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12/14

Kathy -

for Lil

Mac Millan

TITLE MONITORING  
MO'OMI

KAWA'ALOHA / MO'OMI MOLOKAI  
JOAN AIDEM'S  
HISTORICAL NOTES & DATA  
SCANNED 10-17-2019  
BY GEORGE BALAZS

FROM:

L. Macmillan

2460 Kamehameha V Hwy

Kaunakakai, HI 96748

## Joan Aidem's 1992 Moomomi Turtle Watch Results

Dick Langer  
Joan Aidem

- 6/23 Mac Poepoe reported dehydrated appearing turtle digging holes in the sand during the daylight hour. Dick Langer found a turtle flipper at waters edge this past weekend at Kawaaloo Bay.
- 6/24 # 1-3<sup>P</sup> About 100 yards E. of W. end of Kawaaloo Bay found tracks of forementioned turtle wandering in sand and 3 shallow pits. This turtle was well down on the sand flats and did not approach the dunes (all previous turtles in past years dug and laid in the dunes) but eventually got back out to sea. Two flippers (front and rear) along water's edge.
- 7/24 # 2-7<sup>P</sup> Just W of above tracks are 6 new pits at W end of Kawaaloo Bay on sand flats above high tide line but not approaching dunes. These may be several weeks old. 300 yards E of Kalani Point fresh (last night) tracks and single pit not far above high tide line. I marked this with upright 4X4. It is just below and slightly E of archeological site 23 (Sumners' "Molokai, A Site Survey").
- 7/26 Encountered Dick Langer on dunes. He pointed out 1 more pit at Kawaaloo Bay W end making 10 in all. None of these pits are marked and none of the tracks are very distinct.
- 8/7 With Ecological Society at Kaehu Point, Peter Thompson of Park Service, Kalaupapa accompanying. Peter pointed out two juvenile sea turtles which we could see below us in the sand as we stood in the rock shelter. Both were just at the high tide line and both dead. One was missing its head and one had a long tear across the throat exposing its trachea. Each about 18" long in carapace length. Peter had seen net floats offshore a few days before. It is probable that these two died in the nets, were pulled out and floated ashore.
- 8/10 four or five checks of Kawaaloo pits indicated no hatch. This was very sketchy at best. Dick and I were both busy at this time and may well have missed something.
- 9/21 Kalani Point water has been up over July 24 pit.
- 9/22 Kalani Point water has been up over July 24 pit again but it appears that there has been a hatch. It has been 60 days since the apparent lay.
- 9/26 Dick Langer and I dug up 75 empty eggshells and one dead baby turtle at above pit. We also investigated the western most pit at Kawaaloo Bay with the intent of digging that but it had been washed away by high tides and there was no way to locate it.

Seasons End!

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July 24 Friday Just W of above tracks <sup>and</sup> new pit at W end of Kawaboo Bay on sand flats above hi tide line but not approaching dunes. These may be several weeks old. 300 yards E of Kulap Pt. fresh (last night) tracks & single pit not far above hi tide line. I marked this with upright 4x4. It is just below & slightly E of archaeological site 23 (Sumner, Molokai, A Site Survey)

July 26 Monday Encountered Dick Langer on dunes. He pointed out 1 more pit at Kawaboo Bay. We had making 10 in all. None of these pits are marked & none of the tracks are very distinct

Aug 7 Fri With Ecological Society at Kuehu Pt. Peter Thompson of Park Service, Kulapapa accompanying. Peter pointed out two

juvenile green sea turtles which we could see below us in the sand as we stood in the rock shelter. Both were just at the hi tide line & both dead. One was missing its head & one had a long tear across the throat exposing its trachea. Each about 18" long in carapace length. Peter had seen net floats offshore a few days before. It is probable that these two died in the nets, were pulled out & floated ashore.



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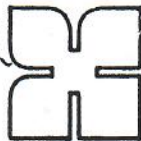
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Seasons end

1993 turtle report

J. Aidem

Monday May 31

Dick Langer discovered 2 sets of tracks on Kawaaloa Bay

# ① <sup>2P</sup> half way up dune 100 yds east of river, body pit. Another pit 20' below that. Marked with stakes

# ② <sup>2P</sup> 50 yds E of these another track led 1/2 way up dune to body pit. Below this another body pit. Marked with stakes

Very early for turtles from first logs have been July 31

Friday June 4 Tracks from 1 + 2 blown away by wind. No new tracks

Sunday June 13 Dick Langer found apparent ~~false~~ crawl at W. end of next to last beach West. Appeared to be from Sat. night

not Kawaaloa?

③ Last night bright moon in E sky at 3:15 AM

Monday June 14 - 100 yds E of rocks on next to last beach West + 50' E

of yesterday's false crawl (see above) tracks up from the ocean 6' up dune. One large body pit (marked). Turtle did loop + went E 50 or so feet. One deep pit there. (marked)

# ③ - 1P

Wednesday June 16 ④ Dick Langer reported new crawl from Monday night, June 1

W of crawl #2, marked pit

I walked to next to last beach W. Just E of June 13 false crawl tracks 10' up dune just below vegetation line

⑤ Large pit. Marked it

⑥ Tracks up to rocks 30' from W end of beach. Looks impossible for turtle to climb but pit above it. Marked

not Kawaaloa



Sunday June 13 Dick Lorange found apparent ~~false~~ crawl at W. end of next to last beach West. Appeared to be from Sat. night

not Kawaakoa?

Monday June 14. (3) Last night bright hi moon in E sky at 3:15 AM. 100 yds E of rocks on next to last beach West + 50' E of yesterday's false crawl (see above) tracks up from the ocean 6' up dune. One large body pit (marked). Turtle did loop + went E 50 m or feet. One deep pit there. (marked)

# 3 - 1P

Wednesday June 16 (4) Dick Lorange reported new crawl from Monday night, June 14. W of crawl #2, marked pit.

I walked to next to last beach W. Just E of June 13 false crawl tracks 10' up dune just below vegetation line

(5) Large pit. Marked it

(6) Tracks up to rocks 30' from W end of beach. Looks impossible for turtle to climb but pit above it. Marked.

not Kawaakoa

Sunday  
~~Wednesday~~ June 20 Regular monthly Nat. Cons. trip. No new turtle tracks. Old tracks obliterated.

Wednesday June 23 No new tracks

Friday June 25 No new tracks

Sunday June 27 Dick went out. No tracks

Tuesday June 29 No tracks,

Wednesday June 30 / Dick reported dry run turtle track, very short, 1/2 way  
Al between river bed + Kaahu pt.

Thursday July 1 #4 ⑦ New tracks at Kawaloa Bay. Track running from ocean  
-3P clear back to mouth of river on E side. Three pits. Then across  
dune at river mouth to W side + back to ocean. Moon  
nearing full + coming up early evening. Marked pits

Sunday July 4 Dick checked beaches. No new tracks

Thurs. July 8 No new tracks

Wednesday July 14 ⑧ Kawaloa Bay. New tracks on W side of river. Entering  
⑨ first opening in dune, nest just below beach morning glory  
1P hi on dune. Marked pit

Fri July 16 No new tracks

Sunday July 18 ⑩ 1P  
~~Wed July 21~~ ⑨ Dick & Luger found tracks at extreme West of Kawaloa  
Bay. Pit made up in grassy area.

Thurs. July 8 No new tracks

Wednesday July 14 <sup>(8)</sup> Kawalooa Bay, New tracks on W side of river. Entering  
<sup>(9)</sup> first opening in dune, nest just below beach morning glory  
IP hi on dune. Marked pit

Fri July 16 No new tracks

Sunday July 18 <sup>(6)</sup> IP  
~~Wed July 27~~ <sup>(7)</sup> Dick Lenger found tracks at extreme West of Kawalooa  
Bay. Pit made up in grassy area.

Wed July 21 Observed above tracks. No further tracks. Next to  
lost beach west (named Trash Beach by me) in edge  
of water dead juvenile female green turtle. No sign of  
injury, no tags. Left eye missing perhaps because of  
beginning deterioration. Carapace  $17\frac{1}{2} \times 16$ "

Sat July 24 Dick Lenger buried above turtle as requested by Bill  
Puleloa & George Bolasz. High on dune, 2' deep marked with 2 sticks

Sunday July 25 Regular Nature Conservancy trip; No new tracks

Friday, July 30 ~~(8)~~ Dick Leger found large turtle tracks 3 1/2' across at Kawaloa Bay going up beach to dune just W of May 31 #2

A-2  
W

not aborted original notes  
"apparent lay this night - hatch expected 9/28"

Sat. July 31 Dick Leger noted apparent hatch right next to July 30 lay (8). These must be babies from May 31 #2 marked with 3 stakes.

Hatch #1  
T #2

Sat Aug 14 (9) Dick noted new lay on slope of Kawaloa Bay. Three body pits W of May 31 lay. All on slope, marked.

#7  
-3P

Sun Aug 15 Dick noted apparent hatch about the same place as above, unknown which lay this was.

Hatch #2  
T #3

Thurs. Sept 2 (10) New crawl W of river Body pit just a few feet below July 13 lay (18). Kawaloa Bay

#8  
-1P

Thurs. Sept 16 Checked out July 17 lay (9) but no tracks apparent no doubt I blew it. Tracks might have been blown away by now.

Thursday Sept. 30 Kawaloa Bay, Checked on July 30 lay (8) No apparent hatch. Very little wind the last few days;

Thurs. Sept 2<sup>(10)</sup> New crawl Wofriver Body pit just a few feet  
-1P below July 13 lay (#8), Kawaaloo Bay

Thurs. Sept 16 Checked out, July 17 lay (9) but no tracks apparent  
No doubt I blew it. Tracks might have been blown  
away by now.

Thursday Sept. 30 Kawaaloo Bay. Checked on July 30 lay (8) No  
apparent hatch. Very little wind the last few days;  
if a hatch had occurred it seems likely some tracks  
would remain

F#7 Hatch #3  
Oct. 13 or 14 Dick reported apparent hatch at Kawaaloo (9) lay, Dimple but no track

Mon Nov 1 Kawaaloo Bay. Checked out Sept. 1 lay (10) No sign  
of hatch. Recent storm has done tremendous damage  
to beach. If the babies hatch they will have a 6' drop  
into a stagnant pool on their way to the beach

Excerpts from field notes.

no activity reported

Turtle Watch 1994 - Joan Aidem

Sunday, June 26

First chance to do turtle watch for me this season. Dick Langer has been out two or three times but found no tracks. Arrived at Kaehu Pt at 9:50 AM. No turtle tracks at Kawaaloa Bay. Walked to West of beaches. No turtle tracks. Very windy, sea very rough. Large amt. of sticks, twigs + grass + much blue plastic along water's edge.

Sat. July 2

Dick Langer walked along beaches with dogs + found no turtle tracks

Wed July 6

" " " " " " " " " " " "

Thurs. July 7

Quick check of beaches around Kalani Pt + at Kawaaloa Bay turned up no turtle tracks

Monday, July 11

Kalani Pt 9:50 AM hot + clear, misting at Hoolehua. Gusting breeze, choppy sea. Lots of sand in. Beaches swept clear here but much junk on beach at Kawaaloa Bay. No turtle tracks anywhere. Misting heavily by 11 AM

Thurs. July 14

Kaehu Pt 4:15 PM. Much rubbish on beach. Hot sunny no turtle tracks. Same story at Kalani Pt.

Sunday, July 17

Regular Nat. Cons. monthly trip. Arr. Kawaaloa 9:30-ish AM. No turtle signs. Did regular tour W. No tracks. Left at 1 ish

Wed, July 20

Kawaaloa Bay 2:15 PM Windy. Rough ocean. Walked W to Kaehu Pt. + back by 2:36 no turtle tracks

Went to Canada.

Wed. Aug. 17

Returned home yesterday. Dick Langer reports no turtle tracks while I was gone.

Mon. Aug 22

Leilani Pyle was to Moomomi with Lauren Hill's group this day. Reports no turtle tracks

Sun Aug 28

Nature Conservancy tour day No turtle tracks. Sand pulled out from beaches leaving much exposed rock. Saw one, maybe two, brittle thighed culebras (and one may have been 1st one in different p

Sun Sept 18

Nature Cons. tour day. Lots of rubbish on beach. Rain showers. No turtle tracks

Excerpts

1995

Green Sea Turtle Watch  
Field Notes J. Aidem  
Kawaaloa Bay

map

June 15

Sunny, warm, medium fresh trades, sand extends out 50' in front of pavilion, then drops steeply 10' to ocean. This bank tapers off well before the river bed. Jon Naeole reported fresh turtle track May 20. (1) 1/2 way between river + Kaehu Pt. very dim turtle tracks. Pit at edge of sand bank, ??? looks more man made than turtle made. Probable aborted crawl (2) Another pit + probable

may 20  
#1 - 1P  
#2 - 1P

#3 - 1P

Est date  
60 ahead  
of hatch

aborted crawl abt 100 yds from bluff. Probably 2nd pit reported by Naeole in May. (3) Farther W. more faint tracks up to grassy bank + back to ocean. Perhaps more recent than 1 + 2. Dick Tanager reported that friends had spoken of turtle tracks "all over the beach" last week. Plenty people tracks but I doubt that there were more turtle tracks than the aforementioned.

June 23

moon last night 1/2 to none. Quiet seas, low tide, clear, light breeze. "new turtle tracks 50' before gravel on dune E of river. Hole 10' up on dune (4). Looks like last night (June 22) day. In edge of gravel second body pit (5) + more fresh tracks to water's edge (6) On W side of river at 1st swal 2 body pits (7). Tracks coming + going to water's edge.

#4 - 1P

#5 - 1P  
#6 - 2P

June 25

Showering. No new turtle tracks at Kawaaloa Bay. Regular Nature Conservancy tour day. Some participants saw a turtle in the water off the farthest beach W. Also jelly fish + Portuges man o war. Frigate bird in air. Booby diving over ocean. White tailed tropic bird flew by.

#4 - 1P breeze. 1 new turtle tracks 50' before gravel on dune E of river. Hole 10' up on dune (4). Looks like last night (June 22) day. In edge of gravel second body pit (5) + more fresh tracks to water's edge. (6) On W side of river at 1st swd 2 body pits (7). Tracks coming + going to water's edge.

#5 - 1P  
A1.  
#6 - 2P

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June 30

Beach in front of pavilion not only about 30' wide with 3' drop-off to ocean. Calm ocean. Sunny + warm. New tracks come up to dune grass just W of 6 + 7. This is turtle (8). Come up to dune grass turned around + went back to ocean. A2

A2

July 5

much dark limus in water + on beach up to high tide mark. Turtle (9) has come up from the ocean much farther E than any previous turtle. She crossed the path down to the beach from the grassy bluff. Much sand disturbance on path. Body pits

#7 - ?



(2)

195 Turtle Watch

July 5 (continued)

#7

Impossible to determine how many. Then she walked W at the foot of the dunes, dug more pits, more sand disturbance & went back out to sea. These are very new tracks & must have been made just before or just after dawn. At E side of dunes just to W of river 3 pits barely up the side of the dune (10). She then went W along the bottom of the dune for 20'-30' & made more pits & disturbance. It is impossible to determine where any eggs might have been laid. These are very very new tracks also. The tide has been very high in the past week, but not in the last couple of days.

July 11

#8-3P?

Kauaaloa Bay 8:15 AM. Strong breeze. Roughish sea. Medium tide. No more lime. Slope in front of pavilion now easy for turtle to manage. First swale up dunes W of river new tracks.

(11) Turtle climbed up steep dune on W side of swale, crossed to E side, dug four pits against side of dune 3' to 7' below vegetation. Then back out to sea, quite new tracks. Probably 7/9 or 10.

On E side of river some old tracks go up to dune but wind has mostly obliterated them. ~~no pit is visible (12)~~

They must have been from the night of July 5. Between dead tree, stump & naupaka clump on beach tracks go inland to bottom of dune. Old tracks? July 5? Two

distinguishable pits mostly filled with sand & several dips that might be wind obliterated pits (13). Perhaps 150y

W. of pavilion July 5? tracks come up to dune. Two pits

- On E side of river some old tracks go up to dune but  
 #10 → wind has mostly obliterated them. <sup>March #4??</sup> no pits visible (12)
- 7/5 - 7/11 They must have been from the night of July 5. Between  
 dead tree, stump + naupaka clump on beach tracks go  
 inland to bottom of dune. Old tracks? July 5? Two  
 #11 - 2P distinguishable pits mostly filled with sand + several  
 7/5 - 7/11 dips that might be wind obliterated pits (13). Perhaps 150y  
 #12 - 2P W. of pavilion July 5? tracks come up to dune. Two pits  
 5 to 6 feet up on dune. Old tracks, but since I was here July  
 5. (14)<sub>12</sub> One hundred fifty feet E. of this, tracks along base  
 #13 - 2P of dune + 2 holes, then tracks back to ocean (15)<sub>13</sub> These, too, are old  
 July 17 no new tracks. Much lime on beach at W end. Windy. 30' of sand  
 in front of pavilion, then steep drop off. Some vehicle has been  
 doing wheelies on the beach from the E side of the river  
 on W. Lots of people tracks

(3)

1995 Turtle Watch

- July 20 Sunny, warm, brisk breeze, lots of junk, footprints & lime on beach, especially at W end. New tracks, probably last night, coming from water, proceeding to dune 75' W of #1; across dune, 3 body pits (16), the last one just E of sand blow out behind dune here.
- #14 - 3P
- July 23 Regular Nature Conservancy low day. Fresh turtle tracks (17) a few hundred feet E of bluff, terminate at a hole with a lot of sand tossed about. This is not as far up the beach as the grassy bank. Cannot see where turtle returned to the sea.
- #15 - 1P
- July 23-29 New tracks up to 2nd swale W of river (18) Body pits. These may have been made the night of the 23rd. They are old. Revised estimate of #17. This turtle dug a rather extensive hole 1/2 way up beach. Tracks 100' E of bluff & 100 yds. E of bluff coming & going. Tide low. Much seaweed.
- #16 - ?P
- Aug 4 Steep sand in front of pavilion unlikely negotiable by turtles. This extends almost to the last trail down to the beach. Long grass swells breaking on shore. Between #2 & #3 a new turtle track. Four body pits on the beach. Very messy & disordered. About 15 oceanward from grassy bank. (19) 17
- #17 - 4P
- Aug 8 Footprints indicate Emmett Aluli has been here. No new turtle tracks. Hole #3 at W end of beach has possible hatch. I marked it with a tree branch.
- Hatch #1  
T #3
- Aug 13 met Emmett Aluli at Hoolehua Credit Union. We drove to Kawaloa. Showed him all 19 nesting sites & gave him map. He took pictures. Indicated that he believed a hatch had occurred around #19. This is surely #3. Walked to far W end of preserv.

Aug 8 Hatch #1 T#3  
Footprints indicate Emmett Aluli has been here. No new turtle tracks. Hole #3 at West end of beach has possible hatch. I marked it with a tree branch.

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met Emmett Aluli at Hoolehua Credit Union. We drove to Kawaaloo. Showed him all 19 nesting sites & gave him map. He took pictures. Indicated that he believed a hatch had occurred around #19. This is surely #3. Walked to far West end of preserve. Bristle thighed curlew on dune above tree snail site. 4 or 5 ruddy turnstones flying over ocean.

Aug 16  
Attempted to chart turtle nests by pacing off distances between them. This works OK on ground but doesn't translate well to a quad map. Gave up on trying to convert paces to 16ths of an inch. Photostating & enlarging quad map is not a success either. The lines come out much too big & black if you get the map anywhere nearly big enough to put in all the turtle nests on Kawaaloo Bay.

(4)

1995 Turtle Watch

T-#5

Hatch #2

- Aug 21 Two steep step drop off in front of pavilion, Hatch at #5 marked with stick. No new turtle tracks
- Aug 22 Choppy seas, low tide (7:15 AM) Silver of moon rising at 3 or 4 AM. Sand flying. Lots of limu at West of beach. No new tracks.
- Aug 23 It rained a little all over the island last night. Cool. Overcast. Two uwa flying over the headlands. Enormous flight (hundreds) of some bird circling over the sea. Too far away to make out whether they are even passerines or sea-birds. Perhaps re-turning plovers? Saw a plover later. No new tracks or hatches. Emmett was out Aug 24 + 25 & saw nothing new.
- Aug 27 Regular Conservancy day. No signs of any adult turtle tracks or juvenile hatchlings. No turtle tracks from Kaeahu Pt W either. I wa over bay. Group of 4 plovers flying.
- Sept. 3 Arrived Kawaaloo, Sunday 8:50 AM. Emmett was out Wednesday & saw nothing. Last night, Sept 2, he walked this beach & found lots of tracks on the damp sand below #13. I counted 55 baby turtle tracks there this AM. All the dry sand above is drifting & tracks are obliterated. A very few tracks around what remains of the body pits. No indication of which pit hatched so I could not mark it. Very windy, dry & dusty on the way in. The ocean has cut away the beach in front of the pavilion so only about 6' of beach remains & then a very steep scarp. If any turtles hatched at #14 or #15 they would have tumbled over the edge into the water. Tracks would be impossible to see. Many campers here at the beach. Fishermen, too.

Hatch #3

T #11

is drifting & tracks are obliterated. A very few tracks around what remains of the body pits. No indication of which pit hatched so I could not mark it. Very windy, dry & dusty on the way in. The ocean has cut away the beach in front of the pavilion so only about 6' of beach remains & then a very steep scarp. If any turtles hatched at #14 or #15 they would have tumbled over the edge into the water. Tracks would be impossible to see. Many campers here at the beach. Fishermen, too. Poles & lots of footprints along the beach. No other turtle signs.

Sept 7 Lots of people camped here still for Labor Day Weekend. No new turtle tracks. Still remains of #13 hatch. Very low tide.

Sept 6 People all gone now. Very steep scarp in front of pavilion about 3' of beach. Scarp extends W. clear to Naupaka Camp, tapering off there. Emmett was out here yesterday & spied baby turtle track coming down from #5 lay. This track wanders around the

Hatch  
#4  
T#6??

(5)

1995 Turtle Watch

Sept 6 (continued) beach + goes down to the waters edge. Very strange.  
 #5 hatched 16 days ago. This track is quite deep + distinct  
 Many bird tracks, people tracks, crab tracks + mammal  
 tracks on beach + dunes. This is very different, #5 is marked  
 I am anxious to dig it. Three bristle thighed curlews  
 together on the beach. Also 4 ruddy turnstones flying + 3  
 hunaikai on the wet sand. Waves long, slow + flat.

Sept. 9 7:05AM Emmett Aluli was out here yesterday + saw nothing  
 new. Beach in front of pavilion now just a gradual slope.  
 No dropoff here but 100 yds further W. a fairly sharp drop-off  
 has developed which goes on another 100 yds. No new tracks.  
 Old infant tracks essentially disappeared. Two tracks of  
 people camping at the pavilion. This is a great time to be out  
 because the low sun coming thru the clouds sets up every  
 footprint with shadows.

Sept. 10 Same campers at pavilion 2:45 PM. 3 hunaikai on wet sand.  
 nice to have the piles of litter gone. NC apparently collected  
 them last week. Much new litter has come in, however, + there  
 are 3 local juice cans on the beach. This is unusual. No new track

Sept 17 Kaehe Pt. Regular Nat. Conservancy day. Checked out sites  
 W of river. #17 has hatched. This was not supposed to  
 occur until Sept. 20. Some separate tracks direct to ocean  
 just as many wandering around parallel to dunes. Staked  
 site 17. Very hot, quite still day. Muggy. David + na Mc  
 Gregor with me. No other turtle tracks.

Sept 23 No new tracks Old tracks gone. The tide is low.

Sept. 10

Some campers at pavilion 2:45 PM. 3 hurakan on wet sand. nice to have the piles of litter gone. NC apparently collected them last week. Much new litter has come in, however, & there are 3 local juice cans on the beach. This is unusual. No new track

Sept 17

Kaehu Pt. Regular Nat. Conservancy day. Checked out sites W of river. #17 has hatched. This was not supposed to occur until Sept. 20. Some separate tracks direct to ocean just as many wandering around parallel to dunes. Staked site 17. Very hot, quite still day. Muggy. Davidanna Mc Gregor with me. No other turtle tracks.

Hatch #2  
T-#13

Sept. 23

No new tracks. Old tracks gone. The tide has been very high but has not washed over #17 & #19 body pits. Swa flying over beach. One wandering tattler near Homes Beach

Sept 30

6:30 AM Waves have been hi on the beach all along the bay. Much disruption by waves, wind & possibly rain. All previous footprints eliminated. New human prints going directly from pavilion to water & back. Four lines of dog prints the length of the beach. Many many crabs by the waves. 2 ruddy turnstones



(6)

1995 Turtle Watch

Sept 30 (continued)

+ Two kurukai on the wet sand. Checked pit #19 but no apparent hatch.

Oct. 8 11AM Emmett Aluli, Brian Martin, Mary Costello, Liz Jackson, Karoa Aluli + I dug #17. 36" down found large nest of 73 very large eggs. One spoiled, others all hatched. All of us dug #3. Eggs looked a little smaller. These were 30-36" deep also. About 70 <sup>hatched</sup> eggs quite torn up. Three spoiled ones. Then dug #5 on the slope with the gravel. About 75 hatched eggs. 18" below sloped surface, 4 spoiled. Finished 1:10 PM. Took all to Bill Puleloa

Dec 17 Regular Conservancy walk 9:30AM Kawaakoa Bay. Raining in Hoolehua. Very strong breeze at Kaehu Pt. Sunny, drifting white clouds. Laysan albatross sitting in meadow between road + ocean. He made tentative gestures at flying away as we approached but did not leave. Later he spread his wings + off he went.

8/28/95 TELCON with Joan Aiden called

2:00

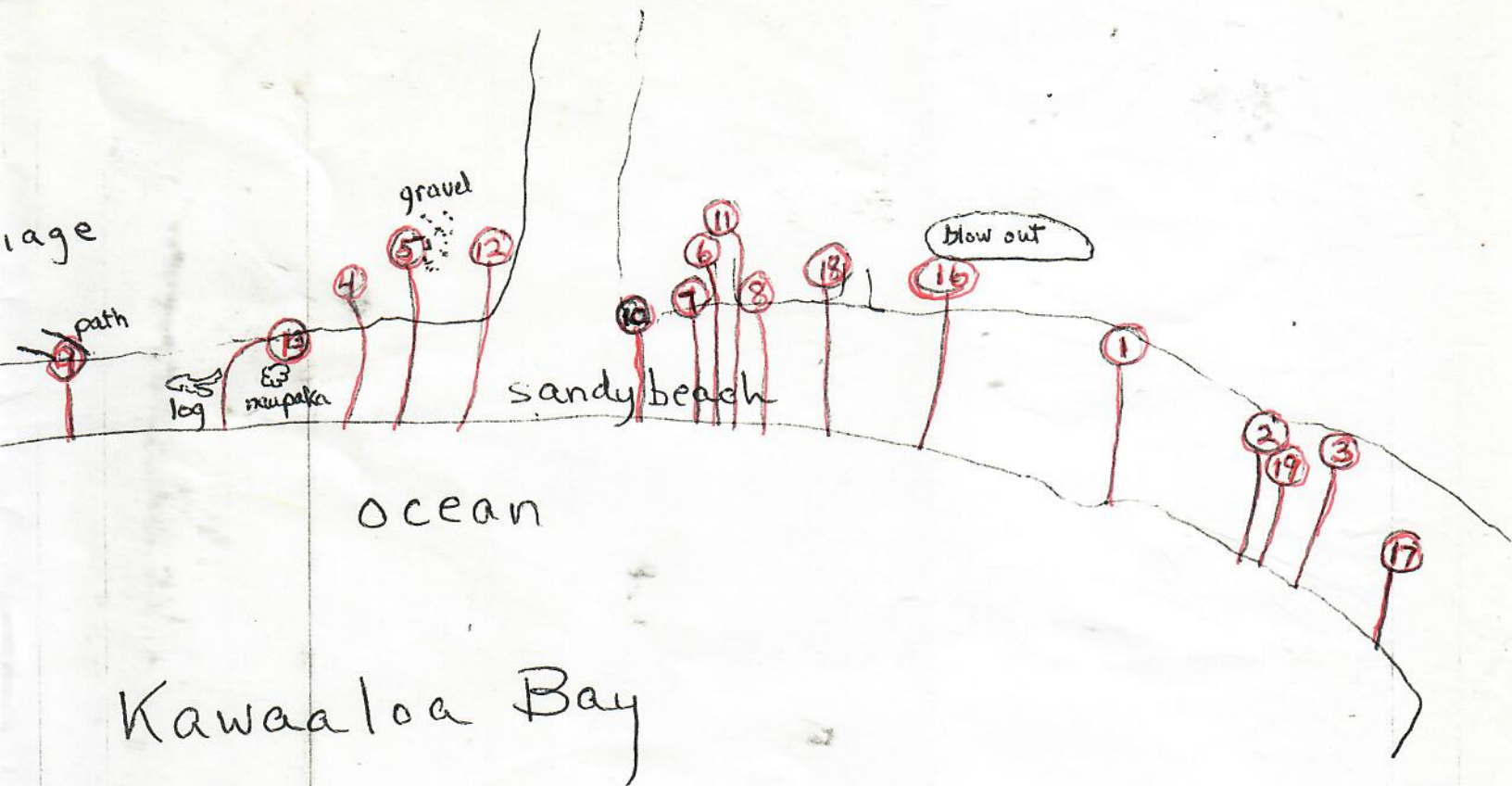
Confirmed 2 of 6 nests hatched this season. But only small # (max 20-25 turtles). Usually, there are ~ 70.

She believes those are <sup>young</sup> 1st time-layers. Typically, the eggs are ~ 30" below the surface of the sand.

Emmett Ahli is now taking Davis place + goes @ night. He went ~ 3x last week. Fr. Dan health does not allow him to go out anymore.

PHONE CALL

FOR <u>JOAN YO</u>	DATE <u>8/14</u>	TIME _____	A.M. P.M.
M <u>Joan Aiden</u>			
OF _____			TELEPHONED
PHONE _____	AREA CODE _____	NUMBER _____	EXTENSION _____
FAX# _____			RETURNED YOUR CALL
MESSAGE <u>Wanted to let you know</u>			PLEASE CALL
<u>if turtles have come in</u>			WILL CALL AGAIN
<u>19</u>			<input checked="" type="checkbox"/> CAME TO SEE YOU
			<input type="checkbox"/> WANTS TO SEE YOU
	SIGNED _____		Adams SC 1154-2D

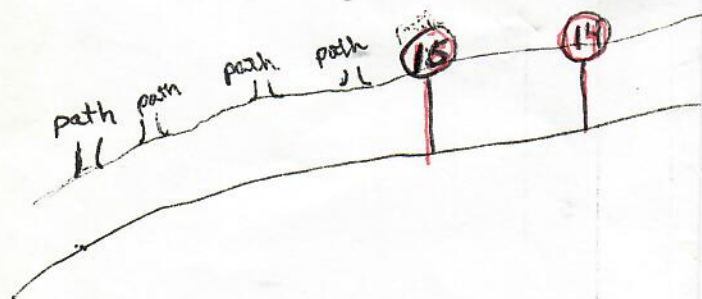


- ⑨ Sept 2
- ⑩ "
- ⑫ Sept 3
- ⑬ "
- ⑭ "
- ⑮ "
- ⑪ Sept. 7
- ⑯ Sept 17
- ⑰ Sept. 20

1995

□ pavilion

grass + fol

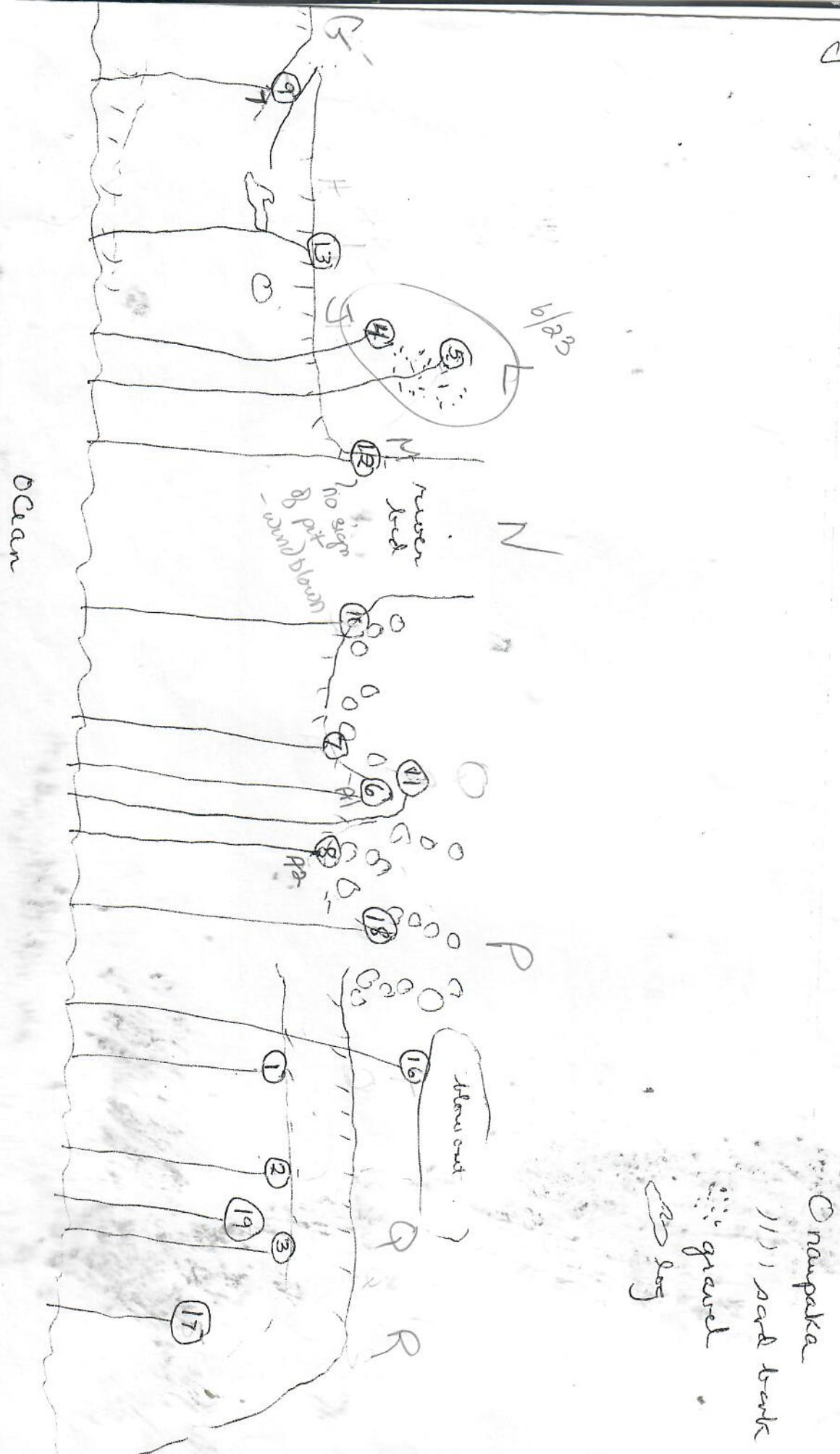


Probable hatch dates

- ① July 19 ?
- ② " ?
- ③ Aug. 8 (possible)
- ④ Aug 21-22
- ⑤ "
- ⑥ "
- ⑦ "
- ⑧ Aug 29 (improbable)

Green Sea Turtle watch 1995 summer  
 J. Aidem Emmet Aluli

Aug

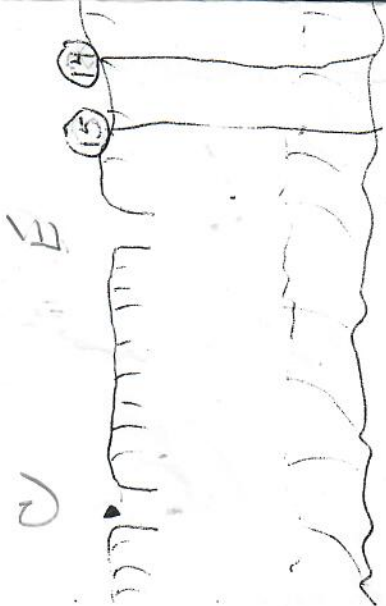


Ocean

○ Naupaka  
 ))) road bank  
 ■ gravel  
 ~ log

Received  
 10/3/96

Kawaa loa B



1995 Dick Lager observed turtle nest near E end  
of Kawakoa Bay that had been exposed by wind  
against the dune. Old eggs. Possibly a 1994 nest that  
had not been detected by us. Maybe not.

# 1996 Turtle Monitoring Field Notes

Moomomi

Joan Ridem

3/8 Hawaiian monk seal on beach. Perhaps recorded under 1995 field notes.

5/20 Turtle on beach W of Kalanypapa peninsula. Turned around & went right back out. No body pit. (Personal communication, Rick Potts, US Nat. Park Service naturalist) Perhaps recorded in 1995 field notes ✓

# (1) 7/15 many previous trips to Moomomi finding nothing. Aborted turtle track in front of river bed. Small turtle which came in less than up to hi tide litter line. Went back out & dug a pit which was already washed over with water when we (Honolulu hiking group) arrived. Average sea, slim moon, lowish tide. 8:30 AM -1P

7/18 Kawaaloa Bay 10:15 AM no further turtle tracks, 5 wa flying overhead. Strong breeze. Rough seas

no more tracks during many trips to Kawaaloa Bay but 8/11 saw first uli on S side of island. Very early return

# (2) 9/11 Kawaaloa Bay 10 AM Koa are back, Emmett Luli & Devonna McGregor found turtle tracks a few days ago apparently made Sept. 6 or 7. Tide low now. Seas choppy. Breezy, sunny. Fluffy white clouds & occasional black clouds with spray. 2 hana kai, 1 ruddy turnstone. Very faint traces of turtle tracks just at the W side of the river outlet. Stick marks where two holes were - now filled with sand. These are well above the hi tide line but oceanward of where the river is running W below the dunes. -2P

(over)



No further tracks

11/4/96 Kawooloa Bay pavilion 7<sup>30</sup> AM Waves breaking  
way out. They have been up high on the sand. Large  
bright crescent moon in the E at 3 AM. 4 ruddy Turnstones  
1 uliuli. Water has not been as hi as (2) pits. No  
hatch yet.

11/5 Dick Langer inspected (2) & found no evidence of hatch

11/6 Kawooloa Bay 4:20 PM. Hurakai & 4 uliuli at waters edge  
No sign of turtle hatch at (2)

#

Observed on May 9, 1997 by Joan Yoshida

for spreadsheet data

Borrowed Joan's original field notes

This was not recorded

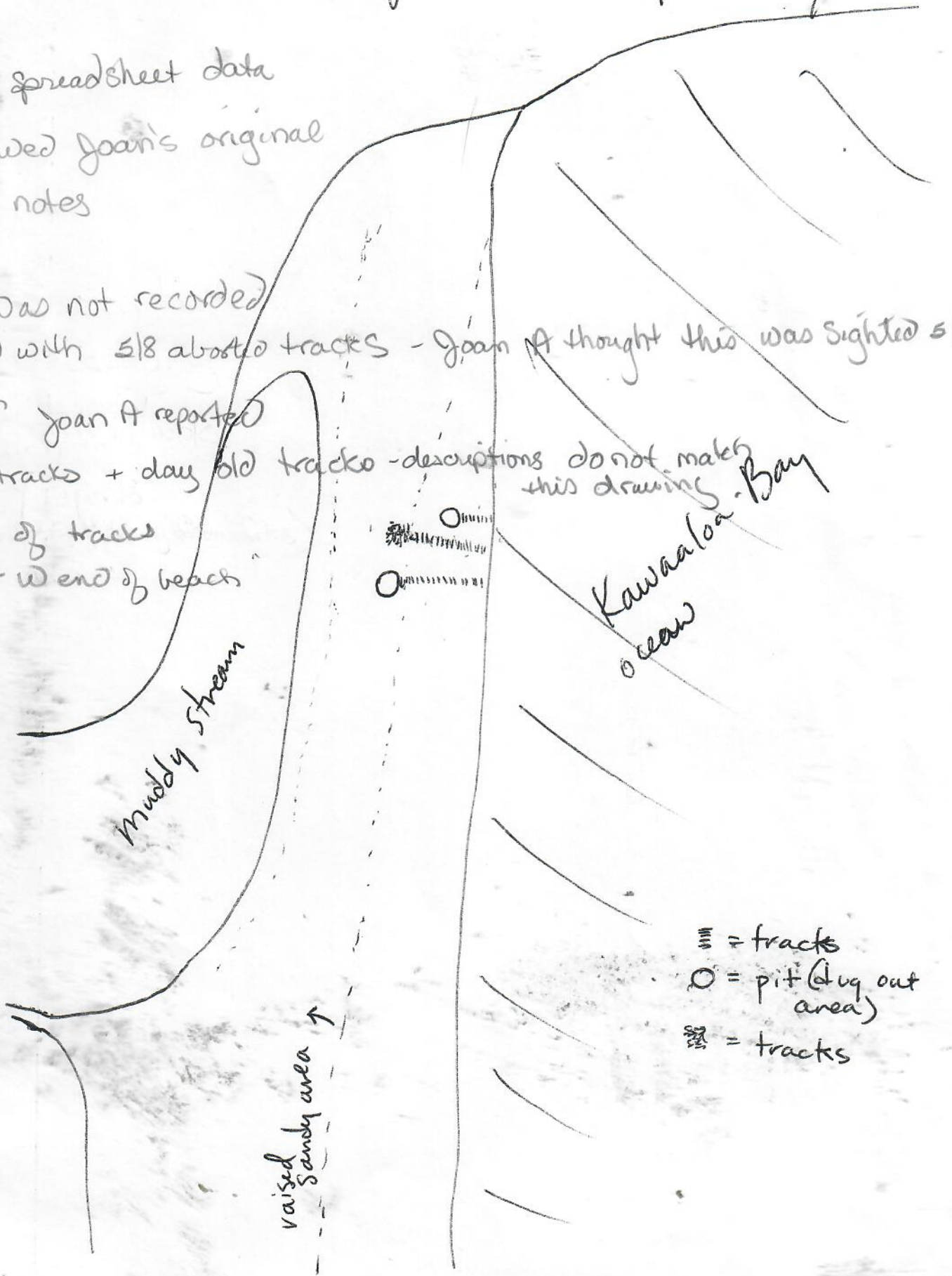
Confused with 5/8 about tracks - Joan A thought this was sighted 5/7

May 11<sup>th</sup> Joan A reported

fresh tracks + day old tracks - descriptions do not match this drawing

reports of tracks

all over w end of beach



Muddy stream

raised sandy area ↑

Kawanaoa Bay  
ocean

- ≡ = tracks
- = pit (dug out area)
- ⊖ = tracks

1999 Survey of Green Sea Turtles. Chelonia mydas, Kawaloa Bay, Moomomi, Molokai

What follows is a day by day log of Dr. Richard Langer's and my survey of Kawaloa Bay, Moomomi, Molokai during the 1999 summer season. It is intended to show that no period of time was left out when there might have been lays or hatches that we could have missed. Since the adult turtle tracks almost always remain visible for a week to a month, barring a very strong wind storm, our first walks were approximately every other day. After time for hatching began, we tried to cover every morning since baby turtle tracks are quickly obliterated by drifting sand. Though no adult turtles were seen, as they came in irregularly and at night, it is certain that all the hatchlings seen were green sea turtles.

*field notes?*  
In 1997 twenty-nine turtles came in, the first, April 29, the last September 1. Of these, 10 failed to dig pits - aborted tracks. There were 6 hatches, the first, July 14, the last Sept. 30. During the 1998 season no turtles came in.

In 1999, thirty two turtles came in, May 18 (?) through August 28. Of these, six were false crawls with no holes being dug. Once the hatches began July 24, eleven nests hatched, the last one being October 21. There was an unusual hatch pattern from several of the hatches. Wandering babies. Babies emerging up to a week after the original hatch. Babies dribbling out over several nights.

The highlights of the summer were the large number of turtles nesting and the large number of hatches. A close second was the presence of monk seals on the beach on five occasions and the nesting of a shear-water just west of Kaiehu Point.

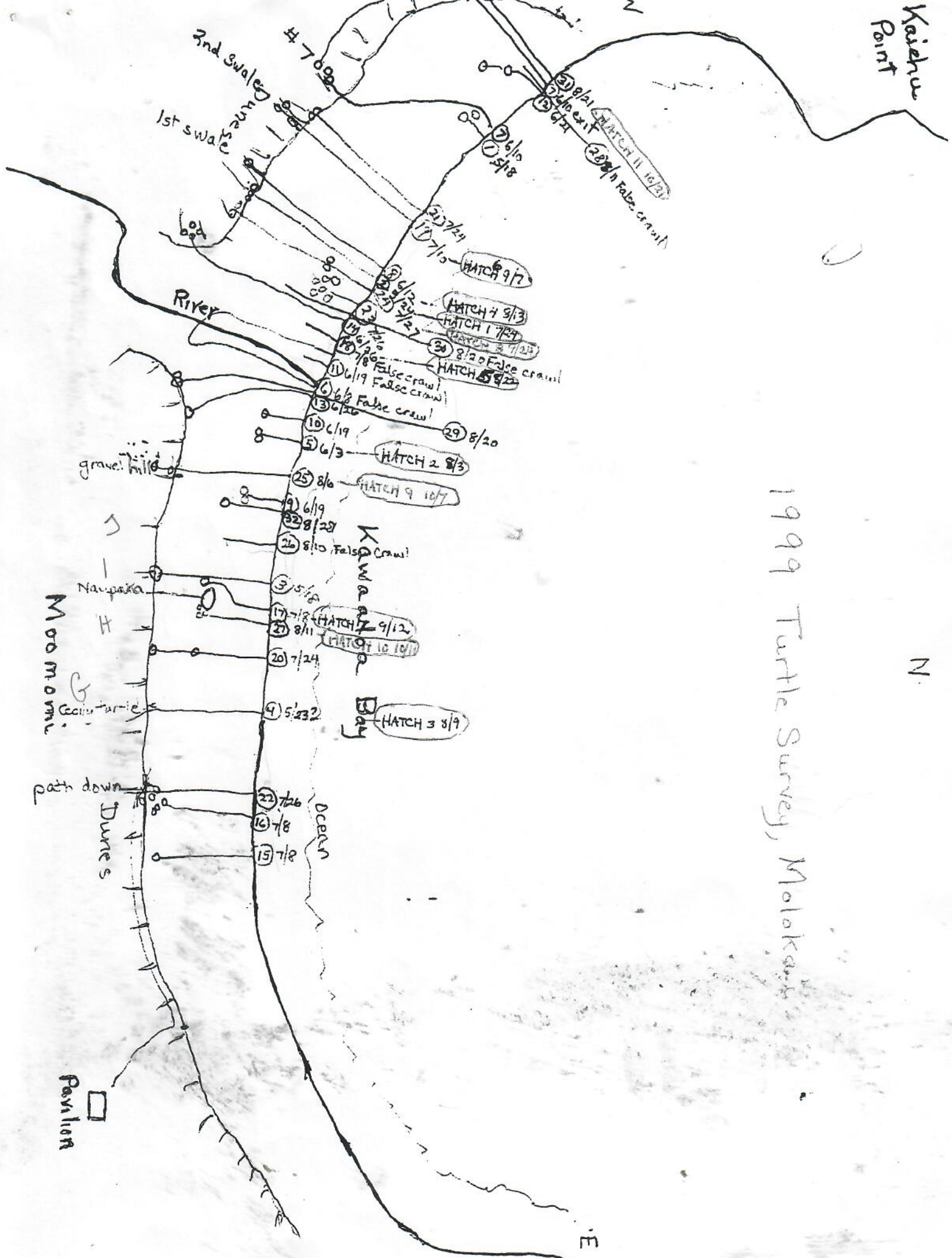
Nodoubt the disturbance made by unusual numbers of campers at the pavilion around Labor Day kept the monk seals from returning more often.

My complete field notes include data on moon phases, weather, fishermen on the beach, state of tides, roughness of water, sand comings and goings, and much about the enormous amount of trash on the beach this year.

Joan Aidem, 12/1/99

Copy to: George Balazs

Kaiehu Point



1999 Turtle Survey, Molokai

N

E

1000

Excerpts from Field Notes

Kawa'aloa Bay, Mo'omomi  
Moloka'i

1999 Turtle Nesting Survey Joan Aidem, Dr Richard Langer p1

May 25 <sup>2P</sup> ① Two pits just above hi tide line. About a week old?

Hatch 1 7/24 <sup>3P</sup> ② Fresh tracks to dunes. Three pits. 150' W of river mouth

<sup>1P</sup> ③ Very dim tracks up beach W of Naupaka ending in small dent on dune

Hatch 3 8/9 <sup>7P</sup> ④ Old tracks up beach by Cecily Turtle, over the dune & disappear  
Daviana Mc Gregor saw tracks on this beach May 22

=No New Tracks May 27 NNT

May 29 NNT

June 1 NNT

June 3 Langer reports NNT

Hatch 2 8/2 June 5 <sup>2P</sup> ⑤ Old tracks from hi tide mark to half way up beach. Two holes, one 20' to W, one 20' to E. This must have been made 6/3.

June 7 NNT

June 9 Langer reports false crawl <sup>A1</sup> ⑥ up E side of river, across, and back out W side. Also false crawl far W of Kachua Pt. near Cappy Somers adz makers site

June 11 <sup>#6</sup> <sup>3P</sup> ⑦ Turtle has gone inland probably night of June 9, next to ①, mounted dune, hole near top, hole just over top, 3rd hole part way down back side of dune, went down into rocky ditch behind dune, wandered around, went W & up a NS dune, over the top, down grassy side, onto sands to ocean.  
(unusual behavior)

Hatch 4 8/13 June 13 <sup>1P</sup> <sup>#7</sup> ⑧ Langer reports new tracks going in W of 2 W of river. Hole in top of dune.

June 15 NNT

June 17 NNT

June 19 Langer reports NNT

June 21 <sup>#8</sup> <sup>2P</sup> ⑨ Between ③ & ⑤ two pits dug a very short way up beach. Very windy stinging sand. Hard to see. Probably dug the 19th.

<sup>#9</sup> <sup>1P</sup> ⑩ Another short track with possible hole not far above hi tide line

<sup>A2</sup> ⑪ Short track, false crawl on other side of river opening

June 23 <sup>#10</sup> <sup>2P</sup> ⑫ Langer reports one new track on W end of beach, E of where ⑦ went back into ocean. Part way across sand beach. Two pits  
Dick thinks this was night of June 21

1999 Turtle Nesting Survey p.2

June 25 NNT

June 27 (13) Langer reports turtle came in probably night of 25th.  
#11-1P  
Crossed sand to foot of gravel dune, made 1 pit, returned to sea

Hatch 5 8/2 #12-4P (14) Turtle came in on W side of river, Langer reports, went up  
swale  $\frac{2}{3}$  on ocean side of dunes, dug 4 holes + returned to sea.

June 30 NNT

July 2 NNT Langer reports

July 4 NNT

July 5 Langer reports NNT

July 6 NNT

July 7 NNT

#13-1P July 9 (15) Langer reports new track, 1 hole about  $\frac{1}{4}$  way W of parikan to river

#14-3P (16) " " turtle track below "path down", 3 holes

Hatch 7 9/12 #16-1P (17) " " Track at Naupaka.  $\frac{1}{2}$  way up beach, 1 hole

A.3 (18) " " False crawl about  $\frac{2}{3}$  way across river

Hatch 6 9/7 #16-3PS July 11 (19) Turtle has walked onto dune at 2nd swale W of river, dug 3 holes

July 13 NNT Langer reports

July 15 NNT

July 17 NNT

July 19 NNT Langer reports

July 21 NNT " "

July 23 NNT

#17-2PS July 25 (20) Track goes  $\frac{1}{2}$  way up beach half way between Cecily Turtle  
& Naupaka, one hole; a second hole up on dune side.

#18-2P (21) Turtle has come in + dug 2 pits just below vegetation on side  
of dune W of 2nd swale past river mouth

T#2 Hatch 1 Strange hatch. About 36 babies only reached the ocean  
judging from the tracks. One dead baby with throat torn out  
& mud plastered plastron at foot of dunes. One live baby harassed  
by crab on dry sand above hi tide. Other tracks wandering in circles  
& up into dunes disappearing into Kiave + Langer. Many tracks

1999 Turtle Nesting Survey p.3

July 26 NNT

#19 - 3P July 27 Langer reports (22) near last path down to beach before Cecily Turtle three holes in bank. Turtle had to scabble up steep 8' bank from ocean to get onto beach.

#20 - 6P

(23) West edge of river mouth. Six pits where sand levels to form beach

atch 8 9/24 July 28 (24) Tracks W of river mouth. Two holes on flat of beach at level of (23) Then turtle dug two more holes at base of dunes.

July 30 NNT Langer reports

Aug 1 NNT

Aug 3 Langer reports <sup>#15</sup> HATCH 2. Three baby turtle tracks coming from track (5) 6/3. Two baby turtles at surface in bright sunshine. Dick escorted them to the ocean so they wouldn't dry up. Later in the afternoon he found a 6th baby at the surface. Escorted to ocean. At 7 PM I found the nest + waited. Just after dark at 7:40 PM I observed 9 babies emerge + go to the ocean. No more after that.

Aug 4 NNT No more activity at hatch 2. That's only 15 babies there.

Aug 6 Langer reports 14 more baby tracks from hatch 2. One dead baby in sand.

atch 9 10/7 Aug 7 At least one more turtle right at surface of hatch 2. Ina flying low overhead.

#20 - 2P (25) New track up to gravel dune, up E side of dune, pit dug above bone area, another pit near bottom of dune

Aug 8 Five more babies from Hatch 2 have come out overnight. One dead baby on the surface. I erased all tracks.

Aug 9 Langer reports 7 new tracks from Hatch 2

Aug 10 Hatch 3 Just W of Cecily Turtle 18 babies hatched last night.

T#4 More just under the surface. Which lay this is questionable. It must be (4) of 5/23. It's certainly no later than that. That's 78 days. One more turtle from Hatch 2 - confused, circled marks, dead on sand.

Aug 11 Langer reports 12 more babies from Hatch 3 and one more from Hatch 2. That's 30 altogether from Hatch 3 and 45 from Hatch 2.

1999 Turtle Nesting Survey p. 4

A4 Aug 11 (continued) (26) Abortive crawl half way to dunes & back between naupaka + (25).

atch 10 10/11 Aug 12 Langer + Aiden (27) Track just E of naupaka going right up #22 - 3P to it; 3 holes. (28) Abortive crawl just W of (12) near Kaichu Pt

A4 Aug 13 Langer reports NNT

T7 Aug 14 Hatch 4 from 2nd swale low on the dune. This is track (8) from 6/12. About 60 babies to the water. One went astray. Perhaps crabs. Some sort of commotion on the track but no footprints

Aug 15 NNT Iwa flying over W end of beach

Aug 16 NNT Langer reports

Aug 17 Eight to 13 new baby tracks at (8) from Hatch 4

Aug 18 Langer reports 2 more babies from Hatch 4

Aug 19 NNT

Aug 20 NNT

#24 - 2P Aug 21 (29) New track up river opening to foot of dune at E river entrance. Two pits.

A6 (30) False crawl up into river mouth, looped & went back out.

atch 11 10/11 Aug 22 (31) Track came in about 150' E of Kaichu Pt, crossed beach, climbed #23 - 1P bank onto grass edge, dug huge hole, went back out to sea skirting pit (12).

T #12 Aug 23 Hatch 5 Langer reports. This is from track (14) laid June 26. Dick counted tracks of 44 babies.

Aug 24 Eight to 10 new tracks from Hatch 5. One as far W as 1st swale, many wandering before arriving at ocean, one ending in what appears to be a struggle with crabs

Aug 25 NNT Langer reports

Aug 26 NNT " " A Camara girl says there was a large hatch in Halawa last weekend.

Aug 27 NNT but a small monk seal on W end of beach directly makai of (7). Either a female or a young. Very shy. Saw me coming & slid off into water when I was 150' away.

Aug 28 NNT Langer reports.



1999 Turtle Nesting Survey p. 5

\*26-11 Aug 29 (32) New track E of gravel dune. She came up about 50' above hi tide, dug a large pit + went back out to sea.

Aug 30 NNT

Aug 31 NNT Langer reports

Sept. 1 NNT

Sept 2 NNT Langer reports

Sept. 3 NNT

Sept. 4 NNT Langer reports

Sept 5 NNT 6 trucks + their occupants camped in front of pavilion.

Sept. 6 NNT Langer reports

Sept 7 NNT A small monk seal has come in about 100 yds E of Kaiehu Pt. Left a track + 3 gouges in the sand. Probably left when it saw me coming.

Tib Sept. 8 Hatch 6 Langer reports, This is from (19) laid 7/10 in the second swale. Tracks of 80+ babies toward the ocean. Large monk seal

~~Sept 9~~ at edge of water below Cecily Turtle. An hour later when they came back she was still there.

Sept. 9 NNT Big fat ♀ monk seal sleeping at water's edge below pavilion. Watched her for an hour. Mostly dormant. Returning fishermen said she had been there at 7AM, an hour before I came. She is untagged with a scar 1/2 way down her side. I feel certain that this is the same seal that gave birth at Kalaupapa the last three summers. The fishermen had seen her here yesterday + reported her to DLNR. She looked up a few times. Stuck her head in the sand once + pushed along til her head was completely covered. Stayed that way 15 seconds, raised head + went on sleeping. A couple of times water washed up + covered her head but she didn't move. Once a crab came up + probed her nose. With a mighty snuffle she blew it a foot away. The crab did not approach again.

Sept. 10 NNT Langer reports. The seal this AM is a little farther W.

Sept. 11 NNT " " No seal, lots of campers in front of pavilion

# 1999 Turtle Nesting Survey p 6

- T# 12
- Sept. 12 Two new baby tracks from Hatch 6. Many campers in front of pavilion
- Sept. 13 Hatch 7 Langer reports a massive hatch W. of Naupaka & higher up the beach. This is lay 17 of 7/8. Impossible to count tracks.
- Sept. 14 NNT
- Sept. 15 NNT Langer reports
- Sept. 16 NNT
- Sept. 17 NNT
- Sept. 18 NNT Langer reports
- Sept. 19 NNT
- Sept. 20 NNT Langer reports
- Sept. 21 NNT
- Sept. 22 NNT Langer reports
- Sept. 23 NNT
- Sept. 24 NNT
- T# 21
- Sept. 25 Hatch 8 Langer reports lay (24) has hatched. This was laid 7/27. He counted 65 + or - tracks & one baby that resident fishermen had found tangled in a cargo net on the sand & released in the ocean
- Sept. 26 NNT Arleone Dibben on a nature walk found & marked a shearwater nest W of Kaiehu Pt. This is the first shearwater nest anyone can remember at Moomomi. Notified Nature Conservancy.
- Sept. 27 Two new baby tracks from Hatch 8. Evidence of a monk seal on the beach near Cecily Turtle. Probably last night.
- Sept. 28 NNT Langer reports
- Sept. 29 One more baby track from Hatch 8
- Sept. 30 NNT Langer reports.
- Oct. 1 NNT
- Oct. 2 NNT Langer reports
- Oct. 3 NNT
- Oct. 4 NNT Langer reports
- Oct. 5 NNT " "
- Oct. 6 NNT " "

1999 Turtle Nesting Survey p. 7

Oct. 7 No observations — broken car.

T#22 Oct. 8 Hatch 9 Lay (25) of 8/6 on gravel hill, Langer reports, 70+ tracks

Oct. 9 NNT Langer reports

Oct. 10 Skipped

Oct. 11 NNT Malia Forbes reports

T#23 Oct. 12 Hatch 10 Langer reports at lay (27) 8/11 by the naupaka. Large hatch but too close to water to differentiate & count tracks

Oct. 13 NNT Langer reports

Oct. 14 NNT " "

Oct. 15 NNT " "

Oct. 16 NNT " "

Oct. 17 Skipped

Oct. 18 NNT Langer reports

Oct. 19 NNT " "

Oct. 20 NNT " "

Oct. 21 NNT

T#25 Oct. 22 Hatch 11 at lay (31) at W end of beach, the pit up in the edge of the grass laid 8/21. I could only count 45 baby turtle tracks for sure.

Oct. 23 NNT Langer reports

Oct. 24 NNT

Oct. 25 NNT Langer reports

Oct. 26 NNT

Oct. 27 NNT

Oct. 28 NNT Langer reports

Oct. 29 NNT " "

Oct. 30 NNT " "

Closing survey.



Memo

---

ED -  
Joan Aide M  
CAME in w/this  
report for year  
in case you want  
to show info w/ studs.

31 - Turtles CAME IN

6 Hatches

1 MOK SEAL TODAY 8/27

TRACKS  
ABOUT 150 yds west of Kaichu point

lg Hatch at Halawa - NOT SURE what kinda  
turtles

10/6 - 10/19 or 20 Vacation

8/27/99

per comm.

Joan Aidem

(up to date)

1999 Survey of Green Sea Turtles, Chelonia mydas, Kawaaloe Bay, Moomomi, Molokai

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Joan Aidem, 12/1/99

Copy to:

Excerpts from Field Notes

Kawa'aloa Bay, Mo'omomi  
Maloka'i

1999 Turtle Nesting Survey Joan Aidem, Dr Richard Langer p1

- May 25 Hatch 1 7/24 Hatch 3 8/9
- ① Two pits just above hi tide line. About a week old?
  - ② Fresh tracks to dunes, Three pits. 150' W of river mouth
  - ③ Very dim tracks up beach W of Naupaka ending in small dent on dune
  - ④ Old tracks up beach by Cecily Turtle, over the dune & disappear
- Davianna Mc Gregor saw tracks on this beach May 22
- NNT = No New Tracks
- May 27 NNT
  - May 29 NNT
  - June 1 NNT
  - June 3 Langer reports NNT
  - Hatch 2 8/2 June 5 Hatch 4 8/13
  - ⑤ Old tracks from hi tide mark to half way up beach. Two holes, one 20' to W, one 20' to E. This must have been made 6/3.
  - June 7 NNT
  - June 9 Langer reports false crawl ⑥ up E side of river, across, and back out W side. Also false crawl far W of Kaehu Pt. near Cappy Somers adz makers site
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  - June 13 ⑧ Langer reports new tracks going in W of 2 W of river. Hole in top of dune.
  - June 15 NNT
  - June 17 NNT
  - June 19 Langer reports NNT
  - June 21 ⑨ Between ③ & ⑤ two pits dug a very short way up beach. Very windy stinging sand. Hard to see. Probably dug the 19th.
  - ⑩ Another short track with possible hole not far above hi tide line
  - ⑪ Short track, false crawl on other side of river opening
  - June 23 ⑬ Langer reports one new track on W end of beach, E of where ⑦ went back into ocean. Part way across sand beach. Two pits Dick thinks this was night of June 21

# 1999 Turtle Nesting Survey p.2

June 25 NNT

June 27 (13) Langer reports turtle came in probably night of 25th.  
Crossed sand to foot of gravel dune, made 1 pit, returned to sea

Hatch 5 8/22

(14) Turtle came in on W side of river, Langer reports; went up swale  $\frac{2}{3}$  on ocean side of dunes, dug 4 holes + returned to sea.

June 30 NNT

July 2 NNT Langer reports

July 4 NNT

July 5 Langer reports NNT

July 6 NNT

July 7 NNT

July 9 (15) Langer reports new track, 1 hole about  $\frac{1}{4}$  way W of pavilion to river

(16) " " turtle track below "path down", 3 holes

Hatch 7 9/12

(17) " " track at Naupaka.  $\frac{1}{2}$  way up beach, 1 hole

(18) " " false crawl about  $\frac{2}{3}$  way across river

Hatch 6 9/7 July 11 (19) Turtle has walked onto dune at 2nd swale W of river, dug 3 holes

July 13 NNT Langer reports

July 15 NNT

July 17 NNT

July 19 NNT Langer reports

July 21 NNT " "

July 23 NNT

July 25 (20) Track goes  $\frac{1}{2}$  way up beach half way between Cecily Turtle + Naupaka, one hole; a second hole up on dune side.

(21) Turtle has come in + dug 2 pits just below vegetation on side of dune W of 2nd swale past river mouth

**Hatch 1** Strange hatch. About 36 babies only reached the ocean judging from the tracks. One dead baby with throat torn out + mud plastered plastron at foot of dunes. One live baby harassed by crab on dry sand above hi tide. Other tracks wandering in circles + up into dunes disappearing into Kiawe + Ipomoea. Many lost babies. This is tracks @ 5/24 edge of dune 150' W of river mouth

1999 Turtle Nesting Survey p.3

July 26 NNT

July 27 Langer reports (22) near last path down to beach before Cecily Turtle three holes in bank. Turtle had to scabble up steep 8' bank from ocean to get onto beach.

(23) West edge of river mouth. Six pits where sand levels to form beach

Hatch 8 9/24 July 28 (24) Tracks W of river mouth. Two holes on flat of beach at level of (23)  
Then turtle dug two more holes at base of dunes.

July 30 NNT Langer reports

Aug 1 NNT

Aug 3 Langer reports HATCH 2. Three baby turtle tracks coming from track (5) 6/3. Two baby turtles at surface in bright sunshine. Dick escorted them to the ocean so they wouldn't dry up. Later in the afternoon he found a 6th baby at the surface. Escorted to ocean. At 7 PM I found the nest + waited. Just after dark at 7:40 PM I observed 9 babies emerge + go to the ocean. No more after that.

Aug 4 NNT No more activity at hatch 2. That's only 15 babies there.

Aug 6 Langer reports 14 more baby tracks from hatch 2. One dead baby in sand.

Hatch 9 10/7 Aug 7 At least one more turtle right at surface of hatch 2. Iwa flying low overhead.

(25) New track up to gravel dune, up E side of dune, pit dug above bone area, another pit near bottom of dune

Aug 8 Five more babies from Hatch 2 have come out overnight. One dead baby on the surface. I erased all tracks.

Aug 9 Langer reports 7 new tracks from Hatch 2

Aug 10 Hatch 3 Just W of Cecily Turtle 18 babies hatched last night. More just under the surface. Which lay this is questionable. It must be (4) of 5/23. It's certainly no later than that. That's 78 days. One more turtle from Hatch 2 - confused, circled maulka, dead on sand.

Aug 11 Langer reports 12 more babies from Hatch 3 and one more from Hatch 2 That's 30 altogether from Hatch 3 and 45 altogether from Hatch 2



1999 Turtle Nesting Survey p. 4

Aug 11 (continued) (26) Abortive crawl half way to dunes & back between naupaka & (25).

Hatch 10 10/11 Aug 12 Langer & Aiden (27) Track just E of naupaka going right up to it; 3 holes. (28) Abortive crawl just W of (12) near Kaiehu Pt

Aug 13 Langer reports NNT

Aug 14 Hatch 4 from 2nd swale low on the dune. This is track (8) from 6/12. About 60 babies to the water. One went astray, Perhaps crabs. Some sort of commotion on the track but no footprints

Aug 15 NNT Iwa flying over W end of beach

Aug 16 NNT Langer reports

Aug 17 Eight to 13 new baby tracks at (8) from Hatch 4

Aug 18 Langer reports 2 more babies from Hatch 4

Aug 19 NNT

Aug 20 NNT

Aug 21 (29) New track up river opening to foot of dune at E river entrance. Two pits.

(30) False crawl up into river mouth, looped & went back out.

Hatch 11 10/21 Aug 22 (31) Track come in about 150' E of Kaiehu Pt, crossed beach, climbed bank onto grass edge, dug huge hole, went back out to sea skirting pit (12)

Aug 23 Hatch 5 Langer reports. This is from track (14) laid June 26. Dick counted tracks of 44 babies.

Aug 24 Eight to 10 new tracks from Hatch 5. One as far W as 1st swale, many wandering before arriving at ocean, one ending in what appears to be a struggle with crabs

Aug 25 NNT Langer reports

Aug 26 NNT " " A Camarce ~~girl~~ girl says there was a large hatch in Halawa last weekend.

Aug 27 NNT but a small monk seal on W end of beach directly makai of (7) Either a female or a young. Very shy. Saw me coming & slid off into water when I was 150' away.

Aug 28 NNT Langer reports.

1999 Turtle Nesting Survey p. 5

Aug 29 (32) New track E of gravel dune. She came up about 50' above hi tide, dug a large pit + went back out to sea.

Aug 30 NNT

Aug 31 NNT Langer reports

Sept. 1 NNT

Sept 2 NNT Langer reports

Sept. 3 NNT

Sept. 4 NNT Langer reports

Sept 5 NNT 6 trucks + their occupants camped in front of pavilion.

Sept. 6 NNT Langer reports

Sept 7 NNT A small monk seal has come in about 100 yds E of Kaiehu Pt. Left a track + 3 gouges in the sand. Probably left when it saw me coming.

Sept. 8 Hatch 6 Langer reports. This is from (19) laid 7/10 in the second swale. Tracks of 80+ babies toward the ocean. Large monk seal

~~Sept 9~~ at edge of water below Cecily Turtle. An hour later when they came back she was still there.

Sept. 9 NNT Big fat ♀ monk seal sleeping at water's edge below pavilion. Watched her for an hour. Mostly dormant. Returning fishermen said she had been there at 7AM, an hour before I came. She is untagged with a scar 1/2 way down her side. I feel certain that this is the same seal that gave birth at Kalapapa the last three summers. The fishermen had seen her here yesterday + reported her to DLNR. She looked up a few times. Stuck her head in the sand once + pushed along til her head was completely covered. Stayed that way 15 seconds, raised head + went on sleeping. A couple of times water washed up + covered her head but she didn't move. Once a crab came up + probed her nose. With a mighty snuffle she blew it a foot away. The crab did not approach again.

Sept. 10 NNT Langer reports. The seal this AM is a little farther W.

Sept. 11 NNT " " No seal. Lots of campers in front of pavilion.

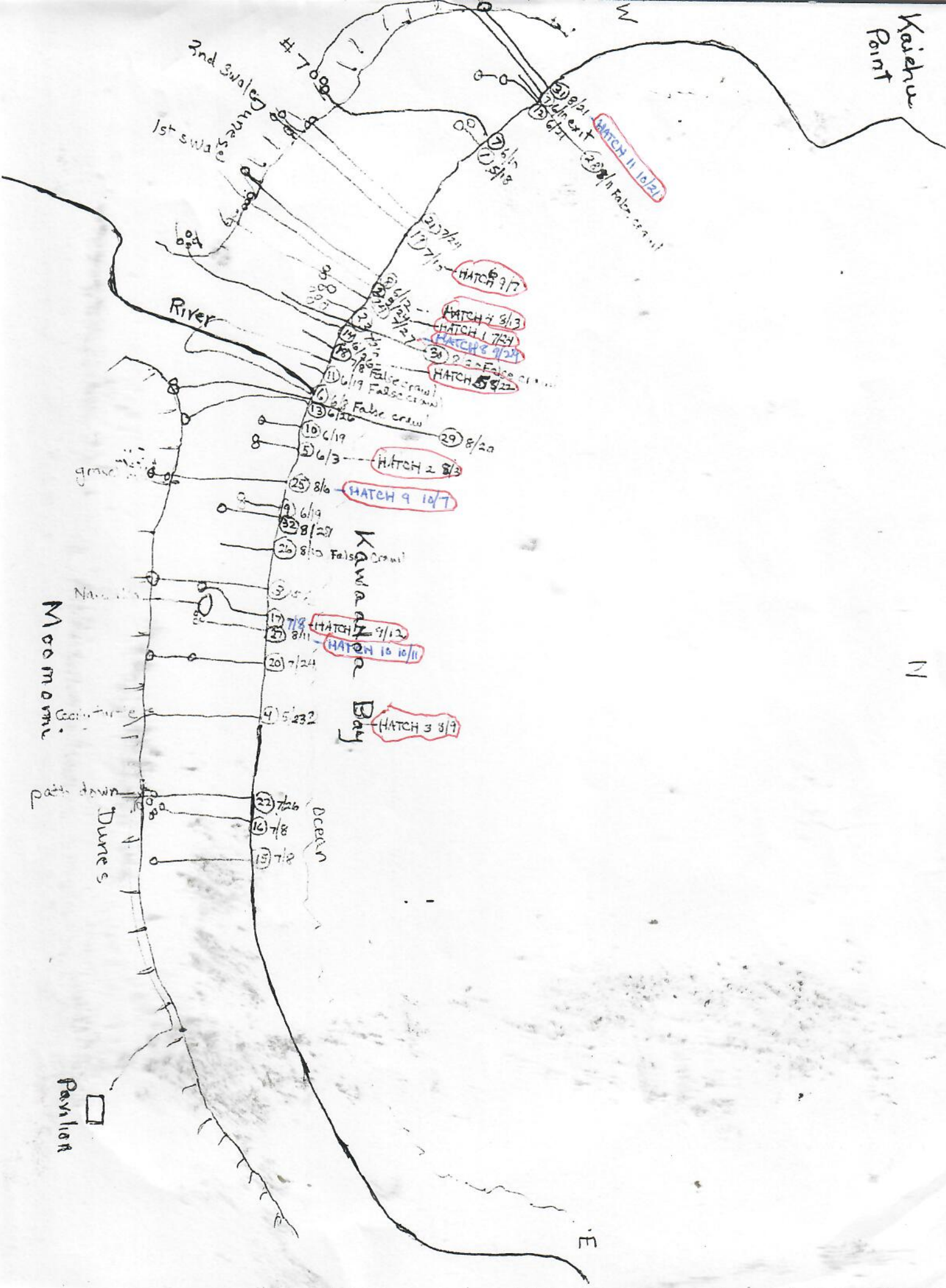
# 1999 Turtle Nesting Survey p. 6

- Sept. 12 Two new baby tracks from Hatch 6. Many campers in front of pavilion
- Sept. 13 Hatch 7 Langer reports a massive hatch W. of Naupaka & higher up the beach. This is lay 17 of 7/8. Impossible to count tracks,
- Sept. 14 NNT
- Sept. 15 NNT Langer reports
- Sept. 16 NNT
- Sept. 17 NNT
- Sept. 18 NNT Langer reports
- Sept. 19 NNT
- Sept. 20 NNT Langer reports
- Sept. 21 NNT
- Sept. 22 NNT Langer reports
- Sept. 23 NNT
- Sept. 24 NNT
- Sept. 25 Hatch 8 Langer reports lay (24) has hatched. This was laid 7/27. He counted 65 + or - tracks & one baby that resident fishermen had found tangled in a cargo net on the sand & released in the ocean
- Sept. 26 NNT Arlene Dibben on a nature walk found & marked a shearwater nest W of Kaiehu Pt. This is the first shearwater nest anyone can remember at Moomomi. Notified Nature Conservancy.
- Sept. 27 Two new baby tracks from Hatch 8. Evidence of a monk seal on the beach near Cecily Turtle. Probably last night.
- Sept. 28 NNT Langer reports
- Sept. 29 One more baby track from Hatch 8
- Sept. 30 NNT Langer reports,
- Oct. 1 NNT
- Oct. 2 NNT Langer reports
- Oct. 3 NNT
- Oct. 4 NNT Langer reports
- Oct. 5 NNT " "
- Oct. 6 NNT " "

# 1999 Turtle Nesting Survey p. 7

- Oct. 7 No observations — broken car.
- Oct. 8 Hatch 9 Lay (25) of 8/6 on gravel hill, Langer reports, 70+ tracks
- Oct. 9 NNT Langer reports
- Oct. 10 Skipped
- Oct. 11 NNT Malia Forbes reports
- Oct. 12 Hatch 10 Langer reports at lay (27) 8/11 by the naupaka. Large hatch but too close to water to differentiate & count tracks.
- Oct. 13 NNT Langer reports
- Oct. 14 NNT " "
- Oct. 15 NNT " "
- Oct. 16 NNT " "
- Oct. 17 Skipped
- Oct. 18 NNT Langer reports
- Oct. 19 NNT " "
- Oct. 20 NNT " "
- Oct. 21 NNT
- Oct. 22 Hatch 11 at lay (31) at W end of beach, the pit up in the edge of the grass laid 8/21. I could only count 45 baby turtle tracks for sure.
- Oct. 23 NNT Langer reports
- Oct. 24 NNT
- Oct. 25 NNT Langer reports
- Oct. 26 NNT
- Oct. 27 NNT
- Oct. 28 NNT Langer reports
- Oct. 29 NNT " "
- Oct. 30 NNT " "
- Closing survey.

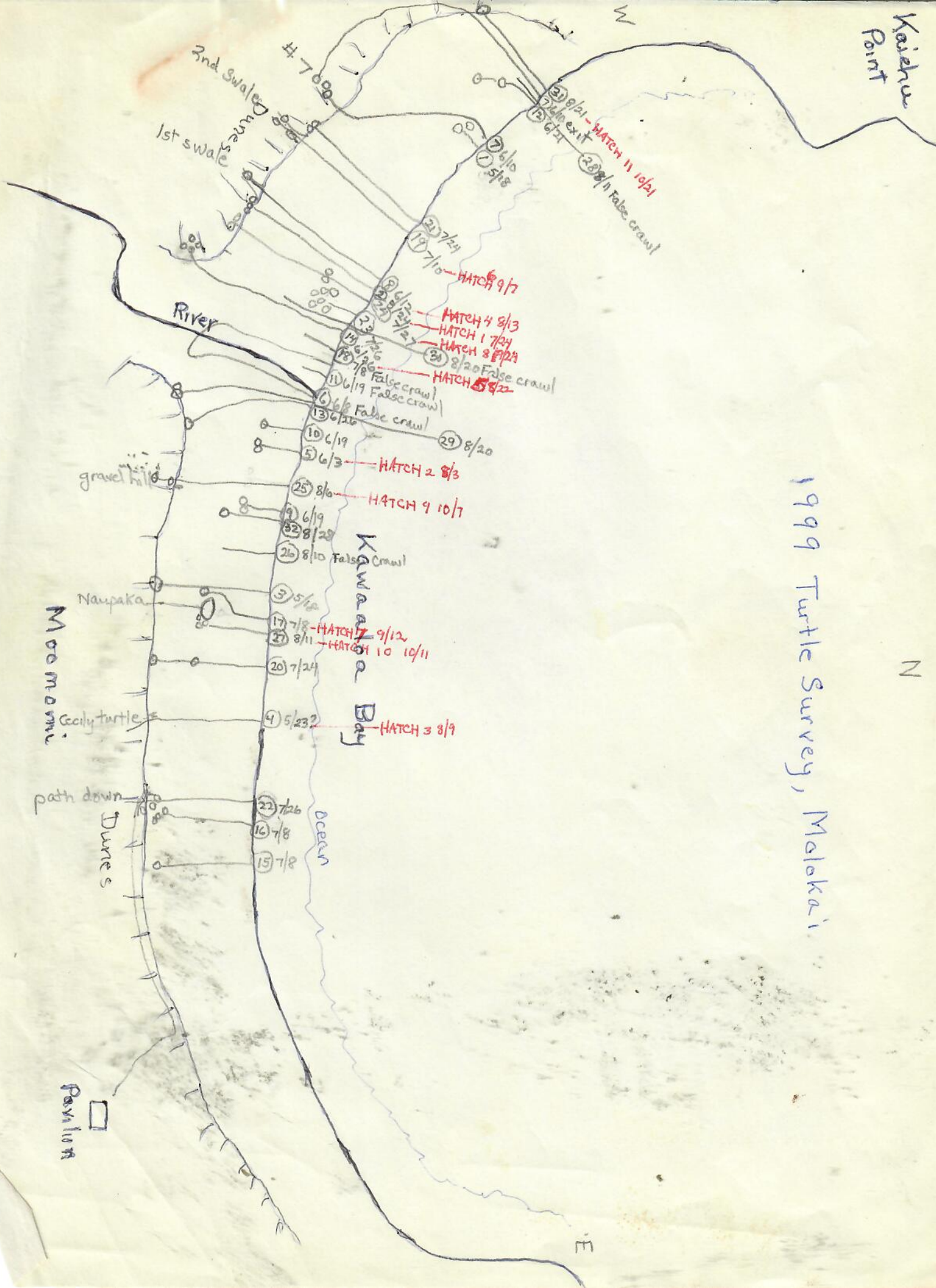
Kaiehu Point



Kaiehu Point

1999 Turtle Survey, Malakai

1999 S



N

E

8/4/00 Stefanie Ioo

Turtle Season 2000

Talked to Joan Aidem

they (Joan & Dr. Langer) usually go out <sup>to MOO</sup> once, weekly, alternating between the two of them.

Turtles usually start nesting or arrive for nesting in April, May, or at the latest <sup>before</sup> July 4 or so.

This year no turtles came ashore.

Why? (Compared to last yr.?) Joan talked to George Belaz & he thought all the activity in 1999 was from 2 or 3 turtles. If this is so, it is not uncommon for turtles to take a "year off."

Also, eggs hatch 60 days after laid so <sup>late</sup> Oct - Nov is too late in the turtle season for any monitoring.

Talked to Bill Puleloa

Nothing going on currently. He said the two volunteers would be too late for turtle nesting/monitoring.

He suggested if they don't mind going to Oahu, they could possibly help George Belaz with retrieving turtles with tumors.

(He commented that the Hawksbill <sup>season</sup> on Big Island would be done by late Oct - Nov.)

---

Suggestion: Either go to Oahu to help George Belaz or, I don't know what wedgetailed shearwater will be doing but maybe they could check that out.?  
(if they wanted to do something coastal...)

SL ✓ TL ✓ BN ✓ WNM ✓ EM ✓

JOANS NOTES - FYI. I filed original.

2001 Hawaiian Green Sea Turtle Nesting Survey  
Kawaaloa Bay, Moomomi, Molokai  
May thru October, Joan Aidem, Dick Langer

*Time*  
*Could you put this info on a chart. This might be easier to follow.*

During the Spring and Summer of 2001, 26 female green sea turtles came onto the sand at night at Kawaaloa Bay to lay eggs. The first appearance (determined by tracks) was the night of May 8; the last, the night of August 20. Each turtle dug 1-6 body pits. There is no apparent correlation between the number of body pits dug and whether or not a hatch occurred. However, no nest with 5 or 6 body pits hatched and only one with 4. Three nests of 1 body pit hatched, 4 did not. Four nests of 2 pits hatched, 3 did not. Five nests of 3 pits hatched, one did not. One nest of 4 pits hatched, 1 did not. None of the pits hatched on the far West end nor the far East end of the beach. Most of the lays, 8, and hatches, 6, centered around the naupaka area (designated by us) roughly half way between the last path down from the pavilion and "gravel hill" just E. of the river. Two nests that both hatched were just E of the river and two that both hatched were just W of the river. The remaining three hatches were on gravel hill and just below and to the E of gravel hill. There were thirteen hatches in all producing from 2 to 78 baby turtles each.

On July 28 about 1:30 PM a young local male was seen digging in turtle nesting pit #11 on the W end of the beach. When asked to stop, he said he would and settled down on the beach near the water with his dog until we went away. He also stated that he only wanted one egg and hadn't found one yet. On July 29 it was observed that the pit of lay #3 which had been hatching had been dug into, apparently after the baby turtles had left. More digging had occurred around lay 17 and also the pit near the water of lay 5. Lays 11, 17, and 5 did not hatch. Dick Langer took pictures on Monday, July 30 and felt "about 20" pits had been dug into. He reported same to TNC, Molokai Ranch Office, head of security for Molokai Ranch, Bill Puleloa, and the chief enforcement officer of the State Division of Forestry and Wildlife. George Phocas, special agent for the division of law enforcement of the U.S. Fish and Wildlife Service followed up. As the young man was using his hands and sometimes a plastic scoop, I feel he could not have reached eggs which are typically 30" deep, but he might have so upset the nests that hatching was disturbed.

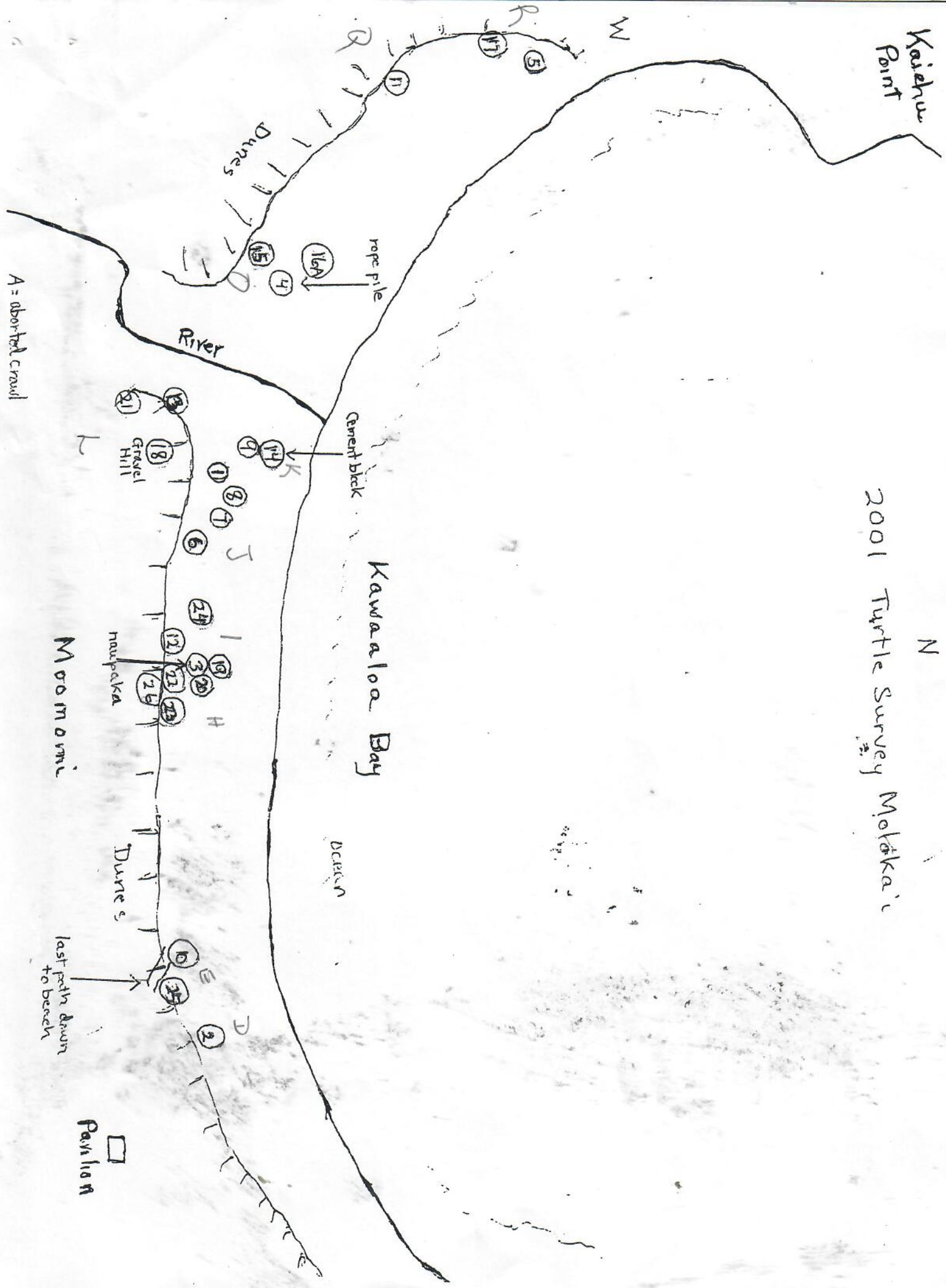
On Aug. 13 there was a monk seal track near Kaiehu Pt. A new one on Aug. 15. Aug. 27 an iwa was flying low over the beach. No depredations on baby turtles apparent. One dead baby turtle on sand apparently not seen or disturbed by iwa. Sept. 2 monk seal tracks again near Kaiehu Pt. Campers at pavilion have done a lot of damage to pits and stakes at turtle nesting sites. Probably children playing ball. Sept. 3 new monk seal tracks near Kaiehu Pt. Sept. 7 hatch of lay 18, July 9 produced at least 25 babies, 8 of which were dead on the dry hot sand. Five more hatched on Sept. 8. Another on Sept. 10 plus one more dead baby. Perhaps they are hatching in daylight and drying up before they can reach the ocean. This is the first year so many young have died.



Kaiahu  
Point

2001 Turtle Survey Molokai

N



A = aborted crawl

R

# Green Turtle Survey 2001

Lay no.	Date laid	Date Hatched	No. Young	Remarks
1	5/8 L/K			
2	5/26 } D			
3	5/27 } H/I	7/24 7/25 7/27 7/28	59	Hole dug 7/28 or 7/29 by intruder
4	5/26 } O	7/28	Indeterminate - many	Tracks erased by wind + water
5	5/27 } R/S			
6	6/8 - J	8/8	More than 70	
7	6/10 } J			
3 8	6/10 } J/K	8/12	2	Very windy, may have missed tracks
9	6/14 - K	8/17	51	Mixed with crab tracks
10	6/20 } E			
11	6/21 } Q			
12	6/24 } I			
13	6/24 } I			
2-3 14	6/27 } K	9/1	29	
15	6/27 } O	8/26 8/27 8/29 8/31	7	One baby dead on sand
AI <del>16</del>	6/27 } O			Aborted crawl
17	6/27 } R			9 of these dead on sand
18	7/9 -	9/7 9/8 9/10	32	
19	7/12 - H/I	9/10	Indeterminate - many	
3-4 20	7/22 } H/I	9/20	abt 65	
21	7/22 } J			
22	7/26 - H/I	9/24	60+	
23	8/10 } H			
24	8/11 } I	10/11	60-70	
25	8/19 } E			
26	8/20 } H	10/18	78	1 hatched 10/18, we dug on 10/30. 78 empty eggs, 1 spoiled

2001 Hawaiian Green Sea Turtle Nesting Survey  
Kawaaloa Bay, Moomomi, Molokai  
May thru October, Joan Aidem, Dick Langer

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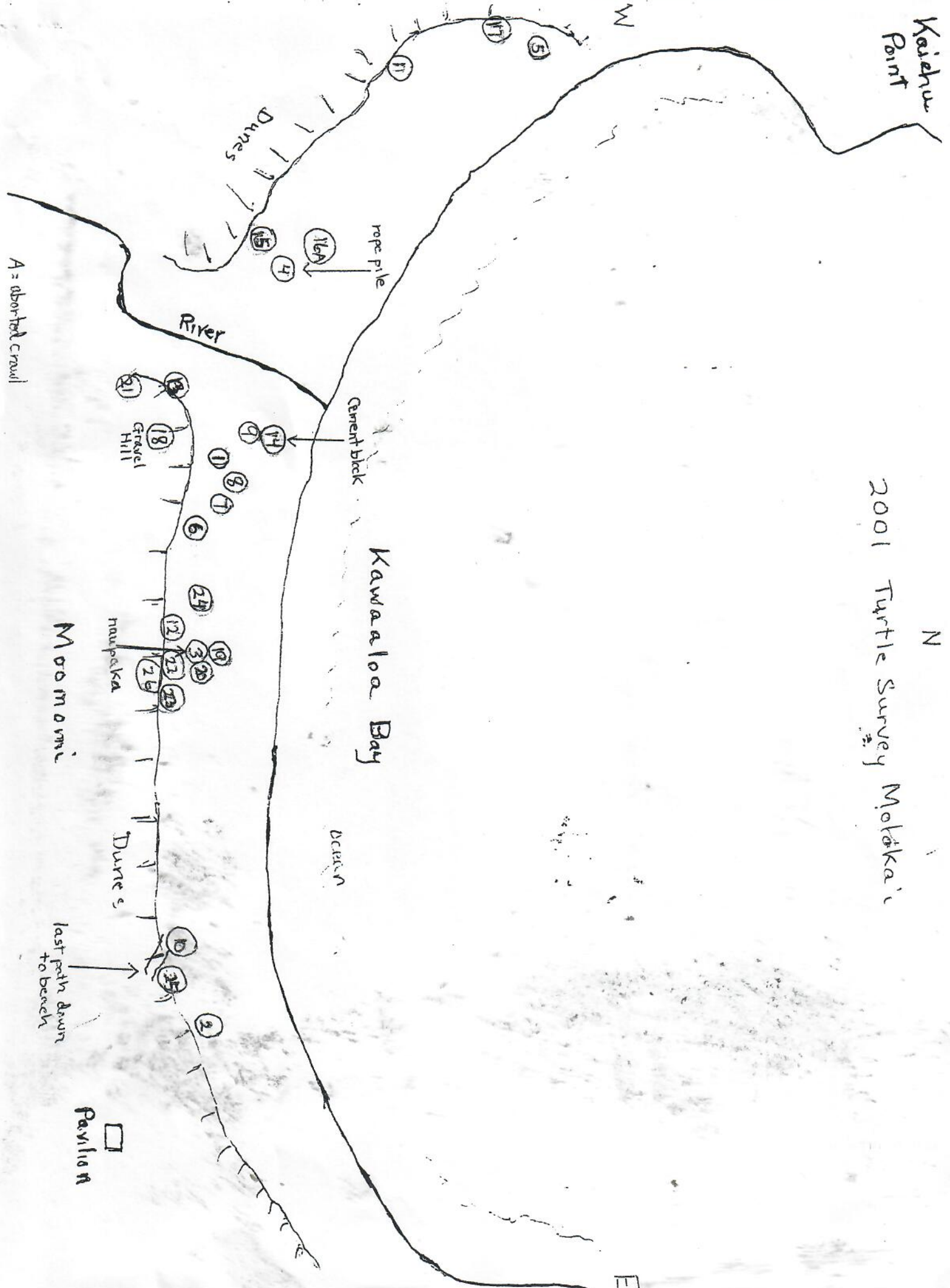
Kaiehu Point

2001 Turtle Survey Molokai

N

W

E



A = aborted crawl

5

Kaiehu Point

2001 Turtle Survey Molokai

N

W

E



A = aborted crawl

3

Pavilion

last path down to beach

Dunes

haupuka

Moomomi

Gravel Hill

Kawaloa Bay

DEEP

Cement block

rope pile

Dunes

River





Summer 2001  
LADRESA

# Memorandum

**To:** Ed, Tina, Brian, Stefanie, Tubz

**CC:**

**From:** Kathleen Tachibana

**Date:** 07/30/01

**Re:** Moomomi Turtles

---

FYI, Joan Aidem reported that on Saturday when they completed the hike there was a guy on Kawaaloa Bay digging for eggs in a marked turtle pit. She was tired, so she asked Keawe to go down and ask the guy to stop. He did go down and talked to the guy. The man told him he would stop and walked down to the beach.

She went back on Sunday and noted that about 6 pits were dug up. Dr. Langer did another check and noted that about 20 nests were dug up. They were both very upset.

Joan called Bill Puleloa who was off island but reported the incident to his daughter. She said Dr. Langer was going to contact Balaz but wasn't sure if he'd done that.

I contacted Molokai Ranch and spoke with Darlene, she told me she would let Jimmy Duvauchelle know about the incident. Later in the morning I received a phone call from Jim Berg and Jimmy Duvauchelle they said Dr. Langer had been in contact with them and they would do what they could to help find out who was responsible for digging up the nests and bring them to justice.

Ed - I told them you would be out until  
Thurs, and I would have you follow up  
with them then.

KG



Tina - please copy  
for your file +  
Rfn to Kealy

# Memorandum

**To:** Ed  
**CC:**  
**From:** Kathleen Tachibana  
**Date:** 08/02/01  
**Re:** Turtle nesting update

---

7/30 - I left message for Jamie Mangca after I spoke with you. He did not return my call.

7/31 - 8 am - I left another message for Jamie

9:30 - I called Maui DOCARE and spoke with Brooks Tamaye. He said he would open and investigation and get back with me.

10:00- George Phocas (USFWS Division of Law Enforcement) called. Dr. Langer had left a message for him and he was trying to reach him or you. I told him you were off island. I told him what I knew about what happened so he said he was going to make arrangements to come over tomorrow (Wednesday) to investigate. I told him we would arrange to have someone take him out to Moomomi. I called Dr. Langer and left a message on his machine to give him an update.

1:10 - Kief Apo stopped by the office. I told him what happened and gave him phone numbers for Joan, Dr. Langer and Keawe. He was going to follow up with them.

8/1 - George Phocas and Keif Apo came to the office in the morning. They spoke with Joan, Dr. Langer and Keawe. They told me they would follow up with us on where the investigation goes.

2002

Green Sea Turtle Nesting Survey, Kawaaloo Bay

Joan Aidem

Dr Richard Langer

Twenty three observation runs, April thru July

April 11, 15, 19, 27    May 8, 11, 15, 21, 25, 26, 30, 31

June 6, 11, 18, 20, 22, 26    July 3, 4, 10, 17, 27

NO TURTLE TRACKS

# Turtle Nesting Report 2004, Kawa'aloa Bay Moloka'i

<u>Turtle came in</u>	<u>Date</u>	<u>Holes Dug</u>	<u>Hatches</u>	
# 1	June 5	3		
# 2	June 6	1		
# 3	June 18	2		
# 4	June 18	2		
	<i>A1</i> June 18	0		
# 5	June 20	4	<b>Hatch # 1</b>	Aug 17 70 trails Aug 20 2 trails
# 6	July 2	2		
# 7	July 3	2		
# 8	July 5	7	<i>Hatch #2</i>	
# 9	July 7	1	<b>See footnote 1.</b>	65 trails
# 10	July 19	5		
# 11	July 20	3	<b>Hatch #2</b>	3 Sept 15 50 trails 1 dead
# 12	Aug 5	1		Sept 30 2 trails
# 13	Aug 17	2	<b>Hatch #3</b>	4 Oct 9 22 trails Oct 10 15 trails Oct 11 2 trails Oct 12 2 trails Oct 14 3 trails Oct 15 1 trail
# 14	Aug 30	3		
# 15	Sept 11	2	<b>Hatch #4</b>	5 Nov 10 8 trails Nov 24 32 trails
# 16	Sept 25	2	<b>Hatch #5</b>	6 Nov 25 38 trails
	Oct 8	0	<b>See footnote 2.</b>	32 trails
			<b><u>Total Hatch</u></b>	<b>345</b>

*- count from digging not observed*

*- dug nest total = 38 + 32*

04

**Footnotes**

1. #9 Turtle laid near water. On August 14, Forrest and Fely Peterson moved eggs from this lay higher up the beach because water was coming up to nest. No hatching was ever observed. On November 3 these eggs were dug up. Twelve were unhatched, three were rotted, Sixty-five empty shells indicated 65 baby turtles had apparently hatched and gotten to the water.

2. # 16 Turtle produced only 38 trails of baby turtles, one of which went astray and disappeared at river's edge. However, no one made observations on Thanksgiving Day November 25. As it seemed likely that we had missed the hatch of the night of the 24<sup>th</sup>, in December we dug #16 nest and found 70 hatched eggs and 2 non- fertilized eggs.

Submitted by Joan Aidem

April 5 - Nov. 28, 2004

Turtle Nesting Report  
Kawaaloo Bay  
Molokai

Participants in the field	Hours
Joan Aiden	18
William Feeter	96
Dr. Richard Langer	9
Lillian McMillan	96
Forrest Peterson	162
	<hr/>
	381 hours

Turtle # 1 came in June 5 + dug 3 holes  
Turtle # 16 came in Sept 25 + dug 2 pits

1st hatch from turtle 5 Aug 17 + 20 72 trails  
5th hatch from turtle 16 Nov 24 + 25 70 trails

Total of 320 hatchlings apparently reached the water,

Respectfully submitted  
Joan Aiden 5/6/05

April 5  
Turtle Nesting Report June 7 - Nov. 28, 2004

Participants in the field ~~Hours~~

5 Forrest Peterson		162 hrs
4 Lillian McMillan		96 hrs
2 William Feeter		96 hrs
3 Dr Richard Langer		9 hrs
1 Joan Aidem		18 hrs
		<hr/> 381

#1	June 5	3 holes <sup>1 filled with water</sup> <sub>silled with water</sub>	turtle industry	
#2	June 6	1 hole	river bed	
#3	June 18	2 holes	pavilion	
#4	June 18	2 holes	E of "	
	" 18	abotive	far side of river	
#5	June 20	4 holes	cement block	Hatch 1 Aug 17 Aug 20 70 trails 2 "
#6	July 5	2 holes	<del>pavilion</del> path down	
#7	July 3	2 holes	pavilion	
#8	July 5	7 holes	E of cement block	
#9	July 7	1 hole	last path to beach	Dug up Nov 3 80 eggs {12 unhatched 3 open rot (65 hatched large)}
#10	July 19	3 holes + 5 depressors	well E of pavilion	
#11	July 20	3 holes	below Dick's path	Hatch 2 Sept 15 50 trails 1 dead another possible 8 Sept 30 2 more
#12	Aug 5	1 hole	just W of pavilion	
#13	Aug 17	2 holes	last path to beach	Hatch 3 Oct 9 22 trail Oct 10 15 more
#14	Aug 30	3 holes	just to W of pavilion	Oct 11 2 more Oct 12 2 more Oct 14 3 more Oct 15 1 more
#15	Sept 12	2 holes	W end of flat place below trail down	
#16	Sept 25	2 pits	bottom of path down	
			E of napaka, spaces below dunes	Hatch 4 Oct 10 8 trails Nov 24 32 trails Hatch 5 Nov 25 38 trails

16 turtles came in + dug holes  
2 " made abotive paths in + out  
5 hatches with 320 hatchlings  
In December we dug #16 + found 70 hatched eggs + 2 non fertilized eggs  
10 these to river 2 non fert-urized eggs

# Turtle Nesting Report 2004, Kawaaloo Bay, Molokai

Turtle came in	Date	Holes Dug	Hatches
# 1	June 5	3	
# 2	June 6	1	
# 3	June 18	2	
# 4	June 18	2	
	June 18	no holes	
# 5	June 20	4	Hatch #1 Aug 17 70 trails Aug 20 2 "
# 6	July 2	2	
# 7	July 3	2	
# 8	July 5	7	
# 9	July 7	1	See footnote 1 65
# 10	July 19	5	
# 11	July 20	3	Hatch #2 Sept 15 50 trails 1 dead Sept 30 2 trails
# 12	Aug 5	1	
# 13	Aug 17	2	Hatch #3 Oct 9 22 " Oct 10 15 " Oct 11 2 " Oct 12 2 " Oct 14 3 " Oct 15 1 "
# 14	Aug 30	3	
# 15	Sept 11	2	Hatch #4 Nov 10 8 trails Nov 24 32 "
# 16	Sept 25	2	Hatch #5 Nov 25 38 trails see footnote 2 32
	Oct 8	no holes	

Total hatch 345

# Summer 2003 Green Sea Turtle Nesting Survey

## Kawala Ioa Bay, Moomomi, Moloka'i

	Approaches to beach	Pits	Hatches
Participants No. of hrs spent	① May 17 -	2	① 7/16 6 babies (4 of them dead), 7/17 31 babies
	② June 1 }	4	
	③ June 2 }	3	④ 8/4 63 babies
Ernest Peterson 102	④ June 2 }	4	⑤ 7/30 14 tracks (4 of which dead ended) 7/31 17 tracks
	⑤ June 2 }	4	had been dug into
	⑥ June 5 -	1	⑥ 8/16 exposed hatched eggs only
Jan Aidem 96	⑦ June 12	2	Calendar 8/4
	⑧ June 10	2	
Richard Langer 32	⑨ June 13 } A1,2,3	abortive	
	⑩ ⑪ June 16 }	"	
230 hr.	⑫ June 16 -3	2	
	⑬ June 25	2	⑬ 8/24 2 babies
Compiled by J. Aidem	⑭ June 29 }	2	
	⑮ June 30 }	1	⑭ 8/27 49 babies, 8/28 4 babies, 8/29 6 babies, 9/5 2 babies
	⑯ June 30 }	2	
	⑰ July 9 } Calendar	2	
	⑱ July 18 } 10 <sup>45</sup>	2	
Abortive = one in twenty digging a pit	⑲ July 19 }	3	⑮ 9/3 64 babies, 9/6 1 baby
	⑳ July 16 } 15 Calendar	1	⑯ 9/17 1 baby
	㉑ July 17 } A4	abortive	
	㉒ July 25 - 4	2	⑰ 9/25 40 babies
	㉓ July 26 -	2	
	㉔ July 28	1	⑱ 9/25 38 babies, 9/30 3 babies
	㉕ July 28 AS	abortive	
	㉖ July 30	3	
	㉗ July 30 46	abortive	
	㉘ July 31 -6	1	See Calendar
⑳ August 6 -	1	⑲ 10/16 39 babies	
㉙ August 7 -	2	⑳ 10/6 ? "	
㉚ August 22 }	1	only 13 hatches	
㉛ August 22 }	2	NO #2 Hatch	
㉜ August 22 }	3	㉜ 10/19 28 babies	



# Summer 2003 Green Sea Turtle Nesting Survey

## Kawa'aloa Bay, Moomomi, Moloka'i

	Approaches to beach	Pits	Hatches
	① May 17	2	① 7/16 6 babies (4 of them dead), 7/17 31 babies
Participants	② June 1	4	
No. of hrs spent	③ June 2	3	④ 9/4 63 babies
	④ June 2	4	③ 7/30 14 tracks (4 of which dead ended) 7/31 17 tracks had been dug into
Ernest Peterson 102	⑤ June 2	4	
	⑥ June 5	1	⑤ 8/16 exposed hatched eggs only
Jan Aidem 96	⑦ June 12	2	
	⑧ June 10	2	
Richard Langer 32	⑨ June 13	abortive	
	⑩ ⑪ June 16	"	
	⑫ June 16	2	
	⑬ June 25	2	⑥ 8/24 2 babies
	⑭ June 29	2	
	⑮ June 30	1	⑦ 8/27 49 babies, 8/28 4 babies, 8/29 6 babies, 9/5 2 babies
	⑯ June 30	2	
Compiled by J. Aidem	⑰ July 9	2	
	⑱ July 18	2	
	⑲ July 19	3	⑧ 9/3 64 babies, 9/6 1 baby
	⑳ July 16	1	⑨ 9/17 1 baby
	㉑ July 17	abortive	
Abortive = come in + went out without digging a pit	㉒ July 25	2	⑩ 9/25 40 babies
	㉓ July 26	2	
	㉔ July 28	1	⑪ 9/25 38 babies, 9/30 3 babies
	㉕ July 28	abortive	
	㉖ July 29	3	
	㉗ July 30	abortive	
	㉘ July 31	1	
	㉙ August 6	1	⑬ 10/16 39 babies
	㉚ August 7	2	⑫ 10/6 ? "
	㉛ August 22	1	
	㉜ August 22	2	⑭ 10/19 28 babies
	㉝ August 22	3	

## 2005 Kawaalooa Bay turtle nesting survey

Turtle	Date	Holes Dug	Where	Hatches
①	5/1	1	In front of River	
②	5/2	2	" " " "	
	5/1	0	Wend of Beach	
	5/1	0	" " " "	
<del>⑤</del>	5/5	0	50yds W of Pavilion	
③	5/4	6	In front of gravel hill	
④	5/6	2	E of Naupaka	
	5/9	0	Wend of Beach	
⑤	5/17	1	Foot of last path down	
	5/17	0	W of Naupaka	
⑥	5/18	2	Dick's path down	
	5/20	0	at Naupaka	
⑦	5/21	1	Foot of river	
⑧	5/21	2	1/2 way bet river + Kaehu	
	5/23	0	Below last trail down	
⑨	5/23	4	Just E of river, N of fenceposts	
⑩	5/23	7	1/2 way between ocean + river, mid river	
⑪	5/23	1	W of #10	
⑫	5/23	1	W of river 3 fenceposts, 1/2 way betw ocean <sup>1 last post</sup>	
	5/24	0	30' E of Naupaka	
⑬	5/24	2	Midst of #9	
⑭	5/24	2	Midst of #10	
⑮	5/24	1	Wend, 13 paces N of ATV sign	
⑯	5/25	1	100' W of Naupaka, 3/4 way up from ocean	
	5/29	0	150' E of Kaehu Pt.	

1# 40 tracks 7/25  
1 more 7/26

### Participant hours

- Aiden 553-564
- Feeter
- Macmillan
- Peterson
- Grinnell
- Shaper

## 2005 Green Sea Turtle Nesting Survey Kawa'aloa Bay, Moloka'i

The 2005 Green Sea Turtle nesting survey was carried out from the morning of May 2 when the first turtle track of the season (from the night of May 1) appeared at Kawa'aloa Bay until November 14.

This year, 2005, was a poor year for hatches. Only 12 hatches occurred from 37 adult female turtles that came in and at least dug pits. This is less than one third success rate. Past years have usually been nearer to one half. It is doubtful whether this was due to poor observation. At least one observer was on the beach at Kawa'aloa Bay walking from East to West end and back every day of the season with the exception of a day of rain when observers could not negotiate the muddy road in. While lack of training was a problem at first, and landmarks were not always recognized by the turtlers in their descriptions of tracks, by and large, some degree of accuracy was met. Obviously in early July some mistakes were made. Hatches in the end of August sometimes could not be made to agree with locations used to describe turtle pits made in July. A new map and more distinct landmarks should solve this problem in 2006.

It is to be noted that 20 turtles came in on the sand before one laid viable eggs that resulted in a hatch. Seven of these turtles made false crawls, but 13 turtles dug at least one pit. It was July 25 before a female's eggs successfully incubated. These were laid May 24.

There seems to be little correlation between the number of pits dug by a female and the occurrence of hatches. Hatches occurred on three occasions where only one pit was dug. Three hatches occurred when two pits were dug. One hatch occurred when three pits were dug, and one hatch occurred when four pits were dug.

One can note that almost all the turtle activity occurred at the river and east of there this year. Twice a turtle came in on the west end of the beach and dug a pit. Seven times turtles made false crawls appreciably west of the river.

There were at least two beach cleanups on Kawa'aloa Bay during the turtle nesting season. Beach cleanup crews are noble self-sacrificing individuals who are greatly appreciated by the public and the turtlers for beautifying the sands. However, bags of refuse dragged across pits, markers removed, and general disturbance of the sand may not be the best for incubating turtles. It is to be suggested that beach clean up crews not be deployed during turtle nesting season, May through November, since they not only make it hard for turtlers to locate lays, but also may change the natural beach habitat for turtles. A log or a piece of plastic across a nest may alter the temperature in the nest, thus changing the climate for length of incubation of the eggs or sex determination of the baby turtles. Remove it and these effects are altered.

Picking up extraneous objects, ropes, nets etc. near the waters edge while patrolling the beach should hurt nothing, and may even make it safer for turtles to transit. On at least one occasion an emerging baby turtle was found tangled in netting, which was in the nest hole.

On this beach little is present to disturb the emerging nestlings. Ghost crabs Oxypode ceratophthalmus Take some small toll, and on a few occasions cat tracks appeared where hatchlings tracks disappeared. Birds seem to be no problem since hatchlings reach the water at night and the birds are flying over in the daytime.

From time to time it is advisable to dig a hatched nest to determine how accurately baby tracks represent the actual eggs hatched. This was done at the end of the 2005 season.

On November 14, 2005 a work party of 7 dug up the hatched eggs from the only nest they could still locate, #31 pit. The inaccuracy of the original count at this pit, 40 hatchlings, can easily be observed since the number of hatched eggs in the pit turned out to be 79, with two spoiled eggs in addition. Because the turtle counts made by the individual turtlers are made the morning after the night hatches, much time has occurred for wind blown sand to obliterate tracks, for crabs to obscure tracks with their crawls, and for turtle tracks to be confused by multiple baby turtles criss-crossing over previously made crawls.

After a period of 45 to 71 days from the time the pits are dug by the female turtles and eggs laid until eggs hatch, and then allowing a safe interval after the hatch to be sure diggers do not disturb still emerging turtles, much has changed physically in the area around the lay. Pits are completely filled in by drifting sand. Any markers left are moved by wind or displaced by beach goers. Beach cleanup crews have moved, or removed, landmarks used by the turtle crews to describe locations of nests. Furthermore one has to know with pinpoint accuracy where a hatched nest was found, since the eggs, at time of digging are approximately three feet below the surface with more sand sliding into the pit dug, with every shovel full removed.

In the early days of November a Monk Seal was observed basking on the east end of the beach on several mornings.

Submitted by Joan Aidem

## 2005 Nesting Green Sea Turtle Survey, Kawa'aloa Bay, Moloka'i

Emergence Onto Sand	Date	Location	Disposition	Hatch Date	Number of Hatchlings	Days of Incubation
# 1.	May 1	N Front of river	1 pit			
A1	May 1	B Far west end	false crawl			
A2	May 1	S Far west end	false crawl			
# 2	May 2	N Front of river	2 pits			
# 3	May 4	L North of Gravel Hill	6 pits			
# 4	May 6	East of Naupaka	3 pits			
A3	May 9	Far west end	false crawl			
# 5	May 17	Last path down	1 pit			
A4	May 17	West of Naupaka	false crawl			
# 6	May 18	Below Dick's path	2 pits			
# 7	May 21	Front of river	1 pit			
A5	May 21	Naupaka	false crawl			
# 8	May 21	½ way between River & Kaiehu Point	2 pits			
A6	May 23	Last path down	false crawl			
# 9	May 23	East of river	4 pits			
#10	May 23	Front of river	7 pits			
#11	May 23	West of river	1 pit			
#12	May 23	W of river S of #11	1 pit			
#13	May 24	Midst of #9	2 pits			
A7	May 24	30' East of Naupaka	false crawl			
#14	May 24	Midst of #10	2 pits	✓ #3 Aug 3	1	71 ✓
#15	May 24	W end, N of ATV sign	1 pit			
#16	May 24	100' W of Naupaka	1 pit	✓ #1 July 25 #1 July 26	40 1	61 62 ✓
A8	May 29	100' E of Kaiehu Pt.	false crawl			
#17	May 31	East end of Dick's path	5 pits			
A9	May 31	100' East of Kaiehu Pt.	false crawl			
#18	June 1	Below Gravel Hill	2 pits			
A10	June 1	West of river	false crawl			
A11	June 7	80' East of Kaiehu Pt.	false crawl			
#19	June 8	50' West of Naupaka <i>unrecorded nest JK</i>	1 pit	✓ #2 Aug 2 #4 Aug 12	1 40	55 ✓ <del>65</del>
A12	June 14	50' East of Cement Block	false crawl			
#20	June 25	In front of Pavilion	2 pits	<i>unrecorded</i>		
#21	June 28	100' W of last trail down	2 pits	✓ #5 Aug 12 #6 Aug 24	64 52	45 57
#22	July 8	5' makai of #21	2 pits	✓ #7 Aug 26	55	49 ✓

Emergence Onto Sand	Date	Location	Disposition	Hatch Date	Number of Hatchlings	Days of Incubation
A13	July 8	75' E of #21	false crawl	#8 Aug 26	8	
				#9 Sept 17	1	
				#9 Sept 18	6	
#23	July 8	NE of Gravel Hill	false crawl			
#24	July 23	100' E of Gravel Hill	2 pits			
#24	July 23	50' E of #23	3 pits	#10 Sept 21	25	60
#25	Aug 5	Flat end of Last Trail ✓	4 pits			
#26	Aug 5	In front of Pavilion	2 pits			
#27	Aug 6	Flat end of Last Trail ✓	4 pits			
A15	Aug 6	70' W of Cement Block	false crawl			
A16	Aug 7	200' W of Pavilion	false crawl			
#28	Aug 7	Above Naupaka ✓	1 pit	#11 Oct 5	58	59
#29	Aug 7	20 paces E of Cement Block ✓	1 pit			
#30	Aug 7	Below Gravel Hill ✓	2 pits			
A17	Aug 7	100' E of Kaiehu Pt.	false crawl			
#31	Aug 20	Between Ipomea & Grass ✓	4 pits	#12 Oct 15	40	56
A18	Aug 21	Between Gr Hill & River	false crawl			
A19	Aug 21	Btween Gr Hill & River	false crawl			
#32	Aug 23	West of Naupaka ✓	2 pits			
A20	Aug 30	North of White Cliff	false crawl			
#33	Sept 4	Above Ipomea ✓	4 pits			
#34	Sept 5	Flat after Last Trail Down ✓	4 pits			
#35	Sept 6	Flat after Last Trail Down ✓	5 pits			
#36	Sept 7	East of River ✓	1 pit			
#37	Sept 7	East of Last Trail Down ✓	1 pit			
(see above)	Nov 14	Between Ipomea & Grass	Dug #31	#12 Oct 15	79 hatched	2 spoiled eg

# Green Sea Turtle Nesting Survey, Moloka'i, 2005

## Participants

Ella Adolpho  
Joan Aidem  
Arvo Annus  
Bill Feeter  
Frances Feeter  
Mike Grinnell  
Lil Macmillan  
Fely Peterson  
Forrest Peterson  
Scot Schafer  
Kathy Tachibana

2005 Turtlers digging up old nest

November 14 Kawa'aloa Bay, Moloka'i





## 2005 Kawaalua Bay turtle nesting survey

Turtle	Date	Holes Dug	Where	Hatches
①	5/1	1	In front of River	
②	5/2	2	" " " "	
	5/1	0	W end of Beach	
	5/1	0	" " " "	
<del>③</del>	5/5	0	50 yds W of Pavilion	
③	5/4	6	In front of gravel hill	
④	5/6	2	E of Naupaka	
	5/9	0	W end of Beach	
⑤	5/17	1	Foot of last path down	
	5/17	0	W of Naupaka	
⑥	5/18	2	Dick's path down	
	5/20	0	at Naupaka	
⑦	5/21	1	Foot of river	
⑧	5/21	2	1/2 way between river + Kaiehu	
	5/23	0	Below last trail down	
⑨	5/23	4	Just E of river, N of fence posts	
⑩	5/23	7	1/2 way between ocean + river, mid river	
⑪	5/23	1	W of #10	
⑫	5/23	1	W of river 3 fence posts, 1/2 way betw ocean <sup>↑ last post</sup>	
	5/24	0	30' E of Naupaka	
⑬	5/24	2	Midst of #9	
⑭	5/24	2	Midst of #10	
⑮	5/24	1	W end, 13 <sup>below turtle industry</sup> paces N of ATV sign	
⑯	5/25	1	100' W of Naupaka, 3/4 way up from ocean	
	5/29	0	150' E of Kaiehu Pt.	

### Participant hours

Riden

Feeter

Macmillan

Peterson

## 2005 Turtle Nesting Survey

Turtle	Date	Holes Dug	Where	Hatches
(17)	5/31	5	2 on flat before Dick's path down 1 more about 2 more before #6	
(18)	5/31	0	100' E of Kaiehu Pt	
	6/1	(2)	1 MAUKA LOG BELOW GRASS	FENCE POST
	6/1	0	1 MAUKA LOG EAST OF RIVER	GRAVEL HILL
	6/1	0	WEST FENCE POSTS TO RIVER + OUT	

Turtle	Date	Holes Dug	Where	Hatches
(17)	5/31	5	2 on flat before Dick's path 1 more above, 2 before (6)	
(18)	5/31	0	100' E of Kaiehu Pt	
	6/1	2	5' S of log below grass at gravel hill, also 5' N of log	
	6/1	0	Below W river stakes, almost to river & out	
(19)	6/7	0	50' E of Kaiehu, barely above H <sub>2</sub> O	
	6/8	1	50' W of Naupaka	
	6/14	0	50' E of cement block	
(20)	6/26	2	54' E of ATV sign <sup>at pavilion</sup> 1 nest to bank, 1 15' N	
(21)	6/29	2	100' W of beach end of high trail	#17, #25 35 tracks
(22)	7/9	2	about 5' makai of #21	
	7/11		Scot, found turtle egg shell on beach	by white rock
	7/9	0	75' E of 22	
	7/9	0	NE gravel hill	
(23)	7/23	2	100' E of " " against dune 2	
(24)	7/23	3	50' E of 23	
	7/25			
	7/26			
	8/2			
	8/3	0	in front of turtle industry	
(25)	8/5	4	flat at end of last track down	
(26.5)	8/5	2	W of ATV sign, 1 on path, one below	
(26)	8/6	4	flat at end of last track down	
	8/6	0	70' W of cement block	
(27)	8/7	1	W of W end of Dick's path, 15' down, 10' S of curved log	
	8/7	0	200' W of ATV sign	
(28)	8/7	1	24 paces N of Spomea, 20 paces E of cement block	
(29)	8/7	2	15 + 21 paces W of cement block, below gravel hill	
	8/7	0	100' E of Kaiehu Pt	
(30)	8/12			
	8/12			
	8/20	4	between Eastern Spomea & grass against dune	
	8/21	0	bet. gravel hill & river	

Key 16  
 ✓ 1# abt 40 hatchlings 100' W of Naupaka  
 ✓ 1# 1 more  
 ✓ 2# 50' W of Naupaka single from 19  
 ✓ 3# single from 10 20' W very, very late

p. 3 2005 Turtle Nesting Survey

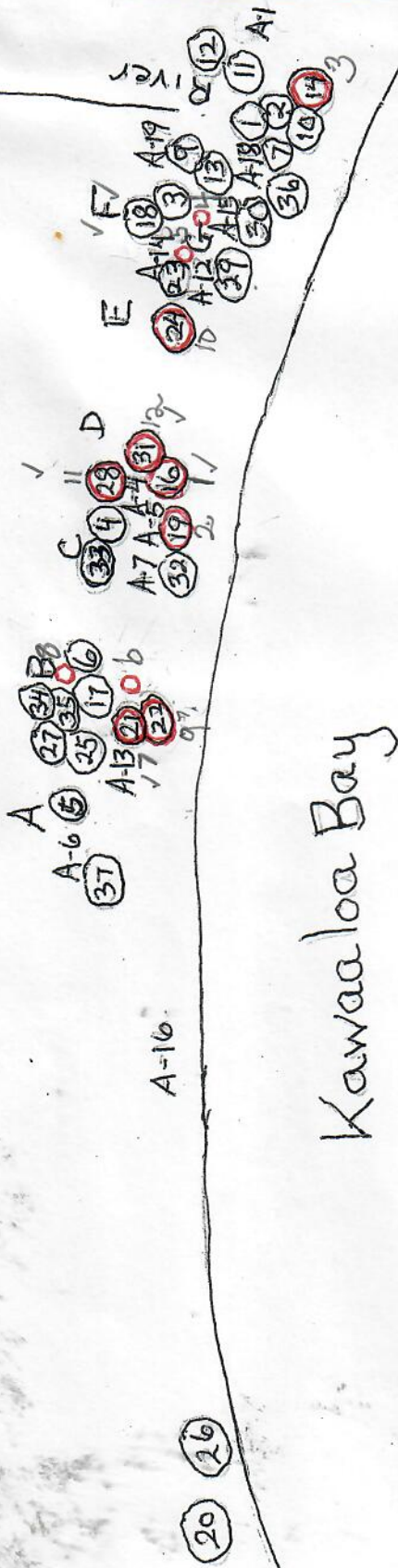
Turtle	Date	Holds Dug	Where	Hatches
(31)	8/23	2	Just W of Naupaka ... 42 paces below grass	
	8/24			
	8/25			
	8/26			
				#6 no turtle reports at proper time 30' makai of Way park just E + N of gravel built 5-2 tracks
				#7 (2) hatched 35 track below Dick's trail (58' 3 more turtles from Hatch #6 2 more turtles from Hatch #7..
				#8 of unknown origin 8 W of #6 hatch 12 baby tracks
Kathy Tues 8/30			- no activity	
Bill Wed 8/31			- one false start. not white cliffs	
Lil Th 9-1			- NEG.	
Mike Fri 9-2			- no activity	
Lil Sat 9-3			- NEG	
Bill Sun 9-4			- NEG	
(32) Sat Mon 9-5			4-12' behind (So.) of moving glom - 4 nests (23 paces E of cement block)	
(33) Kathy Tues 9-6			LAST TRAIL casualty - <del>DICKS PATH</del> DOWN 4 NESTS	
(34) Wed 9-7 Bill			SAME PLACE AS TUES BUT 7 NESTS & FRESH TRACK DOWN TO WATER OVER UPTRACK LARGE & DEEP 18' E DEAD NAUPAKA, 68' W OF BOTTOM OF DICKS PATH 80' SO OF TIDE LINE LAST TRAIL	
(35) Th 9-8 Lil			E RIVER 1 NEST	
(36) Th 9-8			14 PACES E OF LAST TRAIL 1 NEST	
Mike Fri 9-9			NEG.	
Lil Sat 9/10			No activity	
Bill Sun 9/11			No activity	
Scott Mon 9/12			No activity	
Sept 24 Sat			Sept 25 - O at home will take Thurs 13th	



Pavilion

S

Māomomi



Kawaa'loa Bay

W

N

○ Represents hatch

- A- last path down
- B- Dick's path down
- C- Ipomea
- D- Grass
- E- Grass + Ipomea
- F- Gravel Hill
- G- Cement block

8

4-20

15

A-1 4-17  
A-2 A-8  
A-3 4-9  
A-11

Kaiehu  
Pt.

A12	June 14	50' E of Cement Block	false crawl			
#20	June 25	In front of pavilion	2 pits			
#21	June 28	100' W of last trail down	2 pits		Hatch 5	Aug 12 64 45D
#22	July 8	5' makai of #21	2 pits	no provisions	Hatch 6	Aug 24 52 ?
A13	"	75' E of #21	false crawl	no provisions	Hatch 7	Aug 26 35 49D
A14	"	NE of Gravel Hill	" "	no provisions	Hatch 8	Aug 26 8
#23	July 23	100' E of Gravel Hill	2 pits		Hatch 9	Sept 17 1
#24	"	50' E of #23	3 pits			Sept 18 6
#25	August 5	flat at end of last trail	4 pits		Hatch 10	Sept 21 25 60D
#26	"	in front of pavilion	2 pits			
#27	August 6	flat at end of last trail	4 pits			
A15	"	70' W of cement block	false crawl			
A16	Aug 17	200' W of pavilion	" "			
#28	"	above Naupaka	1 pit		Hatch 11	Oct 5 58 59D
#29	"	20 paces E of cement block	1 pit			
#30	"	below Gravel Hill	2 pits			
A17	"	100' E of Kaehua Pt	false crawl			
#31	Aug 20	bet. Spomea & grass	4 pits		Hatch 12	Oct 15 40 56D
A18	Aug 21	bet Gravel Hill & river	false crawl			
A19	"	" " " "	false crawl			
#32	Aug 23	W. of Naupaka	2 pits			
A20	Aug 30	N. of "white cliff	false crawl			
#33	Sept 4	above Spomea	4 pits			
#34	Sept 5	flat after last trail	4 pits			
#35	Sept 6	"	5 pits			
#36	Sept 7	E of river	1 pit			
#37	"	just E of last trail down	1 pit			

Nov. 14 bet. Spomea & grass - dug #31 of Hatch 12 Oct 15 79 hatched  
eggs, 2 spoiled

A1, A2 etc. indicates turtles only making false crawls

100' and less diameter

Location

Hatch

Kawaaloo Bay  
Molokai

Date No. of trees

Days of incubation

ID	Date	Location	Notes	Hatch	No. of trees	Days of incubation
#1	May 1	front of river	1 pit			
A1	"	far west	false crawl			
A2	"	"	"			
#2	May 2	front of river	2 holes/pits			
#3	May 4	Not gravel hill	6 pits			
#4	May 6	E of Naupaka	3 pits			
A3	May 9	far west	false crawl			
#5	May 17	last path down	1 pit			
A4	"	W. of Naupaka	false crawl			
#6	May 18	below Dick's path	2 pits			
#7	May 21	front of river	1 pit			
A5	"	Naupaka	false crawl			
#8	"	1/2 way bet. river & Kaiehu Pt	2 pits			
A6	May 23	last path down	false crawl			
#9	"	E of river	4 pits			
#10	"	front of river	7 pits			
#11	"	W of river	1 pit			
#12	"	W of river. S of 11	1 pit			
#13	May 24	midst of #9	2 pits			
A7	"	30' E of Naupaka	false crawl			
#14	"	midst of 10	2 pits	Hatch 3	Aug 3	1 '71 D
#15	"	W end of beach N of ATV sign	1 pit			
#16	May 25	100' W of Naupaka below 2 pomea	1 pit	Hatch 1	July 25 July 26	40 61 D 1
A8	May 29	100' E of Kaiehu Pt.	false crawl			
#17	May 31	W end of Dick's path	5 pits			
A9	"	100' E of Kaiehu Pt	false crawl			
#18	June 1	Below gravel hill	2 pits			
A10	"	W of river	false crawl			
A11	June 7	80' E of Kaiehu Pt	false crawl			
#19	June 8	50' W of Naupaka	1 pit	? Hatch 2	Aug 2	1 55 D