

PEARL & HERMES REEF - MIDWAY  
4 - 13 AUGUST 1981

MIDWAY - 31 JAN - 1 FEB 85

G. H. BALAZS

BALAZS

1981 &

1985



PEARL & HERMES REEF - MIDWAY (CROMWELL) <sup>TOWNSEND</sup>

4-13 AUGUST 1981

|   |   |
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| JUVENILE TURTLE TAGGINGS AND RECOVERIES | Pages [6, 8, 9] <sup>EASTERN</sup> [11, 12] <sup>LITTLE NORTH</sup> |
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TAG NUMBERS USED:

MIDWAY - 5517-5521  
Pearl & Hermes - 5522-5601



## COMPOSITION BOOK

9 3/4 IN. x 7 1/2 IN. (24.8 cm x 19 cm)

### AVAILABLE AS:

No. 09-9130 (1130) 60 SHEETS COLLEGE RULED & MARGIN

No. 09-9132 (1130-P) 60 SHEETS COLLEGE RULED & MARGIN

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GEORGE H. BALAZS Made in U.S.A.

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Juvenile Rec. at Midway (2109)  
(5519, 5520/new)

0.92 cm/yr for 4.16 yrs.



4 AUGUST 1981 TUESDAY Depart ~ 8:30 AM from Hickam AFB aboard MAC flight <sup>C-141</sup> to Midway to board Townsend Cromwell, for transport to Pearl and Hermes Reef. Bill Guilwartin, Ann Hauptman and John Henderson, are at Kure - Ann reported sick.

In my gear I have 1 case C-rations, nylon dome tent, sleeping bag, air mattress, batteries, canvas, 8mm movie camera, miscellaneous supplies.

Arrive Midway about 11:30 AM (10:30 AM Midway time). Processed through hard bag security check, using old beagle dog.

Met at airport by Commander Stackhouse <sup>DEAN</sup> (NOAA officer) also arrived on this flight.

<sup>New Skipper - Rough</sup> Proceeded to Cromwell in inner harbor by Navy pick-up truck. Reg Gooding (is Chief Scientist - workers include Gordon Tribble, Steve Kramer, Jim Prescott, and studies include assessment of predation on lobsters (by ulua) thrown overboard.

Ate lunch - (Cook - Parker). <sup>Telephoned by Shipmate Bill Gilmet</sup> Officer Andy - assigned me to room with Bogun's Mate Douglas. Stowed gear. Walked from boat to Coral Kings were two of Jim Parrish's employees were just coming in. Reported that project had to be

4 August  
1981  
TUES.

5 AUG  
19  
WEDNES



4 August terminated on June 15<sup>th</sup> of this year due  
1981 to large tiger sharks in study areas.

TUES.

PhD candidate Bob Schroder will be ferrying  
off a patch reef.

Walked through "town" - PX etc. down  
to O-beach where I slept on a  
picnic bench for one hour. Returned  
to ship and ate dinner at 7:30 PM.

Walked to KK dive shop at 6 PM -  
got American flag patch - met IT&T  
man who has been here for two years -  
reports that turtles are seen in  
inner harbor - along edge on the bottom,  
particularly to the west of ramp  
at boat house. Also along ~~NAVFAC~~

NAVFAC where they dive at night  
for lobsters.

Went to PX where I bought 3 8mm  
movie film at \$2 each. Visited  
"package store" - then to pub  
where I had a drink with Prescott,  
Tribble and Kramer.

Before going to bed, I walked along  
the inner harbor breakwater using  
a flashlight looking for turtles. - none  
seen.

5 AUGUST

1981

WEDNESDAY Up ~ 7 AM - ate breakfast and  
at 8 AM Peg called Gil Martin to tell  
him that ship would not pick up



5 AUGUST  
1981

any Kure people, as per orders of Stackelhaust and Navy Dr. She consulted. USCG flight may come today to pick up Ann.

Prescott reports that while chumming for Ulua in 17F off Mario Reef, Chum, immature green turtles came about the stern of the boat and fed on the squid chum.

USCG C-130 came this date to pick up Bill, Ann at Kure - did not refuel - returned to Barbers Point.

Cleared tarp, and Thermos Pop tent with hose on dock.

Depart at ~ 1:30 PM in Boston Whaler for Eastern Island, with man/wife seabird metabolism researchers from the University of Pennsylvania - (been on Midway) since May - depart in 2 weeks. Have a permit to "take" 25 birds each of 6 species. Air Force personnel I didn't like it when seen taking Fairy Terns. Comments made about "sick" Navy people that kick, cut / kill Galapagos.



## OVERALL OBJECTIVES OF PEARL & HERMES EXPEDITION:

1. DETERMINE SCOPE, MAGNITUDE AND NATURE OF NESTING TAKING PLACE ON SE ISLAND, AND OTHER ISLETS
2. MAKE TAG RECOVERIES ON AS MANY BASKING AND NESTING TURTLES AS POSSIBLE
3. TAG AS MANY BASKING AND NESTING TURTLES AS POSSIBLE
4. CENSUS BASKING TURTLES BY SEX AND ISLAND (spray paint)
5. ASSESS IMMATURE AGGREGATIONS:
6. COLLECT INFORMATION ON PREDATION



5 AUGUST  
1981

WEDNESDAY

This occurred on Eastern Island, therefore island visits were stopped for awhile.

At ~3PM I snorkled out to "popular" channel along the south shore of Eastern Island.  
Caught turtle sleeping head-in in cave. Data as follows:

EASTERN ISLAND

5517 RFL Flexible TAPE-PL - 38.8 cm  
TAIL - 9.5

5518 <sup>2nd</sup> SCAL L Flexible TAPE Curved length x curved width:

47.5 cm x 42.9

Red skin algae and a few skin barnacles

10th marginal on right has healed V-notch,  
9th and 11th have pieces missing.  
11th Left and PC seam has a prominent V-notch.

Swarms of green house flies attracted to turtle.  
Lots of dead bird carcasses around.

5 AUG  
1981

6-6:3

7:4

6 AUG  
Thurs



5 AUGUST 81

1981

Four other juveniles seen -  
at least one had tag (distal) - a  
small turtles. I  
Returned to Sand Island at 4:30 PM.  
Andy reports seeing turtle on the  
beach. Roast beef for dinner.

At ~ 6 PM I walked to KK and  
seawall. Noted heavily eroded  
sand cliff - layering present. No bird  
bones found.

6:30 PM Total of 5 juvenile turtles observed  
between KK and fuel pier beach.

All at the surface feeding on  
man-of-war (and sometimes biting foam  
bubbles). none have tags.

7:45 PM - 4 seen - one is different because  
front flipper freshly missing.

Fuel slick / smell present (where  
one of the turtles was feeding).

~~Watched~~  
Watched Midway TV - to bed ~ 10:30 PM

6 AUGUST Up ~ 6:45 AM. Ate breakfast, then  
Thursday walked to Hangar - Administration - Air  
Ops to check USCG flight for August 11th.  
Departed for Eastern Island ~ 10 AM with



6 AUGUST 1981 Gordon, Jim and Mike (engineer ~~personnel~~)

6 AUG  
Thurs

Thursday Gordon and Jim went to barrier reef off eastern end of Eastern Is. Mike assembled scrap copper and bronze for return to Cromwell. I dove at same hole in channel as yesterday - no turtle - but 2 others along edge leading inshore. one was swimming free, the second was basked into a hole, looking at me. Did not flee. Felt stuck tight when I tried to pull it <sup>10:45 AM</sup> out. I had to take a breath before proceeding to get it loose. Tag recovery, with data as follows:

552

Lots of red algae on tags - piercing sites  
2109 LFL mostly healed.

5519 <sup>2nd</sup> scale R  
(new)

EASTERN ISLAND

S-41.3 x 33.0 (CROMWELL CALIPERS)  
5/28/77 37.5 30.0

5520 RFL  
(new)

(0.92 cm / yr)

C-44.0 x 38.8  
40.0 35.6

replaces

2108

(removed)

4.12 yrs

PC-32.5 29.8

HEAD-6.9

TAIL-9.7

50 months

originally tagged S. Eastern 5/28/77 BARRIS - NIGHT DIVE

3.8 cm increase

2 photos on Roll 1 (dorsal & ventral)  
lots of black pigment in carapace.

0.76 cm/month



6 AUGUST 81

Thursday

Jim Prescott brought back a juvenile  
found sleeping under a ledge.  
Right front flipper completely missing - but  
nearly all healed. Released off SW end of Eastern.

5521 <sup>2nd</sup> scale L Flipper

EASTERN ISLAND

S-39.7 x 34.8

PL-32.1

HEAD-6.4

Right <sup>hind</sup> flipper partially missing, but healed.  
Carapace very clean.



6 AUGUST 81

Thursday

Telephoned Jim at ~1:30 AM.  
 Departed Midway at 3:30 AM.  
 Talked to Schulmeister on Tern at  
 7 AM.

orig. 4/10/76 BASK TRIG

FFS  
\*

He reports reading tag (1206) on  
 female at Tern; also (3703)  
 on Tern (date-); and  
 tagging (5221) female after she dug  
 5 unsuccessful pits in soft  
 sand at the eastern end of Tern.  
 (Date-)

Saw "The Island" - ship-board movie.  
 Horrible!

7 AUGUST 81

FRIDAY

Arrived off SE Island, Pearl &  
 Hermes Reef at anchor ~ 8 AM.  
 Readied gear in Boston whaler and  
 departed with Reg at ~ 8:45 AM -  
 Cromwell personnel "Larg" driving  
 1 motor over reef - rpt. through pass.  
 Landed at South said point end of  
 SE Island at 9 AM - noted aggregation  
 of spiny urchins on the bottom.

Noted impressions of 3-sets of  
 tracks - not very recent, but age  
 unknown. 10+ Crest digs, none  
 appear very recent.

7 AUGUST  
FRIDAY

5523

5524



7 AUGUST 81 No basking turtles by refuge sign - or  
FRIDAY anywhere else - but tracks of baskers  
for 10-12 turtles. Saw a few finches

Departed at 10AM for North/Little North Islands.  
Followed inside of fringing reef -  
less coral obstruction.

Saw an adult turtle in the water at  
10:35AM.

Notes near the stream  
remains of the charred shipwreck at  
10:50AM.

Arrived at Little North IS a long  
narrow sandbar at 11:05AM.

Saw 3 adults <sup>(Turtles)</sup> offshore.

11:45AM Restrained a basking juvenile - data as  
follows:

Little North

5523 RFL

C - 55.3 x 49.8

5524 <sup>2nd</sup> L

|      |      |     |                  | SL   | SW   |
|------|------|-----|------------------|------|------|
| 5523 | 5524 | IMM | 7/13/84, 7/15/84 | 54.7 | 45.3 |

→ ROB MORROW

BASK

~~Observed and tracked turtles in water by~~



7 AUGUST 1981

Jumped on a juvenile swimming in shallow water to the east of L. North - yellowish-brown carapace - crack across posterior of carapace - data as follows:

Little North  
C - 41.1 x 35.4

5526<sup>2nd</sup><sub>R</sub>

5527 LFL

Caught another juvenile offshore Little North:

Little North

5528<sup>2nd</sup><sub>R</sub>

C - 50.9 x 46.9

5529 LFL

7 AUG  
FRIDA

553

553



7 AUGUST 81  
FRIDAY Proceeded to North Island - arriving  
about 12:45 PM - calm water all around - very  
green - grassy island - some vegetation I  
have never seen. Pan view - movie roll A;  
Noted 3-4 digs on north side - one  
appears good - all at least several  
weeks old. + 4 more / 1 good

1:15 PM Grabbed a juvenile in shallow water along  
the north shore - sling with algae -  
Data as follows:

North Island

C - 53.7 x 49.3

5531R<sup>2nd</sup>

5532LFL

Thick - full plastron

|      |      |     |         |
|------|------|-----|---------|
| 5532 | 5533 | 14M | 6/06/83 |
|------|------|-----|---------|

→ Rob Morrow  
Little North  
(in the water)  
no measurement taken

Observed and tagged baskers in cove  
1:30 - 2:30. only 2-3 present when we  
arrived - up to ~ 6-8.  
Saw an adult in shallow water next  
to a coral head.



7 AUGUST 81  
FRIDAY Reg took 16mm footage of me tagging basking turtles and catching juveniles.

Depart North Island ~ 2:35 PM -  
Saw a juvenile flee from the approaching boat and swim right to and under a coral head.

Arrived at Sand Bar #1 (to the south of North Island) - long and narrow.  
Observed 2 juveniles in shallow <sup>warm</sup> water to the west - couldn't catch them.

Arrived at Sand Bar #2 ~ 3:05 PM.

Departed for SE Island shortly thereafter, arriving at 4:30 PM.

Katy departed for Chomwel - set up tents;  
Reg and I walked around SE Island tagging turtles and counting seals.

Ate dinner during sunset - corned beef, pork & beans, canned peaches, coffee, short bread cookies.

Ate 9 PM Reg reported 14 turtles by Refuge sign - possible 3 became present just before dark.

Howard Hanson -  
Botsch

7 AUG  
FRIDAY

8 AUG

19

SATURDAY



7 AUGUST 81 At ~ 10:30 PM, I walked to  
 FRIDAY refuge-sign area - Counted 14  
 turtles clustered together hauled  
 out. 50-60 cm turtles included. Tagged  
 and read as many tags as possible (see  
 tables). Continued walk around island.

8 AUGUST ~ 2:15 PM - lower tide. Found a total  
 1981 of 11 present - appeared to be all  
 SATURDAY different.

UP ~ 8:15 AM: - picked up by Dean  
 and motored to Eromwell. Slept until 11:30 AM - ate lamb  
 chops for lunch and departed ~ 12 noon  
 with Dean and Mike Saiki to survey  
 southern group of islets.

Arrived at Kittery end of Seal/Kittery  
 at ~ 12:30 PM. All said, land must  
 regularly be swept over by waves  
 as it is covered with glass balls,  
 bottles, plastic floats, etc.

No turtles seen.

At Seal (vegetated) end I noted  
 and photographed finches (26 in shade  
 of log). Beach/rock structures at  
 this end - many sea urchin  
 skeletons.

Departed at 2:30 PM for Grass Island -  
 arrived 2:45 PM - Noted finches; frigate



8 AUGUST 81

Saturday

nesting in shrubs - vegetation like on North Island. West end of Grass Is. has 2 turtle digs in sand - 1 looks good. Departed at 3:20 PM.

Arrived 3:35 PM off Bird Is. - only a small sandbar - many noddy terns roosting - 1 SA or juv. seal present. Did not land on this island. Arrived at Sand Island at 3:45 PM - also only a sand bar, but perhaps more pronounced.

Note that between Bird and Sand Islands a fairly well defined channel entrance exists.

Returned to Southeast Island at ~ 4 PM.

Basking turtles present - see data tables.

Dean departed for Crownwell - Mitg with me. At about sunset, I walked around the island counter-clockwise - Went out onto beachrock flat - lots of brown boobies present.

On sand south end of island, near rusting "propane" bottle, I counted 12 digs - 4 of which looked good. Note that this is the most elevated section of the island -

8 AUG

SATURDAY

9 AUGUST

SUNDAY



8 AUGUST 81

SATURDAY built up by sand wash up high - limits are well-defined.

3 Sheets ~~sheets~~ of plywood are on the ground - 2-3 bulwer's petrels noted under these; also a shearwater with a small chick.

Noted a wad of what appears to be salmon (or squid) gill net.

Noted 2-3 turtles become present shortly after sunset.

(Dug for peat shells behind Refuge sign.)

Noted a turtle - posterior floating high - swimming slowly around a short distance offshore near Refuge sign.

At 9:30 PM I tagged baskers (see data tables).

9 AUGUST 81

SUNDAY

Slept until 4:30 AM - at which time I checked for baskers (low tide present).

While walking there I found a ~~small~~ crown-of-thorns starfish in shallow water near shore.

Slept until - 7:15 AM - cleared



9 AUGUST 81

SUNDAY

and packed pearl shells in yellow oriental plastic boxes.

Took photos of brown boobies -  
licked by Captain and Atau in  
Boston whaler at 9:30 AM.

Saw a 8-9' tiger about 5 minutes  
off of SE Island.

Showered and ate lunch on ship.

Departed in <sup>15'</sup> Zodiac with Reg at ~ 12:45 PM -  
for North Island.

Motor offshore of Little North - saw 1 adult  
and 3 juveniles in the water.

Arrived at North ~ 2:15 PM.

At 3 PM there were 7 adults, 1 small  
basking in the cove. 2 at other locations.

Tagged baskers.

At 4:50 PM, I hand-captured a  
juvenile feeding in shallow water at  
the south end, western side of  
North Island. Appeared to be eating  
bright green stringy alga growing on (small  
gravel (coral rubble) particles. Data follows:

NORTH ISLAND

|                           | SL      | SW   | CL   |
|---------------------------|---------|------|------|
| 5582 <sup>and</sup> SCNER | 5582    | 5583 | 1MM  |
|                           | 2/27/84 | 47.2 | 38.0 |
|                           |         |      | 51.0 |

C - 49.5 x 43.5

NORTH IS  
Rob  
Morrow

5583 LFL

(Plexible tape) PL - 38.9

2 Photos on Roll 3

9 AUGUST

SUNDAY

5584

5585

6:20



waded across shallow channel - low tide. 19

9 AUGUST 81 At 5:35 PM, I hand-captured a  
SUNDAY juvenile off north end, west side of  
North Island, Sand Bar #1.

5584<sup>2nd</sup> scale R C - 49.6 cm x 43.1

5585 LFL (flexible tape) PL - 40.1

deep scratches in carapace.

very vigorous when released; end of front  
flippers continually broke water as  
it swam away.

Turtle dig-nest noted on the west shore.

QUESTION: Did turtles always place tag on the  
right?

6:20 PM large female barker on east shore found to  
have old FWS - couldn't see number, ∴ pulled off  
with needle-nose pliers - new tag 5588 LFL  
applied. old tag imbedded and corroded - black  
corrosion - number still readable - 931.

Ate dinner of freeze-dried lasagna, pork  
and beans w/ spam; coffee; canned  
peaches; fritos.

checked Cove at 9:00 PM and saw



9 AUGUST 81

SUNDAY 3 adults, 1 small out basking.  
Moon about  $\frac{1}{2}$  full.

Wrote up data - pleasant evening.

Check Cove and rest of island at  
10:30 PM - 1♂, 1♀, 1 Brownish juvenile:  
tagged.

10 AUGUST 81

MONDAY

Hard 15 minute rain at ~ 3 AM.  
Two turtles seen basking in Cove  
at 5 AM - one ♀ same as 10:30 AM  
(5593); Saw small waved pip close  
to shore.

Slept until about 7:45 AM. - Ate  
 Raisin Bran - coffee for breakfast.  
Took water temperature in Cove at 7:45 AM -  
26.8°C. Collected sand sample from  
basking beach. No baskers present.  
Collected "SCAT" sample from fresh  
seal trail. PHOTOS OF COVE and "buried" washed up  
coral gubbie.  
Noted - that seals could be hauling  
out on elevated coral rock  
along NE sections of fringing reef.

From a distance, they appear  
to be dry.

Depart from North Island at  
9 AM - saw juvenile turtle a short  
distance offshore. Note - 4 miles  
across shallow (5-10') inner  
lagoon to where Cromwell was

10 AUG

MONDAY



10 AUGUST 81 anchored overnight about  $\frac{1}{4}$  mile  
 MONDAY outside the reef. Greenish  
 water all along the way. Waves  
 were not breaking in the region we  
 crossed over the fringing reef. Shallow  
 Coral heads, with water ~5-15' deep  
 in between. Possible remains of  
 shipwreck, <sup>sticking up</sup> above water to the left  
 of our exit.

Motor in Cromwell to the vicinity of  
 our lobster trap/fish trap (set).  
 Algae (possibly Amarusia) collected from  
 trap - set at 30 fathoms.  
 (DRILL) Motored around to Southeast Island  
 area - arriving at 2:30 PM. Set  
 Kona traps.

Motor in Zodiac to SE Island at  
 3:30 PM with Kramer, Tribble and  
 Prescott. Three baskers when we  
 arrived, and several more came out  
 later (see data tables), including male  
 with blue facing left, size 49 (right  
 flap that I couldn't read - tried  
 to turn it over, but it "outdid" me  
 and returned to the water (bruises on  
 chin, sore shoulder muscle).  
 Collected basking beach sand sample,  
 and a few more pearl shells for  
 Howard. Returned to the ship about  
 6:15 PM. Trolled along Pearl &



10 AUGUST 1981

Monday Hermes Reef drop-off for a few hours - then departed for Midway.

~~The results of~~ Today's one hour of kona crab trapping resulted in one large crab only.

11 AUGUST 81

TUESDAY

Arrived off Midway channel about 6:30 PM. Ate breakfast aboard - motor into inner harbor at 8:30 PM where the ship laid off and I disembarked via Boston whaler. Checked into 5-7 with Russell and Ben Shea.

Informed by Navy wave that during early June the sailboat Pelecan arrived here - was originally sailing from Honolulu to San Francisco, but drifted to Pearl & Hermes Reef. Reported that there are a lot of glass balls there (i.e. landed on islands?). In April the one existing YTB, try tried to go to Honolulu, but had to be towed back - only got 61 miles out.

Ate lunch at the EM mess; walked to the beach where Appy had seen turtle halfway up the beach - nothing seen in the way of

trac  
to  
a sign

11 AUGU  
TUESDAY

12 AUGU  
81  
Wednesda



tracks between O-beach and fuel pier. Talked to Jessie (Chief) - KK president for 52 workdays. Posted a sign about reporting tag scavies to me

Russ & Bev Shea  
102 Lerdy Lab, G/7  
Dept. of Biology  
U. of Pennsylvania  
Philadelphia, PA  
19104  
(215) 243-7128 → office

11 AUGUST 81 ~~TUESDAY~~ Telephoned Jim in the late afternoon. OSCG flight was suppose to come this morning to Kure, but it didn't. Had drinks at the O club - small pizza. Later I returned with Russ and Bev. Got to bed about midnight.

12 AUGUST 81 ~~Wednesday~~ Got up about 8:30 AM. Walked to air ops and spent most of the day trying to determine status of the Kure OSCG flight. Had an 11 AM lunch with Russ and Bev at the EM mess. Reported that some hare-node lobster traps are being set inside the lagoon. Called Eric Knudsen at Kure on Midway Communications "single sideband". CG finally arrived from Barber's Point via Kure at ~ 5 PM. Departed for Honolulu ~ 6 PM - Bob Sheeder aboard + McDonald's lobster people from Kure -



12 AUGUST 81  
WEDNESDAY

including stars.  
Arrived at Barber's Pt - Navy side for  
Customs at ~ 12:15 AM Honolulu time.

13 AUG 81  
THURSDAY

Met by Bill Guitierrez and Murray  
Dailey at USCG side.  
Employee Carl drove me from NOAA  
lab to home, arriving about 2 AM.

Backnotes:

No ticks seen at Pearl &  
Thermes Reef - however, several  
"chigger" bites were obtained at SE IS.

Gear aboard Crowell:

- 1.) Glass ball
- 2.) Plastic box with  
pearl shells,  
sand samples
- 3.) Black canvas roll  
and Thermos tent
- 4.) water container
- 5.) Algae sample

Relatively large colony of brown boabs on  
SE Island.

"Melrose" purple bottle found on  
Cross Island



Backnotes, continued -

Write to Kenyon about  
"burial" at SE Island

Note in bottle found on SE Island's  
page 26

Howard reports that he was  
with Vernon Brock in the early 1950s  
when he resurveyed for reef shell  
and tagged turtles ~~at~~ at P&H.

Pile of shells on P&H, SE Is.  
believed to have been left there by  
"Japanese" sometime after WWII.

Terna Packers fished P&H after  
WWII - vessel Reliable. Fished  
reef fish - got low prices (2-3¢/lb)  
therefore wasn't economically feasible  
due to long distances involved.

Howard also mentioned seeing dead  
upside down turtles at K. G. Is.

\* (Took turtles from Seewards in  
the <sup>gov.</sup> vessels he has served on.



Mark Mollay

on the Cozy Ann on the 29<sup>th</sup> of June

2 days out of Hawaii  
after a day from L.A.



## BASKER TAGGINGS

5539 BAD

| DATE/TIME                          | M-F | SEX | TAG NOS.   | REMARKS - MEASUREMENTS  | LOCATION                             | DATE/TIME                                      |                           |
|------------------------------------|-----|-----|------------|---|--------------------------------------|--|---------------------------|
| 8/7/81 12 NOON<br>FRIDAY           |     | M   | 5525 L F   | PC's + MISSING  | BASK L. NORTH                        | 8/7/81<br>FRIDAY                               |                           |
| 8/7/81 1 PM<br>2 PM IN COVE        |     | F   | 5530 L F   |   | <del>BASK</del> EAST<br>North ISLAND | 8/7/81   |                           |
| 8/7/81 1 PM                        |     | F   | 5533 R     |   | COVE<br>North IS.                    | 8/7/81   |                           |
| 8/7 1:30 AM<br>returned at 2:25 PM |     | F   | 5534 R     | RHL 1/2 MISS<br>Healed  | COVE<br>North IS.                    | 8/8/81<br>SATURDAY<br>HEALING SLASHES<br>IN PL |                           |
| 8/7 2 PM                           |     | F   | 5535       |   | COVE<br>North                        | 8/8  |                           |
| 8/7 2:30 PM                        |     | M   | 5536       | short<br>TAIL   | COVE<br>NORTH                        | 8/8  |                           |
| 8/7 ~ 5:30 PM                      |     | F   | 5537 L     | 2nd Photos -<br>R2 BASK - MANY TIME ON<br>shoulders & in eyes | near lights<br>SE IS.                | 8/8/81   |                           |
| 8/7/81 5:30 PM                     |     | M   | 5538 R     | 2nd   | BASK SE IS.                          | 8/8  |                           |
| 5538                               |     | AM  | 7/08/84    | 86.1  | 72.0                                 | SEI-BASK<br>ROB MORROW                         |                           |
| 8/7/81 6 PM                        |     | M   | 5541 R F L | 10/29/82 SET<br>AK  | BASK SE IS                           | 8/8  |                           |
| 8/7 6:30 PM                        |     | F   | 5542 R F L | Big TC 75<br>6/19/85 GP<br>new 9303, 9304                     | BASK SE IS                           | 8/8 4:   |                           |
| 8/7 10 PM                          |     | F   | 5543 L     | Small SA? SL SW CL  | BASK SE IS.                          | 8/8 9:30                                       |                           |
| 5543                               |     | IMM | 5/11/83    | 73.8  | 57.9                                 | 77.5<br>ROB MORROW<br>SEI-BASK                 |                           |
| 8/7 10 PM                          |     | F   | 5544       | ENTERED<br>NO. 23   | BASK SE IS.                          | 5563   |                           |
| 8/7 10 PM<br>8/10 4 PM - BASKING   |     | F   | 5545 R F L | ENTERED<br>NO. 12   | BASK SE IS                           | 8/8 9:30<br>8/9 4:30                           |                           |
| 5545                               |     | IMM | 4/30/83    | 77.8  | 61.2                                 | 83.5   | 77.5<br>SEI<br>ROB MORROW |
| 8/7 10 PM                          |     | F   | 5546       | Small SA?   | BASK SE IS                           |  |                           |
| 5546                               |     | IMM | 4/30/83    | 77.8  | 61.2                                 | 83.5   | 77.5<br>SEI<br>ROB MORROW |



|      | DATE/TIME                 | M-F<br>SEX        | TAG NOS.                        | REMARKS-<br>MEASUREMENTS   | LOCATION                      |
|------|---------------------------|-------------------|---------------------------------|--|-------------------------------|
|      | 8/7/81 10PM<br>FRIDAY     | ?                 | 5548                            | (another tag<br>already present)   | SE IS.                        |
| LAND | 8/7/81 10PM<br>8/8-9:30PM | M                 | 5549 <sup>2nd</sup><br>5564     | 2nd -<br>basking<br>same area  | SE IS.                        |
|      | 8/8/81 2:15AM<br>SATURDAY | ?                 | 5550 <sup>2nd</sup>             | 2nd  | SE IS.                        |
| IS.  | 8/8-9:30PM<br>8/10 5PM    | Juvenile          | 5551 RFL; 5600 LFL              | BLASKING SAME AREA (near sign)<br>floating posterior   | C-63.2 X 58.8<br>PL-50.3      |
|      | 8/8 2:15AM                | F                 | 5552; 5553                      | entered<br>NO. 24  | SE IS.                        |
|      | 8/8 2:15AM                | Juvenile          | 5554                            |  | SE IS.                        |
| IS.  | 8/8 2:15AM                | ?                 | 5555                            |  | SE IS.                        |
| IS.  | 8/8 2:15AM                | ?                 | 5556                            |  | SE IS.                        |
| IS.  | 8/8 2:15AM                | F                 | 5557 <sup>2nd</sup>             | 10/29/82<br>AK SET R   | SE IS.                        |
| IS.  | 8/8 4:30AM                | small-<br>F SA    | 5558 <sup>2nd</sup><br>5559 RFL | Scale  | SE IS.                        |
| IS.  | 8/8 9:30AM                | small<br>F SA     | 5562                            |  | SE IS.                        |
| IS.  | 5563                      | 5562              | AF                              | 5/11 7/8/83  | 83.5 5563 <sup>2nd</sup><br>R |
| IS.  | 8/8 9:30AM                | big<br>F          | 5565 RFL                        | Rob Arrow<br>SET   | SE IS.                        |
| IS.  | 8/9 4:30AM                | Bask<br>same area |                                 | one front flipper 1/2 missing (right)<br>left flipper 3/4 missing - both healed<br>well -<br>old tag hole (?) present<br>in right front flipper. |                               |



## BASKER TAGGINGS (CONTINUED)

| DATE/TIME      | M-F<br>SEX | TAG NOS.       | MEASUREMENTS-<br>REMARKS                                  | LOCATION       | DATE/TIME     |
|----------------|------------|----------------|---|----------------|---------------|
| 8/9/4:30 AM    | F          | 5566 CFL       | ENTERED NO. 11  | SE Island      | 8/9/81 Sunday |
| 8/9 2:45 PM    | F          | 5568           | 1MM 4/28/83 63.0 62.0 67.0<br>2ND scale East shore ~ 55cm | North Is.      |               |
| 8/9 3:30 PM    | F          | 5569 FLAP      | small   | Cove North Is. | 8/9/81 SUNDAY |
| 8/9/81 3:30 PM | M          | 5570 CFL       | 5571 2ND R SL SW CL CW NI Rob Morrow                      | Cove North Is. | 8/9/810       |
| 8/9/81 3:30 PM | M          | 5572 LFL       | 5/24 6/25 7/17/83 51.0 40.7 54.8 49.6                     | Cove North Is. | 8/9/810       |
| 8/9 3:30 PM    | F          | 5573 RFL; 5574 | 2ND scale   | Cove North Is. |               |
| 8/9 3:30 PM    | F          | 5575           | may not have locked properly                              | Cove North Is. | 8/10 4A       |
| 8/9 3:30 PM    | F          | 5576           |   | Cove North Is. | 8/10 4:30     |
| 8/9 3:30 PM    | F          | 5577           |   | Cove North Is. | 8/10 6P       |
| 8/9 4:35 PM    | F          | 5578           | 10/30/82 AK N IS.   | Cove North Is. |               |
| 8/9 4:35 PM    | F          | 5579 RFL; 5580 | 2ND SCALER  | Cove NORTH IS. |               |
| 8/9 4:40 PM    | F          | 5581 RFL       | 10/29/82 AK SEE   | Cove NORTH IS. |               |
| 8/9 6 PM       | F          | 5586 RFL       | ENTERED NO. 26  | Cove NORTH IS. |               |
|                |            | 5587 CFL       |   |                |               |



| STATION | DATE/TIME           | M-F<br>SEX                      | TAG NOS.                                       | MEASUREMENTS<br>REMARKS     | LOCATION                    |
|---------|---------------------|---------------------------------|--|-----------------------------|-----------------------------|
| Island  | ③⑧ 8/9/81<br>Sunday | 10:30 PM<br>~60cm<br>? Juvenile | ENTERED NO. 10<br>5589 LFL<br>5590 2ND SCALE R | Brownish<br>Red carapace    | COVE<br>North Is.           |
| h Is.   | ③⑨ 8/9/81<br>SUNDAY | M                               | 5591<br>5592                                   |                             | COVE<br>NORTH IS.           |
| Is.     | ④⑩ 8/9<br>8/10 5AM  | Big F<br>apparently returned    | 5593 RFL<br>5594 LFL<br>5595 2ND left          | 2nd scale<br>or never left. | COVE<br>NORTH<br>COVE NORTH |
| h Is.   |                     |                                 | 5595 2ND left                                  |                             |                             |
| h Is.   | 8/10 4 AM           | Big F                           | 5597   |                             | SE IS.                      |
| h Is.   | 8/10 4:30 PM        | F                               | ENTERED<br>NO. 25 5599 RFL                     |                             | SE IS.                      |
| Is.     | 8/10 6 PM           | F                               | 5601 LFL                                       |                             | SE IS.                      |

NORTH IS.  
ROB MORROW

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Is.  
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## BASKET TAGGINGS (CONTINUED)

6

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| <u>DATE/TIME</u> | <u>M-F</u><br><u>SEX</u> | <u>TAG NOS.</u> | <u>REMARKS -</u><br><u>MEASUREMENTS</u> | <u>Loc</u> |
|------------------|--------------------------|-----------------|-----------------------------------------|------------|
|------------------|--------------------------|-----------------|-----------------------------------------|------------|

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| <u>CATCH</u> | <u>DATE/TIME</u> | <u>M-F</u><br><u>SEX</u> | <u>TAG NOS.</u> | <u>REMARKS-</u><br><u>MEASUREMENTS</u> | <u>LOCATION</u> |
|--------------|------------------|--------------------------|-----------------|----------------------------------------|-----------------|
|--------------|------------------|--------------------------|-----------------|----------------------------------------|-----------------|



# TURTLE TAG RECOVERIES

| DATE/TIME                                                                                                                              | M-F  | SEX    | OLD/NEW                | TAG NOS.              | MEASUREMENTS | REMARKS                               | LOCATION        | DATE/TIME                     |           |      |    |         |      |            |
|----------------------------------------------------------------------------------------------------------------------------------------|------|--------|------------------------|-----------------------|--------------|---------------------------------------|-----------------|-------------------------------|-----------|------|----|---------|------|------------|
| 8/7/81<br>FRIDAY                                                                                                                       |      | F      |                        | 3473 LFL              |              | BASK                                  | Li North IS.    | 8/8/81<br>SATURDAY<br>4:30 PM |           |      |    |         |      |            |
| ENTERED NO. 151<br>ORIG. TAGGED 9/7/80 W-S, PFS BASKING<br>PHOTOS #33-37<br>+ MOVIE A                                                  |      |        |                        |                       |              |                                       |                 |                               |           |      |    |         |      |            |
| <table border="1"> <tr> <td>NORTH IS.</td> <td>5522</td> <td>AF</td> <td>5/24/83</td> <td>84.7</td> <td>Rob Morrow</td> </tr> </table> |      |        |                        |                       |              |                                       |                 |                               | NORTH IS. | 5522 | AF | 5/24/83 | 84.7 | Rob Morrow |
| NORTH IS.                                                                                                                              | 5522 | AF     | 5/24/83                | 84.7                  | Rob Morrow   |                                       |                 |                               |           |      |    |         |      |            |
| 8/7/81                                                                                                                                 |      | M      | ENTERED NO. 77         | 97                    | Right Flap   | FWS HONOLULU                          | NORTH IS - COVE | 8/8 4:30                      |           |      |    |         |      |            |
| 8/7/81                                                                                                                                 |      | M      | PIECE MISSING TO SHELL | ?                     |              | FWS HONO                              | North           |                               |           |      |    |         |      |            |
| 8/7/81                                                                                                                                 |      | M      | ENTERED NO. 11         | 991                   | FWS HONO     | BASK - white s.H on carapace          | SE IS.          | 8/9 4:30                      |           |      |    |         |      |            |
| 8/7/81                                                                                                                                 |      | F      | ENTERED NO. 7          | 2967                  | RFC          | BASK                                  | SE IS.          | 8/9 6                         |           |      |    |         |      |            |
| ORIG. TAGGED 10/5/78 SE IS. BASKING<br>5540 <sup>2nd</sup> R (new)                                                                     |      |        |                        |                       |              |                                       |                 |                               |           |      |    |         |      |            |
| 8/7/81                                                                                                                                 |      | M      | ENTERED NO. 8          | 2874                  | LFL          | BASK Right Front 3/4 missing - healed | SE IS.          | 8/9 6:<br>8/10 3:             |           |      |    |         |      |            |
| ORIG TAGGED 7/24/78 SE ISLAND BASKING                                                                                                  |      |        |                        |                       |              |                                       |                 |                               |           |      |    |         |      |            |
| 8/7/81 10PM                                                                                                                            |      | M      | ENTERED NO. 9          | 153                   | FWS Honolulu | Recov. 7/2/82 AK                      | SE IS.          | 8/10 5A                       |           |      |    |         |      |            |
| 8/9 4:30 AM                                                                                                                            |      |        |                        | 5547 (new)            |              | Basking same site                     |                 |                               |           |      |    |         |      |            |
|                                                                                                                                        |      |        |                        | 5567 (new)            |              |                                       |                 |                               |           |      |    |         |      |            |
| 8/8/81 4:30 PM                                                                                                                         |      | Female | from original data     | 2968                  |              |                                       | SE IS.          | 8/10 5                        |           |      |    |         |      |            |
| 8/8 9:30 AM                                                                                                                            |      |        |                        | 2969                  |              | Basking same area                     |                 |                               |           |      |    |         |      |            |
|                                                                                                                                        |      |        |                        | + R <sup>F</sup> 2970 |              |                                       |                 |                               |           |      |    |         |      |            |
| + Blue Fearing left 2024<br>ORIG TAGGED 9? FWS<br>REC. 10/5/78 SE IS. P&H BASKING                                                      |      |        |                        |                       |              |                                       |                 |                               |           |      |    |         |      |            |

|      |  |    |                    |      |      |
|------|--|----|--------------------|------|------|
| 2969 |  | AM | 4/30, 6/7, 7/15/83 | 90.0 | 72.5 |
|------|--|----|--------------------|------|------|

Rob Morrow



| STATION | DATE/TIME                       | M-F<br>SEX | ENTERED<br>NO.                                    | TAG NOS.                                                          | MEASUREMENTS<br>REMARKS                                                          | LOCATION  |
|---------|---------------------------------|------------|---------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------|
| SE IS.  | ⑨ 8/8/81<br>SATURDAY<br>4:30 PM | F          | NO. 41                                            | 1304 HMB<br>+ another HMB<br>5560 R (new)                         | RFL<br>1303 LF<br>ORIG. TAGGED FWS 132 OFF 1966-PH<br>OBSER. TRIG 7/9/78 BASKING | SE Island |
| SE IS.  | ⑩ 8/8 4:30 PM                   | M          | 4/71<br>NOT ENTERED<br>IN RECOVERY<br>DATA SHEETS | ③ 989 or 686 FWS<br>5561 2ND R scale (didn't lock properly)       | (ITANO?)                                                                         | SE IS.    |
| SE IS.  | ⑪ 8/9 4:30 AM                   | M          |                                                   | covered FW tag<br>on RFL<br>R front mostly missing<br>but healed. |                                                                                  | SE IS.    |
| IS.     | ⑫ 8/9 6:20 AM                   | F          | BIG ENTERED<br>NO. 8                              | 93 (off)<br>FW embedded - couldn't read #<br>5588 LFL (new)       | East shore                                                                       | NORTH IS. |
|         | ⑬ 8/9 6:35 PM                   | F          | Small                                             | 5500 2ND scale left                                               | white scum on shell<br>North shore                                               | North     |
| SE IS.  | ⑭ 8/10 3:45 PM                  | M          | ENTERED<br>NO. 10                                 | 2873 RFL<br>5596 2ND scale L (NEW)                                |                                                                                  | SE Island |
| SE IS.  | ⑮ 8/10 5 PM                     | F          |                                                   | <del>2601 LFL</del>                                               | ORIG. TAGGED 7/24/78 SE IS. BASKING<br>should be 5601                            | SE IS.    |
| IS.     | ⑮ 8/10 5:00 PM                  | M          | Probably<br>2011/                                 | BLUE FERRING LEFT FLAP<br>SIZE 49 (HMB?) Right FLAP               |                                                                                  | SE IS.    |





## BASKING TURTLE CENSUS

| DATE/TIME                             | M | F           | I                      | TOTAL | IW | LOCATION                           | DATE/TIME          |
|---------------------------------------|---|-------------|------------------------|-------|----|------------------------------------|--------------------|
| 8/7/81 9-10AM<br>FRIDAY               |   |             |                        | 0     |    | SE                                 | 8/9 2P<br>sunday   |
| 8/7/81 12 NOON                        | 1 | 2 (1 small) | 1 (Juv)                | 4     | 3  | L. North                           | 8/9 3:30PM         |
| 8/7 1-2:30PM                          | 3 | 4           | ~3                     | 10    | 3  | North                              | 8/9 4:30PM         |
| 8/7 5:30AM                            | 5 | 3           | ~3                     | 11    |    | SE Island                          | 8/9 6PM            |
| 8/7 (NOCTURNAL)<br>10-PM              | 2 | 4 2 small   | 8                      | 14    |    | JUST PAST<br>SE IS.<br>Refuge sign | 8/9 6:30PM         |
| 8/8 (NOCTURNAL)<br>2:15AM<br>SATURDAY | - | -           | 2 - small<br>(JUV-SIA) | 11    |    | SE                                 | 8/9 9PM            |
| 8/8 12:30-2:30PM                      | - | -           | -                      | 0     | 0  | SEAL/<br>KITHERY                   | 8/9 10:30          |
| 8/8 2:45-3:20PM                       | - | -           | -                      | 0     | 0  | GRASS                              | 8/10 Monday<br>5AM |
| 8/8 3:35PM                            | - | -           | -                      | 0     | 0  | BIRD                               | 8/10 3:45          |
| 8/8 3:45PM                            | - | -           | -                      | 0     | 0  | SAND                               | ~~~~~              |
| 8/8 4:30 PM                           | 2 | 3 1 small   | 1                      | 6     | 2  | SE IS.                             |                    |
| 8/8 9:30PM                            | 2 | 5 1 small   | -                      | 7     |    | SE IS.                             |                    |
| 8/9 4:30AM                            | 3 | 1           | 2                      | 6     |    | SE IS.                             |                    |
| 8/9 1AM<br>sunday                     | - | -           | 2                      | 2     |    | SE IS.                             |                    |



| LOCATION                | DATE / TIME                   | M | F | I      | TOTAL                     | IW            | LOCATION     |
|-------------------------|-------------------------------|---|---|--------|---------------------------|---------------|--------------|
| SE                      | 8/9 2PM<br>sunday             |   |   |        | 0                         |               | L. North Is. |
| L. North                | 8/9 3:30PM                    | 1 | 7 | 1 JUV. | 9                         | COVE          | North Is.    |
| North                   | 8/9 4:30PM                    | - | 3 | -      | 3                         | COVE          | North Is.    |
| E Island                | 8/9 6PM                       | - | 1 | -      | 1                         | COVE          | North Is.    |
| PAST<br>E IS.<br>design | 8/9 6:30PM                    | - | 1 | -      | 1                         | EAST<br>SHORE | North Is.    |
| SS                      | 8/9 9PM                       | - | - | 4      | 4 (3 adult<br>1 juvenile) | COVE          | North Is.    |
| L. Perry                | 8/9 10:30PM                   | 1 | 1 | 1 JUV  | 3                         | COVE          | North Is.    |
| GRASS                   | 8/10 <sup>monday</sup><br>5AM | - | 2 | -      | 2                         | COVE          | North Is.    |
| Bird                    | 8/10 3:45-6PM                 | 3 | 4 | -      | 7                         |               | SE Island    |

AND 

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## TAGGING ENCOUNTERS -

## SE ISLAND ADULTS

## - TAG RECOVERIES -

MALE - ~~1~~ 6 (+ 2 couldn't read)FEMALE - ~~1~~ 2UNKNOWN - ~~1~~

SUBTOTAL - (8)

## - NEWLY TAGGED -

MALE - 3

FEMALE - 9

UNKNOWN - 3

SUBTOTAL - (15)

TOTAL TAGGING ENCOUNTERS  
SE ISLAND - 23

## NORTH ISS. COMPLEX ADULTS

## - TAG RECOVERIES -

MALE - ~~1~~ 1 (+ 1 couldn't read)FEMALE - ~~1~~ 2UNKNOWN - ~~1~~ 0

SUBTOTAL - (3)

## - NEWLY TAGGED -

MALE - 4

FEMALE - 14

UNKNOWN - 0

SUBTOTAL - (18)

TOTAL TAGGING ENCOUNTERS  
NORTH ISS. - 21ADULT TOTAL TAGGING ENCOUNTERS: 44



## IMMATURE TURTLE TAGGING ENCOUNTERS

SE ISLAND

BASKING - 6

OFFSHORE - 0

SUBTOTAL - 6

NORTH IS. COMPLEX

BASKING - 4

OFFSHORE - 5

SUBTOTAL - 9

TOTAL - 15ADULTS - PEARL & HERMES REEF OVERALL  
TAG RECOVERIES

MALE - 7 (+3 couldn't read)

FEMALE - 4

UNKNOWN - 0

SUBTOTAL - (11)

## NEWLY TAGGED

MALE - 7

FEMALE - 23

UNKNOWN - 3

SUBTOTAL - (33)

TOTAL - 44

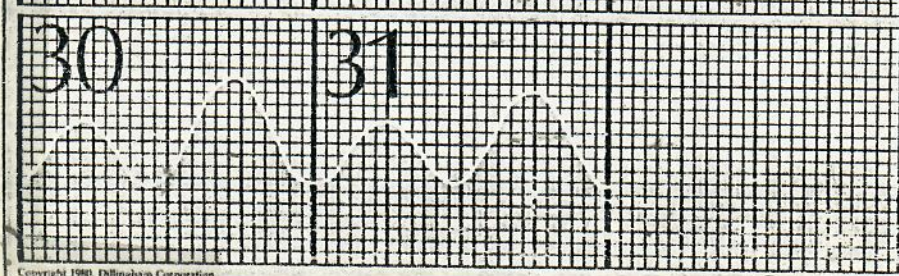
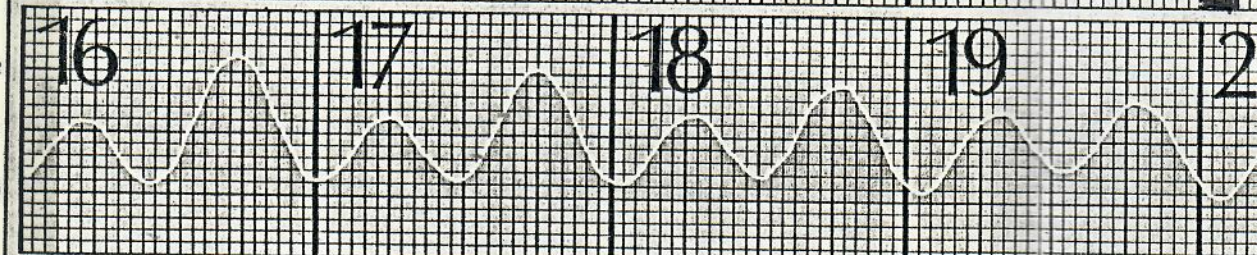
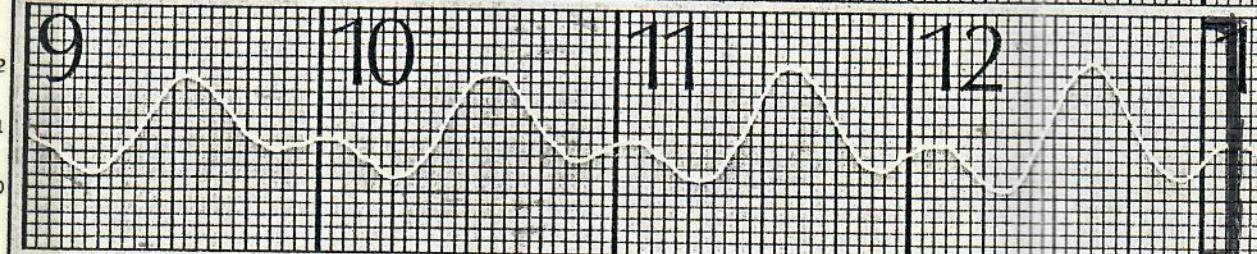
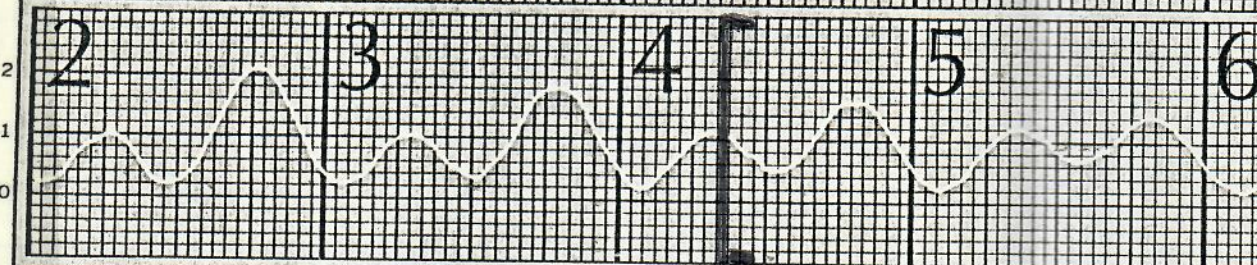
TOTAL TAGGING ENCOUNTERS (ADULTS &amp; JUVENILES) -

59



SUNDAY MONDAY TUESDAY WEDNESDAY  
 6AM NOON 6PM 6AM NOON 6PM 6AM NOON 6PM 6AM NOON 6PM

FEET  
 2  
 1  
 0  
 AUGUST 1981

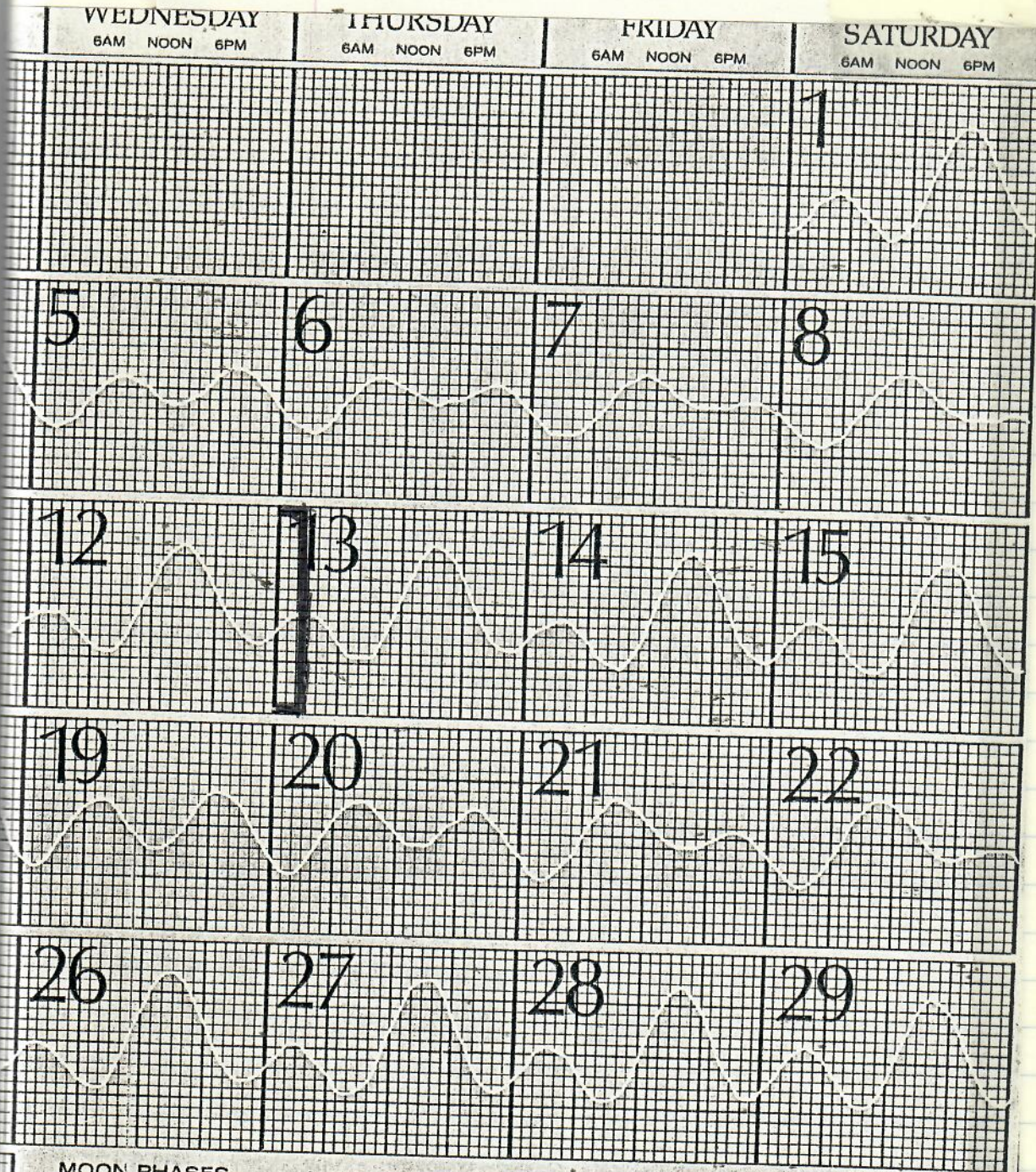


**MOON PHASES**

|                        |                     |
|------------------------|---------------------|
| FIRST QUARTER<br>AUG 7 | FULL MOON<br>AUG 15 |
| EAST QUARTER<br>AUG 22 | NEW MOON<br>AUG 29  |

PORTS  
 HANALEI  
 NAWILIWILI  
 PORT A  
 HALEIWA  
 HANAU  
 KANEHOE  
 LAIE, OAHU  
 WAIALAE  
 WAIMANU





**MOON PHASES**

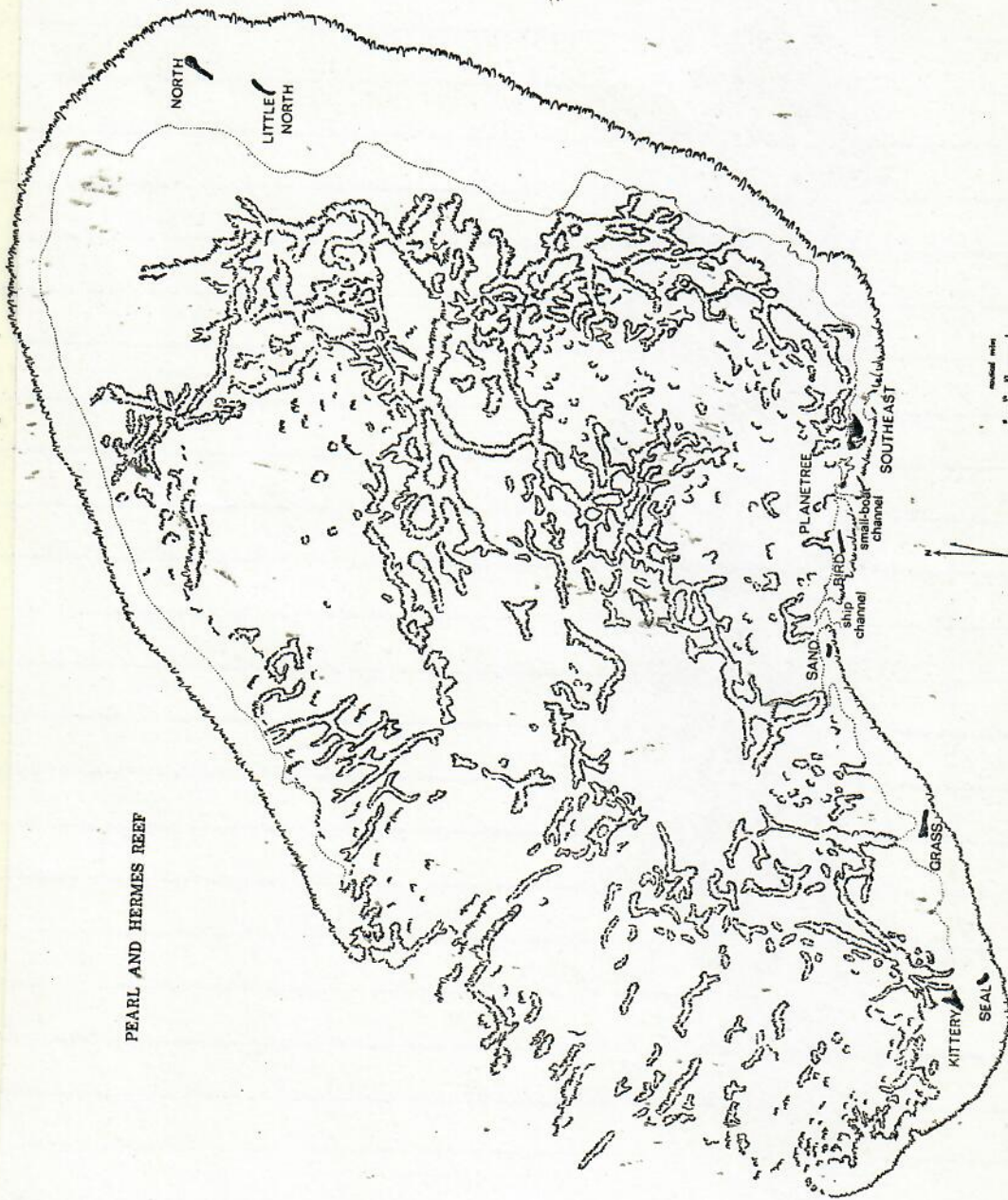
For tide time at following places, add or subtract from Honolulu time.



| PORTS                 | Hrs. | Mins. | PORTS                    | Hrs. | Mins. |
|-----------------------|------|-------|--------------------------|------|-------|
| HANAIEI BAY, KAUAI    | -1   | 40    | KAUNAKAKAI, MOLOKAI      | -0   | 09    |
| NAWILIWILI BAY, KAUAI | -0   | 32    | KAHULUI, MAUI            | -1   | 48    |
| PORT ALLEN, KAUAI     | -0   | 32    | KIHEI, MAALAEA BAY, MAUI | -0   | 14    |
| HALEIWA, OAHU         | -1   | 36    | HILO, HAWAII             | -0   | 59    |
| HAMAUMA BAY, OAHU     | -0   | 55    | HONUAPO, HAWAII          | -0   | 24    |
| KANEOHE BAY, OAHU     | -1   | 35    | MAHUKONA, HAWAII         | -0   | 24    |
| LAIE, OAHU            | -1   | 48    | KEALAKEKUA BAY, HAWAII   | -0   | 16    |
| WAIANAЕ, OAHU         | +0   | 16    |                          |      |       |
| WAIMANALO, OAHU       | -1   | 19    |                          |      |       |

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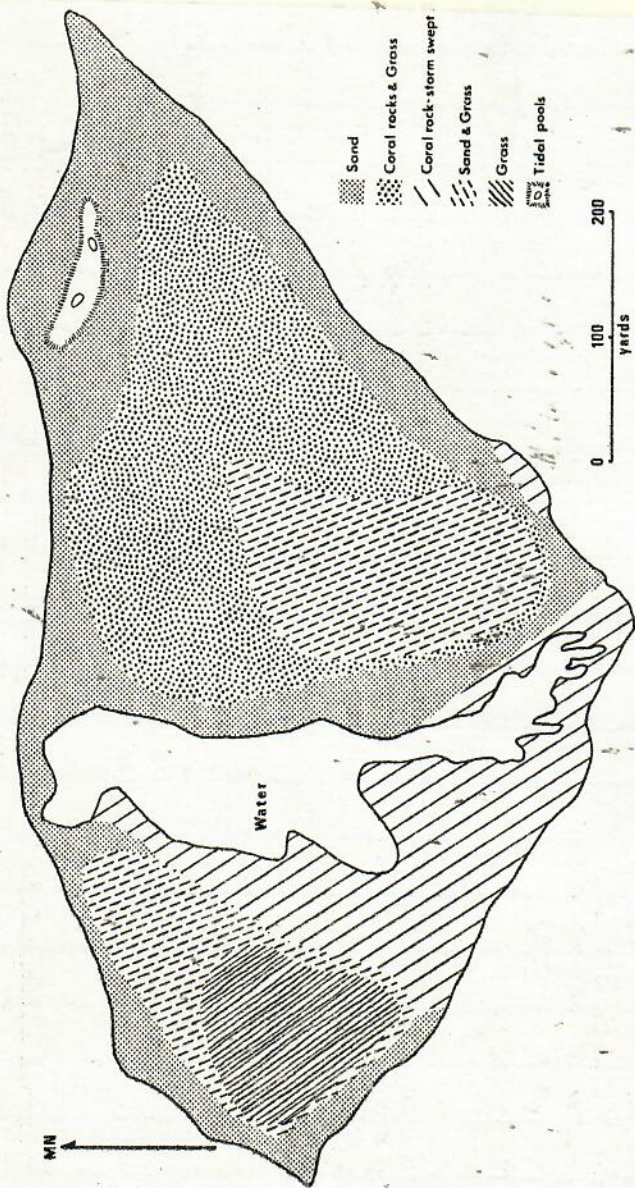




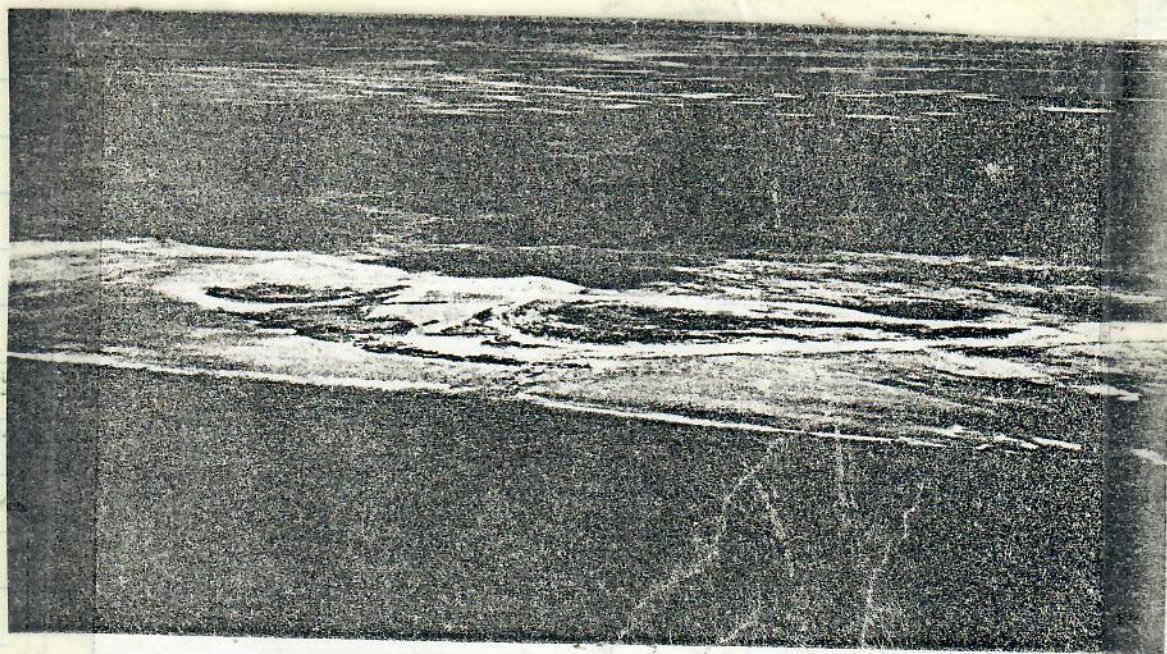
2. Map of Pearl and Hermes Keef. Redrawn from U.S. Coast and Geodetic Survey chart 4175.



15. Map of Southeast Island, May 1923. Redrawn from B.P. Bishop Museum map by Cmdr. S.W. King.







14. Aerial view of Southeast Island, 5 June 1962; a small-boat channel through the reef occurs just out of view on the right. Official U.S. Navy photograph.

9. Aerial view of Little North Island, 5 June 1962. Official U.S. Navy photograph.

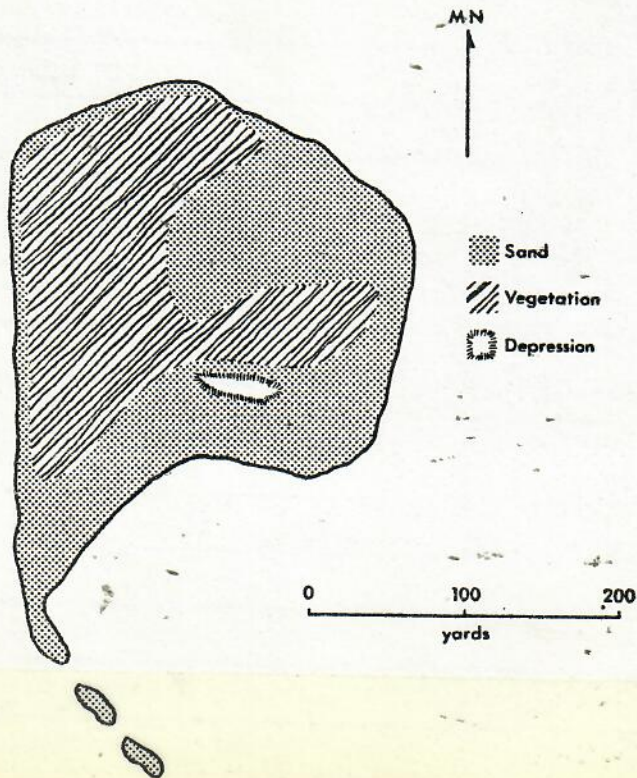






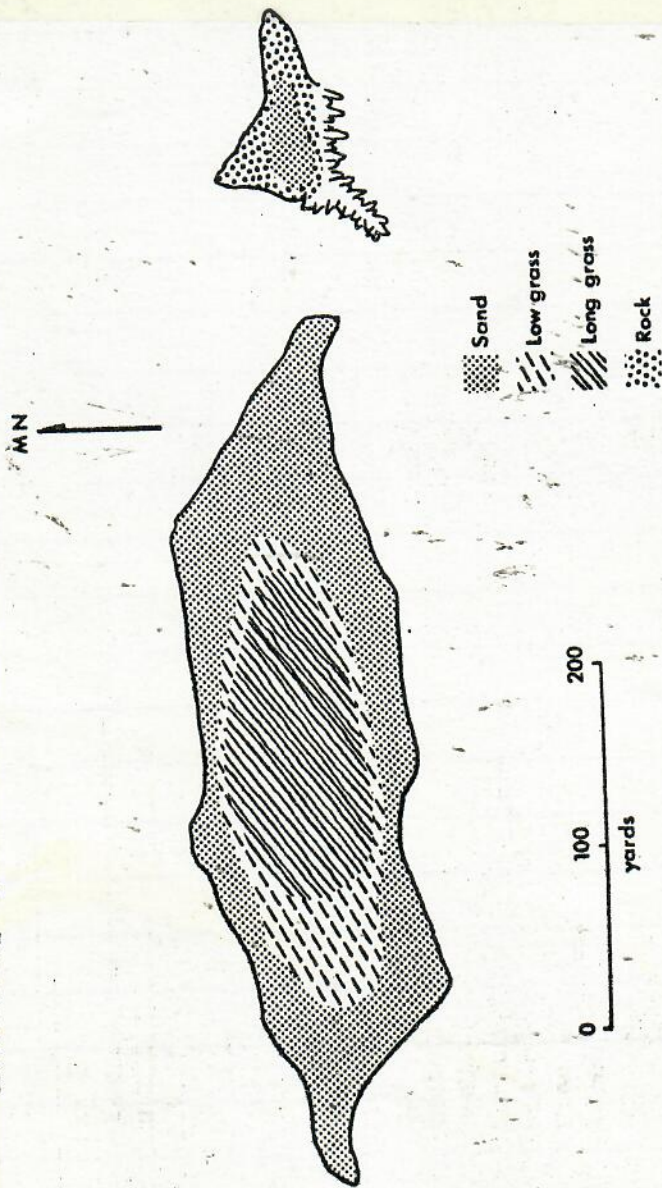
10. Aerial view of North Island, 5 June 1962. Official U.S. Navy photograph.

11. Map of North Island, May 1923. Redrawn from B.P. Bishop Museum map by Cmdr. S.W. King.



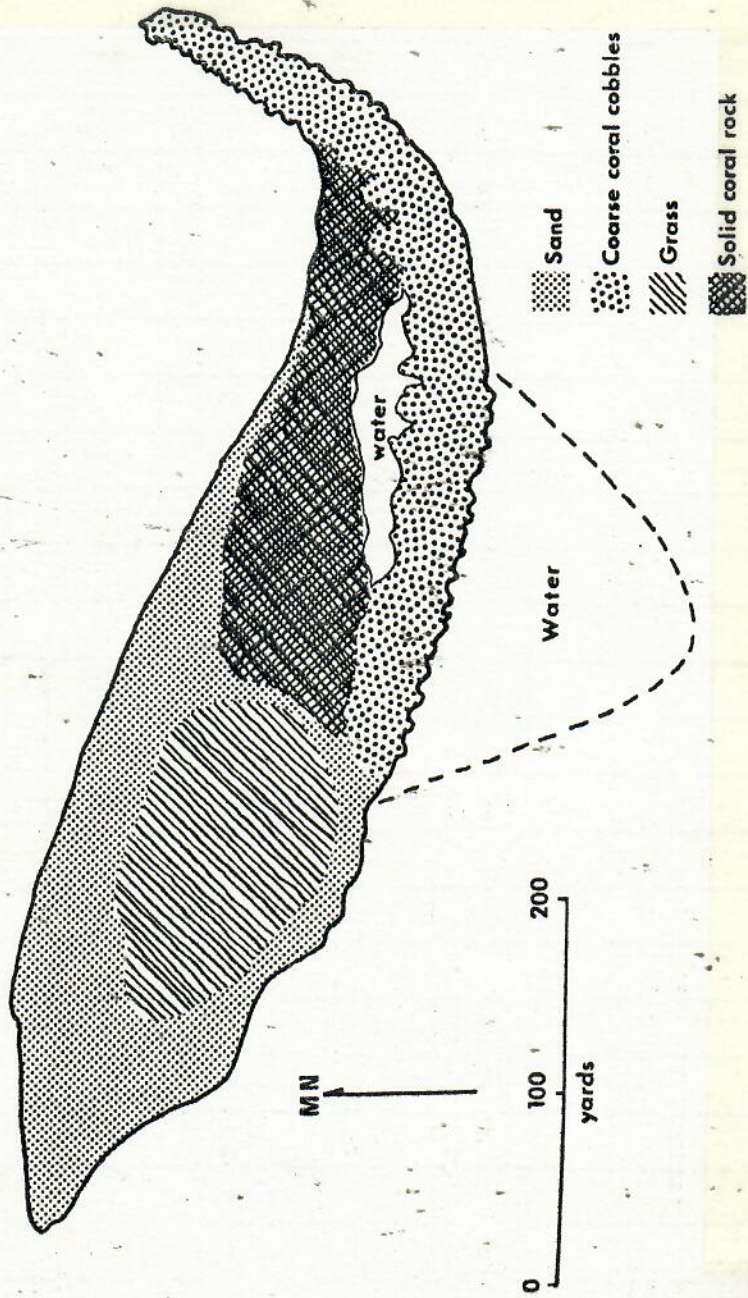


7. Map of Grass Island, May 1923. Redrawn from B.P. Bishop  
Museum map by Cmdr. S.W. King.

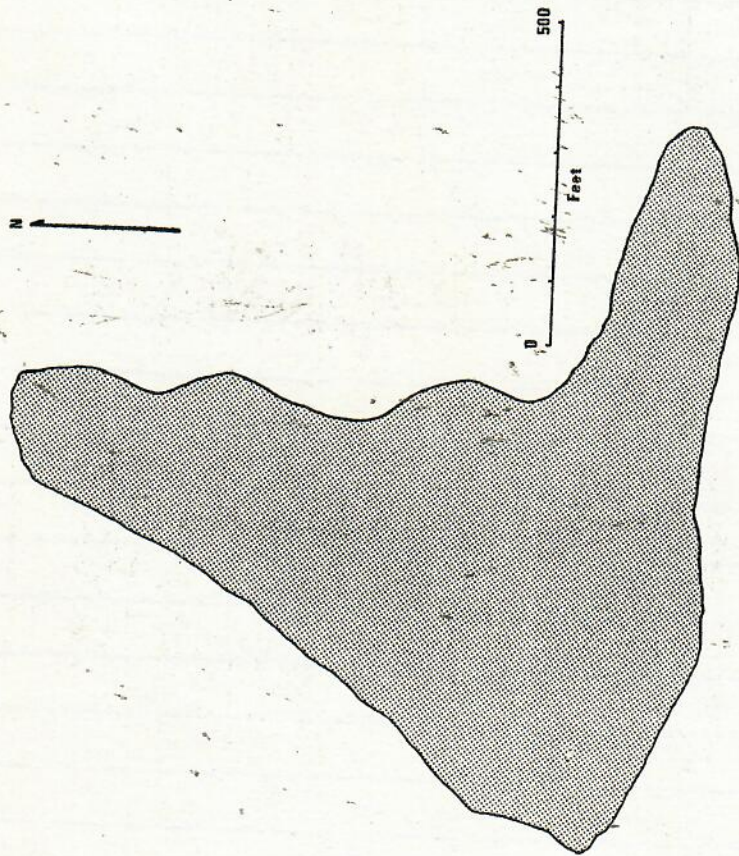




13. Map of Seal Island, May 1923. Redrawn from B.P. Bishop  
Museum map by Cmdr. S.W. King.







8. Map of Kittery Island, March 1965. Redrawn from POBSP map  
by W.O. Wirtz, II.



MIDWAY - 31 JAN - 1 FEB 85  
 TO RETRIEVE MAY 84 BONES  
 OF ADULT MALE HIT AT MIDWAY.

1-31-85  
 Thursday  
 Depart for Kure-Midway 7:35 am  
 USCG 1348 8-130  
 May 84 mortality.

Kure Land - 1:25 pm  
 Met Mr. Ely & XO

Gave instructions on bumping  
 or salvaging future dead turtles -

Depart Kure ~ 2:50 pm

Land Midway 3:20 pm  
 Plane flew for ~ 6 hours to  
 the west.

Depart Midway 4 pm

1/31 afternoon: Ben Mason, former chief  
 (Robin, Robert, Susan Austin & me) and  
 drove to harbor. Burial site marked  
 by stick with orange paint. Dry & rocky  
 in area, but nothing located. Wildlife

2-1-85  
 Friday

2/1  
 day

North  
 KK  
 1/31  
 Monday  
 from  
 duty



MONTH KK Done Haeboe?? HABITAT IDEAS - Midway Inner Harbor 13  
 WAVE schedule? + S. Eastern Is. ?

131 Office Mellow came by and suggest  
 ussday adjacent site. Turtle found  
 buried, belly up, - 18" underground.  
 - one hour spent excavating it.  
 Salvaged skull, jaw bone, 2 other humeri,  
 a radius & ulna, 2 femurs, 2 lateral  
 scutes. Photoed excavation effort,  
 plus close-up of green ball of alga  
 (*Codium* sp.) uncovered - fresh looking!  
 Found a couple pockets of putrid flesh -  
 still so after 8 months! Washed up  
 and bleached the bones in the laundry  
 room that evening. Had Curry <sup>5:30</sup> bean dish  
 at mess Hall (for dinner)

2/1 Rain that night + very cool. Strong  
 wind fasting into the day. And I  
 walked back to abandoned KK club -  
 + pier sea wall where wind-blown  
 waves were spraying up. no turtles  
 seen.

Ben Mason mentioned they may have "bocked  
 down" and that's how turtle got hit.

Carl Barber's Pt 8pm  
 Home ~ 10:30 pm due to delay  
 at Customs.



## METRIC SYSTEM WITH U.S. EQUIVALENTS

### METRIC UNIT (1)      U.S. EQUIVALENT

#### LENGTH

|            |      |              |
|------------|------|--------------|
| millimeter | (mm) | 0.04 inches  |
| centimeter | (cm) | 0.39 inches  |
| decimeter  | (dm) | 3.94 inches  |
| meter      | (m)  | 39.37 inches |
| decameter  | (Dm) | 32.81 feet   |
| hectometer | (hm) | 109.36 yards |
| kilometer  | (km) | 0.62 miles   |
| myriameter |      | 6.2 miles    |

#### AREA

|                   |                    |                  |
|-------------------|--------------------|------------------|
| square centimeter | (cm <sup>2</sup> ) | 0.155 sq. inches |
| square meter      | (m <sup>2</sup> )  | 1.196 sq. yards  |
| are               | (a)                | 119.60 sq. yards |
| hectare           | (ha)               | 2.47 acres       |
| sq. kilometer     | (km <sup>2</sup> ) | 0.3861 sq. miles |

#### WEIGHT

|            |      |               |
|------------|------|---------------|
| milligram  | (mg) | 0.015 grains  |
| centigram  | (cg) | 0.154 grains  |
| decigram   | (dg) | 1.1543 grains |
| gram       | (g)  | 0.035 ounces  |
| decagram   | (Dg) | 0.353 ounces  |
| hectogram  | (hg) | 3.527 ounces  |
| kilogram   | (kg) | 2.2046 pounds |
| quintal    |      | 220.46 pounds |
| metric ton |      | 1.1 tons      |

### METRIC UNIT (1)      U.S. EQUIVALENT

#### VOLUME

|                  |                    |                    |
|------------------|--------------------|--------------------|
| cubic centimeter | (cm <sup>3</sup> ) | 0.061 cubic inches |
| cubic decimeter  | (dm <sup>3</sup> ) | 0.0353 cubic feet  |
| cubic meter      | (m <sup>3</sup> )  | 1.31 cubic yards   |
| cubic decameter  | (Dm <sup>3</sup> ) | 13.10 cubic yards  |

#### CAPACITY, CUBIC

|            |      |                    |
|------------|------|--------------------|
| milliliter | (ml) | 0.06 cubic inches  |
| centiliter | (cl) | 0.6 cubic inches   |
| deciliter  | (dl) | 6.1 cubic inches   |
| liter      | (l)  | 61.02 cubic inches |
| decaliter  | (Dl) | 0.35 cubic feet    |
| hectoliter | (hl) | 3.53 cubic feet    |
| kiloliter  |      | 1.31 cubic yards   |

#### CAPACITY, DRY

|            |      |              |
|------------|------|--------------|
| deciliter  | (dl) | 0.18 pints   |
| liter      | (l)  | 0.908 quarts |
| decaliter  | (Dl) | 1.14 pecks   |
| hectoliter | (h)  | 2.84 bushels |

#### CAPACITY, LIQUID

|            |  |                   |
|------------|--|-------------------|
| milliliter |  | 0.27 fluidrams    |
| centiliter |  | 0.338 fluidounces |
| deciliter  |  | 0.21 pints        |
| liter      |  | 1.057 quarts      |
| decaliter  |  | 2.64 gallons      |



1959