

1980-82 FFS

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COMPOSITION BOOK

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

AVAILABLE AS:

No. 09-9130 (1130) 60 SHEETS COLLEGE RULED & MARGIN
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5 SEPTEMBER 1980

FRIDAY, 7 AM

Depart with Bob Justman Beech 18-
for FFS - collect hatchlings - Passengers
include Bill Gihmartin, Chris Yamashita, Jan
Perry, Jerry Rogers (mechanic/electrician), his
young son Frank, and Bob Justman's wife
Hobby.

Jerry mentioned 1975 problem of algae in diesel
tanks at Tern - each tank holds 29000 gal
and ~350 gal algae sludge was centrifuged
from each one. Disposal was by burning
in 50 gal drums - but very difficult to
burn.

Land at Lihue for fuel and breakfast.
Met Schulmeister - they mentioned
that ~40 hatchlings had been found in
trench dug for heat exchanger line. Prior
to this, only a scattered few hatchlings
had been found on Tern. Reportedly only
a small light is present in the area.
USCG buoy tender brought fuel ~10 days
ago.

Depart Lihue ~ 9 AM -

Photos taken of Nihoa - dark rain
squalls present - reportedly a front
coming through FFS area.
Saw Necker with vessel passing to
the east. Flew over East - Green
vegetation - photos taken - Trig still

5 Sep
Friday

~430

2/1/80

5 September 80

Friday

has sand bar projection. sand at Ter
 ~ 11:30 AM - some water on runway
 from hard rain yesterday and (this
 morning.

Report that ~ 48 hatchlings found
 in trench - probably from light in
 quarters(?) Two of the hatchlings were
 retained in bucket of water -

All released on evening of 9/5.

Found site of emergence right
 in front of mess deck quarters.

- 6-8 found still alive during excavation -
 released with above. Walked Tern

beach - old pits noted - cluster of
 eastern end - John Grawing walked
 Tern beach many times looking for
 hatchlings - educated estimate of
 10-12 nests total this season.
 No new digs after ~ August 1.

~ 430 Packed up gear - loaded BW "east island
 Express" (yellow) and motor slowly
 to W-5. Bill and Jan let off
 and John, Chris and I proceeded
 to East Is. ^{5:30 PM} racks out - 2 pits ⁴⁶ _{A16}
 good noted from last 2-3 days ^{possibly longer}
 set up tent while Chris
 walked around island looking for
 hatchlings. none found.

11 JUL 2002

6 SEPTEMBER 1980 TERN - North SEA WALL
 SATURDAY ~ 1:30 PM

S - 42.9^l x 35.3^w cm
 3085 RFL

3086 LFC C - 45.2 cm x 42 cm

PL - 34.6

HEAD - NT

TAIL - 7.6

WEIGHT - NT

- Red algae & growth on tags.
- tags are already slightly expanded.

originally tagged 5/7/79 N. Tern

S - 42.9 x 35.3

1.3 cm/increase ÷ 16 month = 0.08 cm/mo

5 September 1980

FRIDAY

Started walking-surveying island digging suspected sites and looking for hatchlings. Found hatchling with head slightly out of soil - A6-7 - digging produced 11 hatchlings - healthy - remaining after initial complement. Released

Another dig^{A5} produced 24 deep barely alive - 23 dead - coarse rubble over top - apparently none got out alive.

Magots found in hatchlings 6-8" deep - source unknown.

Noted thick Tribulis w/ aphids (?). Thick Tribulis may be due to low level of turtle nesting - particularly areas 9-11.

Also some exotic species, including "sand burs".

Checked for hatchlings off anchor until ~ 11:30 PM. Slept until ~ 3 AM and checked for one hour.

Slept until ~ 8 AM - additional

6 Sept 80

SATURDAY

survey, then motored to W-S for pick up. They have ~ 13 hatchlings. Motored back to Tern - tied off end of island - some of the W-S hatchlings are salvaged - appear weak - stuck at bottom of the nest for period of time.

Hard rain at Tern ~ 2 PM while I was scoop netting juvenile on P. 4. (used handle).

6 Sept. 1980 Net handle broke while trying to
 Saturday catch a turtle - 3, possibly, 4 total
 observed along the wall. Very little
 if any algae seen growing along the
 wall - but lots of clean Barracles.

Walked Tern beach looking for
 hatching sites - none present.
 Sunny out now.

At ~ 4:00 PM departed for Trig
 with John Andre and others.

Three baskets on Trig - 2 ♀, 1 ♂.
 Looked at nesting area, but no
 hatchlings found. Collected soil sample
 from about mid-depth of excavation.

Proceeded to W-S to drop off people, then
 on to EAST. Looked for hatchlings
 during the late afternoon and found the
 following:

- 1- under wet Tribulus notiales
- 1- crawling through Tribulus
- 1- tangled in fine roots, but
 partly out of nest emergence
 site
- 2- found deep in the nest

At night I put the fluorescent light

7 Sep
 SUND

outside of the tent to possibly attract hatchlings. At ~midnight a single hatchling crawled in the tent and woke me up.

7 Sept 1980

SUNDAY I excavated at least 35 crab holes - no hatchlings found. Noted pregnant(?) seal by log in area 12.

Few dead-dried hatchlings have been seen on East - Up at ~7:30 AM

John Andre found a partly dried hatchling with a small piece of cloth twisted around its flipper - apparently tethered and died.

Radio report from Gilmartin indicated that ~20 hatchlings had been excavated - collected from same nest. Also several others found on the surface - one or two taken from ghost crabs - one with eye put out from claw. (23 total - W-5) (7 total - East).

With John Andre, I tested slab with long handled sledge hammers. Busted hole in the center and at the edge. Edge is ~2-2.5x thicker than center.

Center is this thick - no steel reinforcement.

7 September 80

Sunday

Removal of slab may be easy by "cement saw" using portable generator. Also, need to (remove roosting rods - pipes used by frigates.)

Departed East at 9:45 AM

Picked up people at W-5 and proceeded to Tern.

Very hard rain - flooded runway

Jogain - 12-1 PM. Bright and sunny at 3 PM.

~ 52 hatchlings total at this time.

Looked for juveniles along north seawall, but none seen except one with white coralline (or barnacle?) - missed it with scoop net.

Last night John Grayling walked Tern Beach and found a ghost crab with hatchling. Inspection of the area revealed emergence site under vegetation near work area for seawater intake pipe. Two more hatchlings found - but dead - near ghost crab holes. Site excavated, but no live hatchlings found - apparently a good hatch. Six crab holes excavated, but no additional hatchlings found. Crabs are again the most abundant on Tern Beach - many more crabs are present than represented by burrows.

At ~ 4 PM I walked Tern Beach, but hatchling sites found.

7 Sep
Sund

7 September 80 • Two boats departed Tern at ~ 5:30 PM -
 Sunday for Whale-Skate. John Garming and I
 motored behind Trig - 7 basking turtles
 noted also "rose lace" tracks of
 nesting turtle on beach crest. Proceeded
 to Whale-Skate "behind" Trig - easy to
 navigate as long as the Sun is at
 your back. John & I stayed at W-S
 while Bill, Jan, Chris & Justwan proceeded
 to East in the second Boston Whales. I
 used shelter tent by redwood log - John
 set up "dome" tent of Schulmeisters.
 Basking turtles included 5 (2♂ 1♀ 2I)
 at central NE shore, and 2 (1♂, 1♀) at
 NE point-end. Recoveries and taggings
 are in data tables.

Found immature booby (fledged) with
 green polypropylene ^{trawl} gill net around net -
 removed it. Walked to white sand
 nesting area at "Whale" end of island -
 ~ 50 ghost crab holes in intertidal zone
 along this area. Dispatched crabs
 as available. Looked for hatchlings -
 previously dug out three (3) deep in
 old nest near redwood log. John and
 I proceeded to walk all the way
 around Whale-Skate - dispatch total
 of about 60 crabs - mostly O. c.;
 Did not see seal mentioned by Bill as
 having round "plug" or "flap" hanging from

7 Sept 80

Wicked Wahine (?)

Sunday side

Note that on the evening of 9/6 I saw Kaimi and other fishing boat anchored off toward Gin-Lbin Islands. Other boat has experienced mechanical problems. Both vessels departed shoals on the morning of 9/7.

8 Sept 80

Monday

At ~ 8:30 AM constant rain and some wind started at Whale-Shake. This was almost continuous until ~ 4:30 - 5 AM. At ~ 6:30 AM we disassembled campsite to return to Tern. Dark large rain storms present at several points on the horizon. However, calm seas and only light wind are present.

A very large squid (est. 5"-6" diameter, 14-16" body (not including short tentacles)) was found near boat anchorage.

Departed for Tern arrived ~ 7:30 AM. East Island team reported that only one (healthy) hatchling was found. Rain did not start until ~ midnight. They returned to Tern at ~ 9 AM.

All gear readied in preparation for departure.

8 Sept 80
Monday

- Notes - Tern Is. residents will fence
15 July nest of turtle 200 -; also
apparently good nest known to
John Gwarding at east end of Tern Is.
- Photo borrowed from Ruth ^{Ittner} taken
25 July of turtle 491 and
left^d tagged turtle (398?)
- Data through 7 September received
from Ruth
- Trig soil sample sent to Jeanne
Mortimer
- Request that Ruth collect Tribilis
with aphids (subsequently given to me and
transferred via Montgomery to

Depart Tern ~ 12:30 PM; flew over Trig
[Achromatic (photo from the SW); also almost
G4 Roll EL directly over East - photo taken of
cement slab end of island.
Flew past Disappearing Island -
photo taken of numerous seals
on island.

Arrive Honolulu - 4 PM -
Drove turtles to SLP in van -
total - (54). Two hatchlings
exhibited unusual swimming behavior -
1) turned in circles 2) splashed at the
surface.

Noted that liquid crystal readout on
Scanner is very blurred - indistinct

Seardsley

18-19 September 1980

(Thursday - Friday)

I along with Letha, Conquest of SLP
along with Schulmeister to
Tern Island, FFS.

On the night of the 18th, hatchlings were
seen at the surface of fenced (freq. 200
on Tern. - Dig down and obtained 107
hatchling - 3 infertile(?) eggs.

The other nest under observation
by John Graving was excavated extensively,
but nothing found. Another

possible Jernegersee site was found
and excavated - this produced 73
live hatchlings and 3 infertile(?)
eggs.

On the morning of the 19th
Letha found a single hatchling
being held by the carapace by a
ghost crab.

All turtles were transported to SLP
on the evening of the 19th; approx. 35
per tray - separated by clutch.

During the night, one tray overflowed
- (some found in adjacent office,
and one in pond that went down
drain. Also, Steve Kaiser indicated that
Grader may have found some and
put them back in the wrong trays.

I noted that ^{some} hatchlings from 6-8 Sept
batch are already showing pigmentation

12/5/80 Report from John Graving
on Kawai indicates that these eggs
hatched about one week later. - all 100% 3 crabs
took hatchlings

in plastron. About 9-10 hatchlings
have thus far died from first batch.
Severe necrosis noted on the heads of
several turtles.

10/7/80
Tuesday

Report from Lisa Bouche, recently returned from Easy Rider trip Honolulu to Midway, with a few days at each site.

On 17 September, while anchored $\frac{1}{4}$ - $\frac{1}{2}$ mile off East Island, three small turtles were seen by boat at 2230 hours; one was scoop netted, measured $2\frac{1}{2}$ " carapace length. Seen swimming into the wind, but not getting anywhere. - Probably attracted by anchor lights.

On 27 September, a ~1m basking turtle was seen on SE Island at Pearl and Hermes Reef.

Also, on return trip to Honolulu, John Naughton saw hatchlings around Easy Rider while anchored at French Frigate Shoals near East Island.

15 DECEMBER 1980

MONDAY

~ 7:15 AM

Depart from Honolulu International for PFS with Bob Justman Beachcraft 18 on charter to NMFS - 2 electric "breaker-hammers" aboard - personnel includes Bill Gilmartin, Alan Kam, Andy Dixon, Jerry Ludwig and Doug DeMasters. Copilot - Chris. Land at Lihue for gas at ~ 8:15 AM.

P-3 Orion on the ground, following landing without wheels down in few months ago. Breakfast at airport restaurant - along with John Graving, now on duty at Kilauea Point. John J. reported some concern about albatrosses now nesting on East Is.

Departed Lihue about 9:15 AM. Observed Necker, ~~with~~ with Easy Rider I nearby, and Easy Rider Too several miles off to the northeast. Another small vessel seen heading to the east, at ~ 1/2 way to PFS.

Land at Tern ~ 11:45 AM. Cross wind blowing out of N-NW. Large surf coming in from the north. Bob & Sue Schylmeister and

John Andre present at Tern. Several hours spent unloading gear, installing new steering

15
MON16
TUE

15 DECEMBER 80

Monday cable on boat, & testing hammers with generators.

At ~ 3 AM Bill, Doug, Jerry and I departed in 'Older' Boston Whaler for East Island transporting generator, hammers, and other tools. Swell, also seems to be coming from the W-NW. Sea confused, with various strong currents.

East Island has many albatross, many on eggs. Transported gear to slab, covered with canvas, and returned to Tern Is.

Alan and Andy stayed on Tern and took down Omri tower.

Alan counted ~ 24 seals on Tern.

Just before sunset, I walked along north shore, seawall, to other end of island - no turtles seen. Turbulent big surf.

Sue reports seeing ~ 10" turtle in waters near Trig on 19 November. Canned Beef-Stew and Rice/noodles for dinner.

16 DEC 80 Departed for East ~ 8 AM; Sunrise

TUESDAY ~ 7:15-7:30 AM; using newer

BW - John Andre, Jerry, Bill, Doug,

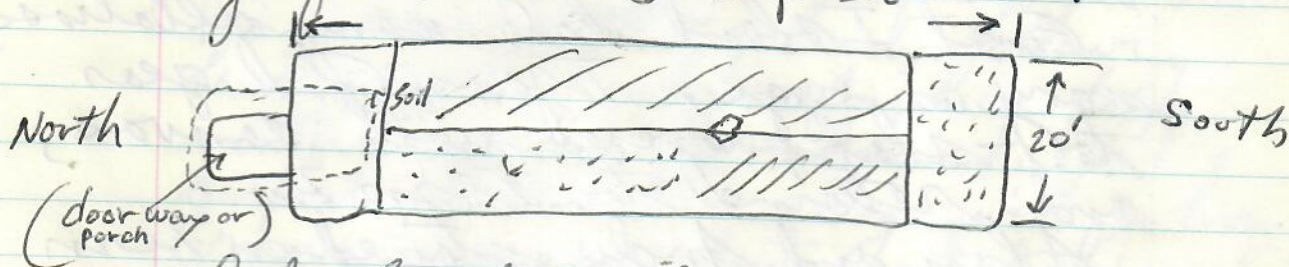
Alan, Andy and me aboard.

Arrived ~ 9 AM. Commenced jack -

16 DEC 80

TUESDAY

(Chuned wood)
 hammering slab and center site
 where (Bill and I had made
 test breaks with sledge hammer, in
 September. Crow bars used to
 move concrete chunks; jack hammers
 were most effective using existing
 cracks - slab ranged from 3' to
 5" thick, with corners and
 edge foundations up to 12".



Black-basaltic rock interspersed in
 concrete; chunks of concrete piled
 on/in dotted area of above drawing.

Roost-bef for dinner. J /// 16 Dec
 (Tuesday) area removed.

17
Wed

17 DECEMBER 80

Wednesday

Up before sunrise, again -
 Bill Gilmartin cooked breakfast.
 Departed for East, but yellow oiler, BW
 would only run at $\sim 1/4$ speed. Bill, &
 Jerry ~~and~~ returned to Tern for
 repairs. John Andy drove the
 rest of us to East, then returned
 by himself to Tern. Crew
 continued breaking up slab. Others
 arrived at East several hours later
 and loaded wire, & rusting metal into
 old yellow boat. Dotted area in drawing
 represents slab sections removed.
 Both boats returned to Tern
 in late afternoon. Metal Debris
 was discarded into dump from
 boat on north side, and into eroding
 hole near tide gauge.
 (Burned wood)

Ham for dinner.

Evening discussions with Ludwig, Bill
 DeMarter and Andy concerning Swerdlow
 baitfish proposal for EFS -
 Fishery Development Plan.

Ludwig would like to see Seeward
 Island fisheries development for
 economic development/benefit of State.

18 DECEMBER 1980

THURSDAY

Early morning departure for East-
 Jerry had John Jude stay at Tern to
 work on placement of radio beacon.

Morning work consisted of slab removal
 around pyramid - as close as possible.
 This slab section is very thick -
 reef was positioned here.

Also, small ~~was~~ "Navy 1946" slab
 was taken out (photos) - This
 measured $\approx 30'' \times 50''$ and contained
 reinforcing bar, 3-4 lengths.

Jerry motor a large boat full of
 Jetties debris to Tern Island.

Sometime during the return trip to
 East, the 25 hp spare engine,
 owned by HMB, checked out by Parish.

During the afternoon, a very large pile
 of gathered wood was burned on

the beach near concrete "pods" just
 east of the pole. Moderate size
 drift wood log was rolled into
 the wave-wash. Hopefully, W-SW
 carried log offshore and away from shore.

Shortly before final departure, I scoop netted
 a juvenile on East Reef flat.

1-2 were seen during previous
 days feeding-swimming in this

18 ~~December~~ 80
 Thursday general area. ~ 4 PM
 Juvenile data, as follows:

(assigned
 Gray book no. 217)

3517 RFL Curved - 45.5 cm x 40.0 cm

Plastron - 35.8 cm

3518 LFL

TAIL - 8.5 cm

Caulerpa racemosa removed from mouth:



Other observations of juvenile turtles
 include:

- 12/17 Wed. - Immediately upon early morning departure
 from Tern - In 20" SL swimming by hoist
 12/17 Wed. - Returning from East, a short distance
 West of "Round Reef".

Note that Mullet is present, but Round Island is greatly eroded. Portion island has moved to reef area near Round Reef pass. Bare Island is not present.

BACKNOTE: Tom Parrish, personnel turned over yellow Bu in surf at North channel off Tern during late Oct or early Nov.

Notes on Seals: During our visit two seals (juveniles) crawled onto Tern by fuel tanks and became (apparently) disoriented on runway. Bill and Doug carried one, dragged the other back to the sloping beach. Schulmeister reports that this

has occurred on several other occasions. One seal was very exhausted. This constitutes a hazard in that seals could fall between iron seawalls and not be noticed, or be on the runway when aircraft lands. Also, with increasing use of Tern by monk seals, a hazard would exist if FWS personnel abandoned island for portions of the year. Death from entrapment or exhaustion would probably result.

only
18 pieces
needed
- 9 each
side

19 DECEMBER 1980
FRIDAY

At ~9:30, Bob, Andy, Jerry and I motored to landing craft ramp off Whale-Skate to inspect for use as radio-tracking receiver station. Structure appears sound and elevated enough for this use, particularly side of rectangle closest to Whale-Skate. Length of area suitable for covering is 5.4 meters (17.7 feet); width of ramp is 4.6 meters (15.1 feet). Rusty "Eyes" along center of ramp need to be cut, or knocked, off to create smooth surface.

Aluminum landing mat (track) at Tern measures 2 ft by 12 ft (56 pieces total). Some will interlock; most need to be straightened by driving with tractor or truck. Used pieces of plywood on Tern measure 4 ft by 7 1/2 ft by 1/2 inch (15 pieces total). Also, miscellaneous 2" x 4" and other used lumber. Tent need to be pitched on platforms, as well as awning. A roll of indoor-outdoor carpet could be laid under awning. Receiver antennae need to be guided with cable. Height could

only
18 pieces
needed
→ -9 each
side

19 DECEMBER 1980

FRIDAY

be somewhat greater than 1980

East Is. study. - Possibility of 3-strut tower exists.

Considerable potential exists for conducting an observational study of monk seals w/pups along west shore of Whale-Skate. Also sharks (tiger and gray) and turtles (fragile juveniles and copulating pairs).

Toilet could be situated directly over ocean.

Inflatable boat could be moored right along side ramp - large inflated mooring floats could be used as buffers (floats were brought by Bob Schulmeister from Alaska, where he reports that large numbers wash in on the beaches.

Area under concrete slab consists of nodgrate to fine coral particles with slight amount of humus present. Also, intact small bird bones found. Drain pipe from toilet removed.

It will be interesting to record the colonization of this area by plants,

19 DECEMBER 1980
FRIDAY

27

birds, and turtles.

Bob Justman and Chris arrived at
~ 12 noon. landing from the west -
10-15kt crosswind blowing.

Departed from Tern ~ 2 PM, flew 7-8,000'
on return - storm cloud (white-out)
some rain. Rapid flight direct to
Oahu, passing over Kilanea Pt on
Kauai. Arrived at Honolulu International
~ 5 PM.

Picked up by Eric in NMFS van.

Doug DeMaster
National Marine Fisheries Service
P.O. Box 271
La Jolla, CA 92038

wife - Janette

Reference book:

Jolly - Seber. 1973. Estimating the
abundance of animal populations
(mark & recapture studies)

POSTNOTES:

Desirability of preparing article on
East Island Clean-up project:
Review - 1.) Human use/alteration of

- 2.) Abandonment of facility
- 3.) Clean-up history
 - a.) POBSP
 - b.) Dave Olsen

- 4.) Problems created by trash:
 - 1.) blockage of nesting habitat
 - 2.) entanglement in wire
 - 3.) blockage of hatchlings

Black spiders with orangish "hourglass" found
in wood debris.

Large aggregations of cockroaches found under footing
of slab.

Bird impact: 1.) Probably 2 albatrosses displaced

2.) Fledged frigate's wing broken accidentally
by Andy;

3.) Albatross egg accidentally broken
by plastic float (by me).

4.) Incubating albatrosses all shake their heads
when sledgehammer strikes concrete.

Possible methods for removing
"pyramid" of concrete chunks

- 1.) Shuttle using 2 or more Boston Whalers and 5 or more on shore people loading boats. Dumping could take place $\frac{1}{2}$ from shore in sandy bottom areas;
- 2.) "Whaler" launches from USCG buoy tender and personnel transporting chunks to dumping areas;
- 3.) LST or similar "landing craft" (Navy or?) motored onto beach for loading;
- 4.) Military helicopters using pallets or sling transporting to dumping sites.

Need - Weight of Concrete = $\text{area} \times \text{thickness}$
need: Standard cubic weight of concrete:

Reasonable "lift" capacity
of helicopters =

Possible use of pyramid on East-

- 1.) observation platform;
- 2.) shade for tent-other.
- 3.) Antennae site;
- 4.) seabird habitat

Monk Seal Impacts -

- 1.) 2-3 "yearling" years at high tide park along coastline adjacent to slab breaking. Eyes closed sleeping; no attention paid to generator noise, jack-hammering, or people walking back and forth. ~~No~~ displacement seen as a result of our activities. Seal can be seen in the background of photos.
- 2.) Jackhammering, sledge hammering, and generator did not appear to disturb juvenile sleeping adjacent to small slab that was removed.

15 NOVEMBER 81

SUNDAY

Depart for FFS at 6:30 am
 Bob Justmans, Beech E185 (N691T)
 with Rob Schellenberger, Bob Pitot & of
 Jim Parrish's student & Atlas Electric
 repairman. Saw sun rising over
 Maui at 6:45 am. Land Kawaii
 at 7:30 pm - ate breakfast, with
 Gary Brady, depart Kawaii 8:35 AM.
 Rain showers.

OBJECTIVES OF EXPEDITION:

- * 1. Look for 23 juveniles that were released in two batches during August and September 22, 1981 from Tern Island
- 2. Census baskers & foragers
- 3. Tag and Recover tags on baskers & foragers
- 4. Census nesting
- 5. Assess hatching
- 6. Salvage hatchlings

15 NOVEMBER 81

SUNDAY

Photo of Necker from the north
as we flew over.

Starting at Disappearing, Rob
took photos of each island
using 35mm through hole in floor.
Altitude 950-1000'.

I took photos of East Island;
other islets were directly under
airplane. Many seal (60+) on
Disappearing; many "pock"
marks (turtl' digs) seen on
Little Gin; - Island has been
washed over. Gin is very
narrow.

Landed at Tern ~ 11:45 am.
Skip and Heather Fortner and Larry ^{Hoopes} and
Mary met plane.

Moved to Round with Ruth
and Bob Justman - 2:05 pm.

3 seals - one with an adult
female alongside.

Arrived at East at 2:25 pm.

Ceramic toilet present.

Female at SNEP with new
black pup. No basking turtles
seen. 18 seals total.

One light colored juvenile seen

off antenna west pole. many
black-footed seen - several eggs
already present. East is nearly
devoid of vegetation - seems very
dry.

Departed East ~ 3:15 pm -
Taid off bare to count seals.

Arrived at Whale-Skale ~ 3:40 pm

Ruth counted 68 seals
Read tag number 1226^{LF} female;
west shore, south section.

A second basking turtle crawled
in - seen from a distance.

Photo taken of juvenile seal
with left flipper bitten off, scars
on head - Salvage for Aquarium(?)

Excavated coarse site by boat
mooring - 37 live hatchlings - many
distorted bodies; 3 dead hatchlings.

13 live hatchlings; ~~2~~ 2 dead;
removed from second excavation
site. All released about
1/2 mile off W-S; Photo of
Bob Justman.

5:25 pm at Trig. many seals along
beach + 4 basking turtles -
one by seal; one up very high.

Reported that Schulmeister counted
1500 Frigates on
Tern at one time.

15 NOV 81
SUNDAY almost to beach top.

Returned to Tern at 5:40 pm.

6 pm - Walked along North seawall
of Tern - Noted short cropped
green ulva and, in areas,
a red alga (Saurencia?).
No turtles seen.

Consider introduction of Acanthopora,
or other, to improve forage
for turtles.

Spagetti Dinner - -

Talked to ship on the Radio ^{messages}

Saw new runway lights.

- 1.) Ruth call Brooks ^{Remove from Dock}
- 2.) Ruth get money from John -
- 3.) 10 post cards each to Larva
- 4.) Will call Ruth weekend

16 NOV 81 UP ~ 8:30 am -

MONDAY

Surveyed seawall - tide gauge area
and perimeter of island - tide high
but no turtles seen.

4 seals close to seawall in
tide gauge/former fuel barge area.
Saw Frigate dead with head
stuck in the seawall.
New gasoline storage shed has been
built on old "seals" concrete slab.

16 NOV
SUNDAY

16 Nov. 81. Reported that ^{small} jets flew low
 Sunday over the area - and helicopter flew
 over Tern runway at ~ 200'. Thought
 to be from passing aircraft carrier.
 Shallenbeyer states that they had called the
 Navy, and they are looking into it.

Shallenbeyer described his plan to me about
 prohibiting ^{the} taken of glass balls - and sells
 them.

Ruthard I motored to Trig at ~ 11:45 am.

I saw a number of the lobster
 larvae collectors along the way (reported to
 be 20, but I didn't see that many.

Ruth ^{saw} 1-2 may have been lost due to
 line fraying where it attaches to
 collector (or bitten by shark?)

Seems like lots of Messerschmidt
 bushes on Trig. Sard far attached.
 Many seals along the beaches - Ruth
 counted 58 total. 33 yesterday
 on Tern.

Only one turtle basking - adult ♀
 near seals on north shore.
 Seems like many old smoothed
 out pits - but these may be more
 noticeable due to absence of
 groundcover vegetation. Pits have

16 Nov 81

Monday also been dug on wide sandbar east extension of Trig.

Time was spent watching nearshore waters for presence of juvenile turtles - none seen.

Departed Trig ~ 12:45 pm. Motored to Parrish's study site off W-S and pick up Bob Justman and returned to Tern.

Parrish's student - Tony and Mac - have not seen any turtles, except one large one stopped from the boat behind Trig.

Ruth and I saw ~~an~~ adult female turtle just after starting to motor away from Trig toward W-S. She dove to the bottom (~15') and stayed there.

Departed from Tern ~ 3:10 pm.

All seals on sand bar at NE end of Tern^{Tern} lifted their heads and looked as the plane went by.

EXPEDITION 29
FRENCH FRIGATE SHOALS

14 APRIL 1982

Wednesday. Depart ~ 6:45 am with Bob Justus ^{Honey} ^{to} ^{KAWAI} ⁵
 Copilot, Jerry Ludwig, Bob Ferguson
 and Bill Liberton. Two seats
 provided by Sea Grant (P. Grigg) from
 1 April flight.

OBJECTIVES:

- 1.) Determine extent that turtles have now arrived for 1982 breeding season
- 2.) Tag as many basking males as possible
- 3.) Try to recover gulf-marked turtles
- 4.) Recover and measure juveniles for growth records
- 5.) Determine ^{extent} of basking on Tern Island.

Card Kawai ~ 7:30 am for breakfast;
 Joanne (volunteer) boarded
 plane for 3-month stay at Tern

cow
 11/86

Departed Kawai ~ 8:30 am - flew to the north along Napali Coast - 5+ large ships seen off Barking Sands - note that RIMPAC starts soon and this probably coincides with the migration of turtles from main islands

14 APRIL 87

to French Frigate Shoals.

Saw Nublo kai beach - noted extensive reef flat adjacent to area, where Jack Harter reported basking - Must be low tide now, because reef appeared bare.

Overflight (2 photos)

Land 11:30am

[Pliers + 5454, 5455, 57, & 58.]
NOW AT TERN

Photos taken by Jerry Ludwig through hole in bottom of airplane.

5-6 baskers seen on Trig, but I could not see the island well - same for other islands because we made a direct overflight.

cow
Ti 86

Along the south shore of Tern I barely saw 2 turtles close to the beach.

1 turtle basking on Shank along with several seals.

Johns Andre saw 2 turtles

close to shore roosting today.
Ruth saw one basking - all
at east end of South beach.

Photographer reports that before today,
only one other turtle has been
seen basking on Tern since he
arrived 2 April.

I walked all the way around the
island with my scope net - low
tide - no turtles seen. Heavy
overcast, cool brisk wind.

At ~ 3pm we departed for Trig
(me, Bill, photographer & Ludwig)

14 APRIL 1982 - 7:30 pm

12 JUL 2002

Turtle Report from Ham - Laysan IS.

Tagged 20 turtles thus far -
 5 adult ♀
 8 males adults
 7 juveniles

4 tag recoveries
 Applied 5901
 remeasure - 77.3 cm

T 265 - 7/26/73 ♀ LAYSAN
 3580 ³⁵⁷⁹ TC7 6/10 - 6/25/80 EAST
 +3579 - carapace injuries
 5096 ~~series~~ TC70 6/28/81 EAST

69.8 cm length
 Carapace 11
 27.5 in

+14/82 S-56.1 x 45.0 and ~~2683~~ with 4 digits
 JUV. ~~2634~~ 6/28/78
 by Nattel
 basking
 Cross Pt

→ No tiger sharks, but black tips & white tip sharks in shallow water

MAX: 6-8 Basking at any one survey
 Average: 4 " " " " "

He saw a juvenile feeding on Corberpa
roseosa - caught, tagged and
 measured.

- NEED -
- 1.) Put 2nd tag on with old MONELs
 - 2.) SURVEY AT NIGHT
 - 3.) Send out more tags (air drop)

WEDNESDAY

24 APRIL 1982

Lisianski Radio report by
Sheridan -15 tag recoveries - adults
and juveniles

3 new tags

Average counts of boaters daily
5-10
maximums - 18

To Bed ~ 11 pm

Up ~ 7:30 am - organized canned goods
and other gear; took scoop net
and walked along north seawall -
and rest of Tern (my second complete
circuit since arrival). No turtles
seen. Sooty Terns are not
numerous; Report that a few
(or one?) frigate is building a

15 APRIL 1982 nest on Tern; Frigate "displays"
 Thursday seen on Trig.

Billard -
 Departed for Whale-Skate -
 arrived ~ 10am
 Calm seas - sunny out -
 quite different from yesterday's
 bad weather. Low tide -
 both Trig and whale-skate have
 sparse vegetation now.

Tagged and recovered as many
 tags as possible on W-S, then
 moved to Trig at 11am. Took
 photos of copulating pair and attendant
 male beached in shallow water - all
 three turtles have tags. South shore.

Copulating pair

Returned to Tern Is. ~ 1145 am.
 Hauled out boat and slayed up
 gear. Ate lunch and departed
 Tern ~ 1:30 pm. Overflight and
 photos of East -
 Direct flight to Honolulu; discussed
 possibility of Justwan doing

50

BACKNOTE: 6/31/81 TAGS LEFT 5451-5458 (8)
AT TERN: 5217-5221 (5)

Thursday

15 APRIL 82

~~and~~ aerial survey of Ni'ihau coastline
on one of his flights to Tern.

13 MAY 82 Tags sent to JOHN ANDRE - 5471-5475 (5)
6351-6375 (25)

P. Williams &

4 MAY M. Wexler to Tern for day trip.

2 workers of Gilmartin's went to spend
24 hour periods on East & Whale-Island
for seal study - aerial?

Summary of TAG ENCOUNTERS
AT / FFS 14-15 APRIL 1982

	Newly tagged		Tag recoveries		TOTAL
	Male	Female	Male	Female	
TRIG	5	2	5	6	(18)
Whale-Skate	3	1	2	2	(8)
Subtotals	8	3	7	8	
TOTAL	(11)		(15)		[26]

90 Tag encounters that are recoveries - 57.69%

HIGH TIDE 3-4pm 3 AUG 82 Tues.

LOW TIDES 11pm 3 AUG 82 Wed.
9am 4 AUG (lowest)

3 AUGUST 1982

TUESDAY

Depart ~ 8:30am Bob Justman's
Beech 18 - Direct flight to Tern Is.
Aboard are Gail Peterson, Amy
Uemurya, Miriam Pillos.

OBJECTIVE: ^{a)} Teach - how to gather
hatchlings each night so that
animals will be available for
graft marking.

b) MONITOR EXISTING NESTING AND BASKING
TECHNIQUES - ① Walk beach & or interior
of island looking for
hatchlings crawling to the sea.
Start search shortly after
sunset. Most should hatch before
midnight for that night.

② During the late afternoon
before sunset, look for
place where hatchling
will emerge. Fence with
chicken wire (but don't

leave it that way during the day.

- ③ Locate sites where hatchlings have already emerged -- dig down carefully to recover clusters of hatchlings that have not yet emerged, and also hatchling that are "doomed" - would never emerge on their own.

continued p 58

-PROBLEMS-

1. No Section 7 FWS; and perhaps none from NMFS. I need to see a copy. weigh
I was not asked questions about problems, impacts, and possible methods of mitigation.
2. Kodak glue never arrived, so regular "super glue" in the tube was purchased by Gail last night. What is the difference between this and Hendrickson's glue?
3. Likelihood possibility of carrying-in immature nets during the search procedure if anything but the beach slope is walked.
4. Continual walking of beach (and interior) with lights as a disturbance to nesting turtles (preparing to emerge), and monk seals.
5. Holding of hatchling for anything but a short period of time as an adverse effect on egg yolk supply and "imprinting" mechanism. Agitation in boat.
6. Number needed to be marked in order to reasonably expect success (meaning later ^{foraging pasture} recovery) or #7
7. Number of years, and numbers, to recover nesting back at FFS (or elsewhere).

8. When you recover in a foraging pasture, you don't know how long the turtle has already been there.

weigh →

[Benefits - VS - Risks/unknowns]

the sort of decision that needs to be made by a "Recovery Team" of experts.

Benefits - ^{are} information

1. ^{MAXIMUM} Age at recruitment (how long is the "lost year"?)
2. Age to maturity/nesting
3. Percentages recruiting to foraging pastures (% survival through lost year)

But to achieve the above "benefits", very intensive monitoring/sampling in pastures, and at nesting site, over a long period would have to occur.

one solution to collection problem - stake nests in June - fence in August and monitor.

Need to keep some in captivity long enough to see if grafted takes.

3 AUGUST 82
TUESDAY

Arrived at Fern about 12: noon.
Ate lunch and rechecked all
gear for trip overnight to
East Island.

Ruth has been spending a night
rotating on the different island
and I has recorded the tags
of a few nesting turtles.

Departed for East ~ 3:30 pm
grafting people and Ruth & I.
Project people will be allowed
to stay overnight every 3rd-4th day
accompanied by either Ruth or I
Chip.

Choppy sea - it was necessary to
motor slowly. At about 45 minutes, just
past Round Island, the Evinrude
motor quit running. Finished
motoring on 25 hp Johnson aux.

Set up camp on East and
started walking island looking for
emergence sites. John Andre
reports some had rain this
morning, therefore most marks
erased from previous surface
disturbances.

3
TUES

4 Aug
Wed

3 AUGUST 82

TUESDAY

Nothing located for some time, then just before sunset I stepped on a site that collapsed slightly. Digging into it, I found a batch of hatchlings digging upward ~ 5 inches from the surface. Small portions of yolk sac still showing on many of them. ~ 60+ total found; ~ 5+ just hatched - folded over and lots of yolk present; some blood.

Spent the rest of the time up until ~ midnight walking sections of beach - the four others were each assigned a "quarter" of the island to walk north the beach slope. I spent time at each location talking to the people. Only one hatchling was found - very healthy - moving quickly down the beach. It was found by Ruth in ~ A3. I tagged, and pod some toys on baskets and nesters.

4 AUGUST 1982

WEDNESDAY

At ~ 6:30am I got up

4 AUGUST 1982

WEDNESDAY

"Fencing" is probably not a viable idea unless a substantial road through the island is fenced. Concentrated nesting areas, but still hatchlings scattered in all directions.

island and walked around the sites. Boat motor still would not start. Large diameter site found in A4-2 hatchlings showing at surface - coarse coral pieces around them. Site excavated and ~ 65-75 turtles found. It seems to me that some already came out of the nest, even though many were just under the surface.

Packed up ^(folded down) camp and moved back to Tern. John Ardie is supposed to move them to East for an overnight stay once every 3-4 days.

Stop going with 25hp - rain showers - strong one just before we got to Tern. Visibility very limited.

After cleaning up, I sat down with Gail, Amy & sat Miriam and we tried grafting one - two hatchlings.

PROBLEMS:

1. Hatchlings are dirty - humus material from soil on East Is. - need to be washed.

2. Is alcohol rub harmful to carapace, eyes, nose?
3. How deep do you take the plug? Herdriksen's report says "subdermal".
4. After cut is made with 3 mm diameter biopsy tool, we could not remove the plug in one piece. Scute piece alone could be peeled off, but not with any underlying tissue that would be expected as necessary to make graft "take"; - vascular tissue - (that bleeds).
5. Making "plug-cut" on seam of scapae & scutes results in scute breaking in two when it is removed.
6. There was difficulty in deciding exactly where (and how deep) plug should be taken from plastron. Also, same problem of getting plug out in one piece.

"Super"

Blue spread over wound of trial turtle seemed to work fine - sealed in bleeding.

exp. 31

4 4 AUGUST 1982
WEDNESDAY

I suggested that ~ 5 hatchlings be kept - held in sea water tank - sampled from ① beginning ② middle & ③ end of hatching grafted over the study period. In order to see how it "takes" with the various variables present this time.

I asked John Andre to grind "down" the thickness of a "scapel handle" so that a proper tool will exist to remove (pop-out) plug once they are cut with the biopsy tool.

A "Chemistry spatula" would seem to be the ideal tool.

"Femi" is probably nota with "idea" unless

4 A
WEDAST
no other
islets
core

4 AUGUST 82

Wednesday

Departed Terns about
 1:15 pm. only me and
 Bob, justman. Flew directly
 back a - 11,500 feet -
 cold. Passed through a black
 gloomy front.
 Arrived in Honolulu
 at about 4:45 pm.

TAG Summary

Newly Tagged		Tag Recoveries	
Male	Female	Male	Female
0	1	0	8
	(basking)		(6 nesting females; 2 Basking)

EAST
 (No other
 islets
 covered)

8-26-82 Defibrig meeting on grafting work -
 Thursday Held by Bill (at Kaimara Beach
 restaurant) - Present - me, Bill, John Henderson,
 Amy, Miriam & Gail.

1. A report was prepared by Ruth Ittner on seal impacts of collecting hatchlings.
2. Some hatchlings had to be held 48 hours before release.
3. Impossible to dune properly in a tent.
4. 12-1300 done; No satisfactory answer on Bill's question - What do we need to do ^{different} to do 5000-6000 next year.
5. Black crayon didn't work - made it bleed. I suggested sticking on black & white paper to glue.
6. Fumes were bad - impact on turtles?
7. All releases at Tern in same area.
8. Nets/fences on islets didn't work.
9. Most/many of the turtles were collected by digging.
10. Hatchlings released proved slower on beach than newly collected.
11. They stepped on at least one nest that caused it to emerge prematurely. How many

others happened that were not detected?
 12. 6 lights were set up ^{on east} to
 attract hatching emerging in each
 light's immediate area. A turtle
 nested right by one of them, according
 to Miriam. These lights were reportedly only
 dimly visible from a distance. Had
 lamps aiming down from a stake.

3 SEPTEMBER 1982

9-3

FRIDAY

Departed ~ 8:45 Justman's
airplane - I am the only passenger
aboard. Tony, Pamish's worker,
sent up ~ 6 50lb (?) bags
of Rotenone.

OBJECTIVES:

- 1) Undertake one night of monitoring nesting greens still present at East Island. (Fix departure times).
- 2) Tag and recover tags on baskers.
- 3) Return ^{tags} & released 30 post-hatchlings held for the past few weeks to assess results of grafts.
- 4) Recover and remeasure juveniles for growth rates.
- 5) Look for direct evidence of natural predation on hatchlings.
- 6) Get soil samples for moisture salinity analysis.
- 7) Examine scale counts and photograph front flippers.

TAG N

401

402

403

404

405

406

407

408

410

409

411

412

413

414

415

9-3 Landed at Cihue ~ 9:30am. Met with Don Heacock and urged him to help Bill Puleloa develop studies on Molokai. Departed at 10:30 am.

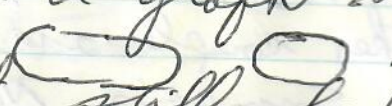
Saw Nihoa and Necker. Arrived at FFS ~ 1:15pm. New captaker couple are here - should send them Synopsis. Names - Gail & Steve

Washed off posthatch; due to their bad smell from fecal matter. Applied smallest NBTD ("NMF5") on right flipper as follows:

TAG NO.	LOCATION	GRAFT	TAG No.	LOCATION	GRAFT
401	2 nd Skate R	Dorsal-Vent.out	416	2-3 web R	present but Round
402	2-3 web R	D out	417	"	"
403	" "	" "	418	"	"
404	" "	J-V out	419	"	"
405	" "	D out	420	"	"
406	" "	" "	421	"	"
407	" "	" "	422	"	"
408	2 nd S R	D-V out	423	"	"
410	2 ³ web R	D-out	678	"	"
409	" "	white graft present but Round	682	"	"
411	" "	"	683	"	"
412	" "	"			
413	" "	"			
414	" "	"			
415	" "	"			

26 TOTAL - released 9/3 evening from Tern Island
9 have missing graft - 34.6%

3 September 1982

Turtles with dorsal graft out appear to have new ^{to look} pigmented tissue growth where graft was. Also, these were mostly the largest turtles. Old graft site was shaped . On the ones that still had the white graft, overlying glue was still present. However, the shape of the graft was perfectly round, in spite of the fact that a band of new growth could be seen around each scute. As a couple, I ~~scraped~~ scraped lightly with my fingernail and the white plug peeled off.

Repacked gear and departed from Tern in yellow Boston whaler. Mild chop to seas. Some SW swell.

Motor around the back side of Trig at 3:30 pm - 2 fresh sets of tracks visible; 1 female basker.

Proceeded to W-5; 4 pm - no baskers as far as I could see. Also, no signs of recent nesting. Arrived at east

~ 4:45 pm. Walked around island
counting seals and nest pits.

Set up dome tent.

Rescued ~ 15 hatchlings
from a couple already-emerged
nests.

Collected Sand Samples in Area 5
for Johannes. Selected a site where
turtle believed to have not nested
this year.

5 - vials 1-2 cm under surface

5 - vials at ~ 20-24 inches, site of eggs.

Starting at ~ 9 pm I walked around
the island looking for nesters.

Identified 5 total; one (5471)

tagged Aug 3, 1982; one longer term
recovery 3654+; and three with
no tags (one of which had calbuses
on both flaps. My last
check was made about midnight

There is a large piece of blue
trawl net pulled up by Ruth in
Area 17. I will return it to Tern
for burning. Net pieces are still
on the log at W-5.

3 SEPTEMBER 1982

FRIDAY

New pits (1-3 days estimate) seen on east during my walk around:

Sand Point - 3

Area 7 - 3

Area 8 - 4

Area 9 - 2

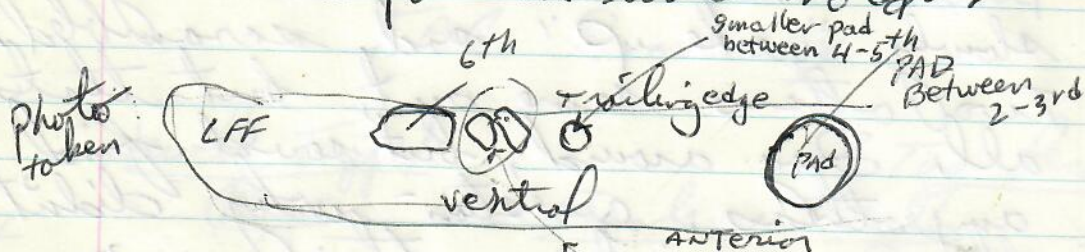
A log in area 8 that's been there for many years seems to have been "turned over" (?) Old trash dump is adjacent to here, and several new digs have exposed ^{broken} glass.

When departing from Tern by airplane on 9/4, I saw fresh turtle tracks along the east end of the south beach.

While doing night walks for registers, I noted huge numbers of shearwaters loafing on the ground.

4 SEPTEMBER
Saturday

On the ventral surface of the left front flipper (using tag 547H as a model), I noted a large round "pad" scale opposite the webbing between the 2nd and 3rd large trailing scales (on the dorsal surface). In addition, the following scale pattern was noted:



The 6th scale trail dorsal is also outlined and visible on the ventral surface. There is a smaller pad opposite the 4th 5th dorsal scale. EXCEPT for these two small scale, the rest of the ventral surface is yellowish skin.

On the anterior edge of the dorsal surface of the left front flipper, the scale seem fairly well defined. I counted and found that the claw scale is number 15.

4 SEPTEMBER 82 Woke up at ~7:30 pm.
Saturday Drank coffee, ate oatmeal and
read for
read from the Bible. Returned

4 Sept 82
 Saturday to the SP site, where I had found 2-3 hatching motionless and exposed at the surface - partly emergent. Took several photos - also macro of ^{dorsal} ventral front left flipper. Pulled one, two out and they slowly "woke up" and scrambled. Two others came out, but that's all. Dug around, but could find any others. Question - why didn't they come out on their own last night?

Departed East Island at ~10:15am - Arrived 10:45am. Saw at least one black pup with mother on Round Island.

Cleaned up gear, packed, showered, ate and departed at ~1:10pm. Got a nice view of Round Reef and East (from the NW). Photos taken. Craig McDonald & workers aboard. Arrived in Honolulu at 4:30pm - Bob Ferguson drove me home. When flying by Nihoa, I thought once again, "about how very little is known about sea turtles".

East
 (none elsewhere only)
 bashed on

at this location - nesting and nearshore foraging.

TAG Summary

Newly Tagged
(MACO)

East

(none examined elsewhere - only one boster seen on Trig - none W-S)

Female
3
(nesting)

Tag Recoveries
male
0

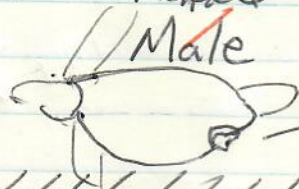
Female
2
(nesting)

12 JUL 2002

NEXT EARLIEST - GO TO EXPED 27 BOOK

BASKER TAGGINGS

DATE/TIME	TAG NOS.	ENTERED NO. 151 RECOVERED 8/7/81 L. North P&H (Photo) *	SEX	LOCATION/REMARKS
9/7/80 6:30pm * <i>SUNNY</i>	3473 RFL		Female	W-S Central-East shore
9/7/80 6:30am <i>ENT # 264</i>	3474 RFL		Female	W-S (NE) Big barnacle and mangroves
9/7/80 7pm	3475 RFL		Male	W-S Central



Flipper off and healed - piece of carapace missing

4/14/82 5786 RFL Male TRIG TMR NOTED

4/14/82 5787 RFL Female TRIG left flipper freshly off - scabbed - bone showing; + large TMR RIGHT flipper healed

4/15/82 Thursday 5785 RFL MALE Whale-Shake

4/15/82 5784 RFL NO. 86 MALE W-S (seen basking again this late)

4/15/82 5783 RFL MALE W-S RFF Healed

4/15/82 (5782 L FL) (4951 R FL not locked) FEMALE ENTERED NO. 192 W-S TMR ON EYES, and Right flap - TMRs - strange dried - crusty

* P&H turtle go to RFFS later in season (?) :: Return to PH later?

DATE/TIME TAG NOS. SEX LOCATION/REMARKS

4/15/82 11:30am ^{ENT. NO. 307} 5777 FEMALE TRIG Big & yellowish

4/15/82 5778 MALE TRIG many copulation bites all 5 flippers. Saw hole in RFF - distal

4/15/82 (5779L / 5780R) MALE TRIG front flippers - copulation bites

4/15/82 4952 MALE TRIG

4/15/82 4953R MALE TRIG left front flipper - short but healed

4/21/82 730m 5454 [missing most of L front flipper] FEMALE - TERN Basking By JOHN ANDRE

4/22 - BASK TERN 860m; 4/26 Tern 180m IW; 4/27 FUEL TANK; 4/30 620m;

4/24/82 5455 L Front MALE - 800m TERN BASKING John Andre

6/21/83 Tern 720m (new)

4/30/82 5457 L Front FEMALE 840m JOHN ANDRE TERN - BASK

5/1 - 840m;

ENT. # 219

Distal area of LHF missing, BUT HEALED.

5/16/82 5458 RF NO. 191 Female Tern JOHN ANDRE east beach

12 JUL 2002

BASKER TAGGINGS (CONTINUED)

DATE/TIME TAG NOS. SEX LOCATION/REMARKS
 EXPED. 31 - 3-4 AUGUST 1982

8/3/82 ~6pm 5471 RFL Female Bask-AREA 5

8/20/82 ~~ENT. NO. 415~~ 5472; 5474 ~~6126~~ ~~49900~~ Female NEST TERN ~~J. ANDERSON~~
 EXPED. 32 3-4 SEPTEMBER 1982 ~~HEADING ONTO RUNWAY~~ ~~FROM UNDER FUEL TANKS~~

9/3/82 6352 LFL Female NESTING - EAST
 FRIDAY 10pm 6353 RFL AF

9/3 10:30pm 6354 LFL ~~ENT. NO. 308~~ ~~VAN DER~~ Female NESTING EAST
 6355 RFL SP

9/3/82 6356 RFL Female NESTING EAST
 10pm 6357 LFL ~~ENT. NO. 408~~ ~~VAN DER~~ A3

////////////////////

12 JUL 2002

UNITED STATES GOVERNMENT

memorandum

DATE: 7 FEB. 1983

REPLY TO
ATTN OF:

SUBJECT: TURTLE TAG RESIGNINGS (OCTOBER '82 THROUGH 7 FEB '83)

TO:	DATE	TIME	#	LOCATION ON TRIP	OBSERVER
1.	19 OCT 82	1530	5452	250 m.	ITTNER
2.	15 NOV 82	1500	5452	420 m.	ITTNER
3.	28 NOV 82	1600	Lg. ♀ Tagged 6358 - LFF	600 m.	ANDRE
4.	28 NOV 82	1600	Lg. ♂ Tagged 6360 - LFF	200 m.	FAIRBANKS
5.	7 JAN 83	1530	6361 - RFF	?	ITTNER

NOTE: TAG #6359 has not been applied yet.



Latb

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10
(REV. 7-76)
GSA FPMR (41 CFR) 101-11.6
5010-111

* U.S.GPO: 1978-0-261-647/3522

George

24 Feb. 83

12 JUL 2002

80

DATE TAGGED	TURTLE TAGGED	ISLAND	TAGGED BY
6358 ✓	28 NOV. 82 ✓ LARGE ♀ - LFF	TERN ✓	ANDRE ✓

6359 HAS NOT BEEN APPLIED.

6360 ✓	28 NOV. 82 ✓	LARGE ♂ - LFF ✓	TERN ✓	FAIRALL ✓
	6361 ✓	28 NOV. 82 ✓	" - AFF ✓	TERN ✓

6362 }
↓
6375 }
HAVE NOT BEEN APPLIED.

See you soon,
Luth

BASKING TURTLE CENSUS

Nothing seen basking on East

DATE/TIME	MALE	FEMALE	I	Total	OFFSHORE			LOCATION	DATES/T
					M	F	I		
9/5/80 Friday ^{15 to midnight}	1	1		2				W-S	4/15/80
9/6/80	-	-		2				W-S	" "
9/6/80 5PM	1	2		3				TRIG	////
9/7/80 Sunday 5:45	-	-		4				TRIG	EX
9/7/80	3	2	at least	5				W-S	

12/15-12/19/80 ^{Thursday} ^{12/18} ^{EXP. 26} Adult turtle observed starting to haul out on East Sand Point - returned in CLEAN-UP wave wash. No observations made at other islands.

11/15/81 3PM	0							EAST	4 PM
Sunday 2PM		1						Round	5 PM
" 4PM		2						W-S	
" 5PM				4				TRIG	////
11/16/81 Monday ~ Noon		1						TRIG	

4/14/82 3:30-4:30pm ^{EXP. 29} ^{wednesday} 8♀ 3♂ 6? ~ (17) TRIG

4/15/82 Thursday 10-11am 5♂ 3♀ 4? (12) W-S

DATES/TIMES	MALE	FEMALE	I	Total	OFFSHORE			LOCATION
					M	F	I	
4/15/82 11 am	9	4		(13)				TRIG

EXPEDITION 31 3-4 AUGUST 1982

8/3/82 2-6 pm	1 ^{SEP}	10 ^{SEP}	1 ^{SEP}	(11)				EAST
------------------	------------------	-------------------	------------------	------	--	--	--	------

(no trips made to W-S or Trig)

EXPED. 32

9/3/82 3:30 pm	0	1		(1)				TRIG
4 pm	0	0		0				W-S
5 pm	0	0		0				EAST

MONK SEAL CENSUS

DATE	EXP.	A	TOTAL	SA	P	SWP	ISLAND
11-15-81	28		33				TERN
SUNDAY	1		18		1	1	EAST
"			3				ROUND
"			68				W-S
"			58				TRIG
			<u>185</u>				BARE

must have been at least 40+ at Disappearing

EXPED. 31

3-4 AUGUST 1982

5 1 BIK - EAST
- 2 wks
old

EXP. 32

9-3-82
5:30 pm
FRIDAY

22
(A763
& Beely
seen)

16
(Lyp=3
of these)

4 2 BIK (1 - 10 days)
2 Gray

TOTAL = 63

12 JUL 2002

TURTLE TAG RECOVERIES

DATE EXP. TAG NO. SEX ENTERED LOCATION/REMARKS DATE
 9/7/80 6pm 25 2824 + HMB (1212) MALE NO. 23 W-S (originally 4/10/76 W-S)

6pm 957^{RF} + 956 / 958 MALE ENTERED NO. 4 W-S (NE side) white scum sit on carapace (originally tagged 6/21/75 W-S)

EXPED. 28 11-15-81 226 LF ENTERED NO. 24 Female W-S west south end (lost seen 16 June 1978 Nesting on East - Many earlier recoveries)

A resident of FFS?

EXPED. 29 (x) means entered in data sheets

4/14/82 NOT IN SHEET ENTERED NO. 154 Female BASK-TRIG healed

x 4/14/82 ENTERED NO. 29 1131 L + 10^{RF} FEMALE BASK-TRIG lost recovered 4/12/76 TRIG

4/14/82 NOT IN SHEET ENTERED NO. 73 3066 R MAY 79? MALE BASK-TRIG

x 4/14/82 3568 L ENTERED NO. 15 FEMALE BASK-TRIG freq. 450

DATE

4/14/82

4/14/82

4/14/82

4/15/82

Thursday

4/15/82

4/15/82

4/15/82

4/15/82

~ 11:30

4/15/82

DATE	TAG NO.	SEX	LOCATION/REMARKS
4/17/82	^{not in sheet} 1232R	^{ENTERED NO. 152} FEMALE	BASK TRIG 1232 13 April 1976 Trig B
* 4/14/82	^{not in sheet} 1235R (TCI 1973)	^{ENTERED NO. 31} FEMALE	BASK-TRIG 632LFL; 1798RFL; 1231R
* 4/14/82	^{ENTERED NO. 20} 951R	FEMALE	BASK-TRIG 951 REF 2/18/75 TRIG seen again 4/15/82
4/15/82	^{1479 not in sheet} 3167R	FEMALE	^{ENTERED NO. 155} BASK Whale-Stroke Thursday ~10:30am
* 4/15/82	1226CFL + 2nd tag 942	FEMALE	^{ENTERED NO. 24} W-S (RH)
4/15/82	^{not in sheet} 5159	MALE	^{ENTERED NO. 74} W-S seen basking again 1 hour later
4/15/82	^{not in sheet} 3563	MALE	^{ENTERED NO. 75} W-S Right flipper 1/2 missing - healed
4/15/82	^{not in sheet} 5400LFL ~11:30am 5781R (new)	MALE	^{ENTERED NO. 76} TRIG
4/15/82	^{not in sheet} 5267R	MALE	^{ENTERED NO. 63} TRIG (2668, 2669) Right hand 1/2 off - healed

TURTLE TAG RECOVERIES (CONT.)

DATE	TAG NOS.	ENTERED NO.	SEX	LOCATION/Remarks	DATE
*4/15/82 11:30am Thursday	2618	NO. 29	MALE	TRIG Copulating - beached in wave wash - MANY PHOTOS - ON ♀ that is also tagged could not read numbers	8/3/82 Tues.
4/15/82	3117R	NO. 71	MALE	TRIG - IN WAVE wash next to above pair - - IN MY PHOTOS	8/3/82
	not in sheets Bik plastic tag (distorted) - left distal				
				last seen 6/15/79 Trig-B - Turned for rectal temp. Also applied 3118; 2029 Bik	8/3/82
4/18/82	T19	NO. 72	(male)	W-S Found by John Andre and Ruth Ittner with small pile of bones and line/net. wrapped in	8/3/82
				originally tagged 5/72 ♂ on Trig - SL - 79.4 cm (by Kridler- Orsen)	8/4/82 6:00 8/4/82 6:00
*4/30/82	3008	NO. 80	MALE	240m TERN EAST END BEACH by RUTH ITTNER	8/3/82 6:00
5/16/82	5452		sex not recorded (Recently tagged by Schulmeister?)	TERN - S. BEACH - J.A.	8/3/82 6:00pm
10/19/82	5452			not entered in data recoveries - tagged by BS 7/8/81 sex? exact date? BASKING ON TERN (1600h) ITTNER	
				♀, but only guessing.	

DATE TAG NOS. SEX LOCATION/Remarks

EXPEDITION 31 3-4 AUGUST 1982

8/3/82 ~~10:00~~ ~~6126~~ LFL (close to edge) Female ENTERED NO. 196 EAST-NEST A7
Tues. ~~5472~~ RE (NEW)
TC-56 6/12/82 EAST-N

8/3/82 11:45 PM ~~6219~~ LFL F ENTERED NO. 197 EAST-NEST A6
TC100 6/20/82 - N EAST 6220 6230

8/3/82 11 PM ~~6015~~ LFL F ENTERED NO. 198 EAST-NEST S.P.
TC-13 6/8/82 - N EAST 6031

8/3 10 PM ~~6185~~ RFL F ENTERED NO. 199 EAST-NEST A3
TC-88 6/17/82 - N EAST

8/3 ~~6242~~ ⁶⁰² LFL F ENTERED NO. 200 EAST-NEST A7
TC-78 6/25/82 EAST-N (6182 6260)

8/3 10:30 PM ~~2805~~ (?) RFL ENTERED F EAST-SEP BASK NO. 83
TC15 6/22/82 - N EAST

8/4 6:30 am ~~6230~~ R 2nd Scale F East-Sp LAY
SAME AS ~~6219~~ ABOVE
~~6230~~

8/4 6:30 am ~~6190~~ R 2nd Scale F ENTERED EAST-AI LAY NO. 180
TC-84 6/18/82 EAST-N

8/3 6 PM ~~6241~~ ⁶²⁴¹ was a Male East SEP BIA
6/82 female with white scum on tail Y₄ bitten off - Healing
misread this male tag?

8/3 6 PM ~~6099~~ ³⁵⁹⁵ F ENTERED NO. 184 EAST EAST-SEP BASK
TC-37 6/22/82 - N EAST

TAG RECOVERIES (CONT.)

12 JUL 2002

DATE TAG NOS. SEX LOCATION/Remarks
 TAG RECOVERIES MADE BY R. ITHNER JULY 1982

7/14/82 ⁰⁷³⁰ 0830 6011 ^{W010} F ENTERED NO. 201 N-digging
 (TC-1) 6/22/82 east-N; 6/9/82 TERN-N (6110) W-hale-skate

7/21/82 1930 1226 942 F N- "3 tag LFL" EAST
 TC-43 6/25/82 east-N ENTERED NO. 24

EXP. 32

3-4 SEPTEMBER 1982

9/3/82
Friday 9 AM

5471 RFL

Tagged 8/3/82

F ENTERED NO. 202

Nesting

A 7 EAST

5475 LFL (new)

(Photos of ventral LFL)

6351 2nd Scale (new)

9/3/82

3654 RFL

+ LFL (3655)

ENTERED NO. 203

F

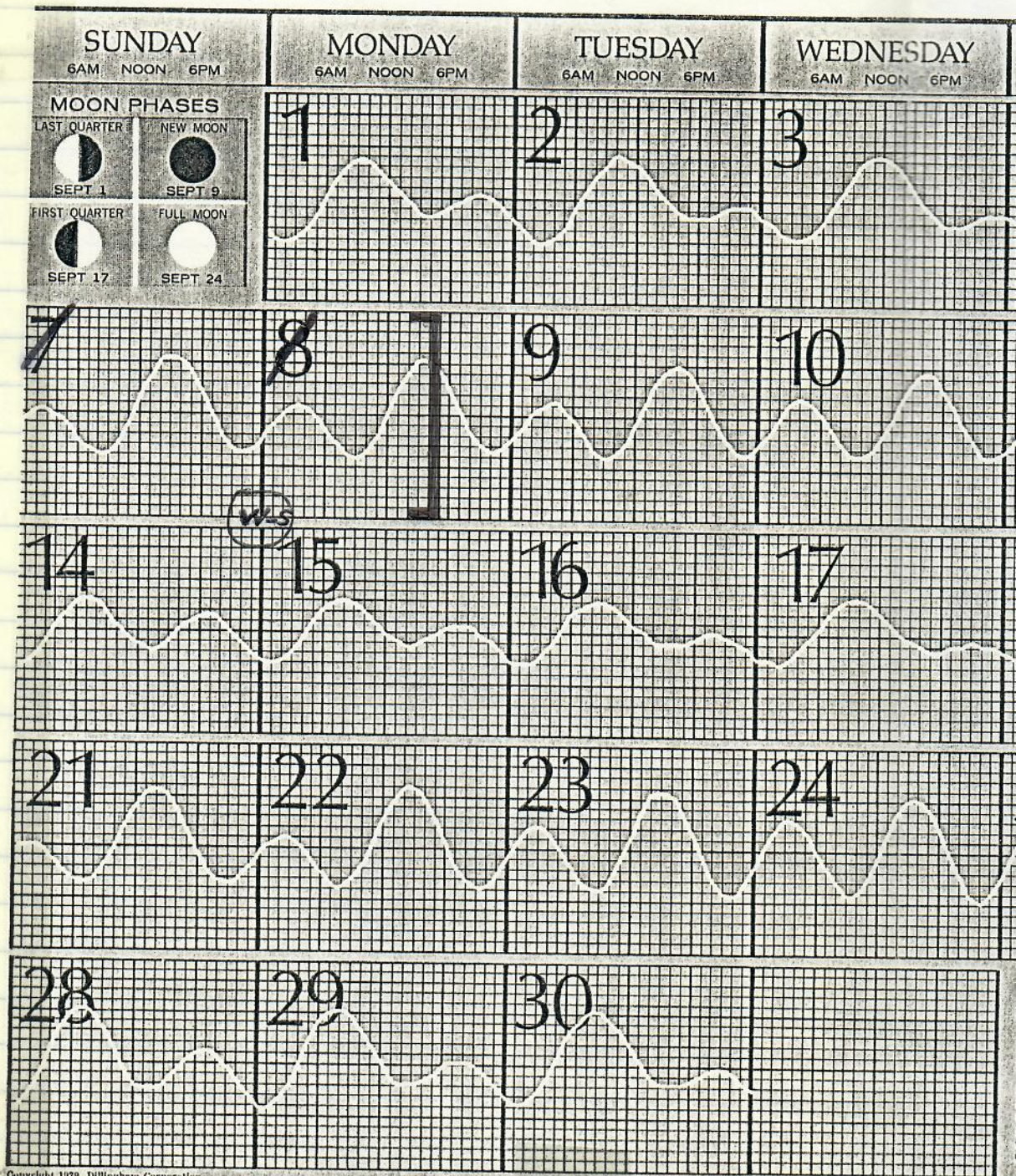
Just starting A 2

to come ashore to nest. EAST

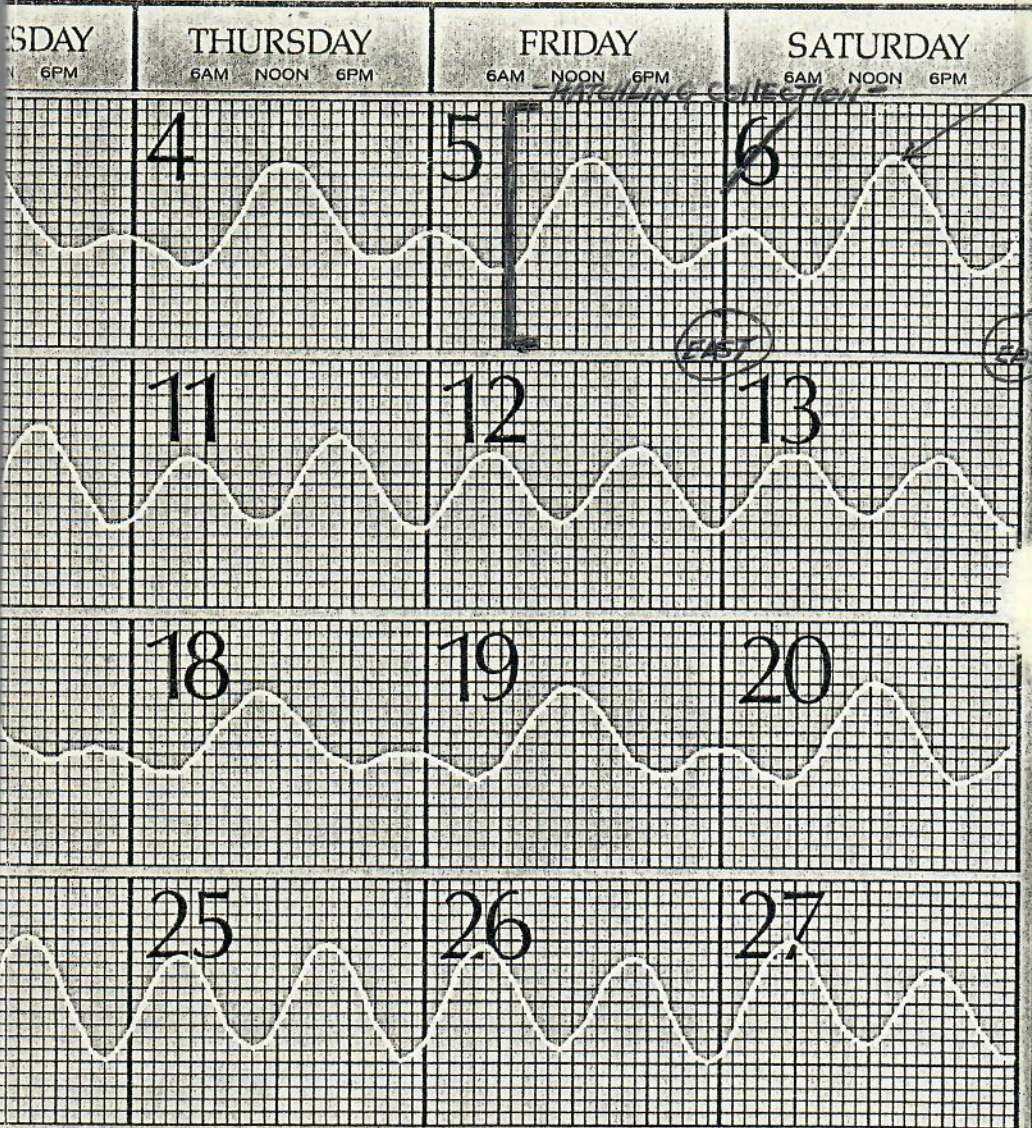
Light coating of green slim on carapace.

RECOVERY DATA
TC43 6/24/80
CAY AL

SEPTEMBER 1980 TID



TIDE CHART



*Witling
capture
tern*

overnights

EAST

EAST

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

PORTS	Hrs.	Mins.	PORTS	Hrs.	Mins.
HANAIEI BAY, KAUAI	-1	40	KAUNAKAKAI, MOLOKAI	-0	09
NAWILIWILI BAY, KAUAI	-0	32	KAHULUI, MAUI	-1	48
PORT ALLEN, KAUAI	-0	32	KIHEI, MAALAEA BAY, MAUI	-0	14
HALEIWA, OAHU	-1	36	HILO, HAWAII	-0	59
HANAUMA BAY, OAHU	-0	55	HONUPO, HAWAII	-0	24
KANEOHE BAY, OAHU	-1	35	MAHUKONA, HAWAII	-0	24
LAIE, OAHU	-1	48	KEALAKEKUA BAY, HAWAII	-0	16
WAIANAIE, OAHU	-0	16			
WAIMANALO, OAHU	-1	15			

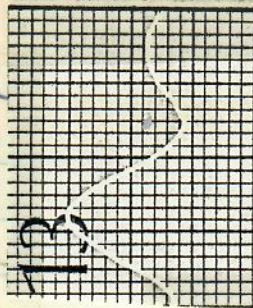


Dillingham

*0000
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000*

DECEMBER 1980

SUNDAY



13

Removal of portions of North slab + 30' x 50" North slab, 1 1/2 bolts of metal, 2 piles wood burned

INSPECTION of BARGE Ramp at whale-skate

FRIDAY

19

18

17

16

15

last 1/4 removed + South slab best load of metal to TERN

WOOD BURNED

WEDNESDAY

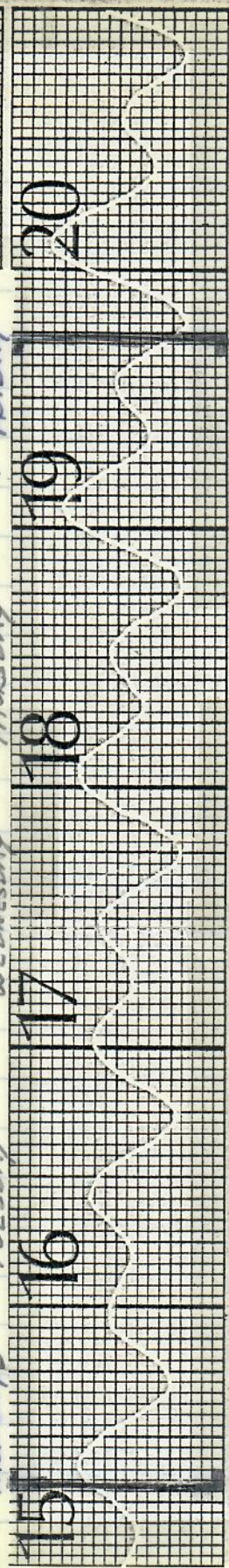
3/4 of central slab removed

Generator Jack-hammers Dropped off on East

TUESDAY

MONDAY

6 AM 12 noon 6 PM



SEPTEMBER 1980

A-20 Honolulu, August 31, 1980

The chart shows the sky from horizon to horizon as seen from the latitude of Hawaii during September in the early evening.

The table of dates and hours indicates when the chart will coincide with the sky. To use the chart, hold it overhead with horizon directions on the diagram corresponding with those of the true horizon.

Chart by E. H. Bryan Jr.; astronomical information by Walter Steiger, Hawaii Science Center, Bishop Museum.

Mercury will be visible low in the west in the early evenings after Sept. 6. On Sept. 9, Mercury will pass less than 2 degrees to the south of Saturn.

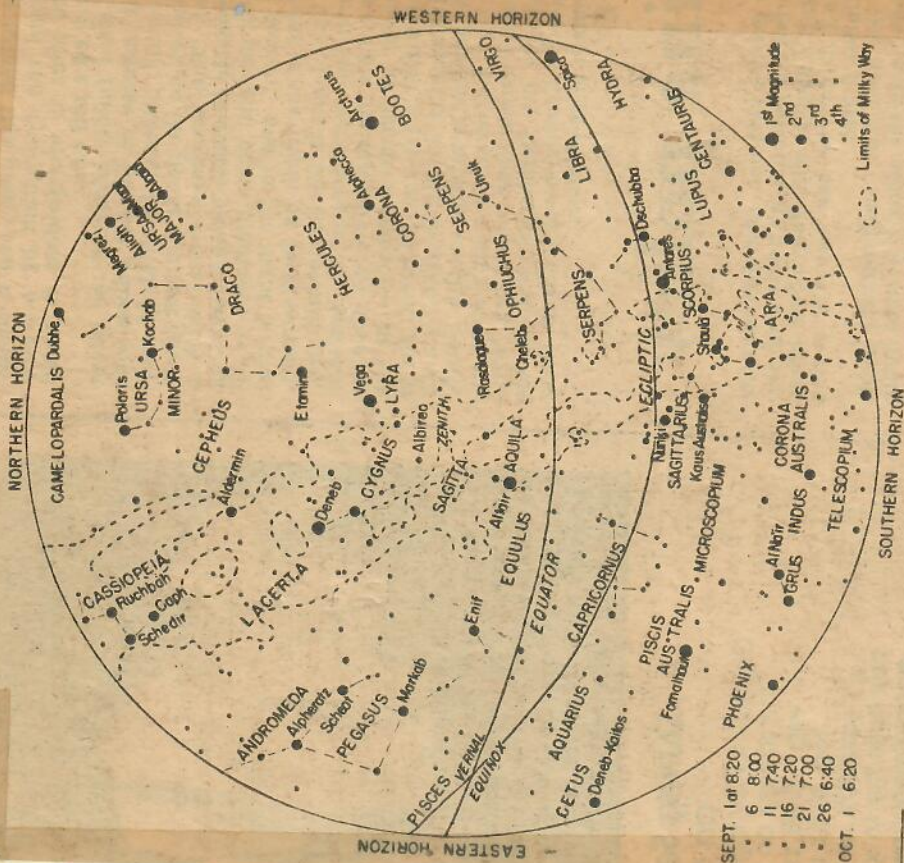
Venus continues as a brilliant "morning star" that rises in the east about three hours before the sun.

Mars is the only planet that will be visible all month in the evening sky. It is a reddish object in the western sky of magnitude +1.5, setting hours after the sun.

Jupiter will be too near the sun to be visible during September. In fact, on Sept. 13, it will be directly in line with the sun as it moves behind it.

Saturn will be visible low in the western sky early in the month, after which it will be too close to the sun to observe. On Sept. 22, Saturn will be directly in line with the sun as it, too, moves behind the sun.

Equinox: At 11:09 a.m., Sept. 22, the sun, in its apparent motion among the stars, will cross the celestial equator from north to south. This event is called an equinox, meaning that the day and night are of equal length. Actually, the sun sets at 6:28 p.m. on Sept. 22, and rises at 6:21 a.m. on Sept. 23. The difference is due to the bending of sunlight in the Earth's atmosphere



causing the sun to set later and rise earlier than would be the case if there were no atmosphere on Earth. Not until Sept. 28, will sunset and sunrise occur exactly 12 hours apart.

First quarter — Sept. 17.
Full moon — Sept. 24.

Beginning Sept. 4, the Bishop Museum Planetarium will be offering two different programs.

For the complete schedule of showings and other information, call Bishop Museum, 847-3511.

Phases of the moon:
Last quarter — Sept. 1.
New moon — Sept. 9.

DATE
9/5/80 FRIDAY
9/6/80 Sat.
9/7/80 Sunday
9/8/80 MONDAY
12/12/80 Tuesday
12/16/80 Tuesday
12/17/80 Wednesday

12/18/80 Thursday
12/19/80 Friday

11-15-80 SUNDAY

11-16-80 MONDAY

DATEOBSERVATIONS

4/14⁸² wed. - Tern FFS - Heavy overcast - cool - strong winds ^{choppy} seas
 4/15⁸² Thurs. - Calm winds, Sunny.

||||| EXPED. 31

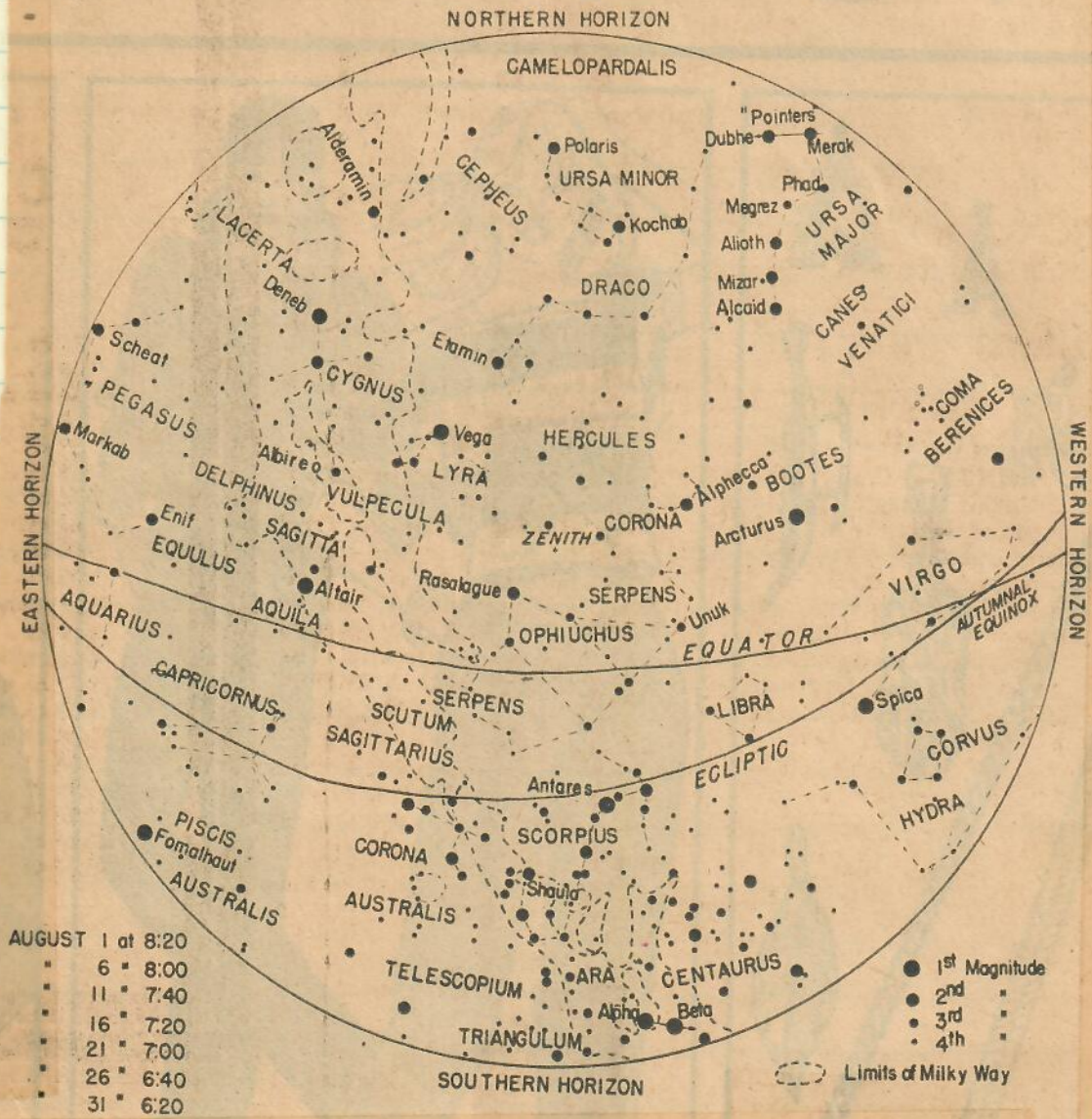
8-3-82 FFS - Tern - John Andre reports
 Tues. short hard rain early this morning. 8/4 Heavy Rain - wind in the morning

|||||

APR. 32

9-3 light - light moderate Trades -
 9-4/82 no rain - lots of overcast at times.
 reasonably calm seas.

AUGUST 1982



AUGUST	1	at 8:20
"	6	8:00
"	11	7:40
"	16	7:20
"	21	7:00
"	26	6:40
"	31	6:20

PHOTO LOG

ROLL NO. DATES - DESCRIPTION

- 1
 I BW^{Jack's} EL - 12/14/80 - Christian-mother with flash; 12/15 Monday Necker Island;
 PX-125 ASA 12/16/80 East Island; Jack Hammer operators (of me, by A. Kam);
 EL 12/17/80 " " " " " "
- 2
 ASA 64 12/17/80 Wednesday - Slab central area 3/4 removed; photo of
 EL me by Kam; 12/18 Thursday - further slab
 removal; ^{loading pots into boots} Area new from SE end showing gooneys
 & pyramid of cement chunks; "1946 Navy" ^{writing in slab}; D. Demaster, Pledge-hammering
 small "Navy 1946" slab; Clean up Team (C.U.T.) on
 pyramid - 55mm & WA using tripod;
 12/19 Friday - overstuffed landing craft ramp off
 Whale-Skate. 12/20 - photos of Christian and Dad by
 Christmas tree.

- SUNDAY
 I 11/15/81 - Necker from the North; Aerials of East at $\sim 950'$; 11/15 Juvenile
 ASA 64 Seal w/ amputated ^{hand} flippers; Bob Justman releasing salvaged
 EL hatchlings;
 11/16 Monday - dead frigate w/ head stuck in rusting Tern seawall;
 Aerial of Tern Is.

- I Photos of head-seared Dillingham field turtle
 ASA 64 in front of NMFS-Dob St.
 EL wed. 4/14/82
 Thurs. 4/15/82 - Captulating turtles of South Trig; East Island aerial

PHOTO LOG

DATES Roll NO.
 8/3/82 ^{exp.} 31 I ASA64

DESCRIPTIONS

Already used up to -24 -
 home photos (costume party); Olive
 ridley found off taneche in trawl
 net; SCP graft release recovery.
 Amy Demura in cockpit.
 8/4 - composite on East for
 hatching collection; W-S during return
 to Honolulu 8/4

EXPED. 32

Roll
 1

Photo 1-34 all consist on my
 recent trip to Molokai
 8/27 - 9/1/82; 9/3 hatchling head in sand

Roll
 2

9/3/82 ^{primary} night - FLASH - dorsal front left flipper;
 female 5471 digging chamber in A7; ventral
 front left flipper of 5471 while laying eggs;
 9/4 SATURDAY - Hatchlings at the surface on SP;
 FRONT flipper of hatchling; Round-mullet keel
 complex for Craig McDonald; East Island.

METRIC SYSTEM WITH U.S. EQUIVALENTS

METRIC UNIT (1) U.S. EQUIVALENT

LENGTH

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

AREA

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

WEIGHT

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

METRIC UNIT (1) U.S. EQUIVALENT

VOLUME

cubic centimeter	(cm ³)	0.061 cubic inches
cubic decimeter	(dm ³)	0.0353 cubic feet
cubic meter	(m ³)	1.31 cubic yards
cubic decameter	(Dm ³)	13.10 cubic yards

CAPACITY, CUBIC

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

CAPACITY, DRY

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

CAPACITY, LIQUID

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

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 GEORGE H. BALAZS
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 UNIVERSITY OF HAWAII

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