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GEORGE H. BALAZS

Book 1

2 of 2

FRENCH
FRIGATE
SHOALS

1974

MAY 30 - OCT 10

June 27

2300

T40 and 1 unreadable ascending beach area 4-5.
T8 area 6 moving. T82 area 7 1 pit. T34
area 12 1 pit many tracks.

June 28

0130

marked
location

Turtle ascending area 4. T34 layed in area 12.
T82 and 83 wandering in area 7.

0430

marked
location

T84 area 6 edge of vegetation zone, notch
section out of right hind flipper - Good pit observed
inland - 84?. TC unreadable edge of veg. area 7,
no tag, larger barnacle 1st and 5th marginal right. (left?)
T40 area 9, notch in last marginal right. T8
in chamber sand point.

later observation
indicate NO

No. 10

0615

marked NO 124
location

T8 1 more pit and returned. T82 (layed) area 7,
4 notch last marginal right.

1640

Rollison, 3 others stopped off from bin, Little
Din report no laskers but evidence of digging.

1800

Seal tag A954 1/2; 1/2; had 756 almost
adult, large belly scar. NEP - 3 total (29-T18,
unreadable) (and 1?) - SEP T54, 17 and 1♀.

2300

marked
location

Tracks close to fire pit and over corner of canvas.
T8 in chamber area 1. Turtle in 1 pit
on sand point sprayed T90 (38 3/4 x 36 1/4)
partial V in last right marginal. T8 came
up toward area 1 stake and wandered back
to tent. Area 4 turtle inland in shallow
pit and moving, look like T21. T40 up
in area 8 and across to 9, 1 pit covering
(previous T6° Kailua) V notch in right post-
central, CI 789 placed on left 1/2 way down.
Yesterday's eye tumor ♂ bosky SEP.
♀ up NEP V notch last right marginal.
T39 up area 9.

Notes - stakes marking nests could act to reduce destruction of eggs by other turtles in that they may be left apt to dig at that particular spot. No necessarily true when hit during cover up procedure.

Shallow body pit in some cases.

Seals exhibit hind flipper "stretching behavior".
Frequent sneezing.

Many seen out of water throughout night.

Other than areas 5, 6 - intensity of nesting does not appear to have been that great during 1 week break (June 20-27).

FFS turtles have experienced (and find pleasure in) inland contact with other turtles while basking therefore, may not exhibit high alarm when meeting one another during resting.

Observed seal rolling 6-8 times down beach to water (play?).

Marine turtles nesting - "Terrestrial biology"

Seal mother chased off turtle approaching basking beach; then emerged herself w/ pup.

* East Is. turtles may not bask on other islands but they may nest.

Friday
June 28
2300 cont

T8 covering tagged C1790. Turtle up beach area 15-16.

June 29
0220
marked location

T33 seen returning (?) to water area 4 - 2 pit found inland, 1 look good (from T33 or 21?). 2 going up bank area 5. Area 9 turtle w/ ✓ notch at suture of last marginal and postcentral (right) sprayed T91. T39 area 9 1 pit moving. T88 on beach area 16.

0415
marked location

T84 in area 5 wandering. Turtle in area 6 laying sprayed T92 (38x36 1/2). Cut in 3rd to last and ✓ notch in last right marginal, C1791.

0615

marked location
1300

T92 in water leaving. T84 in pit area 5 1/4 of right hind missing. T39 3rd pit area 9 covering layed C1792 1/2 way down right.

T78 (shell missing above left hind) basking in area 11. T5 offshore. NEP: ♀ unreadable, 1 ♂ yellowish and T9. 3 photos of shark bite ♀ area 8.

1500

NEP - 3 offshore, 3 ♀ (T9, 2 unreadable but 1 w/ hole Right postcentral) and 1 ♂. SEP - 5 ♀ (T14, 18, 3 unreadable but one w/ right hind 3/4 missing; one w/ large barnacle 1st left marginal, back sprayed, possibly T12 or 15?; ~~and one~~ T18 looks small.

1800

2230

T90 basking on sand point. 4 on sand point - T90; T unreadable, ^{T322} no tag but large barnacle on 1st marginal left; not no tag; and no T unknown about tag presence. Turtle along beach scum on shell area 2. Turtle along beach top

Notes -

Besides keeping tabs on all turtles emerging during the night, pit locations are noted so that if an animal is somehow missed the unfamiliar pit will indicate the oversight.

Areas 2, 3 and 4 seem to be light as nesting sites. Although vegetation this year is dense, attempts to enter these areas have been noted. Consider the possibility of former habitations effect on turtle productivity in these areas.

Turtle notching possibly as far back as Dilger's tenure?

Condition of seal pups between individuals varies considerably both before and after weaning. Pups from many seal nostrils.

June 29 Sat
1974

2315

2345

marked location

June 30
Sunday

0300

June 29 sat
2230
1974

area 3, part of left hind missing. Turtle up area 13
2 pits, 1 with wood, tip of right front missing -
returned. Track up, 1 pit area 13 going

into area 12 and across island out area 5.
Two coming out of water area 11 by log.

T27 in 1 pit area 14 by junk wood.
T-unreadable on beach area 15, sand bank
too steep, turned around.

2315

3 turtles by tent-sand point, 2 w/scum
no T, no tag; 1 w/unreadable T, big a little
scum. **T90** in chamber sand point.

2345

T27 area 14 hit hard fan (possibly concrete)
moved ~20' to new pit. 2 up beach area 13.

One of area 11 turtles is a large ♀ w/part of
right foot central missing, float-line
wound around neck, 4 cuts to free, scum.

marked
location >

T86 1 pit area 6. **T46** wandering in
area 5. **T90** laying in very shallow
chamber sand point, seemed urgent to lay,
($36\frac{3}{4} \times 28\frac{1}{4}$) **CI 793**, lots of
copulation scars, small nick 2nd lost
marginal right. Turtle hanging around
tent, scum dried, sprayed **T93**, small
nick 2nd to last right, small tumor
dorsal front left flipper.

June 30
SUNDAY 0100

T27 in 3rd pit, all near each other.

Turtle 2 pits area 13 heading inland
across island. Area 9 unreadable w/ large
barnacle 1st marginal left on beach. **T32-20**

T86 in 2nd pit.

T27 3 pits returned - all wood or tin obstructions.

0300

Need to Census seals daytime & night time
over 5 day -
also see Ratio Census.

Rolling on pup when startled not occurring in
new, small animals that could be seriously
hurt by such activity.

east Seal Tag A796 (yellow plastic removed) - almost adult.
East Seal Tag A757 (SA)

W-S A9090 $\frac{1}{2}$ adult

$\frac{1}{2}$ adult w/ yellow tag - fat.

Seals are spooky on W-S.

* Pit - subjective definition based on my judgment
dependent upon amount of effort put into
excavation - not just scratching the surface.

* Good Pit - Usually identified by cliff like
excavation, lots of dirt thrown up -
Weather dependent - rain, wind, seals moving
through, other turtle activity, all decrease
the chance for positive identification. Week
to 10 days may be maximum.

* Age of pit - also highly weather-external factor
dependent. Vegetation is an aid. Dried
brown vs freshly crushed. Veg grows
back into pit. Lapse of time.

Several shark bite photos on W-S. Bites
usually on belly - hard to see when
hauled out.

* Life of Pit -

W-S is a bad island in many respects for
successful turtle nesting.

0300
June 30
Sun

area 13 turtle 1 more pit-chamber inland returned (ground wire). **T75** (?) barnacles on head, on beach area 9. **T54** in pit and out area 7. **T46** (turned up post centrals) moving inland area 6. yellowish turtle in chamber area 6.

0515
marked location

3 turtles right together area 5: **T46**, yellowish; and ^{area 6}**T54** ^{laid} yellowish ^{laid} 131 eggs previous tag U.S. Wildlife 187

marked location

sprayed **T94** **C1994**, **795** (half way down) (38 3/4 x 36 3/4) (37 1/4 x 28 1/2). Tracks in out area 14 1 pit.

0700

Stake for turtle H knocked over, couldn't find.

1215*

Whale-Skate

Pits 52 - of these 10 look good.
Seals A SA P of these 3
basking 43 16 14 one pup brand new.
Turtles - 2♀, 1♂, 2 offshore

1400

To Tern for resupply, no tracks or nesting reported - Return to East at 1830.

1845

Seal A451 adult. NEP - T unreadable left hind 1/2 missing, front left trailing edge cut, healed and hanging loose. SEP **T17**; yellowish ♂ eye tumors previous seen - color photos; T unreadable, back spray, eye tumor left. area 7 basker p w/ scum on back.

2245

marked location

T27 in 1 pit area 1 by tent. **T21** (prev C1779) (prev FW **391**) laying area 5 (C1797 1/2 way).

marked location

T w/ large barnacle 1st marginal left appears to be ^{larger} **T32**, resprayed thus, no tags present, given **C1796** 1/2 way (38 1/2 x 36). Note: measurement doesn't match for T32.

Notes - Small nesting population permits fairly comprehensive monitoring of individual activities.

Times of survey indicate beginning - in many cases they continue for 1 hour or longer.

Area 5 is becoming almost entirely excavated with fresh pits making it difficult to determine the number formed by each animal.

H stake found at end of sand point washed up, returned to approximate location.

Toggling turtle $\frac{1}{2}$ way down flipper would seem to be better suited to Bosky studies - readable!

Many Black foot albatross gone.

Root hairs obvious in many chambers.

Frequently vegetation is pushed over eggs along with dirt. rotting elevates temperature; decreasing incubation time in these nests?

Seal pups seem to prefer lying on their backs.

"Physical description of East - FFS"
"Rust" spots on seals. "attrition rate of pups and subadults"

3 imbedded small burrows removed from T95.

There can be no "missed" animals before arrival; only missed animals after departure (late arrivals)

Turtle up to veg. and return, area 1

2245 cont.
June 30
Sun

T87 in pit next to T32^v area 5; departed at 2345 h.
T85 motionless in area 5. Big turtle in nice chamber area 6-sprayed T95.

marked location

< T18 in pit area 11 laying at 2400 h. C1800^{1/2 way}_{R?}
4 pits in area 8-9; returned. Turtle outside of felled pole area 11 in chamber, no T apparent.

marked location

< T27 laying area 1. Unkodable that is tagged wandering on sand point - 3 or 4 new pit.

marked location

< T95 area 5 142 eggs C1798 (39 1/4 x 37) (37 3/4 x 29 3/4). Pole area 11 turtle prev C1716 is T23 but sprayed T96 (23 same as 96) (37 3/4 x 29 1/2) possibly not sprayed. NO 96 = 1523

marked location

< C1799 1/2 way.

Monday July 1 00115

T27 still covering. T89 motionless by concrete area 14.

0315

marked location

< T47 apparently covering area 1 by tent, prev C1782 C1736 come off, C1801^{1/2 way}. NO - nested covering of 7/2

T's in pits area 8 and area 9. 2 turtles on sand point, 1 in pit.

0600

marked location

< Sand point turtle sprayed T97, C1802 (36 x 32 1/2) staked as possible. Big speckled and yellowish turtle leaving area 9, 1 pit, no T apparent, no tags.

0700

T87 basking on sand point.

1100

Seal SA A1034; ♂ basker sand point by tent.

1530

♀ basker area 10. NEP - T34; 7?; and 9.

← 1845

SEP - 2 ♀ T?; 1 NOT; and 2 offshore.

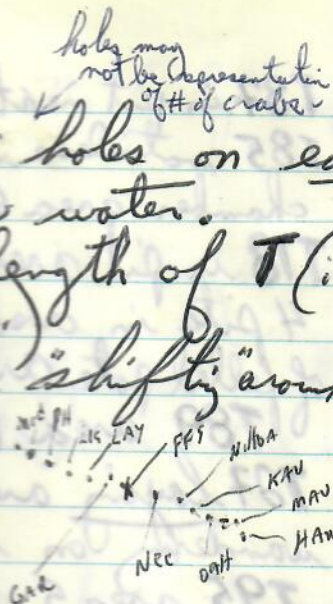
2200 →

T46 area 13, inland. 1 up beach area 12. T on beach returning area 10 motionless, appears to have abnormal suture on latter marginals (broad on head)

Notes- approx. 90-100 GC holes on each side of sand point at low water.

Factors affecting length of T (i.e. scum, dryness, sand sticking etc.)
Sand appears to be "shifting" around island.

Do late arrivals bask?
Pearl and Hermes population?



Did winds blow in same direction when FFS was more pronounced? How long ago?

1. Hatching juveniles end up in Midway area - as they grow they move Eastward (PH, LIS, LAI) and finally at maturity return to FFS; after nesting A. Continue to Necker and Major Is; B. Return to Pearl and Hermes; C. Some of each; D. Some to major and some to Johnston; E. some stay at Necker ridge.

Important aspects - 1.) Composition of Pearl and Hermes colony as well as size 2.) Composition of Johnston colony.

How to account for juvenile and Subadults around major Island?

What is the minimum size for a turtle making the prevailing windward trip to Necker, Kawai and on?
Importance of subadult population at FFS?

Turtles have the ability to navigate around the island at night. See underwater at night?

cont.

Monday

July 1
2200

1 clearing on beach top, area 10. 1 up beach area 8. T5 moving inland area 7. T85 area 5. 2 on sand point - 1 not, no tag but "moon" cuts in hind flippers. other not observable. T737, light shell (T49) trying to get up steep banks of sand point.

need photos

July 2
Tuesday

0015
marked location

2 pits area 5. T5 laying area 9 (prev 787). 1 on beach area 12. 1 in chamber, sand point. 1 scored back warentally, sand point bank. Sand point turtle chamber, foot brown body pit must be deep. Sand point

0100

0125

marked location

prev. 781 T88 laying C1803 1/2 way R. 2nd sand point turtle returned, 1 pit.

0315

T98 sprayed area 5, V-notch in suture 2nd to last R, digging around. T5 leaving via center of island between areas 5 and 12 probably due to eye tumors, V's "moons" in hind flippers and notches in last marginal each side. T87 digging area 14 by concrete, tattered Hind R and portion of hind L missing. 2 coming up steep bank of sand point.

0500

sand point turtle w/T and tag close to bank in chamber, returned ~ 0600.

0600

turtle digging into bank area 9, barnacle cluster on head very distinctive, look like T4?? T75? no tags, seen earlier, V notches 2nd to last suture each side, V out of hind R, 3 pits total and returned.

flipper-limb damage of turning animal over.

SKIN & shell

Notes: - look for copulation scars on all untagged untagged turtles.

Weight of eggs - $\approx 50g \times 100 = 5kg = 11lbs \times 3 = 33lbs$

Seals seldom get into veg on East, W-S yes probably due to narrowness.

Lots of small flies - Gnats.

Monitoring environment (ecological processes) with out altering.....

bahh bahhh (pupa)

bbbiupt bbbiup

bbbbbb:up (?) adult

hmmmm on hmmm hmmm

as in "h" in adult

bupt-bupt bubb-bub

The question of explaining late arrivals - copulation, fertility during present year, etc. Indicate algal scum presence, no T, no TG, no cop. scars etc. in book.

Multiple island nesting: fish on one for breeding and initial intensive (period of basking, rest on that island once or twice, then switch another for later nestings during period when basking has significantly tapered off. T numbers would therefore not be seen by survey other island basking population, no more than many of the T of East are not seen in the daily basking censuses.)

Photos of shark bite mark by anchor.

alternatives: Missing and grand scale; Drop eggs in water; unusual re-nesting cycles.

Nest mortality should be viewed with reference to substrate characteristics.

depends → Turtle pthr or protection from wind. Roosting sand for comfort?

cont. only Tubs 0600 marked location

070

marked location 153

000

2130 marked location

cont.
July 2
Tues
0600

marked location <

T87 pit in bank area 8, then moved to 2nd pit up bank. T98 layed (39 x 37 3/4) (36 3/4 x 27 3/4) area 6 CI 777 and 804 1/2 way, piece out of 2nd lateral L, U-out of suture 2nd to lost R.

0700

Turtle in 2nd pit sand point at end, sprayed T99 layin, green algae, no scars, small tumor right shoulder, pit mark 1st lateral left, CI 805; 806 1/2 way R. Photos with E2 ASA 25 during layin covering, etc. Did not return until 0815-0830, egg removed because in tide zone, transplanted

marked location <
1530

area 1 (37 3/4 x 35 1/4)
SEP- T54, 39, 2 unmeadable, 2 not apparent, all ♀.
NEP- T34, 83, 40, 2 unmeadable, 1 unobservable.

1700 ♀

Copulating pair and 2 males around seen in East Cove - most of activity seems to be taking place on the bottom in 10-12' of water. Still at it at 1845 - looks like only 1 extra ♂ now.

2130 on marked location <

T46 digging area 1 behind tent, part of left hind missing - U-notch ^{photos} in each post central, not injured ^{layed}. Turtle in pit just up bank area 17 close to water. 2 on sand point. T89 (?) area 13 - retreat when passed. T? up area 12 over to area 5 / pit moving. Turtle area 9. 2 turtles area 6 (by stake) 1 in chamber. (T23 (?) area 5, 2 in area 5, 1 in pit is T65, left flipper loose flap, (40 1/2 x 36 1/4) ^{14 days} Looks like T17 area 2 1 pit - came along beach top from area 4.

Notes: position of limbs while laying - 1 folded in, other extended on top.

Seems as if after 1st nesting - progression is much faster during subsequent nestings.

Many Turtles appear to be returning to nest with a few feet of their previous nest. Possibly of value to measure distances.

Difficulties of egg counting - ^(without sub. excavation) INSECTS birds, seals, substrate bugs, rain, length of time, catching at the right time.

Southwell

Sharks disappearing, Round, Mullet covering by H₂O at time
Aerials of Disappearing and Shark important.

1973 study-report made the assumption that animals fixated and remained on one island throughout the season.

cont
July 2-3
Tues Wed

75

T56 in area 17, 1 pit. Area 17 sprayed
T100 (37 x 35 1/4) (34 3/4 x 26 3/4) C1807 and
808 1/2 way, left after 2nd tag, copulation scars,
Neophyte? Moon cut in hinds - photos,
hind flipper covering behavior as progressing
down beach, Eggs transplanted to
behind tent next morning. T17 - nice

few
marked
location <

marked
location <

chamber area 2 (38 1/4 x 36 1/4) (36 1/4 x 27 3/4)
No tag! apparently there are 2 T17s, 108
eggs. C1809. T47 covering area 17.

late,
marked
location <

T57 area 17 2 pits and left.

marked
location <

T32 layed covering area 13 1 pit.

times.
marked
location <

T85 (prev C1783) layed area 5, left
hind injury.

marked
location <

T16 (covering area 6 (prev 754) node
into T165, left hind 1/4 - 1/2 missing (rest
to pipe marked pit). T42 area 6, small

marked
location <

tumor left shoulder (prev 726) pipe marked.

marked
location <

T62 covering in area 7, ^{initial} large round
mush-like tumor dorsal right front flipper,
C1810 1/2 Left.

1 int. bank-pit area 8. 2 up at SNEP zip,
T65 and 1 no mark apparent.

0110 →
marked
location <

2 on sand point in pits, T56 moving.
1 right nest to fire pit, chamber, T89
layed, photos, goldfish.

0145

Turtle in chamber behind Round log
area 11. Turtle in pit up bank area 9.
Hole in hind left (T2) pit area 11.
Round log turtle speckled and yellowish

Notes: Scratches in painted numbers must be from coral contact probably while sleeping - resting during night - days when nesting is not taking place. Turtles seen heading out over reef along S coast (areas 1-8).

Comparing bosky population early July with late May one must take into consideration the fact that fewer males may be present within the shoals. What happened to them? ① Migrated out ② offshore and unobservable ③ Some are still here, however, haven't seen a bosker ♂ in some time ^{7/4}. What about late arrival males? If previous assumption is correct that ♂'s arrive ahead of ♀'s, then a late arrival male would coincide with ♀ arrival ∴ probably no ^{or very few} ♂'s arriving after ^{BULK OF} ♀'s arrive.

Young pups (black) pup's front flippers look longer in proportion to body length than adults - used more for locomotion on land?

July 3
2145
marked
station

marked
station

marked
station

20 pa
060

1930
2130

July 3 wed
0145 → on
marked location

sprayed T101 (40 1/2 x 38) (38 1/2 x 27 1/4)
CI 811 photos, 2 pit marks second lateral right, lots of population scars, shape of hinds



shook bite?

Turtle ⁷⁴⁸ up bank area 9, doesn't dig well, uncoordinated - V notch 2nd to last R and cut (groove - 3rd (?) to last right.

T58 up bank area 9 and return. T42 still covering (deep), photos.

2 turtles on SNEP, 1/2 left hind - some off right, 1 looks like T90, barnacle 2nd marginal R and 3rd lateral left.

marked location

T2 laying (prev 720, 721) SNEP, low on bank but probably O.K. CI 812 1/2 L. T87 up beach area 4.

marked location

T49 laying, covering on sand point (prev 737). Turtle in area 7 "gravel pit" V-notch in left post central. T42 end of front R split partially lengthwise.

(0420 pau)
0600

T87 area 7 in brace chamber area 7 by vegetation line (check for lay ^{710 1147}). T75? chamber in 3rd SNEP.

T17 (other one) area 16 1 pit and returned. SEP - 4 Total T52, 65 (poss. full nest) and 2 unread.

1930
2130

T65 and unreadable moving area 5. 2 in area 6; T56 and no T, no tog sprayed T102 V-notch suture of last marginal and postcentral right left - 1 pit each. T44 area 7. unmarked with notch (seen same area last morning)

unique → Notes - Many seal up in vegetation zone tonight.
 → Monitor each individual of the population, few enough to
 area some turtles to uncoordinated for
 successful nesting?

Length of time basking?

Spot marking address necessary on tags - fishermen's mistrust.
 When covering nest using front flippers - many turtles curve rather than

Major Topic for discussion prelim work description of area

Seal A787 $\frac{1}{2}$ adult; seals like to lay inside
 turtle pits (keep out of wind?). pups seen pairing up
 for days and playing w/ each other.

"discrepancy" - "disparity"

Noody tern (smart nesting in area 7 on coral chunks -
 gravel) - Turtles can't nest there.

A deep pit does not always result from
 egg covering i.e. T53 area 6 and T87 area 11.

^{B15} Pup seen playing; rooting in sand, wave wash (looks for
 something? doubt it). Mother chased after pup. Pup used
 lots of hind tail flipper action while swimming.
 Mother's bellow is usually followed by pup's blah.

Bosker still in area 2 - now with head facing seaward,
 sand thrown on back, 2nd or 3rd lateral left flaky.
 No tag seen on left, uncertain about right - \rightarrow
 Aquarium Turtle?

July 3
Wed

in area 9 1 pit. Turtle on sand point digging.

July 4 Thurs
0630Temporarily
marked

T87 and 44 area 12 1 pit each. 2 turtles in area 9, T58 and notch turtle (with tag) 2 pit each main. T56 area 6 1 pit. T102 covering (??) staked for check. Newly emerged unobservable.

marked
location <

T65 covering area 5 (middle of island) C1813, 1/2 hind left missing - skin flap left front.

T53 area 6 1 pit. T102 (36 3/4 x 34 1/4).

marked
location <T56 layed 114 eggs [left handed turtle] nick ~~out~~ out of 3rd to last marginal R, area 6. No mark apparent. turtle clearing 2nd pit area 6.

T53 in gravel chamber area 6. T58 up area 9. area 9 tag-notch turtle 1 more pit. Turtle up by

0 215 0 1/2 tent.

T53 layed area 6 C1814 1/2 R, split in web of front R, 3 or 4 short urination

marked
location <

into chamber before eggs were extruded - little blood spots and tissue on a few eggs, 81 eggs. T58 motionless in area 8 - several pits.

Turtle area 10 wandering (prev 742 on bod) = T391.

T87 area 11 behind felled pole in chamber, bad flippers, light but no sun yet. T7?1? on sand point low to water, in pit, left violently when first seeing me - check for eggs. T17 area 16 (prev 771 V. orig T17) 1 pit and returned, photos

marked
location <

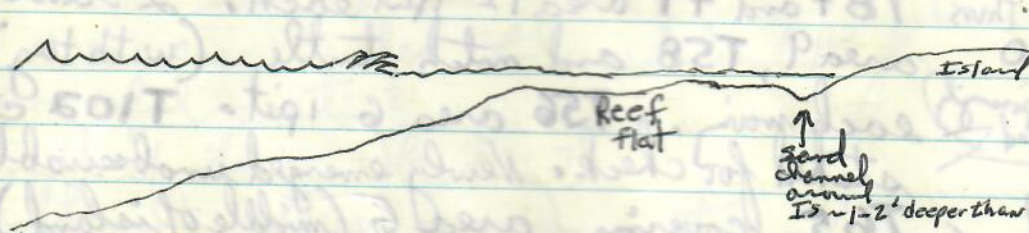
1-3 EL ASA 64. T87 covering area 11, sun up, many photos, small egg in nest (prev 780) C1815 1/2 R [right handed turtle].

1500-1600

Till 1900: bocher area 2, T36(?)

SEP T39, 21, 57, and 4 unreadable (2 goldish, all ♀); 3 offshore, 1-79. NEP T8, 5 (7? or 3?), 1 unreadable, 2 offshore.

Notes:



Note on T36 - 6/5 1700 observed what appears to be intestine or oviduct on trail of T36 departure. photos taken - B&W and color - cut lengthwise with scissors - fecal material inside - vascular material outside - every indication as being a section of intestine.

Thurs.
July
marked
section

marked section

2200

Friday
July
0000

004

marked
section
0130

033
Tate

Thurs.
July 4
marked
location

Special ENTRY - T36 (T216 KAIVA)
First observed at ~10PM area in pit,
returned and waited for chamber excavation -
Left handed - Egg at 107 - T216 removed
for positive identification - confirmed, Measurement curved -
(40 1/4 x 37) straight (38 1/2 x 29 3/4). Togs
applied CI 816 right shoulder flap, CI 818 in
webbing 1/2 down left. 4 color slid photos F
ASA 64 NO. 26 through 30. B&W and wt photos ~ NO. 19-24
Anatomic x ASA 36 FTN. Flaky shell on 2nd and 3rd
left lateral and 1st central. See notes previous
page on basket T36 area 2, - first basket ever seen
this area. Left pit after covering at approx ^{JULY 5} 0015.
Looks like T1(?) in chamber area 17 - 3rd pit.
Turtle in area 14. 1 at water edge area 7.

2200

Friday
July 5

0000

T17-1 in 4th pit. Area 9, same notched
turtle as previous to nesting hours.

0045

T17-1 and T391 (1 pit) in area 16.
Area ^{T18} 9 notch turtle out of pit and moving -
will she ever lay? 1 coming up beach
area 9. 2 in area 5, 1 pit each, both T.

marked
location
0130

Area 17 T41 (prev 725 and 733) layed
94 egg, removed CI 733 bud, attached
CI 817 1/2 R.

0330
marked
location

Area 16 T391 gone, likely lay.
T17-1 (CI 771) in 2 more pits. T58 in area 9
1 pit. Previous notch turtle 1 more pit
(area 9 all torn up!). T on SNEP in
pit.

Migration Power wind

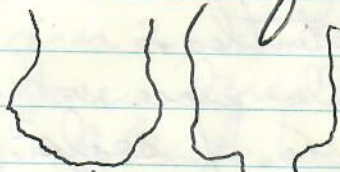
Fri
July 5

0400

Marked
location

T17-2 main back towards area 17.
T15 area 5 (prev. 753) laying, knocked down
and/or moved stake T85 $7/2$, T15 yellowish
with chips broken ^{MINOR} out of Right posterior
marginals, Left ^{NOT MARKED} horded. Other area 5 turtle
in 1 pit.

T58 area 8 in gravel pit.
Area 9 notch turtle moved from SNEP pit -
many pits registered for this animal, Tog read
as C1739 \therefore T48, notches include suture
of 3rd and 4th to last marginal Right; Groove
2nd to last marginal right and suture of last
to 2nd to last, B/K and w/ photos taken on previous
day. SNEP turtle - Barnoches ^{cluster} non
head (7); 1 on nose, each 2nd at 3rd LAT L;
1 on 1st marginal right; 1 on 4th central; 1 on ^{NO}
2nd to last marginal R; T present but (T4?)
unreadable - no tog, V-notch out of
2nd to last marginal on each side, Parts
of both hind flippers missing



($36\frac{1}{4} \times 28\frac{1}{2}$) ($38 \times 35\frac{1}{2}$)

Togged C1819, Paint
"strip" put on each side of carapace.
Previous C1760 has been in pit area 5
for some time slow movement, can't tell
if covering or digging - this is T73.

0615

T15 area 5 leaving (prev 756).
T70 2 pits - chambers area 5 gave up
(soil too loose, dry and torn up)
togged C1820 $1/2$ R.

Variable

Notes - fur different on males than females -
 ♂ appears darker blackish chocolate brown ^{not as} smooth -
 while ♀ is tan brown smooth.

Area 5 - parts of 6 loose soil, not compact,
 dried - little moisture present - ∴ had
 to excavate chamber.

Display No. of animals nesting in an area by
 time (i.e. week, 5 day period, etc.)

The role or reason for yellowish vs Black turtles -
 origin of 2 w/ toy return US Wildlife (167,370)

* Times turtle have been ^{above} seen but did
 not lay - perhaps will find intervals in
 nesting interval.

Turtles will avoid seals in the water seals
 seen chasing off turtles.

Seeward (FES) only place where turtles
 nest in the presence of seals?

Friday
July 5
1200

T17-1 covering (lay) area 16,
given C1821 1/2 R.
TO Tern for supply and pick up John W.
TO TR16+

Seals $\frac{A}{17}$ $\frac{SA}{9}$ $\frac{P}{4}$ ^{2♂}
_{1 ♀} TAG 1/2 Adult #123

Pits 8 Total - little activity
apparent. Seal adult w/scar on hind quarters -
must photograph. Turtles - 2♀ baskers

1700
2215

SEP-T39 NEP-T33 9, 81

T48 in pit area 9. "stripe" in pit SNEP. These two turtles
obviously are experiencing difficulties nesting. 1 in pit chamber
area 8. 1 along beach top area 8. 1 in pit area 4
beach top. 1 in nice chamber area 3. T60 covering
right in front of tent area 1, layed, V-notch at
suture of last and 2nd to last right marginal -
C1822 1/2 R, 2 color photos taken.

later observation -
marked location \leftarrow
NO 1AY

Very goldish smaller turtles 1 pit and moving
U.S WILDLIFE HONOLULU (370).

July 6
Saturday
00300

3 pits area 2, turtle gone. 2 pits area 4
turtle gone. area 9 - T48, 58 1 pit each and
1 w/tag up beach. US370 digging behind tent
area 11 and moving.

0245
Marked location \leftarrow

Turtle covering area 3, 1 pit layed, sprayed
T103 (37 1/2 x 35 1/4) (36 x 27 1/2) C1823,
hind R injured. 2 in pits area 8.

T48 in pit area 9. T58 1 pit moving area 14.
1 pit on sand point.

0530

T103 departing via area 5 and 12 across island.

Notes - Male seals appear to have a broader head than female.

Turtles have an innate sense of elevation after emerging?

Broken egg found at lower tide at end of SNEP - does this mean that some animals that have difficulty nesting drop their eggs in the water - i.e. missing interval?



Sat. July 25 B

130

140

145

150

0542

1103

01883

128

0230

Sat.
July 6
0530
marked location

T58 area ~~14~~ layered, covering, (prev 740) C1824 1/2 R.

1200 Seals $\frac{A}{17}$ $\frac{SA}{2}$ $\frac{P}{20}$ ^{2 playing together}

Included were 2 ♂♀ pairs, 1 tagged SA, 1 pregnant ♀, 8 ♀ w/pups, of which 5 had pups w/black pelage. None of the SA appeared small enough to be last years pups.

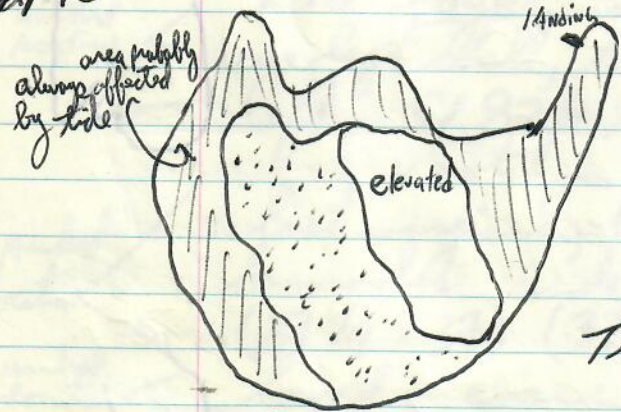
NFP - T165; T5 and unmeasurable offshore.

1400 Gin Island - $\frac{A}{1}$ $\frac{SA}{4}$ $\frac{P}{0}$ no SA
looked small. _{w/BACKSCAL}

Turtle pits - (8)

~40 blue face boobies (20 pairs) w/chicks
Layers of coral chunks scattered around island
GIN Detached sand bar (from offshore) 7A 5SA,
2 turtle bunkers.

445



Little Gin - 5-8 B/K ft chicks - a few blue face - 0.5 gallon floor was removed from Is.

Seals $\frac{A}{10}$ $\frac{SA}{0}$ $\frac{P}{0}$

Turtle pits - 12

Little Gin has finer sand w/sport where layers of coral chunks have been thrown up.

Notes: bank of 12, 13 and 14 being cut away - steep - water action - aggravated by strong wind?

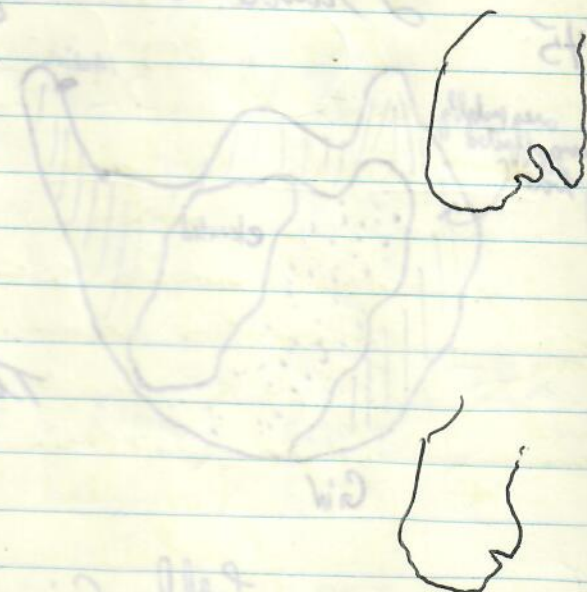
Swollen tail lumps - bite marks seen on seal pup SNEP.
Turtles tear down banks - tear up vegetation.

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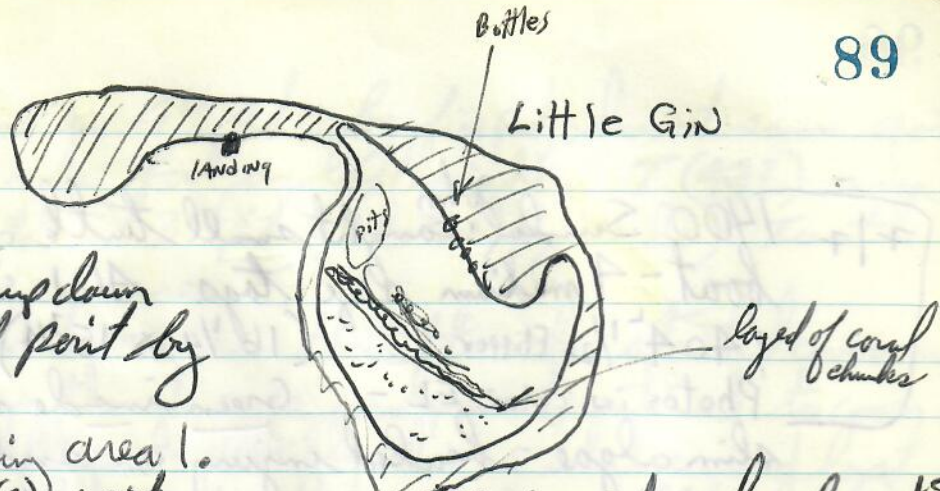
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July 6
Saturday



2015 T25 or 35 up down on sand point by tent.

2115 T60 digging area 1.

2145 T65(?) 1 pit area 14. T in pit-chamber area 12. T(?) section missing above R hind flipper in chamber area 12. T(?) (prev. 748) T63 area 8. T78 moving in area 6 section above left hind missing. T70 chambering area 5 w/ long body pit. 'No mark apparent' in pit edge of vegetation area 5. 1 on beach area 3. T60 2nd pit area 1. Sand point 1 pit.

2330 T48 and 60 in pits area 1. T67 at H₂O edge area 3. T70 layed area 5.

marked location ← T78 layed area 5 (prev 764) section missing rear left shell, barnacle 2nd marginal right, hind left, C1826 1/2 R. Turtle laying area 8

marked location ← V notch in suture of R post central and lost marginal, right handed, 2 large barnacles under left shoulder (prev 748 = T63 (39 1/4 x 37) (37 3/4 x 28). prev 759 = T72

marked location ← layed, covering area 12 by pole C1825 1/2 L, piece out of left hind, and front right piece of shell missing above hind. an area 12 turtle returned - 1 pit. 3 pits by T43 area 17. T48 appears to be covering (??) area 17.

Not stalked

7/7 1400 Sunday ^{John} caught small turtle over coral patch near boat - 4 medium size tags 401 & 402 - flap 403 & 404 1/2 Flipper (16 1/4 x 15 3/4) (15 3/4 x 13 3/4) 6 1/8" Photos in color EL - Green inside mouth - probably eating slim algae - healed injury on end of nose.

FPS
10

Seals ^{molting} A SA P
 includes Seal w/ pup 5 21 2 9
 ↑ 4451 Size-wise - AN ADULT
 ↑ A1045 1/2 Adult

right side seal sound ←



7/7 1700 ^{John} turtle caught over reef East of Whaler - Some coloration - 2 color ^(EL) Bk adult (STN) photos taken - Tags 405 & 408 flap and 407 1/2 Right - (406 Bod-digital) (16 3/4 x 15 1/4) (16 1/4 x 13 1/8) (5 3/4 thick)

Notes: Injuries noted on many hind dorsal flippers which have resulted from contact with margin of carapace during forward flipping of sand. (Related to greater thickness?) Chamber excavation occurs more posterior under turtle as she is "anchored" in for digging.

curvature of shell

July 7
Sunday
0035/0120

T60 now in 4th pit - by fire pit, almost same spot where she fool us last night. T(43?) area 17 turtle in 3rd pit (photo by seals); Turtle chamber in area 5.

marked location

T60's chamber caved in thereafter she started cover-up procedure as though eggs were present, continued to cover with front flippers - possibly this is what occurred last night. Prev C1755 laying area 5 T66, left handed, pit marks in 2nd and 3rd (bigger) lateral left, C1827 1/2 R. Area 17 turtle (prev 758)

0130 marked location

laying = T43 (FW previous removed for ID = 655) C1828 1/2 R, 2 pits in 2nd (marks) lateral left, 4 eggs, dry, no fluid before extrusion, difficultly laying, left hind O.K., right has inner edge missing.

0415

1 area 5, 1 sand point, 2 area 16, all starting to emerge.

0600

2 large sharks off area 10, 11 and 12 (1 Tiger? 1 caran?) Turtle still on beach area 16-17 border, ♀ w/ scars

1030

♀ partly buried in sand from wave wash, approached, photograph w/ BIKWT, NOT apparent or toy, no injury apparent, retreated slowly into water. T78 basking area 12.

1500

NEP - T9, 78, 33, - T65, 8, 165(16), 70 = 32(?) offshore SEP - T17-2, 21, 57 and 103.

- None seen on sand point or offshore area for sometime, however, many off NEP offshore were seen to be swimming from West direction.

2230

Prev 757 ~~T69~~ area 3 in pit. stripe barnacle head turtle in pit (prev 819) area 6.

T60 in pit area 8. T25 (prev 749 in pit area 16 HAWAII State Fish and Game 1048 removed.

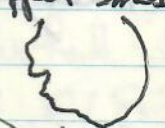
Not strayed possible LAY?

W-S turtles caught by John on Reef-

Tog 409-410, 411^F/₂-412^F/₂
(18¹/₄ x 16¹/₂)

" 413-414, 415^F-416^F 1/2
(21 x 20)

July 7
Sunday
marked location

area 5 turtle layed 101 eggs (38 1/2 x 27 3/4) (40 3/4 x 40) = T68, large notch suture of left post central and last marginal, small tumor dorsal left flap, ventral right flap and 1/4 way down right flipper. Small tumor right eye, small piece out of 3rd marginal left, 2 1/4 of front left flipper missing, right hind partly off ->  and left hind. little missing from

July 8
Monday

C1829, depart at 0130 during cover, T78 knocked off by this animal.


Sand point turtle in chamber - covered in, no tag, no T apparent = given C1830.

0430

T34 up (down area 12. area 13 tracks 1 pt and returned. C1830 layed on

TRANS

sand point given T104 (37 1/2 x 38) (35 3/4 x 29). Nest of H or T?

nest to it dug into partly probably by T104, approx 20 eggs broken, some no development, some small  embryo, ghost crabs around, recovered.

INJURY wounds on dorsal hind flippers

0630

Stripe-banole turtle digging in area 5 - returned - Paralysis of right hind? Incoordination? T104 eggs appear low on

marked location

sand point (southerly smell) - total 123 egg transplanted (4 broken: 119 egg) to area 1.

1320 ->

Whale - Skate: Seal A SA P
Many boobies, Frigates, Noddies - few Sooties
42 25 12

Adults include - Tog 922; 907 (No "A" prefix); 1 possibly pregnant; Sub A's include 1 chubby w/yellow tag molting

HAT

Note: Hatchlings - hatchling noted on ground
scrambling in area 3, about 8 at first, "rock" mark
noted just inland from T69 nest - ~ 10, more removed
and placed at edge of vegetation zone - entered water.

Eggs buried in earth take up water, possibly also
certain characteristics that allow identification
of area/island?

Seal tag A451 1/2 adult

July 8
Monday 1320 →

whale-skate continued; - Toge A918 (1/2 Adult) Several photos of scared animals. Sub A's that may be lost years pup include 5. Seal w/pup 3, of these seal w/new pup (Blk) 1. Seals in pairs (pairs of seals) = 4. Turtle pits = 14, look good 3 Boskers = 9 including T94 - photos - Boskers pile together more on whale-skate.

2230 on marked location

T69 (=168) Layed area 3 C1831 1/2 R, hind left ~~1~~ T78 boskin (?) area 11. 'Stupe' in shallow pit (2nd) area 8. 1 leaving, 1 up area 5-6. T34 area 12. No apparent mark, right hind missing, notch left post central area 5.

July 9
Tuesday marked location

Turtle area 16, 1 in chamber area 17. Turtle laying area 17, egg count 138, left handed, C1832, nick out of 2nd to lost left marginal, sprayed T105 (38 1/2 x 36 1/2) (37 x 28), small tumor corner of left eye. area 17

marked location Progress not followed properly

laying (previous 762) = T74, right handed, C1833 1/2 R. T82 in area 5, T9 area 6, unmarked and untagged digging near high water area 6.

400 may have layed check stake

'Stupe' in egg chamber area 8. T34 leaving area 12, 2 pits. 1 in area 16. T34 area 12 in 3rd pit. T9 and 82

marked location

area 5-6 digging around. T80 (prev 769) area 16, layed 3rd pit, C1834 1/2 R, ~98 eggs left right hind 1/2 missing, right front a 1/4 missing, left handed, (35 1/2 x 28 1/2).

0615

T82 in 3rd pit on 4th area 5-6 chambering - later saw returning - no lay.

Notes: 1200 - 1500, motored South side, w reef for Fish - Caught 4 ulva - length as follows: $21\frac{1}{8}$, $23\frac{1}{2}$, $24\frac{3}{4}$ and $13\frac{1}{2}$ - mouth opening on larger two = $2\frac{1}{2} \times 2\frac{3}{4}$ wide. 3 larger rise with eggs - all stomachs contained fish parts - largest had many small trigger fish. Upon return trip observed copulating pair w/ detached sand spit w/ 1 ♂ in attendance. Mounted ♂ had a very yellowish shell. When entering water all that could be seen was 1 ♀ dark shell with tag on right flap. Male barker observed on detached sand spit w/ seals (A754 SA). Swam ashore and observed T36 swimming in shallow water - animal appears to be normal in every way.

Seal ♀ (pregnant) - 7 feet 8 inches, - gave birth ~ 7/10

0330 - Ran 15 minute tape in microphone nest - no sounds.

Right-left handed probably determined by lost limb to reach for scoop just before start of laying.

T34 appeared to be "hunting" for right site.

Tuesday
July 9 0615marked
location

Turtle chamber between logs area 11, split-cracked
place in right side of last (central) (dirt inside),
sprayed T106, left handed, C1835 (38³/₄ x 36)
(37 x 27¹/₂) 118 eggs.

1730

2200

NEP- T32(?), 40, 70 SEP- T17-2 and 3(?).
T34 area 16 inland. Unreadable edge of vegetation
1 pit. Unreadable area 4 returning. T33 in pit area 5.

marked
location

Unmarked, untagged covering area 5, sprayed T107,
laid (37 x 36) (35¹/₂ x 27¹/₂) C1836 Barrocks
as follows: 1- second lateral left; 3- 2nd marginal
left; 2- 1st marginal right; 2- 2nd marginal right;
1- 1st lateral right. T83 in pit chamber area 6.

Wednesday
July 100000
marked
location

T82 in chamber area 6.

T83 laid, area 6, C1837 1/2 R.

T82 wandering, 2 pits U-notch
2nd to last marginal left area 6.

T-unreadables, reach of beach area 11
and 12. 2 new pits area 13.

0200

T76 1 pit moving area 12. T34 in pit
area 12, swings tail to be over
chamber for each scoop. prev C1772 = (T22
wandering area 10. T82 laid,

marked
location

0330

covering area 6 - C1838 1/2 R.
T34 laying; portion of left hind missing,
right handed, 68 eggs

marked
location

T22 laid, area 7, (V) prev C1715
missing, C1839 1/2 R, departed through area
11.

0615
marked
location

Caught shrimp early morning GRAY 5'6" - only bait (ulva)
in stomach - Yang 6-8" long.

Notes - what is an adult seal? Pupping size?
 Look at Krider turtle photos for notches.

Insects of East - FFS

Ground with good nesting characteristics for turtles
 for Shear water burrows. - Shear water burrows present hazards
 to hatchlings.

believed to be T9 - staked as such
 * Check possible miss inland area
 (1 or 2 days old)



Creek

RC1

V2

V3

V4

RC3

C. 845-846

July 10 Wednesday John to Whale-Skate at 5:00pm for night survey, baskets-
 10 ♀ (T94 and 1/2 shell piece out of right hind) C1207 w/scaps.
 Many seals with hauled out under runners of vegetation.
 T092 - 923 adult ♂; A673 almost adult; A918 1/2 A;
 A7056 almost adult; A215 ♀ adult, A907 looks adult.

2215 T92 coming up area 4. T39 in pit area 5, returned 2300. T57 in pit area 5 stake.
 T91 area 8-SNEP; large notch right last suture. T64 laying area 12 with difficulty, odd shaped eggs ○ ○ ○ ○
 38 total, that I waited for. T76 in 3rd pit area 12. 1 pit area 11 and return.
 Blackish turtle no top or T apparent w/ 2 notches in post centrals similar to T46.

marked location ←

July 11 Thursday 200
 T40 area 15 2 pits.
 T40 and 76 gone (check stake for 76)
 T57 still in pit area 5-6, possibly 2nd or 3rd.
 ← 0315 T57's pit keeps slipping. T40 in chamber area 11.

marked location ←

0435 T57 laying (prev 745) area 5, C1840 1/2 R.
 T40 area 11 laid, 93 eggs, notch right last suture, (prev 789 1/2 R) C1728 Right flap.

marked location ←

July 10 Wed 2200
 John's Whale-Skate Evening 7/10 morning 7/11
 Turn in chamber area 1, area 12. basket area 7 ♀ and area 8 ♂. Turtle digging area 9 and up beach area 10.
 marked location ← C1845 ^{not on property} laid area (39 x 35 3/4) 133 eggs ±5, right handed, C1846 left, on good, shell injury -

marked location ←

2 Tumors on top left flipper, one ventral right by flipper TO P.103

Observations on Monk during course of green turtle studies
 Miscellaneous Monk Seal Notes

- Behavior of mother-pup in water - chase egg out of water, forage on bottom, touch, bleat.
- Weaned pups sleep all day on beach - sometimes out on reef to forage, wave flippers in sand, etc.
- Length to weaning
- Ble and wtt. photos of all seal behavior
- Injuries description, survival capability
- Subadults discussion and age at maturity
- Movement between islands
- Sexual activity of pairs, fighting I saw
- Parasites, regurgitation and feed (eels)
- Description of thins and rejections, Mother, pup, pup to ble
- Water temperature, air temperature
- Digging into sand, basking
- Night activity - observations (very important)
- Nursing pup and mother bleating when no milk
- Population changes at FTS - various islands
- Many seals sleep at night
- Fright response of SA (tagged animals?)
- Molting, smell of molt, adult, SA, pups
- Behavior of SA in turtle pit during storm
- Photos, observations on last years pups - green algae on sand
- Flipper rubbing nose mouth while sleeping
- Curling behavior of hind flippers
- Fish follow seal tail photo
- Effect of seal on birds
- Albatross chasing off seal w/ beak
- Seals on Necker

- Swimming of whale w/seals behind me
- Mortality of pups to subadults
- No fleas at FFs on seals?
- Longest living in the field at FFs?

- Tern Island lack of puping - hauling
 Kenyon and Fiscus. 1963. Age determination
 in the Hawaiian monk seal. J. Mamm. 44:280-1.
 Rice. 1960. Population dynamics of the
 Hawaiian monk seal. J. Mamm. 41:376-385
 Rice. 1964. The Hawaiian monk seal.
 Nat. Hist. 73:48-55.

Notes- John reports an abundance of ghost crabs all around whale-skate; many more than indicated by holes. Do all dig holes or just some (mature?).

Adult seals are blackish gray immediately after molt.

Propellers plane to the W and few hours later return evening of July 11.

July 10 wed.
Whale-Shake
2200 contin.

area 12 ^{turtle} moved to front of tent - tumors similar to C1845.

2340 ^{NIGHT} _{COUNT} Seal Count: A SA P seals/pup 4
26 7 4

July 11 Thurs
0400 Seal togs 922, A 920 and T690. turtle coming up area 3.

marked location \leftarrow turtle layed area 12, C1847 (39x34³/₄).
marked location \leftarrow turtle in chamber area 11.

marked location \leftarrow Turtle layed area 8 (39¹/₂ x 38¹/₄) C1848.
marked location \leftarrow Turtle C1849 area 8 ^{nesting} digger (38¹/₂ x 38).

marked location \leftarrow ♂ bosker area 8. C1850 layed
93 eggs area 2 (36 x 32³/₄), right handed.

marked location \leftarrow Turtle layed, area 11, (36⁵/₈ x 36) - no more togs.

July 11 1630 Whale-Shake Seals A SA P

Seals/pup 5 1 blk.-new 36 21 11
pairs - 2 Togs - 902 almost adult
lost year's pup - 4 922 " "

Turtles - 8 ♀ (T94) 1 ♂ ; 3 ♀ offshore
photo of ♂ ^{notches} ♀ bosker pair ELASA 64 -

1830 T9 bosking at NEP - East IS.

2200 T90 night) bosking sand point 1900 ^{on} → T8 by fire ^{pit} _{sand} ^{point}. T54 area 3 1 pit return. T322 area 4 return. T92 up area 5. T unreadable up area 7. T8 into area 17. Turtle up bank

July 12 Friday sand point.
0030 T8 2nd pit area 17. T23 resting on beach head out area 12. Turtle in chamber area 7. T92 2nd pit area 5. T39 1 pit (?) area 5. T54 area 3, 2 pits

0115 moving. Right post central broken, 1 pit sand point.

Notes - No birds on sand point.

Need photo from concrete or pole and birds on top of pole using telephoto lens.

Birds became very excited and took to flight upon approach of Frigate flock.

Birds are good indicator of movement inland of turtles.

7/12 afternoon - Caught 3 Ulva SW side reef off East - Length - $24\frac{5}{8}$ " digested fish parts - eggs.
 $26\frac{1}{8}$ - empty - eggs.
 $33\frac{1}{4}$ - empty - eggs.

Late arrivals may be infertile if they are neophytes.

Many turtles return down beach in sort same tracks as emergence.

Friday
July 12
0230

105

marked location < T90 and postcentral lying in pit, sand point. T54 area 3 in 3rd or 4th pit. T39 in another pit area 5. T92 in another chamber area 5. T86 (prev 778) covering area 7, layed. T23 resting on beach area 12 - basking T2. T8 2 more pits area 17. marked location < T90 sand point, 96 eggs, C1714 right flap, layed. marked location < T54 layed area 3. T39 motionless area 5. T92 in nice chamber area 5. T21 motionless at water edge, area 6.

0600 T8, 3 more pits. T54 leaving. T92 ^{not marked} layed and leaving area 5. marked location < T39 laying area 5.

marked location < sand point turtle with missing right post central layed, 113 eggs, C1722 ($37\frac{1}{2} \times 35\frac{1}{2}$) ($35\frac{3}{4} \times 28$), lots of spaces between eggs, ^{right} handed, sprayed, T108, no apparent scars, in pit sunrise is not as pronounced due to lowness to ground.

2015 T39 basking SEP. T391 basking NEP.

2225 T32-2 in pit behind tent. T95 in out area 8. T39 basking NEP (36 x 27) marked location < T109 very goldish, photo sprayed on sand point (410 x 38) ($38\frac{1}{2} \times 29\frac{3}{4}$) layed, no scars, right handed, C1841. T32-2

marked location < areal, 117 eggs layed, C1777 on right July 13 Sat. flap ($36\frac{1}{2} \times 27\frac{1}{2}$). T8 wandering on 0115 sand point, T88 coming up beach area 7.

marked location < T391 still basking, T23 in 3rd pit area 15. T8 in pit sand point. T23 137 eggs ^{previous} layed area 15, left hand (C1799 and 716), neck barcode sample taken.

July 13 Sat.

T8 2nd pit sand point, 12 eggs and covered, right hand (my disturbance??)

0600
marked location
Marked together

T85 (seen on reef flat w/ T88, further W)
2 pits in area 6, (obviously good)

Marked location, either T85 or T88.
T8 apparently redug and lay a few feet from 1/2 egg nest.

'stripe' at end of sand point, 1 pit, rejects efforts of assistance

NO - Layed in area 16 on 7/14 full
Book 2 page 3

layed on July 16, area 5.

∴ Animal responsible is unknown.
layed on sand point July 15.

BAD	Good	BAD	Good	Bad	Good	Bad	Good	Bad	Good
714	714		750		779		808		838
come off 715	715		751		780		809		839
	716		752		781		810		840
	717		753		782		811		841
	718		754		783		812		842
	719		755		784		813		843
	720		756		785		814		844
	721		757		786		815		845
come off 7/11	722		758		787		816		846
	723		759		788		817		847
	724		760		789		818		848
	725		761		790		819		849
	726		762		791		820		850
	727		763		792		821		851
728	728		764		793		822		852
	729		765		794		823		853
	730		766		795		824		854
	731		767		796		825		855
Bad	732		768		797		826		856
	733		769		798		827		857
	734		770		799		828		858
	735		771		800		829		859
come off	736		772		801		830		860
	737		773		802		831		861
	738		774		803		832		862
	739		775		804		833		863
	740		776		805		834		864
	741		777		806		835		865
	742		778		807		836		866
come off	743						837		867
	744								868
	745								
	746								
	747								
	748								
	749								

Not good on 845

851-60
w/ 25000/11005

check summary P110

11/11/11

Juvenile - Subadult Tagging and Measurements

Date	Location	Med (M)TAG	NDS	curve	Straight	Thick	Remarks
6/7/74	Whale-Scate		NONE	20 1/2 x 18 1/2	-	-	3 Photos by Chau
6/12	East Cove		NONE	16 1/4 x 15 1/2	15 3/4 x 13	4 7/8	Photos w/ me - spray overcave 6
7/7	EAST IS East Cove	401, 402-409 ^F	403 ^F	16 1/4 x 15 3/4	15 3/4 x 13 3/4	6 1/8	John's consulting photos w/ EL color
7/7	Reef w/ F Whale EAST IS	405, 408-407 ^F		16 3/4 x 15 1/4	16 1/4 x 13 1/8	5 3/4	photos w/ EL & FTR w/ w
7/8	Whale-Scate (W)	409 410 411 ^F	412 ^F	18 1/4 x 16 1/2	-	-	photo
7/8	"	413 414 415 ^F	416 ^F	21 x 20	-	-	photo
7/28	"	419		17 1/2 x 14	16 5/8 x 13 7/8	-	photo - front left photo - flipper bite
8/8	East Reef *	420, 421		18 3/4 x 16 1/8	17 3/4 x 14 1/4	-	under reef ledge. Geo.
8/8	East Reef	422, 423		17 3/8 x 15 1/2	17 1/8 x 15 1/4	-	near reef ledge. Geo.
8/13	East Reef	424, 425		18 1/4 x 16 1/4	17 5/8 x 13 3/4	-	2 photos & L Geo.
8/14	W-S Strip	426, 427, 428 ^F	429 ^F	25 1/2 x 23 1/4	24 1/4 x 20	-	photos - 70 lbs
9/26	East Reef	432, 433, 434 ^F		16 1/2 x 15 1/4	15 3/4 x 13 1/4	-	photo - 18 3/4 lbs
9/28	" "	435, 436, 437 ^F		16 3/4 x 15 1/4	16 1/4 x 13	-	17 3/4 lbs
9/30	W-S South shore	438, 439, 440 ^F		18" x 16"	-	-	23 1/2 lbs
10/1	RecAP East Reef	420, 421 - 441 ^F		18 1/2 x 16 1/4	17 3/4 x 14 1/4	-	26 1/2 lbs

TC	SEX	orig STATUS	orig TC DATE	CI/FW	CURVE	STRAIGHT	TC	SEX
1	F	B	5/31	^{Removed} 765	37 x 38	35 x 27	29	M
2	F	B	5/31	720 721, 812 ^F	35 1/2 x 32 1/2	33 1/2 x 26	30	F
3	M	B	5/31		36 1/2 x 33 1/4	35 1/2 x 27 1/4	32	F
4	F	B	5/31				33	F
5	F	B	5/31	^{Pages 2} 743 744, 787	44 1/2 x 39 1/2	41 3/4 x 32	34	F
6	M	B	5/31				35	M
7	F	B	5/31				36	F
8	F	B	5/31	768, 790	39 3/4 x 35 3/4	37 1/4 x 28 1/2	37	M
9	F	B	5/31	719, 774	38 1/2 x 35	37 1/4 x 28 1/2	38	F
10	M	B	5/31		35 1/2 x 33 3/4	34 x 26 3/4	39	F
11	M	B	5/31				40	F
12	F	B	5/31				41	F
13	F	B	5/31	727, 729	38 x 36	36 1/4 x 28 1/4	42	F
14	F	B	5/31				43	F
15	F	B	5/31	753	39 1/4 x 37 1/4	38 x 28 1/4	44	F
16	F	B	5/31	754, 842 ^F	40 1/4 x 37 1/2	37 1/2 x 29 1/4	45	F
17-1	F	B	5/31	771, 821 ^F	38 x 36 1/4	36 1/2 x 31	46	F
18	F	B	5/31	751, 800 ^F	36 x 36	34 3/4 x 28 1/2	47	F
19	F	B	5/31		37 3/4 x 36 3/4		48	F
20	M	B	6/2				49	F
21	F	N	6/2	^{Removed} 779, 797 ^F (391)	40 x 36	38 1/2 x 30	50	M
22	F	N	6/2	775 772, 839 ^F	41 3/4 x 38 1/2	39 1/2 x 29 3/4	51	M
23	F	N	6/2	716, 799 ^F	40 1/4 x 38 1/2	37 3/4 x 29 1/2	52	M
24	M	B	6/2		34 x 31 1/2	33 1/4 x 26	53	F
25	F	B	6/2	749 - (1048) ^{Fish #6 ground}	38 1/4 x 37 1/2	36 3/4 x 29 1/2	54	F
26	M	B	6/2				55	M
27	F	B	6/2	776	39 x 38	37 1/2 x 30 1/2	56	F
28	M	B	6/2		35 1/2 x 33 1/4		57	F

Section out

TC	SEX	ORIG STATUS	orig TC	DATE	CI/FW	curve	STRAIGHT
29	M	B	6/2			38 x 34 1/2	
30	M	B	6/2			35 1/4 x 33 3/4	
31	F	B	6/2			36 1/4 x 35 3/4	
32	F	N	6/2			37 x 34 1/4	34 3/4 x 26 1/2
33	F	N	6/2		732	38 3/4 x 37 1/2	36 x 28
34	F	N	6/3		718, 767	36 1/2 x 34 1/4	34 x 28 1/2
35	M	B	6/3				
36	F	B	6/3		816, 818 ^F - Page 81 TMB	^{40 1/4 x 37} 40 1/2 x 37 1/2	^{38 1/2 x 29 1/4} 38 1/2 x 30
37	M	B	6/3			34 1/2 x 32	33 1/2 x 26
38	F	B	6/3			41 x 39	
39	F	B	6/3		742 - 440	37 1/4 x 34 1/4	36 x 27
39	F	N	6/3		724, 792^F	39 1/4 x 35	37 1/4 x 28 1/4
40	F	N	6/3		725, 783, 817 ^F	37 3/4 x 35 1/2	36 x 27 3/4
41	F	N	6/3		726, 828 ^F	40 1/2 x 38 1/2	38 1/4 x 29 1/2
42	F	N	6/4		726	38 x 36	36 x 28
43	F	B	6/4		758 - 655	38 x 32 1/2	36 1/2 x 27 1/4
44	F	N	6/4		730, 731	39 3/4 x 36 1/2	36 3/4 x 29 1/2
45	F	N	6/4				
46	F	N	6/4		734, 735	40 x 36 1/2	38 x 28 1/2
47	F	N	6/5		736, 782, 801 ^F	38 1/4 x 35	36 1/4 x 27 1/2
48	F	N	6/4		739	36 1/2 x 35 1/2	35 x 28
49	F	N	6/5		737, 856 ^F	38 1/2 x 37 1/2	36 1/2 x 28 1/2
50	M	B	6/5			36 1/2 x 32	
51	M	B	6/5			36 x 34 1/4	
52	M	B	6/6			39 x 35	
53	F	N	6/6		741, 814 ^F	37 1/2 x 35 1/2	35 3/4 x 26 1/2
54	F	N	6/6		746, 785	38 1/2 x 35 1/2	36 3/4 x 28 1/4
55	M	B	6/6				
56	F	N	6/7		738, 786	38 1/2 x 34 1/2	36 1/4 x 26 1/2
57	F	N	6/7		745, 840 ^F	38 1/2 x 35 1/2	37 x 30

* Section out of right side of shell, see page 51

TC	SEX	orig Status	orig TC	DATE	CI/FW	CURVED	STRAIGHT
58	F	N	6/7		740; 824 ^F	40 ³ / ₄ x 38 ¹ / ₂	36 ¹ / ₂ x 29 ³ / ₄
59	M	B	6/7				
60	F	N	6/8		747; 822 ^F	36 x 34	34 ¹ / ₂ x 27 ¹ / ₂
61	F	N	6/8			39 ¹ / ₂ x 36 ¹ / ₄	37 ¹ / ₂ x 29 ³ / ₄
62	F	N	6/8		810 ^F	38 ¹ / ₂ x 35	36 ¹ / ₂ x 27
63	F	N	6/8		748	39 ¹ / ₄ x 37	37 ¹ / ₂ x 28 ¹ / ₂
64	F	N	6/9		750; 752	36 ¹ / ₂ x 34	34 ³ / ₄ x 28
65	F	N	6/9		813	40 ¹ / ₂ x 36	38 ¹ / ₄ x 29 ¹ / ₄
66	F	N	6/10		755; 827 ^F	37 x 37 ¹ / ₂	34 ¹ / ₄ x 28 ³ / ₄
67	F	N	6/10				
68	F	N	6/10		829	40 ³ / ₄ x 40	38 ¹ / ₂ x 27 ³ / ₄
69 (168) F	N		6/11		757; 831 ^F	37 ³ / ₄ x 35 ¹ / ₂	36 x 27 ³ / ₄
70	F	N	6/11		756; 820 ^F	42 ¹ / ₄ x 38	39 ³ / ₄ x 31
71	F	Born?	6/11		763 - 976	39 ³ / ₄ x 36	38 ¹ / ₄ x 28 ¹ / ₄
72	F	N	6/11		759; 825 ^F	40 x 37	38 x 29 ¹ / ₄
73	F	N	6/12		760; 720	37 x 35	35 ¹ / ₂ x 25
74	F	N	6/12		762; 833 ^F	38 ¹ / ₂ x 34 ³ / ₄	36 ¹ / ₂ x 26 ¹ / ₂
75	F	N	6/12		Same as 75		
76	F	N	6/13		761	39 ¹ / ₂ x 36 ³ / ₄	37 ¹ / ₂ x 29
78	F	N	6/13		764; 826 ^F	37 x 34 ³ / ₄	35 ¹ / ₄ x 28
79	F	N	6/13		766	38 ¹ / ₂ x 34	37 x 29
80	F	N	6/14		769; 834 ^F	37 x 37 ¹ / ₂	35 ¹ / ₂ x 28 ¹ / ₂
81	F	N	6/14			39 ¹ / ₄ x 36 ¹ / ₄	37 ¹ / ₂ x 28 ³ / ₄
82	F	N-	6/14		770; 838 ^F	38 x 34	36 ¹ / ₄ x 27 ¹ / ₄
83	F	N	6/15		773; 837 ^F	37 ³ / ₄ x 35 ¹ / ₂	36 ¹ / ₂ x 28 ¹ / ₄
84	F	N	6/15		775	38 ¹ / ₄ x 36 ³ / ₄	37 ¹ / ₄ x 29 ¹ / ₂
85	F	N	6/16		783	37 x 36 ¹ / ₄	35 ¹ / ₄ x 27 ¹ / ₂
86	F	N	6/16		778	39 ¹ / ₂ x 39	38 ¹ / ₄ x 30 ¹ / ₂
87	F	N	6/17		780; 815 ^F	39 ¹ / ₂ x 39 ¹ / ₄	37 x 29 ³ / ₄

Tc	SEX	orig status	orig Tc Date	CI / FW	Curved	straight
88	F	N	6/17	781; 803 ^F	38 ³ / ₄ x 35 ¹ / ₄	37 x 27 ¹ / ₂
89	F	N	6/19	784; 866 ^F	38 ¹ / ₄ x 34	35 ³ / ₄ x 27 ¹ / ₂
H ^{wooded color}	F	B ^{whale-skate}	6/18	788	38 x 37 ¹ / ₄	36 x 29 ¹ / ₄
90	F	N	6/28	793; 714	38 ³ / ₄ x 36 ¹ / ₄	36 ³ / ₄ x 28 ¹ / ₄
91	F	N	6/29			
92	F	N	6/29	791	38 x 36 ¹ / ₂	36 x 26 ³ / ₄
93	F	N	6/29			
94	F	N	6/30	794; 795 ^F 162	38 ³ / ₄ x 36 ³ / ₄	37 ¹ / ₄ x 28 ¹ / ₂
32-2 F	N		6/30	796 ^F 777?	38 ¹ / ₂ x 36	36 ¹ / ₂ x 27 ¹ / ₂
95	F	N	6/30	798	39 ¹ / ₄ x 37	37 ³ / ₄ x 29 ³ / ₄
96 (=23)						
97	F	N	7/1	802	36 x 32 ¹ / ₂	34 x 24 ³ / ₄
98	F	N	7/2	717; 804 ^F	39 x 37 ³ / ₄	36 ³ / ₄ x 27 ³ / ₄
99	F	N	7/2	805; 806 ^F	37 ³ / ₄ x 35 ¹ / ₄	
100	F	N	7/2	807; 808 ^F	37 x 35 ¹ / ₄	34 ³ / ₄ x 26 ³ / ₄
^{2nd} ^{one} 17-2 F	N		7/2	809	38 ¹ / ₄ x 36 ¹ / ₄	36 ¹ / ₄ x 27 ³ / ₄
165 (=16) F						
101	F	N	7/3	811	40 ¹ / ₂ x 38	38 ¹ / ₂ x 27 ¹ / ₄
102	F	N	7/3		36 ³ / ₄ x 34 ¹ / ₄	
^T unreadable STRipe F	N		7/5	370 recovery 819	38 x 35 ¹ / ₂	36 ¹ / ₄ x 28 ¹ / ₂
103	F	N	7/6	823	37 ¹ / ₂ x 35 ¹ / ₄	36 x 27 ¹ / ₂
104	F	N	7/8	830	37 ¹ / ₂ x 38	35 ³ / ₄ x 29
105	F	N	7/9	832	38 ¹ / ₂ x 36 ¹ / ₂	37 x 28
106 ^F	N		7/9	835	38 ³ / ₄ x 36	37 x 27 ¹ / ₂
107 F	N		7/9	836	37 x 36	35 ¹ / ₂ x 27 ¹ / ₂
108 F	N		7/12	722	37 ¹ / ₂ x 35 ¹ / ₂	35 ¹ / ₂ x 28
109 F	N		7/12	841	41 x 38	38 ¹ / ₂ x 29 ³ / ₄

7/7	area 5	T66 X	* ✓	
7/7	area 17	T43 X	* ✓	41 egg ✓
7/8	area 5	T68 X	* ✓	101 eggs ✓
7/8	area 1	T104 X	* ✓	119 eggs ✓
7/7	area 16	T25 ^{merged} 7/16	* (X)	check stake ^{not yet mapped}
7/8	area 3	T69 X	* ✓	
7/9	area 17	T105 X	* ✓	138 eggs ✓
7/9	area 17	T74 X	* ✓	
7/9	area 12	T34	* (X)	removed - due to check stake - subsequent nearby not yet mapped ✓
7/9	area 16	T80 X	* ✓	98 eggs ✓
7/9	area 11	T106 X	* ✓	118 eggs ✓
7/9	area 5	T107 X	* ✓	
7/10	area 6	T83 X	* ✓	
7/10	area 6	T82 X	* ✓	
7/10	area 7	T22 X	* ✓	
7/10	area 12	T34 X	* ✓	68 eggs ✓
7/10	area 12	T64 X	* ✓	38 odd shaped ✓
7/11	area 12 ^{No stake}	T76 ^{few paces EAST of T22 6/22 OR T34 6/28}	* (X)	check stake ^{not mapped yet}
7/11	area 5	T57 X	* ✓	
7/11	area 11	T40 X	* ✓	93 eggs ✓
7/9 possible	area 11	T9 X	* ✓	
7/12	area 7	T86 X	* ✓	
7/12	sand point	T90 X	* ✓	96 eggs ✓
7/12	area 3	T54 X	* ✓	
7/12	area 5	T39 X	* ✓	
7/12	sand point	T108 X	* ✓	113 eggs ✓
7/12	area 5	T92 X	* (X)	NOT Marked because of uncertain location Low to water
7/12	sand point	T109 X	* ✓	
7/12	area 1	T32-2 X	* ✓	117 eggs ✓
7/13	area 15	T23 X	* ✓	137 eggs ✓

- indicates accounted for (either located or not located)

Mapped locations of nests

Date	Location	ID	Notes	Eggs
7/2	area 2	T17	(C1809) ^{there are 2-17's} note *	108 eggs ✓
7/2	area 17	T47	X *	✓
7/2	area 13	T32	X *	✓
7/2	area 5	T85	X *	✓
7/2	area 6	T16	(T165) X *	✓
7/2	area 6	T42	X * pipe	✓
7/2	area 7	T62	X inland * pipe	✓
7/3	area 1	T89	X * fire pit sand point	✓ pipe
7/3	area 11	T101	X *	✓ #24
7/3	Sand point	T49	X *	✓
7/3	SNEP - sulbar	T2	X *	✓ Gen area - pipe
7/3	area 6	T102	X * staked for check * not yet mapped 7/16	✓
7/4	area 5	T65	X *	✓
7/4	area 6	T56	X *	114 eggs ✓
7/4	area 6	T53	X *	81 eggs ✓
7/4	area 11	T87	X *	#21 ✓
7/4	area 3	T36	X *	107 egg #14 out pipe ✓
7/5	area 17	T41	X *	94 egg ✓
7/5	area 16	T391	X *	likely lay ✓
7/5	area 5	T15	X *	✓
7/5	area 16	T17-1	X *	✓
7/5	area 1	T60	X *	No nest - stake removed 7/7
7/6	area 3	T103	X *	✓
7/6	area 14	T58	X *	✓
7/6	area 5	T70	X *	23 broken eggs - dug up by 742 7/29 - some with slight develop
7/6	area 6	T78	X *	✓
7/6	area 8	T63	X *	✓
7/6	area 12	T72	X *	✓

Chart areas 2-8 General

Chart areas 9-17 and Sulbar

Thereafter all on specific charts

- 6/20 Area 1 (fire pit) T56 X * ✓
- 6/20 area 5 T5 X * ✓
- 6/20 Sand point H - ^{Knocked off position 6/30} X * ✓ #35 pipe
- ~~6/20 Sand point unknown (partially uncovered by H see page 57) X * ✓ #211~~ ^{Removed 7/12 → locate using pipe #}
- 6/28 area 12 T34 X * ✓ #32
- 6/28 area 6 T84 possible * ✓ #131
- ~~6/28 area 7 T82 X * later observations indicate NO 1AY~~
- 6/28 Area 1 T8 X * ✓ #111
- 6/28 Area 9 T40 X * ✓ #18
- 6/29 area 4 ~~T101~~ (33) X * ✓ #26 mapped 8/2
- 6/29 area 6 T92 X * ✓ #19
- 6/29 area 9 ^{State 6/9 in error may read} T39 X * ✓ #30
- 6/30 Sand point T90 ^{Knocked off position #11} X * ✓ #11 pipe
- 6/30 area 6 T54 X * ✓ #15
- 6/30 area 6 T94 X * ✓ 131 eggs #16
- 6/30 area 5 T21 X * ✓ #17
- 6/30 area 11 T18 X * ✓ #33
- 6/30 area 1 T27 X * ✓ #45
- 6/30 area 6 T95 X * ✓ 142 eggs #25
- 6/30 area 11 ~~T96~~ (=23) X * ✓ #3-2
- ~~7/1 area 1 T47 X * likely - General area #34 ^{NO nested 7/2 stake removed}~~
- 7/1 Sand point T97 ^{Knocked off position 7/1} X * ✓ possible - General pipe
- 6/30 area 5 T32 ^{Resurveyed (can't be different) #113} X * ✓ #22
- 7/1 area 8 T5 X * ✓ #20
- 7/2 Sand point T88 X * ✓ pipe
- 7/2 area 6 T98 X * ✓ #28
- 7/2 original Sand point T99 X * ✓ 122 (-1) egg moved (pipe) To Area 1
- 7/2 Area 1 T46 X * ✓
- 7/2 original area 17 T100 X * 95 (-2) moved to area 1 (pipe) ✓

6/28

6/13	area 12	T74 X	* ✓ #31
6/13	area 6	T98 X	* ✓
6/13	Sand point	T71 X	* ✓
6/13	Sand point	T1 X	* ✓
6/14	area 17	T79 X	* ✓
6/14	area 12	T34 X	* ✓
6/14	area 17 (by tent)	from T8 ^{when returning} 3 eggs	* ✓ <i>stake removed dug up by T48 on 7/6</i>
6/14	area 5	T82 X	* ✓ <i>11 eggs Broken - dug up by T65 7/29 - partial development.</i>
6/14	area 4	?	(possible miss) ✓
6/15	area 12	T22 X	* ✓ #40
6/15	area 6	T83 X	* ✓
6/15	area 6	T9 X	* ✓ #43
6/15	area 5	T84 X	* ✓ #27/45 (-?) eggs
6/16	area 15	T8 X	* ✓
6/16	area 17	T27 X	* ✓ <u>10</u> eggs ✓ #171
6/16	area 16-X	T40 X	* ✓
6/16	area 9	T86 X	* ✓
6/17	area 4	T21 X	* ✓ <u>126</u> eggs ✓
6/17	area 5	T39 X	* ✓ #44
6/17	area 17	T17-1 X	* ✓ #41
6/17	area 12	T87 X	* ✓ <u>106</u> (-1) eggs ✓ #29
6/17	area 5	T33 X	* ✓ likely good pit ✓
6/17	area 16	T88 X	* ✓
6/18	area 17	T47 X	* ✓
6/18	area 6	T85 X	* ✓
6/19	area 10	T89 X	* ✓ Goldfish ✓
6/19	area 7	T32 X	* ✓ likely lay ✓
6/19 ^{Not found on 6/28}	area 5	T54 X	* ✓ " " ✓ <i>Buried Found 7/8 but discarded</i>
6/20	area 6	T42 X	* ✓ likely lay #36

MARKED LOCATION OF NESTS -

6/1/74	area 11	UNKNOWN		✓
6/2	"	12	TC22 X Microphone	✓
6/2	"	13	TC23 X under log	✓
6/2	"	7	TC32 X <u>126</u> eggs - by frigates	✓
6/2	"	12	TC34 X	✓
6/3	"	8	TC2 X shallow ^{knocked off position 7/2}	✓ located 8/12
6/4	area 11	TC40	X	✓
6/4	area 12	TC13	X <u>84</u> eggs w/temperature probe	✓
6/4	"	12	TC44 X	st ✓
6/4	area 6	TC33	X <u>102</u> (-1) eggs	st ✓
6/4	area 1	TC41	X	st ✓
6/4	area 7	TC46	X	st ✓
6/5	Sand point	TC49	X	st ✓ pipe
6/5	Area 17	TC47	X	st ✓
6/7	area 6	TC56	X	stake #2 ✓
6/7	Area 10	TC58	X	✓
6/7	area 10	TC48	X	✓
6/7	Sand point	TC53	X	✓ #1
6/7	area 5	T5	X	✓
6/8	Area 4	T54	X <u>111</u> eggs ±	✓ stake #7
6/6	area 8	T42	X ^{knocked off position 7/2} <u>100</u> egg - several broken	✓
6/8/9	area 11	T63	X	stake #10 * ✓
6/9	area 14	T15	X	stake #11 * ✓
6/9	area 7	T16	X	* ✓ stake #5
6/11	area 5	T70	X	* ✓ stake #4
6/11	area 2	T69	X	* ✓ stake #9
6/11	area 14	T72	X	* ✓
6/12	area 5	T73	X	* ✓ stake 6
6/13	area 12	T76	X	* ✓

To page 118

Close nesting (upto 7/6*) and beyond for some

- T22 ^{Micro phone} 6/2, 6/15 A12 75'9"
- * T32 6/2, 6/19 A7 7/2 A13
- * T34 6/2, 6/14, 6/28 A12
- * T40 6/4, 6/16² A11 $7/11 - 6/4 = 85'6"$
- T41 6/4 A1 7/5 A17
- T49 6/5, 7/3 Sand Point 95'7"
- T47 6/5, 6/18, 6/2 A17 (6/5 to 7/2)
- T56 6/7, 7/4 A6 6/20 A1 (6/7 - 7/4 = 20')
- * T5 6/7, 6/20 A5 7/30 A9
- * T42 6/6 A8 6/20, 7/2 A6
- (6/2 - 6/28 = 53'6") T34 6/14, 6/28 A12 (7/10 - 6/2 = 23'4") (7/10 - 6/28 = 76'8")
- T27 6/16, 6/30 A1 106
- T21 6/17 A4 6/30 A5
- T17-1 6/17 A17, 7/5 A16
- T87 6/17 A12-107, 7/4 A11
- * T54 6/8 A4 6/19 A5
- * T84 6/15 A5 6/28 A6
- * T16 6/9 A7 7/2 A6
- T2 6/3 A8 6/16, 7/3 SNEP
- * T70 7/6, 6/11 A5
- * T78 7/6, 6/13 A6
- T56 6/20, 7/17 A1 (4'8")
- T63 7/18, 7/6 A8 (11') also 3'6" is A8 very close by
- T88 7/2, 7/15 (11'4") sand point
- T56 7/30, 6/7 Area 6 (36'8")

G. H. BALAZS

