

ROSE ATOLL

Book II

G. H. BALAZS

→ BACAZS 10-13 NOV 80; 5-14 OCT 82; 7 Turtles - 6 day survey
 5 Turtles 3 day survey
 5-13 OCTOBER 1986 - Am. Samoa
 (ON ROSE 7-10 OCT 86
 (3 NIGHTS - OCT. 7TH, 8TH, 9TH)
 1 TURTLE IN 3 NIGHTS
 ONLY TURTLE ASHORE!
 Resighting 5818, 20, 21, 6917 (NEW) TAG CCL-111

PAGE summary = 11 hours
 GMT - 11 hours = Am. Samoa Time (AST)

7-9 NOV 1986 JARCY HU --- P100
 CCL10/em TAGGED 6887-6888

12-16 FEB 1987 DAVID ITANO/KNOWLES P.94-

ROSE IV JIN SHIANG FA - TAIWAN LONGLINER 10/14/93
 31 OCTOBER - 8 NOV. 93 P.30-
 (ON ROSE 2-6 NOV. 93 Summary TAGGED TURTLES
 (4 NIGHTS) HIAM CONTACTS - P.70

SAT. TRANS. 4809, 4808, 4807
 PAGE 41 COMPLETE
 SUMMARY

7 Turtles in 4 NIGHTS
 DIFFERENT

12'
 32'
 ROSE ≈ 14° 30' S; 168° 10' WEST



COMPOSITION BOOK • 9 1/4 IN. x 7 1/2 IN.

AVAILABLE AS:

VM COMPUTER NO.	B&P STOCK NO.	SHEETS	RULING
09-9130	13534	60	COLLEGE RULED & MARGIN
09-9132	13535	60	COLLEGE RULED & MARGIN & PAGED
09-9134	-	100	COLLEGE RULED & MARGIN

HOMOTREMA
 Family HOMOTREMIDAE
 (PROTOZOA)

BOORUM & PEASE CO. ELIZABETH, N.J. 07208

MADE IN U.S.A.

MULIANA =

DIRECT USA ~~TELEPHONE~~ 633-2872

USA DIRECT CARD 840 189 2599 5243

LAUMEI - GREEN
LAUMEI UGA - HAWKSBILL

RAINMAKER
Hotel tel.
633-
4241

RAY Buckley ^{oll-} (684) 633-4456 office
" 699-1847 home
(DAVID ITANO) SON-TROY

RAY TULAFONO, DIRECTOR
OFFICE OF MARINE & WILDLIFE RESOURCES

HAWAIIAN AIRLINES = 699-1875 PAGO [HONOLULU 838-1555]
TAGS 6901-6908 previously sent

PAGO PAGO RADIO 6215.5 USB MHZ

DEIGHTON EMMONS - HPA 1993.

→ OFFICE OF MARINE AND WILDLIFE RESOURCES
AMERICAN SAMOA GOVERNMENT
PAGO PAGO, AS 96799 FAX-

10/11-10/15/88-Report (Forseell) p. 19

3/13-3/20/89- (Rowland) p. 20 1

2/17/92- (ANASA TAWAKE) ✓ p. 22

9/19-10/1/92 (Gil Grant) ✓ p. 25

3/16/93 (Gil Grant) ✓ p. 27

9/12-9/26/91 B. Ponwith ✓ p. 79

9/5-10/3/91 Don Williamson ✓ p. 80

2/12-2/16/87 D. ITANO p. 94-95

3/15-3/18/93 Gil Grant ✓ p. 99

11/86 Davey HU p. 102

10/84 Dick Wass p. 106

8/30-9/8/91 Morrell & Murphy p. 97

6/1-6/92 Beth Flint

10/ -93 Gil Grant

Fiji Recovery

USCG 2182 MHZ

FOLDING CHAIR! REALLY MISSED HAVING ONE THIS TRIP.

DIRECT TO GEAR LIST CONTENTS - T. CROMWELL

EAST IS. SUITCASE #1 (THICK):

NOTE - TAPE ENTIRE EDGE; DOUBLE PLASTIC BAG & TAPE SECURE. TAPE ON ID TAG AND SPRAY COLOR-CODE

1-PAIR TABS; 1-PAIR PANTS; 2 ARMY JACKETS; 2-Long sleeve green shirts;
 1-TAN long sleeve shirt; 2-BAN CAPSULES; 100 Ebikes line; 1 Blue hat;
 1-SLIPPERS; 1-NEW DICKIE PANTS; 1-TAN PANTS; 1-green NYLON BAG;
 5-PAIR NEW TUBE SOCKS; 1-NEW C-CELL flashlight;
 1-Backup sunglasses; 3 NEW 6V NEON TUBES; Plate, cup, T-shirts; wash cloth; GRATEWITS; PRUNES; RAISINS; INSTANT QUAKER OATS; PLASTIC BOWL;

EAST IS. SUITCASE #2 (LESS THICK): All Medical; 2 towels; head lamp; Large sheet; NMFS CB; Silverware; 100 TAGS; PAPER TOWELS; RAISINS; PRUNES; GOOD NEWS BIBLE; First-Aid Book; sponge; pillow slip;

100' CLOTHES LINE WRAPPED w/ BLUE TAPE
 1" x 2" wood stakes - 24" & 32" Long.
 NEW 8' x 10' HILARY SEARS TENT; (PARTIAL SET OF EXTRA POLE; 2 New Long handle extensions wrapped together)

TAKE ON PLANE: BLACK DIVE BAG;
 BOAT CLOTHES; HOOD; WETSUIT JACKET; EPIRB; TOWEL; SOAP; TAN TOOTH BRUSH & TOOTH PASTE; MY CB & charger; mask; FINS;
 18' x 25' NEW BLUE TAPE.

- Needs:
- Copy of letter from Buckley
 - Send to Kiso & Itano
 - Turtles in ponds by Church ^{CATHOLIC}
 - Dead hawksbill - Pago Pago
 - Rat studies - Wass & Shallenberger?
 - Check Fiji Kadavu legend - Nat. Geo.
 - NOTED Fiji FISHERY Dept. POSTER SHOWING TURTLES (ASK Bob Gillet)
 - MATTRESS PATCH KIT
 - Report by 12/31 OMR & FWS AS PER SUP FFS TOO.

DIRECT - L.P. "A" DRUM

TO EAST IS. (ALL CONTENTS IN PLASTIC BAGS INSIDE); ID label & CODES
2 Propane; BED ROLL (AIR MATTRESS, sheet);
GLOVES; GSA POCKET KNIVES; Rubberbands; PAINT MARKERS;
WISK BROOM; RAID INSECTICIDE; CARVING KNIFE; 3 PACKS GADOLIDE

DIRECT TO EAST IS. L.P. "B" DRUM

2 BOXES C-CELLS; 2 BOXES AA CELLS; 6 LANTERN BATTERIES;
GLOVES; PANASONIC RADIO w/BATTERIES; TOILET PAPER;
8 CLOTHES PINS; 2-9V BATTERIES; MATCHES; FLY SWATTER,
2 GREEN SCRUBBER; LATEX GLOVES; SEARS PROANE STOVE; EXTRA
AIR MATTRESS; 3 LUCITE (2 TAN, 1 PARROT); 2 DISPOSABLE
SURGICAL GLOVES; 1 ISO PROPY L-ALCO HOL; TAN PLASTIC FIRST
AID KIT; 2 FIELD NOTE BOOKS; LARGE NEON LIGHT; FORMALIN;
2-C CELL FLASHLIGHT; STOP-LEAK TENT WAX; SURVIVAL KNIFE;
GRASSHOPPER PROANE STOVE BACKUP; W/STONE
1 PAIR TABIS.

DIRECT TO EAST IS. L.P. "C" DRUM

3 SAUSE PANS; 5 cans salmon; 3-4 large grape juice;
hacksaw; 200 TAGS; Pillow; Misc. canned goods; Stockstill w/alkaline;
6V ALKALINE; SAMPLE BOTTLES/VIALS; 7 titanium tags & applicators;
INSTANT COFFEE; "POW DER"

TO STAY AT TERN IS. L.P. "D" DRUM

2 BOXES C-CELLS; 2-BOXES AA; 6-6-V lantern batteries;
Prell Shampoo; 3 PROPANE; 7 cans Lucite; 2 large grapefruit
juice; 6 real fresh milk; Boots w/socks.

- Check MERCURY BATTERIES IN MINI-STOVE
- HAVE EP1RB BATTERY REPLACED
- BACK-UP NEON BULB FOR SMALL 2-WAY LIGHT
- Something for Paul & Arupe
- Steel Suitcase
- Take apart cassette player

FULL MOON
OCT 3rd

6-13 OCTOBER 1986

Time				Height			
Day		Height		Day		Height	
h	m	ft	m	h	m	ft	m
NIGHT	0451	3.3	1.0	16	0541	3.2	1.0
W	1117	0.2	0.1	Th	1204	0.2	0.1
	1714	3.2	1.0		1801	3.3	1.0
	2329	0.2	0.1				
NIGHT	0529	3.4	1.0	17	0027	0.2	0.1
Th	1151	0.1	0.0	F	0620	3.1	0.9
NIGHT	1751	3.4	1.0		1238	0.3	0.1
					1836	3.3	1.0
3	0009	0.1	0.0	18	0108	0.4	0.1
NIGHT	0610	3.4	1.0	Sa	0657	3.0	0.9
	1228	0.1	0.0		1314	0.5	0.2
NIGHT	1831	3.5	1.1		1913	3.2	1.0
4	0052	0.1	0.0	19	0147	0.5	0.2
NIGHT	0653	3.3	1.0	Su	0734	2.8	0.9
	1307	0.2	0.1		1350	0.7	0.2
NIGHT	1915	3.5	1.1		1952	3.1	0.9
5	0139	0.1	0.0	20	0232	0.7	0.2
Su	0740	3.2	1.0	M	0817	2.6	0.8
	1350	0.3	0.1		1429	0.9	0.3
	2001	3.4	1.0		2032	2.9	0.9
6	0230	0.2	0.1	21	0322	0.8	0.2
M	0830	3.0	0.9	Tu	0902	2.4	0.7
	1442	0.4	0.1		1515	1.0	0.3
	2054	3.3	1.0		2120	2.8	0.9
7	0333	0.4	0.1	22	0421	0.9	0.3
Tu	0931	2.8	0.9	W	0955	2.3	0.7
	1544	0.6	0.2		1610	1.2	0.4
	2157	3.2	1.0		2213	2.7	0.8
8	0448	0.5	0.2	23	0525	1.0	0.3
W	1040	2.6	0.8	Th	1101	2.2	0.7
	1658	0.8	0.2		1719	1.3	0.4
	2308	3.1	0.9		2314	2.6	0.8
9	0607	0.5	0.2	24	0629	1.0	0.3
Th	1159	2.6	0.8	F	1208	2.2	0.7
	1819	0.8	0.2		1830	1.2	0.4
10	0024	3.1	0.9	25	0017	2.6	0.8
F	0720	0.5	0.2	Sa	0725	0.9	0.3
	1317	2.6	0.8		1312	2.4	0.7
	1935	0.7	0.2		1931	1.1	0.3
11	0138	3.1	0.9	26	0117	2.7	0.8
Sa	0826	0.3	0.1	Su	0810	0.8	0.2
	1423	2.8	0.9		1359	2.5	0.8
	2039	0.5	0.2		2018	1.0	0.3
12	0241	3.2	1.0	27	0208	2.9	0.9
Su	0918	0.2	0.1	M	0852	0.6	0.2
	1518	3.0	0.9		1442	2.7	0.8
	2134	0.4	0.1		2103	0.8	0.2
13	0334	3.3	1.0	28	0252	3.0	0.9
M	1006	0.1	0.0	Tu	0927	0.5	0.2
	1606	3.1	0.9		1522	3.0	0.9
	2222	0.2	0.1		2142	0.5	0.2
14	0422	3.3	1.0	29	0335	3.2	1.0
Tu	1048	0.1	0.0	W	1004	0.3	0.1
	1646	3.2	1.0		1601	3.2	1.0
	2306	0.2	0.1		2223	0.3	0.1
15	0502	3.3	1.0	30	0419	3.3	1.0
W	1127	0.1	0.0	Th	1041	0.2	0.1
	1725	3.3	1.0		1643	3.4	1.0
	2348	0.2	0.1		2305	0.2	0.1
				31	0503	3.4	1.0
				F	1119	0.1	0.0
					1723	3.6	1.1
					2350	0.1	0.0

TUES
WED
THURS
①

8pm
9pm
10pm
11pm

APIA, SAMOA ISL

Times and Heights of T

2-12 NOVEMBER 1986

Time Height

Day		Height	
h	m	ft	m
1	0547	3.4	1.0
Sa	1200	0.1	0.0
	1808	3.7	1.1
2	0036	0.0	0.0
Su	0636	3.3	1.0
	1245	0.2	0.1
	1856	3.7	1.1
3	0128	0.0	0.0
M	0726	3.2	1.0
	1334	0.3	0.1
	1947	3.6	1.1
4	0224	0.1	0.0
Tu	0822	3.0	0.9
	1430	0.4	0.1
	2043	3.5	1.1
5	0327	0.3	0.1
W	0923	2.9	0.9
	1535	0.6	0.2
	2146	3.3	1.0
6	0437	0.4	0.1
Th	1031	2.7	0.8
	1649	0.7	0.2
	2254	3.2	1.0
7	0549	0.4	0.1
F	1146	2.7	0.8
	1806	0.7	0.2
8	0007	3.1	0.9
Sa	0658	0.4	0.1
	1259	2.8	0.9
	1917	0.7	0.2
9	0117	3.1	0.9
Su	0759	0.4	0.1
	1402	2.9	0.9
	2020	0.6	0.2
10	0220	3.1	0.9
M	0853	0.3	0.1
	1457	3.0	0.9
	2116	0.5	0.2
11	0313	3.1	0.9
Tu	0940	0.3	0.1
	1542	3.1	0.9
	2206	0.4	0.1
12	0401	3.1	0.9
W	1022	0.3	0.1
	1623	3.2	1.0
	2251	0.3	0.1
13	0441	3.0	0.9
Th	1100	0.4	0.1
	1700	3.2	1.0
	2332	0.3	0.1
14	0520	2.9	0.9
F	1136	0.4	0.1
	1736	3.3	1.0
15	0011	0.4	0.1
Sa	0555	2.9	0.9
	1213	0.5	0.2
	1812	3.2	1.0

1.6
1.6
3.2
3.1
3.1
2.6
2.5
3.7
4.6

-0.3
+0.2
-0.32
Daily predictions
+0.21
-0.09
-0.4
-0.3
-0.4
-0.34
+0.8

13 30 172 38
13 48 171 46
14 17 170 41
14 13 169 32

Samoa Islands

Asau Harbor, Savaii Island.....
APIA (Observatory), Upolu Island.....
Pago Pago Harbor, Tutuila Island.....
Tau Island, Manua Islands.....

2838
2839
2841
2843

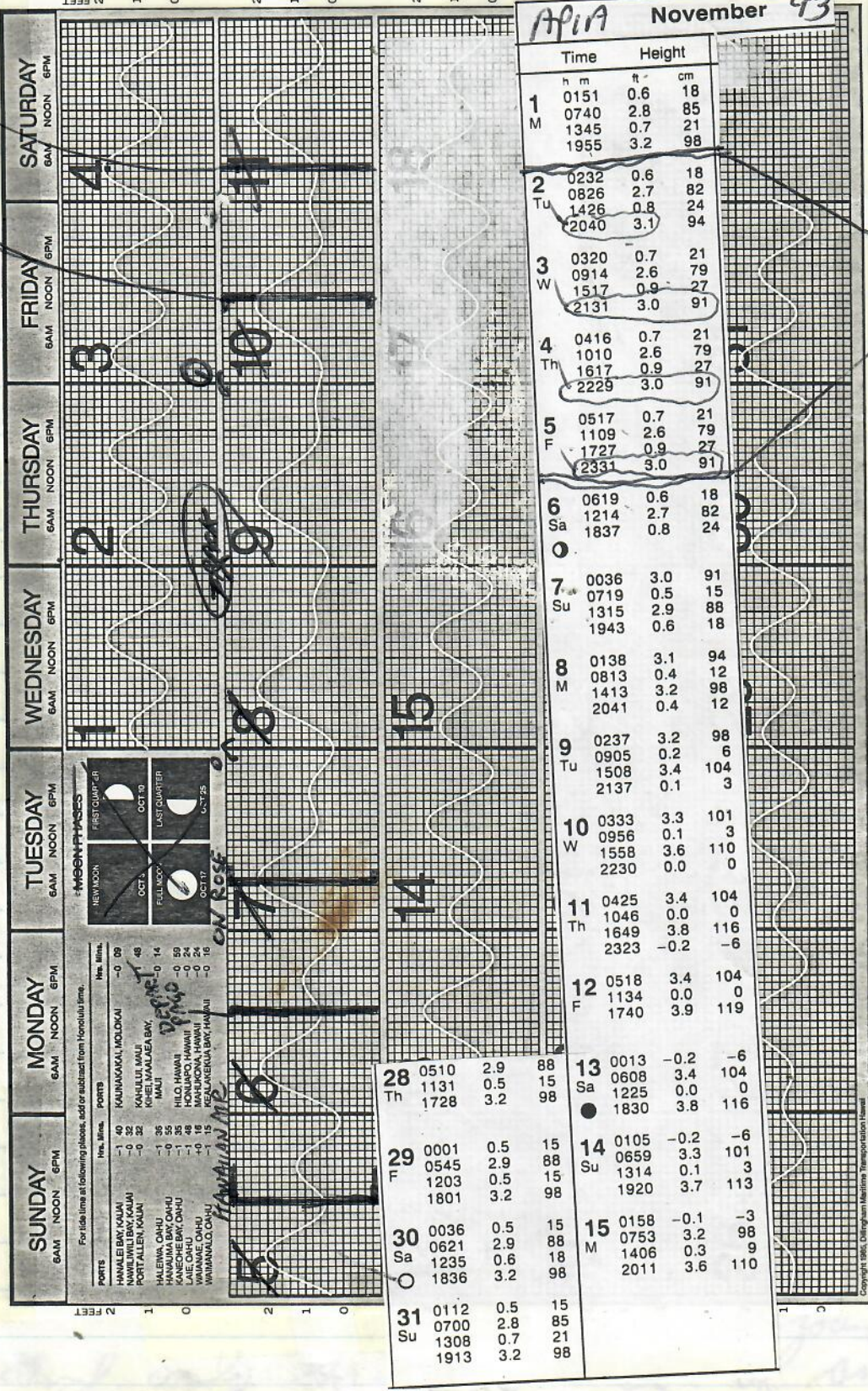
ROSE 11/93

ARRIVE
APRIL
PAGE

DEPART
ROSE

OCTOBER 1986

FULL MOON
OCT 3RD



NIGHTS
ON
ROSE
11/93

ON ROSE

HAWAIIAN ISLES

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

Ports	hrs. mins.	Ports	hrs. mins.
HAWAII BAY, KAUAI	-1 40	KAUNAKAKAI, MOLOKAI	-0 09
NAWILIWILI BAY, KAUAI	-0 52	KANALIHA, MAUI	-0 48
PORT ALLEN, KAUAI	-0 52	KAHALUA, MAUI	-0 14
HALEIWA, OAHU	-1 35	HILO, HAWAII	-0 59
HAWAIIA BAY, OAHU	-1 55	HONOLULU, HAWAII	-0 24
KAUNAOA BAY, OAHU	-1 48	MAKAIKONA, HAWAII	-0 24
LAKE OAHU	+0 18	PELA, HAWAII	-0 16
WAIANAHE, OAHU	+0 15	PELA, HAWAII	-0 16
WAIMANALO, OAHU	+0 15		

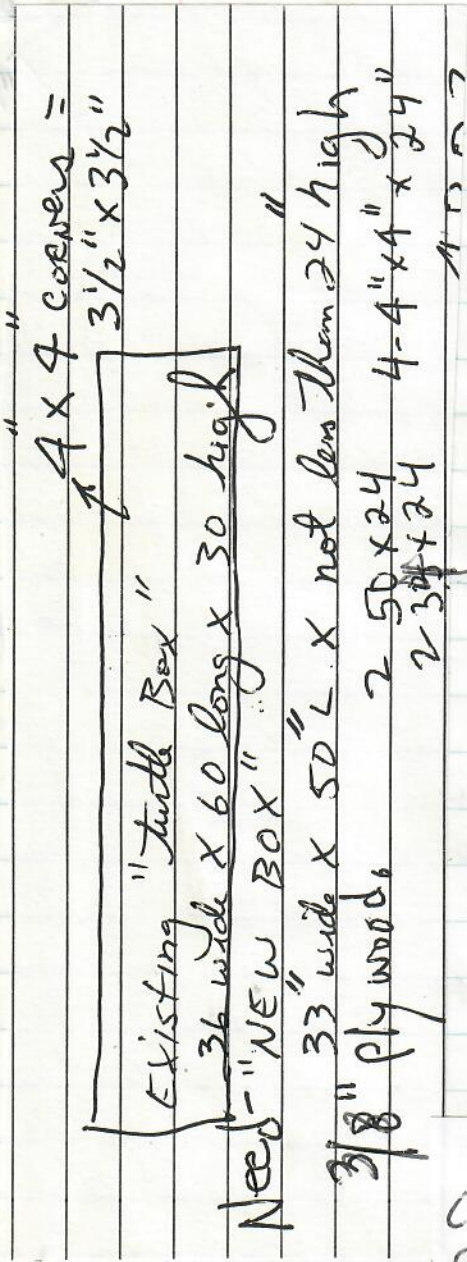
Copyright 1986, Okeanos Maritime Transportation Hawaii

KISO, S. SOOTO.

P.O. Box = 2039.

LEONE. AM. SAMOA.

#96799



2 September 1993

George Balazs
 USDC NOAA NMFS
 Southwest Fisheries Center Honolulu Laboratory
 2570 Dole St.
 Honolulu, HI 96822-2396

ideal 43.5°

Dear George:

The satellite predicts you requested follow. There are several important points to keep in mind when interpreting these predicts.

All times are given in Greenwich Mean Time (Zulu Time), and therefore must be converted to local time in the area of deployment to determine the optimal local time to start the PTT

I believe ARGOS is primarily to exclusively utilizing data from NOAA-11 and NOAA-12, thus, to our knowledge, predictions of optimal "on-times" should be based on these satellites. You may wish to verify this with ARGOS.

Passes which are very low on the horizon offer little chance of data collection or location determination. Passes very high overhead can provide good amounts of data collection; however, they often do not result in a location because of the way in which the location calculations are performed. In general, I consider passes between about 15-70 degrees elevation as "good". You should determine the optimal time to start your PTT considering the likelihood of data retrieval and location determination, and any scheduling pertinent to your data collection requirements.

Sincerely,

Bill Burger
 William P. Burger
 Staff Biologist

← Elastomer needs 16 drops of catalyst.

— Resin:

- Cominativ 1st application - 4oz with 45 drops catalyst
- 2nd " - 4oz with 45 drops catalyst
- 3rd " - 3oz with 35 drops catalyst
- 4th " - 2oz with 30 drops catalyst

Brushing
Sanding
Resin

402

OCTOBER 5, 1986

SUNDAY

DEPART - 2:30pm Hawaiian Air
 for Pago Pago. Jim + ^{GCB} PGB drove me to
 the airport at 1pm.
 Met Kevin working for Richard Ladje.
 5 1/2 hour flight - RT U#450. 4x a
 week, on to Tonga, returning to
 Honolulu departing Pago at 12:30am
 Sat., Mon., Wed., & J

None of Kevin's 4 boys arrived. Reported
 79 total didn't come. Picked up
 at airport by Ray Buckley. From Ray's
 house I took a cab to
 Rainmaker (#8). Dinners Card for
 breakfast and room.

MON
10/6

Depart for Rose on Samsuinoara at
 1:15 am - Ray Buckley, Gordon
 Yamamoto, Kiso Saka, David Ito, &
 Troy Buckley, Paul Pedro and
 4 crew.

10/7
TUES.

Arrive off Rose ~ 6:30am.
 Fished around reef for awhile
 until sun came up more.
 Loaded gear into a whale and
 zodiac on island about 8:30am.
 Walked all the way around
 and only saw 2 places of any

10/7
TUES.

nesting evidence: At northern tip of islet (veg. all filled in from previous trips) - 4 pits - none look good to me; and 2-3 pits shallows, just north of composite on west side of islet. Copulating pair just off north tip - seen when we arrived in the boat, and also from shore. When entering the lagoon, noted large vegetation on Sand Island. Refuge sign no longer on the reef, or on Sand Is.

11:30 AM Motor in Zodiac to Sand Is. w/ Anpe and Kiso. Counted 12-14 Tournefortia trees + low veg. (a common one on W/S). Many sooty tern chicks hiding under shade of trees. Also undigested carcass of a dead booby. Photos with broken-off refuge sign + Rose Is. earlier from boat. Saw depressions probably from turtles, but deemed to be a year or more old. One more pronounced one may have been newer. Kiso spotted tracks marks by it, which he thought were a few weeks old. I thought they were likely older. No other signs of turtles, tracks pits seen anywhere.

1986

OCT. 7 Kiso worked on a purse Seiner - sometimes
TUES. out for months - Philippines, W. Pacific
etc. Never known to catch a turtle.

Divers came back - 2pm from transect site
outside the reef to the east. Two dives
made, MAX. 50'. 2 large turtles seen total.
Nothing by Sand Is. or channel
entrance. Second dive 4-5pm
along SW outside - 2 turtles seen.

Others had fish for dinner - I slept from
7-9pm. Very hot inside nylon tent.
Noted many rats around campsite.
Also Sooty Tern colony nearby - lots
of broken eggs - likely from rats, but
hermit crabs are also a possibility
although I haven't seen that many
yet, except at the water's edge
at night on the lagoon side.

DARK by 7pm

Walked around island searching for
nesting turtles 9:15 - 9:45 pm 10/7
12:15 - 12:45 Am 10/8
3:15 - 3:45 Am 10/8

NONE SEEN.

Noted rat out on reef flat on NE
side - Catching crabs or fish? Danger
to hatchlings that emerge at low
tide?

* Fleshy Algae = NOT MUCH OF ANYTHING
TAG previously sent = still have.

OCT. 8, 86 Many screaming sooty terns along
WEDNESDAY the beach edge NE side.

First light = 5:30 AM.

SUNSET 6:15 pm
Dark by 6:45 pm
At ~ 7 AM I walked around lagoon side of island where nesting haul-out would be possible. Nothing seen.

Morning dive outside (same general area) - ^{large} turtle seen. Afternoon dive - inside lagoon, west end, - one large seen.

Motor with Kiso to Sand Island ~ 12:30 pm.
No signs of nesting, no turtles seen.
Sand sample taken at old nest site.

Famine - stranded possibilities -
Water - Base of Pisona trees / up against base + debris bottle
Coconuts
Tarp catchment
Coolers, all containers
clams shells
Food - Fish, Crabs
Birds
Eggs
Rats
Turtles
Blood

Survival knife / hatchet.

Basalt stones found. Rats very visible > 4 PM

KIDS? 4/mon & 14 months

Oct 8, 86
Wed.

Note: Sand margins to island, dense vegetation
often to edge, interior peat, dense humus.

Report from David that when Richard
Rudje visited Rose, his tent
was just to the east, ^{no - on S.M.P.} on elevated
humus (?), and turtle came up in
the night, and bumped into his tent.
Ray Buckley reports that letter
was sent to me giving report of
pit and track counts for Nov (?)
1985, I never received it, so he
will resend a copy. Also reported
that in two years, Wass has
not been back here. Only Stewart
Feifer once.

= Needed another
to extend over
tent.

4-5 pm

Walk on Reef flat - many photos;
collected Holotremis.

Name of New Wildlife Biologist = Bill

Nighttime monitoring

(Hightide 11 AM
Moon - last
gone by at least
1 AM
quarter
at least)

10:15 - 10:45 pm

one short up-down
track just to the east of campsite -
turnaround at roots of Pisona.

Oct 9

THURSDAY

1:15 - 1:45 am nothing

3:15 - 3:45 am "

DAVID - 5:30 AM "

RAIN 15 min -
pooled water on
tent floor from
ground tarp
overhang.

Oct. 9, 86
THURS.

UP 5:30 am to dry out tent and gear. Heavy overcast, but no further rain.

HIGH
TIDE
0025h
10/10

First dive - in/near pass ("awa")
2 large turtles seen.
Second dive - none seen

Report not seeing much in the way of fleshy algae on scuba dives.
Spent 1 hour in island interior - self photos, etc.

12:30 - 1:30 pm to Sand Is.
No nesting.

Backnote: Few plastics or bottles seen washed ashore on either island.

NIGHTTIME Survey

9:15 - 9:45 pm - Nothing

Oct. 10, 86
FRIDAY

11:30 pm - 12:30 am - Tracks & turtle near formerly blown over Tournefortia (see map for location).

(5818, 5820, 5821 (old) TAGS PRESENT. CALOUSED AREA, possibly PARTIALLY TORN, ON Left flap. New tag applied 6917 KFL. CCL - 111 cm.

TURTLE WAY UNDER Tournefortia. APPARENTLY They never get fatally stuck here. Clean, UNFOULED SKEL (and skin, from what I remember). Reasonably fresh copulation marks at left & right foremargins

Oct 10, 86

FRIDAY

12:30am 5818 recovery - Sprayed parrotgreen
"I" on each side just as it returned to the sea.

2:45 - 3:15am - Same turtle seen up
~25 meters east of campsite (see chart)
under Tornefortia vegetation - left alone
after verifying green I with flashlight,
no other signs of nesting seen.

Up ~ 5:30am. Turtle still at site.
When Gordon walked by around island,
turtle came down. Bright enough
sun by 6:30-7:00am to take
many photos of turtle on exposed
reef. She crawled out, and, then
upst, eventually reaching water of
lagoon deep enough to swim.

Divers went out ~ 8am to survey
sites at the pass. Reported later
that 1 male seen inside, and a
different male seen outside.

Wiso and I made ~~the~~ trip in the
zodiac to transport gear. Capt. Paul
returned to the island and we took
a leisurely walk around. Noted coconuts
not doing very well, especially small
ones. This crew planted 6 months - 1 year
ago.

Oct 10, 86

FRIDAY

12:30am 5818 recovery - Sprayed parrot green "I" on each side just as it returned to the sea.

2:45 - 3:15am - Same turtle seen up ~25 meters east of campsite (see chart) under Tornetortia vegetation - left alone after verifying green I with flashlight. No other signs of nesting seen.

Up ~ 5:30am. Turtle still at site. When Gordon walked by around island, turtle came down. Bright enough sun by 6:30-7:00am to take many photos of turtle on exposed reef. She crawled out, and, then upst, eventually reaching water of lagoon deep enough to swim.

Divers went out ~ 8am to survey sites at the pass. Reported later that 1 male seen inside, and a different male seen outside.

Kris and I made ~~the~~ trip in the zodiac to transport gear. Capt. Paul returned to the island and we took a leisurely walk around. Notes coconuts not doing very well, especially small ones. This crew planted 6 months - 1 year ago.

Oct. 9, 86
THURS.

UP 5:30am to dry out
tent and gear. Heavy overcast,
but no further rain.

First dive - in/near pass ("awa")
2 large turtles seen.
Second dive - none seen

HIGH
TIDE
0025h
10/10

Report not seeing much in the way of
fleshy algae on scuba dives.
Spent 1 hour in island interior -
self photos, etc.

12:30 - 1:30 pm to Sand Is.

No nesting.

Backnote: Few plastics or bottles seen
washed ashore on either island.

NIGHTTIME Survey

9:15 - 9:45 pm - Nothing

Oct. 10, 86

FRIDAY

11:30 pm

12:30 am - Tracks & turtle
near formerly blown over Tournefortia
(see map for location).

(5818, 5820, 5821 (old) TAGS PRESENT. CALLOUSED
AREA, possibly partially torn, on left flap. New tag
applied 6917 KFL. CCL - 111 cm.

TURTLE WAY UNDER Tournefortia. Apparently they
never get fatally stuck here. Clean, unfouled site
(and skin, from what I remember). Reasonably fresh
copulation marks at left & right foremargin

Sausoumooa = 58'

OCT 10, 86 FRIDAY Earlier in the morning while I was taking down my tent, one of the medium sized Pisonias, dead and dried fell over. No wind at the time.

Noted lots of red-black ants all over the island. Everywhere. In ^{dried} trees, etc. Virtually the only insects present, except for small spiders that spin webbs between branches. Also small "fruit" grats present around campsite while cooking.

Paul told of Teikani bringing 3 men here in Jan. to camp on the island. One was a lawyer in attorney-general office American Samoa. They may have sawed for firewood sections of fallen Pisonia we saw near the campsite.

Came aboard with Paul - 10 am. Noted large house fly aboard.

DEPART
12:30
pm

Photos going out pass, and of Sord Is. NO nesting tracks present on Sord Island.

BACKNOTE: When Kiso, Paul & I were motoring out in the ZODIAC, WE SAW A JUVENILE 245 cm swim by FAST.

11/93
No THS
Bottle/No THS

Fishing effort w/ poles spinners resulted in lots of ULUA BEING CAPTURED, BUT APPARENTLY NO STOMACH CONTENTS EXAMINED. THESE FISH MAY BE PREDATORS OF HATCHINGS. ALSO GORDOR AND KISO MENTIONED SHARKS AT PASS.

Smooth trip back. Arrived Pago at

4 AM Oct 11 SAT MORNING.

Oct 11, 86 SAT, Checked into Rainmaker after unloading.

Cleared, repacked all gear. Wrote up notes.

Comfitime Schedule

10/5 SUN.	4 hours
10/6 MON	—
10/7 TUES	2 hrs
10/8 WED	2 hrs
10/9 THURS	2 hrs
10/10 FRIDAY	2 hrs
10/11 SAT	—
10/12 SUN	—
10/13 MON	—
	12 hrs total

10/12/86 WHITE SUNDAY
SUN.

Visited David I ~~Thorn~~

Checked out of Rainmaker ~ 8pm

Visited Rob Morrow

Departed ~ 1:30am L1011
HAWAIIAN AIR.

John Carroll aboard as
returning pilot.

1986

EXPENDITURES

Honolulu			
10/5 SUN.	POV AIRPORT	Rt. 30 miles	
"	HOTEL TAXI	(NO RECEIPT)	\$8
"	DINNER	(" ")	\$5
10/6 MON.	BREAKFAST		3.50
"	CAMPING FOOD		12.00
"	PROPANE		4.00
"	LUNCH	(NO RECEIPT)	4.00
"	RAINMAKER ROOM		
10/11	BREAKFAST		
	LAUNDRY	(N.R.)	3.50
	LUNCH	" "	3.00
	DINNER		

Report title: Status and Ecology of
Sea (Marine) turtles AT ROSE
Atoll, Am. Samoa; October 1986
ASSESSMENT

See page 23

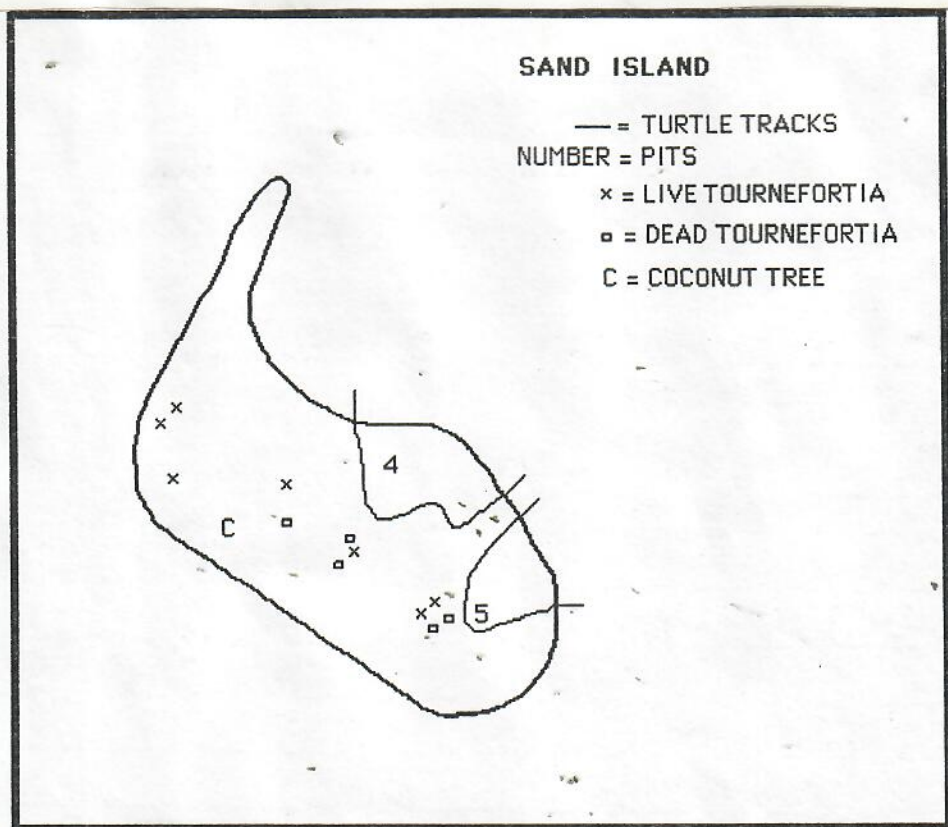


Figure 2. Vegetation, turtle pits, and turtle tracks observed on Sand Island, Rose Atoll in October of 1988.

October 11 - 15, 1988

BY

DOUGLAS J. FORSELL, RICHARD A. BAUER, and WILLIAM KNOWLES

March 6, 1989

This report may be cited as follows: Forsell D. J., R. A. Bauer, and W. Knowles. 1989. Fall Survey of Rose Atoll - 11-15 October 1988. Administrative Report, U. S. Fish and Wildlife Service, Hawaiian and Pacific Islands National Wildlife Refuge, 20 pp.

Green Sea Turtle (*Chelonia mydas*)

Only two turtles were found on Rose Island. The first was found on the reef flats at low tide on 12 October and the other digging nest holes on both nights on the north west beach. Both turtles were tagged by us and appeared to have no scars from previous tags (Table 6). Observers walked the perimeter of the island every two hours on both nights and found no fresh tracks except for the individual which was tagged.

Figures 3 and 4 indicate where turtle tracks and pits were located on the beaches of Sand and Rose Islands. The observers had trouble in distinguishing the age of the tracks. Bill Knowles felt the tracks and pits listed as old were from last year, while the other authors felt they may have only been a few months old.

Table 6. Turtles tagged on Rose Island on 12 and 13 October 1988.

DATE	NMFS TAGS	TAG PLACEMENT	SEX	CARAPACE LENGTH
12 October	6818	Left front leg (proximal)*	Female	38.75" <i>98.4cm</i>
	6819	Right front leg (proximal)		
	6820	Right front leg (distal)		
13 October	6821	Right front leg (proximal)	Female	38.25" <i>97.2cm</i>
	6822	Left front leg (proximal)		
	6823	Left front leg (distal)		

* Distal 3-4 inches of left front leg missing.

Tags logged

Recap 2/17/92 "Badly wounded dragging a speargun" found "lying carelessly on the reef" NADI, Fiji

ANASA TAWAKE
c/- Fijian Hotel
Private Mail Bag
NADI AIRPORT, FIJI

See page 22

TRIP REPORT - ROSE ATOLL
March 13 - 20, 1989

by Craig M. Rowland
March 31, 1989

This report may be cited as follows: Rowland, C. M. 1989. Spring Survey of Rose Atoll, March 13 - 20, 1989. Administrative Report, U.S. Fish and Wildlife Service, Hawaiian and Pacific Islands National Wildlife Refuge Complex. 12 pp.

TRIP Report Craig M. Rowland 3/31/89

TURTLES:

No turtles were seen on this trip. A number of tracks and pits which were thought to be recently made were recorded and appear in figure 1.

On Sand Island two turtle tracks were seen, one leading to a pit.

March 14-16 on Rose



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center Honolulu Laboratory
2570 Dole St. • Honolulu, Hawaii 96822-2396

March 10, 1992

F/SWC2:GHB:JLB
ANASA-9L.GHB

Anasa Tawake
c/o Fijian Hotel
Private Mail Bag
Nadi Airport
Fiji

ROSE TO NADI =
1600 km or
1000 MILES

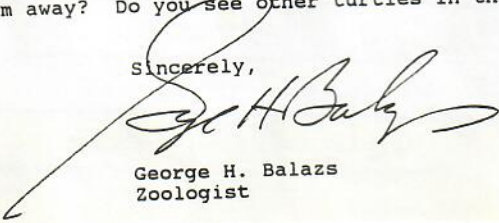
Dear Anasa Tawake:

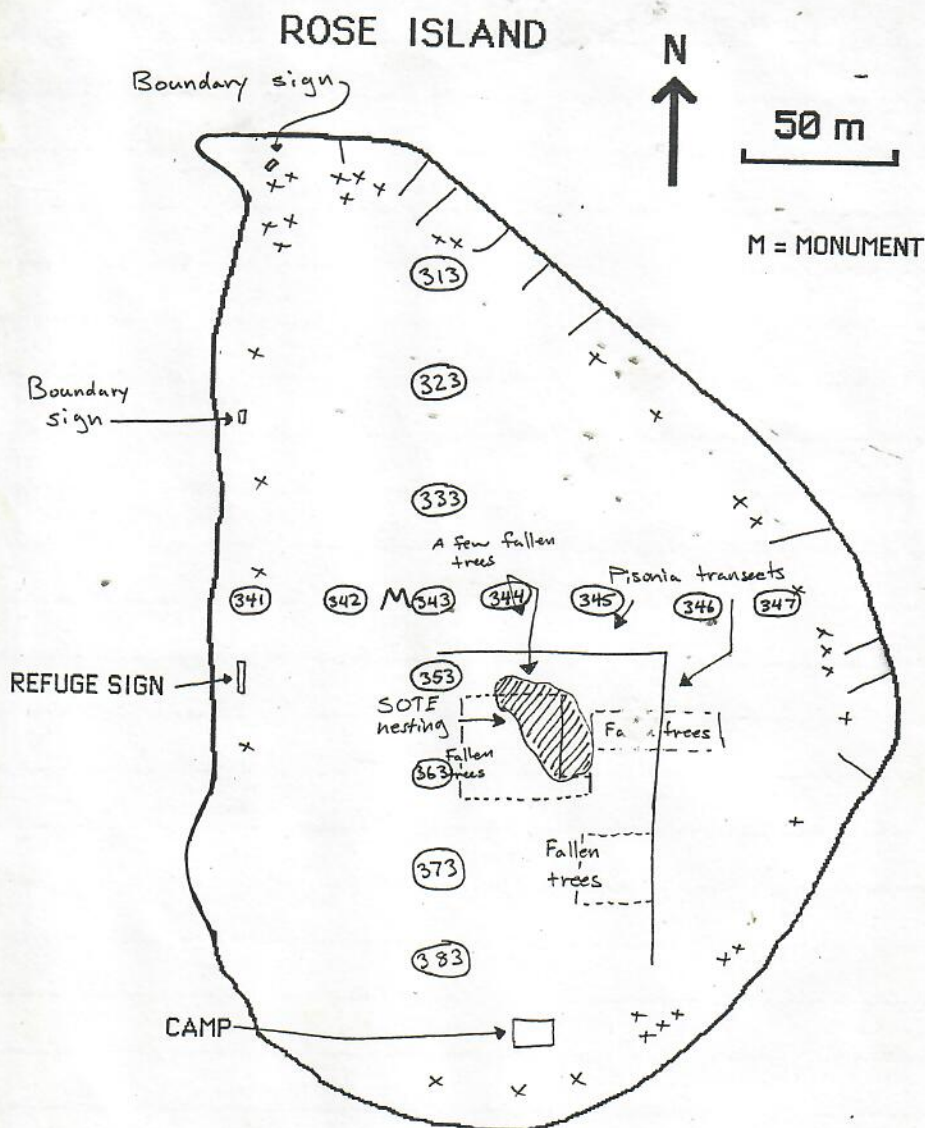
Thank you very much for your letter of February 24, 1992, reporting the tagged turtle 6821, 6822, and 6823. Your mother's sighting of this turtle is extremely important, and we very much appreciate the effort you made to send the information to us. Under separate cover I am sending you and your mother a special T-shirt with a turtle logo as a symbol of our appreciation.

The turtle you found was tagged on October 13, 1988, while laying eggs on Rose Island in American Samoa. Rose Island is an important breeding site for the green sea turtle, *Chelonia mydas*, but unfortunately there are not as many turtles nesting there during recent years.

I would like to know if the turtle died from the spear gun wound, or did it live and swim away? Do you see other turtles in this area?

Sincerely,


George H. Balazs
Zoologist



10/13/88 by Doug Forrell
Rose Is. - ~~the~~

TAGGED

See p. 91

DATE 24 - 2 - 92

INTO THE FUTURE



F I J I 1 9 9 1

ANASA TAWAKE
CI-FIJIAN HOTEL
PRIVATE MAIL BAG
NADI AIRPORT
FIJI ISLAND

SIR,

2/17/92 A TURTLE FOUND BY MY MOTHER
LAST WEEK WAS BADLY WOUNDED, AND WAS STILL
DRAGGING THE SPEAR GUN WITH IT. MY MUM
WAS FISHING WHEN SHE SAW THE TURTLE LYING
CARELESSLY ON THE REEF.

THE REASON WHY I AM WRITING IS THAT
IT WAS CARRYING THREE NUMBERS. THE NUMBERS WERE
6821, 6822, 6823, AND THIS WERE WRITTEN ON THE
OTHER SIDE: WRIE HIMS, UNIVERSITY HAWAII 06744.

THAT'S ALL I HAVE TO SAY, I WOULD BE
VERY HAPPY IF YOU COULD GIVE ME ~~WRIE~~ SOME
INFORMATION ABOUT THE TURTLE.

YOUR'S FAITHFULLY
A-TAWAKE

DEAR SIR,

1-5-92

23

THANK YOU VERY MUCH FOR REPLYING MY LETTER OF FEBRUARY 24, AND I WOULD LIKE TO THANK YOU ALSO FOR THE T-SHIRT YOU HAVE SEND TO US.

WHEN MY MOTHER FOUND THE TURTLE, IT WAS DYING FROM THE SPERE GUN WOUND, AND BEFORE SHE COULD FIND HELP, THE TURTLE WAS DEAD. MY MOTHER FELT SORRY FOR THE TURTLE, BECAUSE IT WAS TAGGED, AND SHE KNEW IT MUST HAVE BELONG TO SOMEONE.

MY VILLAGE IS NEXT TO THE FAMOUS SIGATOKA SAND DUNE AND MY GRANDFATHER USE TO TELL ME WHEN THEY WERE YOUNG MEN THERE WERE HUNDREDS OF TURTLES COMING UP TO THE SAND TO LAY EGGS. BUT NOWDAY'S ITS HARD TO FIND ANY TURTLE IN THIS AREA MAYBE ITS BECAUSE OF THE LARGE NUMBER OF FISHERMAN THAT MUST HAVE SCARE THEM AWAY. BUT MOST OF THEM ARE FOUND IN DEEP SEA, WATER'S.

I HAVE RECENTLY RECEIVE A LETTER FROM SUZIE GERMAN A MARINE TURTLE CONSULTANT FOR THE "SPREP", AND SHE ALSO SEND TO ME T-SHIRT AND SOME POSTERS.

ONCE AGAIN, I WOULD THANK YOU VERY MUCH FOR THE POSTERS AND THE T-SHIRTS, "NI SA MOCE" (GOOD-BYE)

SINCERELY,
A. TAWAKE.

Gilbert S. Grant							
N-174	N-173	EI sex?	11:45 8 Feb. 1992	American Samoa Tutuila Pago Pago	Swimming in small fresh water tank	38.5 cm	
N-202	N-201	EI sex?	08:30 13 March 1992	Am. Samoa Tutuila Fagatogo dock	entangled on a line	39 cm (8 pounds)	*
6901	6908	CM sex?	15 April 1992	Am. Samoa Tutuila Aggauli	stranded at low tide, slight bleeding on pharynx side	49 cm	
N-204	N-203	EI sex?	15:15 6 May 1992	Am. Samoa Tutuila Pago Pago	Caught on fishing pole-hook lodged in mouth-throat area	35.8 cm	

Gilbert S. Grant							
no left flipper present	N-212	CM sex?	13:00 27 Aug. 1992	Am. Samoa Tutuila Onenoo	Swimming	13.5 <i>Below probably inches, but not indicated on our form - before my Time - Gil Grant</i>	
N-217	N-216	CM sex?	16:00 12 Sept. 1992	Am. Samoa Tutuila Fagaa'alu	Swimming	51 cm	
N-169	N-175	EI sex?	13:00 21 Sept. 1992	Am. Samoa Tutuila Utulei	floating in the harbor, unable to swim	17.5 inches	
N-126	N-127	CM ♀	02:15 21 Sept. 1992	Am. Samoa Rose Atoll Rose Island	Crawling to sea after digging 5 pits - did not lay	104 cm	

CONTINUED ON Page 82

logged ✓

Rose Atoll Report Gil Grant

Green Turtle Summary

Upon arrival on Rose Island on 19 Sept. 1992 I circled island and mapped all turtle crawls (tracks) and number of scrapes/pits seen:

1	crawl	with	5	scrapes/pits
2	crawls	with	4	"
1	"	"	3	"
1	"	"	2	"
19	"	"	1	"
2	"	"	0	"
Totals	26	crawls	37	scrapes/pits

On Sand Island we found

12 old turtle scrapes/pits (26 Sept. 1992)

During our stay (19 Sept. - 1 October 1992) we recorded the following crawls and scrapes/pits:

1	crawl	with	12	scrapes/pits
1	"	"	8	"
1	"	"	5	"
1	"	"	3	"
4	"	"	1	"
2	"	"	0	"
Totals	10	crawls	32	scrapes/pits

We tagged 6 Green turtles during our stay (Beach was patrolled about every 3 hours at night):

21 Sept. 92	N-126 (Right ^{Left})	N-127 (Right)	did not nest	Length = 104 cm
23 Sept. 92	N-130 (Right)	N-131 (Left)	probably laid eggs	Length = 100.5 cm
23 Sept. 92	N-128 (Right)	N-129 (Left)	probably laid on 27 Sept.	Length = 113 cm
29 Sept. 92	N-132 (Right)	N-133 (Left)	laid eggs	Length = 103.4 cm
30 Sept. 92	N-134 (Right)	N-135 (Left)	did not lay	Length = 97.5 cm
30 Sept. 92	N-136 (Right)	N-137 (Left)	probably laid eggs	Length = 99.4 cm

Nests with eggs laid @ 19 Sept. - 1 Oct. 92 = Probably 5 (only one turtle actually seen laying eggs). One ~~was~~ turtle slipped in and probably laid between our beach patrols (did not see turtle, nest looked good). Had 5 "good" nests during our stay.

DEPARTMENT OF MARINE & WILDLIFE RESOURCES



AMERICAN SAMOA GOVERNMENT
P.O. BOX 3730
PAGO PAGO, AMERICAN SAMOA 96799

TEL: (684) 633-4456
FAX: (684) 633-5944



A. P. LUTALI
Governor

25 May 1993

RAY TULAFONO
Director

TAUESE P. F. SUNIA
Lt. Governor

PHILIP LANGFORD
Deputy Director

George Balazs
National Marine Fisheries Service
2570 Dole Street
Honolulu, HI 96822-1290

Dear George,

Under separate cover we are sending you some barnacles taken from a green turtle for identification (if you think they might be of interest). I'll use this letter to attempt to answer your questions in your letter of 14 May.

The USCG annually service buoys and other navigation devices in Pago, Manu'a, Rarotonga, and a few islands between us and Hawaii, usually in March. They went a little out of their way to take us to Rose and dropped us off on Ofu (we flew back) on their way back from Rose (from here they sailed to the Cooks). We received the offer through USF&WS. You might be able to set something up for next year. Keep in mind that this is still during our hurricane season!

We had to cancel our April-May month long trip to Rose because neither boat we tried to work with could come anywhere near passing a USCG safety inspection (no EPERBS, no functional radios, fire hazards, bilge pumping inadequacies, etc). We are hoping our boat can come up to speed and that we will be able to safely go to Rose in September.

The 4 people on the wrecked sailboat were quickly rescued by a passing ship--they were lucky. They did spend a little time on Rose and Sand Islands without causing any obvious problems for the native species.

We had planned to salvage the entire skeleton of the green turtle on Rose for a possible exhibit but we also have a buried hawksbill that might become the exhibit. At any rate we will be able to save humeri from one of those plus any future ones for you. We are saving stomach contents of autopsied turtles for future food habit studies (have contents of only one hawksbill so far).

The 12 turtle crawls reported on the 16 March 1993 trip

Chelonia
represent pairs of tracks (I have been counting an up and a down as one crawl--the density and distances are such that one can fairly easily follow a track up on the beach and back down to the sea). None looked really fresh. I could still see some of the partially erased tracks and pits from our Sept.1992 trip--I did not recount these. However, because of the hardness of the coral rubble it was obvious that some tracks may persist for 6 months or more. Aging tracks here would be most difficult. About all I can say is that they were produced after 1 October 1992 and before 16 March 1993. If I had to guess I would say that most were old (Oct.-Jan.). I have enclosed a xerox of our turtle trip report for 19 Sept.-1 Oct. 1992. I am uncertain if the 26 crawls found on our arrival on 19 Sept. were all produced after Beth and crew left Rose in June (I do not know how well, if at all, they erased tracks). I was hoping to put something together on all of our turtle findings with Peter Craig at the end of my 2 years here, perhaps for Marine Turtle Newsletter.

Plans are for both Peter and myself to attend SPREP meeting in Apia in June--may see you there.

I trust you received our "annual" report of turtle tagging activities. If not, please let me know.

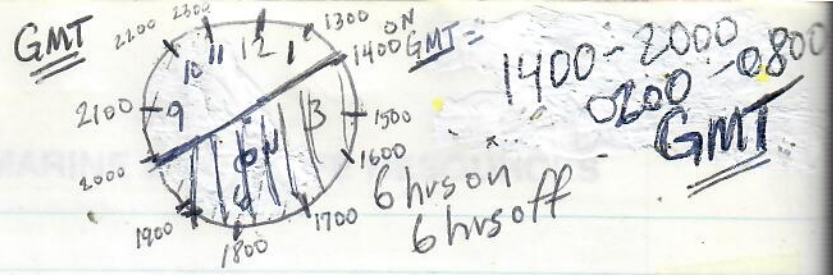
Best regards,

HG

Gilbert S. Grant

Telonics Satellite Predictor
 observer(s): 14.55S, 168.15W

28
 GMT - 11 hours =
 ASTIME.
 15-70°
 MIDPOINT
 ~ 43°



date	object	beacon	rise	set	e1	geo	orbit
Mon 01Nov93	NOAA-9	1707.00000	07:39:31	07:47:25	83	a-e	45814
Mon 01Nov93	NOAA-12	1707.00000	08:08:26	08:13:57	10	a-w	12813
Mon 01Nov93	NOAA-9	1707.00000	09:22:35	09:27:21	6	a-w	45815
Mon 01Nov93	NOAA-11	1698.00000	14:02:48	14:09:16	16	d-e	256540
Mon 01Nov93	NOAA-11	1698.00000	15:41:59	15:49:30	38X	d-w	256541
Mon 01Nov93	NOAA-10	1698.00000	16:09:06	16:15:06	13	d-e	37020
Mon 01Nov93	NOAA-12	1707.00000	17:34:58	17:41:45	23	d-e	12819
Mon 01Nov93	NOAA-10	1698.00000	17:47:11	17:54:34	42	d-w	37021
Mon 01Nov93	NOAA-9	1707.00000	18:51:18	18:58:41	38	d-e	45821
Mon 01Nov93	NOAA-12	1707.00000	19:14:36	19:21:32	24	d-w	12820
Mon 01Nov93	NOAA-9	1707.00000	20:32:43	20:39:09	16	d-w	45822
Mon 01Nov93	passes = 17						
Tue 02Nov93	NOAA-11	1698.00000	02:38:07	02:45:16	24	a-e	256547
Tue 02Nov93	NOAA-11	1698.00000	04:18:31	04:25:39	25	a-w	256548
Tue 02Nov93	NOAA-10	1698.00000	04:38:12	04:44:42	18	a-e	37027
Tue 02Nov93	NOAA-12	1707.00000	06:05:35	06:12:55	33X	a-e	12826
Tue 02Nov93	NOAA-10	1698.00000	06:17:17	06:24:24	31	a-w	37028
Tue 02Nov93	NOAA-9	1707.00000	07:26:46	07:34:36	59	a-e	45828
Tue 02Nov93	NOAA-12	1707.00000	07:46:02	07:52:37	18	a-w	12827
Tue 02Nov93	NOAA-9	1707.00000	09:08:57	09:14:39	10	a-w	45829
Tue 02Nov93	NOAA-11	1698.00000	13:51:19	13:57:10	11	d-e	256554
Tue 02Nov93	NOAA-11	1698.00000	15:29:36	15:37:18	53X	d-w	256555
Tue 02Nov93	NOAA-10	1698.00000	15:47:00	15:51:21	5	d-e	37034
Tue 02Nov93	NOAA-12	1707.00000	17:14:29	17:20:24	13	d-e	12833
Tue 02Nov93	NOAA-10	1698.00000	17:23:02	17:30:36	81	d-w	37035
Tue 02Nov93	NOAA-9	1707.00000	18:38:50	18:45:55	27	d-e	45835
Tue 02Nov93	NOAA-12	1707.00000	18:52:39	19:00:00	43X	d-w	12834
Tue 02Nov93	NOAA-10	1698.00000	19:07:23	19:10:33	2	d-w	37036
Tue 02Nov93	NOAA-9	1707.00000	20:19:21	20:26:17	22	d-w	45836
Tue 02Nov93	passes = 17						

1905 11/1/93 = 5 AM GMT

AS = 0752
 11/2/93

6 hrs on
 6 hrs off

1400-2000 GMT = 0200-0800 GMT

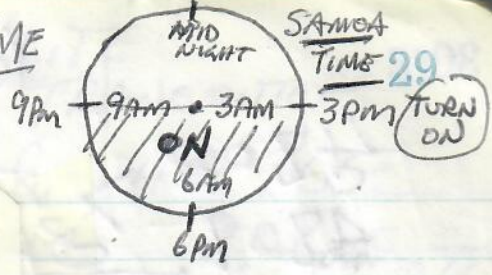
PREDICTS FOR GEORGE BALAZS, 14.55S, 168.15W, 0M

date	object	beacon	rise	tca	set	e1	geo	orbit
Wed 03Nov93	NOAA-11	1698.00000	02:26:20	02:33:03	02:39	18	a-e	256561
Wed 03Nov93	NOAA-11	1698.00000	04:06:05	04:13:30	04:20	34	a-w	256562
Wed 03Nov93	NOAA-10	1698.00000	04:15:28	04:20:40	04:25	8	a-e	37041
Wed 03Nov93	NOAA-12	1707.00000	05:44:41	05:51:23	05:58	19	a-e	12840
Wed 03Nov93	NOAA-10	1698.00000	05:53:05	06:00:30	06:07	58	a-w	37042
Wed 03Nov93	NOAA-9	1707.00000	07:14:02	07:21:46	07:29	42	a-e	45842
Wed 03Nov93	NOAA-12	1707.00000	07:24:00	07:31:14	07:38	31	a-w	12841
Wed 03Nov93	NOAA-10	1698.00000	07:38:34	07:39:32	07:40	0	a-w	37043
Wed 03Nov93	NOAA-9	1707.00000	08:55:30	09:01:56	09:08	15	a-w	45843
Wed 03Nov93	NOAA-11	1698.00000	13:40:04	13:45:05	13:50	7	d-e	256568
Wed 03Nov93	NOAA-11	1698.00000	15:17:19	15:25:06	15:32	74	d-w	256569
Wed 03Nov93	NOAA-12	1707.00000	16:54:38	16:59:05	17:03	6	d-e	12847
Wed 03Nov93	NOAA-10	1698.00000	16:59:14	17:06:40	17:14	53	d-e	37049
Wed 03Nov93	NOAA-11	1698.00000	17:02:54	17:05:49	17:08	2	d-w	256570
Wed 03Nov93	NOAA-9	1707.00000	18:26:25	18:33:09	18:39	20	d-e	45849
Wed 03Nov93	NOAA-12	1707.00000	18:30:56	18:38:30	18:46	78	d-w	12848
Wed 03Nov93	NOAA-10	1698.00000	18:41:01	18:46:30	18:51	10	d-w	37050
Wed 03Nov93	NOAA-9	1707.00000	20:06:05	20:13:26	20:20	31	d-w	45850
Wed 03Nov93	NOAA-12	1707.00000	20:15:44	20:18:38	20:21	2	d-w	12849

ON TURNS!
11/2
1500
TIME =
11:30
GMT
11:00

TURN ON 0200
OR 1400 GMT = 3 PM

3 AM SAMOA TIME



2024 11/2/93 AS

NOTE - BOTH OF THESE PASSES SHOULD BE FIRST FIXES BY 4809 & 4808 ON ROSE IS. PRIOR TO DEPLOYING ON TURTLES.

Wed 03Nov93 passes = 19

ROSE ISLAND

4808

4809

TURNED ON
3pm Samoa Time 11/2/93
GMT = 0200
11/3/93
TUES

31

4807

TURNED ON

3AM Samoa time 11/4/93
Thurs.

GMT = 1400
11/4/93

same day

11/3/93 4808
Sys # 7313

CCL-107.0

Am Samoa 11/3/93 1:45pm

145pm Release
[GMT = 0045, 11/4/93]

11/3/93 4809
Sys # 7488

CCL-96.5

535pm Release
[GMT = 0435 11/4/93]

11/4/93 4807
Sys # 7314

CCL-100.0

1135am Release AS = 11/4/93 1135 AM

(PATTISH CARAPACE) [GMT = 2235 11/4/93]

11/2/93
TUES

Humans

5:30pm
 31 Oct 93 Depart Honolulu, HA 465.
 + w/waughton, Mike McLINA
 Arrive ~ 9:30pm PAGO (1 hour Sawoatime
 earlier). TO Rainwaker Hotel
 #60. night. DEPART MANUATEA
 (USCG Rich FASER) 340pm
 NOV. 1 93 (MON.)
 off Rain & lightning at night.

11/2 Arrive Rose 10 AM 11/2/93
 1932 passes by Taiwan Longline pitots
 TUES. reef 10/14/93. Small Zodiac & motor
 whaler used to transport goods
 into Rose Is. Fiberglass sailboat
 hull to left of Sand Is. Bow
 section on island.

Gear unloaded and camp set
 up along lagoon side, where
 refuge sign used to be.
 Island considerably changed -
 Pisonia reduced in number & height.

"Val" - December 91, just before
 Gil Grant's arrival - bad!

Hurricanes

Feb 90 "OFA" hit Rose
 March 87 "Tusi" - didn't hit Rose
 but hit Tutuila.

Counted pits that might be fresh
 for the season = 36

Need sling slot

11/2/93
Tues Day

7pm set out on beach survey
Turtle track encountered lagoon side
West shore, northern end. All
barren of vegetation now northern
end. Tracks led up to Messerschmidt
Watched her do ~~two~~ two false
fits (chambers) - Plywood box
put over her at 10 pm.

Turned
over
with Box
on H.R.

11/3/93

11/3 wed. Heavy rain in the morning -
fitting of transmitter delayed until
~ 10:30 am - Attached
4808 (System # 7313)

CCL 107 x 95.5 (Photos Roll 1
has other photos on
start of roll)

TAGGED

K606 RFL K604 RH
K607 LFL K605 LH

Released lagoon side 1:45 pm 11/3 wed.
"Turtle Road" formed by raking.

11/2/93
Tues.

Another untagged turtle attempting
nesting, again in Messerschmidt
of north end. - ~~Turtle~~ turned over.
Wet cardboard placed over her
in shade and wind.

Start attachment 2:50 pm

11/3
Released

4809 (System # 7488)
CCL-96.5 x 91.5 cm

Done 4:50 pm
11/3 wed.
Released 5:35 pm
LAGOON
photos

11/4/93

4807

SY#
7314

11/3
Wed

11/3
Wed.

4809

11/4

Cont 4809 - K602 RFL
 11/3 K603 LFL
 Wednesday K608 LH
 K609 RH

fresh copulation scabs + healing cuts in
 skin below 2-3rd marginals?

33pm temperature on rubble in sun = 119° F
 in shade under bush = 89° F

11/3 AM
 Wed.

Saw 4808 returning on beach near "Turtle Road"

10pm walk - turtle w/o tags on ocean
 (east) side of island under mess.

11/4 Returned 1230 AM a second turtle
 4809 found nearby in mess. flattish and wide
 carapace Hinds partly missing - heeled.
 upside down in box at 1:30am.

2:30 AM ~~Search~~ First of turtle seen laying
 eggs - flash photos on nest - Heavy

rain shortly thereafter - soaking wet.
 GHBA Peter Craig.

CCL 106 cm

K610 RFL

(K611 Bad -
 not used)

K612 LFL

released 11:35am

11/4/93

920 AM 11/4/93 Thurs.

START ATTACHMENT

5 spots of grey
 in plastron - photos close up.

old crack in posterior plastron

Copulation scabs under neck.

4807
 sys #
 7314

MARK WARNER - Attorney
Seattle.
TAMM Vessel

11/4/93
Thurs.

K613 RH
K614 LH

4807
cont.

RFL K615

LFL K616

2-3rd central
no seam -
bled together.
Some bleed in
postoral scutes
also.

CCL - 100. x 87 cm

photos ^{11:35 AM} upon release - watched it
in shallows go south with current
presumably into lagoon.
Seawater - windward side shallows = (31.5°)

11/4 Visited - Motored to Sand Is. - NO
Thursday vegetation except 'small dried cocopalms
← Island shaped like this.

ATOLL PASS

No more refuge signs anywhere.
Photos of fiberglass sailboat wreck.
Counted 44 pits (all false)
and 9 pairs of tracks ^{near Sand} ^{interior reef}
Pepper found a basalt stone
with hole. - net Anchor?

11/4
Thurs.

11:15 pm North end under Messer
large turtle - laying eggs

CCL 112 x 100 cm

14 ^{eleonobia} ^{testudinaria} barnacles on carapace.
photos. Copulation scabs.

K617
Test on
CARDboard

K618 LFL

K619 RFL

9 pm 4808 turtle nesting in front of tents.
Again - come ashore near "Turtle Road"
Two false chambers, then successful
eggs about midnight - no photos.

11/5/93
12:15 AM
FRIDAY

Turtle (Brownish)

CCL 97 x 88 cm

K620 RFL

K621 LFL

IN Pisonia debus - roots.
Potential exists here to
get stuck. ^{adjacent} West site seen
on 6 AM walk - eggs.

Need Greater
exposure on
FLASH PHOTO

35

Turtles at
night

First seen ~ 9pm

11/5/93 10pm nesting near zodiac tie-up
FRIDAY site where beach rock starts.
Under Messerschmidia tree - photos
Small roof across peak.
Eggs being laid.

Applied
1st

CCL - 105cm

2nd	K 622	RFL] not locked As good as could be.
3rd	K 623	LFL	
4th	K 624	RH	
	K 625	LH	

K626
TEST -
NOT
Applied

Eggs stopped when LFL applied.
Cover up started. Not a full
nest (clutch).

ON Island

BALAZS
PEPPER TRAIL

P. CRAIG
Gil Grant

No other turtles seen this night,
except 4807 - flatish wide -
Seen ~ 10:30pm crawling N → S
on defoliated area.

Then again S → N along same
track. No excavations seen, however,
TOOK DOWN CAMP

11/6
SAT.

Loaded Gear in ~13' Zodiac at 11am
Motored to MANUATELE outside of PASS.
ARRIVED 11:45 AM. Peter Craig & FALC
returned for rest of gear.

KEVIN (NO. WA COOP) (206) 823-6919

Andrew C. KINDIG, PhD
ASSOCIATE

FAX (206) 820-9399
John Naughton (FIJI)
MIKE MOLINA SPC MASTER fisherman JERRY

BEAK CONSULTANTS INC.
12931 NE 126th PLACE
KIRKLAND, WA 98034-7716

11/6 SAT. Sand bars first seen 2 weeks ago by Gil & Beth pulled out - bags taken to boat except one.

John Naughton showed me the bony element (only) of carapace found underwater - outer part -

natural death?

near a cave. 42 cm over - that curve. likely green, but pointy posterior suggests? (Chowlsbill?) How did it get there? (Guper?) Killed by fishermen?

Departed Rose at about 2 pm.

Smooth trip - following seas.

11/7/93
Sunday

Arrived Pogo about 2 am.
Off-loaded at 6 AM. Check into Rainmaker Hotel.

Brought back ^{frozen} small leatherback 8kg entangled on longline by Sangamooera near Sibains Island 9/93

Depart Hawaiian ^{AIR} 11/7/93 late night
arrive Honolulu Monday early morning
11/8/93

TRANS:

(2) 4809 TURN^{ON} 11/3/93 0200 GMT, ROSE IS,
RELEASED ON CCL 96.5cm TURTLE 11/4/93 0435 GMT.

- 1 04809 Date : 03.11.93 02:32:18 LC : 1
Lat1 : 14.536S Lon1 : 168.082W Lat2 :
- 2 04809 Date : 03.11.93 04:13:11 LC : 1
Lat1 : 14.543S Lon1 : 168.138W Lat2 :
- 3 04809 Date : 03.11.93 05:51:03 LC : 2
Lat1 : 14.547S Lon1 : 168.140W Lat
- 4 04809 Date : 03.11.93 07:30:26 LC : 2
Lat1 : 14.548S Lon1 : 168.148W Lat2 :
- 5 04809 Date : 04.11.93 04:01:59 LC : 1
Lat1 : 14.524S Lon1 : 168.212W Lat2 :
- 6 04809 Date : 04.11.93 16:53:49 LC : 0 LI : 0
Lat1 : 14.564S Lon1 : 168.181W Lat2 : 3.6619
- 7 04809 Date : 05.11.93 02:06:49 LC : 0 LI : -4
Lat1 : 14.557S Lon1 : 168.285W Lat2 : 4.814S
- 8 04809 Date : 05.11.93 03:52:41 LC : 0 LI : -2
Lat1 : 14.564S Lon1 : 168.126W Lat2 : 15.991
- 9 04809 Date : 05.11.93 14:59:57 LC : 1
Lat1 : 14.544S Lon1 : 168.138W Lat2 :
- 10 04809 Date : 05.11.93 16:42:19 LC : 0 LI : -4
Lat1 : 14.556S Lon1 : 168.151W Lat2 : 5.358S
- 11 04809 Date : 05.11.93 19:38:31 LC : 0 LI : -4
Lat1 : 14.591S Lon1 : 168.230W Lat2 : 7.623S
- 12 04809 Date : 06.11.93 05:15:08 LC : 0 LI : -3
Lat1 : 14.716S Lon1 : 168.317W Lat2 : 25.324
- 13 04809 Date : 06.11.93 14:44:55 LC : 0 LI : -5
Lat1 : 14.617S Lon1 : 168.191W Lat2 : 17.785
- 14 04809 Date : 06.11.93 16:30:06 LC : 0 LI : -4
Lat1 : 14.586S Lon1 : 168.188W Lat2 : 6.665S
- 15 04809 Date : 07.11.93 14:32:54 LC : 1
Lat1 : 14.523S Lon1 : 168.181W Lat2 :
- 16 04809 Date : 08.11.93 04:51:43 LC : 0 LI : 0
Lat1 : 22.907S Lon1 : 155.273E Lat2 : 14.475S, 168.179W

GHB DEPARTED

ROSE
11/6/93

1700 GMT

RELEASE

NO RE-NESTING SET ON ROSE
TO DEPARTURE 11/6 1700 GMT
By GHB3 DAY
GAT

(3)

TRANS.

(1)

4808 TURN^{ED} ON 11/3/93 0200 GMT ROSE IS. 39
- RELEASED ON CCL 107cm TURTLE 11/4/93 0045 GMT

1 04808 Date : 03.11.93 02:31:47 LC : 1
Lat1 : 14.566S Lon1 : 168.008W Lat2 :

2 04808 Date : 03.11.93 04:13:02 LC : 1
Lat1 : 14.547S Lon1 : 168.144W Lat2 :

3 04808 Date : 03.11.93 07:29:55 LC : 3
Lat1 : 14.548S Lon1 : 168.146W Lat2 :

ASSUMED
EXACT POSITION
OF ROSE
ISLAND

4 04808 Date : 03.11.93 18:34:05 LC : 0
Lat1 : 14.636S Lon1 : 167.950W Lat2 :

RELEASE ↓

5 04808 Date : 07.11.93 06:06:56 LC : 0
Lat1 : 14.548S Lon1 : 168.438W Lat2 :

6 04808 Date : 07.11.93 07:47:56 LC : 0 LI : -5
Lat1 : 14.479S Lon1 : 167.679W Lat2 : 20.411S

7 04808 Date : 07.11.93 14:34:52 LC : 0 LI : -5
Lat1 : 14.661S Lon1 : 168.092W Lat2 : 19.125S

GHB
DEPARTED
ROSE
11/6/93
1700 GMT

3 DAY
GAP

(3)

TRANSMITTER

4807 TURNED ON 11/4/93 1400 GMT. ROSE IS.
RELEASED ON CCL 100cm TURTLE 11/4/93, 2135 GMT
(FLAT AND WIDE CARAPACE)

1 04807 Date : 04.11.93 18:16:42 LC : 1
Lat1 : 14.550S Lon1 : 168.145W Lat2 : 1

2 04807 Date : 04.11.93 19:55:42 LC : 0 LI : -2
Lat1 : 14.536S Lon1 : 168.128W Lat2 : 5.680S

RELEASE ↓

3 04807 Date : 06.11.93 06:31:45 LC : 0 LI : -5
Lat1 : 14.607S Lon1 : 168.175W Lat2 : 11.931S

4 04807 Date : 06.11.93 14:50:37 LC : 1
Lat1 : 14.547S Lon1 : 168.143W Lat2 : :

5 04807 Date : 06.11.93 16:28:30 LC : 2
Lat1 : 14.515S Lon1 : 168.164W Lat2 : :

SEEN
RENESTING
ON ROSE

GHB DEPARTED ROSE 11/6/93 1700 GMT

1700 GMT

NOV = 30 days
 DEC = 31 days
 JAN = 31 days

$$6076' = 1 \text{ NM} = 1.852 \text{ KM}$$

4808 STRAIGHTLINE ROSE = 720 NM = 1335 KM
 (DIRECT) TO
 NATEVA BAY, VANUA LEVU

FIJI

Deploy
 ROSE IS.
 RELEASED

11/3/93
 1:45 PM

4808

4809 STRAIGHTLINE ROSE = 760 NM = 1410 KM
 TO
 NAWENI Pt., VANUA LEVU

11/3/93
 5:35 PM

4809

See
 p.

BETWEEN FIJI 240 hours
 4809 11/25/93 - 12/5/93 [10 days]

→ 22 DAYS AFTER DEPLOYMENT, left ROSE^{11/25/93} for
 10 day "Figure 8" excursion south 162 NM (300 KM),
 Returning to ROSE 12/5/93. Then 22 days later
 FINAL DEPARTURE FROM ROSE ON 12/27/93.

1.3 KM/HR
 0.7 NM/HR

4807 STRAIGHTLINE ROSE =

TO

ARGO
 Reefs

11/4/93
 11:35 AM

4807

NOV.93 4807, 4808, 4809

SUMMARIES

Deployed
ROSE IS.
RELEASED

CCL

TAGS

DEPART
ROSE

DISTANCE
TRAVELED

ARRIVE
FIJI

KM/HR

NM/HR

41

OFF
AIR

11/3/93
1:45pm

107cm

K604-
K607

12/20/94
(1450km)

1/23/94
NATEVA

1.8

1.0

4808

[AT ROSE
FOR 47 days
AFTER
DEPLOYMENT]
BEFORE DEPARTURE

BAY
(UNDU POINT)
VANUA LEVU
(814 hours
OR 34 DAYS)

1.6 KM/HR
0.9 NM/HR

11/3/93
5:35pm
4809

.CCL=
96.5cm

K602-
K603,
K608-
K609

12/27/94
[AT ROSE
54 days
AFTER
DEPLOYMENT]
BEFORE
FINAL DEPARTURE

2/10/94
944NM (1080
hours
OR
45
DAYS)
NAWENI
POINT,
VANUA
LEVU

See
P.43

see
additional data

[10 day excursion
South]

33NM
OR TO THE
60KM South

11/4/93
11:35am
4807

CCL=
100cm
(FLATTISH)

1/15/94

K613-
K616

[AT ROSE
72 days
AFTER
DEPLOYMENT]
BEFORE
DEPARTURE

ARGOS
REEF,
(REAR)
FIJI

KM/HR

NM/HR

(NEXT PAGE)

NOV. 1971 - 2 greens Monel
 ROSE SINCE NOV. 1980 - 43 greens INCORP
 METAL TAG RECOVERIES -

1. 3504/05 TAGGED AT ROSE 11/80
 CAUGHT BY NET 7/86 KADAVU, FIJI.
 EATEN

2. 6821-6823 TAGGED ROSE 10/88
 Found BIRDY wounded dragging a
 Spear gun on Reef SIGATOKA,
 VITI LEVU 2/92.

includes 13 males

1992 Symposium paper - 379 Tagged
 1972-74. - 12 recoveries

Tonga = 1, Fiji = 5, Wallis = 1, New Caledonia = 2
 Vanuatu = 3. FIJI 2 of 5 were KADAVU
 DRUADRU

Since Then =

(1) S17-S19 MOTU OIA 10/18/91 CCL 101cm
 net TOBERUA IS., near Suva 3/23/92

(2) S23-S25 MOTU OIA 10/18/91 CCL 103cm
 net SIVUSAVU 1 10/9/93
 262 lbs
 Chinese Restaurant

Seilly
 Atoll
 French
 Polynesia

04809
 Lat1
 Nb me
 Pass
 Calcu
 35 40
 01 55



THE UNIVERSITY
OF THE
SOUTH PACIFIC

Marine Studies



43

Serving the Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Western Samoa.

22 August, 1994

George H Balazs
Zoologist and Leader
Marine Turtle Research
National Marine Fisheries Service
Southwest Fisheries Science Center
Honolulu Laboratory
2570 Dole Street
Honolulu
Hawaii 96822-2396

Dear Dr Balazs:

Thankyou for your letter of 10 August and information regarding your very interesting work with turtles.

We are just about to commence a major survey of the Lau Group: you might contact Dr Bob Lloyd, Director of our Institute of Applied Science, also is organizing the survey. I have passed your letter over to him.

For information on the Argo Reefs, you might contact Ganeshan Rao, Coordinator of PIMRIS, USP Library, as he could search the PIMRIS data base for any pertinent references.

I hope this is of some help.

Yours Sincerely,

G Robin South

CC:-
Dr Bob Lloyd
Ganeshan Rao

Marine Studies Programme, The University of the South Pacific, P.O. Box 1168, Suva, Republic of Fiji

04809 Date : 29.04.96 14:59:49 LC : Z IQ : 00
Lat1 : ???????? Lon1 : ????????? Lat2 : ????????? Lon2 : ?????????
Nb mes : 001 Nb mes>-120dB : 000 Best level : -135 dB
Pass duration : ? s NOPC : ?
Calcul freq : 401 650000.0 Hz Altitude : 0 m
35 40804 8009 13683
01 59

Need Sling-shot

ROSE 11/93

Satellite Trans. Supplies

Need COARSE ONLY

TRAN

IGLOO CONTENTS

- ✓ 1. 8 large trash bags (packets of 2) + Sandpaper ✓
- ✓ 2. 2 small clear trash bags
- ✓ 3. 1 hammer
- ✓ 4. nails for turtle box
- ✓ 5. new roll of tape
- ✓ 6. scrubbie pad
- ✓ 7. 12 pairs latex gloves
- ✓ 8. 3 bundles of 3 (rags)
- ✓ 9. 2.2 oz of catalyst
- ✓ 10. 5 sample jars (plastic)
- ✓ 11. 17 mixing tubs premarked
- ✓ 12. 12 paint brushes
- ✓ 13. 1 pt. acetone = FINISHING?
- ✓ 14. 10 oz of sanding resin
- ✓ 15. 48 oz of laminating resin
- ~~16. 1/4 bottle elastomer from 8-92~~
- ✓ 17. elastomer catalyst from 8-93 (nearly full)
- ✓ 18. 10 tent stakes
- ✓ 19. tent cord (need more?)
- ~~20. cloth 1 packet of useable scraps & 1 packet of good uncut cloth~~
- ✓ 21. tupperware container (2 putty knives, needlenose pliers, pliers, 10' retractable measuring tape, knife, 5 Betadine swabs, 6 eye droppers, 20 tongue depressors, masking tape for steel contacts on trans., scissors.

Need LARGE Head

Need several large STEEL mixing

- 2 Boxes of elastomer w/ catalyst ✓
 - 1 plastic container w/ 4oz line to mix elastomer
 - 4 cloth kits + ziploc w/ extra cloth ✓

THINGS TO REMEMBER

- ~~1. 2 new bottles of elastomer and notes, ie number of drops used~~
- ~~2. need to cut cloth and make 3-4 cloth kits~~ pau!
- 3. umbrella and turtle box
- 4. tent
- 5. Business cards / INDELIBLE MARKING PEN
- 6. MEDICAL SPORTS COLD PACK
- 7. PAPER TOWELS ROLL

4oz =
16 drops

Elastomer & Resin Drops

LAMINATING (1st - 4oz 45 drops
 2nd - 4oz 45 drops
 3rd - 3oz 35 drops

(Finishing) - (2oz 30 drops

Voltaic
Cell
Solar power -
25 Amp

Icom 735 MFJ versa
Tuner

~30m wire up
15ft. 4 copper
ground rod w/cross
w/cross needles
SUN needles

11/2/93 Tues

OA4ED Peru Gus 5x5 14.2633
4x4JU ISRAEL MALIK
3D2KM (FIJ) KIM 5x8 14.235.0
BOX 63 LAUTOKA 1020pm

11/3 pm

UA9YMF ALEX 1105pm 14.284.0
A35UZ Tony

11/3 Wednesday

VK6 ELL (AUSTRALIA) ELLIOTT Island off NSW 14.257.1
JI4PR Ichir
(EL2PP 940pm Monica LIBERIA 5x4 14.2582
DSL MANAGER N2CYL

11/4 Thursday

KH6CD (Hawaii) Waijiki Howie 14.2618
(one way to LIN)

VK6 BGG Roger 5x3 14.255
VK6 BO Roy 5x7
VK2 NO Rod 5x8
VK6 BDJ John Perth 5x9
VK6 ANC John
VK6 APK 10pm ALEX 5x8

(*)

VK4QU Bob Brisbane 5x9 one way to
Limpus
VK6 PY Paul (helpful) 5x3
11/5/93 ZLIARY 1230 pm RAMON 5x9 14.260.5

certify 5 COUNTRIES - 50 CONTACTS TO
(IOTA) ISLAND VIA Roger Ballister UK
[OCEANIA 190]

N7BZI HAL 5x3
VK9NS Jim (Norfolk Island) 5x9 14.2605
VK3CCB 5x5
VE7IU 5x3

Friday
11/5
ONE WAY
TO LIN



ACC Mediated
by VK9NS Jim

14. 2606

11/5/continued

93 W9JWQ

5x2

W9NZM

3x3

N5OUE

3x3

W5BOS

5x8

K6BT

5x9

KASTQF

5x5

KA5W

5x5

KD7SO

W4BAA

3x3

N6BOI

5x5

W7OF

5x7

VK3DD

4x3

W0SBV

3x3

VE3XN

3x3

K9PPY

5x5

WB9/EEE

3x3

N7TT

5x9

VE7GDT

5x5

KC8PG

3x3

K5OVC

W6RT

5x9

KB7VVU

5x7

K2VV

3x3

KB4CWD

5x3

AA7KE

5x3

W9JC

3x3

Friday

11/5

93

5 PM

Same Time

ONE WAY
TO LIN

WH6ASW

Ray

5x5

A1EA

0A HU

5x5



72

FRIDAY
11/5/93

21260 ALSO
(NOT WORKED) IOTA

14,260

75pm	ZL2 MIK	Mike	5x5
	ZL1 ANF	Morris	5x5
	VR6 CB	Pitcairn	5x5
	HK6 ISX		5x3
	ZL2 VS	Dusty (Helpful)	5x9
	KH6 ALF	Rick	5x9
	4Z4 DX	DOVE	5x7
	P29 SC	PNG	5x5
	VK3 QI		5x8



> 820pm word from VK9NS of Rose "Qualified"
OCEANIA 190

	VK5 QW		5x9
	VK6 LC		5x8
	[G3 KMA Roger Ballister, <u>not worked</u>]		

> 925pm	KA6 HM	OKINAWA	5x5
	ZL2 BA		5x7
	VK3 EW		5x8
	ZL1 KJ		5x9

11/6 AM ZL2 VS Dusty
Tried Europe again - no luck
no contacts



only

Needs for Ham Radio

1. Slingshot or CrossBow pistol
2. Lead slugs - drilled or clamp
3. Monofilament
4. Copper wire with Varnish insulation (I now have #285F 80Z)
5. Extra Coax (Small is RG58U) made up short and long
6. Extra Coax crimp on plug
7. Small SWR meter w/ coaxes
8. Another solar panel
9. Solder ~~connectors~~ connectors for MFD Tuner
10. Meter or some mechanism for Status of battery (call manufacturer?)
11. Radial ground wire for 20 meter (1/4 long)
12. Write to Roger Ballister.

Needs for Rose ^{CAMPING} ~~AND~~ Turtles

1. Photo of ELASTONES / Glass Cloth None seen!
 2. Trans. Turtle photos - on office wall
 3. Longline turtle Considerations Hooks; cilia; lines; 3 mile RADIUS BOAT on island; hatchlings - fuel; algae;
 4. Put nest sites on taped in map.
 5. Small folding chair (REI?)
- Sard/aggregate occurring; heading "00" not "090".
87,000 gal fuel 2500 lbs. Bravia needs verification

VESSEL Deficiencies Problems:

Port engine run/quit. Watch asleep at wheel 2 AM;
EPIRB unknown location, SSB & VHF didn't work,
only one anchor - lost; Long range solar line & GPS didn't
work, or no one knew how to use it.

- Summary of TAGGED TURTLES -

DATE NOVEMBER 1993

DATE	NIGHT	TAGS	CCL	SATELLITE TAG	COMMENTS
11/2/93		K604 RH	✓ 107 x 95.5	4808	EGGS
11/3/93		K605 LH			
		K606 RFL	<u>2 Turtles</u>		
		K607 LFL			

11/2/93		K602 RFL	✓ 96.5 x 91.5	4809	
11/3/93		K603 LFL			
		K608 LH			
		K609 RH			

DATE	NIGHT	TAGS	CCL	SATELLITE TAG	COMMENTS
11/3/93		K610 RFL	✓ 106 cm	—	EGGS
11/4/93		K612 LFL			
		<u>2 TURTLES</u>			

11/3/93		K613 RH	✓ 100 x 87	4807	FLATTISH WIDE CARAPACE
11/4/93		K614 LH			
		K615 RFL			
		K616 LFL			

DATE	NIGHT	TAGS	CCL	SATELLITE TAG	COMMENTS
11/4/93		K618 LFL	✓ 112 x 100		EGGS
11/5/93		K619 RFL			
		<u>2 Turtles</u>			

11/4/93		K620 RFL	✓ 97 x 88		EGGS IN PISONIA ROOTS
11/5/93		K621 LFL			

DATE ()
11/5-11/6
PM

LFL
RH
LH

11/2-11/3
TUES - WED

11/3-11/4
WED. THUR

11/4-11/5
THURS. FRI

11/5-11/6
FRIDAY - SAT

DATE Night 4 CCL ✓ 1 Turtle
 11/5 - 11/6 AM 105 cm
 K622 RFL
 LFL K623
 RH K624
 LH K625

NOT completely locked

4/1/94 "Killed by Fish" washed ashore
 AMBERN, JANUARY
 no head
 Hand Miss

EGGS west shore, near beachrock

HISTRIE -

Summary of nightly nestings

NOTE: No tag recoveries made from past taggings.
 NO WITHIN SEASON RE-NEST

DATE	NO. New Turtles	TAGS	NO. WITHIN SEASON RE-NEST	TAGS
11/2 - 11/3/93 TUES - Wed.	2	4808 - K604, 107cm 4809 - K602, 96.5cm	0	-
11/3 - 11/4/93 Wed. Thurs.	2	4807 - K613, 100cm FLAT	1	4808 - K604
11/4 - 11/5/93 Thurs. Friday	2	K618, 112cm K620, 97cm	1	4808 - K604 (eggs)
11/5 - 11/6/93 Friday - Saturday	1	K622, 105cm	1	4807, K613

7 different turtles
 in 4 nights of
 monitoring

ID numbers of new tags attached and any old tags already present ¹		Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude)	Activity of the turtle ³	Curved carapace length ⁴
Left front flipper	Right front Flipper					
N-164	N-165	CM UNKNOWN	SEP. 30 1991 1900 HRS	MASEFAU	NESTING	51 cm
N-166	N-167	EI UNKNOWN	NOV. 29 1991 2300-2400 HRS	TAFUNA	SWIMMING (CAUGHT BY FISHERMEN)	38 cm
N-210	N-211	EI UNKNOWN	DEC. 14 1991 1700 HRS *	LEONE	UNKNOWN UNKNOWN	33 cm
N-170	N-168	CM FEMALE	DEC. 21 1991 19:30 HRS	TULA	NESTING	91 cm

NATASHA BREITZ

ID numbers of new tags attached and any old tags already present		Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude)	Activity of the turtle ³	Curved carapace length ⁴
Left front flipper	Right front flipper					
N-122	N-124	EI UNKNOWN	JULY 02 1991 11:00 HRS	FAGAALU	SWIMMING IN THE WATER (Recaptured 7/12/91)	39.2 cm
N-120	N-119	EI UNKNOWN	JULY 19 1991	AUA	RESTING NEAR THE REEF	37 cm
N-121	N-123	EI UNKNOWN	AUG. 21 1991 UNKNOWN	LAULU	found next to stream with a hole punched in its carapace	39 cm
N-253	N-254	CM FEMALE	SEP. 24 1991 1900 HRS	MASAUSI	NESTING	97 cm

NATASNA BARTON

ID numbers of new tags attached and any old tags already present ¹		Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude)	Activity of the turtle ³	Curved carapace length ⁴
Left front flipper	Right front flipper					
N-106	N-105	EI UNKNOWN	AUG. 23, 1990	VATIA	UNKNOWN	42 cm
N-114	N-113	EI FEMALE	JAN. 02 1991 16:30 HRS*	AUNU'U	NESTING (NO SEE EGGS LAYED)	90 cm
N-116	N-115	EI FEMALE	JAN. 03 1991	TULA	RETURNING TO THE OCEAN	77.5 cm
N-118	N-117	EI FEMALE	JAN. 17 1991	SAILELE	NESTING	85 cm

NATASNA BARTLEY

see p. 97 - 9/8/91 & Murphy
8/30 Maxwell

Hi George,

The pages that follow are the data collected at Rose during the second shift, 12 September to 26 September 1991. We had some busy nights during the full moon high tides just before we left! I paddled to Sand Island to check for signs of activity as well, and the results are as follows:

ALL IS.
SAND IS.

OBSERVATIONS

DATE 9/13 1991
8 pits, one not fresh. Difficult to tell how many may contain eggs.

9/15 No new activity

9/18 No new activity

9/19 No new activity

9/23 Two sets of tracks with what appeared to be one false and one actual nest each

9/24 One new track with 2 false pits, one possible nest

9/25 Two new tracks with several false pits and two possible nests

9/26 No new tracks

BONNIE PONWITH

see p. 97 & 79
 these dates - 9/27/91
 span 900

ID numbers of new tags attached and any old tags already present ¹	Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude)	Activity of the turtle ³	Curved carapace length ⁴
(RECAP) N221	C. mydas	20 Sept 91 0530	Rose Stake 01	N Nesting	96 cm
(RECAP) N222	C. mydas	21 Sept 91 1915	Rose Stake 93	Came up to net, returned to sea & out lay in eggs	99 cm
(RECAP) N222	C. MYDAS	22 Sept 91 0910 2110	Rose STAKE 93	CAME UP TO NET? RETURNED TO SEA w/o LAYING EGGS	(99 cm)
(RECAP) N222	C. MYDAS	22-23 Sept 91 1100-0400	Rose STAKE 00	DUG PITS, LAID EGGS?	(99 cm)

Recap 9/27/91 Rose
 Recap 11
 Recap 11

IV. Marine Organisms
 "Rose Atoll Trip Report" 5 Sept - 30 Oct 91

Marine Turtles: Results of our turtle tagging work will be treated in more detail in a separate report by Ponwith so I only summarized our two weeks of activities here. We continued a rotating schedule of beach searches as initiated by Murphy and Morrell. At the beginning, one observer walked the perimeter of Rose Island each night every two hours from 2100 to 0500. Later, near the full moon with high tides, around dusk and dawn, we added an additional walk at 1900.

D.A. Williamson 10/11/92 prepared
 We tagged 6 green sea turtles (*Chelonia mydas*), recaptured previously tagged ones from both our and the previous two weeks work, and missed at least one other turtle which came ashore and left between shifts.

Williamson

N152	N153	♀ C	Rose Near # 10	Dug two holes pits & returned at 2100 near 23 dug 2 more holes pits & left	109 cm over →

→

N152	N153	♀ CM	24 Sept 91 2112- 2200	Rose Near # 10	Dug two Raline pits & returned at 2200 near #3 dug 2 more falsely pits & left	109cm over →
N155	N154	♀ CM	25 Sept 91 1900-2200	Rose Near # 96	Dug several falsely pits the year of 276 largely eggs	106cm
<u>RECAP</u> N152	N153	CM ♂	25 Sept 91 1930	Rose NEAR # 10	Dug one P17 & RETURNED TO SEA	
N156	N157	CM ♀	25 Sept 91 2200-0124	between 03 & 04 Rose	Dug several pits did not lay eggs returned to sea	95cm

ID numbers of new tags attached and any old tags already present		Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude)	Activity of the turtle ³	Curved carapace length ⁴
Left front flipper	Right front flipper					
N159	N158	♀ CM	9/26/91 9:45 AM	ROSE NEAR # 98	LAYS EGGS	100cm
N161	N160	♀ CM	9/27/91 0020	ROSE Near # 4	DUG TWO PITS NO EGGS	112cm
N162	N163	♀ CM	27 Sept 91 1200-0300	Rose Near # 3	Dug 3-4 falsely pits Laid eggs	101cm

Continued from page 24

N-131	GIL GRANT N-130	CM ♀	● 0400-05:00 23 Sept. 1992	Am. Samoa Rose Atoll Rose Island	crawling to sea after apparently laying eggs (nest site looked good)	100.5 cm
N-129	N-128	CM ♀	04:00-05:00 23 Sept. 1992	Am. Samoa Rose Atoll Rose Island	returning to sea after false crawl. [she returned on 26 Sept 92 (02:00) - 3 pits, no eggs Returned 27 Sept. 92 - probably nested in 12th pit]	113 cm
N-133	N-132	CM ♀	03:00-05:45 29 Sept. 1992	Am. Samoa Rose Atoll Rose Island	returning to sea after laying eggs	103.4 cm
N-135	N-134	CM ♀	03:00 30 Sept. 1992	Am. Samoa Rose Atoll Rose Island	returned to sea after false crawl and digging one scrape	97.5 cm

N-214	GIL GRANT N-213	E I sex?	● 20:00 13 Dec. 1992	Am. Samoa Tutuila Alofau	sleeping	44.2 cm
* previously tagged by us		E I	20:00	Am. Samoa Tutuila Alofau	sleeping	40.0 cm
N-208	N-207	sex?	13 Dec. 1992			

N-137	GIL GRANT N-136	CM ♀	● 20:15-23:15 30 Sept. 1992	Am. Samoa Rose Atoll Rose Island	returning to sea after apparently laying eggs	99.4 cm
N-139	N-138	E I sex?	17:00 8 Oct. 1992	Am. Samoa Tutuila Faga'itua	hiding under sheet of tin 10 feet below surface	41.0 cm

CONT.
P. 85FUI 2/17/92
6/11/92

Tags Returned to me from
Doug Forsell 4/90 -

FD 2/17/92
6821-22-23
Recovered

3980-4000 (21)

6824-6850 (27)

6918-6925 (8)

6935-6950 (16)

72

Tag 10,632-10,650 (19)

believed to be with

Peter Craig in Am-Samoa ^{since} (as of 10/17/89)

Oct 1989
TRIP Report
by Doug Forzell

Bristle-thighed Curlew (Numenius tahitiensis)

I observed one flock of four birds on Rose Island. I think this was all of the birds on the island, but there may have been one or two additional individuals.

Wandering Tattler (Heteroscelus incanus)

We counted only one tattler on the coastal survey of Rose Island.

Ruddy Turnstone (Arenaria interpres)

Only two turnstones were counted on Rose Island.

Polynesian Rat (Rattus exulans)

Rats were as usual very abundant. We did not trap rats as time on the island was limited. We observed several rats eating eggs of Sooty Terns. A small group of thirty eggs was observed about 1200 hours on the first day and by midnight only six eggs remained. Several rats were observed eating eggs. The egg of one Brown Noddy nest about eight feet up a tree was also eaten. Rats were also observed eating flowers at the end of a Tournefortia tree. This would indicate that rats are capable of reaching all nests in trees and probably prey on eggs of most of the tree nesting species.

Fish and Reef Invertebrates

I dove at the pinnacles near Sand Island, in the outer channel, and about 400 m southwest of the channel outside the reef. The coral appears to be healthy and the populations of fish and clams about the same as in 1988. Three green turtles were observed while diving outside the reef.

Green Sea Turtle (Chelonia mydas)

Only two turtles were found on Rose Island. One turtle was found prospecting on the western shore and was tagged on its way back to sea without laying eggs. The second turtle was found digging a pit on the southern beach in the pre-dawn hours. This individual deposited about fifty eggs in the pit and was tagged after covering the pit (Table 3). Observers walked the perimeter several times each night, but there were extremely low tides at night during our visit so the animals did not appear to be coming ashore when they had to crawl across the reef flats.

In order to reduce confusion at night as to which tracks were new or old we raked out old tracks as we counted them on the survey. We also painted tracks and pits with spray paint to avoid having to follow tracks which were old. Figures 3 and 4 indicate where turtle tracks and pits were located on

CONTINUED FROM P. 82

		43.6 cm [14 pounds]	40.0 cm
			Swimming
	Am. Samoa Tutuila Pago Pago harbor		Am. Samoa Tutuila
	22 Oct. 1992		15:00
	E I sex ?		E I
* Recaptured tagged turtle	N-201		
	N-202		

NOT PART
OF ONE ANOTHER

the beaches of Sand and Rose Islands. On Rose Island, we counted about 70 tracks and 127 pits of which some pits were from last year. On Sand Island, we counted 17 tracks and 48 pits. The number of tracks and pits were similar to those found on the October 1988 trip.

II*
II*

Table 3. Turtles tagged on Rose Island on 25 and 26 October 1988.

DATE	NMFS TAGS	TAG PLACEMENT	SEX	CARAPACE LENGTH
25 October	10632	Left front leg (distal)	Female	37.5" <i>95cm</i>
	10633	Right front leg (proximal)		
	10634	Left front leg (proximal)		
26 October	10635	Right front leg (proximal)	Female	38.25" <i>97cm</i>
	10636	Left front leg (proximal)		
	10637	Left front leg (distal)		

Trespass

We found no signs of recent trespass on the islands. Two steel boundary signs remain. The bolts were replaced by the crew of the Sausaumoana on their last trip. The redwood sign at the beach landing is holding up well, but the uprights are deteriorating and should be replaced in the next couple of years. The signs which contain the writing appear to be in good condition. Paul Pedro the captain of the Sausaumoana said the sign did have a roof, but it was lost in the hurricane. The roof does not seem necessary as birds do not roost on the sign. An interesting short coming of the sign is that "no trespassing" is written in four languages, but not in Samoan.

RECOMMENDATIONS

It appeared that except for Brown Noddies and possibly Sooty Terns most species were near the end of their nesting cycle. The nesting season appeared to be at least one to two months earlier than in 1988. I would suggest that a trip in late August would produce better estimates of populations of nesting birds. In the last two October trips we have only tagged two turtles on each trip. It does not seem to be worthwhile to plan trips for turtles when so few are found. I would suggest a trip in late August to census birds and another in November to tag turtles. In addition trips should be planned so that high tides occur at night in order to find more turtles on the beaches. It may also be worthwhile to bring two sets of turtle banding equipment and have two persons remain on Sand Island one night. Trips should also be planned so that at least three nights and three to four full days are spent on the island.

42.6cm [14 pounds]	40.0cm	?	Swimming	Am. Samoa Tutuila Pago Pago harbor	Am. Samoa Tutuila Alofau	?	22 Oct. 1992	15:00 11 Nov. 1992	E I sex ?	E I sex ?	Recapture tagged N-202	N-201	N-207	N-208
-----------------------	--------	---	----------	--	--------------------------------	---	--------------	-----------------------	--------------	--------------	------------------------------	-------	-------	-------

The greatest management concern of the atoll is the presence of the rats. I suggest we initiate the necessary paperwork to allow the use of several types of poisons and traps and seek the \$10,000 to \$20,000 necessary to fund a one month expedition to eradicate the rats. The work could possibly be accomplished by some of the Samoans through PR funds. The eradication of rats should be a priority of the Service. The Office of Marine and Wildlife Resources has indicated that they consider this a priority of their wildlife program and are willing to aid in the effort by providing transportation and possibly some labor. We should grasp this opportunity and proceed with the project.

Rose Island is extremely difficult to census due to heavy vegetation. As trees fall over it seems the habitat is undergoing change making the use of the Pisonia transect less representative and more difficult to extrapolate census results to the mixed Pisonia-Tournefortia habitat. Additionally, complete counts of the Tournefortia habitat would be quite difficult for one or two individuals. A 30 m grid of stations was laid out on the island by Rowland in February and by us on this trip. The eastern portion of this grid should be completed on the next trip. This grid facilitates complete counts by allowing one or two persons to census each grid and remain oriented in the thick forest. Additionally, if time is limited and complete counts are impractical a representative sample of grids within each habitat could be sampled. The grid markers could be used to select random plots conducted at the stations to facilitate consistent census.

Future surveys should also characterize vegetation within the grids to document changes on the Island. Should some stakes be lost, observers on Each trip should bring a few pieces of one inch PVC pipe, aluminum tags numbered from 1 to 100, and wire. Additionally, each stake should be sprayed with red enamel paint to help the next person locate the stakes. We cut paths with a machete along each line to facilitate measurement and locating the plots. We suggest these paths be maintained to aid those that follow.

The major activity of the crew of the Sausauimoana on these trips is bottom fishing and trolling outside the reef. This activity probably does not impact the fishery greatly, but could provide some valuable data on catches per unit effort and length-weight ratios from a fishery with little utilization. This data would seem valuable both to monitor the fishery at Rose Atoll and for comparison with data from the other Samoan Islands which has a fishery with an extremely high use. A fishery technician should be station on the ship to be sure the fishing effort is accurately recorded and to measure and weigh the fish when the ship is anchored during the day.

ACKNOWLEDGEMENTS

I wish to thank Paul Pedro and the crew of the Sausauimoana for their hospitality and help at the island. Fale Tuilagi and Edwin Seui aided greatly on the island with the collection of data which allowed us to do a much more thorough survey. I also wish to thank Peter Craig, Bonnie Ponwith, and Wayne Syron for their help and companionship during trip.

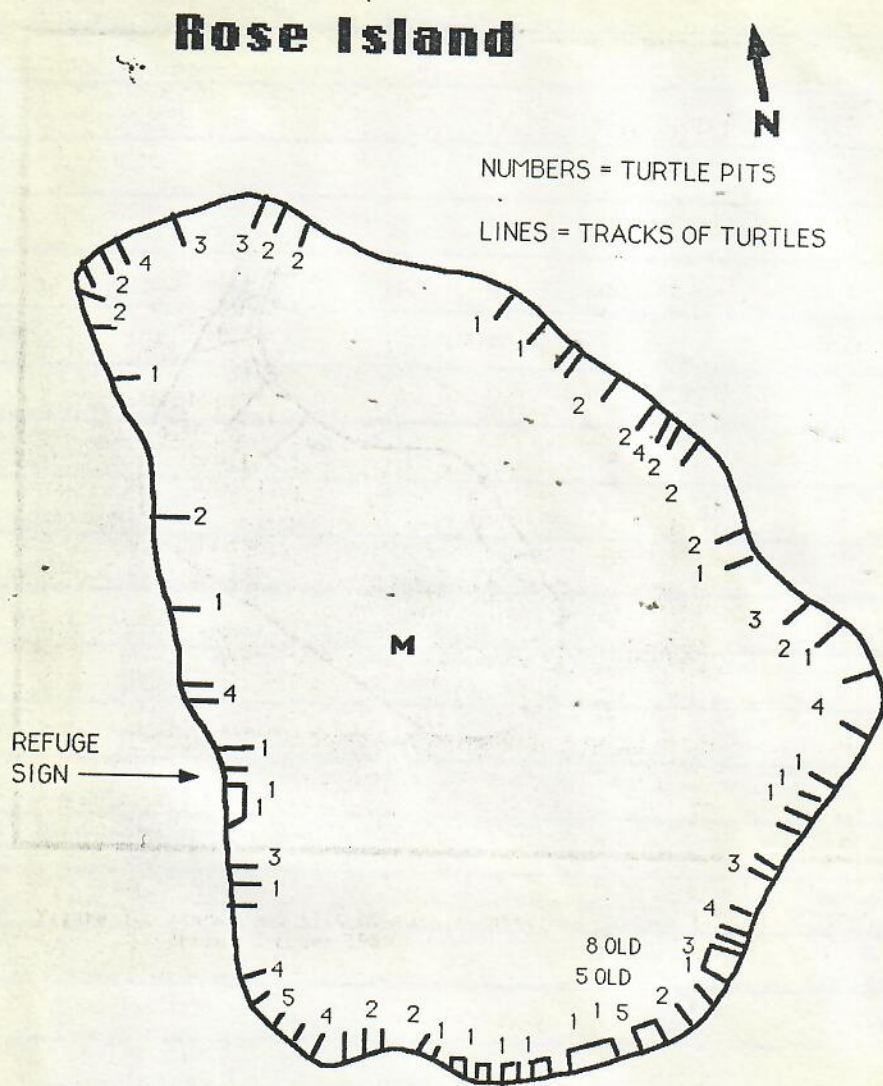


Figure 4. Tracks and pits of turtles observed at Rose Island on 24 October 1989.

TURTLES

Only one set of tracks, which led to what appeared to be a false pit, were observed on Rose Island upon arrival (Figure 1). A green turtle was discovered covering eggs at 0615 on 16 August. She had crawled up the beach into some low Tournefortia branches, dug a deep pit, moved one meter beyond it and dug a second pit. Upon arrival, she was using her back flippers to cover the eggs with fine sand. The false pit was by far the easier of the two to see after the actual nesting pit had been covered. It is possible that nesting pit counts done upon arrival to the island is an indicator of the number of false pits dug, not of actual nests. Carapace length was 101 cm, and the turtle was tagged with NMFS tags number 102 and 125 on the right front leg and number 103 on the left front leg.

N

N

B. Powwith Teacher's Workshop 8/14-8/19/90

Several nesting pits were found near the edge of the vegetation line around the island. One still bore a trace of the orange spray paint used to mark pits from the October 1989 trip, indicating that not all pits are washed away between nesting seasons.

The skull, several ribs and a plate from a dead green turtle were found near transect marker #31. The parts were collected and brought back to DMWR.

Five sets of tracks and 10 nesting pits were found on Sand Island (Figure 2.) One set of tracks looked very fresh. Since wind and wave action had been severe enough to remove nearly all the vegetation from the island, all old turtle pits would have been erased and thus, these 10 had been dug sometime between the February and August.

GECKO

A gecko was discovered in the turtle skull found at transect #31. It was the only one seen on this trip.

SAND ISLAND

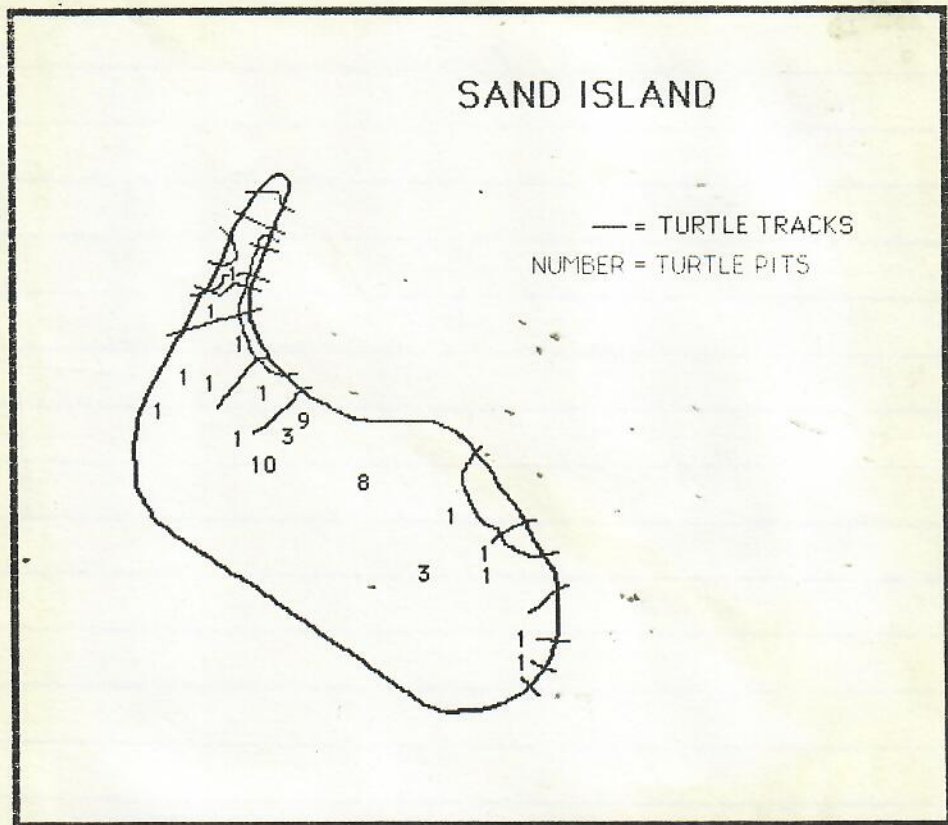


Figure 5. Tracks and pits of turtles observed on Sand Island, Rose Atoll during October 1989.

Rose Island

1989

Female

10632	Left front leg outer	10-25-89	Rose Is	Digging pits on beach but didn't nest.	37.5 in
10633	Rt Front leg				95mm
10634	Left front leg inner				
10635	Rt. front leg	10-26-89	Rose Is	Fd digging pit at 0430hr. Layed about 50 eggs and departed Island about 0530.	38.25 in
10636	Left front leg inner				97mm
10637	Left front leg outer				

From Doug Forsell

from Doug Forsell

1988

Female

- 6818 Left flipper
- 6819 R + inside
- 6820 R + between scute 1 + 2

front Left leg missing

Released - found outside
flots about 1000 hours
stranded by low tide.

Rose Is. Is.

from scute 7 outward, about 4" missing

CC 38 3/4" 98 cm

1988

Female

- 6821 Right ^{pkv} inside
- 6822 Left ^{pkv} inside
- 6823 Left between scute 1 + 2

Rose Is. Rose Atoll

38.25" 97cm

Found
Released found
digging on beach no
eggs laid.

Recovered
w/ 5 pieces
missing 2/1/92
Fij

ID numbers of new tags attached and any old tags already present ¹		Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude)	Activity of the turtle ³	Curved carapace length ⁴
Left front flipper	Right front flipper					
N107	N108	FEMALE CM	19 OCT, 1990 0030	ROSE ISLAND	LAYING EGGS	103cm
LEFT FLIPPER MISSING	TAG RECOVERY 5804HIMBMETAL	FEMALE CM	19 OCT, 1990 0010	ROSE ISLAND	RETURNING TO WATER	109 cm
N111	N109	FEMALE CM	29 OCT, 1990 0330	ROSE ISLAND	LAYING EGGS	101cm
MISSING	TAG RECOVERY 5804 HIMB METAL	FEMALE CM	30, OCT, 1990 2105	ROSE ISLAND	ATTEMPTING TO NEST	109cm

ID numbers of new tags attached and any old tags already present ¹		Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude)	Activity of the turtle ³	Curved carapace length ⁴
Left front flipper	Right front flipper					
N107	N108	FEMALE CM	31 OCT 1990 0500	ROSE ISLAND	ATTEMPTED TO NEST	103cm
MISSING	5804	FEMALE CM	1 NOV, 1990 2100	ROSE ISLAND	LAYING EGGS	109cm
MISSING	5804	FEMALE CM	12 NOV, 1990 2115	ROSE ISLAND	ATTEMPTED NESTING	109cm
N111	N109	FEMALE CM	20 NOV, 1990	ROSE ISLAND	ATTEMPTED NESTING	101cm
ID numbers of new tags attached and any old tags already present ¹		Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude)	Activity of the turtle ³	Curved carapace length ⁴
Left front flipper	Right front flipper					
N107 tag missing replace with N112	N108	FEMALE CM	22 NOV, 1990 2315	ROSE ISLAND	LAYING EGGS	109cm

Therefore, it seems likely to me that these tracks were laid down between 18 January and 6th of February. There was no onshore turtle activity while we were on Rose Island, nor were there any signs of hatchlings.

There were 8 sets of post-storm tracks on Sand Island. Two sets showed that the female dug 2 or 3 pits than moved 3 - 6 m before digging 2 or 3 more pits, then she went back to sea. I did not see this on Rose Island on this trip. There were 20 pits associated with the tracks. The time the turtles come on shore is the same as Rose. There were no pre-storm tracks or pits on Sand Island.

GECKOS:

A single mourning gecko was observed on the underside of a Pisonia leaf about 1 m off of the ground.

INSECTS:

It appeared to me on this trip that there were many more flies and ants present than there were in November. This is probably due to the increased amount of decaying flesh and leaf litter. On one night I suffered from many ant bites, something that did not occur in November. Also the downed *Turnefortia* created a spider web paradise.

MAMMALS:MARINE:

Three porpoises (genus and species unknown) were observed just outside the reef while the SAUSAUWANA was trolling around the outside.

RATS:

Rats were observed on all parts of Rose Island, including foraging on the beach and in the Pisonia canopy. No rats were observed on Sand Island. Rats were seen in numbers at all times of the day and night, there was a slight decrease in activity during midday.

Trapping success was higher than in November (Table below and attached data sheets).

RESULTS by SPECIES:TURTLES:

Upon landing on Rose Island, we walked around the island mapping all turtle tracks (fig. 1). There were four sets of tracks with 10 pits that were clearly post-storm (slide 6). There were also six sets of pre-storm tracks (slide #7). These latter tracks were all mapped during the November trip, two sets were laid down while we were. All of these tracks were faint and very washed out; to me they appeared as "last seasons" tracks. It is possible these tracks will not be visible by next October. Some old pits were still discernible.

The post-storm tracks showed some signs of wash out; i.e., different colored rubble on the bottom and rounded edges. There had been a large low pressure system generating winds and heavy rains on Tutuila and the Manu'a Islands for several days, ending on 7 February. I found evidence of recent heavy rains in the form a pool of freshwater in the hollowed-out base of a Pisonia tree.

12-16 FEB. 87

DAVID ITANO

PAGES

Turtle next in Jan + Feb?



Rose Atoll National Wildlife Refuge.

Page 10.

Table 1 - Rats caught, number in parenthesis is % of traps set.

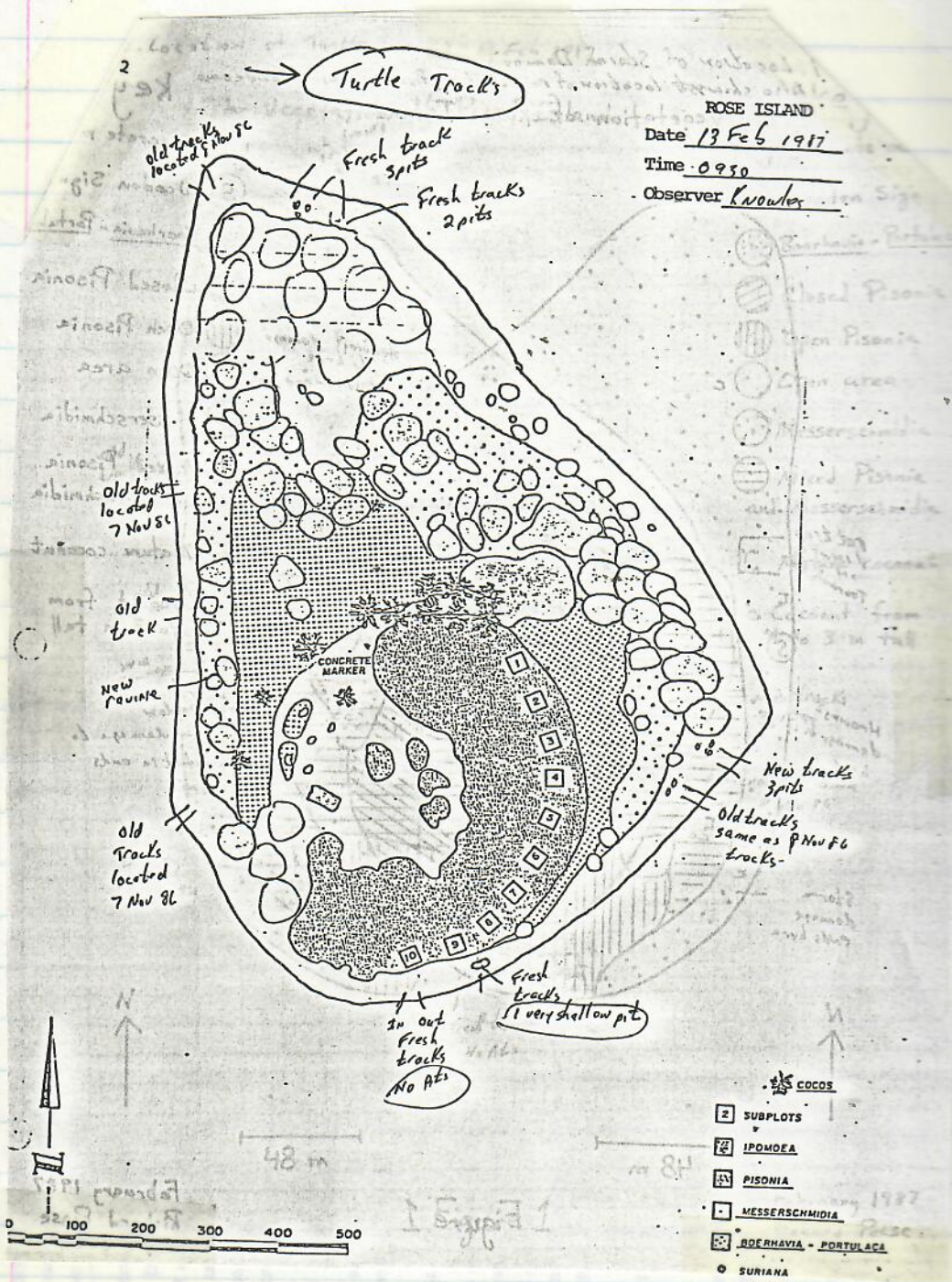
DATE:	PISONIA:	TOURNEFORTIA:	TOTAL:
November 8-'86	53 (72)	4 (31)	57(66)
" 9-'86	37 (51)	5 (42)	42(49)
" 10-'86	29 (40)	3 (23)	32(38)
February 14-'87	62 (98)*	19 (76)	81(92)
" 15-'87	47 (77)	17 (80)	63(79)

* Includes two rats caught in one trap.

As in November, all traps had the bait removed. This time however, there was only one hermit crab caught, (0.6% of traps set) as compared to 16 (6%) in November. The ratio of identifiable males to females was 4♂ to 3♀, roughly the same as November. Of the 135 rats caught 21 (16%) were completely eaten with only fur and long bones remaining and 5 (4%) were partially eaten. I did observe rats feeding on trapped rats' corpses while doing the night white tern count. Finally, there was one rat who was caught only by the tail; it escaped when I picked up the trap. How the rat managed to do this is a mystery, but it may partially explain the number of sprung traps without a rat.

The use of trapping success as a population index is useful, but one must be careful to check for other explanations for any changes that may have occurred. There are three possible explanations: that the results are due to the exclusive use of Victor rat traps, that there was a significant population increase, or that there was an increase in trappability of the rats.

As Hu reported in ^{his} report for the November ^{11/86} trapping, there was a significant difference in the number of sprung traps with no bait and no rat between the McGill and Victor traps (Hu 1987). On this trip we used the better Victor traps exclusively. I do not believe this is the explanation because in November, of the total number of Victor traps set 19% had no bait no rat compared to 14% in February and because of the greatly increased trapping successes in the Tournefortia. Also, in February, 6/25% of the no bait rat traps were found in the same area on the same morning. This suggests a rat particularly adept at removing bait without getting caught.



Tom & Jim Murphy

SEA TURTLE TAGGING FORM

ID numbers of new tags attached and any old tags already present ¹		Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude) ³	Activity of the turtle ⁴	Curved carapace length ⁵
Left front flipper	Right front flipper					
N225	N224	♀ CM	8/30/91 9-10:30 AM	Rose Atoll	Dug 1 False PIT - returned to ocean	94cm
N222	N223	♀ CM	9/8/91 2230	77	Turtle had dug A. Number of false pits → 9/9/91 observed laying egg	98cm
N-221	N-220	♀ CM	9/8/91 0100	77	laid eggs	95cm

TOM MURPHY
8/30/91
9/8/91

¹If old tags are present, please carefully record the ID number and the complete address inscription. Indicate if the tag is made of metal or plastic. Use the back of this form if more space is needed to provide details on each turtle handled. Two tags should be applied to all turtles handled.
²CM = *Caretta caretta* (green turtle), EI = *Eretmochelys imbricata* (hawi-shill), CC = *Caretta caretta* (loggerhead), LO = *Lentochelys olivacea* (olive ridley), DC = *Dermochelys coriacea* (leatherback), ND = *Natator demissa* (Australian flatback).
³Activities include (for example) nesting on the beach, swimming or resting in the sea, injured or found sick, etc.
⁴Measured with a flexible tape along the curvature of the midline of the upper shell (carapace).

Tom Marshall
 Name and address of person filling out this form:
 Dept Marine & Wildlife Resources
 P.O. Box 3730
 Pago Pago

Refuser To: G. Balazs
 HONOLULU LABORATORY
 Southeast Fisheries Center
 2250 Ruggles Ave.
 Honolulu, HI 96822-2396

See p. 80-81

SEA TURTLE TAGGING FORM

NATASIKA
BAETLEY

ID numbers of new tags attached and any old tags already present ¹		Species ² and sex (if known)	Date and time	Place-name location (or latitude and longitude)	Activity of the turtle ³	Curved carapace length ⁴
Left front flipper	Right front flipper					
N-253	N-254	CM ♀	9/24/91 1900	Tutuala (Masauai)	Coming ashore to lay eggs	97 cm
N-170	N-168	CM ♀	12-21-91 1930	Tutuala (Tuala)	Coming ashore to lay eggs	91 cm

16 March
93
daytime
visit
only

Kiso Sooto and Gilbert Grant joined the crew of the USCGC Sassafras at 1300 on 15 March 1993 in Pago Pago. We departed at about 1400 for Rose Atoll. Birds of interest seen along the way: 5 Bridled Terns about 2 miles south of Fagaitua, Tutuila, 1 Christmas Shearwater 5 miles east of Tutuila, 1 Audubon's Shearwater and 1 Christmas Shearwater about 10 miles east of Tutuila, 2 Christmas Shearwaters about 14 miles east of Tutuila, 16 Tahiti Petrels and 1 Herald Petrel about 20 miles east of Tutuila, 1 Audubon's Shearwater about 25 miles east of Tutuila, and 1 Audubon's Shearwater about 35 miles east of Tutuila.

Rat Eradication

We arrived on Rose Island the morning of 16 March 1993. We rebaited 31 rat poison bait stations (and replaced wooden dowells where needed) with weatherblock. All of the stations were empty when found. We saw no signs of rats. Perhaps a dozen sooty terns eggs were found with punctures (not gnawings), probably done by the flock of 8 ruddy turnstones on the island (no bristle-thighed curlews were present). Vegetation was recovering nicely and showed no signs of rat predation.

Turtles Tracks ATS

We walked the perimeter of Rose Island and mapped existing turtle crawls and scrapes. We tabulated twelve crawls, with 28 pits. We erased these tracks with a rake to facilitate counts to be made on the next trip to Rose. On the south side of Rose near station #93 we found a dead green turtle on a scrape. She was probably the turtle reported freshly dead in late October 1992 by Capt. Paul Pedro. It had no tags. No scrapes or pits were found on Sand Island.

Vegetation

Because of the lack of time and inclement weather we did not photograph the vegetation plots. Noticeably more vegetation was present in most areas, especially Boorhavia and Tournefortia. The three new plant colonist discovered in September 1992 by Steve Barclay and Gilbert Grant had not survived. The shape of the south beach was changed by winter storms and destroyed the Ipomoea pes-caprae there. The grass and bean vine were not present either. Only 2 of the coconuts on Sand Island were still alive--perhaps a foot of fill had been deposited on the center of Sand Island.

Birds

We did not have adequate time to accurately census the birds on Rose Island. However, we did see the following: Red-tailed

Tropicbird (10 on eggs, 1 with chick), Masked Booby (2 on eggs, 15 with chick), Brown Booby (4 with eggs, 30 with chicks), Red-footed Booby (30 on eggs, 300 on chicks), Frigatebird sp. (1 on chick), Black Noddy (2 with chicks), Brown Noddy (40 on eggs, 11 on chicks), White Tern (1 with chick), and Sooty Tern (2500+ on eggs, 350+ with chicks). On Sand Island we saw 6 Gray-backed Terns (no evidence of nesting) and 11 Brown Noddies on eggs. Other birds seen were 6 Golden Plovers and 8 Ruddy Turnstones.

Status of Sailboat

Early October 1992 a sailboat ran aground on the north side of the reef near the entrance. The bow of the boat was now resting on the top of Sand Island and the remainder was about 150 feet north of Sand Island on the reef. The mast was not present.

We left Rose the evening of 16 March 1993 (sea conditions did not allow a second day on Rose). We arrived in Ofu about 1100 on 17 March and caught the next available flight (18 March 1993) back to Pago Pago.

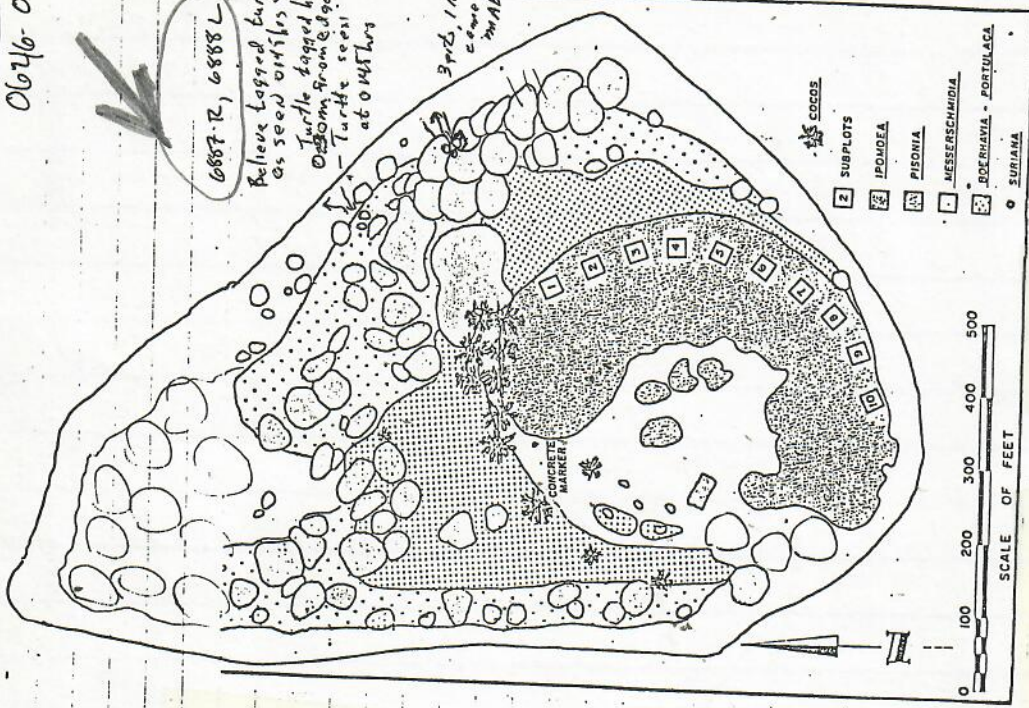
Gilbert & Grant
March 1993

AVOK BE

7-10 NOV 1986
DARCY HU, FWS

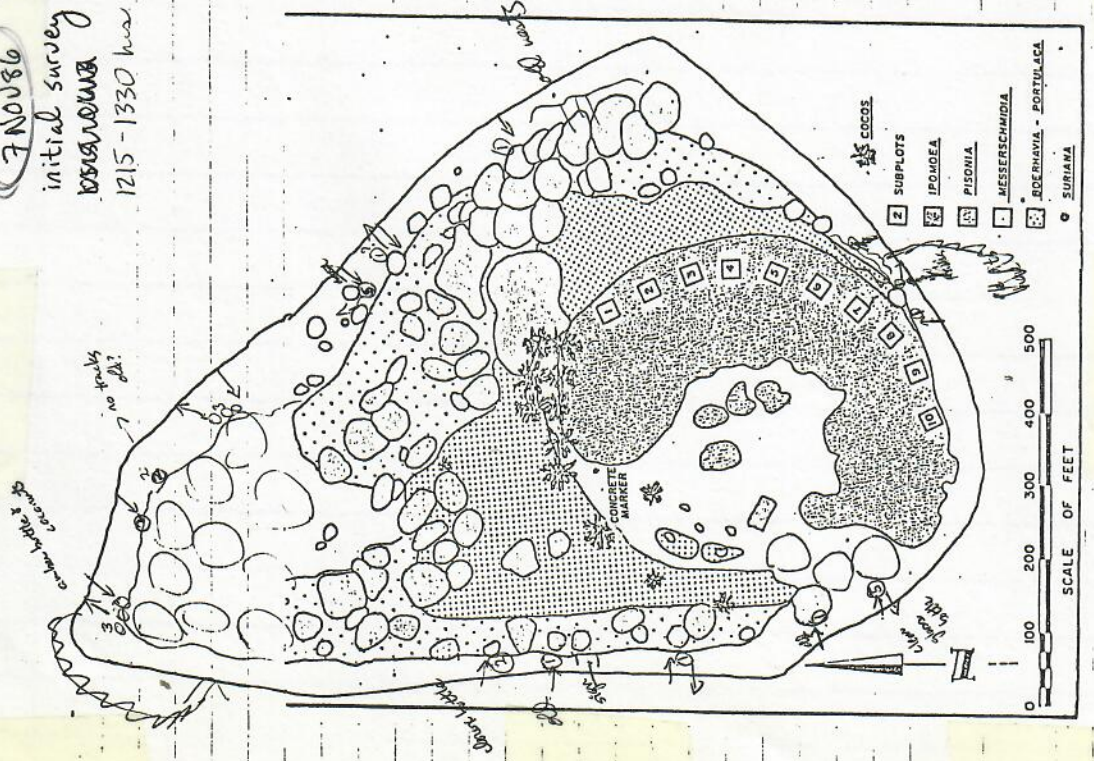
9 NOV. 86
06246-0734

6887-R, 6888-L, 101 cm circumference
Believe tagged turtle is same as seen with us in that night
Turtle tagged here
0.50m from edge of reef
Turtle seen at 0415 hrs
Sprts, 1687-23 small eggs in low zone
MAB, MOST
They are probably same animals



9 NOV. 86

7 NOV 86
initial survey
1215-1330 hrs



7 NOV. 86

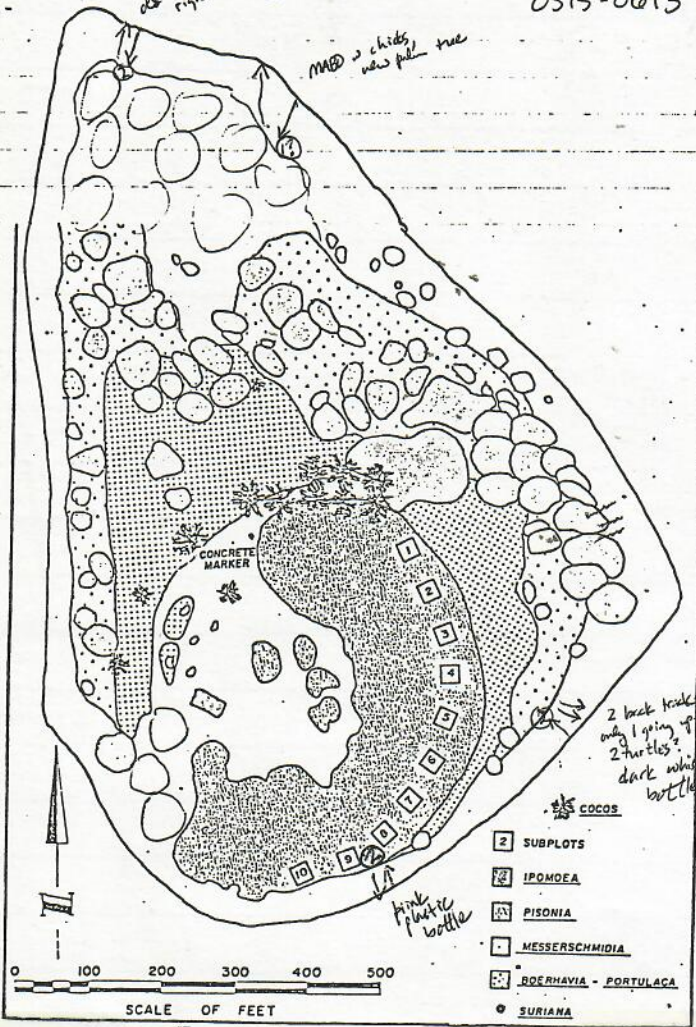
8 NOVEMBER 86

2

8 NOV 86
0515-0613

all tracks right by these (green bottles)

MED -> chicks
was full tree



2 back tracks
only 1 going up
2 further?
dark whiskey
bottle

pink plastic
bottle

10/19/85
15:07
18:20

Green Turtle

(684) 633-4456 OMR

DARCY HU - FWS

We walked around the island upon our arrival, mapping all visible turtle tracks and pits. We repeated this each subsequent morning, looking for new tracks. We also circled the island at least once after dark each night, usually at and around low tide. At 0145 on 9 Nov. we saw a large turtle resting under Tournefortia on the NE shore of the island. It was gone when we returned at 0215. Then at 0700, we tagged a 101cm long (curved carapace length) female that we spotted out on the NE reef flats: 6887 R, 6888 L. This may have been the same individual that dug one large and 2 small pits on that shoreline sometime earlier that morning. I don't know if this was the same turtle that we saw up on the beach.

CCL 101cm
6887
6888

1986

Morning of	sets	of pits
8 Nov	4	4
9 Nov	2	2
10 Nov	0	0

On 9 Nov we counted 8 relatively recent tracks on Sand Island. By following the tracks, we attempted to determine the number of pits made during one emergence from the water. We counted only those tracks and pits in which the disturbed sand was still colored differently from the rest of the substrate. I don't know how long it takes for such sand to bleach white.

Mammals

Humpback whale: one whale surfaced and tail slapped just outside the reef while we were off loading onto Rose Island on Nov. 7.

Polynesian rat (Rattus exulans): rats were abundant and active in all vegetated parts of Rose Island. We set 73 snap traps in the Pisonia, using the 2 established transects as rough guides, and set an additional 13 traps in Tournefortia adjacent to the northwest beach (running inland beginning

7

approx. 60m north of wooden refuge sign). Traps were baited with raw coconut and set, unstaked, each of the three evenings at or just before dusk. We checked them the next morning, springing all un sprung traps and removing dead rats. We recorded trap brand (Victor or McGill), sex of the rat, or whether the trap was sprung, still baited, or had caught something else (usually hermit crabs). We did not record brand or sex on the first morning's check.

Total number of rats trapped. Numbers in parentheses are % of the total number of traps set.

	<u>Pisonia</u>	<u>Tournefortia</u>
8 Nov.	53 (72)	4 (31)
9 Nov.	37 (51)	5 (42)
10 Nov.	29 (40)	3 (23)

In Pisonia, the catch decreased each night. The sample size in Tournefortia is too small to show any clear trend. However, the lower catch percentages there conform to my impressions of less rat activity in this habitat than in the Pisonia and dense Tournefortia towards the interior. This also confirms that rats are active even in beach heliotrope lacking any soil or leaf cover underneath.

The following table summarizes the sexes of rats caught in Pisonia the second and third trap nights. A chi-square test on the totals for both nights revealed no significant deviation from a 50:50 sex ratio. Because of the small sample size, Tournefortia data are not examined here.

Sexes of rats trapped in Pisonia.

	male	female	total
Nov. 9	19	17	36*
Nov. 10	19	9	28*
Total	38(59%)	26(41%)	64

* excludes one rat of unknown sex.
 $\chi^2 = 2.26$; H_0 accepted: rats were trapped from a population having an equal sex ratio.

Victor traps were more effective than McGills, according to tallies of the 2nd and 3rd nights' trapping. Although exclusive use of Victors may render future trapping surveys not strictly comparable to this one, I recommend them. At a minimum, brands of traps should not be mixed.

Total counts combined from Nov. 9 and 10. Numbers in parentheses are percentages.

	no bait,	total #
	no rat	of traps
Victor	13 (19)	49 (73)
McGill	56 (72)	16 (21)
		67
		78

Juvenile hawksbill tagged
by Wass & ~~ADD~~ ADD
= 11/81 43cm

105

Fiji
RECOVERY

No.	Date	Tag Nos.*	Carapace length, cm		Researcher
			curved	straight	
✓ 1	11-3-71	1080, 1080	-	-	EK
✓ 2	11-3-71	1081, 1081	-	-	EK
✓ 3	11-10-80	3502, 3503	-	-	GB
✓ 4	11-10-80	3504, 3505	111	-	GB
✓ 5	11-12-80	3506, 3508	-	-	GB
✓ 6	11-12-80	3509, 3510	104	-	GB
✓ 7	11-12-80	3511, 3512 3514	104	-	GB
✓ 8	11-18-81	5804, 5805	106	-	GL
✓ 9	11-19-81	5807-5808	94	-	GL
✓ 10	11-20-81	5809-5810	106	-	GL
✓ 11	10-7-82	5818, 5819 5820, 5821	-	105.1	GB
✓ 12	10-7-82	5822, 5823 5824, 5825	-	96.2	GB
✓ 13	10-9-82	5788, 5789 5790	100.2	95.6	GB
✓ 14	10-10-82	5791, 5792 5793	108	-	GB
✓ 15	10-12-82	5794	98	-	GL
✓ 16	10-13-82	5797, 5798	99	-	GL
✓ 17	10-13-82	5799	94	-	GL

*All tags applied by GB and GL are inscribed with the return address: "WRITE UNIVERSITY, HAWAII, 96744". Tags applied by EK read: "BUREAU WILDLIFE, KAILUA HAWAII".

**GB - George Balazs; GL - Gerald Ludwig; EK - Eugene Kridler.

	Date	Time of Day	Right Tag No.	Left Tag No.	Carapace Length (curved-line method)	
✓ 1	10-23-84	1930	6877	6876	102.5 cm	RW
✓ 2	10-24-84	2100	6879	6878	106 cm	RW
✓ 3	10-26-84	0600	6880	6881	110 cm	RW
✓ 4	10-26-84	0615	6882	6883	102 cm	RW
✓ 5	10-26-84	0630	6884	6885	92 cm	RW

RW - Dick Wass

TAGS TAKEN -
6876-6900 (25)
+ knife & regular pliers & instructions -
Requested turning over to tag.

TAGS Returned = 6886-6900 (15)
11/84

GREEN SEA TURTLE OBSERVATIONS -- ROSE ATOLL NWR

1984 - Dick WASS

At approximately 0530 each morning we circled the island on the beach to count fresh turtle tracks indicative of nesting attempts during the night. ^{For some mornings} the counts ~~are probably~~ ^{are probably} lower than the actual number of attempts as it is likely that some tracks were obliterated by incoming tides. This is certainly true for the morning of the 23rd when the high tide occurred simultaneously with the survey ^{erasing} all tracks. Counts for the other mornings were as follows:

October 22 - 4

October 24 - 7

October 25 - 11

October 26 - 11

The period of our survey coincided with the new moon and very high tides. These are probably optimal conditions for nesting and likely account for the relatively large amount of nesting activity observed.

Nest pits were counted on both Rose and Sand Islands. Only those pits that appeared to be relatively fresh (less than 3 months old) were counted and if one turtle had obviously made several pits, all were counted as one. A total of 73 pits were counted on Sand Island and 100 pits on Rose Island (84 pits on the ocean side and 16 pits on the lagoon side).

Five turtles were double tagged during our stay. ^{on the evening of the 23rd} one was tagged after knocking down a tent erected on the beach. An attempt had been made to turn it away from the tent ^{by tagging on its flipper, and} ~~and it was headed back into the water.~~ lights had been flashed ^N in its eyes, and ^{Three days later} it was observed laying eggs and ^{as discovered} nesting successfully 3 days later. A second ^{one} was also tagged in the evening when it ^{was discovered} returning to the water after an unsuccessful attempt at nesting. The other three were tagged just after daybreak as they were returning to the water. Tagging data are as follows:

11/93

ROSE ISLAND

ALL THIS
Bare of vegetation
from Hurricane
"Val" 12/91

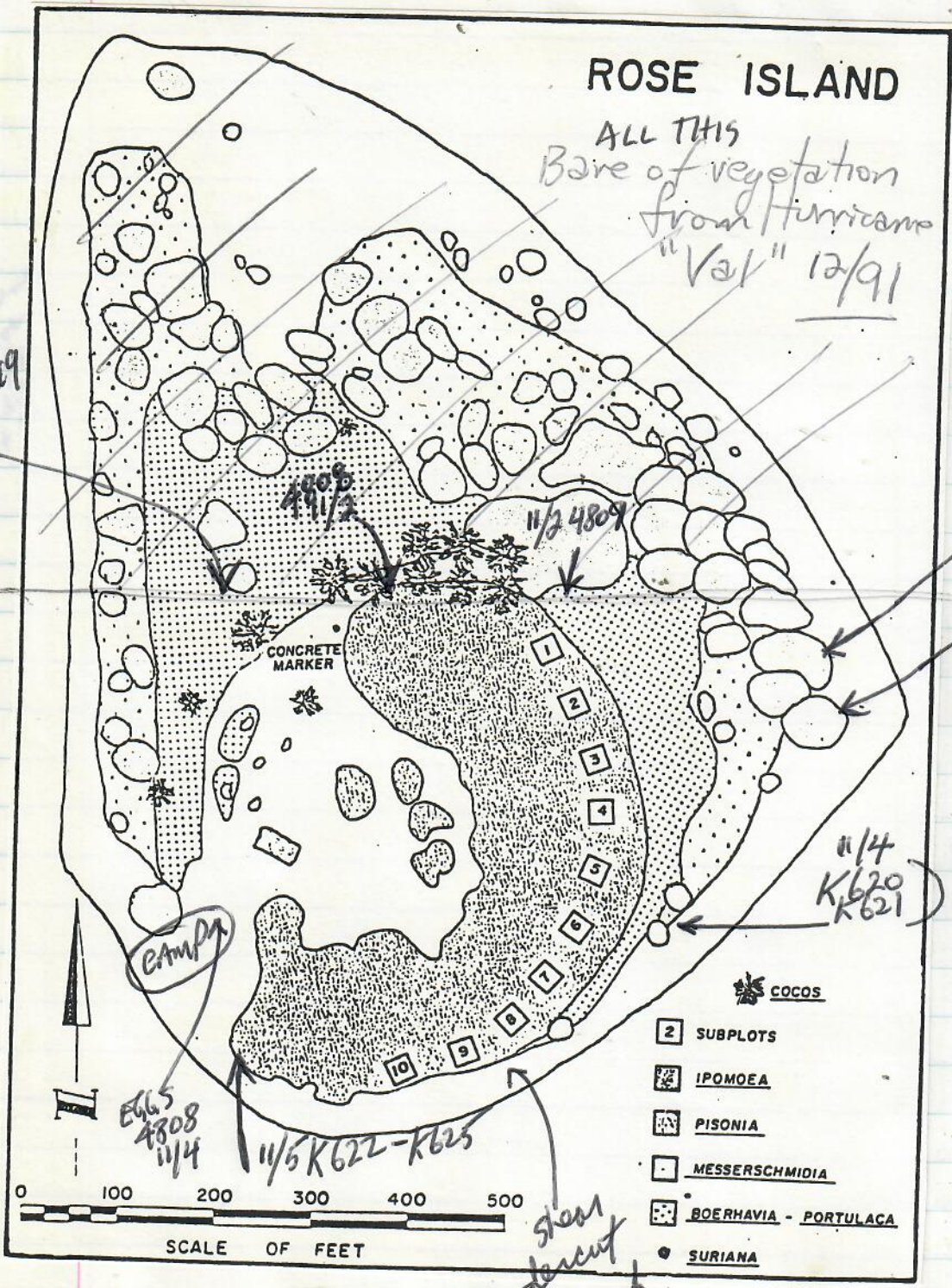
11/4
K618 K619

11/3 (K610
K612)

11/3
4807
FLATTISH

11/4
K620
K621

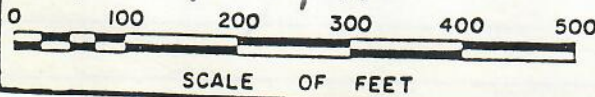
IN PISONIA
ROOTS



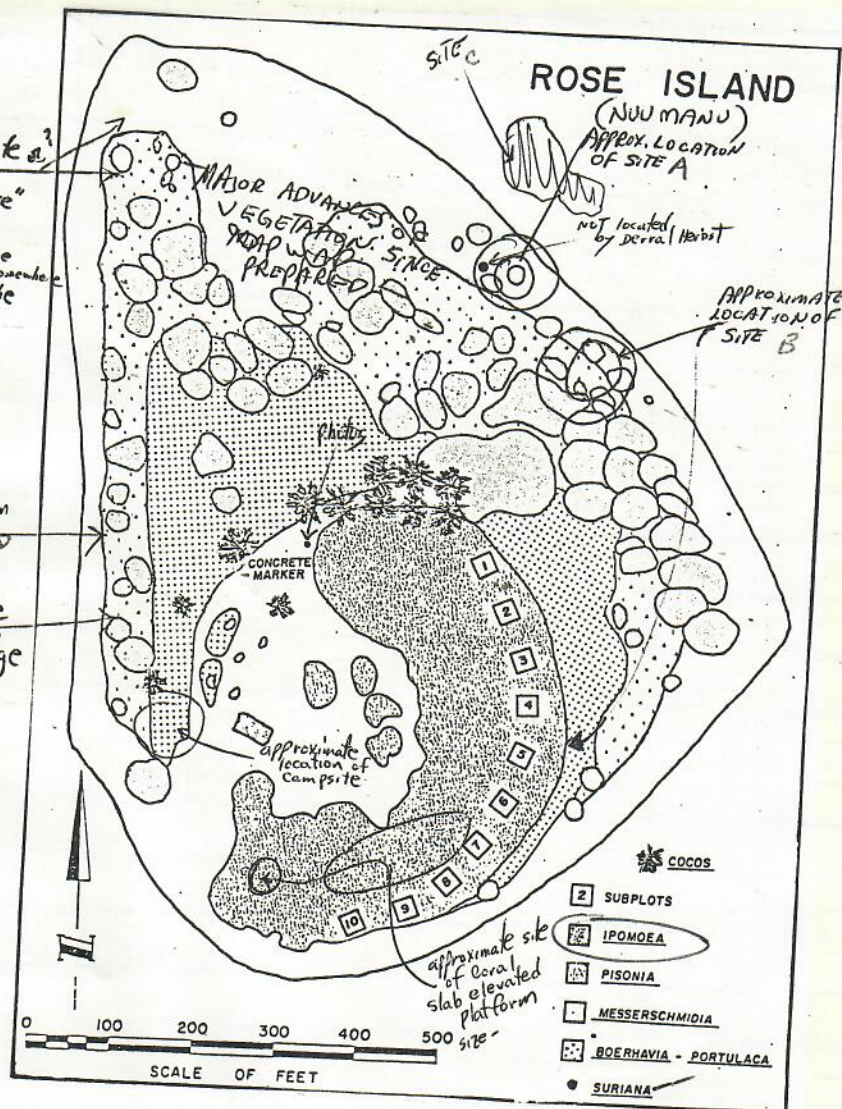
EGGS
4808
11/4

11/5 K622-K625

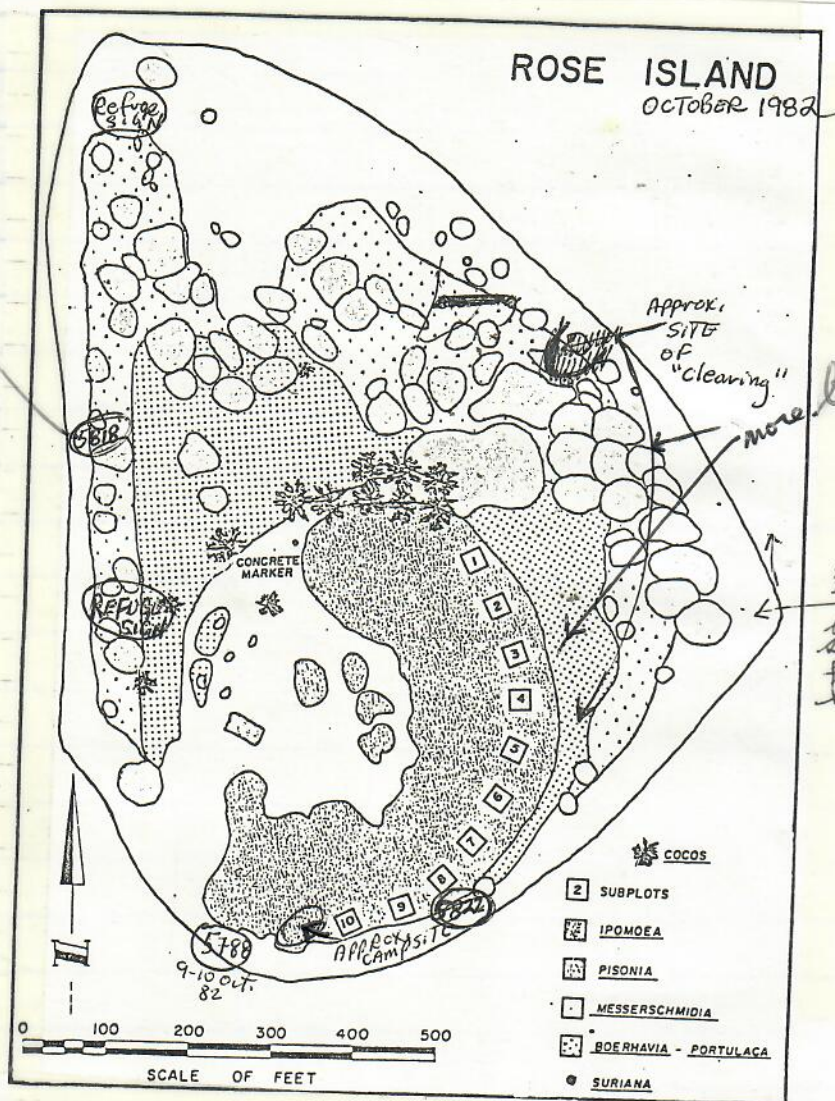
stem
undercut
benchmark



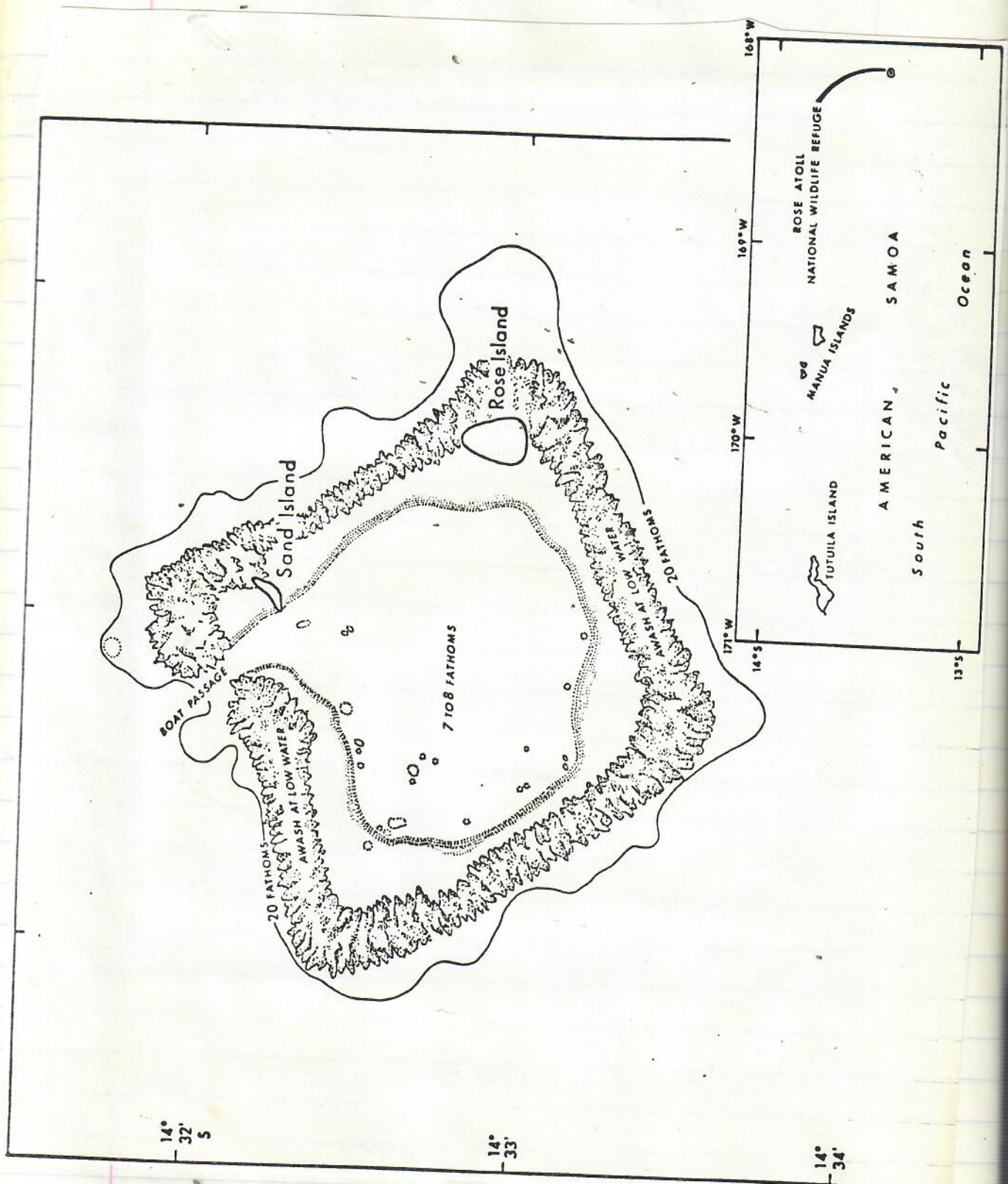
- 2 SUBPLOTS
- IPOMOEA
- PISONIA
- MESSERSCHMIDIA
- BOERHAVIA - PORTULACA
- SURIANA



Pisonia greatly increased since this map was drawn from a 1975-76 aerial photo by B. Amersen.



Same turtle
recovered
10/86,
but didn't
nest here

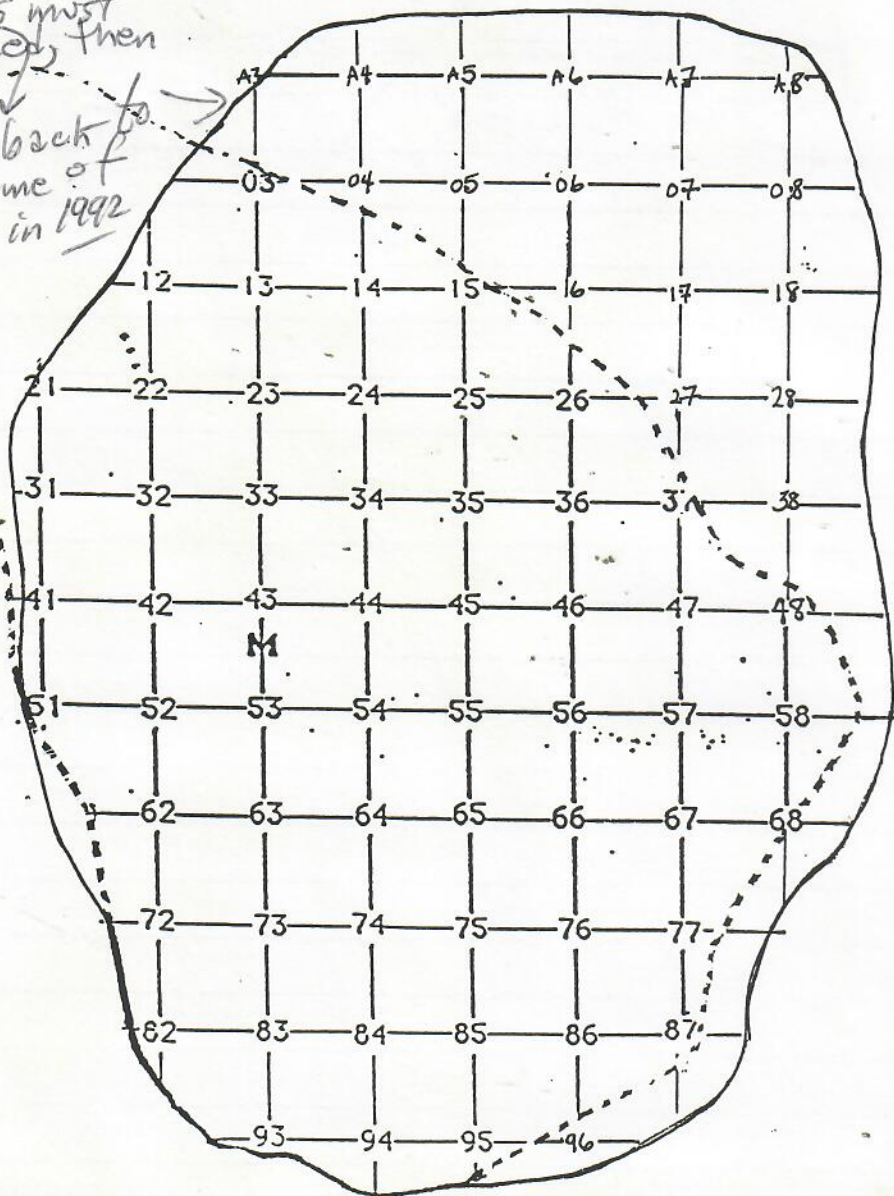


ROSE ISLAND SAMPLING GRID - 1992

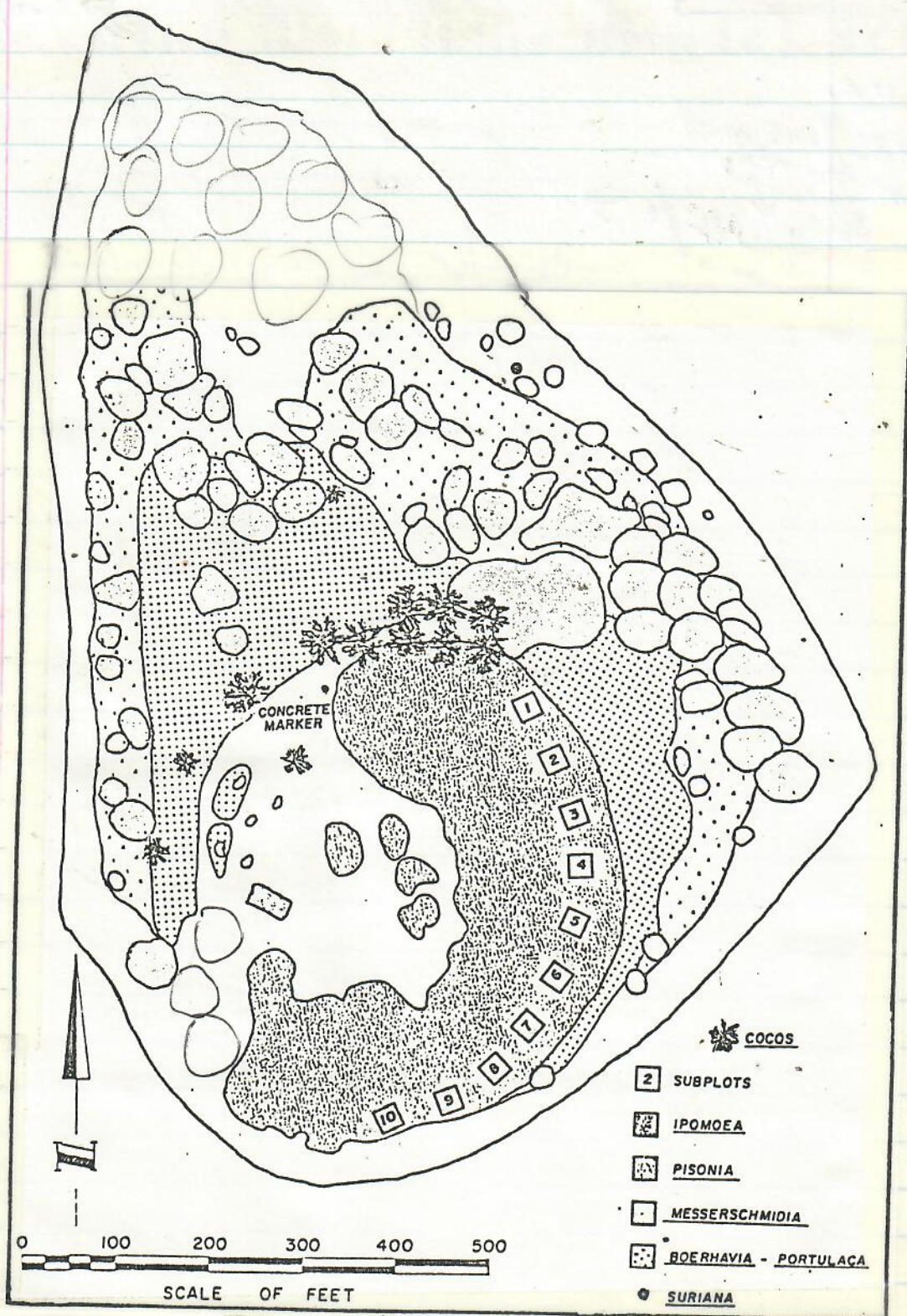
If true,
>1986 This must
have formed then

returned back to
by the time of
survey in 1992

from Beth Hunt



30 meters

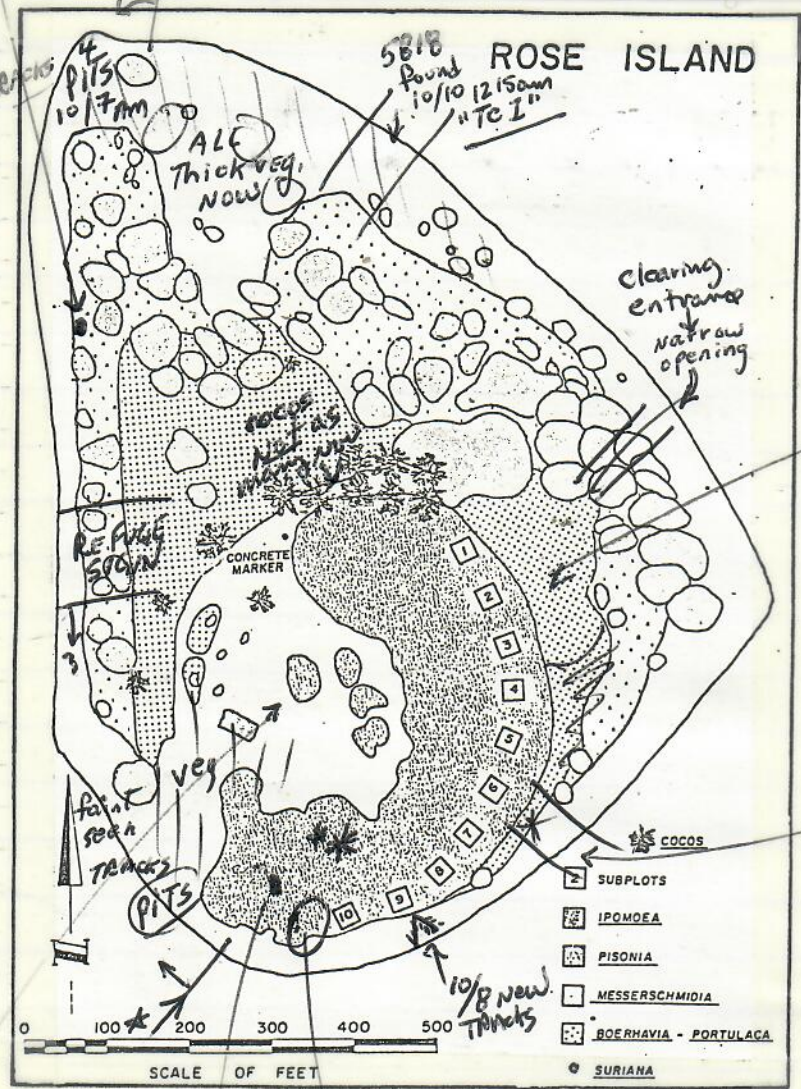


Sign - Single post Refuge
2 steel emblems

THIS AREA BETWEEN STARS & ARROWS HAS A SMOOTH SLOPING BOTTOM
MAKING IT POSSIBLE FOR TURTLES TO COME ASHORE AT TIME OTHER
THAN HIGH TIME. REMAINING EASTERN EDGES OF ISLAND HAVE
SHALLOW CORAL ROCK + ELEVATED BLOCKS.

10/7
Cop.
Turtles
Am

seam
faint



unusual clearing -
why doesn't
anything
ever grow
here??
except
low green
(like at
Sand Is.)

5818 RE-
EMERGED
~ 2-3am
10/10
3 PIT,
Possibly one
good. Down
~ 6 AM

APPROX.
1986 CAMP SITE

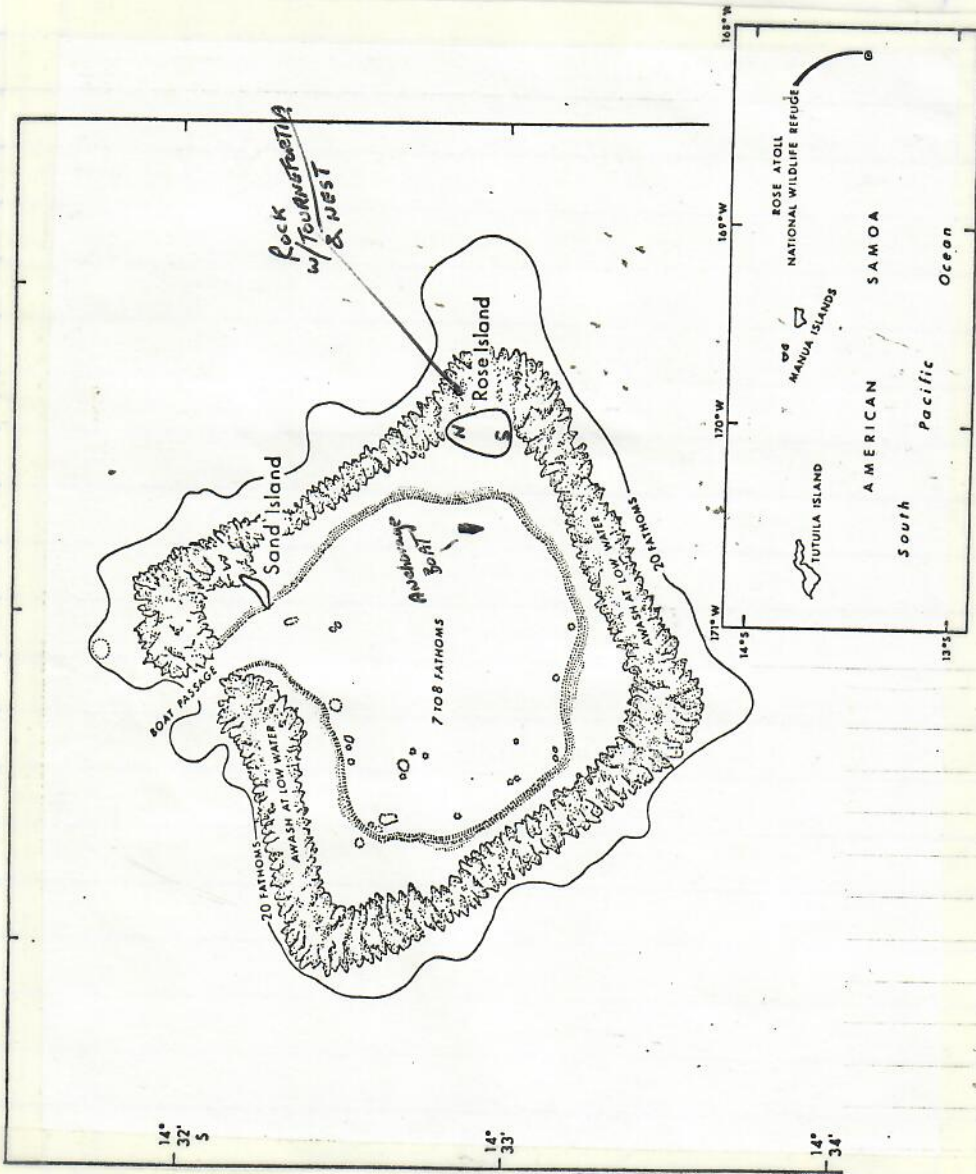
This whole open
area now
Tune fortis

STONE
PLATFORM

NORTH

EAST

SOUTHEAST TRADEWINDS



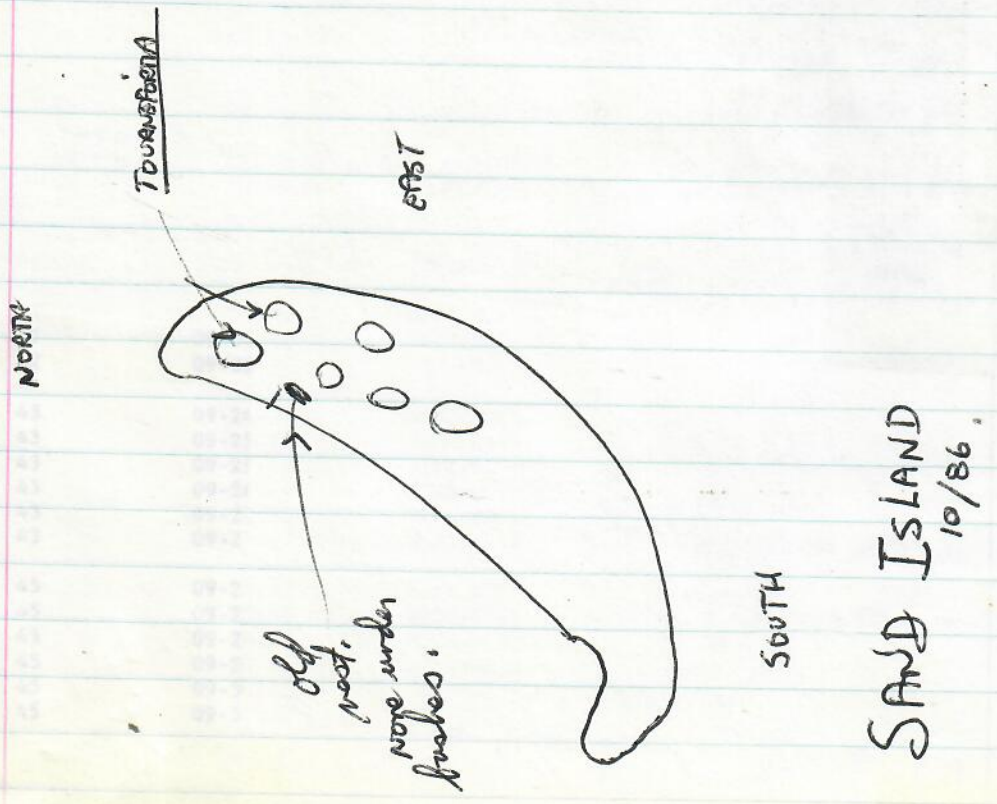
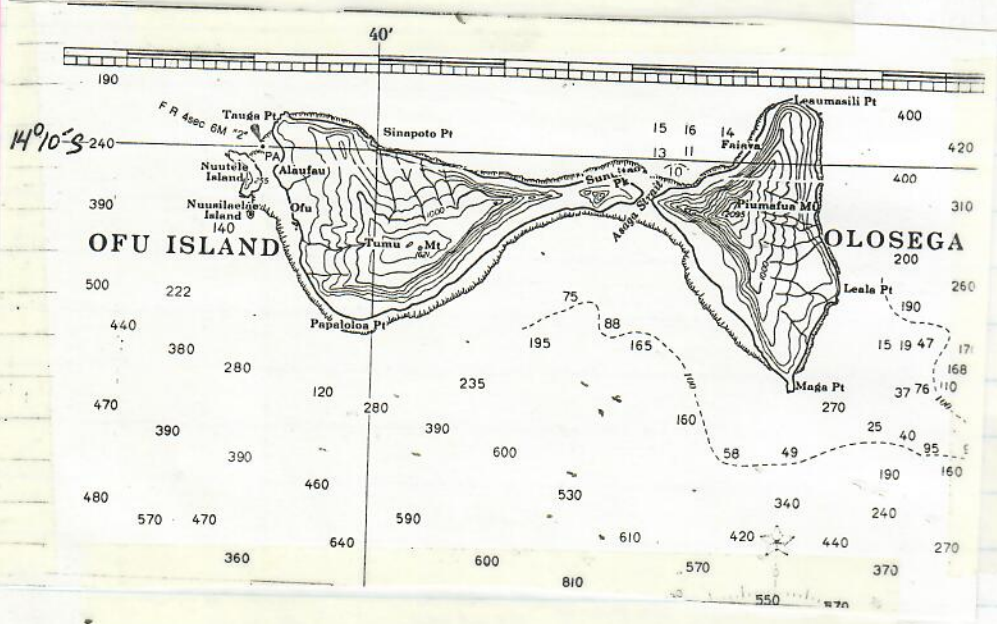
WEST

SOUTH

Sign of bird's nest
Single bird's nest
2 birds' nest

1000'

Handwritten notes and sketches on the right side of the page, including a scale bar and various markings.



Sea turtle tagging

23 Aug 90

Tags N105 + N106 (one on each front flipper)
 Hawkbill ♀ 42 cm shell length (round), 23 Aug 1990

Vaisa Pt. (near Tafua Cove on N. side Tutuila)

- Afono resident caught it while diving + brought it to DMWR office for tagging, then release at some site. He was advised ~~to~~ it is best ~~not~~ to let turtles alone.

- Said some turtles still nest in bays near Afono. (esp. Amalan, also Oa)

Tom Morrell
 Dept Marine & Wildlife
 American Samoa

tag N 104 - (misfire), not used.

ROSE ATOLL DATA
SUMMARIZED
BY
G. H. BALAZS

117

# ON REPORT	DATE	TAG #S	PAGE IN BOOK	TOTAL
9	11-03-71	1080/1080	105	
9	11-03-71	1081/1081	105	2
26	11-10-80	3502/3503	105	
26	11-12-80	3504/3505	105	
26	11-12-80	3506/3508	105	
26	11-12-80	3509/3510	105	
26	11-12-80	3511/3512/3514	105	5
27	11-18-81	5804/5805	105	
27	11-19-81	5807/5808	105	
27	11-20-81	5809/5810	105	
27	11-81 (HAWKSBILL)	5801	105	3 (+1)
29	10-07-82	5818/5819/5820/5821	105	
29	10-07-82	5822/5823/5824/5825	105	
29	10-09-82	5788/5789/5790	105	
29	10-10-82	5791/5792/5793	105	
29	10-12-82	5794	105	
29	10-13-82	5797/5798	105	
29	10-13-82	5799	105	7
30	10-23-84	6876/6877	105	
30	10-24-84	6878/6879	105	
30	10-26-84	6880/6881	105	
30	10-26-84	6882/6883	105	
30	10-26-84	6884/6885	105	5
34	11-09-86	5818, 5820, 5821, 5822, 5823, 5824, 5825	100/102	1
36	10-12-88	6818/6819/6820	91	
36	10-13-88	6821/6822/6823	91	2
38	10-25-89	10632/10633/10634	85	
38	10-26-89	10635/10636/10637	85	2
39	08-16-90	N102/N103/N125	B. Bonswith paper	1
40	10-19-90	N107/N108	92	
40	10-29-90	N109/N111	92	2

coll mem
6917
checked
10/10/86
p12

10/10/86

10-10-86
GHB
coll mem
5818, 5820, 5821, 5822, 5823, 5824, 5825
12
RFL
New

# ON REPORT	DATE	TAG #S	PAGE IN BOOK	TOTAL
42	08-30-91	N224/N225	97	
42	09-08-91	N222/N223	97	
42	09-08-91	N220/N221	97	3
43	09-24-91	N152/N153	81	
43	09-25-91	N154/N155	81	
43	09-25-91	N156/N157	81	
43	09-26-91	N158/N159	81	
43	09-27-91	N160/N161	81	
43	09-27-91	N162/N163	81	6
45	09-21-92	N126/N127	24	
45	09-23-92	N130/N131	25	
45	09-23-92	N128/N129	25	
45	09-29-92	N132/N133	25	
45	09-30-92	N134/N135	25	
45	09-30-92	N136/N137	25	6
TOTAL				45 + 1

11 December 1993

Dear George,

NOV 93

Thank you for the encouraging letter and article about turtles in Alaska. Here is the results from the Rose Atoll sample you wanted.

11-05-93 American Samoa, Rose Atoll outer reef

Reef
collection
by

Microdictyon japonicum Setchell

J. Naughton

Caulerpa urvilliana Montagne

Polysiphonia sp. (trace) epiphytic on Microdictyon

The majority of the sample was M. japonicum with C. urvilliana making up about 30%.

Tom
Dept of
Biology

Honolulu Star-Bulletin
 Monday, January 17, 1994

Fuel spill near Rose Atoll is worse than estimated

REMEMBER the long-line fishing boat brimming with diesel fuel that recently wrecked near Rose Atoll? Well, Honolulu biologists who have been keeping an eye on this wildlife refuge are discovering far more damage from the spilled fuel than they originally estimated.

American-owned Rose Atoll near American Samoa is a special place. The smallest atoll in the world, Rose is almost completely square. And although it was named for the wife of some explorer, the place is indeed pink, the color of the coralline algae making up most of the surrounding reef.

In fact, almost everything at Rose Atoll is pink. I haven't been there but Beth Flint, wildlife biologist for the U.S. Fish and Wildlife Service, has. She told me that even the octopuses there have a pink tinge.

But Rose has more to it than being picturesque. It's also one of the few near-pristine wildlife refuges in the South Pacific.

Two tiny islands lie within the atoll, Rose Island and Sand Island. Sand Island is low-lying without much vegetation but Rose Island still has rare native trees growing on it.

These trees, called *Pisonia*, are tropical trees that thrive in guano-rich soil. Tree-nesting seabirds such as red-footed boobies, black noddies and two kinds of frigate birds, love these trees which provide nesting branches.

Researchers believe *Pisonia* were once prevalent on Laysan but today, only one living tree remains in the Hawaiian chain, that on Lisianski. Since these are two-sexed trees, meaning you need a male and a female to reproduce, the Lisianski tree may be the last of its kind in Hawaii.

ANYWAY, the *Pisonia* trees are one of the reasons Rose Atoll is so precious. Another is the number of sea turtles nesting there. Researchers have recently placed satellite tags on three turtles from Rose to monitor where these South Pacific turtles go during their foraging time.

Researchers also have spent considerable time and money recently eradicating rats on the islands. Without the alien rats, biologists hope ground-nesters such as shearwaters and petrels will return.

All those who knew of the fine virtues of Rose Atoll held their breath when news of the wreck reached Honolulu. But at first glance, things didn't look too bad. The boat, after all, was only leaking diesel fuel, a petroleum prod-



OCEAN WATCH

By Susan Scott

uct that floats and evaporates quickly.

As it turned out, the saga was not yet over. The original accident happened in mid-November but in early December, just before a salvage company pulled the boat off the reef, the wreck broke open, spilling its oil contents.

THE plants and animals of the reef took it on the chin. In about a quarter of the atoll's reef area (about the size of 24 football fields), 75 percent of giant clams, an endangered species, were killed. In that area, the pink coralline algae was killed and bleached.

Also killed were marine snails which grazed on an olive-green type of seaweed. Now the slimy stuff is creeping over the formerly pink reef tops.

Dead sea urchins, oil-soaked sand, abandonment by reef fish, long-line fishing gear in the lagoon ... on and on it goes. Much damage has been done and will likely continue. When biologists pick up rocks there, they still see a sheen and smell oil.

It will be a cold day in Hawaii before we see the end of oil spills at sea but the U.S. Coast Guard is working toward decreasing the incidents. In an evolving role as environmental educators, the Coast Guard is trying to foresee risks and minimize damage.

The Guard's primary goal in this area today is to prevent spills. In Hawaii, officials do this by publishing and distributing informational brochures and visiting facilities that handle petroleum products.

But accidents still happen and when they do, it's the Coast Guard that moves in to direct the clean-up, a tough job when the accident is 180 miles from Pago Pago, as is Rose Atoll.

In this case, the long-liner's owners are responsible for all costs, including those to repair damage to the area.

So how do you repair such widespread damage to a wildlife refuge? "With great difficulty," says Beth Flint. "Maybe the best way is to stand back and let nature do it."

Susan Scott is a marine science writer and author of three books about Hawaii's environment. Her *Ocean Watch* column appears Monday in the *Star-Bulletin*.

Nov 9, 90

TO: George Balise, NHRS

FROM: Bonnie Ponnich, NHRS

SUBJECT: WATTLE TAGGING AT ROSE ATOLL

What a challenge it has been to make contact with you! All is well at Rose. It looks like there has been a lot of activity between the August trip and when we first arrived. 17 October. However, it has been fairly slow over the last three weeks. We have tagged two turtles, both of which have returned to the island at least once each. The best news is that we recorded a recovery! HIME tag. She has been up on the beach since times the first time she was released on her way back down the beach after what appeared to be a successful nesting. The second time she failed to dig a nest. The third time she was actually observed leaving the egg. She is quite anxious to know when that tag was applied. Would you also call or FAXing Peter Craig when you have had a chance to look at the

5804

We also observed three Noddies up fairly close to the water on the beach on occasions. A fourth Noddie was seen dead in the beach, the water, the water. Dunner, so far has yet to see any.

We are making progress in the tag allocation process. Full tag allocation is more than we had. The tag allocation is still in progress, but we believe the second order of tag allocation will be completed by the end of the year. I will write up a detailed report and include the completed tag allocation.

NT
hes
ds
ds
ES
ES
ES
ES

