

4-19 FEBRUARY 1981

ALEIPATA, WESTERN SAMOA (808)395-6409 G. H. BALAZS

BALAZS

90.5
CCP 5052 > FEB 10, 1981 (p. 23)
5053

NESTING Ei
NAMUA

78.5
CCP 5054 > FEB 14, 1981 (p. 73)
5055

NESTING Ei
NAMUA

5056 > FEB 16, 1981 (p. 86)
42 CCP JUVENILE - BOUGHT AT APIA MARKET
TAGGED AND RELEASED.

CLIPPING SCUTES p. 41

SIMI TEO' PENAI'A - SATITOA

4-19 FEB 1981
WESTERN SAMOA-ALEIPATA
NARRATIVE

BALAZS

Pages 3-33;
69-78
83-98

MAPS OF SAMOA page 119
PHOTO LOG page 116
Algae, seagrasses & Tolotolo p 108-109



JUNE 8-13, 1993
RMTCP SPIREP APIA
P. 111

COMPOSITION BOOK

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

AVAILABLE AS:

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- No. 09-9134 (1143-X) 100 SHEETS COLLEGE RULED & MARGIN
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From Japanese Report -

LAUMEI - Green Turtle - Aoumigame
LAUMEI UGA - Hawksbill - TAIMA I

Notes regarding 10/81 W. Samoa / Tokelau trip
 Gray books:

Tasila - Matai Alepita
 Simi Teo - fish traps
 Luatuanuu district - fish traps

Pefina Siaki

Viliamu
 Namua, Nuulua, Nuutele (Vini)

11th scute right removed.

ULUTOGIA Village - Matai Sargubob Tele
 "AIANGA" = family

Expert turtle diving village Leusvatii
 LUAKRAMO

Head man = Pulewagafa.

Tokelau vessel = FRYSNA

TOGA TEKEIU

Dick Wass - 633-4602

4 FEB 1981 Depart for Pago Pago, American Samoa
on Continental Flight 607

WEDNESDAY at 5:30 PM. Check in 4 PM.

Depart Nauyau kai ~ 3:15 PM. \$1 wine on plane.

Arrive Pago ~ 9:45 PM Samoa time

(1 hour behind Honolulu) - airport cab
\$15 + \$1 tip - checked in to Rainmaker
at \$35 day - .75¢ post tip;

5 FEB MORNING Visited with Dick Wass and
Thursday ~~William Pedro~~ at office of Marine Resources.

Met Bill Coleman who will be
doing contract work for the WPFMC ^(son of Governor)
also, Frank McCoy who is the
Seagrant Marine Advisory Program agent.

Roger Pfum indicated that a
Louis Pel Nolfo ^{craftsman} works
with tortoise shell and "ivory" -

A close friend is John Courtess
who works at Division of Instructional
Development. TEL. 633-1248 or 1249

Rented ^{\$20 + .12 + 3 gas} a car at ~ 2:30 PM and ^{drove} to the

near
Eli Eli

VAITOGI
Village

east end of island. Visited turtle-shark
legend site - near east end of airport land.

(Not correct site, as indicated by map and observations
DURING TAKE-OFF)

5 FEB 1981
Thursday

Visited Burns Philip - no turtle shells seen - ^{but} several pieces of jewelry present. Jewelry also at Tropic Isle gift shop. No turtle shell at Rainmaker gift shop. Jewelry & shipping boxes still at Curios (left at AIRPORT). Dinner at Dick Wasserman's house at about 6:30 PM. He mentioned catching a half (or more) grown hawksbill sleeping on the bottom at ~50-60' ^{deep} right off the Rainmaker Hotel. No preceivable "notch" noted.

Read papers from ~9 PM - 11:30 PM at my room. Plum had not seen further roadside selling of turtles since I last talked to him in November.

6 FEB 81

FRIDAY

noted
"Sludge" ship
discharging
~1 mile off
AIRPORT -
Perkins?
USCG?

He
intends to
have purse
seiner try
a set.

Drove to airport at ~8:30 AM - ^{with William Pedra} Departed on Polynesian Airlines at 9:45 AM - ^{DEC SAN TUSITALA MAGAZINE} only 4-5 people aboard. Two photos taken of Nuntele. ^{30 minute flight} From airport we took a \$2 per person bus (van) ride to Apia, directly to new Fisheries Division buildings (gift from Japan). Met with Alpho Phillip for about 45 minutes - he ^{explained} described buoy aggregation project - good fish catches being obtained; 50 tons shipped to cannery in Pago - waiting for histamine report, may be high (due to absence of refrigeration or ice when fish are caught). Buoys in use are made of aluminum.

Assessment of Hawksbill Conservation Project at Aleipata, WESTERN SAMOA

Broad and detailed objectives:

1. Gather current information - all now published is many years old.
2. Procedures carried out
3. Percent taken for hatchery
4. Natural-human predation on islands.
5. Track counts for population comparisons
6. Subheadings for no. 2 of the above:
 - headstarted?
 - how released?
 - Incubation temperatures
7. Marking systems used
8. Recoveries
9. Presence of turtles in the markets
10. Division of Fisheries, reports 1977-1980
11. Peace Corps involvement
12. Estimation of total number of eggs laid
13. Influence of my presence on activities conducted

ASAU, SAVAI'I - Greens, hawks, nesting, etc.?

6

1981

6 FEBRUARY

FRIDAY

William was gone for 1 year on Naumu ^{Pacific} vessel (~1977); rehired upon return.

#79 TMA every two weeks, after taxes.

Met Bill Travis, recently returned from fishing, outside of office. He reports that a large leatherback was recently seen off Eleipata. ^{with William} letter was sent to Mesovsky in Toronto about sighting.

Proceeded through town to Market - found 15" hawkbill live on back - price \$8 TMA. Two photos taken with William. Proceeded to bank to exchange US\$, then to Philatelic Bureau to purchase sea turtle stamps -

2 - green turtle at \$2 each. Hawkbill hatchery set of 2 - \$1.34 each; and 3 - first-day covers at \$1.34 each.

Had fried chicken and toast lunch at NELSONS. Returned to Alphonso's office about 2 PM. ^{out of commission - near X Sank} saw 65' training vessel that had been given to government by Japan. Fishery Toyota truck drove us to Eleipata - heavy rains along the way. William's wife with us.

Hatchery buildings look the same, except extensive wear from weathering. Adjacent "Agriculture" offices are abandoned.

Alphonso reported that old Samoans way of catching turtles is to place large

Small barns
on skin
piece out
of left
front flipper

6 FEB 8
FRIDAY

all
son

6 FEB 81
FRIDAY

leaves (such as ^{the} TARO (Lauca mu) banana) on the surface just outside reef, then return later and would be resting under leaves.

Tourist from Washington State named "Eddie" arrived at hatchery. William was off gathering bananas - returned later in the afternoon.

Approximately 10-15 juvenile hawksbill are in 2 of the concrete holding containers under the shed. Notch is present in ~ 11th marginal left. William indicated that they are ~ 8-9 months old. Almost not sup where tanks are located. How to the ground - how could people have crawled around on their hands and knees when feeding - as described by Travis?

Measurements of captive hawksbills - (tape):
"Plan to raise for 1 year" = CCL

1.	11.5 x 10.1 cm (no notch)	8.	13.0 x 11.5
2.	11.5 x 10.5 (between 11 th & 12 th Pc left)	9.	10.0 x 9.0
3.	12.7 x 12.0 "	10.	14.0 x 12.1
4.	12.2 x 11.1 "	11.	10.5 x 9.6
5.	12.7 x 11.6 "	12.	11.9 x 10.9
6.	12.8 x 11.4 "	13.	9.9 x 9.2
7.	10.2 x 9.7 "large (lesion over left eye)	14.	10.8 x 9.7
		15.	12.2 x 10.8
		16.	11.6 x 10.2

all have nearly full black plastrons.
Some crawl vigorously on dry land.

Excellence - Precision - intensity

6 FEB 81
FRIDAY

6 FEB 81
FRIDAY
Turtles are reportedly fed each day by a part-time assistant (except Sunday) - razor clams (Penna) - large pile of shells present. Eddie reported very haphazard feeding - transferred to another tank - and forgotten upon return.

477.0 = 1981
2006 =
47 + 25 =
72 if still alive

William discovered that Viliamu is actually 1/2 Tokelauan ^{Yorval} lived there during the late 1940's. He is ~ 47 years old now. Viliamu reports that there were a lot of Nuduluta. He has been nesting greens.

Viliamu stated that his wife brought back 2 Samoa tags that were taken from turtles in the Ellice Islands in 1974.

Viliamu used to purchase eggs - 2 gene each - but does not now have the money to do so.

Nuutele, Vini Beach, is a burial site for chiefs according to Alphonso.

Gene Feldman previously spent 3-4 nights on an island watching hawksbill nesting - he has been gone for some time now. Address: (see later page)

(Backnote from Phillip's office: A TRAPPING SURVEY for Deepwater Shrimp in Western Samoa - by M.G. KING 1980 The Institute of Marine Resources - USP

FROM SAMOAN TROPICAL CLIMATE

6 FEB 81 Also, note that I met briefly with Dan Popper -
 FRIDAY He mentioned my inquiry about validity of
 Travis papers.

Seven nests are in fenced area - reportedly the
 first was put in January 1. Weeds
 have overgrown nearly $\frac{1}{2}$ of pen - large crab
 (tupa) holes in sand under weeds. Tough
 roots present. Also note that palm and
 iron wood trees shade pen, at least
 during the morning hours. Cliff in
 back of nesting beaches may do the
 same (in ^{but} inverse), but other unknown
 factors may influence this (ie
 depth of nest?).

During the afternoon, William and I
 walked down to dredge-filled wharf
 that extends out right by pass (about
 mid-way between Namua and Nuntete. Lots
 of Syringodium (sea grass) piled up
 along high tide line. Drifts.
 Later noted pigs eating fresh green
 stalks. ^(may not be a common practice) Reef flat goes considerably
 bare at lower tide - estimate
 variation at \approx 3-4 feet.

Big Tupa crab holes noted under
 bushes.

William gave me 2 "Samoa" turtle tags
 (reward #5) - fitted with green, but have
 never been applied. Has 100+ more.

FROM
 SAMOAN
 TROPICAL
 CLIMATE?

6 FEB 81
FRIDAY Dinner consisted of beef bones w/ meat -
boiled taro & tea. Slept on air mattresses
on floor. Samoan singing prayers ^{ERS} and
reading from the bible.

7 FEB 81
SATURDAY

7 FEB 81
SATURDAY Breakfast of pancakes - raw sugar. ^{PEDPO} William
departed ~ 9 AM for 7th day adventist
church all day. At ~ 10:30 AM
Eddie, William, we and paid helper took
YAMAHA fiberglass skiff (16hp TOHATSU outboard)
out to Nanua. At end of island where
wave surf starts, we got off and
walked to a small sand beach where
nesting occurs. Steep rock cliff backs
beach. Noted lots of wood debris,
fallen coconuts & vegetation. Noted
5-6 sites where turtles have nested.
Other sites may have been obliterated by
rain, etc. ^{& crawling under vegetation} William immediately found
an egg clutch using a stick to
probe. One egg broken. Top of nest
was very shallow - possibly only
6" - 15 cm. 188 Eggs
were transferred to plastic bucket.
He estimated eggs to be two days
old. He exercised care to keep embryonic
disk upright. We departed after
about 30 minutes. Noted beach rock
approach to beach which must be

7 FEB 81
SATURDAY

very bare at low tide. Hermit crabs
 noted, but small. Width of sand
 beach at high tide can't be much
 more than 30-50 yards, if that. (to cliff)

Motorol back across to hatchery
 with eggs and reburied in wire
 enclosure. "Weeds" growing in compound
 are reportedly a medicinal plant brought
 here from the Tokelau. Need to press sample for
 Dermal Herbst.

I slept for a while during early afternoon, then
 took a long walk to the east. Many
 children came out to say hello - where
 are you going? - what is your name? Saw
 several Angled dug-out canoes - none
 with outboard motors. One seemed to
 have gathered sea urchins. A group
 of young men came in from diving
 carry 20-25 small reef fish (plus
 ~5 lb octopus). Store and bank (LALOMANU)
 has a pay telephone - reported to be
 the only one in the district.

Pineapple soda pop, cold, cost 30 sene.

Upon return, I had a very bad
 headache - slept for a while -
 ate very light dinner, returned to
 sleep after taking 2 avacin.

Fairly good night's sleep - heavy
 rain (showers) came in on Friday night -
 intermittent during the day.

8 FEB 81 Ate EMV-cooked Tape lan^{style} food -
 SUNDAY FEKEI = grated taro, coconut milk,
 wrapped in taro and cooked within
 hot stones, with shu (wrapped in palm
 leaf), green banana, peeled taro,
 beelanned and onions.
 Eddie and Malt left on bus to town
 about 10 AM.

Reviewed hatchery papers periodically
 during the day. Walked with William
 down the road to the west (road that
 we drove in on) to the end of the
 houses/villages. Road turns inland
 here to farm land.

Also, during the afternoon Viliamu
 took us inland to his banana
 plantation. (uses a powder herbicide/insecticide)
 Viliamu indicated that turtles
 are not kept as pets in the
 region.

Need to
 check with
 Alphons
 ?
 BUT
 witness!

A poisoning from turtle occurred
 at Aleipata, reportedly 2-3 people
 died children. Poisoning was blamed
 on the turtle being "too fat."

Fight occurred in late afternoon - probably
 200 people came out.
 During the night, we heard Assembly of
 God preacher giving loud sermon.

- Items needed for overnight on islet -

1. Camera, flash, batteries - ^{IN TRAVEL BAG} w/ plastic
2. flash light (large & small)
3. Water canteen; soda; canned fruit; dried nuts; canned meat
4. Insect spray
5. RAIN jacket
6. Dry cloths (in plastic); hat; sunscreen
7. Tags ^{1 string}, pliers, note pad
8. hood, vest, fins, mask
9. AIR mattress - Tent (line)
10. long sleeve shirt

Group photos

Sally Sanome
Yaliloa Stn.
c/- Lalomane P.O.
Aleipata, W. Samoa

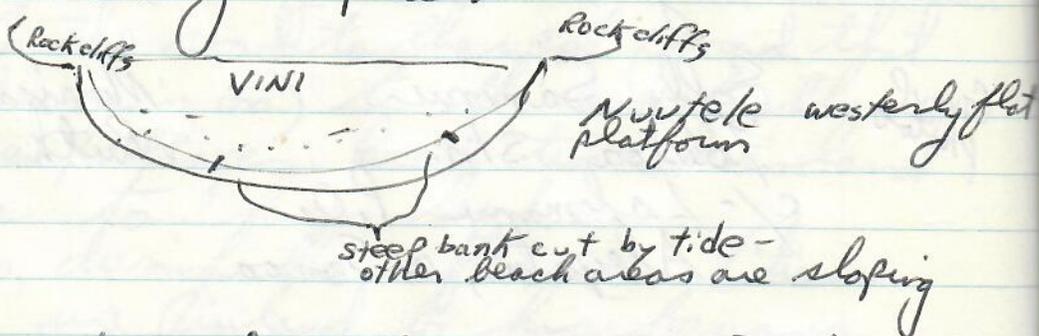
Monica Isaako
Ruth Faqgai

9 FEB 81 Monday Awake about 7PM - pancakes for breakfast; started preparing for trip - overnight stay at Nuuulua or Nuuitele. Poatua visit facility - this is the man I met in March of 1977. Viliamu showed me BW photo of him with ~ 17" hawkbill and green turtle - both caught off Aleipata. Departed for islands about 10³⁰ AM me, Viliamu, William and Fale (tattoos).
PEDRO

9 FEBRUARY 81 Motored to oceanside beach
 Monday of Nuutele, but waves were too
 large to enter over reef. Motored
 back to Vini side and made a
 landing over the reef. Boat pulled
 up high and tied to a coconut tree.
 A nesting site was found near our
 boat landing - eggs found by probing -
 relatively deep compared to Nahua
 clutch. Remains of a campsite present,
 from making copra.

OVERNIGHT
 NO. 1 -
 Nuutele,
 VINI

11:15 AM

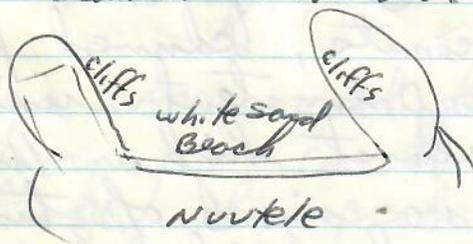


Also, stone piles - for graves. [] []

Viliamu indicated that Vini side
 of Nuutele is owned by Matai ^{village:}
 SAGABOLUTELE - ~~owns~~ other islands - ^{ULUGOGIA}
 (other side ^{of Nuutele} owned by TUSILA. ^(ULUTOGIA on map))

At about 11:45 AM three of us departed
 to climb over Nuutele to opposite
 beach. Very steep and muddy -
 mosquitos, land (Tupa) crabs, tree snails,
 black lizards, 6-7" in length,

9 FEB 81 pgs - pig trails evident. Along the way
 Monday I found a 12 gauge casing -
 to shoot sea birds, or esteemed
 Samoan bird called 'LEPU'E (black in
 color)? We were fortunate that it
 did not rain. Arrived at beach
 about 2 PM. Evidence of copra making.
 Reported that during calm weather,
 we take canoes over reef. We
 drank green ^{COCONUTS} nuts and ate flesh. A
survey of the beach could not
identify any turtle resting.
 Viliamu used his fishing pole
 to catch several reef fish.



Concrete walls and slabs of leprosy
colony was observed. Also grave
 sites, some outlined by bottles stuck
 in the ground.

At many places along this beach the tide
 goes right up to the thick vegetation,
 where the white beach sand virtually ends.
 The beach contains many logs, drift
 wood debris, coconut trees, pandanus, coconuts,
 nauvaka, etc. Seabirds sighted
 (all in low numbers) consist of noddly
 (REEF HERONS - at low tide especially)

9 FEB 81

MONDAY

Beach sand
sample
collected

terns, frigates, brown booby, dark-phase red footed boobies, fairy terns. Prized as a food item. Seagrey colony reported to be from ^{LAST there in 1914.} Germany era. It would seem to me that residents would have eaten many turtles and eggs.

Hermit crabs present on beach. ^{by night,} Caulerpa ^{washed ashore.}
Departed about 3:15 PM. Returned to Vini about 4:45 PM.

Set up nylon tent just as rain squall passed over. Ate dinner consisting of reef fish roasted in fire, ~~also~~, corned beef from can, water, from coconuts, canned peaches. Went to sleep in tent until ~ 9 PM - tide almost high. Walked beach, but no signs of turtles. Many lights along Aleipata coastline. Left knee hurts. Drank some rainwater from palm fronds, bucket lid, and corners of boat, following rain squall. Went to sleep in tent until 3 AM. - Many hard rain squalls.

10 FEB 81 Walked entire beach - tide had TUESDAY receded. No signs of nesting - Very few lights now on along coast. Returned to sleep and got up ~ 7:30 AM. Breakfast consisted of crackers, Ama crabs roasted in fire.

Saw about 4 place where "nesting" previously occurred.

10 FEB 81 Interview with Viliamu, translated
TUESDAY through William revealed the following:

Last ^{PEDA} year hatchlings were released shortly thereafter, due to problems of rearing. Released about "1 mile" offshore (during) the late afternoon. He would like to raise them for 5-6 months, but food supply and problems of water exchange exist. He is considering letting turtles go in "cove" at Fanuatapu, (because turtles are regularly seen there. (A navigation light is located on Fanuatapu, but it is not on now).

Later seen
to be very rough-
turbulent

Eggs were moved from Vini on this morning - count - 80. One was broken by probe stick yesterday - and one was eaten by Viliamu. He said that this clutch was laid by the same turtle - later clutches have fewer eggs. "Turtle will lay four times."

At Nukalita in Tuvalu, 2-5^{green} turtles were seen on a female. It is believed that when one finishes copulating, the next turtle takes over. ^{Viliamu's father put} males in land-locked lagoon - when eaten they did not have fat - ^{poor nutrition?} A sign in front of hatchery would be valuable.

10 FEBRUARY 1981

TUESDAY

^{Reportedly} Hawksbills that have been caught contain the seagrass Spongia - sometimes animals also.

Viliamu said that "before" there were no turtles nesting on these islands - the hatchery has now helped them.

QUESTION: How many visits are possible to Nuvafua by residents? Weather may greatly restrict visitations.

For a time, ^{or Tusila, (of village ULUTOGI)} SAGABOLUTELE was charging for any eggs taken off Vini for his islands. Government activity apparently stopped this?

Note that ^(Bob) Robert Davidson, PCV, noted that the only way you could determine if nesting population is increasing would be to tag turtles on the beaches. (However, if intensity of collection is fairly constant, the numbers of eggs collected each year could also be used as an index) However, Viliamu may wish

10 FEB 81
TUESDAY to keep the number of eggs collected constant due to amount of work necessary.

We departed from Nuutele about 10 AM, with the high tide. William saw a turtle 25-30" shortly before we reached the pass.

All hatchlings are notched, even if they are immediately released.

NEED - search for marked turtles by people in American Samoa (dive club, market, etc.)

Viliamu reports no knowledge of people keeping turtles for pets. Also, shells are not saved, but rather sold in town - Burns Philip store.

Matai no longer has control to prohibit people from going on islands (i.e. for turtles), because young men won't listen - "lacks police power, like government".

During early afternoon, a cow was butchered near the hatchery - for

10 FEB
TUESDAY

a funeral. Neck cut through -
carcass & dismembered while laying
on the ground. Skin, etc, thrown
into ocean - dog^{or} retrieved.

(Village of LUATUANU reported to
have expert turtle catchers. - NOT in
Aleipata District

During the afternoon I spoke with
people at nearby stores - one man (Oscar?
gray hair - 36 years old - lived in New Zealand
for ~10 years) indicated that Nuntele leprosy
colony was not occupied since his
birth in district. He has never been
on island - no reason to go there. Recently
purchased 4 gill nets for \$120 TALA - I
estimate 6' x ~100', without lead. He
had never used one before - just now trying.
Another storekeeper has a ^(two) generators,
one 7 Kw, second one for nighttime.
Uses \$100 of fuel, 44 gallons, in
3 weeks. one pound can of New Zealand
corned beef \$3.95; peaches .85¢; orange
soda .50¢; canned mackerel from Peru
.85¢. ^{single scoop imitation} ice cream .20¢
Frozen lamb flaps - .85¢ lb; also
has frozen chicken. Funeral
family wanted to purchase caskets of
kauri fish, but he would not
sell it to them because none would be
left for other people in village - next
shipment not due until the end of

catch on
the beach?
Most likely
SPEAR
on water

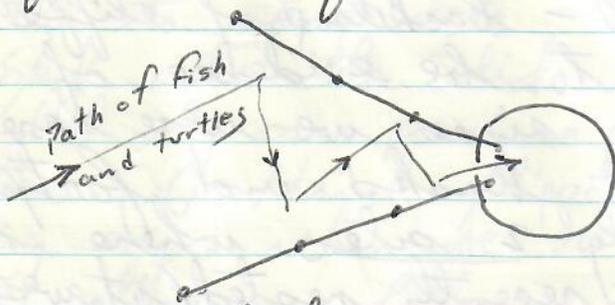
10 FEBRU
TUESDAY

OVERNIGHT
NO. 2 -
NAMUA

10 FEBRUARY March.

TUESDAY

Man by the name of TEOPEANAEA (MATAI TEO), father ^{is?} Minister of Economics, has caught turtles in his fish trap - built on shallow reef flat as follows;



Posts and chicken-wire construction.

Caught green & hawksbill turtles, incidental to fish, between June and August. Two large greens caught - one given to Matai for distribution to village people. Ten (or more) caught at one time.

Meanings for names of islands:

NUULVA - two islands - because of adjacent rock islet (?)

NUUTELE - Big

NAMUA - ?

OVERNIGHT

NO. 2 -

NAMUA

At about 6:30 PM, Viliamu motored William and me over to Namua (low tide) to camp overnight. While wading ashore I noted Halophila growing fairly profusely over bottom (sand).

10 FEBRUARY 1981

TUESDAY

We walked along the edge of the island to the beach cove. "Crown of thorns" drifting freely in shallows. We set up beach site tent by large boulder on sand just before beach - backdrop of cliffs. There seemed to be evidence of people visiting since we were here on Saturday. Coconut husks and footprints.

Possibly 2 sites where turtles may have (recently) nested (at west end of beach). Also, a far east end, past rocky area, under cliff, I saw evidence of 2 old possible nestings in sand beach area. Along with site where eggs were removed on Saturday, site by cliff about mid beach (inland), and site where Viliamu found rock under sand, this would make a total of (7) detectable possible nestings.

Old beachrock in front of beach exposed at low tide.

Beach survey a ~ 10:30 PM, with tide still rising, revealed a hawksbill laying eggs at the very edge of mangrove vegetation - crawled under beach morning glory vines. Very little body pit - slight cut-away sand band near head.

1981

10 FEBRUARY
TUESDAY

Many photos taken. Egg chamber visible through small gap between hind flippers that were spread straight flat out behind body.

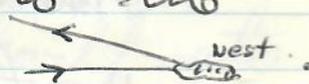
I returned quickly to awaken William.

Track came from ocean and led directly to nest site - no "wandering" occupied. Turtle did not seem disturbed by our presence (lights) or activities. Hind flippers were covering eggs when we returned - seemed to be patting, one following the other.

Cover-up (using front flippers) was not intensive or lengthy. Turtle did not seem to pull itself forward.

All of this way have been modified by our presence and flash photos. A

short time later - ~ 11:05 PM the turtle ~~travels~~ turned and walked, reptilian style, back down to the ocean at a steady pace



→ Curved measurements - 90.5cm x 81.5cm

Tags / 5052 Right flap
/ 5053 Left flap

Flap skin very soft, like hawksbills tagged at Sea Life Park.

No notch or abnormality noted along marginals, although specific search not made. Turtle seemed "flatish" in configuration.

11 FEBRUARY 1981 We checked the beach again at
WEDNESDAY ~ 1:30 AM, but no new tracks
present.

Slept until 7:45 AM - checked
beach again - heavy overcast - showers
started. Ate peaches for breakfast.
Covered nesting site well, some hopefully
eggs will not be found.

Disassembled campsite and walked to
other side of island to be
picked up (by Fale) shortly after
10 AM.

William indicated that fishing vessel
CRESCENT GYPSY transported fish
and Tridacna from Penryhn to
cannery at Pago. Owners name MILE-
should check with Patrick Bryan or Dick
Wass for details - vessel was chartered
to set aggregation buoys around
American Samoa.

Noon time discussions with Viliana indicated
the following:

Two-hulled government sponsored
vessels are called "ALIA".

There are 12 villages in Aigata
District - from habmanu

There are ~ 700-500 people in habkeny
village - but some of the other villages are larger.

11 FEB
WEDNES

Has not
been fish

11 FEB 81 There are three levels of Chiefs (MATAI) -
 WEDNESDAY High Chiefs, Talking Chiefs and _____.

Discussion relating to circumstances of
 shark attack on Alan Banner:

Had not
 been fishing

Attack occurred at approximately 1 PM -
 They had returned from Nukylua with
 eggs and had tied off rubber raft to
 Alia in about 30' water. They were
 then snorkeling in area. People present
 included Bill Travis; Vave (Polynesian
 workman of Bill Travis); Robbin Master,
 leasee Cape school teacher and girl friend of
 Alan; Anna (Samoan) U.N.O. (or FAO), girl
 friend of Ernest, also U.N.O. or F.A.O.

Wayne Witzell and Viliamu were
 not on trip. Shark reportedly struck
 quickly and took off Alan's head. Search
 was made for body, but nothing found.
 The next day was Sunday, but on
 Monday the Fishery Division brought nets
 and set them in the channel. Sharks
 were caught, but no human remains were
 found in the stomachs.

Robbin stayed on to teach, but took
 flowers out to the area for a ceremony.
 Alan parents visited Alepate before
 his death, but not after.

People in district were suspicious - thought
 he may have been "done in" - no parts found -
 no other attacks in area. Alan did not

11 FEB 81
WEDNESDAY

have fish - neither did other divers. Sharks
have come around divers in Aleipata
when they have fish or lobsters.

11 FEB
WEDNESDAY

Viliamu originally taught deep water fishing techniques to Samoans with other Tokelauans. Samoans fish primarily with spears - on the reef - Any deep water is only to 20-30 fathoms. In ~ 1970^{PLAN} he started at the turtle hatchery.

Wind came up strong in the afternoon, more from the west - white caps within the lagoon - frequent rain showers.

At about 4:30 PM in the afternoon we walked to the house of:

INTERVIEW

→ SIMI TEŌ PENAI'A
address: SATITOA
% ALEIPATA, P.O.

He builds fish traps from chicken wire on the Apia side of the pier, set in 6-9' of water, depending on stage of tide. He has been doing this for over 10 years - caught an estimated over 500 turtles - mostly all greens. Grass in stomachs. Includes males, but mostly "females". Eggs found in some, but small - not shelled.

11 FEB 81 He has the carapace of a juvenile-subadult
 WEDNESDAY green turtle in his living room. Very
 large ones caught are given to the high
 chiefs of the district - as according
 to Samoan traditional custom. Small
 turtles are not given to chiefs. He
 has thrown small turtles back to
 the sea. The smallest he has
 caught estimated at ~ 13-14".

Ten large greens were given as a
 gift to the Parliament (Fono) when it
 opened. His brother has the carapace
 of a large green at his home in Apia.

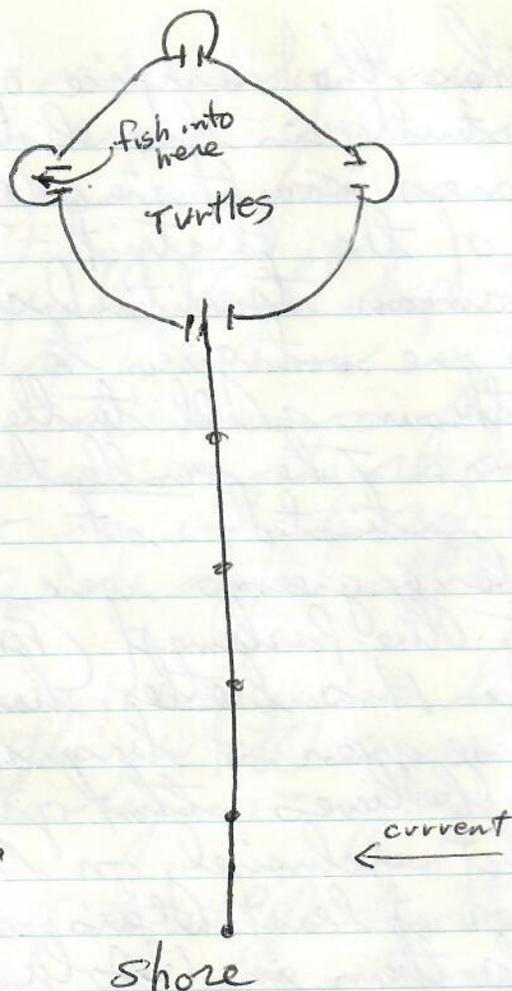
He believes that greens occur
 somewhat exclusively on Aleipata reef
 flat - or at least this is the best
 site for them in Upolu.

He indicated that hawksbills stay outside
 of the reef - greens come inside.

He has recently bought new gill nets -
 very light monofilament ~ 2 1/2" mesh - float
 line made of heavy monofilament - a few
 hand-made wood floats.

Old design of fish trap appears on page 21 -
 didn't catch fish as good as the
 newer design - on following page:

11 FEB 81
WEDNESDAY



11 FEB
WED.

12 FEB
Thursd

Fish (and apparently turtles) travel with the current - when they come to wire barrier, they will turn toward deeper water.

Fencing is very expensive - pieces have been stolen from reef flat.

Toward the end of last year, he saw turtles in his trap and told children to take them out. A very large turtle had a numbered tag on the front flipper flap - but torn bit off and threw it away(?)

11 FEB 81 He did not ~~even~~ see it.
WED.

Listened to Assembly of God preaching during the early evening.

12 FEB 81 Up about 4:30 AM to catch last bus Thursday to ~~the~~ Apia. Hard rains - William took suitcase for departure. Total time to town took ~ 2 1/2 hours.

William and I walked around town - gave Sara \$2000 for food.

Samoa telephone operator is 920 or 900.

Aggie Greys does not sell handicraft - but shop a short ways down does. They had one juvenile hawksbill shell - 16" \$30.

3 of marginal scutes fallen off. No sign of notch. - I purchased a wood carved turtle for \$2.50. Woman clerk indicated they don't get many carapaces.

At Oriental Store I asked if they ever sell turtle meat - ^{answer} - never.

A.W. Samoan handicraft Ltd. they had ^{#10 20367} 2 juvenile carapaces ^(photo w/flash) - no signs of notch. Informed that they get very few of these. They had a large green shell once - but sent it off someplace. Some turtleshell jewelry was on display - informed

12 FEB 81
Thursday that these are made by a Sua in
village of Matautu, and a Feleni in
village of Vailima (near Head of States building).
and ~~Steven~~ ^{Steven} ~~son's~~ Tomb.

At market we saw two Tidiana ^{2 cut up shark - grey reef?} #4-5 each,
bottom fish #5 each, and
ship jack at Government fishery
sales - ~.85¢/lb or #2.45 each. Woman
informed me that they never sell turtles.
No carapaces seen in market.
A travel agency, or airline office in Apia
has an adult green shell in their
window.

We then visited Office for Tokelau
Affairs - Box 8667, Apia, W. SAMOA
where William ^{Peter} met

MAKARITA HSU

left ATAFU in 1979 for college in
New Zealand - now working in office to
help her people.

Saw handicrafts that included
hardwood boxes used by fishermen to
hold fishhooks and keep their cigarettes
dry. Also, saw wooden carapace -
light wood. Met Hosea Pirifi
who suggested that I write to
Secretary about trip aboard vessel
to Tokelau to educate people about

* Mr. John Karikindale
The Official Secretary
Office for Tokelau Affairs
Apia

#2 breakfast
#2 TALA for bus
#1.60 for cab
#2.50 lunch

31

12 FEB 81
THURSDAY

turtles. Address letter:

At A. & L. Forsgren Ltd. store
(Apia professional photographer) woman manager
(or owner) told me that most all of
her hawksbill jewelry is from Fiji - only
small amount from W. Samoa (salesgirl
had previously told me the opposite, as might
be expected).

Where does all of the hawksbill
shell come from in Fiji? Some imported?
She also told me that women sitting
by Burns Philip may be selling locally made
hawksbill jewelry. Discussion with
one of these women indicated that her
father makes them - gets only the scutes.

Discussions at 1:30 PM with Philip
indicated that N.Z. took over from
Germans in ~1914. Leprosy colony
last had residents in 1929. However,
someone had a fale on the island
1972-73 for 6-8 months, because
he used to fish in the area and saw
someone waving to him on the beach.

Philip was previously a policeman.
He related story of Irish New Zealanders
who tried to start cattle ranching on
SAVAII. People torn down his fences
and shot cattle as they walked on.

12 FEB 81
Thursday

"their" side of the property. They^{chiefs} told Philip they were doing this because he thought he was a "smart guy".

WSTEC (W. Samoa Trust Estate Corporation) is a plantation system left over from German reparations. Philip said their biggest problem is theft - steal everything. Probably 10% of cattle.

No gift shop located at TUSITALA HOTEL (#36.50 TALA per night - one person) - but one exists further down the road past TRAFAL Hotel that I did not visit.

I missed the 3PM Aleipata bus - saw man and woman at bus waiting station that had ^{uplive} 1 Tropic bird purchased for \$4 tala at market - also had a second dead one - 2 photos taken. "MANU TAVAE." Reported to be eaten and feathers used to make fishing lures.

Returned to Aleipata on "4:30pm" bus - arrived about 6:30PM. Recall circumstances using following key words: Pigs by house; Openness of fale; cloths of children; repair of buildings; absence of furniture; skinny dogs (also in town); malnutrition of children; order of eating; staples of diet; lesions Salmo; tea to baby; disposal of rubbish; fear of ghosts; sanitation in house & yard; head lice - scratching; trading children around; TRASH DISPOSAL; GLAXED for infants; Religious beliefs - evening PRAYER - LMS

12 FEB 81

Thursday

Upon return to hatchery, Viliamu informed me that two turtles had nested on Namua, and that he had gotten both clutches. "Plenty hawkbills". Weather much calmer now. (7 upon arrival + 1 Namua + 1 vini)

BACKNOTE: FEW THINGS EVER "WORK" IN POLYNESIA

13 FEB 81

FRIDAY

Observed male feeding soft part of clams to hawkbills (photos taken). ^{pressed specimen taken}
 Also, this AM the "Tolotolo" plant was cleared from egg enclosure. This plant, when boiled, is suppose to produce liquid that acts as a larvicide. ^{Sand shoveled into enclosure to elevate and seal underside of fence.}
 Viliamu reports that Bob Davidson was attack and hit while walking on night on the bridge by the hatchery (possibly after money in his pocket).

Need to write to DAVIDSON - NO. NIGHTS ON ISLANDS?
 Recaptures?

Check Pacific Islands Monthly <= Aug 1974
 for "poem" written by Viliamu

Questions: Becoming more difficult to collect eggs, or not as much effort?

Improve by helpful suggestions, rather than pointing out what is wrong.

NEED AT HATCHERY:

[CONTINUED PAGE 69]

1981 data from individual record sheets:

Clutch No.	Island	No. EGGS	DATE	DATE	HATCHINGS	
			<u>BURIED</u>	<u>HATCHED</u>	<u>LIVE</u>	<u>DEAD</u>
1	NuvuA	209	JAN 2			
2	"	163	JAN 3			
3	"	204	JAN 5			
4	"	105	JAN 6			
5	Namua	190	JAN 19			
6	Namua	170	JAN 26			
7	Nuutele(vini)	170	FEB 2			
8	Namua	188	FEB 7			
9	Nuutele(vini)	80	FEB 10			
10*	Namua	190	FEB 12			
11	Namua	189	FEB 12			
12	Namua	142 ⁽²⁾	FEB 14			

Vilamv, Baines
EDDIE

camped
overnight

gathered by
Vilamv
while I was
in town

Vilamv & me

photos

5052, 5053

5054, 5055

Monthly Report - Turtle Hatching Project

Oct 3, 1980

	July	Aug.	Sept.	Oct.	Nov.	Dec.
NEST						10
EGGS						
WREATH	356	254	463	-	-	-
Release	234	154	287			
						Eggs - 1073
						675

Number of female turtle as from July up to Aug Sept Oct.
 The eggs found on the three beaches Nunnua and Nuntele
 Nannua - Vikanu

Undated typed page in records - as follows:

1. Hide one out of every 4 nests on beach.
2. Leave all old nests over (3 day old on beach).
3. Keep the turtle for only 2 weeks of feeding.
4. If any turtle sick let whole clutch go.
5. No water in turtle bucket when you let them go.
6. Any clutch on Namua or Nuntele bring home.

V. Matagi

5/1/80 letter from Bob Davidson -
 working on Masters Degree at
 Auburn (Alabama) - studying fish
 farming - like he was doing "at Vaitobā"

copied

(inserted in file 39
during the last day
or two)

Monthly Report

"At a night Feb 10th I was
Namua Island a night 11:00 one Female
coming lay eggs on Beach Namua
Island I mark put tag on the
light side tag Name Samoa Fisheries
Division a Fisherman he caught
call the Fisheries office thing he like
\$5.00

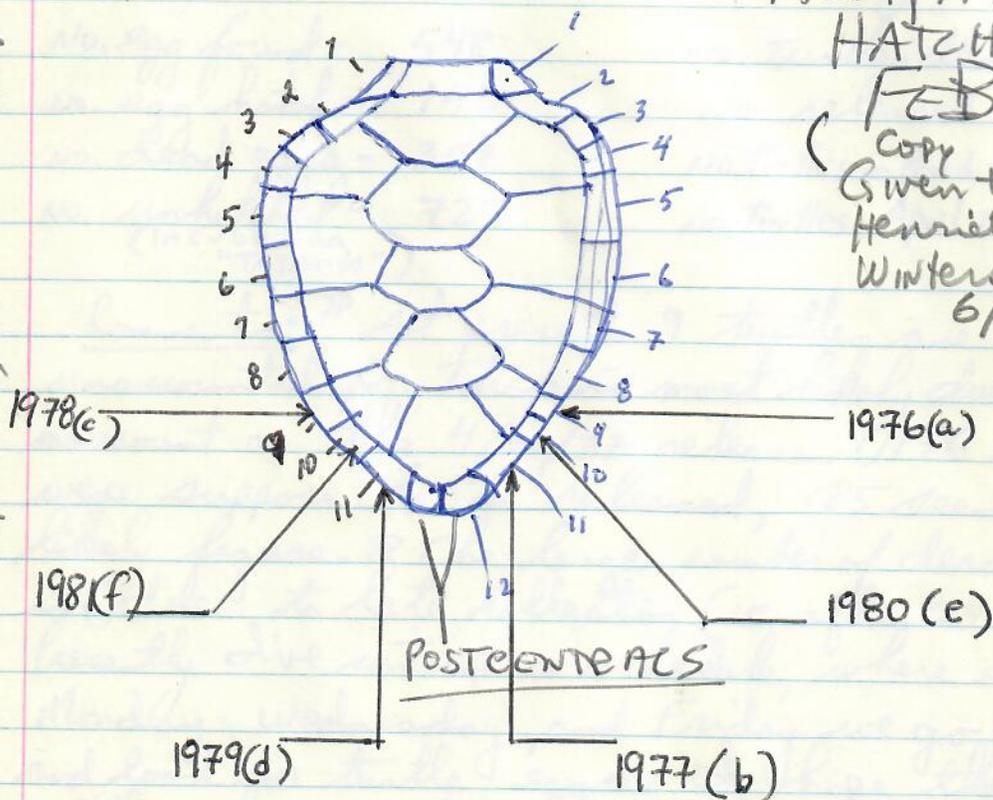
Thank you.
V. Matagi

undated

ALEIPATA
HATCHERY
FEB. 1981

(Copy Given to
Henrietta
Winterstein
6/93
SREP
meeting)

TRANSCRIBED
By G. BACAZZ
FEB. 1981
ALEIPATA, W. SAMOA



"After 1981 return to the 1976 marking location and continue the rotation each year marking in a new place. For example in 1982 punch out hole in the (a) position, 1983 will be in the (b) position."

(According to postscript note in bound data book - 187 hatchlings were marked "on marginal plate 4 right of tail" in 1977 (probably written by RD.)

Note that 15 of the 16 juveniles now in the tanks have "holes" (notches) approx. between 11th & 12th (12th being postcentral) left.

Punch used is old rusty leather punch.

"Monthly Report - Aleipata Turtle Hatchery - April 1977"

no. egg found - 548	no. turtles died - 0
no. egg hatch - 142	no. released - 179
no. dead eggs - 352	no. turtles in pond - 273
no. unhatched - 723 (incubating "TATAMA")	no. turtles April 1 - 316

Comments: # At present 9 turtles are unaccounted for. This is most likely due to a miscount on the 4/20/77 release. 1176 turtles were suppose to be released, 185 seems a more likely figure. # The large number of dead eggs is (due to late collection (ie after 24 hours)). Presently I've set up a schedule, where every Monday, Wednesday, and Friday we go fishing and look for turtle eggs. I hope this will insure getting most eggs as soon as possible and at the same time conserve benzene (?). # I've spent some time on Nuulua. I hoped to tag female turtles to determine the size of the breeding population. Unfortunately no turtles were seen. I recommend tagging be done yearly, preferably in February, to determine changes in the size of the breeding population. It's by far the best indicator of the success or failure of this project. # We are now marking our turtles on the 2nd marginal plate right of the tail. Previously the 4th plate was marked. A rotational change yearly will help to determine age of captured turtles.

Robert Davidson 4.28.77 "

copied-

dangerous -
boat etc. 45

(sic)
Dear Mr. Phillips,
P Things are progressing excellently here at the turtle hatchery. There are a few stock items however, which are so old as to be of little or no use. P Could we please get two or three pairs of new scuba flippers, so as to aid egg collection. We would also appreciate 2 more reels of monofilament (100 lbs. test) and 10 ~~reels~~ leaders (approx. 80 lb.). P The recently repaired Mercury outboard has been giving us a lot of trouble. On the first day of use the throttle jammed wide open, the rope starter jammed repeatedly, and the engine is very hard to start. Would it be possible to exchange this one for a more reliable outboard motor. Since we are so far from town, it's hard to bring it in for repairs. Not to be demanding but, we would also appreciate a new 50 gallon oil drum to test our engine in. The two we have now are better water strainers than anything.

Sincerely,
Bob Davidson

copied

"

47

Turtle Hatchery
Aleipata Matasele

W. Samoa

25th July 1973

Dear C. Banner

P I am very happy writing a letter to you and your family my family still live my Turtle Hatchery Project coming up this year I found turtles in New Market my turtle before Alan still live on 23th July I am broken my heart see the turtle Alan a turtle my English language not very good I am try my peace please I would like your found a Wine At Net WT.5 Grams for my Beer Alan is Beer

Thank you

Your sun in law
yours truly
V. Matasele

copied

Turtle Hatchery Project 49
Tepetasi,
Aleipata 3rd Dec 1973

The Director of Agriculture
Apia

Dear Sir,

As from the beginning of this year I think that the amount of female turtles laying eggs along the sandy beaches of the three islands; Namua, Nuutele and Nuunua is increasing to the average of 6.8 a month. Last year (was only 5.4. They also lay eggs in the unusual places like Lotofaga. According to Mr. Nafatali who sold me eggs; This is the first time that he has ever seen a turtle laying eggs on that beach since he lived. Two of my marked turtles about a year old were sold by the village fishermen in the New Market. These are the three major facts of the turtles increasing in number in Samoa. The number of eggs we buried in the nursery was 3986 3700 emerged and released 3690. Last year we released 2726. More than 50% would be of great help to our lack of 'protein'. We are having problem in the feeding and changing sea water in concrete tanks every day. I propose that we should have a new pump like our old one. that can also be used for transferring drinking water from the low concrete tank behind the turtle building

to our highest tank, 20 ft. high. If the roofing irons of the turtle building can be repaired I would be most thankful. We want sea water for turtles not fresh water when it is raining. Concrete or plastic roofing irons are better and durable than Galvanize ones on buildings closer to the sea. I hope that I would be able to handle the increasing in number of small turtles next year if these can be done before March.

Viliamu Natagi"

no/ve

"

"

This years report by far the Highest since the Turtle Hatching was first developed. The feeding and looking after turtle is going on very well. Requested your full cooperation and kind work. One thing I advise is that my salary is too low therefore I can't afford to pay school fees of my six children also fees. Matris church and family needs. I hope you will see to it with higher consideration.

Thanks you

Note nests -

new/na	122	#5	1/25 buried -	hatched 2/3/76	117 ate by dog
"	150	#6	1/25 "	" 1/24	150 hatched
"	98	#7	1/12 "	" 2/3	94 ate by dog
	129	#8	1/12	2/3	125 ate by dog

1972 - 1973

Clutch No.	Island	DATE	NO. EGGS	DATE EMERGED	NO. EMERGED	DATE RELEASED	NO. RELEASED
10 10?	Nuutele	10/11/72	5 BROKEN 140	12/14	89	1/18/73	87
1	Nuulua	1/1/72	8 BROKEN 83	3/31	73	4/24	71
2 & 3	Nuutele	2/3/72	101	4/4	78	4/29	Released w/2. 131
4	"	2/3/72	152	4/1	Hatched w/no. 5? 216	4/29	(210)
5	NAMUA	2/4/72	168	4/1	?	4/29	(210)
6	Nuulua	2/3/72	159	4/3	?	5/2	130
7	NUULUA	2/10/72	6 BROKEN 213	4/9	150	5/24	Released w/#8 247
8	"	2/10/72	6 BROKEN 185	4/11	111	5/24	()
9	"	2/12/72	1 BROKEN 108	4/15	96	5/6	Released w/200 205
10	"	2/18/72	(3) 100	4/17	93	5/6	()
11	"	2/18/72	(7) 136	4/19	68	5/17	79
12	Namua	2/23/72	103	4/25	4?	5/24	100?
13	Nuulua	2/28/72	(5) 105	4/28	89	6/9	78
14	"	3/1/72	162	5/1/72	88	6/1	83
15	Namua	3/13/72	(2) 110	" X "	" X "	" X "	" X "
16	Namua	3/13/72	112	5/11	79	6/9	148?
17	Nuulua	3/15/72	194	5/15	158	5/28	219?
18	"	3/28/72	195	5/26	171	6/13	combined 226?
19	"	4/10/72	(4) 192	6/9	76	6/13	? combined 226
20	"	5/2/72	(5) 146	7/2	100	8/4 -	98
						7/17 -	77
21	"	5/16/72	(1) 53	7/22	52	9/19	175
22	"	7/24/72	(5) 101	9/21	72	11/72	48
10	Lotofaga	1/17/73	164	3/30/73	29	4/25/73	32
11	Nuulua	2/5/73	(5) 121	4/11/73	120	4/25/73	115
13	Nuulua	2/14/73	(1) 164	4/13/73	50	5/15	144?
12	"	2/8/73	(7) 206	4/12/73	42	5/15	(144)

[CONTINUED ON PAGE 63]

<u>Clutch no.</u>	<u>Island</u>	<u>DATE</u>	<u>NO. EGGS</u>	<u>Date EMERGED</u>	<u>NO. EMERGED</u>	<u>DATE RELEASED</u>	<u>NO. RELEASED</u>
1	Nuulua	11/24/73	208	1/22/74	56	3/3/74	48
2	"	11/24/73	188	1/26	167	3/3	157
3	"	11/26/73	178	1/28	134	3/3	121
4	"	11/26/73	188	2/5	157	2/24	152
5	"	11/28/73	177	2/5	121	2/24	136
6	"	11/28/73 ⁽⁶⁾	165	2/5	145	3/29	147 [?]
7	"	12/10/73	140	2/9	140 ⁷⁷	3/29	165 [?]
8	"	12/29/73 ⁽⁶⁾	195	2/9	143	3/29	128
9	"	12/12/73	147	2/15	155	4/8	374 [?]
10	"	12/30/73 ⁽⁴⁾	168	2/20	105	4/8	374 [?]
11	"	12/31/73	176	3/26	69	6/6	636 [?]
14	"	12/28/73	164	4/2	123	6/6	636 [?]
15	"	1/23-74	156	4/2/74	123 [?]	6/6	636 [?]
16	"	1/29/74	207	4/3	100	6/6	636 [?]
17	"	2/5/74 ⁽⁴⁾	171	4/3	101	6/6	636 [?]
18	"	2/5/74	137	4/3	100	6/6	636 [?]
20	"	2/9/74 ⁽⁴⁾	154	4/6	234	6/6	636 [?]
21	"	2/12/74 ⁽⁴⁾	187	4/6	234	6/6	636 [?]
22	Nuutele	2/12/74 ⁽²⁾	167	4/15	64	6/22	99 [?]
23	Nuulua	2/19/74 ⁽¹⁾	196	4/16	120	6/17	52
24	"	2/19/74	157	4/17	132	6/22	85
25	"	2/19/74	89	4/20	145 [?]	6/22	47
26	Nuutele	2/19/74 ⁽²⁾	155				
27	Nuulua	2/21/74 ⁽²⁾	180	5/7	46	9/13	92
28	"	2/21/74 ⁽⁴⁾	177	5/27	46	9/13	33
29	"	2/25/74	144	6/7	80	9/13	53
30	Nuutele	3/11/74	166	6/19	56	9/13	53
31	Nuulua	4/13/74	150	7/5	98	10/17	196 [?]
32	"	4/13/74	89	7/11	95	10/17	196 [?]

<u>Clutch no.</u>	<u>ISLAND</u>	<u>DATE</u>	<u>NO. EGGS</u>	<u>DATE EMERGED</u>	<u>NO. EMERGED</u>	<u>DATE RELEASED</u>	<u>NO. RELEASED</u>
33	Nuulua	4/13/74	78	7/15/74	144?	9/17/74	196?
34	"	5/1/74	(1) 78	7/31/74	102	"/26	74
35	"	5/9/74	(4) 145	8/7/74	87	"/26	51
36	"	5/9/74	121	8/7/74	87	"/26	80
37	"	5/27/74	149	8/15/74	123	"/26	73
38	"	5/27/74	157		- no data -		
39	Namua	6/11/74	189		- " " -		
40	Nuulua	8/13/74	(8) 201	10/10/74	63	12/4	259?
41	"	8/13/74	(5) 142	10/10/74	83	12/4	259?
42	"	8/13/74	(4) 168	10/16/74	36	12/4	259?
43	"	9/2/74	(3) 135	10/21/74	93	12/4	259?
44	"	9/2/74	(5) 157	10/22	56	- no data -	
45	"	9/16/74	100	11/8/74	47	12/4	259?
46	"	9/19/74	170	11/21/74	21	- no data -	
47	"	9/19/74	130	11/21/74	21?	- " " -	
48	"	9/30/74	170	11/26/74	101	- " " -	
49	"	10/2/74	113	11/29/74	150?	- " " -	
50	"	10/17/74	149	12/14/74	35	- " " -	
51	"	10/17/74	132	12/27/74?	122	12/23?	278?

Clutch no.	ISLAND	DATE	NO. EGGS	DATE EMERGED	Dead		DATE RELEASED	NO. RELEASED
					NO. HATCHLING EMERGED	NO. HATCHLING		
1	-	1/2/79	160	1/22/79	89	30	1/2/79	280?
2	-	1/2/79	160	1/22/79	103	76	1/3/79	103
3	-	1/8/79	140	2/13/79	109	31	2/23/79	103
4	-	1/8/79	126	2/14/79	122	8	2/23/79	93
5	-	2/5/79	150	2/15/79	107	43	5/10/79	50
6	-	3/26/79	229	4/5/79	150	79	5/10/79	50
7	-	2/26/79	155	5/7/79	96	55	6/15/79	100
8	-	2/26/79	177	4/30/79	103	114	5/7/79	296
9	-	3/6/79	123	5/3/79	57	66	5/7/79	296
10	-	5/7/79	120	6/30/79	96	24	6/15/79	100

"The eggs on the year 5,800 Eggs Jan. up to Dec 1979." 20hp Mercury to Spia during June.

12	-	7/1/79	150	8/16/79	100	50	10/20/79	70
13	-	7/3/79	68	9/9/79	58	10	10/20	23
14	-	7/30/79	167	9/9	140	27	10/7	104
16	-	8/18/79	168	10/2	100	68	10/30	100
17	-	8/8/79	49	10/10	24	25	10/30	24

1	-	12/3/79	180	1/13/80	92	98	2/18	52
2	-	12/3/79	160	?/20/80	40	120	2/19/80	84
3	-	1/3/80	178	3/3/80	154	24	- no data -	
4	-	1/3/80	160	3/4/80	92	68	- no data -	
5	-	1/6/80	109	3/2/80	102	7	- no data -	
6	-	1/6/80	170	3/3/80	154	26	- no data -	
7	-	1/6/80	180	3/16/80	133	47	- no data -	
8	-	1/7/80	102	-	-	-	- no data -	
9	-	1/14/80	150	3/16/80	103	-	- no data -	
10	-	1/14/80	173	3/23/80	140	-	- no data -	

Clutch no.	ISLAND	DATE	NO. EGGS	DATE EMERGED	NO. EMERGED	DEAD HATCHINGS		NO. RELEASED
						DATE RELEASED	NO. RELEASED	
11	-	2/4/80	160	3/2/80	75	-	no data	-
12	-	2/4/80	147	3/28/80	50	"	"	"
13	-	2/4/80	209	5/1/80	63	"	"	"
14	-	2/4/80	178	5/2/80	100	"	"	"
15	-	2/14/80	189	-	no data	-		-
16	-	2/14/80	203	"	"			
15?	-	3/18/80	54	4/17/80	32	22	6/11/80	32
16?	-	3/28/80	38	6/21/80	20	18	6/30/80	20
17	-	3/3/80	154	-	no data	-		-
17?	-	7/7/80	106	7/8/80	74	32	9/11/80	74
18	-	7/7/80	150	9/10/80	100	50	9/11/80	100
19	-	7/16/80	100	8/19/80	80	40	9/13/80	60
20	-	8/28/80	102	9/24/80	56	42	9/16/80	56
21	-	8/29/80	87	9/26/80	40	47	9/17/80	40

<u>Clutch No.</u>	<u>ISLAND</u>	<u>DATE</u>	<u>NO. EGGS</u>	<u>DATE EMERGED</u>	<u>NO. EMERGED</u>	<u>DATE RELEASED</u>	<u>NO. RELEASED</u>
14	Nuulua	2/14/73	140	4/14/73	62	5/15/73	74?
15	Nuutele	2/16/73	107	4/16/73	102	5/15	84
16	Nuulua	2/19/73	133	4/21/73	41	6/7/73	58?
17	"	2/20/73 ⁽⁴⁾	173	4/22/73	142	6/7/73	105
18	"	2/26/73	140	4/22/73	42	6/7/73	46?
19	"	3/1/73 ⁽¹⁾	155	4/25/73	74	6/18/73	91?
20	"	3/1/73 ⁽²⁾	145	5/7/73	74	6/18	81?
21	"	3/1/73 ⁽³⁾	113	5/11/73	46	6/18	79?
22	Beach Nuutele	3/14/73	101	5/25/73	97	6/18	60
23	Nuulua	3/15/73	181	5/24/73	67	7/2/73	132?
24	Namua	3/23/73	97	5/24/73	67	7/2	115
25	Nuulua	3/26/73 ⁽⁶⁾	177	6/2/73	81	8/30	250?
26	"	3/26/73 ⁽⁴⁾	134	6/2/73	96	8/30	250?
27	"	4/4/73	177	6/2/73	123	8/30	250?
30	"	4/9/73	187	6/15/73	132	9/17	100
31	"	4/9/73	173	6/20/73	52	9/17	100?
32	"	4/19/73 ⁽⁵⁾	161	6/27/73	115	9/17	100?
33	"	4/19/73 ⁽⁷⁾	159	6/27/73	119	9/17	111
34	NAMUA	4/30/73 ⁽⁴⁾	131	6/30/73	115	9/17	112
35	NUULUA	5/1/73	153	7/13/73	106	9/17/73	90
36	"	5/1/73	168	8/2/73	150	9/15	122
37	"	5/14/73 ⁽⁴⁾	165	8/5/73	150	9/15	122
38	"	5/14/73 ⁽³⁾	171	8/18/73	102	9/15	122
39	NAMUA	5/24/73	144	8/30/73	50	9/15	112
40	NUULUA	5/28/73	167	9/29/73	100	9/17/73	100
41	"	5/28/73	152	9/30/73	58	9/17	100?
42	"	6/27/73 ⁽⁶⁾	167	9/30/73	58	10/16	205
43	"	7/23/73 ⁽¹⁾	181	9/29/73	101	10/16	165