB              | 5        |      |      | light.  |      |
|    |      | Wedgetail         | 4        |      |      | dark phase  |      |

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

DATE 13 May 1966  
Pg. # 4



Noon Position 05-42N; 162-31W

|    | time | species           | #        | dir. | hgt. | remarks                             | loc. |
|----|------|-------------------|----------|------|------|-------------------------------------|------|
| FF | 1244 | C.N. Tern         | 67       |      |      |                                     | Rain |
|    |      | RFB               | 12       |      |      | 7d light                            |      |
|    |      | Fairy Tern        | 3        |      |      |                                     |      |
|    |      | Wedgetail         | 7        |      |      | dark                                |      |
|    | 1246 | R-f B             | 3        | N    |      | intermediate phase                  |      |
|    | 1249 | Sooty/Slenderbill | 1        | N    |      |                                     |      |
|    | 1251 | Sooty Tern        | 2        | E    |      | adults                              |      |
| FF | 1252 | R-f B             | 20       |      |      | 14 light & inter                    |      |
|    |      | CNT<br>Wedgetail  | 150<br>3 |      |      | dark phase                          |      |
|    | 1253 | R-f B             | 2        | E    |      | intermediate phase                  |      |
|    | 1258 | Sooty Tern        | 4        | E    |      | adult                               |      |
|    | 1300 | CNT               | 2        | E    |      |                                     |      |
|    | 1304 | R-f B             | 2        | NE   |      | intermediate                        |      |
|    | 1307 | "                 | 3        | ⊙    |      | light                               |      |
|    | 1310 | "                 | 2        |      |      | subadult                            |      |
|    |      | "                 | 1        |      |      | adult                               |      |
|    | 1311 | "                 | 1        |      |      | adult                               |      |
|    | 1312 | Bulwer's Pet      | 1        |      |      | following ship, light phase, adult  |      |
|    | 1313 | R-F B             | 1        | N    |      |                                     |      |
|    | 1315 | Sooty/Slb         | 3        | ⊙    |      | adult; light phase                  |      |
|    | 316  |                   | 1        | N    |      |                                     |      |
|    | 1318 | Sooty Tern        | 1        | ⊙    |      | 1 whale ca. 20 ft                   |      |
|    | 1320 | RFB               | 2        | E    |      | Ad light phase                      |      |
|    | 1321 | Sooty/Slb         | 1        | N    |      |                                     |      |
|    | 1321 | RFB               | 1        |      |      |                                     |      |
|    | 1322 | Sooty Tern        | 1        | E    |      | intermediate phase<br>adult         |      |
|    | 1324 | R-F B             | 1        | ⊙    |      |                                     |      |
|    |      | Sooty Tern        | 1        | ⊙    |      |                                     |      |
|    | 1326 | Sooty Tern        | 1        | NW   |      |                                     |      |
|    | 1327 | CNT               | 4        | N    |      |                                     |      |
|    | 1328 | RFB               | 1        |      |      | light phase: following ship         |      |
|    | 1329 | "                 | 2        |      |      | light phase                         |      |
|    | 1330 | RFB               | 7        |      |      | 3 light adults, 4 immature, in rain |      |
|    | 1331 | Sooty Tern        | 1        | W    |      | adult, in rain                      |      |
|    | 1332 | " "               | 3        | ⊙    |      | adults, in rain                     |      |
|    | 1333 | Fairy Tern        | 1        | ⊙    |      | in rain                             |      |
|    | 1333 | Hair NT           | 3        | NE   |      |                                     |      |
|    | 1334 | RFB               | 2        | ⊙    |      | light phase                         |      |
|    |      | Sooty Tern        | 1        |      |      | adult                               |      |

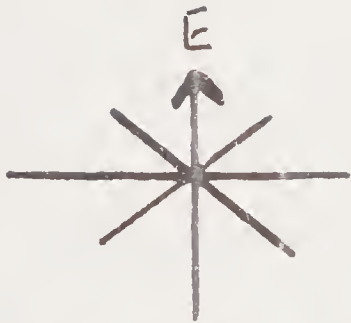
Gray-brown above  
Light below dorsal fin about 1/4 width of body



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SMITHSONIAN INSTITUTION  
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DATE 13 May 1966  
Pg. # 5



Noon Position: 05-42 N 162-31 W

| time | species     | # | dir. | hgt. | remarks                         | loc.           |
|------|-------------|---|------|------|---------------------------------|----------------|
| 1334 | Shear / Pet | 1 | N    |      |                                 | <u>Palmyra</u> |
| 1335 | Sooty Tern  | 1 | E    |      | adult                           |                |
| 1335 | Frigate     | 2 |      |      | ♀ ad                            |                |
| 1857 |             |   |      |      | island sighted                  |                |
| 1338 |             |   |      |      | closed observations<br>Palmyra. |                |

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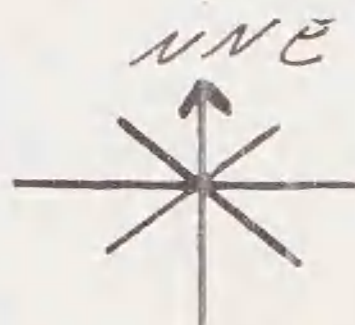
Moon Position: Palmyra Is

DATE 17 May, 1966  
Pg. # 1

| time    | species              | #                  | dir. | hgt. | remarks   | loc. |
|---------|----------------------|--------------------|------|------|---|------|
| 1300    |                      |                    |      |      | Begin observations 1 mi off Palmyra Island (east shore) |      |
| 1300    | Brown B              | 1                  | SE   |      | ad.   |      |
| 1305    | Fairy Tern           | 3                  | SE   |      |   |      |
| 1308    | RFB                  | 2                  | SE   |      | sub ad. <del>intermediate</del>                         |      |
| 1310    | Fairy Tern           | 3                  | ☉    |      |   |      |
| 1310    | H. Noddy             | 1                  | SE   |      |   |      |
| 1311    | Brown B              | 3                  | ☉    |      |   |      |
| 1311    | RFB                  | 4                  | ☉    |      | ad<br>intermediate what? OK!                            |      |
| 1311    | Fairy Tern           | 10 <sup>±</sup> 2  | ☉    |      |   |      |
| 1311    | Common N.            | 1                  | ☉    |      |   |      |
| 1313    | H. Noddy             | 8                  | SE   |      |   |      |
| 1313    | C. Noddy             | 1                  | SE   |      |   |      |
| 1314    | "                    | 1                  | E    |      |   |      |
| 1314    | "                    | 1                  | NE   |      |   |      |
| 1314    | H. Noddy             | 1                  | E    |      |   |      |
| 1315    | C. Noddy             | 1                  | NE   |      |   |      |
| 1317    | Fairy Tern           | 1                  | NE   |      |   |      |
| 1319    | H. noddy             | 3                  | "    |      |   |      |
| 1319    | Brown Booby          | 1                  | E    |      |   |      |
| 1321    | RFB                  | 2                  | E    |      |   |      |
| FF 1324 | G. Frig              | 3                  |      |      | ad ♀ chasing RFB & B/B                                  |      |
|         | Brown B.             | 2                  |      |      | ad  |      |
|         | Red FB               | 3                  |      |      | interm. phase   |      |
|         | Fairy T              | 2                  |      |      |   |      |
| FF 1325 | Fairy T.             | 3                  |      |      |   |      |
|         | Noddy sp.            | 25 <sup>±</sup> 10 |      |      | 75 <sup>±</sup> 10                                      |      |
|         | <del>Fairy</del> RFB | 20                 |      |      | 19 interm, 1 light                                      |      |
|         | Brown B.             | 4                  |      |      |   |      |
| 1340    | Phoenix Is           | 1                  | E    |      |   |      |
|         | Tahiti Petrel        | 1                  | E    |      |   |      |
| 1341    | B.T. Curlew          | 11                 | N    |      |   |      |
| 1347    | Bulweria             | 1                  | ☉    |      |   |      |
| 1349    | "                    | 1                  | ☉    |      |   |      |
| 1351    | Brown B              | 1                  | N    |      | ad  |      |
| 1355    | "                    | 1                  | NE   |      | ad  |      |
| 1358    | Fairy Tern           | 1                  | NE   |      |   |      |
| 1412    | RFB                  | 1                  | NE   |      | ad inter. phase   |      |
| 1413    | "                    | 1                  | E    |      | ad. bb phase  |      |
| 1413    | Brown Booby          | 1                  | ☉    |      | ad.   |      |
| 1417    | Sooty Tern           | 1                  | NE   |      | ad.   |      |
| 1417    | RFB                  | 1                  | E    |      | ad. inter. phase  |      |
| 1425    | Fairy Tern           | 1                  | SW   |      |   |      |

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Noon Position Palmyra I.

DATE 17 May 66  
Pg. # 2

|    | time | species          | #        | dir. | hgt. | remarks  | loc. |
|----|------|------------------|----------|------|------|--|------|
|    | 1426 | C. Noddy         | 1        | N    |      |  |      |
|    | 1430 | "                | 2        | NE   |      |  |      |
|    | 1430 | RFB              | 3        | Ø    |      | ad.  |      |
|    | 1432 | "                | 2        | E    |      | 1 sub-ad., 1 ad. inter phase                     |      |
|    | 1432 | Sooty Tern       | 1        | W    |      | ad.  |      |
|    | 1435 | Brown B.         | 1        | Ø    |      | ad.  |      |
| OP | 1438 | Fairy Tern       | 1        | W    |      |  |      |
| FF | 1440 | Red-foot         | 100 ± 20 |      |      | 75% Intermediate, 20% Im (1 Orange Paint Int Ad) |      |
|    |      | 6 Frigate        | 2        |      |      | Im, <del>2</del>                                 |      |
|    |      | Brown Booby      | 15 ± 3   |      |      |  |      |
|    |      | Sooty Tern       | 6        |      |      | 5 Ad 1 im  |      |
|    |      | Common Noddy     | 1        |      |      |  |      |
|    |      | Hawaiian Noddy   | 10       |      |      |  |      |
| FF | 1450 | Red-footed Booby | 50 ± 20  |      |      |  |      |
|    | 1455 | Bulwer's Pet.    | Ø        | S    |      |  |      |
|    | 1500 | RFB              | 1        | E    |      | Ad Int.  |      |
|    | 1503 | Bulwer's         | 1        | NE   |      |  |      |
|    | 1504 | Fairy Tern       | 1        | E    |      |  |      |
|    | 1506 | RFB              | 1        | Ø    |      | light Ad   |      |
|    | 1509 | "                | 1        | Ø    |      | Ad, Int.   |      |
|    | 1513 | "                | 2        | Ø    |      | 1 Ad light, SA                                   |      |
|    | 1514 | Hawaiian Noddy   | 1        | SE   |      |  |      |
|    | 1516 | Sooty Tern       | 3        | S    |      | Ad   |      |
| FF | 1517 | RFB              | 6        |      |      | 2 SA, 3 Int Ad, 1 light Ad                       |      |
|    |      | Sooty tern       | 3        |      |      | Ad   |      |
|    |      | Hawaiian Noddy   | 3        |      |      |  |      |
|    |      | Common Noddy     | 2        |      |      |  |      |
|    |      | Fairy            | 1        |      |      |  |      |
|    | 1518 | Bulwer's         | 1        | SE   |      |  |      |
|    | 1525 | Sooty Tern       | 4        | E    |      | Ad   |      |
|    | 1525 | Bulwer's         | 1        | E    |      | Ad light   |      |
|    | 1524 | RFB              | 1        | S    |      |  |      |
|    | 1524 | Tern sp.         | 2        |      |      | Feeding  |      |
|    | 1529 | Bulwer's         | 1        | E    |      |  |      |
|    | 1527 | "                | 2        | E    |      |  |      |
|    | 1534 | Sooty Tern       | 1        | W    |      |  |      |
|    | 1536 | Bulwer's         | 1        | E    |      |  |      |
| TF | 1545 | Sooty Tern       | 18       | W    |      | Ad   |      |
|    | 1549 | " "              | 5        | W    |      | ad.  |      |
|    | 1549 | Red-foot         | 1        | W    |      | ad. inter phase                                  |      |
|    | 1550 | " "              | 2        | S    |      |  |      |
|    | 1552 | Bulwer's         | 1        | SE   |      |  |      |
|    | 1555 | "                | 1        | SE   |      | dark   |      |
|    | 1555 | shearwater       | 1        | SE   |      |  |      |
|    | 1556 | Pterodroma sp    | 1        | N    |      | light body, dark under wing & back               |      |



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DATE 17 May 1966  
Pg. # 7

Noon Position: Palmyra I.

|    | time            | species           | #  | dir. | hgt. | remarks                           | loc. |
|----|-----------------|-------------------|----|------|------|-----------------------------------|------|
|    | 1710            | R.F.B.            | 3  | S    |      | AD                                |      |
|    | 1711            | R.F.B.            | 1  | S    |      | AD                                |      |
|    | 1715            | Sooty Tern        | 5  | W    |      | AD                                |      |
|    | 1716            | Bulwers Pet       | 1  | E    |      |                                   |      |
| FF | 1720            | RFB               | 6  | ⊙    |      |                                   |      |
| FF | 1720            | Haw. Noddy        | 5  | ⊙    |      |                                   |      |
|    |                 | Fairy Tern        | 1  |      |      |                                   |      |
|    |                 | Sooty Tern        | 6  |      |      | AD                                |      |
|    | 1724            | Fairy Tern        | 1  | SE   |      |                                   |      |
|    | 1724            | RFB               | 1  | S    |      | Int                               |      |
|    | 1726            | R.F.B.            | 1  | S    |      | "                                 |      |
|    | 1728            | Fairy Tern        | 1  | S    |      |                                   |      |
|    | 1728            | Golden Plover     | 1  | NW   |      | breeding plumage                  |      |
|    | 1730            | R.F.B.            | 8  | S    |      | Int                               |      |
|    | 1730            | Fairy Tern        | 1  | S    |      |                                   |      |
|    | 1731            | R.F.B.            | 1  | S    |      | Int                               |      |
|    | 1732            | Sooty Tern        | 2  | NW   |      | AD                                |      |
| TF | 1733            | R.F.B.            | 7  | S    |      | Int.                              |      |
|    | 1735            | Ruddy Turnstone   | 1  | NW   |      | winter plumage                    |      |
| TF | 1740            | R.F.B.            | 25 | S    |      | 2 light rest out                  |      |
|    |                 | Sooty Tern        | 12 | -    |      | 2 imm rest AD                     |      |
|    | 1741            | RFB               | 32 |      |      | Int one imm                       |      |
|    |                 | Sooty Tern        | 23 |      |      | AD                                |      |
|    | <del>1741</del> | <del>Golden</del> |    |      |      |                                   |      |
| TF | 1744            | R.F.B.            | 11 | S    |      |                                   |      |
|    |                 | Sooty Tern        | 4  |      |      |                                   |      |
|    | 1745            | sooty Tern        | 2  | S    |      |                                   |      |
|    | 1745            | Fairy Tern        | 1  |      |      |                                   |      |
|    | 1747            | wedgetail         | 1  | ⊙    |      | Dark                              |      |
| TF | 1748            | RFB               | 6  | S    |      | Int. color phase                  |      |
| TF | <del>1755</del> | RFB               | 70 |      |      | INT " + one light phase           |      |
|    |                 | RFB               | 5  |      |      | sitting on water Int. color phase |      |
|    |                 | Sooty Tern        | 1  | ⊙    |      | Ad.                               |      |
| EF | 1757            | Common Noddy      | 10 |      |      |                                   |      |
|    | <del>1807</del> | Sooty Tern        | 10 |      |      | Ad.                               |      |
|    |                 | Frigate           | 1  |      |      |                                   |      |
|    | 1758            | Fairy Tern        | 1  |      |      | being chased by Sooty Tern        |      |
|    | <del>1800</del> |                   |    |      |      |                                   |      |

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Noon Position: Palmyra I.

DATE 17 May 1966  
Pg. # 5

| time | species    | # | dir. | hgt. | remarks    | loc. |
|------|------------|---|------|------|------------|------|
| 1758 | RFB        | 4 | S    |      |            |      |
| 1802 | Sooty Tern | 1 | S    |      | Ad.        |      |
| 1805 | Wedgetail  | 1 |      |      | DK. phase  |      |
| 1840 | " "        | 1 | S    |      | DK. phase  |      |
| 1845 | Booby sp.  | 1 | Q    |      | Dark brown |      |
| 1853 | Sunset     |   |      |      | Close Ob.  |      |

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SMITHSONIAN INSTITUTION  
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AT SEA DAILY LOG -- E



DATE 18 May 66  
Pg. # 1

Approx Position: 09-34N; 160-54W

| time | species       | # | dir. | hgt. | remarks  | loc.                       |
|------|---------------|---|------|------|--|----------------------------|
| 0626 |               |   |      |      | Sunrise, Begin observations  | } squalls off to<br>land W |
| 0635 | Wedgetail     | 1 | E    |      | dark.  |                            |
| 0638 | Bulwers Pet   | 1 | W    |      |  |                            |
| 0641 | Bulwers Pet   | 1 | NE   |      |  |                            |
| 0645 | Bulwers Pet   | 1 | NW   |      |  |                            |
| 0646 | Bulwers Pet   | 1 | NE   |      |  |                            |
| 0649 | Bulwers Pet   | 3 | NE   |      | dark.  |                            |
| 0651 | Wedgetail     | 1 | W    |      | "  |                            |
| 0652 | Wedgetail     | 1 | W    |      | "  |                            |
| 0705 | Shear sp      | 1 | N    |      | Appeared to be a Newell's, but color pattern on back                 |                            |
| 0706 | Wedgetail     | 1 | S    |      | dark was similar to VFP.   |                            |
| 0707 | Bulwers Pet   | 1 | S    |      | dark   |                            |
| 0710 | Wedgetail     | 1 | E    |      | dark   |                            |
| 0719 | Bulwers Pet   | 1 | NE   |      | Appeared like a Bonin's, but entirely dark underwings                |                            |
| 0723 | Pterodroma sp | 1 | NE   |      |  |                            |
| 0726 | W.R.S. Petrel | 1 | ⊙    |      |  |                            |
| 0727 | Bulwers Pet   | 1 | NE   |      |  |                            |
| 0728 | Sooty Tern    | 1 | N    |      | Ad   |                            |
| 0732 | Bulwers Pet   | 1 | NE   |      |  |                            |
| 0734 | " "           | 1 | NE   |      |  |                            |
| 0735 | Wedgetail     | 1 | E    |      | dark   |                            |
| 0740 | " "           | 1 | W    |      | dark   |                            |
| 0744 | Bulwers Pet   | 1 | SW   |      |  |                            |
| 0750 | Shear Pet     | 1 | N    |      | rain began   | } Birds in rain            |
| 0801 | Sooty Tern    | 1 | E    |      |  |                            |
| 0816 | Bulwers Pet   | 1 | E    |      |  |                            |
| 0819 | " "           | 1 | NE   |      |  |                            |
| 0824 | Sooty/Sib     | 1 | N    |      |  |                            |
| 0840 | " "           | 1 | N    |      |  |                            |
| 0843 | Wedgetail     | 1 | S    |      | Dark   |                            |
| 0858 | Wedgetail     | 1 | S    |      | "  |                            |
| 0904 | Bulwers Pet   | 1 | W    |      |  |                            |
| 0905 | Wedgetail     | 1 | ⊙    |      | Dark   |                            |
| 0909 | " "           | 1 | NW   |      | "  |                            |
| 0911 | " "           | 1 | NW   |      | "  |                            |
| 0912 | " "           | 2 | NW   |      | "  |                            |
| 0920 | " "           | 5 | W    |      | db. phase  |                            |
| 0921 | Mottled pet.  | 1 | ⊙    |      |  |                            |
| 0922 | Wedgetail     | 2 | W    |      | light phase  |                            |
| 0922 | " "           | 3 | W    |      | db. phase  |                            |
| 0923 | Bulwers       | 1 | E    |      |  |                            |
| 0924 | Wedgetail     | 3 | ⊙    |      | db phase   |                            |
| 0925 | Wedgetail     | 1 | ⊙    |      | light phase  |                            |
| 0930 | " "           | 2 | ⊙    |      |  |                            |
| 0930 | " "           | 1 | ⊙    |      | db. phase - in molt missing a few primaries from middle in each wing |                            |

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DATE 18 May  
Pg. # 2

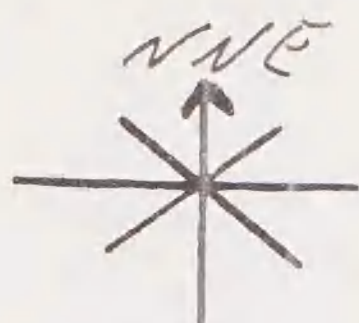
Noon Position: 09-34 N; 160-54 W

| time          | species              | #                 | dir. | hgt.           | remarks   | loc. |
|---------------|----------------------|-------------------|------|----------------|---|------|
| 0930          | Bulwers              | 1                 | E    |                |   |      |
| 0935          | "                    | 2                 | E    |                |   |      |
| 0944          | wedgetail            | 3                 | w    |                | Dark - one in Molt  |      |
| 0945          | "                    | 4                 | w    |                | Dark  |      |
| 0949          | "                    | 2                 | w    |                | Dark - one in Molt  |      |
| 0950          | sooty / slb          | 1                 | N    |                | light underwing   |      |
| 0954          | wedgetail            | 4                 | w    |                | Dark Two with molt in primary   |      |
| 0954          | Bulwers Pet          | 1                 | E.   |                |   |      |
| 0956          | wedgetail            | 1                 | ⊙    |                | dark, wings molt, landed on water, feeding                                |      |
| 0957          | "                    | 1                 | w    |                | dark  |      |
| 1004          | "                    | 2                 | w    |                | dark  |      |
| 1008          | Pterodroma sp        | 1                 | w    |                | white undersides; white underwings; small, <sup>dark</sup> gray back      |      |
| 1009          | wedgetail            | 1                 | ⊙    |                | dark  |      |
| 1009          | "                    | 1                 | w    |                | dark  |      |
| 1002          | "                    | 1                 | w    |                | dark  |      |
| 1016          | "                    | 1                 | w    |                | dark  |      |
| 1020          | "                    | 1                 | ⊙    |                | dark, in molt   |      |
| 1022          | Bulwers Pet          | 1                 | sw   |                | dark  |      |
| 1023          | wedgetail            | 1                 | E    |                |   |      |
| 1023          | "                    | 3                 | w    |                | dark, w. molt   |      |
| 1024          | "                    | 5                 | w    |                | dark, 2 w. molt   |      |
| 1034          | Pterodroma sp        | 1                 | ⊙    |                | like 1008 bird  |      |
| 1040          | wedgetail            | 1                 | w    |                | dark  |      |
| 1041          | " "                  | 1                 | w    |                | Dark  |      |
| 1043          | " "                  | 1                 | w    |                | Dark  |      |
| CC<br>FF 1105 | wedgetail            | 75 <sup>ish</sup> | ⊙    |                | Norm Heryford coll. - 1 dark, 1 light<br>flock sat on water after feeding |      |
|               | White neck           | 8                 |      |                |   |      |
|               | Kermadec?            | 1                 |      | ? - dark phase |   |      |
| 1120          | Bulwers Pet          | 1                 | ⊙    |                |   |      |
| 1130          | wedgetail            | 1                 | w    |                | Dark  |      |
| 1133          | " "                  | 1                 | E    |                | Dark  |      |
| 1137          | White Neck           | 2                 | NW   |                | } all dark  |      |
| 1138          | wedgetail            | 3                 | ⊙    |                |   |      |
| 1139          | "                    | 2                 | ⊙    |                |   |      |
| 1141          | " "                  | 4                 | ⊙    |                |   |      |
| 1145          | " "                  | 1                 | w    |                |   |      |
| 1145          | " "                  | 2                 | w    |                | dark  |      |
| 1146          | " "                  | 1                 | ⊙    |                | "   |      |
| 1151          | Bulwers              | 1                 | ⊙    |                | momentarily sat on water  |      |
| 1156          | "                    | 1                 | NE   |                |   |      |
| 1214          | wedgetail            | 2                 | NW   |                | dark <del>PT</del> - molting wing feathers on 1                           |      |
| 1217          | "                    | 3                 | ⊙    |                | dark  |      |
| 1217          | shear-pet            | 1                 | ⊙    |                |   |      |
| 1220          | Shear-Pet            | 2                 | N    |                | straight low flight   |      |
| 1228          | <del>Shear-Pet</del> | 2                 | ⊙    |                | well JPT, heavy molt  |      |



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DATE 18 May 66  
Pg. # 3

Approx Position 09-34N; 165-34W

|    | time | species                 | # | dir. | hgt. | remarks  | loc. |
|----|------|-------------------------|---|------|------|--|------|
|    | 1235 | wedgetail               | 2 | ⊙    |      | dark   |      |
|    | 1241 | Bulwer's                | 1 | S    |      |  |      |
|    | 1300 | Shear-pet               | 1 | SW   |      |  |      |
|    | 1300 | wedgetail               | ⊙ | ⊙    |      | dark   |      |
|    | 1300 | Shear-pet               | 1 | ⊙ SW |      | dark <del>shear-pet?</del> Kermadec?                         |      |
|    | 1302 | wedgetail               | 1 | W    |      | " molting <del>for 1st time</del> <del>obs. J. Tordoff</del> |      |
|    | 1313 | WRSP                    | 1 | S    |      | first few primaries  |      |
|    | 1326 | wedgetail               | 3 | ⊙    |      | dark, 2 molting  |      |
|    | 1328 | R. wing Petrel          | 1 | ⊙    |      | coll. by J.P. Tordoff  |      |
|    | 1342 | Common Noddy            | 1 | ⊙    |      | sitting on fishball  |      |
|    | "    | wedgetail               | 2 | W    |      | dark   |      |
|    | 1345 | "                       | 2 | W    |      | 1 dark, 1 light  |      |
|    | 1347 | P. Hypoleuca sp.        | 1 | ⊙    |      |  |      |
| TF | 1350 | wedgetail               | 5 | ⊙    |      | dark   |      |
|    | 1352 | Bulwer's pet            | 1 | E    |      |  |      |
|    | 1352 | wedgetail               | 1 | W    |      | dark   |      |
|    | "    | WRSP                    | 1 | ⊙    |      |  |      |
|    | 1355 | wedgetail               | 1 | W    |      | dark, molting remiges  |      |
|    | 1357 | "                       | 2 | W    |      | " " "  |      |
| TF | 1400 | "                       | 5 | W    |      | " , some molting remiges                                     |      |
|    | 1400 | Juan fern.              | 2 | ⊙    |      |  |      |
| TF | 1410 | wedgetail               | 9 | ⊙    |      | dark, some molting remiges                                   |      |
|    | 1415 | "                       | 1 | ⊙    |      | 1+ phase   |      |
|    | 1420 | Juan Fernandez          | 2 | ⊙    |      | sitting on H <sub>2</sub> O                                  |      |
|    | 1421 | wedgetail               | 2 | W    |      | dark phase   |      |
|    | 1424 | "                       | 2 | W    |      | " " molting wings  |      |
|    | 1428 | "                       | 3 | W    |      | " " one sat on water momentarily, molting wings              |      |
|    | 1438 | "                       | 3 | cees |      | all dark   |      |
|    | 1438 | "                       | 1 | E    |      | light.   |      |
|    | 1439 | "                       | 1 | S    |      | dark   |      |
|    | 1442 | P. hypoleuca            | 1 |      |      | sitting on H <sub>2</sub> O                                  |      |
|    | 1459 | wedgetail               | 3 | S    |      | dp phase   |      |
|    | 1500 | P. externa              | 1 | S    |      |  |      |
|    | 1507 | Herald's Pet?           | 1 | NW   |      |  |      |
|    | 1508 | <del>P. hypoleuca</del> | 1 | ⊙    |      |  |      |
|    | 1510 | P. Hypoleuca            | 1 |      |      |  |      |
|    | 1515 | WNP                     | 1 | W    |      |  |      |
|    | 1515 | Bulwer's                | 1 | S    |      |  |      |
|    | 1620 | wedgetail               | 1 | N    |      |  |      |

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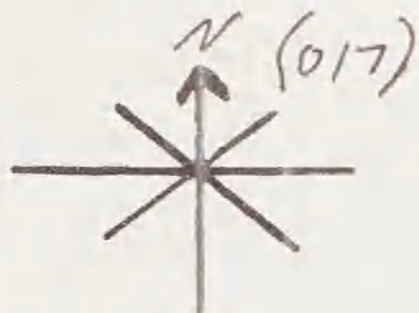
Noon Position: 13-24 N; 160-01 W

DATE 19 May  
Pg. # 1

| time            | species                     | #  | dir. | hgt. | remarks                            | loc. |
|-----------------|-----------------------------|----|------|------|------------------------------------|------|
| 0615            |                             |    |      |      | Begin observation sunrise          |      |
| 0620            |                             |    |      |      | rain began                         |      |
| 0640            |                             |    |      |      | " end                              |      |
| 0651            | Booby sp.                   | 1  |      |      |                                    |      |
| 0652            | white-necked pet            | 1  | SW   |      |                                    |      |
| 0652            | Sooty Tern                  | 2  | SW   |      | Ad                                 |      |
| 0655            | P. hypoleuca                | 1  | SW   |      |                                    |      |
| 0656            | wedge-tail                  | 1  | NW   |      | Darts at edge of rain              |      |
| FF 0700         | sooty Tern                  | 12 | ⊙    |      | Ad edge of rain                    |      |
|                 | Shear/pet                   | 2  |      |      |                                    |      |
| 0706            | Bulwer's Pet.               | 2  | E    |      |                                    |      |
| 0710            |                             |    |      |      | entering rain squall               |      |
| 0713            | Bulwers Pet                 | 1  | SW   |      |                                    |      |
| 0717            | "                           | 1  | ⊙    |      |                                    |      |
| 0722            | sooty Tern                  | 5  | SE   |      | 4 ad, 1 imm, headed for FF         |      |
| FF 0723         | "                           | 40 | SE   |      |                                    |      |
|                 | Shear/pet                   | 15 | SE   |      |                                    |      |
| 0725            | sooty T.                    | 2  | NE   |      | ad.                                |      |
| 0727            | Bulwers                     | 1  | ⊙    |      |                                    |      |
| 0727            | mottled Pt                  | 1  | N    |      |                                    |      |
| 0727            | shear/pet                   | 1  | N    |      |                                    |      |
| 0731            | Bulwers Pet.                | 1  | ⊙    |      |                                    |      |
| 0731            |                             |    |      |      | ship leaves rain squall.           |      |
| 0742            | sm. Pterodroma              | 1  |      |      |                                    |      |
| 0745            | "                           | 1  |      |      |                                    |      |
| 0759            | Tropic bird                 | 1  | E    |      | probably P. leucoptera n P. cookii |      |
| 0807            | w-t Tropicbird              | 1  | ⊙    |      | sitting on water                   |      |
| 0812            | WRSP                        | 1  | ⊙    |      |                                    |      |
| 0815            | sooty Tern                  | 4  | ⊙    |      | adult                              |      |
| 0825            | Pterodroma sp               | 1  | ⊙    |      |                                    |      |
| 0832            | Whiteneck pet.<br>Shear pet | 1  | ⊙    |      |                                    |      |
| 0832            | sooty tern                  | 1  | SW   |      | adult                              |      |
| 0837            | Bulwer's pet                | 1  | SW   |      |                                    |      |
| 0845            | "                           | 1  | ⊙    |      |                                    |      |
| 0850            |                             |    |      |      | rain squall                        |      |
| 0857            | Bulwer's pet                | 1  | S    |      | in rain                            |      |
| 0911            | "                           | 2  | ⊙    |      | rain temporarily gone              |      |
| 0916            | WRSP                        | 1  | W    |      |                                    |      |
| 0928            | Bulwer's pet                | 1  | ⊙    |      | in rain                            |      |
| 0949            | "                           | 1  | ⊙    |      | rain temporarily gone              |      |
| 0950            | "                           | 1  | ⊙    |      | "                                  |      |
| 0951            | "                           | 1  | N    |      | "                                  |      |
| <del>1001</del> | <del>Pt. externa sp?</del>  |    | N    |      |                                    |      |
| 1001            | JFP                         | 1  | N    |      |                                    |      |
| 1004            | Bulwer's                    | 1  | ⊙    |      |                                    |      |
| 1010            | P. hypoleuca                | 1  | NW   |      |                                    |      |
| 1011            | Shear-Pet                   | 1  | E    |      |                                    |      |
| 1017            | Bulwer's                    | 1  | NE   |      |                                    |      |

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Moon Position: 13-24 N; 160-01 W

DATE 19 May  
Pg. # 2

|    | time | species                                  | #  | dir. | hgt. | remarks  | loc. |
|----|------|--|----|------|------|--|------|
|    | 1022 | C. Noddy                                 | 1  | SE   |      |  |      |
|    | 1025 | P. hypoleuca                             | 1  | ⊙    |      |  |      |
|    | 1025 | Long Tailed Jaeger?                      | 1  | NW   |      | small Jaeger w/ white rump, appeared to be dark or inter. phase                      |      |
| TF | 1027 | Sooty Tern                               | 6  | N    |      | travelling, all adult  |      |
|    | 1031 | Bulwer's                                 | 1  | N    |      |  |      |
|    | 1033 | Shear-Pet                                | 1  | NW   |      | small, either Bulwer's or Sm. Pterod.  |      |
|    | 1035 | Bulwer's Pet                             | 1  | NW   |      |  |      |
|    | 1041 | " "                                      | 1  | SE   |      |  |      |
|    | 1049 | Sm. Pterod.                              | 1  | W    |      |  |      |
|    | 1050 | Bulwer's                                 | 1  | E    |      |  |      |
|    | 1055 | " "                                      | 1  | S    |      |  |      |
|    | 1058 | sm. Pterodroma                           | 1  | SE   |      |  |      |
|    | 1058 | Bulwer's                                 | 1  | E    |      |  |      |
|    | 1105 | " "                                      | 1  | N    |      |  |      |
|    | 1116 | P. hypoleuca<br>nigripennis              | 1  | N    |      |  |      |
|    | 1124 | Bulwer's                                 | 1  | SE   |      |  |      |
|    | 1125 | Sooty/Shearbill                          | 1  | NW   |      |  |      |
|    | 1200 | Wedge tail                               | 1  | NW   |      | dark   |      |
|    | 1201 | Bulwer's Pet                             | 1  | ⊙    |      |  |      |
|    | 1209 | Pterod. Lys                              | 1  | W    |      |  |      |
|    | 1240 | Bulwer's pet                             | 2  | E    |      |  |      |
|    | 1320 | " "                                      | 1  | W    |      |  |      |
|    | 1325 | Wedgetail                                | 1  | NW   |      | dark phase   |      |
|    | 1338 | Aud. Shear.<br><del>Pterod.</del>        | 1  |      |      | sitting on water   |      |
|    | 1338 | Bulwer's pet.                            | 1  | ⊙    |      |  |      |
|    | 1345 | P. Hypoleuca                             | 1  | NW   |      |  |      |
|    | 1355 | Sooty/Skender                            | 1  | NW   |      |  |      |
|    | 1420 | P. Hypoleuca                             | 1  | NW   |      |  |      |
|    | 1435 | P. Hypoleuca                             | 1  | SE   |      |  |      |
|    | 1438 | P. externa sp                            | 1  | NE   |      |  |      |
|    | 1439 | Bulwer's Pet                             | 1  | N    |      |  |      |
|    | 1441 | P. Hypoleuca                             | 1  | NW   |      |  |      |
|    | 1449 | Bulwer's Pet                             | 1  | E    |      |  |      |
| TF | 1455 | Sooty Tern<br>Fairy Tern<br>P. Hypoleuca | 18 | NE   |      | Travelling - Two Pterod. came together - part of flock<br>chasing flying fish (1545) |      |
|    | 1535 | Bulwer's Pet                             | 1  | SW   |      |  |      |
|    | 1543 | Sooty Tern                               | 5  | N    |      |  |      |


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DATE 19 May 1966  
Pg. # 3

Noon Position = 13-24N; 160-01W

| time            | species              | #  | dir. | hgt. | remarks  | loc. |
|-----------------|----------------------|----|------|------|--|------|
| 1553            | Sm. Puffinus         | 1  | NW   |      | either Audobons or Newalls   |      |
| 1558            | P. Hypoleuca         | 1  | NW   |      |  |      |
| 1600            | P. "                 | 1  | NW   |      |  |      |
| 1601            | Bulwers Pet          | 1  | SE   |      |  |      |
| 1607            | Shear/Pet            | 2  | ⊙    |      | in rain squall - small   |      |
| 1611            | P. Hypoleuca         | 1  | NW   |      |  |      |
| 1621            | Pale footed Shear    | 1  | ⊙    |      |  |      |
| 1630            | Bulwer's pet         | 1  | ⊙    |      |  |      |
| 1638            |                      |    |      |      | 2+ cetaceans - ca 10' black, dorsal fin  loafing at surface |      |
| 1640            | Bulwers pet.         | 1  | SE   |      | tursiops or cephalorhynchus?   |      |
| 1645            | sooty tern           | 4  | N    |      | adult  |      |
| 1647            | P. hypoleuca         | 1  | ⊙    |      |  |      |
| FF 1710         | Sooty T.             | 15 |      |      |  |      |
|                 | Sooty shear          | 1  |      |      |  |      |
|                 | Black wing P.        | 1  |      |      |  |      |
|                 | <del>Hypoleuca</del> |    |      |      |  |      |
|                 | N.Z. Shear           | 1  |      |      |  |      |
|                 | Newell's             | 1  |      |      |  |      |
| 1713            | sooty tern           | 3  | NW   |      |  |      |
| 1747            | WTTB                 | 1  | ⊙    |      | following ship adult   |      |
| 1751            | Bulwer's pet         | 1  | ⊙    |      |  |      |
| 1756            | " "                  | 1  | NW   |      |  |      |
| 1813            | <del>Hypoleuca</del> | 1  | S    |      |  |      |
| 1815            | " "                  | 1  | S    |      |  |      |
| <del>1821</del> |                      |    |      |      |  |      |
| 1821            | P. Hypoleuca         | 1  | S    |      | <del>Sunset</del> - one observation after  |      |
| 1856            | " "                  | 1  | ⊙    |      |  |      |
| 1858            | Pterodrome           | 1  | NW   |      | small, dk back, light belly, underwings dk.; head & chin & neck grayish  |      |
| 1901            |                      |    |      |      | Sunset off watch   |      |

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SMITHSONIAN INSTITUTION  
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DATE 20 May 66  
Pg. # 1



Noon Position: 16-55N; 157-01W

| time    | species        | #      | dir. | hgt. | remarks  | loc. |
|---------|----------------|--------|------|------|--|------|
| 0605    |                |        |      |      | Sunrise. Begin observations                      |      |
| 0634    | Pterod hypo    | 1      | NW   |      |  |      |
| TF 0643 | Sooty Tern     | 5      | SE   |      | Ad   |      |
| 0650    | Bonin Is. Pet  | 1      | SW   |      |  |      |
| 0705    | Shear-Pet      | 3      | E    |      | dark above, light underparts                     |      |
| 0720    | WTTB           | 1      | ⊙    |      |  |      |
| 0809    | Sooty Tern     | 3      | NE   |      | adult  |      |
| 0817    | " "            | 2      | E    |      | flying low 1-3' above water                      |      |
| 0829    | " "            | 1      | ⊙    |      | adult  |      |
| 0821    | Frigate        | 1      | NW   |      | adult  |      |
| 0955    | Sooty Tern     | 2      | N    |      | adult  |      |
| 1020    | " "            | 4      | S    |      | "  |      |
| 1025    | " "            | 3      | NE   |      | "  |      |
| 1027    | Bulwers P      | 1      | NE   |      | "  |      |
| 1039    | Sooty tern     | 1      | ⊙    |      | "  |      |
| 1102    | P. hypoleuca   | 1      | ⊙    |      | "  |      |
| 1119    | WRSP           | 1      | N.   |      | "  |      |
| 1125    |                |        |      |      | Spinner porpoise 20±5 (dark spinner-type)        |      |
| 1125    | Bulwer's       | 1      | ⊙    |      |  |      |
| 1135    | "              | 1      | ⊙    |      |  |      |
| 1154    | Bl. Winged Pet | 1      | ⊙    |      |  |      |
| 1156    | RFB            | 1      | ⊙    |      | sub-adult, light phase                           |      |
| 1218    | Sooty Tern     | 5      | E    |      | adult  |      |
| 1223    | Shear/Pet      | 1      | ⊙    |      | edge of squall                                   |      |
| 1225    | Sooty Tern     | 1      | E    |      | Ad.  |      |
| 1233    | Bulwers Petrel | 1      | SW   |      |  |      |
| 1234    | " "            | 1      | E    |      |  |      |
| 1234    | Sooty Tern     | 1      | E    |      | Ad   |      |
| 1235    | Shear-Pet      | 1      | S    |      | small  |      |
| 1239    | Bulwer's       | 1      | E    |      | in rain  |      |
| 1251    | "              | 1      | SE   |      |  |      |
| 1259    | "              | 1      | W    |      | appeared to have very little white on underwings |      |
| 1302    | Bm. Pterod.    | 1      | ⊙    |      |  |      |
| 1304    | Sooty Tern     | 2      | E    |      | adult  |      |
| 1306    | Newell's       | 1      | E    |      |  |      |
| 1310    | Bl Wing Pet    | 1      | W    |      |  |      |
| 1333    | Bulwers Pet    | 1      | W    |      |  |      |
| 1340    | JFP            | 1      | N    |      | Molt in primaries                                |      |
| 1355    | Bulwers Pet    | 1      | N    |      |  |      |
| 1357    | Sooty Tern     | 1      | S    |      | Ad at edge of squall                             |      |
| 1358    | Bulwers Pet    | 1      | E    |      |  |      |
| 1410    | P. hypoleuca   | 1      | W    |      |  |      |
| FF 1415 | Sooty Tern     | 125±10 |      |      | All Ad.  |      |
|         | Bonin I. Pet.  | 1      |      |      | 1 Dark, 3 light, 1 int.                          |      |
|         | wedge tail     | 5      |      |      | Ad ♀   |      |
|         | G. Frigate     | 1      |      |      |  |      |

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DATE 20 May 1966  
Pg. # 2

Noon Position: 16-55N; 159-01W

|    | time | species           | #          | dir. | hgt. | remarks   | loc. |
|----|------|-------------------|------------|------|------|---|------|
| C  | 1440 | Bulwer's Pet      | 2          |      |      | 1 coll. RSC.  |      |
|    | 1450 | " "               | 1          | 000  |      |   |      |
|    | 1502 | " "               | 1          | N    |      |   |      |
|    | 1506 | sooty Tern        | 2          | E    |      | ad's.   |      |
|    | 1507 | " "               | 1          | E    |      | ad.   |      |
|    | 1512 | Bl-wing Petrel    | 1          | W    |      |   |      |
|    | 1515 |                   |            |      |      | large whale, not seen well.   |      |
|    | 1520 | Bulwer's          | 2          | N    |      |   |      |
|    | 1520 | Black Wing Pet    | 1          | N    |      | molting primaries   |      |
|    | 1522 | Bulwer's          | 1          | W    |      |   |      |
| TF | 1545 | sooty Terns       | 5          | E    |      | ad's.   |      |
|    | 1546 | Bulwer's          | 1          | NE   |      |   |      |
|    | 1604 | Newelle Shear     | 1          | N    |      |   |      |
|    | 1610 | Bulwers Pet       | 1          | NE   |      |   |      |
|    | 1615 | " "               | 1          | NE   |      |   |      |
|    | 1633 | WTTB              | 1          | 0    |      |   |      |
| TF | 1639 | sooty Tern        | 9          | SE   |      | ad  |      |
|    | 1647 | G. Frigate        | 1          | 0    |      | ad. ♂, diving at fish.  |      |
|    | 1726 | WTTB              | 2          | 000  |      | both ad's.  |      |
|    | 1735 | sooty/sh          | 1          | N    |      |   |      |
|    | 1755 | P. Hypoleuca      | 1          | 00   |      |   |      |
|    | 1800 | Bulwers Petrel    | 1          | NE   |      |   |      |
|    | 1803 | Shear/Pet         | 1          | N    |      | small with white underparts   |      |
|    | 1805 | sooty Tern        | 1          | NW   |      |   |      |
|    | 1810 | Bulwers Pet.      | 1          | W    |      |   |      |
|    | 1816 | Wedgetail         | 1          | NW   |      | Dark phase  |      |
| FF | 1830 | sooty tern        | 3000 ± 10% |      |      | } 95% light 8-12 Fin back whales } all milling, birds spread<br>200± porpoise } out over vast area (ca. 3 miles),<br>very dense where whales & porpoise were feeding. |      |
|    |      | Wedgetails        | 1000 ± 10% |      |      |   |      |
|    |      | Newelle's Shear   | 150        |      |      |   |      |
|    |      | Christ. Fish      | 25         |      |      |   |      |
|    |      | G. Frigate        | 5          |      |      |   |      |
|    |      | C. noddy          | 50 ± 25    |      |      |   |      |
|    |      | Haw. Noddy        | 50 ± 25    |      |      |   |      |
|    |      | Bulwer's Pet.     | 50 ±       |      |      |   |      |
|    |      | Pale-footed Shear | 2          |      |      |   |      |
|    | 1843 | Bulwer's Pet      | 1          | N    |      |   |      |
|    | 1855 | " "               | 1          | N    |      |   |      |
|    | 1858 | Bulwers           | 1          | N    |      |   |      |
|    |      | Newells           | 2          | 00   |      |   |      |
|    |      | Wedgetail         | 3          | 000  |      | light   |      |
|    | 1901 | Wedgetail         | 1          |      |      | light   |      |
|    |      | Newells           | 2          |      |      |   |      |
|    | 1903 | Bulwers           | 1          |      |      | Sunset close up   |      |

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SMITHSONIAN INSTITUTION  
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DATE 21 May 1966  
Pg. # 1



Noon Position: 20-22N; 158-03W

| time    | species                    | #  | dir. | hgt. | remarks  | loc. |
|---------|----------------------------|----|------|------|--|------|
| 0558    |                            |    |      |      | SUNRISE  |      |
| 0615    |                            |    |      |      | Begin observations                             |      |
| 0620    | Sooty T.                   | 1  | SE   |      | ad   |      |
| 0622    | Bulwers                    | 1  | NW   |      |  |      |
| 0626    | Sooty T.                   | 2  | SE   |      | ad   |      |
| 0626    | Newell's                   | 1  | SE   |      |  |      |
| 0626    | P. hypoleuca               | 2  | NW   |      |  |      |
| 0630    | Sooty T.                   | 1  | SW   |      | ad   |      |
| 0632    | Wedgetail                  | 1  | E    |      | light  |      |
| 0633    | "                          | 1  | SW   |      | "  |      |
| 0634    | P. hypoleuca               | 1  | NW   |      |  |      |
| 0636    | Sooty T.                   | 1  | E    |      | Fecl.  |      |
| 0640    | Wedgetail                  | 1  | NE   |      | light  |      |
| 0640    | Bulwers                    | 1  | area |      |  |      |
| 0644    | Wedgetail                  | 1  | E    |      | intermediate                                   |      |
| 0647    | P. hypoleuca               | 1  | NW   |      |  |      |
| 0647    | Bulwers                    | 1  | NW   |      |  |      |
| 0650    | Pomarine Jaeg.             | 1  | NW   |      |  |      |
| 0650    | shear/pet.                 | 2  | N    |      | dark phase                                     |      |
| 0652    | Wedgetail                  | 1  | N    |      | light  |      |
| 0654    | Sooty T.                   | 4  | SW   |      | ad   |      |
| 0657    | Wedgetail                  | 1  | N    |      | ad   |      |
| 0705    | Newell's                   | 1  | area |      | light  |      |
| 0708    | Wedgetail                  | 1  | area |      | light  |      |
| 0708    | Bulwers                    | 1  | area |      |  |      |
| 0713    | "                          | 1  | area |      |  |      |
| 0715    | "                          | 1  | area |      |  |      |
| 0717    | Sooty Tern                 | 1  | area |      |  |      |
| 0724    | Wedgetail                  | 1  | NW   |      | ad.  |      |
| 0728    | Bulwers                    | 1  | area |      | intermediate                                   |      |
| 0730    | Bird                       | 1  | area |      |  |      |
| 0732    | Sm. Pterodroma             | 1  | N    |      | Possibly P. leucoptera or cookii               |      |
| 0737    | Sooty tern                 | 2  | S    |      | adult  |      |
| "       | Bulwers                    | 1  | area |      |  |      |
| "       | Shear pet                  | 1  | area |      |  |      |
| 0741    | Arctic tern                | 1  | area |      |  |      |
| SF 0742 | Sooty T.                   | 8  | N    |      | winter plumage, bill black; flew 10' over bow. |      |
|         | Wedgetail                  | 16 |      |      | all light                                      |      |
| 0755    | Bulwers                    | 1  | area |      |  |      |
| 0756    | Wedgetail                  | 2  | area |      | light phase                                    |      |
| 0808    | "                          | 1  | area |      | " "  |      |
| 0808    | "                          | 1  | W    |      | " "  |      |
| 0809    | Sooty Tern                 | 2  | NW   |      | adult  |      |
| 0809    | Wedgetail                  | 1  | W    |      | light  |      |
| 0810    | Shear-Pet                  | 2  | W    |      |  |      |
| 0819    | Phoenix Is.<br>Tachycineta | 1  | area |      | adult  |      |
| 0819    | Sooty Tern                 | 3  | SE   |      |  |      |
| 0820    | Newell's                   | 1  | area |      | light  |      |
| 0820    | Wedgetail                  | 2  | N    |      |  |      |
| 0820    | P. hypoleuca               | 2  | N    |      |  |      |





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



DATE 21 May 1966  
Pg. # 3

Noon Position 20-22 N; 158-03 W

| time            | species               | #            | dir.          | hgt. | remarks                  | loc. |
|-----------------|-----------------------|--------------|---------------|------|--------------------------|------|
| 0940            | Bulwers Pet           | 1            | N             |      |                          |      |
| 0940            | Sooty Tern            | 7            | SE            |      | adult                    |      |
| 0944            | Sooty Shearwater      | 1            | N             |      | lots of white under wing |      |
| 0945            | Bm. Pterod.           | 2            | N             |      |                          |      |
| 0948            | Sooty Tern            | 1            | SE            |      | adult                    |      |
| 0949            | " "                   | 2            | N             |      | adults                   |      |
| 0951            | W.T.T.B.              | 1            | NW            |      |                          |      |
| 0952            | Sooty Tern            | <del>2</del> | SE            |      |                          |      |
| 0952            | " "                   | 2            | N             |      |                          |      |
| 0952            | Wedgetail             | 1            | N             |      | light                    |      |
| 0952            | Bm. Pterod.           | 4            | N             |      |                          |      |
| 0953            | Sooty Tern            | 6            | SE            |      |                          |      |
| 0953            | Newell's              | 1            | NW            |      |                          |      |
| 0953            | Wedgetail             | 2            | NW            |      | light                    |      |
| 0955            | Shear-Pet             | 2            | NW            |      |                          |      |
| 0956            | Wedgetail             | 1            | NW            |      | light                    |      |
| 0958            | " "                   | 1            | NW            |      | "                        |      |
| 0958            | Sooty Tern            | 1            | SE            |      | adult                    |      |
| 1000            | New Zealand Shear     | 1            | N             |      |                          |      |
| 1002            | Sooty Tern            | 1            | SE            |      | adult                    |      |
| 1002            | Wedgetail             | 2            | N             |      | light                    |      |
| 1002            | Bm. Pterod.           | 1            | NW            |      |                          |      |
| 1004            | Sooty Tern            | 2            | SE            |      | Ad                       |      |
| 1005            | Shear/Pet             | 1            | N             |      |                          |      |
| 1008            | Bulwers Pet           | 1            | S             |      |                          |      |
| 1010            | wedge-tail            | 1            | ⊙             |      | light                    |      |
| 1010            | Sooty Tern            | 6            | NW            |      | Ad Trimming (out of the) |      |
| 1013            | " "                   | 4            | SE            |      | Ad                       |      |
| 1013            | wedge-tail            | 1            | N             |      | light                    |      |
| FF 1015         | Sooty Tern            | 40 ±         | ⊙             |      | Feeding fur to starboard |      |
|                 | G Frigatebird         | 1            |               |      |                          |      |
| 1018            | Sooty Tern            | 2            | SE            |      | Ad                       |      |
| FF 1020         | Sooty Tern            | 6            | ⊙             |      | Ad                       |      |
|                 | RFB                   | 1            |               |      | SAD Intermediate         |      |
|                 | Wedgetail             | 4            |               |      | light                    |      |
| 1022            | Bulwers Pet           | 1            | S             |      |                          |      |
| FF 1023         | sooty tern            | 11           |               |      | ad's                     |      |
| 1023            | wedgetail             | 1            | SW            |      | light phase              |      |
| 1024            | " "                   | 1            | SW            |      | " "                      |      |
| <del>1025</del> | <del>Sooty tern</del> | <del>1</del> | <del>SE</del> |      |                          |      |
| 1025            | C Noddy               | 2            | E             |      |                          |      |

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AT SEA DAILY LOG -- E

DATE 21 May 1966  
Pg. # 4

Noon Position 20-22N; 158-03W

| time    | species         | #            | dir. | hgt. | remarks                               | loc. |
|---------|-----------------|--------------|------|------|---------------------------------------|------|
| 1026    | sooty tern      | 2            | SE   |      |                                       |      |
| 1027    | wedgetail       | 1            | N    |      | light phase                           |      |
| 1027    | Bulwer's Pet    | 1            | ☉    |      |                                       |      |
| 1028    | wedgetail       | 5            | N    |      | phase ?                               |      |
| 1028    | sooty tern      | 4            | N    |      | ad's                                  |      |
| 1029    | X-mas I S.      | 2            | ☉    |      |                                       |      |
| 1030    | Sooty tern      | 1            | S    |      | ad.                                   |      |
| 1030    | Bulwer's Pet    | 1            | S    |      |                                       |      |
| 1030    | C Noddy         | 1            |      |      | sitting on log                        |      |
| 1031    | wedgetail       | 1            |      |      | light phase                           |      |
| 1031    | C Noddy         | 2            | SE   |      |                                       |      |
| 1032    | Bonin I. Pet    | <del>1</del> | N    |      |                                       |      |
| 1032    | sooty tern      | 2            | SE   |      |                                       |      |
| 1032    | wedgetail       | 1            | SW   |      | dark phase                            |      |
| 1033    | Newell's S      | 1            | NW   |      |                                       |      |
| 1034    | Pomarine Jaeger | 1            | ☉    |      | up high                               |      |
| 1035    | Sooty Tern      | 2            | N    |      | ad                                    |      |
| 1035    | wedge-tail      | 1            | N    |      | light                                 |      |
| 1035    | Bonin Is. Pet   | 2            | N    |      |                                       |      |
| 1036    | wedge-tail      | 1            | N    |      | light                                 |      |
| 1036    | sooty tern      | 1            |      |      | headed to Flocks Ad                   |      |
| FF 1036 | " "             | 28           | ☉    |      | Ad } Flocks Feeding at Edge of Squall |      |
|         | wedge tail      | 16           |      |      | light }                               |      |
| 1039    | Bonin F. Pet.   | 1            | SE   |      |                                       |      |
| 1040    | wedge-tail      | 1            | N    |      | light                                 |      |
| 1044    | " "             | 1            | ☉    |      | light                                 |      |
| 1045    | " "             | 1            | S    |      | light                                 |      |
| 1047    | " "             | 3            | N    |      | light                                 |      |
| 1047    | Bulwers Pet     | 1            | N    |      |                                       |      |
| 1047    | Xmas Island     | 1            | S    |      |                                       |      |
| 1048    | Sooty Tern      | 1            | W    |      | Ad                                    |      |
| 1103    | " "             | 1            | ☉    |      | Ad in squall                          |      |
| 1103    | Bulwers Pet     | 1            | W    |      | in squall                             |      |
| 1104    | wedge-tail      | 2            | NW   |      | light in squall                       |      |
| 1105    | " "             | 1            | N    |      | " edge of squall                      |      |
| 1107    | " "             | 2            | ☉    |      | light                                 |      |
| 1107    | Sooty Tern      | 1            | E    |      | Ad                                    |      |
| 1107    | wedge-tail      | 1            | S    |      | light                                 |      |
| 1108    | " "             | 1            | W    |      | light                                 |      |
| 1111    | sooty tern      | 1            | E    |      | Ad                                    |      |
| 1111    | Bulwers         | 1            | NW   |      |                                       |      |

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SMITHSONIAN INSTITUTION  
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AT SEA DAILY LOG -- E



DATE 21 May 64  
Pg. # 5

Noon Position 20-22N; 158-03W

| time    | species        | #      | dir. | hgt. | remarks                     | loc.   |
|---------|----------------|--------|------|------|-----------------------------|--|
| 1114    | wedge tail     | 1      | S    |      | light In Rain               |  |
| 1114    | sooty tern     | 2      | W    |      | Ad                          |  |
| 1117    | wedge tail     | 1      | E    |      | light                       |  |
| 1118    | " "            | 1      | W    |      | "                           |  |
| FF 1123 | " "            | 14     |      |      | light 2                     |  |
|         | (Sooty Tern)   | 15     |      |      | Ad Feeding in Rain          | Whale small 15 ft<br>silver gray all over small dorsal fin |
| 1124    | wedgetail      | 2      | W    |      | light one from Sooty Tern   |  |
| 1124    | Bonin I Pet    | 1      | W    |      | Rain                        |  |
| 1135    | Sooty Tern     | 6      | NW   |      | Ad                          |  |
| 1140    | wedgetail      | 2      | NW   |      | light                       |  |
| 1145    | Bulwers Pet    | 2      | SE   |      |                             |  |
| 1150    | wedgetail      | 1      | NW   |      | light                       |  |
| 1153    | WASP           | 2      | NW   |      |                             |  |
| 1155    | C.N. Tern      | 1      | N    |      | light                       |  |
| 1158    | wedgetail      | 1      | N    |      | Ad                          |  |
| FF 1200 | Sooty Tern     | 23     |      |      |                             |  |
|         | C.N. Tern      | 29     |      |      |                             |  |
|         | wedgetail      | 11     |      |      | All light but 1             |  |
|         | Newell's Shear | 2      |      |      |                             |  |
| 1203    | P. Hypoleuca   | 1      | N    |      |                             |  |
| 1206    | AFB            | 1      | ⊙    |      | SA                          |  |
| 1207    | wedgetail      | 15     |      |      | sitting on H <sub>2</sub> O |  |
| 1209    | C.N. Tern      | 2      | E    |      |                             |  |
| 1210    | Bulwers        | 1      | N    |      |                             |  |
|         | wedgetail      | 1      | W    |      |                             |  |
| 1211    | P. Hypoleuca   | 2      | NW   |      |                             |  |
| 1212    | Bulwers Pet    | 1      | NE   |      |                             |  |
| 1213    | Ptero hypo     | 1      | NW   |      | light                       |  |
| 1214    | wedgetail      | 1      | ⊙    |      |                             |  |
| 1215    | W.R.S.P        | 1      | ⊙    |      |                             |  |
| 1217    | Bulwers Pet    | 1      | NW   |      |                             |  |
| 1218    | P. hypo        | 1      | NW   |      |                             |  |
| 1223    | P. hypo        | 1      | NW   |      |                             |  |
|         | wedgetail      | 1      | N    |      | light                       |  |
| 1230    | "              | 1      | N    |      |                             |  |
| 1233    | Bulwers        | 1      | E    |      |                             |  |
| 1245    | wedgetail      | 1      | N    |      |                             |  |
|         | Shear/pet.     | 1      | N    |      |                             |  |
| 1250    | P. Hypo        | 1      | W    |      |                             |  |
|         | Bulwers        | 1      | W    |      |                             |  |
| 1250    | Wh-necked      | 1      | W    |      |                             |  |
| 1320    | Frigate Sp.    | 2      | ⊙    |      |                             |  |
| 5F 1330 | Sooty Tern     | 20 ± 5 | ⊙    |      |                             |  |
|         | C.N. Tern      | 50 ± 5 |      |      |                             |  |
|         | Bulwers        | 2      |      |      |                             |  |
|         | wedgetail      | 3      |      |      | light phase                 |  |

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



Noon Position 20-22N; 158-03W

DATE 21 May  
Pg. # 6

|    | time | species                       | #     | dir. | hgt. | remarks                       | loc. |
|----|------|-------------------------------|-------|------|------|-------------------------------|------|
|    | 1330 | Fairy Tern                    | 1     |      |      |                               |      |
| FF | 1332 | BFB                           | 2     |      |      |                               |      |
|    |      | C Noddy Tern                  | 25 ±5 |      |      |                               |      |
|    |      | Wedgetail                     | 2     |      |      |                               |      |
|    | 1349 | WRSP                          | 1     |      |      |                               |      |
|    | 1351 | Bulwer's pet                  | 1     | W    |      |                               |      |
|    | 1352 | " "                           | 1     | W    |      |                               |      |
|    | 1353 | Pterodroma hypo.              | 1     | W    |      |                               |      |
|    | 1400 | Wedgetail                     | 1     | W    |      | light phase                   |      |
|    | 1412 | Common noddy                  | 1     | S    |      |                               |      |
|    | 1417 | Bulwer's                      | 1     | W    |      |                               |      |
|    | 1417 | Shear/Pet                     | 1     | W    |      |                               |      |
| FF | 1424 | Sooty Tern                    | 11    |      |      | adult                         |      |
|    |      | CNT                           | 6     |      |      |                               |      |
|    | 1425 | Wedgetail                     | 1     |      |      | light phase                   |      |
|    | 1426 | Sooty Tern                    | 2     | SE   |      | light phase                   |      |
|    | 1427 | CNT                           | 2     | SE   |      |                               |      |
| FF | 1428 | Sooty Terns                   | 20    |      |      | adults, light phase           |      |
|    |      | CNT                           | 15    |      |      |                               |      |
|    |      | RFB                           | 3     |      |      |                               |      |
|    | 1433 | Jarger                        | 1     | S    |      |                               |      |
|    | 1439 | Bulwer's Pet                  | 1     |      |      |                               |      |
|    | 1440 | Newell's shear                | 1     |      |      |                               |      |
|    | 1441 | WRSP                          | 1     | N    |      |                               |      |
|    | 1442 | Bulwer's Pet                  | 2     | N    |      |                               |      |
|    | 1445 | Bird sp.                      | 1     | N    |      |                               |      |
|    | 1446 | RBB                           | 2     |      |      | light phase, sitting on water |      |
|    |      | Shear/Pet                     | 1     |      |      | " "                           |      |
|    | 1447 | Bulwer's Pet                  | 1     | N    |      |                               |      |
|    | 1450 | Sooty Tern                    | 2     | S    |      | adults                        |      |
|    | 1451 | CNT                           | 1     | S    |      |                               |      |
|    | 1456 | P. inexpectata                | 1     | S    |      |                               |      |
|    | 1503 | Bulwer's pet                  | 1     | W    |      |                               |      |
|    | 1512 | Newell's <sup>shear</sup> pet | 1     | W    |      |                               |      |
| FF | 1512 | Sooty tern                    | 30    |      |      | adult                         |      |
|    |      | " CNT                         | 20    |      |      |                               |      |
|    | 1513 | Wedgetail                     | 1     |      |      | light phase                   |      |
|    | 1515 | BFA                           | 1     |      |      | following ship                |      |
|    | 1523 | Bulwer's Pet                  | 1     | SW   |      |                               |      |
| FF | 1535 | Newell's <sup>shear</sup> pet | 20    |      |      | adult                         |      |
|    |      | Sooty tern                    | 20    |      |      |                               |      |
|    |      | CNT                           | 20    |      |      |                               |      |
|    |      | RFB                           | 1     |      |      |                               |      |

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

May

DATE 21 April  
Pg. # 7

Noon Position - 20-22 N; 158-03W

| time | species        | # | dir. | hgt. | remarks                                 | loc. |
|------|----------------|---|------|------|---|------|
| 1538 | Bulwers pet    | 1 | W    |      |   |      |
| 1545 | Shear / Pet    | 1 | NW   |      |   |      |
| 1546 | Bulwers Pet    | 1 | E    |      |   |      |
| 1546 | " "            | 1 | W    |      |   |      |
| 1547 | Newell's Shear | 2 | W    |      |   |      |
| 1548 | " "            | 1 | W    |      |   |      |
| 1548 | Wedgetail      | 1 | W    |      | light phase                             |      |
| 1550 | Bulwers Pet    | 1 | W    |      |   |      |
| 1552 | Sooty Tern     | 1 | NW   |      |   |      |
| 1553 | Shear / Pet    | 1 | W    |      |   |      |
| 1555 |                |   |      |      | close to Honolulu - closed observations |      |

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SOUTHERN GRID  
PRELIMINARY REPORT AT-SEA SURVEY NO. 7  
2-9 May 1966

51-13

by  
Richard S. Crossin

SOUTHERN GRID

PRELIMINARY REPORT AT-SEA SURVEY NO. 7

2-9 May 1966

This report is based upon the observations and collections made within the Southern Grid during the period 2-9 May inclusive. The cruise track used in April was followed again during the present survey (see Figure 1). This track has an advantage of short overall distance whereby it is unnecessary to cruise at night during the allotted grid time. Thus important and highly productive night collecting can be performed as well as having practically the entire grid track covered by diurnal observations.

The Smithsonian survey party included Richard Crossin (Biologist in Charge), Dayle Husted, Norman Heryford, Brian Harrington, Jim Lewis, Frank Smith, Dave Hoff, Ken Balcomb and Jeff Tordoff. The grid cruise was made aboard the U.S.N.S. SHEARWATER (T-AG 177). Excellent cooperation and assistance were received from the officers and crew members.

A total of 684 miles and 84 hours of diurnal observations was completed during the grid period (Table 1). During this time 5,127 birds of 21 species were recorded and 110 birds of 6 species were collected. Choppy seas occurred during most of the grid period and prevented effective use of the small skiff for collecting purposes.

Nocturnal observations were maintained from sunset to sunrise, except during island operations. A total of 159 miles and 53 hours was completed. During night operations 661 birds of 11 species were recorded and 29 birds of 7 species were collected. Gray-backed Terns and Audubon's Shearwaters

were recorded during nocturnal observations, but not during the day.

Attempts to mass band Sooty Terns on Howland Island were made by the survey party on the nights of 2-3, 3-4, and 8-9 May. A nearly full moon combined with probably normal restless behavior of Sooty Terns during the early egg-laying period made for futile banding and only a few thousand were banded and streamered (see SIC 12 Howland report). Since the Sooty Tern is by far the most numerous and important species affecting the grid area, another attempt should be made to mass band and streamer the Howland Island population. A period during the dark of moon in July would probably be most productive. At present, the minute percentage of banded Sooty Terns collected at sea hardly justifies the efforts of collecting and processing of specimens in large numbers such as have been taken during the present and previous surveys.

Density (birds/linear mile) was somewhat lower during the present cruise (7.50) than during the April survey (8.22). Apparently a level has been reached with the present Howland Island population. The very high densities such as were recorded in September 1965 (65.29) depend not only upon great influxes of migrating shearwaters, but large numbers of terns from breeding areas other than Howland.

Peak bird days were noted on 2, 3, and 6 May, all in the vicinity of Howland-Baker. Moderately high daily totals were recorded west of the islands, with very low daily totals to the south, southwest and northeast of the islands. An abundance of feeding and traveling flocks of primarily Sooty Terns were noted on the peak days. During early morning observations about Howland Island, numerous Sooty Terns were noted moving southward into the Baker area. Conversely at dusk near Baker flocks of Sooty Terns in fast, direct flight



could be seen moving north, undoubtedly back to Howland. The area immediately surrounding Baker has now been heavily utilized by tern flocks for two consecutive surveys. One Howland banded Sooty Tern was collected on 9 May E-NE of Howland and indicates limited dispersion in directions other than the southward feeding area about Baker.

SPECIES ACCOUNTS

WEDGE-TAILED SHEARWATER (137 + 9 nocturnal)

Numbers were somewhat higher than last month. This species can be expected to increase in the grid area as the current breeding cycle of southern populations moves to a close. 100 % of the birds recorded to color phase were dark.

SOOTY/SLENDER-BILLED SHEARWATER (20 + 2 nocturnal)

Similar to last month, practically all sightings were of single birds moving in N or NW directions. One Sooty Shearwater was collected at night. Normally, neither of these species venture near the ship at any time. If the spring and fall migrations of the past year are at all typical, a heavy fall migration southward and a sparse northward spring migration can be postulated through the southern grid area.

AUDUBON'S SHEARWATER (20 nocturnal)

Curiously, this species was not encountered during diurnal observations but was present every night. Three specimens were collected. The recording and collecting of such forms only at night demonstrates the importance of nocturnal drift stations whereby collecting can be performed throughout the entire observation period.

KERMADEC PETREL (1)

This species has been recorded irregularly in low numbers since last fall. No specimens have yet been collected within the grid.

MOTTLED PETREL (1)

The sparse northward spring migration of this species appears to be over. A

MOTTLED PETREL cont.

total of 12 was recorded last month, of which 3 were collected during nocturnal operations. Two sightings of unidentified Pterodroma during the present cruise may have been of this species.

BULWER'S PETREL (1)

Normally recorded in low numbers, an abundance of migrating birds was noted in March, with lesser numbers in April. These migrating birds were moving through the grid in E-SE direction, most likely to the Line or Phoenix Islands.

WHITE-THROATED STORM PETREL (1)

The few records of this species in the grid are likely from breeding populations in the Phoenix Islands. The species has not been recorded in the grid since last fall.

LEACH'S STORM PETREL (2 + 1 nocturnal)HARCOURT'S STORM PETREL (5)WHITE-RUMPED STORM PETRELS (81 + 3 nocturnal)

Numbers of storm petrels are down considerably from last month. This was expected with the advent of northward spring migration of Leach's Storm Petrels, the dominant grid species. Harcourt's Storm Petrel has been recorded in very low numbers since last fall. Probably the majority of the 84 unidentified storm petrels are referable to Leach's.

RED-TAILED TROPICBIRD (1)

Recorded in low numbers on all cruises to date. The few birds which breed on Howland can be expected to occur in the grid avifauna.

BLUE-FACED BOOBY (225 + 1 nocturnal)

This species was over twice as abundant as last month. Two peak days occurred: on 3 May when all operations were carried on between Howland and Baker, and on

BLUE-FACED BOOBY cont.

8 May- west of Howland. Three Howland streamered birds were noted in the grid.

BROWN BOOBY (9)

All sightings were recorded on 2-3 May in close proximity to Howland-Baker.

The same number was recorded last month. Grid sightings are likely of Howland based birds.

RED-FOOTED BOOBY (33 + 4 nocturnal)

Most sightings were near Howland and are likely of birds from the breeding colony of that island. Two blue-streamered birds were recorded- up to 68 miles distant from Howland.

LESSER FRIGATEBIRD (25)  
FRIGATEBIRD SP. (71 + 72 nocturnal)

Frigatebird numbers were not as high in the grid as would be expected with the large populations currently breeding there. Many of the Lesser Frigatebirds are still in the nestbuilding and egg-laying stages and may not be actively feeding in the grid at this time. Although no Great Frigatebirds were definitely recorded during the present cruise, a portion of the 143 unidentified birds must logically be of this species. The 72 nocturnal sightings occurred just off Howland Island during bright moonlight conditions. Ordinarily these species are never seen at night.

GOLDEN PLOVER (1)  
WANDERING TATTLER (1)  
SHOREBIRD SP. (1)

Shorebirds can be expected to occur in low numbers until fall when northern migrants again move into the area. A total of 11 was recorded last month, mostly at night. These were likely birds returning to northern breeding grounds.

SKUA (1)

Irregularly recorded in the grid since last fall, always of single sightings. One was observed last month.

SOOTY TERN (4469 + 524 nocturnal)

This species was dominant during every day of the cruise. Sooty Terns accounted for over 86 % of total birds (diurnal + nocturnal). The Howland Island population is presently beginning a new breeding cycle, but as yet only about 30 % of the birds are on the ground. If this population (roughly 70,000) is now stable, then little change in numbers can be expected in the grid until late summer. A total of 120 birds was collected (99 diurnal, 21 nocturnal). A high percentage of these were not in breeding condition. This suggests that either a portion of the birds in the Howland breeding population will not currently nest or that there are numerous birds in the grid from non-breeding populations outside the Howland-Baker area.

- GRAY-BACKED TERN (3 nocturnal)
- COMMON NODDY (5 + 2 nocturnal)
- BLUE-GRAY NODDY (2)
- WHITE (FAIRY) TERN (18 + 2 nocturnal)

All 4 species have been thus far recorded in the grid in low numbers. The Gray-backed Terns were recorded at night by call only. Fairy Terns have increased since last month. Higher numbers of this species were recorded in the grid last fall when large flocks of Sooty Terns were utilizing the grid area.

TABLE 1. Summary of Southern Grid observations during the period 2-9 May 1966.

| <u>Date</u>                              | <u>DIURNAL</u>   |                  |                  |                    |
|--|------------------|------------------|------------------|--------------------|
|  | <u>No. Miles</u> | <u>No. Hours</u> | <u>No. Birds</u> | <u>No. Species</u> |
| 2 May                                    | 88               | 8.17             | 1046             | 9                  |
| 3  | 74               | 6.93             | 1215             | 11                 |
| 4  | 115              | 12.18            | 75               | 11                 |
| 5  | 100              | 12.07            | 66               | 6                  |
| 6  | 87               | 12.08            | 1206             | 10                 |
| 7  | 89               | 12.22            | 452              | 9                  |
| 8  | 72               | 9.87             | 854              | 8                  |
| 9  | <u>59</u>        | <u>10.81</u>     | <u>213</u>       | <u>8</u>           |
| TOTALS                                   | 684              | 84.33            | 5127             | 21 (9/day)         |
|  |                  | <u>NOCTURNAL</u> |                  |                    |
| 3-4 May                                  | 50               | 5.65             | 102              | 4                  |
| 4-5                                      | 23               | 11.91            | 39               | 7                  |
| 5-6                                      | 40               | 11.88            | 64               | 7                  |
| 6-7                                      | 16               | 11.90            | 358              | 6                  |
| 7-8                                      | <u>30</u>        | <u>11.85</u>     | <u>98</u>        | <u>6</u>           |
| TOTALS                                   | 159              | 53.19            | 661              | 11 (6/night)       |
| GRAND TOTALS<br>(Diurnal +<br>nocturnal) | 843              | 137.52           | 5788             | 22                 |

TABLE 3. Diurnal abundance of species in the Southern Grid, 2-9 May 1966.

| <u>Species</u>                  | <u>No.<br/>Birds</u> | <u>Birds/<br/>Linear Mile</u> | <u>Number<br/>Collected</u> | <u>Status over<br/>last month</u> |
|---------------------------------|----------------------|-------------------------------|-----------------------------|-----------------------------------|
| Wedge-tailed Shearwater         | 137                  | 0.20                          | 4                           | +                                 |
| Sooty/Slender-billed Shearwater | 20                   | 0.03                          |                             | -                                 |
| Kermadec Petrel                 | 1                    | 0.001                         |                             | +                                 |
| Mottled Petrel                  | 1                    | 0.001                         |                             | -                                 |
| <u>Pterodroma sp.</u>           | 2                    | 0.003                         |                             | -                                 |
| Bulwer's Petrel                 | 1                    | 0.001                         |                             | -                                 |
| Shearwater-Petrel               | 7                    | 0.01                          |                             | -                                 |
| White-throated Storm Petrel     | 1                    | 0.001                         |                             | +                                 |
| Leach's Storm Petrel            | 2                    | 0.003                         | 2                           | -                                 |
| Harcourt's Storm Petrel         | 5                    | 0.01                          | 3                           | +                                 |
| White-rumped Storm Petrels sp.? | 81                   | 0.12                          |                             | -                                 |
| Red-tailed Tropicbird           | 1                    | 0.001                         |                             | -                                 |
| Blue-faced Booby                | 225                  | 0.33                          |                             | +                                 |
| Brown Booby                     | 9                    | 0.01                          |                             | o                                 |
| Red-footed Booby                | 33                   | 0.05                          | 1                           | +                                 |
| Lesser Frigatebird              | 25                   | 0.03                          | 1                           | -                                 |
| Frigatebird sp.?                | 71                   | 0.11                          |                             | -                                 |
| Golden Plover                   | 1                    | 0.001                         |                             | +                                 |
| Wandering Tattler               | 1                    | 0.001                         |                             | +                                 |
| Skua                            | 1                    | 0.001                         |                             | o                                 |
| Sooty Tern                      | 4469                 | 6.53                          | 99                          | +                                 |
| Common Noddy                    | 5                    | 0.01                          |                             | o                                 |
| Blue-gray Noddy                 | 2                    | 0.003                         |                             | o                                 |
| White (Fairy) Tern              | 18                   | 0.03                          |                             | +                                 |
| Tern sp.?                       | 4                    | 0.006                         |                             | +                                 |
| Miscellaneous                   | <u>4</u>             | <u>0.006</u>                  | <u>      </u>               | <u>-</u>                          |
| TOTALS                          | 5127                 | 7.50                          | 110                         | +                                 |

TABLE 4. Nocturnal abundance of species in the Southern Grid, 2-9 May 1966.

| <u>Species</u>                  | <u>No. Birds</u> | <u>Birds/Linear Mile</u> | <u>No. Collected</u> |
|---------------------------------|------------------|--------------------------|----------------------|
| Wedge-tailed Shearwater         | 9                | 0.06                     |                      |
| Sooty Shearwater                | 2                | 0.01                     | 1                    |
| Audubon's Shearwater            | 20               | 0.13                     | 3                    |
| Shearwater-Petrel               | 9                | 0.06                     |                      |
| Leach's Storm Petrel            | 1                | 0.01                     | 1                    |
| White-rumped Storm Petrels sp.? | 3                | 0.02                     |                      |
| Blue-faced Booby                | 1                | 0.01                     |                      |
| Red-footed Booby                | 4                | 0.03                     | 1                    |
| Frigatebird sp.?                | 72               | 0.45                     |                      |
| Sooty Tern                      | 524              | 3.30                     | 21                   |
| Gray-backed Tern                | 3                | 0.02                     |                      |
| Common Noddy                    | 2                | 0.01                     | 1                    |
| White (Fairy) Tern              | 2                | 0.01                     | 1                    |
| Miscellaneous sp.?              | <u>9</u>         | <u>0.06</u>              | <u>    </u>          |
| TOTALS                          | 661              | 4.16                     | 29                   |



TABLE 5. Banded and/or color-tagged birds observed or collected within the Southern Grid, 2-9 May 1966,

| <u>Species</u>   | <u>Age</u> | <u>Date</u> | <u>Band or Streamer</u>           | <u>Latitude</u> | <u>Longitude</u> | <u>Origin</u> | <u>Distance from Origin</u> |
|------------------|------------|-------------|-----------------------------------|-----------------|------------------|---------------|-----------------------------|
| Blue-faced Booby | ad.        | 2 May       | Blue Streamer                     | 0-24 N          | 176-31 W         | Howland       | 25                          |
| Blue-faced Booby | ad.        | 2 May       | Blue-Streamer                     | 0-40 N          | 176-37 W         | Howland       | 13                          |
| Blue-faced Booby | ad.        | 7 May       | Blue Streamer                     | 0-08 N          | 176-53 W         | Howland       | 42                          |
| Red-footed Booby | ad.        | 6 May       | Blue Streamer                     | 0-12 S          | 176-56 W         | Howland       | 63                          |
| Red-footed Booby | Sad.       | 6 May       | Blue Streamer<br>+ Band 777-57440 | 0-09 S          | 176-49 W         | Howland       | 58                          |
| Sooty Tern       | ad.        | 9 May       | Band # 793-45604                  | 1-00 N          | 175-47 W         | Howland       | 53                          |

TABLE 6. Diurnal abundance of Flocks in the Southern Grid, 2-9 May 1966.

| <u>Date</u> | <u>No. Flocks</u> | <u>No. Birds</u> | <u>% Shearwater-Petrel</u> | <u>% Terns</u> |
|-------------|-------------------|------------------|----------------------------|----------------|
| 2 May       | 38                | 837              | 0.2                        | 97.9           |
| 3           | 50                | 927              | 3.0                        | 85.2           |
| 4           | 2                 | 37               | 21.6                       | 65.0           |
| 5           | 3                 | 25               | 4.0                        | 92.0           |
| 6           | 22                | 1152             | 1.5                        | 97.4           |
| 7           | 24                | 330              | 0                          | 97.9           |
| 8           | 20                | 774              | 6.7                        | 86.3           |
| 9           | <u>6</u>          | <u>102</u>       | <u>2.9</u>                 | <u>95.1</u>    |
| TOTALS      | 165               | 4184             | Ave. 2.6 %                 | Ave. 90.1 %    |

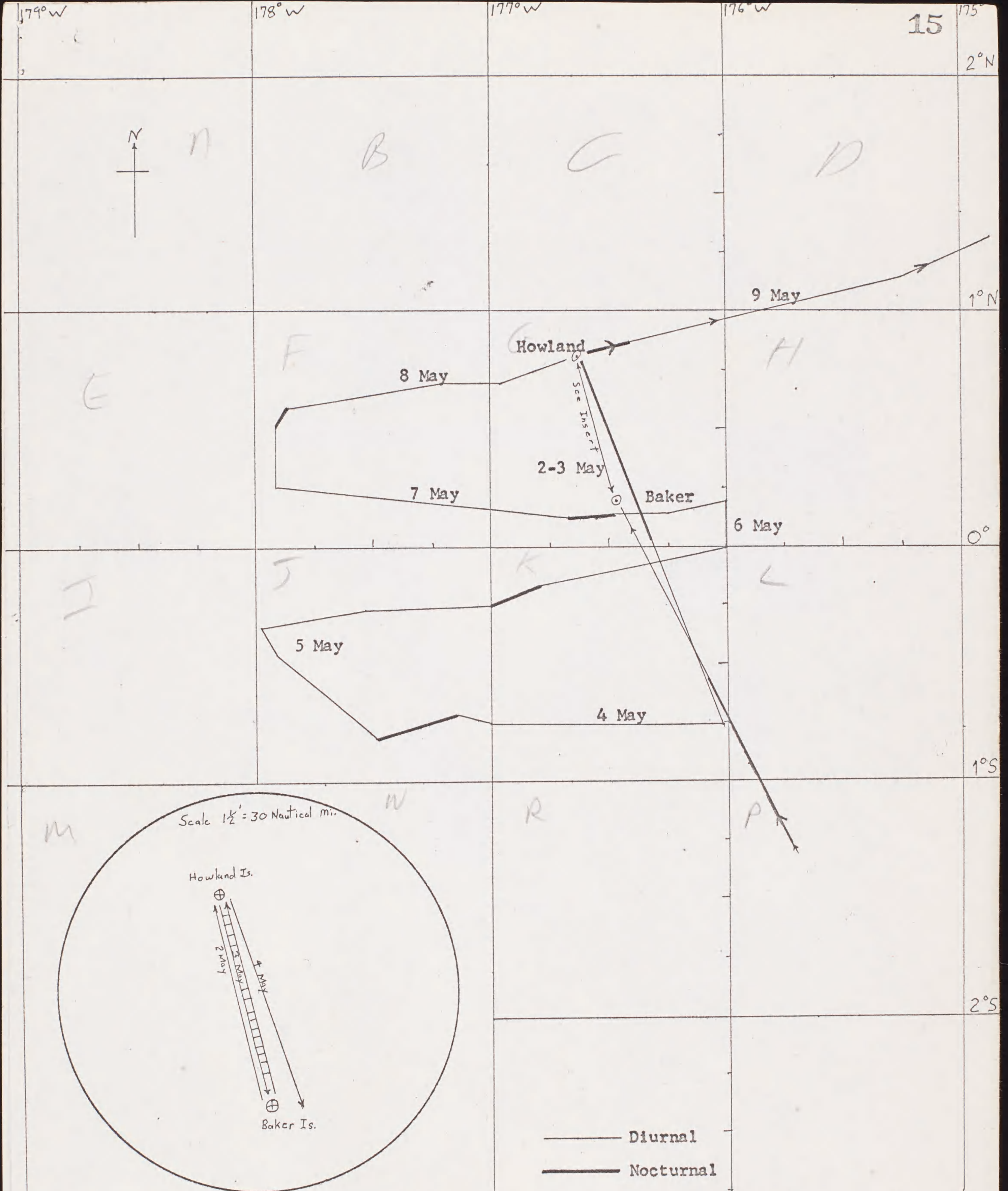


Figure 1. Southern Grid # 7 cruise track, 2-9 May 1966.

Scale: 2 inches = 60 miles at 0° latitude.

Howland Island SIC ~~12~~ 13

April 6-7, 1966

Due to a message received prior to our arrival at Howland Island, we did not land on the island. However, surveys of some interest were conducted within 500 feet of the west shore on the evening of April 6 and morning of April 7. These two surveys were to try and ascertain whether there were breeding Sooty Terns on Howland Island and to take 25 specimens for reproductive organ studies and the heads for nasal mite studies.

We arrived at the island at 1930 (after dark) and put the skiff in the water. The USNS Shearwater drifted offshore while the skiff remained just off the surf collecting and observing Sooty Terns. Although we were not positive, it was thought the Sooty Terns were probably down on the ground during the night. The size of the population could only be guessed at in the dark and was placed roughly from 50,000-100,000 birds with a chance of the actual figure being as much as 50 percent off.

At 0700 on 7 April, the skiff made another trip along the west shore of the island but little more was learned about the terns from the skiff except they were not on the ground at that time.

Observers on the ship recorded large and small groups breaking away from a large group circling over the island about 0700. These groups scattered in all directions. These early morning observations are in contrast to the last visit made to the island in mid-March by SIC 11, when the majority of the Sooty Terns left the island prior to 0300 and numbered only 5,000-10,000 in number.

Twenty-five Sooty Terns were collected within three miles of Howland Island on the evening of April 6. These birds were all coming from seaward heading toward the island. The primary objective was to ascertain as far as possible the stage of development in the reproductive cycle. The 25 specimens included 16 males and 9 females. The left testis of the males ranged in size from 4 x 2 mm. to 12 x 4 mm. with an average of 7.5 x 3 mm. Although the testes were not checked for spermatozoa, it is thought they were below the maximum breeding size. Seven of the males had brood patches forming (43%) and 4 females had brood patches (44%). Of the females examined, only 3 showed evidence of the oviduct enlarging while several showed ova of 2 mm. in size.

The evidence presented above suggests that the Sooty Terns will probably be on eggs within a month's time but past experience shows the breeding cycle to be highly unpredictable.

One banded Sooty Tern was taken (793-48690) just off the beach at Howland. The tern had been banded at Howland Island in February 1965. Another band was taken later at-sea near Baker Island and was also a Howland Island bird banded in February 1965.

We were unable to make any accurate counts of other species but the frigatebird (too far to tell species) numbers circling over the island appeared to be up considerably in number from mid-March. The usual number of Brown Boobies, Blue-faced Boobies and Red-footed Boobies were seen around the island.

Max C. Thompson  
Biologist-in-charge  
Island Section

## ITINERARY

| Date     | Time | Arrival   | Departure |
|----------|------|-----------|-----------|
| March 29 | 1900 |           | Honolulu  |
| April 3  | 0900 | Enderbury |           |
| April 14 | 0900 |           | Enderbury |
| "        | 1300 | Phoenix   |           |
| April 16 | 0200 |           | Phoenix   |
| "        | 1100 | Hull      |           |
| "        | 1400 |           | Hull      |
| April 17 | 1100 | McKean    |           |
| April 19 | 0730 |           | McKean    |
| April 22 | 0800 | Pago Pago |           |

SIC #12 departed Honolulu on March 29 aboard the USNS Shearwater (T-AG 177). Smithsonian personnel aboard were: Max C. Thompson (Biologist-in-charge, Island Work), Richard Crossin, Brian Harrington, Ken Balcomb, James Lewis, Dave Hoff, Frank Smith, Norman Heryford, Dayle Husted and Phil Shelton. The Shearwater was under the command of Mr. G. Krull. The usual cooperation was received from the ship's crew.

Intensive work was done on four islands: Enderbury, Phoenix, Hull and McKean. Due to last minute changes in orders, Howland and Baker were omitted from the first half of the trip. McKean was added to the itinerary when it was apparent that the prime objective of banding Sooty Terns could not be accomplished on the three planned islands.

In general it is safe to say that SIC 12 is about one month too early to obtain any numbers of Sooty Terns. They will be discussed later under each island.

Since the grid was revised and shortened, time was available to spend off of Howland Island drifting all night. The skiff was put overboard and a run made up to the surf line of the island. Sooty Terns were present in large numbers but apparently were not yet on the ground. A morning survey showed very few terns over the island. Twenty-five birds were shot and showed various signs of coming into breeding condition. For more details see the Howland report.

The results of the first half of the trip were disappointing and the prospects for the second half are also dim except possibly for Palmyra.

The following is a list of species for each island visited.

ENDERBURY ISLAND

The water level in the lagoon was down about 6-12 inches in depth from March. However, the vegetation was still green indicating continuing rainfall. It was obvious that little of value could be gained by staying on the island the allotted days so we moved on to Phoenix ahead of schedule.

## Species Accounts

Wedge-tailed Shearwater-One bird was seen cruising the surf line about 0900 April 13.

Red-tailed Tropicbird-The mating season is in full swing now with many adults looking for nest sites. One 3/4 grown nestling (found on SIC 11) was banded. Population 150+-.

Blue-faced Booby-One small club present on the island near the house. One blue-streamered bird was captured and the return taken. Twenty-three nests with eggs were found. Population 300+-.

Brown Booby-Population was down from SIC 11. Five nests with eggs and seven with nestlings were found. Population 100+-.

Red-footed Booby-Twenty-one nests, contents unknown were seen high in the Cordia on the SE side of the island. Adult numbers are down considerably. Population 50+-.

Great Frigatebird-The nesting season was well under way with an estimated 5,000 birds present. The largest concentration was in the Messerschmidia north of the house. We found 747 nests with eggs and three with chicks. Large scale banding at night in frigatebird colonies should be discouraged due to a large proportion of the nests being abandoned.



Lesser Frigatebird-A new colony was starting at the NE corner of the Greater Frigatebird colony. An estimated 300 nests were present.

Population 2000+-,

Golden Plover-Large concentrations still present but down to 469 from 627 in February. Many are now in breeding plumage.

Ruddy Turnstone-Still abundant around the island. Population was 622, 44 less than in February. Nearly all were in breeding plumage.

Wandering Tattler-A total of 42 counted, down from 74 in February.

Most are still in winter plumage.

Bristle-thighed Curlew-Population fairly stable at 41, down from 45 in February.

Sharp-tailed Sandpiper-Three Erolia collected were this species. Eight were seen.

Sooty Tern-This species was present in larger numbers than last trip with an estimated 20,000 swirling over the island. A flock of 1-2,000 was sitting daily on the lagoon edge but were aerial at night.

Gray-backed Tern-Present and nesting in small numbers. Several eggs and chicks were found. Population 5,000+-.

Hawaiian Noddy-Present in the Cordia near the guano heap but no count was made.

Common Noddy-The population has risen from 30+- in February to 200+- in April. One nest was found on an island in the lagoon.

Blue-gray Noddy-About 30 were seen on the island.

Crested Tern-Twelve were sitting on the SE side of the island on the beach.

PHOENIX ISLAND

The central lagoon contained about 5 acres of water. The vegetation on the island was luxuriant, indicating rains were continuing to fall regularly. Light showers occurred while we were there.

Both ticks and chiggers were present. A collection of live ticks was made and sent to Honolulu from Pago Pago. Chiggers were responsible for severe reactions in several of the biologists. At least one biologist experienced cold chills and nausea a day after we had been on the island. The main concentrations of the infection was around the waist and groin areas. Some people were nearly solid welts around the entire body at the waist. Alcoholic collections of chiggers were made.

Very few birds were nesting and the Sooty Terns were aerial.

The following is a species account:

Phoenix Island Petrel-Present in low numbers. Population 25+-.

Wedge-tailed Shearwater-The nesting season was advanced with nearly all burrows containing young. One pair was observed copulating. A club of 50+- birds was found on a bare spot and 43 banded. Population 3,000+-.

Christmas Island Shearwater-This species was in all stages of the breeding cycle from fresh eggs to 3/4 grown young. Population 1,000+-.

Audubon's Shearwater-Most all nests had fresh eggs although one 3/4 grown young was found. Population 1,000+-.

White-throated Storm Petrel-Present in the dense grass on the west side

of Sida fallax. It appears the nesting season started and rains combined with guano caused a rapid growth in the Sida, preventing the birds from getting to their eggs (Crossin theory). A few immatures were flying around so a few were raised.

The terns appear to be trying to nest again as large numbers were over the island 24 hours a day. A few were sitting down on the NW corner. Population 30,000+-.

Gray-backed Tern-Eggs were just starting to hatch when we arrived. We found no large egg concentrations but found them in isolated pockets. Population 3,000+-.

Common Noddy-A few nests were present but essentially a roosting population. Population 500+-.

Hawaiian Noddy-Only one was seen.

Fairy Tern-Common nester around the shoreline with 38 nest with eggs being found. Population 1,000+-.

Blue-gray Noddy-Large nesting and roosting population. Three nests were found under Portulaca. Birds would not fly directly from the nest but would run 18" or so and then fly. Population 3,000+-.

#### HULL ISLAND

Although this island was to have been worked for 2 days, only four hours were spent here when it was found no nesting Sooty Terns were present. One recovery was made on the lagoon, a Sooty banded in September 1965.

Very few other birds were observed.

McKEAN ISLAND

Although McKean was to be hit on the second-half of SIC 12, we decided to try it for Sooty Terns the first-half since Hull Island had none. Vegetation was extremely dense as compared to February 1965, making it difficult to get around. The grass was so dense the White-throated Storm Petrels were utilizing it for burrows whereas in 1965, they were confined to rock walls. A general rain fell on the island on the 18th and indications are rain has been regular. The central depression had one foot of water in it.

The following is a species account:

Wedge-tailed Shearwater-Present in the guano mounds near the ruins.

A few were reported roosting on the east side of the island. All of the adults had young. Population 200+-.

Christmas Island Shearwater-Very few seen on the island. Population 50+-.

Audubon's Shearwater-Common in practically all habitats where rocks were present for nesting sites. Population 1,000+-.

White-throated Storm Petrel-Present in large numbers. They were utilizing dense stands of grass and also the guano mound for nesting. Mating has apparently only begun and no eggs were found. Population 500+-.

Red-tailed Tropicbird-Thirty-six nests were found with eggs and one nest with a nestling. Several courting groups were seen over the island. Population 150+-.

Blue-faced Booby-Three medium size clubs were present. About 200 returns were obtained including a bird painted red from Baker. Population 1,000+-.

Brown Booby-Sixteen nests with 2 eggs each and 2 nests with 1 egg each were present. Population 100+-.

Red-footed Booby-This species was not nesting and was seen roosting only in the evenings. Population 200+-.

Great Frigatebird-About 21 nests were found. No attempt was made to band birds due to desertion of nests. Population 500+-.

Lesser Frigatebird-A small colony was nesting on the SE end of the island. 342 nests with eggs were counted. Many nests were abandoned due to our activity on the island. Population 2,000+-.

Golden Plover-An exceptionally dark night with light rain and moderate wind enabled us to band 41 on the island. The birds were in breeding plumage and non-breeding plumage. Population 260+-.

Muddy Turnstone-As in the Golden Plovers, we were able to capture 33 turnstones and band them plus picking up 2 returns. Both birds had been banded previously on McKean in February 1965. Population 182.

Bristle-thighed Curlew-A small population of 69 was present. Five returns, all banded on McKean, were taken and 29 more banded. The birds were exceedingly fat.

Wandering Tattler-Only 26 were present on the islands. Most all were in winter plumage.

Dunlin-One bird thought to be Erolia alpina was seen by Harrington but identification was uncertain.

Pectoral Sandpiper-One bird was seen at night at 3 feet and was thought to be this species (MCT).

Sanderling-Three were seen on the beach by Harrington.

Sooty Tern-About 100,000 present over the island day and night.

A flock of 5,000 was down on a bar on the lagoon but wouldn't hold for banding purposes. Vegetation has overgrown old nesting sites so new ones will have to be established. Many birds coming within 5-6' of the ground at night.

Gray-backed Tern-This species was abundant but none were found nesting. Population 8,000+-.

Common Noddy-Common about the lagoon and ruins. No eggs or nests were found. Population 2,000+-.

Hawaiian Noddy-A few scattered individuals about the lagoon and ruins. Population 500+-.

Fairy Tern-Present in large numbers and many breeding. Population 5,000+-.

Blue-gray Noddy-Common but apparently not nesting on island yet.

Population 1,500+-.

Table 1. Bandings SIC 12 (first-half).

|                             | Enderbury | Phoenix | McKean | Total |
|-----------------------------|-----------|---------|--------|-------|
| Wedge-tailed Shearwater     | -         | 288     | 23     | 311   |
| Christmas Island Shearwater | -         | 340     | -      | 340   |
| Audubon's Shearwater        | -         | 301     | 560    | 861   |
| Phoenix Island Petrel       | -         | 12      | -      | 12    |
| Bulwer's Petrel             | -         | -       | 1      | 1     |
| White-throated Storm Petrel | -         | 33      | 20     | 53    |
| Red-tailed Tropicbird       | 37        | 4       | 60     | 101   |
| Blue-faced Booby            | 7         | 3       | 36     | 46    |
| Brown Booby                 | 3         | -       | 5      | 8     |
| Red-footed Booby            | 26        | -       | 12     | 38    |
| Great Frigatebird           | 540       | 83      | 11     | 634   |
| Lesser Frigatebird          | 75        | 12      | -      | 87    |
| Golden Plover               | -         | -       | 41     | 41    |
| Ruddy Turnstone             | -         | -       | 33     | 33    |
| Bristle-thighed Curlew      | -         | 8       | 29     | 37    |
| Wandering Tattler           | -         | -       | 4      | 4     |
| Sooty Tern                  | -         | 2       | 233    | 235   |
| Gray-backed Tern            | 82        | 92      | 1164   | 1338  |
| Blue-gray Noddy             | -         | 466     | 489    | 955   |
| Common Noddy                | 1         | 232     | 560    | 793   |
| Hawaiian Noddy              | -         | -       | 51     | 51    |
| Fairy Tern                  | -         | 70      | 310    | 380   |
| TOTAL                       | 771       | 1946    | 3642   | 6359  |

Table 2. Returns SIC 12 (first-half).

|                             | Enderbury | Phoenix | McKean | Total |
|-----------------------------|-----------|---------|--------|-------|
| Wedge-tailed Shearwater     | -         | 11      | 5      | 16    |
| Christmas Island Shearwater | -         | 2       | -      | 2     |
| Audubon's Shearwater        | -         | 16      | 42     | 58    |
| White-throated Storm Petrel | -         | -       | 2      | 2     |
| Red-tailed Tropicbird       | 11        | 4       | 7      | 22    |
| Blue-faced Booby            | 167       | 262     | 213    | 642   |
| Brown Booby                 | 1         | 4       | 1      | 6     |
| Red-footed Booby            | 19        | 13      | 34     | 66    |
| Great Frigatebird           | 56        | 1       | -      | 57    |
| Ruddy Turnstone             | -         | -       | 2      | 2     |
| Bristle-thighed Curlew      | -         | -       | 5      | 5     |
| Gray-backed Tern            | -         | -       | 2      | 2     |
| Blue-gray Noddy             | -         | 18      | 6      | 24    |
| Common Noddy                | -         | 4       | -      | 4     |
| Hawaiian Noddy              | -         | -       | 3      | 3     |
| Fairy Tern                  | -         | 40      | 52     | 92    |
| TOTAL                       | 254       | 375     | 374    | 1003  |



OTE

SOUTHERN GRID

PRELIMINARY REPORT AT-SEA SURVEY NO. 7

2-9 May 1966

SIC 13

by

Richard S. Crossin

SOUTHERN GRID

PRELIMINARY REPORT AT-SEA SURVEY NO. 7

2-9 May 1966

This report is based upon the observations and collections made within the Southern Grid during the period 2-9 May inclusive. The cruise track used in April was followed again during the present survey (see Figure 1). This track has an advantage of short overall distance whereby it is unnecessary to cruise at night during the allotted grid time. Thus important and highly productive night collecting can be performed as well as having practically the entire grid track covered by diurnal observations.

The Smithsonian survey party included Richard Crossin (Biologist in Charge), Dayle Husted, Norman Heryford, Brian Harrington, Jim Lewis, Frank Smith, Dave Hoff, Ken Balcomb and Jeff Tordoff. The grid cruise was made aboard the U.S.N.S. SHEARWATER (T-AG 177). Excellent cooperation and assistance were received from the officers and crew members.

A total of 684 miles and 84 hours of diurnal observations was completed during the grid period (Table 1). During this time 5,127 birds of 21 species were recorded and 110 birds of 6 species were collected. Choppy seas occurred during most of the grid period and prevented effective use of the small skiff for collecting purposes.

Nocturnal observations were maintained from sunset to sunrise, except during island operations. A total of 159 miles and 53 hours was completed. During night operations 661 birds of 11 species were recorded and 29 birds of 7 species were collected. Gray-backed Terns and Audubon's Shearwaters

were recorded during nocturnal observations, but not during the day.

Attempts to mass band Sooty Terns on Howland Island were made by the survey party on the nights of 2-3, 3-4, and 8-9 May. A nearly full moon combined with probably normal restless behavior of Sooty Terns during the early egg-laying period made for futile banding and only a few thousand were banded and streamered (see SIC 12 Howland report). Since the Sooty Tern is by far the most numerous and important species affecting the grid area, another attempt should be made to mass band and streamer the Howland Island population. A period during the dark of moon in July would probably be most productive. At present, the minute percentage of banded Sooty Terns collected at sea hardly justifies the efforts of collecting and processing of specimens in large numbers such as have been taken during the present and previous surveys.

Density (birds/linear mile) was somewhat lower during the present cruise (7.50) than during the April survey (8.22). Apparently a level has been reached with the present Howland Island population. The very high densities such as were recorded in September 1965 (65.29) depend not only upon great influxes of migrating shearwaters, but large numbers of terns from breeding areas other than Howland.

Peak bird days were noted on 2, 3, and 6 May, all in the vicinity of Howland-Baker. Moderately high daily totals were recorded west of the islands, with very low daily totals to the south, southwest and northeast of the islands. An abundance of feeding and traveling flocks of primarily Sooty Terns were noted on the peak days. During early morning observations about Howland Island, numerous Sooty Terns were noted moving southward into the Baker area. Conversely at dusk near Baker flocks of Sooty Terns in fast, direct flight

could be seen moving north, undoubtedly back to Howland. The area immediately surrounding Baker has now been heavily utilized by tern flocks for two consecutive surveys. One Howland banded Sooty Tern was collected on 9 May E-NE of Howland and indicates limited dispersion in directions other than the southward feeding area about Baker.

SPECIES ACCOUNTSWEDGE-TAILED SHEARWATER (137 + 9 nocturnal)

Numbers were somewhat higher than last month. This species can be expected to increase in the grid area as the current breeding cycle of southern populations moves to a close. 100 % of the birds recorded to color phase were dark.

SOOTY/SLENDER-BILLED SHEARWATER (20 + 2 nocturnal)

Similar to last month, practically all sightings were of single birds moving in N or NW directions. One Sooty Shearwater was collected at night. Normally, neither of these species venture near the ship at any time. If the spring and fall migrations of the past year are at all typical, a heavy fall migration southward and a sparse northward spring migration can be postulated through the southern grid area.

AUDUBON'S SHEARWATER (20 nocturnal)

Curiously, this species was not encountered during diurnal observations but was present every night. Three specimens were collected. The recording and collecting of such forms only at night demonstrates the importance of nocturnal drift stations whereby collecting can be performed throughout the entire observation period.

KERMADEC PETREL (1)

This species has been recorded irregularly in low numbers since last fall. No specimens have yet been collected within the grid.

MOTTLED PETREL (1)

The sparse northward spring migration of this species appears to be over. A

MOTTLED PETREL cont.

total of 12 was recorded last month, of which 3 were collected during nocturnal operations. Two sightings of unidentified Pterodroma during the present cruise may have been of this species.

BULWER'S PETREL (1)

Normally recorded in low numbers, an abundance of migrating birds was noted in March, with lesser numbers in April. These migrating birds were moving through the grid in E-SE direction, most likely to the Line or Phoenix Islands.

WHITE-THROATED STORM PETREL (1)

The few records of this species in the grid are likely from breeding populations in the Phoenix Islands. The species has not been recorded in the grid since last fall.

LEACH'S STORM PETREL (2 + 1 nocturnal)HARCOURT'S STORM PETREL (5)WHITE-RUMPED STORM PETRELS (81 + 3 nocturnal)

Numbers of storm petrels are down considerably from last month. This was expected with the advent of northward spring migration of Leach's Storm Petrels, the dominant grid species. Harcourt's Storm Petrel has been recorded in very low numbers since last fall. Probably the majority of the 84 unidentified storm petrels are referable to Leach's.

RED-TAILED TROPICBIRD (1)

Recorded in low numbers on all cruises to date. The few birds which breed on Howland can be expected to occur in the grid avifauna.

BLUE-FACED BOOBY (225 + 1 nocturnal)

This species was over twice as abundant as last month. Two peak days occurred: on 3 May when all operations were carried on between Howland and Baker, and on

BLUE-FACED BOOBY cont.

8 May- west of Howland. Three Howland streamered birds were noted in the grid.

BROWN BOOBY (9)

All sightings were recorded on 2-3 May in close proximity to Howland-Baker. The same number was recorded last month. Grid sightings are likely of Howland based birds.

RED-FOOTED BOOBY (33 + 4 nocturnal)

Most sightings were near Howland and are likely of birds from the breeding colony of that island. Two blue-streamered birds were recorded- up to 68 miles distant from Howland.

LESSER FRIGATEBIRD (25)  
FRIGATEBIRD SP. (71 + 72 nocturnal)

Frigatebird numbers were not as high in the grid as would be expected with the large populations currently breeding there. Many of the Lesser Frigatebirds are still in the nestbuilding and egg-laying stages and may not be actively feeding in the grid at this time. Although no Great Frigatebirds were definitely recorded during the present cruise, a portion of the 143 unidentified birds must logically be of this species. The 72 nocturnal sightings occurred just off Howland Island during bright moonlight conditions. Ordinarily these species are never seen at night.

GOLDEN PLOVER (1)  
WANDERING TATTLER (1)  
SHOREBIRD SP. (1)

Shorebirds can be expected to occur in low numbers until fall when northern migrants again move into the area. A total of 11 was recorded last month, mostly at night. These were likely birds returning to northern breeding grounds.

SKUA (1)

Irregularly recorded in the grid since last fall, always of single sightings. One was observed last month.

SOOTY TERN (4469 + 524 nocturnal)

This species was dominant during every day of the cruise. Sooty Terns accounted for over 86 % of total birds (diurnal + nocturnal). The Howland Island population is presently beginning a new breeding cycle, but as yet only about 30 % of the birds are on the ground. If this population (roughly 70,000) is now stable, then little change in numbers can be expected in the grid until late summer. A total of 120 birds was collected (99 diurnal, 21 nocturnal). A high percentage of these were not in breeding condition. This suggests that either a portion of the birds in the Howland breeding population will not currently nest or that there are numerous birds in the grid from non-breeding populations outside the Howland-Baker area.

- GRAY-BACKED TERN (3 nocturnal)
- COMMON NODDY (5 + 2 nocturnal)
- BLUE-GRAY NODDY (2)
- WHITE (FAIRY) TERN (18 + 2 nocturnal)

All 4 species have been thus far recorded in the grid in low numbers. The Gray-backed Terns were recorded at night by call only. Fairy Terns have increased since last month. Higher numbers of this species were recorded in the grid last fall when large flocks of Sooty Terns were utilizing the grid area.



TABLE 1. Summary of Southern Grid observations during the period 2-9 May 1966.

| <u>DIURNAL</u>                           |                  |                  |                  |                    |
|--|------------------|------------------|------------------|--------------------|
| <u>Date</u>                              | <u>No. Miles</u> | <u>No. Hours</u> | <u>No. Birds</u> | <u>No. Species</u> |
| 2 May                                    | 88               | 8.17             | 1046             | 9                  |
| 3  | 74               | 6.93             | 1215             | 11                 |
| 4  | 115              | 12.18            | 75               | 11                 |
| 5  | 100              | 12.07            | 66               | 6                  |
| 6  | 87               | 12.08            | 1206             | 10                 |
| 7  | 89               | 12.22            | 452              | 9                  |
| 8  | 72               | 9.87             | 854              | 8                  |
| 9  | <u>59</u>        | <u>10.81</u>     | <u>213</u>       | <u>8</u>           |
| TOTALS                                   | 684              | 84.33            | 5127             | 21 (9/day)         |
| <u>NOCTURNAL</u>                         |                  |                  |                  |                    |
| 3-4 May                                  | 50               | 5.65             | 102              | 4                  |
| 4-5                                      | 23               | 11.91            | 39               | 7                  |
| 5-6                                      | 40               | 11.88            | 64               | 7                  |
| 6-7                                      | 16               | 11.90            | 358              | 6                  |
| 7-8                                      | <u>30</u>        | <u>11.85</u>     | <u>98</u>        | <u>6</u>           |
| TOTALS                                   | 159              | 53.19            | 661              | 11 (6/night)       |
| GRAND TOTALS<br>(Diurnal +<br>nocturnal) | 843              | 137.52           | 5788             | 22                 |

TABLE 2. Diurnal density of Species Groups in the Southern Grid, 2-9 May 1966.

| <u>Species Group</u> | <u>No. Birds</u> | <u>Birds/Sq. Mi.</u>      | <u>Estimated Pop./<br/>57,600 Sq. Mi.</u> | <u>% Total<br/>Birds</u> |
|----------------------|------------------|---------------------------|---|--------------------------|
| Shearwater-Petrel    | 169              | 0.124                     | 7,142                                     | 3.30                     |
| Storm Petrel         | 89               | 0.130                     | 7,488                                     | 1.74                     |
| Terns                | 4,498            | 2.192                     | 126,259                                   | 87.73                    |
| Tropicbirds          | 1                | 0.001                     | 58  | 0.02                     |
| Boobies              | 267              | 0.196                     | 11,290                                    | 5.20                     |
| Frigatebirds         | 96               | 0.035                     | 2,016                                     | 1.87                     |
| Shorebirds           | 3                | 0.004                     | 230                                       | 0.06                     |
| Jaegers & Skuas      | 1                | 0.001                     | 58  | 0.02                     |
| Miscellaneous        | <u>3</u>         | <u>0.003</u>              | <u>172</u>                                | <u>0.06</u>              |
| TOTALS               | 5,127            | <del>3.748</del><br>2.686 | 213,885                                   | 100.00 %                 |

TABLE 3. Diurnal abundance of species in the Southern Grid, 2-9 May 1966.

| <u>Species</u>                  | <u>No.<br/>Birds</u> | <u>Birds/<br/>Linear Mile</u> | <u>Number<br/>Collected</u> | <u>Status over<br/>last month</u> |
|---------------------------------|----------------------|-------------------------------|-----------------------------|-----------------------------------|
| Wedge-tailed Shearwater         | 137                  | 0.20                          | 4                           | +                                 |
| Sooty/Slender-billed Shearwater | 20                   | 0.03                          |                             | -                                 |
| Kermadec Petrel                 | 1                    | 0.001                         |                             | +                                 |
| Mottled Petrel                  | 1                    | 0.001                         |                             | -                                 |
| <u>Pterodroma</u> sp.           | 2                    | 0.003                         |                             | -                                 |
| Bulwer's Petrel                 | 1                    | 0.001                         |                             | -                                 |
| Shearwater-Petrel               | 7                    | 0.01                          |                             | -                                 |
| White-throated Storm Petrel     | 1                    | 0.001                         |                             | +                                 |
| Leach's Storm Petrel            | 2                    | 0.003                         | 2                           | -                                 |
| Harcourt's Storm Petrel         | 5                    | 0.01                          | 3                           | +                                 |
| White-rumped Storm Petrels sp.? | 81                   | 0.12                          |                             | -                                 |
| Red-tailed Tropicbird           | 1                    | 0.001                         |                             | -                                 |
| Blue-faced Booby                | 225                  | 0.33                          |                             | +                                 |
| Brown Booby                     | 9                    | 0.01                          |                             | o                                 |
| Red-footed Booby                | 33                   | 0.05                          | 1                           | +                                 |
| Lesser Frigatebird              | 25                   | 0.03                          | 1                           | -                                 |
| Frigatebird sp.?                | 71                   | 0.11                          |                             | -                                 |
| Golden Plover                   | 1                    | 0.001                         |                             | +                                 |
| Wandering Tattler               | 1                    | 0.001                         |                             | +                                 |
| Skua                            | 1                    | 0.001                         |                             | o                                 |
| Sooty Tern                      | 4469                 | 6.53                          | 99                          | +                                 |
| Common Noddy                    | 5                    | 0.01                          |                             | o                                 |
| Blue-gray Noddy                 | 2                    | 0.003                         |                             | o                                 |
| White (Fairy) Tern              | 18                   | 0.03                          |                             | +                                 |
| Tern sp.?                       | 4                    | 0.006                         |                             | +                                 |
| Miscellaneous                   | 4                    | 0.006                         |                             | -                                 |
| TOTALS                          | 5127                 | 7.50                          | 110                         | +                                 |

TABLE 4. Nocturnal abundance of species in the Southern Grid, 2-9 May 1966.

| <u>Species</u>                  | <u>No. Birds</u> | <u>Birds/Linear Mile</u> | <u>No. Collected</u> |
|---------------------------------|------------------|--------------------------|----------------------|
| Wedge-tailed Shearwater         | 9                | 0.06                     |                      |
| Sooty Shearwater                | 2                | 0.01                     | 1                    |
| Audubon's Shearwater            | 20               | 0.13                     | 3                    |
| Shearwater-Petrel               | 9                | 0.06                     |                      |
| Leach's Storm Petrel            | 1                | 0.01                     | 1                    |
| White-rumped Storm Petrels sp.? | 3                | 0.02                     |                      |
| Blue-faced Booby                | 1                | 0.01                     |                      |
| Red-footed Booby                | 4                | 0.03                     | 1                    |
| Frigatebird sp.?                | 72               | 0.45                     |                      |
| Sooty Tern                      | 524              | 3.30                     | 21                   |
| Gray-backed Tern                | 3                | 0.02                     |                      |
| Common Noddy                    | 2                | 0.01                     | 1                    |
| White (Fairy) Tern              | 2                | 0.01                     | 1                    |
| Miscellaneous sp.?              | <u>9</u>         | <u>0.06</u>              | <u>    </u>          |
| TOTALS                          | 661              | 4.16                     | 29                   |

TABLE 5. Banded and/or color-tagged birds observed or collected within the Southern Grid, 2-9 May 1966,

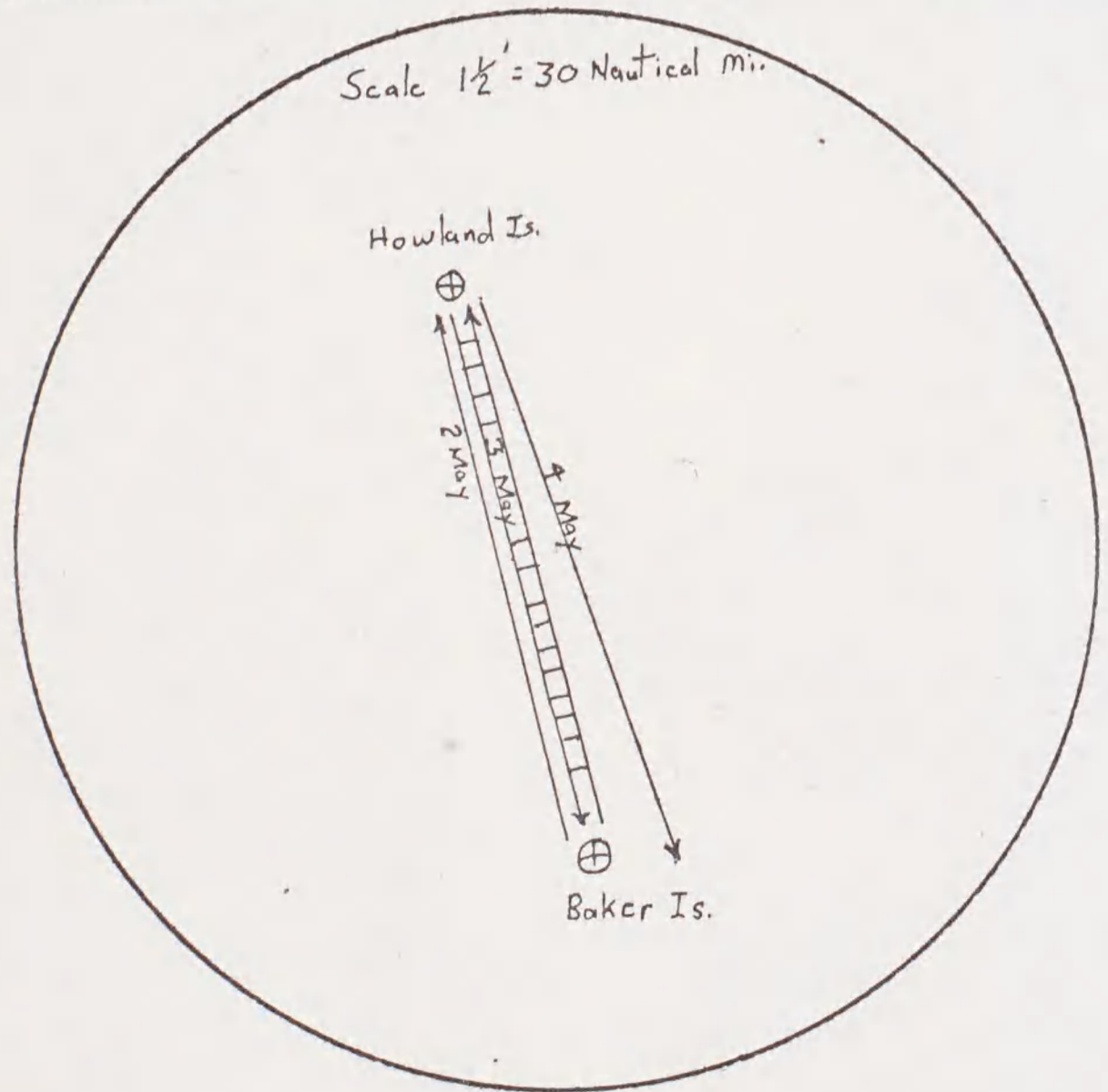
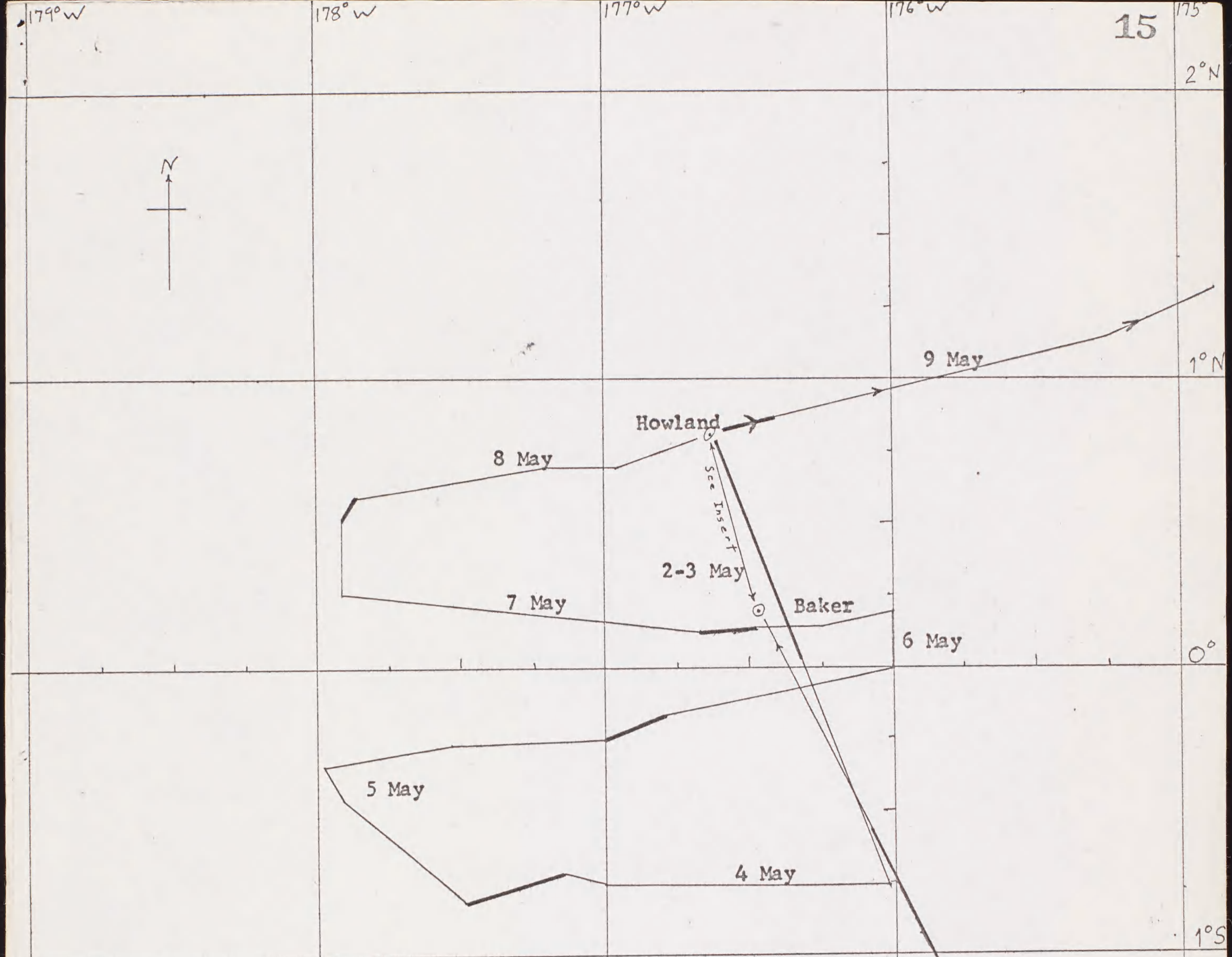
| <u>Species</u>   | <u>Age</u> | <u>Date</u> | <u>Band or Streamer</u>           | <u>Latitude</u> | <u>Longitude</u> | <u>Origin</u> | <u>Distance from Origin</u> |
|------------------|------------|-------------|-----------------------------------|-----------------|------------------|---------------|-----------------------------|
| Blue-faced Booby | ad.        | 2 May       | Blue Streamer                     | 0-24 N          | 176-31 W         | Howland       | 25                          |
| Blue-faced Booby | ad.        | 2 May       | Blue-Streamer                     | 0-40 N          | 176-37 W         | Howland       | 13                          |
| Blue-faced Booby | ad.        | 7 May       | Blue Streamer                     | 0-08 N          | 176-53 W         | Howland       | 42                          |
| Red-footed Booby | ad.        | 6 May       | Blue Streamer                     | 0-12 S          | 176-56 W         | Howland       | 63                          |
| Red-footed Booby | Sad.       | 6 May       | Blue Streamer<br>+ Band 777-57440 | 0-09 S          | 176-49 W         | Howland       | 58                          |
| Sooty Tern       | ad.        | 9 May       | Band # 793-45604                  | 1-00 N          | 175-47 W         | Howland       | 53                          |

TABLE 6. Diurnal abundance of Flocks in the Southern Grid, 2-9 May 1966.

| <u>Date</u> | <u>No. Flocks</u> | <u>No. Birds</u> | <u>% Shearwater-Petrel</u> | <u>% Terns</u> |
|-------------|-------------------|------------------|----------------------------|----------------|
| 2 May       | 38                | 837              | 0.2                        | 97.9           |
| 3           | 50                | 927              | 3.0                        | 85.2           |
| 4           | 2                 | 37               | 21.6                       | 65.0           |
| 5           | 3                 | 25               | 4.0                        | 92.0           |
| 6           | 22                | 1152             | 1.5                        | 97.4           |
| 7           | 24                | 330              | 0                          | 97.9           |
| 8           | 20                | 774              | 6.7                        | 86.3           |
| 9           | <u>6</u>          | <u>102</u>       | <u>2.9</u>                 | <u>95.1</u>    |
| TOTALS      | 165               | 4184             | Ave. 2.6 %                 | Ave. 90.1 %    |

TABLE 7. Bird Density (Birds/Linear Mile) by Square Degrees and Concentric Circles in the Southern Grid (2-9 May 1966).

| Species and/or Species Group  | Area |      |       |      |      |      | 0-30  | 30-60 | 60-110 | Grand<br>Total |
|-------------------------------|------|------|-------|------|------|------|-------|-------|--------|----------------|
|                               | D    | F    | G     | H    | J    | K    |       |       |        |                |
| Wedge-tailed Shearwater       | 0.12 | 0.37 | 0.28  | 0.08 | 0.13 | 0.06 | 0.26  | 0.30  | 0.08   | 0.20           |
| Sooty/Slender-bill Shearwater | 0.03 | 0.07 | 0.04  |      |      | 0.01 | 0.03  | 0.04  | 0.02   | 0.03           |
| Subtotal Shearwaters          | 0.15 | 0.44 | 0.32  | 0.08 | 0.13 | 0.07 | 0.29  | 0.34  | 0.10   | 0.23           |
| Petrels                       |      | 0.01 | 0.004 |      | 0.01 | 0.01 |       | 0.004 | 0.01   | 0.007          |
| White-rumped Storm Petrels    | 0.58 | 0.08 | 0.09  | 0.31 | 0.16 | 0.10 | 0.07  | 0.19  | 0.11   | 0.13           |
| Shearwater-Petrel             |      | 0.01 | 0.01  |      | 0.01 | 0.01 | 0.01  | 0.01  | 0.01   | 0.01           |
| Total Procellariiformes       | 0.73 | 0.54 | 0.43  | 0.38 | 0.31 | 0.19 | 0.38  | 0.54  | 0.23   | 0.38           |
| Red-tailed Tropicbird         |      |      | 0.004 |      |      |      | 0.01  |       |        | 0.001          |
| Lesser Frigatebird            |      | 0.09 | 0.01  |      | 0.06 | 0.01 | 0.01  | 0.05  | 0.02   | 0.03           |
| Unidentified Frigatebirds     | 0.03 | 0.07 | 0.24  |      | 0.01 | 0.07 | 0.30  | 0.09  | 0.01   | 0.11           |
| Total Frigatebirds            | 0.03 | 0.16 | 0.25  |      | 0.07 | 0.07 | 0.30  | 0.14  | 0.03   | 0.14           |
| Blue-faced Booby              | 0.15 | 0.16 | 0.90  |      |      | 0.02 | 1.09  | 0.11  | 0.02   | 0.33           |
| Brown Booby                   |      |      | 0.04  |      |      |      | 0.05  |       |        | 0.01           |
| Red-footed Booby              |      | 0.01 | 0.15  |      |      |      | 0.18  | 0.004 |        | 0.05           |
| Total Boobies                 | 0.15 | 0.16 | 1.09  |      |      | 0.02 | 1.32  | 0.12  | 0.02   | 0.39           |
| Sooty Terns                   | 2.00 | 5.39 | 14.99 | 0.62 | 0.32 | 2.22 | 15.63 | 6.16  | 0.95   | 6.53           |
| Other Identified Terns        |      | 0.02 | 0.03  |      | 0.11 | 0.03 | 0.03  | 0.02  | 0.06   | 0.04           |
| Unidentified Terns            |      |      |       |      | 0.04 |      |       |       | 0.01   | 0.01           |
| Total Terns                   | 2.00 | 5.40 | 15.02 | 0.62 | 0.47 | 2.24 | 15.65 | 6.19  | 1.02   | 6.58           |
| Golden Plover                 |      |      |       |      |      | 0.01 |       | 0.004 |        | 0.001          |
| Other Shorebirds              |      | 0.01 | 0.004 |      |      |      | 0.01  | 0.004 |        | 0.002          |
| Total Shorebirds              |      | 0.01 | 0.004 |      |      | 0.01 | 0.01  | 0.01  |        | 0.004          |
| Jaegers & Skuas               |      |      |       |      |      | 0.01 |       |       | 0.003  | 0.001          |
| Unidentified Birds            |      |      | 0.004 |      |      | 0.01 | 0.01  | 0.01  |        | 0.004          |
| TOTALS                        | 2.91 | 6.27 | 16.80 | 1.00 | 0.84 | 2.54 | 17.67 | 7.01  | 1.31   | 7.50           |



— Diurnal

— Nocturnal

Figure 1. Southern Grid # 7 cruise track, 2-9 May 1966.

Scale: 2 inches = 60 miles at 0° latitude.



DATE 30 APR

Time at sunrise = 0634 Position at sunrise = McKean IS.

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise = 66.0

Miles traveled from sunrise to sunset = —

Miles traveled from sunset to 2400 hours = —

|  | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|--|-------------|-------------|-----------|----------|
|--|-------------|-------------|-----------|----------|

1.

2.

3.

4.

5.

6.

DATE 1 MAY 1966

Time at sunrise = 0634 Position at sunrise = McKean IS

Time at sunset = 1836 Position at sunset = 2-29S, 175-00W

Miles traveled from 0000 hours to sunrise = —

Miles traveled from sunrise to sunset = 85.0

Miles traveled from sunset to 2400 hours = 57.0

|  | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|--|-------------|-------------|-----------|----------|
|--|-------------|-------------|-----------|----------|

1. 1900 CELESTIAL 175-03W, 2-26S

2.

3.

4.

5.

6.

DATE 2 MAY 1966

Time at sunrise = 0639 Position at sunrise = 0-34 S, 176-08 W

Time at sunset = 1848 Position at sunset = HOWLAND ISLAND

Miles traveled from 0000 hours to sunrise = 78-0

Miles traveled from sunrise to sunset = 88-0

Miles traveled from sunset to 2400 hours = —

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 0600        | CELESTIAL   | 176-04 W  | 1-41 S   |
| 2. |             |             |           |          |
| 3. |             |             |           |          |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |

DATE 3 MAY 1966

Time at sunrise = 0640 Position at sunrise = HOWLAND IS-

Time at sunset = 1848 Position at sunset = HOWLAND IS-

Miles traveled from 0000 hours to sunrise = —

Miles traveled from sunrise to sunset = 76-0 mi

Miles traveled from sunset to 2400 hours =

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

DATE 6 MAY 1966

Time at sunrise = 0641 Position at sunrise = 0-09 $\frac{1}{2}$ , 176-47W  
Time at sunset = 1846 Position at sunset = 0-09N, 176-28W  
Miles traveled from 0000 hours to sunrise = 14.0  
Miles traveled from sunrise to sunset = 87.0  
Miles traveled from sunset to 2400 hours = 8.0

|    | TIME OF FIX | TYPE OF FIX  | LONGITUDE | LATITUDE           |
|----|-------------|--------------|-----------|--------------------|
| 1. | 0600        | CIELLUSTAL   | 176-53W   | 0-10 $\frac{1}{2}$ |
| 2. | 1800        | VIS-BAKER IS | 176-27W   | 0-09N              |
| 3. |             |              |           |                    |
| 4. |             |              |           |                    |
| 5. |             |              |           |                    |
| 6. |             |              |           |                    |

DATE 7 MAY 1966

Time at sunrise = 0640 Position at sunrise = 0-07N, 176-44W  
Time at sunset = 1853 Position at sunset = 0-32N, 177-55W  
Miles traveled from 0000 hours to sunrise = 8.0  
Miles traveled from sunrise to sunset = 91.0  
Miles traveled from sunset to 2400 hours = 18.0

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 0600        | CIELLUSTAL  | 176-43W   | 0-07N    |
| 2. | 1900        | "           | 177-54W   | 0-32N    |
| 3. |             |             |           |          |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |

DATE 8 MAY 1966

Time at sunrise = 0644 Position at sunrise = 0-34N, 177-46W  
Time at sunset = 1848 Position at sunset = HOWLAND IS.  
Miles traveled from 0000 hours to sunrise = 12-0  
Miles traveled from sunrise to sunset = 70-0  
Miles traveled from sunset to 2400 hours = —

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 0600        | CIELLESTAL  | 177-52W   | 0-34N    |
| 2. |             |             |           |          |
| 3. |             |             |           |          |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |

DATE 9 MAY 1966

Time at sunrise = 0635 Position at sunrise = 0-51N, 176-24W  
Time at sunset = 1844 Position at sunset = 1-08N, 175-16W  
Miles traveled from 0000 hours to sunrise = 14-0  
Miles traveled from sunrise to sunset = 71-0  
Miles traveled from sunset to 2400 hours = 51-0

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 0730        | CIELLESTAL  | 176-16W   | 0-54N    |
| 2. | 1900        | "           | 175-12W   | 1-09N    |
| 3. |             |             |           |          |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |

DATE 10 MAY 1966

Time at sunrise = 0625 Position at sunrise = 1-48N, 173-24W

Time at sunset = 1829 Position at sunset = 2-27 N 171-48W

Miles traveled from 0000 hours to sunrise = 67-0

Miles traveled from sunrise to sunset = 103 Mi

Miles traveled from sunset to 2400 hours = 57 Mi

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 0600        | CELESTIAL   | 173-28W , | 1-46N    |
| 2. | 1900        | "           | 171-44W , | 2-28 N   |
| 3. |             |             |           |          |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |

DATE 11 MAY 1966

Time at sunrise = 0610 Position at sunrise = 3-05N, 170-07W

Time at sunset = 1818 Position at sunset = 3-35N, 168-23W

Miles traveled from 0000 hours to sunrise = 55-0

Miles traveled from sunrise to sunset = 109-0

Miles traveled from sunset to 2400 hours = 52-0

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE      | LATITUDE |
|----|-------------|-------------|----------------|----------|
| 1. | 0600        | CELESTIAL   | 170-09W, 3-04N |          |
| 2. | 1900        | "           | 168-17W, 3-37N |          |
| 3. |             |             |                |          |
| 4. |             |             |                |          |
| 5. |             |             |                |          |
| 6. |             |             |                |          |

DATE 12 May 1966

Time at sunrise = 0555 Position at sunrise = 4-14N, 166-43W  
Time at sunset = 1808 Position at sunset = 4-40N, 165-03W  
Miles traveled from 0000 hours to sunrise = 55.0  
Miles traveled from sunrise to sunset = 103.0  
Miles traveled from sunset to 2400 hours = 51.0

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 0600        | CELESTIAL   | 166-42W,  | 4-14N    |
| 2. | 1900        | "           | 164-55W,  | 4-42N    |
| 3. |             |             |           |          |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |

DATE 13 May 1966

Time at sunrise = 0640 Position at sunrise = 5-24N, 163-19W  
Time at sunset = Position at sunset =  
Miles traveled from 0000 hours to sunrise = 63.0 ~~5.7~~  
Miles traveled from sunrise to sunset =  
Miles traveled from sunset to 2400 hours =

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 0600        | CELESTIAL   | 163-24W   | 5-21N    |
| 2. |             |             |           |          |
| 3. |             |             |           |          |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |

DATE 17 MAY 1966

Time at sunrise = 0633 Position at sunrise = PALMYRA IS.  
Time at sunset = 1853 Position at sunset = 6-47N, 161-45W  
Miles traveled from 0000 hours to sunrise = —  
Miles traveled from sunrise to sunset = 65-0  
Miles traveled from sunset to 2400 hours = 32-0

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 1900        | CELESTIAL   | 161-44W   | 6-49N    |
| 2. |             |             |           |          |
| 3. |             |             |           |          |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |

DATE 18 MAY 1966

Time at sunrise = 0626 Position at sunrise = 8-40N, 161-09W  
Time at sunset = 1859 Position at sunset = 10-31N, 160-40W  
Miles traveled from 0000 hours to sunrise = 66-0 mi  
Miles traveled from sunrise to sunset = 115  
Miles traveled from sunset to 2400 hours = 51-0

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 0700        | LORAN       | 161-07W,  | 8-46N    |
| 2. | 1700        | "           | 160-45W,  | 10-14N   |
| 3. | 1930        | "           | 160-39W,  | 10-36N   |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |

DATE 19 MAY 1966

Time at sunrise = 0615 Position at sunrise = 12-28N, 160-16W  
Time at sunset = 1901 Position at sunset = 14-25N, 159-45W  
Miles traveled from 0000 hours to sunrise = 68-0  
Miles traveled from sunrise to sunset = 121-0  
Miles traveled from sunset to 2400 hours = 45-0

|    | TIME OF FIX | TYPE OF FIX       | LONGITUDE | LATITUDE |
|----|-------------|-------------------|-----------|----------|
| 1. | 0700        | LORAN             | 160-15W   | 12-35N   |
| 2. | 1900        | LORAN & CELESTIAL | 159-45W   | 14-25N   |
| 3. |             |                   |           |          |
| 4. |             |                   |           |          |
| 5. |             |                   |           |          |
| 6. |             |                   |           |          |

DATE 20 MAY 1966

Time at sunrise = 0605 Position at sunrise = 16-02N, 159-16W  
Time at sunset = 1903 Position at sunset = 17-58N, 159-47W  
Miles traveled from 0000 hours to sunrise = 56-0  
Miles traveled from sunrise to sunset = 117-0  
Miles traveled from sunset to 2400 hours = 44-0

|    | TIME OF FIX | TYPE OF FIX | LONGITUDE | LATITUDE |
|----|-------------|-------------|-----------|----------|
| 1. | 0600        | CELESTIAL   | 159-16W   | 16-01N   |
| 2. | 1930        | LORAN & "   | 158-46W   | 18-02N   |
| 3. |             |             |           |          |
| 4. |             |             |           |          |
| 5. |             |             |           |          |
| 6. |             |             |           |          |



DATE 21 MAY 1966

Time at sunrise = 0556 Position at sunrise = 19-28N, 158-15W

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise = 49-0

Miles traveled from sunrise to sunset =

Miles traveled from sunset to 2400 hours =

TIME OF FIX      TYPE OF FIX      LONGITUDE      LATITUDE

1. 0600      LORAN      158-15W      19-29N

2.

3.

4.

5.

6.

DATE \_\_\_\_\_

Time at sunrise = Position at sunrise =

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise =

Miles traveled from sunrise to sunset =

Miles traveled from sunset to 2400 hours =

TIME OF FIX      TYPE OF FIX      LONGITUDE      LATITUDE

1.

2.

3.

4.

5.

6.

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DIVISION OF BIRDS  
AT SEA CLIMATOLOGICAL DATA

DATE 1 May 1966

| TIME | LAT   | LONG    | PRES WEA  | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|---------|-----------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0200 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0300 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0400 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0500 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0600 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0700 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0800 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0900 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1000 |       |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1100 | 3-28S | 174-10W |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1200 | 3-22S | 174-15W | Part. Cls | 20  | 1013 | 84    | 77     | 80    | 6      | 4       | 045-6-4 | 85       | 12     | 025    | 332-10.5         |
| 1300 | 3-14S | 174-20W | " "       | 20  | 1012 | 85    | 79     | 80    | 4      | 2       | 045-6-4 | 85       | 12     | 040    | 332-10.5         |
| 1400 | 3-07S | 174-24W | " "       | 20  | 1011 | 84    | 77     | 80    | 5      | 2       | 045-6-4 | 85       | 13     | 025    | 332-10.5         |
| 1500 | 3-00S | 174-29W | " "       | 20  | 1010 | 84    | 76     | 76    | 4      | 2       | 045-6-4 | 85       | 13     | 045    | 332-10.5         |
| 1600 | 2-52S | 174-33W | " "       | 20  | 1010 | 84    | 76     | 76    | 4      | 2       | 040-6-4 | 85       | 13     | 045    | 332-10.5         |
| 1700 | 2-43S | 174-51W | Part. Cls | 20  | 1010 | 84    | 76     | 76    | 6      | 4       | 045-6-4 | 85       | 12     | 030    | 332-10.5         |
| 1800 | 2-34S | 174-56W | " "       | 20  | 1010 | 84    | 76     | 76    | 6      | 4       | 045-6-4 | 85       | 12     | 050    | 332-10.5         |
| 1900 | 2-26S | 175-03W | " "       | 20  | 1011 | 84    | 77     | 80    | 6      | 4       | 045-6-4 | 85       | 10     | 025    | 332-10.5         |
| 2000 | 2-17S | 175-08W | " "       | 20  | 1011 | 84    | 76     | 76    | 6      | 4       | 045-6-4 | 85       | 10     | 025    | 332-10.5         |
| 2100 | 2-08S | 175-13W | Cloudy    | 20  | 1011 | 83    | 76     | 80    | 8      | 2       | 045-6-4 | 85       | 5      | 025    | 338-10.5         |
| 2200 | 1-59S | 175-17W | " "       | 20  | 1011 | 83    | 76     | 80    | 8      | 2       | 045-6-4 | 85       | 5      | 025    | 338-10.5         |
| 2300 | 1-49S | 175-23W | " "       | 20  | 1012 | 83    | 76     | 80    | 8      | 2       | 045-6-4 | 85       | 5      | 025    | 338-10.5         |
| 2400 | 1-40S | 175-27W | " "       | 20  | 1012 | 83    | 76     | 80    | 8      | 2       | 045-6-4 | 85       | 5      | 025    | 338-10.5         |

REMARKS:

ALL TIMES LOCAL (<sup>1724</sup>WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;  
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

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SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA CLIMATOLOGICAL DATA

DATE 2 May 1966

| TIME | LAT            | LONG     | PRES WEA | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|----------------|----------|----------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 1-32 S         | 175-32 W | O'cast   | 20  | 1012 | 82    | 77     | 84    | 9      | 5       | 045-6-4 | 85       | 7      | 050    | 338 10.5         |
| 0200 | 1-23 S         | 175-32 W | "        | 20  | 1011 | 82    | 77     | 84    | 8      | 5       | 045-6-4 | 85       | 7      | 045    | 338 10.5         |
| 0300 | 1-14 S         | 175-42 W | "        | 20  | 1010 | 82    | 77     | 84    | 9      | 5       | 045-6-4 | 85       | 7      | 050    | 338 10.5         |
| 0400 | 1-05 S         | 175-48 W | Pty Cldy | 20  | 1010 | 82    | 77     | 84    | 6      | 3       | 045-6-4 | 85       | 7      | 050    | 338 10.5         |
| 0500 | 0-50 S         | 175-59 W | cloudy   | 20  | 1010 | 82    | 77     | 84    | 9      | 3       | CONF    | 85       |        | AIRS   | 338-11           |
| 0600 | 0-41 S         | 176-04 W | "        | 20  | 1010 | 83    | 76     | 80    | 9      | 3       | "       | 85       |        | "      | 338-11           |
| 0700 | 0-30 S         | 176-07 W | "        | 20  | 1010 | 84    | 77     | 80    | 9      | 3       | "       | 85       |        | "      | 341-11           |
| 0800 | 0-20 S         | 176-14 W | "        | 20  | 1010 | 85    | 78     | 81    | 9      | 3       | "       | 85       |        | "      | 341-11           |
| 0900 | 0-12 S         | 176-18 W | "        | 20  | 1010 | 86    | 77     | 84    | 8      | 4       | "       | 85       |        | "      | 341-11           |
| 1000 | 0-02 S         | 176-22 W | "        | 20  | 1011 | 85    | 78     | 81    | 8      | 4       | "       | 85       |        | "      | 341-11           |
| 1100 | 0-08 N         | 176-26 W | "        | 20  | 1011 | 85    | 78     | 81    | 8      | 4       | "       | 85       |        | "      | 341-11           |
| 1200 |                |          |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1300 | 0-16 N         | 176-30 W | Pty Cldy | 20  | 1011 | 85    | 78     | 80    | 7      | 3       | 045-6-6 | 85       |        | AIRS   | 351 9.5          |
| 1400 | 0-26 N         | 176-34 W | " "      | 20  | 1010 | 85    | 78     | 80    | 6      | 3       | 045-6-6 | 85       |        | "      | 351 9.5          |
| 1500 | 0-36 N         | 176-37 W | " "      | 20  | 1009 | 85    | 78     | 80    | 6      | 3       | 045-6-6 | 85       | 9      | 060    | 351 9.5          |
| 1600 | 0-45 N         | 176-38 W | " "      | 20  | 1009 | 84    | 79     | 84    | 7      | 5       | 045-6-6 | 85       | 10     | 070    | 351 9.5          |
| 1700 |                |          |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1800 |                |          |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1900 | Howland Island |          |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2000 |                |          |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2100 |                |          |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2200 |                |          |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2300 |                |          |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2400 |                |          |          |     |      |       |        |       |        |         |         |          |        |        |                  |

REMARKS:

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

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SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA CLIMATOLOGICAL DATA

DATE 3 May 1966

| TIME | LAT   | LONG    | PRES WEA    | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|---------|-------------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0200 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0300 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0400 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0500 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0600 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0700 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0800 | 0-39N | 176-35W | CLOUDY      | 20  | 1010 | 84    | 77     | 80    | 8      | 6       | 090-6-6 | 85       | 12     | 090    | 162-9.5          |
| 0900 | 0-30N | 176-33W | PARTLY CLD  | 20  | 1010 | 86    | 78     | 80    | 6      | 5       | 090-6-5 | 85       | 12     | 090    | 162-9.5          |
| 1000 | 0-20N | 176-30W | "           | 20  | 1010 | 86    | 78     | 80    | 6      | 5       | 090-6-5 | 85       | 12     | 090    | 162-9.5          |
| 1100 | BAKER |         | "           | 20  | 1011 | 86    | 78     | 80    | 6      | 5       | 090-6-5 | 85       | 12     | 090    |                  |
| 1200 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1300 | 0-17N | 176-32W | "           | 20  | 1011 | 85    | 77     | 77    | 7      | 5       | 090-6-5 | 85       | 8      | 110    | 350 9            |
| 1400 | 0-32N | 176-34W | CLDY w/SPR  | 15  | 1010 | 81    | 76     | 83    | 6      | 4       | 090-6-5 | 85       | 7      | 090    | 350 9            |
| 1500 | 0-35N | 176-36W | PARTLY CLDY | 20  | 1010 | 85    | 77     | 77    | 7      | 4       | 090-6-5 | 85       | 7      | 130    | 350 9            |
| 1600 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1700 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1800 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1900 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2000 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2100 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2200 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2300 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2400 |       |         |             |     |      |       |        |       |        |         |         |          |        |        |                  |

REMARKS:

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

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SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA CLIMATOLOGICAL DATA

DATE 4 May 1966

| TIME | LAT   | LONG    | PRES WEA  | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|---------|-----------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 0-48N | 176-37W | PTLY CLDY | 20  | 1012 | 82    | 77     | 84    | 5      | 3       | 090-4   | 85       | Airs   | 154    | 10.5             |
| 0200 | 0-38N | 176-33W | " "       | 20  | 1011 | 82    | 77     | 84    | 6      | 3       | " 4     | 85       | 7      | 180    | 154-10.5         |
| 0300 | 0-25N | 176-29W | " "       | 20  | 1011 | 83    | 77     | 84    | 5      | 3       | " 4     | 85       | 9      | 150    | 154-10.5         |
| 0400 | 0-18N | 176-25W | " "       | 20  | 1010 | 83    | 77     | 84    | 8      | 3       | " 4     | 85       | 10     | 130    | 154-10           |
| 0500 | 0-16N | 176-22W | " "       | 20  | 1010 | 84    | 77     | 80    | 6      | 4       | 110-6-4 | 84       | 12     | 100    | 154-9            |
| 0600 | 0-08N | 176-19W | " "       | 20  | 1010 | 84    | 77     | 80    | 6      | 4       | 110-6-4 | 84       | 12     | 100    | 154-9            |
| 0700 | 0-01S | 176-16W | " "       | 20  | 1010 | 84    | 77     | 80    | 5      | 3       | 110-6-4 | 84       | 12     | 100    | 160-9            |
| 0800 | 0-09S | 176-13W | " "       | 20  | 1011 | 85    | 77     | 77    | 6      | 4       | 110-6-4 | 84       | 14     | 110    | 160-9            |
| 0900 | 0-16S | 176-12W | FEW CLDY  | 20  | 1012 | 84    | 77     | 80    | 5      | 3       | 125-6-6 | 84       | 15     | 125    | 160-8.5          |
| 1000 | 0-24S | 176-10W | " "       | 20  | 1012 | 84    | 77     | 80    | 5      | 3       | 125-6-6 | 84       | 15     | 125    | 160-8.5          |
| 1100 | 0-32S | 176-07W | " "       | 20  | 1012 | 84    | 77     | 80    | 5      | 3       | 125-6-6 | 84       | 15     | 125    | 160-8.5          |
| 1200 | 0-40S | 176-03W | " "       | 20  | 1012 | 84    | 77     | 80    | 5      | 3       | 125-6-6 | 84       | 15     | 125    | 160-8.5          |
| 1300 | 0-45S | 176-11W | " "       | 20  | 1011 | 85    | 77     | 77    | 4      | 2       | 125-6-6 | 84       | 12     | 090    | 272-9.5          |
| 1400 | 0-45S | 176-20W | " "       | 20  | 1011 | 85    | 78     | 77    | 4      | 1       | 125-6-6 | 84       | 11     | 090    | 271-9.5          |
| 1500 | 0-45S | 176-30W | " "       | 20  | 1010 | 82    | 79     | 65    | 4      | 1       | 125-6-6 | 84       | 11     | 090    | 271-9.5          |
| 1600 | 0-45S | 176-37W | " "       | 20  | 1010 | 82    | 79     | 65    | 4      | 1       | 125-6-6 | 85       | 11     | 090    | 271-9.5          |
| 1700 | 0-44S | 176-54W | PART CLDY | 20  | 1010 | 87    | 78     | 77    | 5      | 4       | 090-6-6 | 85       | 10     | 090    | 271-10-0         |
| 1800 | 0-46S | 177-01W | " "       | 20  | 1010 | 87    | 78     | 77    | 4      | 3       | 090-6-6 | 85       | 10     | 090    | 293-10-0         |
| 1900 | 0-44S | 177-08W | " "       | 20  | 1010 | 86    | 78     | 77    | 5      | 4       | 090-6-6 | 85       | 9      | 090    | DRIFTING         |
| 2000 | 0-44S | 177-10W | " "       | 20  | 1011 | 86    | 78     | 77    | 5      | 4       | 090-6-5 | 85       | 9      | 090    | "                |
| 2100 | 0-44S | 177-11W | FEW CLDY  | 20  | 1011 | 84    | 76     | 76    | 3      | 2       | 090-6-4 | 85       | 12     | 090    | "                |
| 2200 | 0-44S | 177-13W | " "       | 20  | 1011 | 84    | 76     | 76    | 3      | 2       | 090-6-4 | 85       | 12     | 090    | "                |
| 2300 | 0-44S | 177-14W | " "       | 20  | 1011 | 84    | 76     | 76    | 3      | 2       | 090-6-4 | 85       | 12     | 090    | "                |
| 2400 | 0-44S | 177-16W | " "       | 20  | 1011 | 84    | 76     | 76    | 3      | 2       | 090-6-4 | 85       | 12     | 090    | "                |

REMARKS:

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

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

5 May

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA CLIMATOLOGICAL DATA

DATE Cinco de Mayo 1966

| TIME | LAT   | LONG    | PRES WEA   | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|---------|------------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 0-44S | 177-17W | Partly Bdy | 20  | 1012 | 82    | 75     | 76    | 5      | 3       | 090-6-4 | 85       | 12     | 090    | Drifting         |
| 0200 | 0-44S | 177-18W | " "        | 20  | 1012 | 82    | 75     | 76    | 6      | 3       | 090-6-4 | 85       | 12     | 090    | " "              |
| 0300 | 0-43S | 177-18W | " "        | 20  | 1011 | 82    | 74     | 76    | 4      | 3       | 090-6-4 | 85       | 12     | 080    | " "              |
| 0400 | 0-43S | 177-19W | " "        | 20  | 1011 | 82    | 74     | 76    | 6      | 4       | 090-6-4 | 85       | 12     | 080    | " "              |
| 0500 | 0-43S | 177-27W | " "        | 20  | 1010 | 82    | 74     | 76    | 7      | 4       | 090-6-4 | 85       | 9      | 090    | " "              |
| 0600 | 0-49S | 177-28W | " "        | 20  | 1010 | 83    | 75     | 76    | 7      | 4       | 090-6-4 | 85       | 9      | 090    | " "              |
| 0700 | 0-47S | 177-32W | " "        | 20  | 1010 | 83    | 75     | 76    | 7      | 4       | 090-6-4 | 85       | 9      | 090    | 319 - 9.5        |
| 0800 | 0-41S | 177-39W | " "        | 20  | 1010 | 84    | 76     | 76    | 9      | 5       | 080-6-4 | 84       | 10     | 080    | 319 - 9.5        |
| 0900 | 0-34S | 177-46W | Cloudy     | 20  | 1011 | 86    | 78     | 77    | 8      | 4       | 080-6-4 | 84       | 10     | 080    | 319 9.5          |
| 1000 | 0-27S | 177-54W | " "        | 20  | 1012 | 86    | 78     | 77    | 8      | 4       | 080-6-4 | 84       | 10     | 080    | 319 9.5          |
| 1100 | 0-20S | 177-00W | " "        | 20  | 1012 | 87    | 78     | 77    | 8      | 4       | 080-6-4 | 84       | 10     | 080    | 082 8.0          |
| 1200 | 0-18S | 177-51W | " "        | 20  | 1012 | 87    | 78     | 77    | 8      | 4       | 080-6-4 | 84       | 10     | 080    | 082 8.0          |
| 1300 | 0-17S | 177-41W | Overcast   | 20  | 1012 | 87    | 78     | 77    | 10     | 4       | 090-6-5 | 84       | 10     | 080    | 082 8            |
| 1400 | 0-13S | 177-31W | " "        | 20  | 1011 | 87    | 78     | 77    | 10     | 5       | 090-7-6 | 84       | 7      | 080    | 082 8            |
| 1500 | 0-13S | 177-22W | " "        | 20  | 1011 | 87    | 78     | 77    | 10     | 5       | 090-7-6 | 84       | 7      | 080    | 082 8            |
| 1600 | 0-11S | 177-16W | " "        | 20  | 1010 | 87    | 78     | 77    | 9      | 5       | 090-7-4 | 85       | 7      | 080    | 082 8            |
| 1700 | 0-17S | 177-15W | " "        | 20  | 1010 | 86    | 78     | 77    | 10     | 6       | 070-6-6 | 85       | 10     | 070    | 082 - 8          |
| 1800 | 0-16S | 177-08W | " "        | 20  | 1010 | 86    | 78     | 77    | 10     | 6       | 070-6-6 | 85       | 10     | 070    | 082 - 8          |
| 1900 | 0-15S | 177-00W | " "        | 20  | 1010 | 85    | 77     | 76    | 10     | 7       | 060-6-6 | 85       | 10     | 070    | 082 - 8          |
| 2000 | 0-13S | 176-52W | " "        | 20  | 1010 | 84    | 76     | 76    | 10     | 7       | 060-6-6 | 85       | 10     | 070    | 076 - 8          |
| 2100 | 0-11S | 176-47W | Partly Bdy | 20  | 1011 | 84    | 76     | 76    | 4      | 2       | 070-6-3 | 85       | 10     | 070    | 076 - 8          |
| 2200 | 0-10S | 176-42W | " "        | 20  | 1011 | 84    | 76     | 76    | 4      | 2       | 070-6-3 | 85       | 10     | 070    | DRIFTING         |
| 2300 | 0-10S | 176-42W | " "        | 20  | 1012 | 84    | 76     | 76    | 4      | 2       | 070-6-3 | 85       | 10     | 070    | " "              |
| 2400 | 0-10S | 176-44W | " "        | 20  | 1012 | 84    | 76     | 76    | 4      | 2       | 070-6-3 | 85       | 10     | 070    | " "              |

REMARKS:

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Rev. 4-9-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA CLIMATOLOGICAL DATA

DATE 6 May 1966

| TIME | LAT   | LONG    | PRES WEA  | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|---------|-----------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 0-10S | 176-48W | PART CLOY | 20  | 1011 | 83    | 75     | 76    | 4      | 3       | CONF    | 85       | 16     | 070    | DRIFTING         |
| 0200 | 0-10S | 176-44W | " "       | 20  | 1010 | 83    | 75     | 76    | 4      | 3       | CONF    | 85       | 17     | 070    | "                |
| 0300 | 0-10S | 176-50W | " "       | 20  | 1010 | 83    | 75     | 76    | 4      | 3       | CONF    | 85       | 17     | 070    | "                |
| 0400 | 0-10S | 176-51W | " "       | 20  | 1009 | 83    | 75     | 76    | 4      | 3       | CONF    | 85       | 14     | 070    | "                |
| 0500 | 0-10S | 176-52W | " "       | 20  | 1009 | 83    | 75     | 76    | 4      | 3       | 065-6-4 | 85       | 13     | 070    | "                |
| 0600 | 0-10S | 176-53W | " "       | 20  | 1010 | 83    | 75     | 76    | 4      | 3       | 065-6-4 | 85       | 12     | 070    | 080-8            |
| 0700 | 0-09S | 176-45W | " "       | 20  | 1010 | 84    | 76     | 76    | 3      | 2       | 065-6-4 | 85       | 12     | 070    | 080-8            |
| 0800 | 0-07S | 176-37W | " "       | 20  | 1011 | 84    | 76     | 76    | 4      | 3       | 070-6-5 | 84       | 13     | 080    | 080-8            |
| 0900 | 0-05S | 176-31W | " "       | 20  | 1012 | 86    | 75     | 70    | 5      | 2       | 070-6-5 | 84       | 14     | 080    | 080-8            |
| 1000 | 0-03S | 176-24W | " "       | 20  | 1012 | 86    | 75     | 70    | 5      | 2       | 070-6-5 | 84       | 14     | 080    | 080-8            |
| 1100 | 0-03S | 176-16W | " "       | 20  | 1012 | 86    | 75     | 70    | 5      | 2       | 080-6-5 | 84       | 14     | 090    | 080-8            |
| 1200 | 0-03S | 176-04W | " "       | 20  | 1012 | 86    | 75     | 70    | 5      | 2       | 080-6-5 | 84       | 14     | 090    | 080-8            |
| 1300 | 0-02S | 176-04W | " "       | 20  | 1012 | 86    | 75     | 70    | 5      | 2       | 080-6-5 | 84       | 13     | 105    | 080-8            |
| 1400 | 0-04N | 176-02W | " "       | 20  | 1011 | 86    | 75     | 70    | 4      | 2       | 080-6-5 | 84       | 13     | 105    | 080-9            |
| 1500 | 0-05N | 176-06W | " "       | 20  | 1011 | 86    | 75     | 70    | 3      | 1       | 080-6-5 | 84       | 12     | 100    | 280-10           |
| 1600 | 0-06N | 176-16W | " "       | 20  | 1010 | 86    | 75     | 70    | 4      | 2       | 080-6-5 | 84       | 12     | 090    | 280-10           |
| 1700 | 0-09N | 176-25W | " "       | 20  | 1010 | 84    | 76     | 76    | 4      | 3       | 080-6-4 | 85       | 12     | 080    | DRIFTING         |
| 1800 | 0-09N | 176-27W | " "       | 20  | 1010 | 84    | 76     | 76    | 4      | 3       | 080-6-4 | 85       | 12     | 080    | "                |
| 1900 | 0-07N | 176-28W | " "       | 20  | 1010 | 84    | 76     | 76    | 4      | 3       | 080-6-4 | 85       | 12     | 080    | "                |
| 2000 | 0-09N | 176-30W | " "       | 20  | 1011 | 84    | 76     | 76    | 5      | 4       | 080-6-4 | 85       | 10     | 090    | "                |
| 2100 | 0-09N | 176-31W | Few Cld   | 20  | 1012 | 84    | 76     | 76    | 3      | 2       | 090-6-3 | 85       | 8      | 090    | "                |
| 2200 | 0-09N | 176-33W | " "       | 20  | 1012 | 84    | 76     | 76    | 3      | 2       | 090-6-3 | 85       | 8      | 090    | "                |
| 2300 | 0-09N | 176-34W | " "       | 20  | 1012 | 84    | 76     | 76    | 3      | 2       | 090-6-3 | 85       | 6      | 080    | "                |
| 2400 | 0-09N | 176-36W | " "       | 20  | 1012 | 84    | 76     | 76    | 3      | 2       | 090-6-3 | 85       | 6      | 080    | "                |

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Rev. 4-9-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA CLIMATOLOGICAL DATA

DATE 7 MAY 1966

| TIME | LAT        | LONG     | PRES WEA     | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|------------|----------|--------------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 0-08 N     | 176-36 W | CLOUDY       | 20  | 1010 | 82    | 74     | 76    | 7      | 5       | 090-6-4 | 84       | 9      | 090    | DRIFTING         |
| 0200 | 0-08 N     | 176-37 W | "            | 20  | 1010 | 82    | 74     | 76    | 7      | 5       | 090-6-4 | 84       | 9      | 090    | "                |
| 0300 | 0-08 N     | 176-38 W | "            | 20  | 1010 | 82    | 74     | 76    | 7      | 5       | 090-6-4 | 84       | 9      | 090    | "                |
| 0400 | 0-08 N     | 176-39 W | "            | 20  | 1010 | 82    | 74     | 76    | 7      | 5       | 090-6-4 | 84       | 9      | 090    | "                |
| 0500 | 0-07 N     | 176-41 W | "            | 20  | 1011 | 82    | 74     | 76    | 7      | 5       | 090-6-4 | 84       | 9      | 090    | "                |
| 0600 | 0-07 N     | 176-43 W | "            | 20  | 1011 | 82    | 74     | 76    | 7      | 5       | 090-6-4 | 84       | 9      | 090    | "                |
| 0700 | 0-07 N     | 176-46 W | "            | 20  | 1011 | 82    | 74     | 76    | 7      | 5       | 090-6-4 | 84       | 9      | 090    | 277-6.5          |
| 0800 | 0-08 N     | 176-51 W | "            | 20  | 1012 | 84    | 76     | 76    | 7      | 5       | 090-6-4 | 85       | 12     | 090    | 277-6.5          |
| 0900 | 0-09 N     | 176-55 W | FRONT CLOUDS | 20  | 1012 | 88    | 77     | 71    | 4      | 2       | 090-6-3 | 85       | 10     | 090    | 277 7.0          |
| 1000 | 0-09 1/2 N | 177-02 W | "            | 20  | 1012 | 88    | 77     | 71    | 4      | 2       | 090-6-3 | 85       | 10     | 090    | 277 7.5          |
| 1100 | 0-10 N     | 177-09 W | "            | 20  | 1013 | 88    | 77     | 71    | 4      | 2       | 090-6-3 | 85       | 10     | 090    | 277 7.5          |
| 1200 | 0-11 N     | 177-16 W | "            | 20  | 1013 | 88    | 77     | 71    | 4      | 2       | 090-6-3 | 85       | 10     | 090    | 277 7.5          |
| 1300 | 0-11 N     | 177-23 W | "            | 20  | 1012 | 89    | 81     | 77    | 4      | 1       | 090-6-3 | 85       | 12     | 070    | 277 9            |
| 1400 | 0-12 N     | 177-32 W | "            | 20  | 1012 | 87    | 77     | 74    | 3      | 1       | 090-6-3 | 85       | 13     | 070    | 277 7.5          |
| 1500 | 0-13 N     | 177-39 W | "            | 20  | 1011 | 87    | 77     | 74    | 5      | 1       | 090-6-3 | 85       | 10     | 070    | 277 7.5          |
| 1600 | 0-13 N     | 177-41 W | "            | "   | 1011 | 87    | 77     | 74    | 4      | 1       | 090-6-3 | 85       | 10     | 075    | 277 7.5          |
| 1700 | 0-15 N     | 177-56 W | CLOUDY       | 20  | 1011 | 86    | 78     | 77    | 7      | 5       | 080-6-3 | 84       | 11     | 070    | 277 10.0         |
| 1800 | 0-24 N     | 177-57 W | "            | 20  | 1011 | 84    | 76     | 76    | 8      | 6       | 080-6-3 | 84       | 11     | 070    | 006-9.5          |
| 1900 | 0-32 N     | 177-54 W | "            | 20  | 1011 | 84    | 76     | 76    | 9      | 7       | 080-6-3 | 84       | 11     | 070    | 076-8.5          |
| 2000 | 0-34 N     | 177-46 W | "            | 20  | 1012 | 84    | 76     | 76    | 9      | 7       | 080-6-3 | 84       | 11     | 070    | 076-8.5          |
| 2100 | 0-35 N     | 177-43 W | PARTY CLOUDS | 20  | 1012 | 84    | 76     | 76    | 7      | 5       | 090-6-3 | 84       | 10     | 090    | DRIFTING         |
| 2200 | 0-35 N     | 177-44 W | "            | 20  | 1012 | 84    | 76     | 76    | 7      | 5       | 090-6-3 | 84       | 8      | 090    | "                |
| 2300 | 0-35 N     | 177-46 W | "            | 20  | 1013 | 84    | 76     | 76    | 7      | 5       | 090-6-3 | 84       | 8      | 090    | "                |
| 2400 | 0-35 N     | 177-47 W | "            | 20  | 1013 | 84    | 76     | 76    | 7      | 5       | 090-6-3 | 84       | 8      | 090    | "                |

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Rev. 4-9-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
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DATE 8 MAY 1966

| TIME | LAT   | LONG        | PRES WEA | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|-------|-------------|----------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 0-35N | 177-47W     | Cloudy   | 20  | 1011 | 80    | 77     | 84    | 7      | 5       | 090-6-3 | 84       | 10     | 090    | DRIETING         |
| 0200 | 0-34N | 177-48W     | "        | 20  | 1010 | 82    | 77     | 84    | 7      | 5       | 090-6-3 | 84       | 10     | 100    | "                |
| 0300 | 0-34N | 177-49W     | "        | 20  | 1010 | 82    | 77     | 84    | 7      | 5       | 090-6-3 | 84       | 10     | 100    | "                |
| 0400 | 0-34N | 177-50W     | "        | 20  | 1010 | 82    | 77     | 84    | 7      | 5       | 090-6-3 | 84       | 10     | 120    | "                |
| 0500 | 0-34N | 177-51W     | "        | 20  | 1010 | 83    | 75     | 76    | 8      | 6       | 090-6-4 | 84       | 10     | 085    | "                |
| 0600 | 0-34N | 177-52W     | "        | 20  | 1011 | 83    | 75     | 76    | 8      | 6       | 090-6-4 | 84       | 10     | 085    | 081 - 9-0        |
| 0700 | 0-34N | 177-44W     | "        | 20  | 1011 | 83    | 75     | 76    | 8      | 6       | 090-6-4 | 84       | 10     | 085    | 079 - 9-0        |
| 0800 | 0-36N | 177-35W     | "        | 20  | 1011 | 83    | 75     | 76    | 7      | 5       | 090-6-4 | 84       | 10     | 090    | 079 - 9-0        |
| 0900 | 0-37N | 177-27W     | Fine Cls | 20  | 1012 | 86    | 76     | 73    | 5      | 4       | 090-6-4 | 84       | 10     | 080    | 079 - 8.5        |
| 1000 | 0-37N | 177-27W     | "        | 20  | 1012 | 86    | 76     | 73    | 5      | 4       | 090-6-4 | 84       | 10     | 080    | 079 - 0          |
| 1100 | 0-38N | 177-20W     | "        | 20  | 1012 | 86    | 76     | 73    | 5      | 4       | 090-6-4 | 84       | 10     | 080    | 079 - 8.5        |
| 1200 | 0-40N | 177-12W     | "        | 20  | 1012 | 86    | 76     | 73    | 5      | 4       | 090-6-4 | 84       | 10     | 080    | 079 - 8.5        |
| 1300 | 0-40N | 177-05W     | "        | 20  | 1011 | 86    | 75     | 70    | 3      | 0       | 090-6-4 | 84       | 10     | 100    | 079 - 8.5        |
| 1400 | 0-41N | 176-57W     | "        | 20  | 1010 | 86    | 75     | 70    | 3      | 1       | 090-6-4 | 84       | 10     | 100    | 079 - 8.5        |
| 1500 | 0-41N | 176-50W     | "        | 20  | 1010 | 86    | 75     | 70    | 3      | 1       | 090-6-4 | 84       | 10     | 120    | 070 - 8.5        |
| 1600 | 0-46N | 176-41W     | "        | 20  | 1009 | 86    | 75     | 70    | 2      | 1       | 090-6-4 | 84       | 5      | 125    | 070 - 8.5        |
| 1700 | 0-47N | 176-41W     | "        | 20  | 1010 | 86    | 75     | 70    | 3      | 2       | CONF    | 84       | 8      | 110    | VARIOUS          |
| 1800 |       |             |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1900 |       | Howland Is. |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2000 |       |             |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2100 |       |             |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2200 |       |             |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2300 |       |             |          |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2400 |       |             |          |     |      |       |        |       |        |         |         |          |        |        |                  |

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DATE 9 MAY 1966

| TIME | LAT        | LONG    | PRES WEA  | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|------------|---------|-----------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 |            |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0200 |            |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0300 |            |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0400 |            |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0500 |            |         |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0600 | 0-50N      | 176-31W | CLEAR SKY | 20  | 1010 | 82    | 74     | 76    | 0      | 0       | CONF    | 84       | AIRS   |        | 076-9-0          |
| 0700 | 0-53N      | 176-21W | FEW CLS   | 20  | 1010 | 82    | 75     | 80    | 1      | 1       | CONF    | 84       | 080    | 5      | 076-9-0          |
| 0800 | 0-55N      | 176-12W | PRY CLD   | 20  | 1011 | 84    | 76     | 76    | 4      | 3       | CONF    | 84       | 075    | 5      | 076-9-4          |
| 0900 | 0-57 1/2 N | 176-04W | FEW CLS   | 20  | 1012 | 82    | 77     | 76    | 3      | 2       | 090-5-3 | 84       | AIRS   |        | 076-9-0          |
| 1000 | 0-58 N     | 176-00W | "         | 20  | 1012 | 82    | 77     | 71    | 3      | 2       | 090-5-3 | 84       | "      | "      | VARIABLE         |
| 1100 | 0-58 N     | 175-56W | "         | 20  | 1012 | 82    | 77     | 71    | 3      | 2       | 090-5-3 | 84       | "      | "      | VARIABLE         |
| 1200 | 0-59 N     | 175-50W | "         | 20  | 1012 | 82    | 77     | 71    | 3      | 2       | 090-5-3 | 84       | "      | "      | 074-8.5          |
| 1300 | 1-02 N     | 175-42W | "         | 20  | 1011 | 82    | 77     | 71    | 2      | 1       | 090-5-3 | 84       | "      | "      | 074 8.5          |
| 1400 | 1-04 N     | 175-36W | "         | 20  | 1010 | 86    | 76     | 73    | 2      | 1       | 090-5-3 | 84       | "      | "      | 074 5            |
| 1500 | 1-04 N     | 175-32W | "         | 20  | 1010 | 85    | 74     | 69    | 2      | 1       | 090-5-3 | 84       | "      | "      | 074 5            |
| 1600 | 1-05 N     | 175-29W | "         | 20  | 1009 | 85    | 74     | 69    | 2      | 1       | 090-5-3 | 85       | "      | "      | 074 4            |
| 1700 | 1-03 N     | 175-32W | "         | 20  | 1008 | 84    | 76     | 76    | 1      | 0       | 090-5-3 | 85       | AIRS   |        | 071-9.5          |
| 1800 | 1-06 N     | 175-22W | "         | 20  | 1009 | 84    | 76     | 76    | 1      | 0       | 090-5-3 | 85       | "      | "      | 071-9.5          |
| 1900 | 1-09 N     | 175-12W | "         | 20  | 1009 | 84    | 76     | 76    | 1      | 0       | 090-5-3 | 85       | "      | "      | 071-9.5          |
| 2000 | 1-12 N     | 175-03W | "         | 20  | 1010 | 84    | 76     | 76    | 1      | 0       | 090-5-3 | 85       | "      | "      | 071-9.5          |
| 2100 | 1-15 N     | 174-54W | "         | 20  | 1010 | 84    | 76     | 76    | 1      | 1       | 090-5-3 | 85       | "      | "      | 071 9.5          |
| 2200 | 1-19 N     | 174-45W | "         | 20  | 1011 | 84    | 76     | 76    | 1      | 1       | 090-5-3 | 85       | "      | "      | 071 9.5          |
| 2300 | 1-22 N     | 174-36W | "         | 20  | 1011 | 84    | 76     | 76    | 1      | 1       | 090-5-3 | 85       | "      | "      | 071 9.5          |
| 2400 | 1-25 N     | 174-28W | "         | 20  | 1011 | 84    | 76     | 76    | 1      | 1       | 090-5-3 | 85       | "      | "      | 071 9.5          |

REMARKS:

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

SI-MNH-955c  
3-4-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA SURVEY CHART C

DATE 10 May 1966

| TIME | LAT    | LONG     | PRES WEA      | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|--------|----------|---------------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 1-28 N | 174-19 W | Partly cloudy | 20  | 1011 | 82    | 75     | 80    | 6      | 2       | 090-5-3 | 85       | AIRS   |        | 071-9.5          |
| 0200 | 1-31 N | 174-09 W | "             | 20  | 1010 | 83    | 75     | 76    | 7      | 5       | 090-5-3 | 85       | "      |        | 071-9.5          |
| 0300 | 1-34 N | 174-01 W | Cloudy        | 20  | 1009 | 83    | 75     | 76    | 9      | 7       | 090-5-3 | 85       | Calms  |        | 071-9.5          |
| 0400 | 1-38 N | 173-52 W | "             | 20  | 1009 | 83    | 75     | 76    | 7      | 6       | 090-5-3 | 85       | "      |        | 071-9.5          |
| 0500 | 1-43 N | 173-37 W | "             | 20  | 1009 | 83    | 75     | 76    | 5      | 2       | CONF    | 85       | AIRS   |        | 071-10           |
| 0600 | 1-46 N | 173-28 W | Partly cloudy | 20  | 1009 | 82    | 75     | 80    | 5      | 2       | "       | 85       | "      |        | 071-10           |
| 0700 | 1-50 N | 173-19 W | "             | 20  | 1009 | 83    | 75     | 76    | 4      | 1       | "       | 85       | "      |        | 071-10           |
| 0800 | 1-53 N | 173-09 W | "             | 20  | 1010 | 84    | 77     | 80    | 3      | 1       | "       | 85       | 7      | 160    | 071-10           |
| 0900 | 1-56 N | 173-03 W | Few clouds    | 20  | 1011 | 86    | 76     | 73    | 2      | 1       | CONF    | 85       | 6      | 120    | 071-10           |
| 1000 | 2-00 N | 172-51 W | "             | 20  | 1011 | 86    | 76     | 73    | 2      | 1       | "       | 85       | 6      | 120    | 071-10           |
| 1100 | 2-03 N | 172-43 W | "             | 20  | 1011 | 86    | 76     | 73    | 2      | 1       | "       | 85       | 6      | 120    | 071-10           |
| 1200 | 2-06 N | 172-35 W | "             | 20  | 1011 | 86    | 76     | 73    | 2      | 1       | "       | 85       | 6      | 120    | 071-10           |
| 1300 | 2-09 N | 172-26 W | "             | 20  | 1010 | 86    | 76     | 73    | 2      | 1       | "       | 85       | 6      | 120    | 071-10           |
| 1400 | 2-12 N | 172-17 W | "             | 20  | 1010 | 86    | 76     | 73    | 2      | 2       | "       | 85       | 9      | 090    | 071-10           |
| 1500 | 2-15 N | 172-07 W | "             | 20  | 1009 | 86    | 76     | 73    | 2      | 2       | "       | 85       | 9      | 090    | 071-10           |
| 1600 | 2-18 N | 171-57 W | "             | 20  | 1009 | 86    | 76     | 73    | 4      | 2       | "       | 85       | 10     | 080    | 071-10           |
| 1700 | 2-22 N | 172-01 W | "             | 20  | 1009 | 84    | 76     | 76    | 3      | 1       | CONF    | 85       | 6      | 100    | 071-9.5          |
| 1800 | 2-25 N | 171-52 W | "             | 20  | 1009 | 83    | 75     | 76    | 3      | 1       | "       | 85       | 6      | 100    | 071-9.5          |
| 1900 | 2-28 N | 171-44 W | "             | 20  | 1009 | 83    | 75     | 80    | 2      | 1       | "       | 85       | 7      | 100    | 071-9.5          |
| 2000 | 2-31 N | 171-35 W | "             | 20  | 1009 | 83    | 75     | 80    | 2      | 1       | "       | 85       | 7      | 100    | 073-9.5          |
| 2100 | 2-35 N | 171-27 W | "             | 20  | 1010 | 83    | 75     | 80    | 2      | 2       | "       | 85       | 7      | 120    | 073-9.5          |
| 2200 | 2-38 N | 171-18 W | "             | 20  | 1010 | 83    | 75     | 80    | 2      | 2       | "       | 85       | 7      | 120    | 073-9.5          |
| 2300 | 2-41 N | 171-09 W | "             | 20  | 1011 | 83    | 75     | 80    | 2      | 2       | "       | 85       | 7      | 120    | 073-9.5          |
| 2400 | 2-44 N | 171-00 W | "             | 20  | 1011 | 83    | 75     | 80    | 2      | 2       | "       | 85       | 7      | 120    | 073-9.5          |

REMARKS:

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

SI-MNH-955c  
3-4-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA SURVEY CHART C

DATE 11 May 1966

| TIME | LAT    | LONG     | PRES WEA      | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|--------|----------|---------------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 1-46N  | 170-51W  | Partly cloudy | 20  | 1010 | 83    | 78     | 84    | 2      | 1       | Comf    | 85       | 7      | 130    | 073 9.5          |
| 0200 | 2-50N  | 170-43W  | " "           | 20  | 1010 | 82    | 77     | 84    | 2      | 1       | "       | 85       | 7      | 135    | 073 9.5          |
| 0300 | 2-53N  | 170-35W  | " "           | 20  | 1009 | 82    | 77     | 84    | 1      | 0       | "       | 85       | 7      | 130    | 073 9.5          |
| 0400 | 2-56N  | 170-26W  | " "           | 20  | 1009 | 82    | 77     | 84    | 1      | 0       | "       | 85       | 7      | 130    | 073 9.5          |
| 0500 | 3-01N  | 170-18W  | "             | 20  | 1010 | 82    | 77     | 84    | 2      | 1       | "       | 85       | 7      | 075    | 073 9            |
| 0600 | 3-04N  | 170-09W  | "             | 20  | 1010 | 82    | 75     | 76    | 6      | 5       | "       | 85       | 7      | 075    | 074 9            |
| 0700 | 3-07N  | 170-00W  | Cloudy        | 20  | 1011 | 83    | 75     | 76    | 7      | 6       | "       | 85       | 9      | 075    | 074 9            |
| 0800 | 3-10N  | 169-51W  | "             | 20  | 1011 | 84    | 74     | 73    | 7      | 6       | "       | 85       | 10     | 075    | 074 9            |
| 0900 | 3-12 N | 169-42 W | Partly cloudy | 20  | 1012 | 86    | 76     | 73    | 5      | 3       | "       | 85       | 5      | 100    | 074 9.5          |
| 1000 | 3-14 N | 169-33 W | "             | 20  | 1012 | 86    | 76     | 73    | 5      | 3       | "       | 85       | 5      | 100    | 074 9.5          |
| 1100 | 3-17 N | 169-24 W | "             | 20  | 1012 | 86    | 76     | 73    | 5      | 3       | "       | 85       | 5      | 110    | 074 9.5          |
| 1200 | 3-19 N | 169-15 W | "             | 20  | 1012 | 86    | 76     | 73    | 1      | 3       | "       | 85       | 5      | 110    | 074 9.5          |
| 1300 | 3-23 N | 169-06 W | "             | 20  | 1011 | 86    | 78     | 77    | 3      | 1       | "       | 85       | 5      | 100    | 074 9.5          |
| 1400 | 3-27 N | 168-57 W | "             | 20  | 1010 | 86    | 78     | 77    | 5      | 3       | "       | 85       | 8      | 110    | 074 9.5          |
| 1500 | 3-30 N | 168-48 W | "             | 20  | 1009 | 86    | 78     | 77    | 7      | 4       | "       | 85       | 11     | 120    | 074 9.5          |
| 1600 | 3-34 N | 168-39 W | "             | 20  | 1009 | 86    | 78     | 77    | 7      | 5       | "       | 85       | 10     | 120    | 074 9.5          |
| 1700 | 3-31 N | 168-35 W | Cloudy        | 20  | 1009 | 84    | 78     | 76    | 8      | 7       | "       | 85       | 9      | 100    | 074 - 9.5        |
| 1800 | 3-34 N | 168-26 W | "             | 20  | 1010 | 84    | 76     | 76    | 8      | 7       | "       | 85       | 9      | 100    | 074 - 9.5        |
| 1900 | 3-37 N | 168-17 W | "             | 20  | 1010 | 83    | 75     | 76    | 8      | 7       | "       | 85       | 9      | 090    | 074 - 9.5        |
| 2000 | 3-40 N | 168-08 W | "             | 20  | 1010 | 82    | 77     | 84    | 8      | 7       | "       | 85       | 9      | 060    | 071 - 9.5        |
| 2100 | 3-44 N | 167-59 W | Cloudy        | 20  | 1011 | 82    | 77     | 84    | 7      | 7       | 070-6-4 | 85       | 8      | 070    | 071 9.5          |
| 2200 | 3-46 N | 167-50 W | "             | 20  | 1011 | 82    | 77     | 84    | 7      | 7       | 070-6-4 | 85       | 8      | 070    | 071 9.5          |
| 2300 | 3-49 N | 167-42 W | "             | 20  | 1012 | 82    | 77     | 84    | 7      | 7       | 070-6-4 | 85       | 8      | 070    | 071 9.5          |
| 2400 | 3-52 N | 167-33 W | "             | 20  | 1012 | 82    | 77     | 84    | 7      | 7       | 070-6-4 | 85       | 8      | 070    | 071 9.5          |

REMARKS:

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

SI-MNH-955c  
3-4-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA SURVEY CHART C

DATE 12 May 1966

| TIME | LAT    | LONG     | PRES WEA     | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|--------|----------|--------------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 3-56 N | 167-25 W | O'cast       | 20  | 1011 | 81    | 76     | 83    | 9      | 8       | 070-6-4 | 85       | 9      | 080    | 071 9.5          |
| 0200 | 3-59 N | 167-16 W | Partly Clody | 20  | 1010 | 81    | 76     | 83    | 5      | 3       | 070-6-4 | 85       | 9      | 080    | 071 9.5          |
| 0300 | 4-03 N | 167-07 W | " "          | 20  | 1009 | 81    | 76     | 83    | 1      | 0       | 070-6-4 | 85       | 7      | 070    | 071 9.5          |
| 0400 | 4-06 N | 166-58 W | " "          | 20  | 1009 | 81    | 75     | 79    | 2      | 1       | 070-6-4 | 84       | 9      | 070    | 071 9.5          |
| 0500 | 4-11 N | 166-51 W | FW clouds    | 20  | 1009 | 82    | 75     | 80    | 1      | 1       | 060-6-4 | 84       | 9      | 070    | 071- 9.5         |
| 0600 | 4-14 N | 166-42 W | " "          | 20  | 1010 | 82    | 75     | 80    | 1      | 1       | 050-6-5 | 84       | 9      | 060    | 073- 9.5         |
| 0700 | 4-17 N | 166-33 W | " "          | 20  | 1010 | 83    | 76     | 83    | 2      | 1       | 050-6-5 | 84       | 8      | 060    | 073- 9.5         |
| 0800 | 4-21 N | 166-25 W | " "          | 20  | 1011 | 84    | 76     | 76    | 6      | 5       | 050-6-5 | 85       | 8      | 060    | 073- 9.5         |
| 0900 | 4-23 N | 166-16 W | " "          | 20  | 1011 | 84    | 76     | 76    | 4      | 3       | 070-6-6 | 85       | 14     | 070    | 073 9.0          |
| 1000 | 4-26 N | 166-07 W | " "          | 20  | 1011 | 84    | 76     | 76    | 4      | 3       | 070-6-6 | 85       | 18     | 070    | 073 9.0          |
| 1100 | 4-28 N | 166-03 W | " "          | 20  | 1011 | 84    | 76     | 76    | 4      | 3       | 070-6-6 | 85       | 14     | 070    | 073 9.0          |
| 1200 | 4-31 N | 165-53 W | " "          | 20  | 1011 | 84    | 76     | 76    | 4      | 3       | 070-6-6 | 85       | 14     | 070    | 073 9.0          |
| 1300 | 4-34 N | 165-47 W | " "          | 20  | 1010 | 84    | 76     | 76    | 2      | 1       | 070-6-6 | 85       | 14     | 090    | 073 9            |
| 1400 | 4-37 N | 165-36 W | " "          | 20  | 1009 | 84    | 76     | 76    | 5      | 3       | 170-6-6 | 85       | 17     | 095    | 073 9            |
| 1500 | 4-39 N | 165-22 W | Partly Clody | 20  | 1009 | 84    | 76     | 76    | 3      | 1       | 170-6-6 | 85       | 7      | 120    | 073 9            |
| 1600 | 4-42 N | 165-18 W | " "          | 20  | 1009 | 84    | 76     | 76    | 3      | 1       | 170-6-6 | 85       | 7      | 120    | 073 9            |
| 1700 | 4-37 N | 165-14 W | " "          | 20  | 1009 | 84    | 76     | 76    | 3      | 2       | 070-6-6 | 85       | 9      | 090    | 073- 9           |
| 1800 | 4-39 N | 165-04 W | " "          | 20  | 1010 | 84    | 76     | 76    | 3      | 2       | 060-6-6 | 85       | 8      | 090    | 073- 9           |
| 1900 | 4-42 N | 164-55 W | " "          | 20  | 1010 | 84    | 76     | 76    | 3      | 2       | 060-6-6 | 85       | 8      | 090    | 068- 9           |
| 2000 | 4-46 N | 164-46 W | " "          | 20  | 1010 | 84    | 76     | 76    | 4      | 3       | 060-6-6 | 84       | 8      | 090    | 068- 9           |
| 2100 | 4-49 N | 164-38 W | " "          | 20  | 1011 | 83    | 76     | 80    | 4      | 4       | 070-6-4 | 84       | 5      | 120    | 068- 9           |
| 2200 | 4-53 N | 164-29 W | " "          | 20  | 1011 | 83    | 76     | 80    | 4      | 4       | 070-6-4 | 84       | 5      | 120    | 068- 9           |
| 2300 | 4-56 N | 164-21 W | " "          | 20  | 1011 | 83    | 76     | 80    | 4      | 4       | 070-6-4 | 84       | 5      | 120    | 068- 9           |
| 2400 | 4-57 N | 164-16 W | " "          | 20  | 1011 | 83    | 76     | 80    | 4      | 4       | 070-6-4 | 84       | 5      | 120    | 068- 9           |

REMARKS:

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SI-MNH-955c

3-4-64

SMITHSONIAN INSTITUTION

DIVISION OF BIRDS

AT SEA SURVEY CHART C

DATE 13 May 1966

| TIME | LAT    | LONG     | PRES WEA  | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|--------|----------|-----------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 5-02 N | 164-09 W | Pfly Clde | 20  | 1010 | 82    | 77     | 84    | 2      | 0       | 070-6-4 | 84       | 5      | 160    | 068-9            |
| 0200 | 5-04 N | 164-02 W | " "       | 20  | 1010 | 82    | 77     | 84    | 1      | 0       | 070-6-4 | 84       | 5      | 160    | 068-9            |
| 0300 | 5-07 N | 163-54 W | " "       | 20  | 1010 | 82    | 77     | 84    | 2      | 1       | 070-6-4 | 84       | 7      | 180    | 068-9            |
| 0400 | 5-10 N | 163-47 W | " "       | 20  | 1009 | 82    | 77     | 84    | 3      | 1       | 070-6-4 | 84       | 6      | 160    | 068-9            |
| 0500 | 5-18 N | 163-33 W | Few clps  | 20  | 1009 | 82    | 75     | 80    | 1      | 1       | 070-6-5 | 83       | 5      | 130    | 068-9.5          |
| 0600 | 5-21 N | 163-24 W | " "       | 20  | 1010 | 82    | 75     | 80    | 1      | 1       | 070-6-5 | 83       | 4      | 130    | 068-9.5          |
| 0700 | 5-25 N | 163-16 W | " "       | 20  | 1010 | 82    | 75     | 80    | 1      | 1       | 070-6-5 | 83       | 4      | 130    | 070-9.5          |
| 0800 | 5-28 N | 163-07 W | " "       | 20  | 1011 | 83    | 75     | 76    | 2      | 1       | 070-6-5 | 83       | 6      | 160    | 070-9.5          |
| 0900 | 5-31 N | 162-58 W | O'cast    | 10  | 1012 | 80    | 79     | 91    | 10     | 10      | 070-6-5 | 83       | 10     | 130    | 070-9.5          |
| 1000 | 5-35 N | 162-49 W | W/RAID    | 10  | 1012 | 80    | 79     | 91    | 10     | 10      | 070-6-5 | 83       | 10     | 130    | 070-9.5          |
| 1100 | 5-39 N | 162-40 W | "         | 10  | 1012 | 80    | 79     | 91    | 10     | 10      | 070-6-5 | 83       | 10     | 070    | 070-9.5          |
| 1200 | 5-42 N | 162-31 W | "         | 10  | 1012 | 80    | 79     | 91    | 10     | 10      | 070-6-5 | 83       | 10     | 070    | 070-9.5          |
| 1300 |        |          | O'cast    | 15  | 10   | 83    | 78     | 84    | 10     | 10      | 070-6-6 | 83       | 24     | 090    | 070-9            |
| 1400 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1500 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1600 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1700 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1800 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1900 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2000 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2100 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2200 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2300 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |
| 2400 |        |          |           |     |      |       |        |       |        |         |         |          |        |        |                  |

REMARKS:

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

SI-MNH-955c  
3-4-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA SURVEY CHART C

DATE 17 May 1966

| TIME | LAT    | LONG     | PRES WEA    | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|--------|----------|-------------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0200 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0300 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0400 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0500 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0600 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0700 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0800 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 0900 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1000 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1100 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1200 |        |          |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1300 | 5-51 N | 162-06 W |             |     |      |       |        |       |        |         |         |          |        |        |                  |
| 1400 | 5-56 N | 161-59 W | Partly cldy | 20  | 1009 | 86    | 78     | 77    | 3      | 2       | 260-6-4 | 84       | 12     | 180    | 017.5-10         |
| 1500 | 6-05 N | 161-57 W | "           | 20  | 1009 | 86    | 78     | 77    | 6      | 4       | 260-6-4 | 84       | 12     | 180    | 017. 10          |
| 1600 | 6-15 N | 161-54 W | "           | 20  | 1009 | 85    | 77     | 77    | 8      | 6       | 260-6-4 | 84       | 12     | 170    | 017 10           |
| 1700 | 6-28 N | 161-50 W | "           | 20  | 1009 | 84    | 77     | 80    | 6      | 5       | 090-6-3 | 84       | 10     | 180    | 017 10-5         |
| 1800 | 6-38 N | 161-47 W | "           | 20  | 1009 | 84    | 77     | 80    | 6      | 5       | 090-6-3 | 84       | 10     | 180    | 017 10-5         |
| 1900 | 6-49 N | 161-44 W | "           | 20  | 1010 | 84    | 77     | 80    | 5      | 4       | 090-6-3 | 84       | 9      | 180    | 017 10-5         |
| 2000 | 6-59 N | 161-41 W | "           | 20  | 1010 | 84    | 77     | 80    | 4      | 3       | 090-6-3 | 84       | 9      | 180    | 017 10-5         |
| 2100 | 7-09 N | 161-39 W | "           | 20  | 1011 | 82    | 77     | 84    | 6      | 5       | 090-6-3 | 84       | 10     | 160    | 017 10.0         |
| 2200 | 7-18 N | 161-36 W | "           | 20  | 1011 | 82    | 77     | 84    | 6      | 5       | 090-6-3 | 84       | 10     | 160    | 017 10.0         |
| 2300 | 7-28 N | 161-34 W | "           | 20  | 1012 | 82    | 77     | 84    | 6      | 5       | 090-6-3 | 84       | 10     | 160    | 017 10.0         |
| 2400 | 7-37 N | 161-31 W | "           | 20  | 1012 | 82    | 77     | 84    | 6      | 5       | 090-6-3 | 84       | 10     | 160    | 017 10.0         |

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SI-MNH-955c  
3-4-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA SURVEY CHART C

DATE 18 May 1966

| TIME | LAT     | LONG     | PRES WEA   | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD.        |
|------|---------|----------|------------|-----|------|-------|--------|-------|--------|---------|-------|----------|--------|--------|-------------------------|
| 0100 | 7-47 N  | 161-28 W | O'cast     | 20  | 1011 | 82    | 77     | 84    | 8      | 7       | Conf. | 84       | 9      | 180    | 017 10                  |
| 0200 | 7-57 N  | 161-26 W | Pty Cld    | 20  | 1010 | 82    | 77     | 84    | 5      | 4       | "     | 84       | 11     | 160    | 017 10                  |
| 0300 | 8-06 N  | 161-23 W | " "        | 20  | 1009 | 82    | 77     | 84    | 6      | 4       | "     | 84       | 14     | 170    | 017 10                  |
| 0400 | 8-16 N  | 161-21 W | " "        | 20  | 1009 | 82    | 77     | 84    | 7      | 5       | "     | 83       | 13     | 170    | 017 10                  |
| 0500 | 8-27 N  | 161-12 W | OVERCAST   | 20  | 1009 | 82    | 77     | 84    | 10     | 10      | "     | 83       | 12     | 170    | 017 -10                 |
| 0600 | 8-37 N  | 161-10 W | "          | 20  | 1010 | 82    | 77     | 84    | 10     | 10      | "     | 83       | 10     | 170    | 017 -10                 |
| 0700 | 8-46 N  | 161-07 W | "          | 20  | 1010 | 82    | 77     | 84    | 10     | 10      | "     | 83       | 10     | 170    | 017 -10                 |
| 0800 | 8-56 N  | 161-05 W | "          | 10  | 1011 | 80    | 77     | 91    | 10     | 10      | "     | 83       | 5      | 045    | 015 -10                 |
| 0900 | 9-06 N  | 161-02 W | "          | 15  | 1011 | 83    | 76     | 80    | 10     | 10      | Conf. | 83       | 5      | -      | 015 -10                 |
| 1000 | 9-16 N  | 160-59 W | "          | 15  | 1011 | 83    | 76     | 80    | 10     | 10      | "     | 83       | 4      | -      | 025 -10                 |
| 1100 | 9-26 N  | 160-57 W | "          | 15  | 1011 | 83    | 76     | 80    | 10     | 10      | "     | 83       | 4      | -      | 025 10                  |
| 1200 | 9-34 N  | 160-54 W | "          | 15  | 1011 | 83    | 76     | 80    | 10     | 10      | "     | 83       | 4      | -      | 025 -10                 |
| 1300 | 9-39 N  | 160-54 W | "          | 20  | 1011 | 86    | 78     | 77    | 10     | 9       | "     | 83       | 22/m   | -      | 015 -10                 |
| 1400 | 9-49 N  | 160-52 W | "          | 20  | 1010 | 84    | 76     | 76    | 10     | 9       | "     | 83       | "      | -      | 015 -10                 |
| 1500 | 9-59 N  | 160-49 W | "          | 20  | 1009 | 82    | 77     | 84    | 10     | 7       | "     | 83       | "      | -      | 015 -10                 |
| 1600 | 10-08 N | 160-46 W | "          | 20  | 1009 | 82    | 77     | 84    | 9      | 7       | "     | 83       | AIRS   | -      | 015 10                  |
| 1700 | 10-14 N | 160-45 W | "          | 20  | 1009 | 83    | 76     | 80    | 10     | 9       | "     | 83       | CALM   | -      | 015 -10                 |
| 1800 | 10-23 N | 160-42 W | "          | 20  | 1009 | 83    | 76     | 80    | 10     | 9       | "     | 83       | "      | -      | 015 -10                 |
| 1900 | 10-31 N | 160-40 W | "          | 20  | 1010 | 83    | 76     | 80    | 10     | 9       | "     | 83       | "      | -      | 015 -10                 |
| 2000 | 10-40 N | 160-37 W | "          | 20  | 1010 | 82    | 77     | 84    | 10     | 9       | "     | 83       | "      | -      | 015 - <del>10</del> 9.5 |
| 2100 | 10-49 N | 160-34 W | Partly Cld | 20  | 1011 | 82    | 77     | 84    | 5      | 5       | Conf. | 83       | AIRS   | -      | 015 9.5                 |
| 2200 | 10-59 N | 160-32 W | "          | 20  | 1011 | 82    | 77     | 84    | 5      | 5       | "     | 83       | "      | -      | 015 9.5                 |
| 2300 | 11-08 N | 160-29 W | "          | 20  | 1012 | 82    | 77     | 84    | 5      | 5       | "     | 83       | "      | -      | 015 9.5                 |
| 2400 | 11-18 N | 160-26 W | "          | 20  | 1012 | 82    | 77     | 84    | 5      | 5       | "     | 83       | "      | -      | 019 9.5                 |

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SI-MNH-955c  
3-4-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA SURVEY CHART C

DATE 19 May 1966

| TIME | LAT    | LONG    | PRES WEA | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|--------|---------|----------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 11-31N | 160-31W | O'cast   | 15  | 1011 | 82    | 77     | 84    | 9      | 8       | Comf.   | 83       | 115    | 115    | 017 9.5          |
| 0200 | 11-45N | 160-28W | "        | 15  | 1010 | 82    | 77     | 84    | 9      | 8       | "       | 83       | 7      | 115    | 017 9.5          |
| 0300 | 11-50N | 160-25W | "        | 15  | 1009 | 82    | 77     | 84    | 10     | 9       | "       | 83       | 11     | 110    | 017 9.5          |
| 0400 | 12-03N | 160-23W | "        | 15  | 1009 | 82    | 77     | 84    | 9      | 8       | "       | 83       | 10     | 110    | 017 9.5          |
| 0500 | 12-16N | 160-19W | "        | 15  | 1010 | 80    | 77     | 91    | 10     | 9       | 070-6-3 | 83       | 8      | 115    | 017-10           |
| 0600 | 12-26N | 160-17W | "        | 15  | 1010 | 80    | 77     | 91    | 10     | 9       | 070-6-3 | 83       | 8      | 115    | 017-10           |
| 0700 | 12-35N | 160-15W | "        | 15  | 1010 | 80    | 77     | 91    | 10     | 10      | 070-6-3 | 83       | 7      | 110    | 017-9.5          |
| 0800 | 12-44N | 160-12W | "        | 15  | 1012 | 80    | 77     | 91    | 10     | 10      | 075-6-3 | 83       | 5      | 130    | 017-9.5          |
| 0900 | 12-54N | 160-09W | O'CAST   | 10  | 1012 | 80    | 77     | 91    | 10     | 10      | 070-6-3 | 83       | 14     | 040    | 017 9.5          |
| 1000 | 13-04N | 160-06W | W/RAIN   | 10  | 1012 | 80    | 77     | 91    | 10     | 10      | 070-6-3 | 83       | 14     | 040    | 017-9.5          |
| 1100 | 13-14N | 160-04W | "        | 10  | 1012 | 80    | 77     | 91    | 10     | 10      | 070-6-3 | 83       | 14     | 040    | 017-9.5          |
| 1200 | 13-24N | 160-01W | "        | 10  | 1015 | 80    | 77     | 91    | 10     | 10      | 070-6-3 | 83       | 14     | 040    | 017-9.5          |
| 1300 | 13-33N | 159-52W | W/CLD    | 20  | 1010 | 80    | 74     | 83    | 7      | 5       | Comf.   | 83       | 10     | 060    | 017 9            |
| 1400 | 13-41N | 159-55W | "        | 20  | 1009 | 80    | 76     | 87    | 8      | 7       | "       | 83       | 10     | 080    | 017 9            |
| 1500 | 13-50N | 159-57W | "        | 20  | 1009 | 80    | 76     | 87    | 7      | 6       | "       | 83       | 10     | 080    | 017 9            |
| 1600 | 13-59N | 159-49W | "        | 20  | 1009 | 80    | 76     | 87    | 6      | 5       | "       | 83       | 10     | 080    | 017 9            |
| 1700 | 14-07N | 159-49W | Cloudy   | 20  | 1009 | 80    | 76     | 87    | 9      | 5       | 070-6-3 | 82       | 9      | 070    | 017-9            |
| 1800 | 14-16N | 159-47W | "        | 20  | 1010 | 80    | 76     | 87    | 9      | 8       | 070-6-3 | 82       | 9      | 070    | 017-9            |
| 1900 | 14-25N | 159-45W | PARTLY   | 20  | 1010 | 80    | 76     | 87    | 7      | 6       | 070-6-3 | 82       | 9      | 070    | 017-9            |
| 2000 | 14-34N | 159-43W | "        | 20  | 1011 | 80    | 76     | 87    | 7      | 6       | 070-6-3 | 82       | 9      | 070    | 017-9            |
| 2100 | 14-43N | 159-40W | O'CAST   | 20  | 1012 | 80    | 77     | 91    | 10     | 10      | 070-6-3 | 82       | 7      | 090    | 018-9            |
| 2200 | 14-51N | 159-39W | "        | 20  | 1013 | 80    | 77     | 91    | 10     | 10      | 070-6-3 | 82       | 7      | 090    | 018-9            |
| 2300 | 15-00N | 159-35W | "        | 20  | 1014 | 80    | 77     | 91    | 10     | 10      | 070-6-3 | 82       | 7      | 090    | 018-9            |
| 2400 | 15-09N | 159-33W | "        | 20  | 1014 | 80    | 77     | 91    | 10     | 10      | 070-6-3 | 82       | 7      | 090    | 018-9            |

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3-4-64

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA SURVEY CHART C

DATE 20 May 1966

| TIME | LAT    | LONG    | PRES WEA   | VIS | SLP  | DRY B | DEW PT | HUM % | TL SKY | OPA SKY | WAVES   | SEA TEMP | WIND S | WIND D | SHIP COURSE/SPD. |
|------|--------|---------|------------|-----|------|-------|--------|-------|--------|---------|---------|----------|--------|--------|------------------|
| 0100 | 15-19N | 159-31W | Cloudy     | 20  | 1012 | 80    | 77     | 91    | 8      | 8       | 070-6-3 | 82       | 11     | 135    | 018-9            |
| 0200 | 15-29N | 159-28W | Few clouds | 20  | 1012 | 80    | 77     | 91    | 3      | 1       | 070-6-3 | 82       | 11     | 135    | 018-9            |
| 0300 | 15-39N | 159-26W | " "        | 20  | 1011 | 80    | 77     | 91    | 3      | 1       | 070-6-3 | 82       | 12     | 135    | 018-9            |
| 0400 | 15-48N | 159-23W | " "        | 20  | 1011 | 80    | 77     | 91    | 4      | 2       | 070-6-3 | 82       | 12     | 135    | 018-9            |
| 0500 | 15-52N | 159-18W | " "        | 20  | 1012 | 79    | 76     | 91    | 4      | 3       | 100-6-3 | 82       | 10     | 130    | 018-9            |
| 0600 | 16-01N | 159-16W | " "        | 20  | 1012 | 79    | 76     | 91    | 4      | 3       | 100-6-3 | 82       | 10     | 130    | 018-9            |
| 0700 | 16-10N | 159-13W | " "        | 20  | 1013 | 80    | 77     | 91    | 4      | 3       | 110-6-3 | 82       | 10     | 130    | 018-9            |
| 0800 | 16-18N | 159-11W | " "        | 20  | 1013 | 82    | 77     | 84    | 4      | 3       | 110-6-3 | 81       | 10     | 130    | 018-9            |
| 0900 | 16-28N | 159-09W | PARTLY CLD | 20  | 1014 | 83    | 78     | 84    | 5      | 3       | 090-6-4 | 81       | 10     | 150    | 018-9            |
| 1000 | 16-37N | 159-06W | " "        | 20  | 1014 | 83    | 78     | 84    | 5      | 3       | 090-6-4 | 81       | 10     | 150    | 018-9            |
| 1100 | 16-46N | 159-04W | " "        | 20  | 1015 | 83    | 78     | 84    | 5      | 3       | 090-6-4 | 81       | 10     | 150    | 018-9            |
| 1200 | 16-55N | 159-01W | " "        | 20  | 1015 | 83    | 78     | 84    | 5      | 3       | 090-6-4 | 81       | 10     | 150    | 018-9            |
| 1300 | 17-04N | 158-56W | " w/mist   | 20  | 1014 | 82    | 77     | 84    | 6      | 4       | 090-6-4 | 81       | 10     | 150    | 018-9            |
| 1400 | 17-12N | 158-54W | PARTLY CLD | 20  | 1013 | 82    | 78     | 88    | 5      | 2       | 090-6-4 | 81       | 11     | 150    | 018-9            |
| 1500 | 17-21N | 158-52W | " "        | 20  | 1013 | 82    | 78     | 88    | 4      | 2       | 090-6-4 | 81       | 11     | 170    | 018-9            |
| 1600 | 17-31N | 158-49W | " "        | 20  | 1013 | 82    | 78     | 88    | 6      | 4       | 090-6-4 | 81       | 11     | 170    | 018-9            |
| 1700 | 17-40N | 158-44W | " "        | 20  | 1013 | 82    | 79     | 92    | 8      | 7       | CONF    | 81       | 8      | 160    | 018-9            |
| 1800 | 17-49N | 158-48W | " "        | 20  | 1013 | 82    | 79     | 92    | 8      | 7       | "       | 81       | 8      | 160    | 018-9            |
| 1900 | 17-58N | 158-47W | Cloudy     | 20  | 1013 | 82    | 79     | 92    | 9      | 8       | "       | 81       | 9      | 170    | 018-9            |
| 2000 | 18-07N | 158-44W | " "        | 20  | 1014 | 82    | 79     | 92    | 9      | 8       | "       | 81       | 9      | 170    | 018-9            |
| 2100 | 18-16N | 158-42W | " "        | 20  | 1014 | 80    | 77     | 91    | 7      | 6       | CONF    | 81       | 7      | 170    | 018-9            |
| 2200 | 18-24N | 158-39W | " "        | 20  | 1014 | 80    | 77     | 91    | 7      | 6       | "       | 81       | 7      | 170    | 018-9            |
| 2300 | 18-33N | 158-36W | " "        | 20  | 1015 | 80    | 77     | 91    | 7      | 6       | "       | 81       | 7      | 170    | 018-9            |
| 2400 | 18-42N | 158-34W | " "        | 20  | 1015 | 80    | 77     | 91    | 7      | 6       | "       | 81       | 7      | 170    | 018-9            |

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