

2014 Green Sea Turtle Nesting Activity at Kawa'aloa Beach Molokai

- 'A' – False Crawl or basking– no excavations
- Letters A – S are landmarks from monitoring map
- Location noted is for last excavation dug
- **Hatched**
- **Washed out**
- flooded by high surf

- 4/17 - A1 - short basking track at S
4/20 #1 - 2 exc, 85 ft NE of N
4/20 #2 - 2 exc, 100 ft NE of N
4/25 - A2 - turtle was observed tracked onshore a few feet and returned to water – N
4/26 - A3 - basking turtle – large male at S
4/30 - A4 - basking track at S
5/3 - A5 - basking track at S
5/5 - A6 - basking track at R
5/6 #3 - 35 ft West of H
5/7 #4 - base of dune, 55ft South of S
5/7 - A7 - basking track between Q & R
5/7 - A8 - basking track at R
5/7 - A9 - basking track between R & S
5/7 - A10 - basking track at S
5/9 - A11 - basking track at S
5/11 - A12 - tracked 50ft onshore between N & M
5/12 - A13 - tracked 60ft onshore between N & M
5/14 - A14 - basking track between Q & R
5/15 #5 - 2 exc, 25 ft North of S – river washed out – heavy rains 5/24
5/18 #6 - 1 exc, base of sand berm near water West of B – waves washed out
5/21 A15 - tracked 50ft onshore at S
5/22 #7 - 2 exc, in edge of dune - 50 ft West of E
5/22 #8 - 1 exc, 30 ft North of S – river washed out – heavy rains 5/24
5/23 - A16 - basking track at Q
5/26 - A17 - tracked 30ft onshore between P & O
5/27 #10 - 1 exc, 65 ft NW of D – waves washed out
5/27 #11 - 1 exc, 10 ft West of M – shallow, hard ground
5/28 #9 - 2 exc, 30ft East of B in edge of berm
5/29 #12 - 1 exc, base of sand dune, 32ft East of L
6/1 #13 - 2 exc, 90 ft North of P
6/1 #14 - 2 exc, 75 ft East of S
6/4 #15 - 3 exc, 16ft NE of S
6/4 - A18 - basking track at S
6/5 #16 - 2 exc, in edge of dune 30ft West of C
6/8 #17 - 1 exc, 64 ft North of J
6/9 #18 - 3 exc, in edge of dune 150 ft East of E
6/10 #19 - 2 exc, in edge dune 5 ft South of P

6/12 #20 - 4 exc, base of dune 25 ft West of L
 6/13 #21 - 2 exc, 70 ft North of P
 6/14 #22 - 4 exc, 46 ft North of J
 6/16 #23 - 1 exc 125 ft NW of M, 1 very shallow dig on way back to water
 6/17 #24 - 3 exc, 80 ft North of R
 6/19 #25 - 3 exc, 110 ft North of R
 6/20 #26 - 3 exc, 100 ft NE of M
 6/22 #27 - 5 exc, 100 ft NE of M
 6/23 #28 - 2 exc, 36 ft NE of H
 6/23 #29 - 2 exc, 92 ft NE of O
 6/23 #30 - 3 exc, against SE corner of Kaiehu Rock – S

6/28 – Hatch #1 – Nesting Trip #2

- 1 hatchling found alive on beach, without eyes.
- 6/30 - 2 tracks from exit
- 7/5 - dug nest – 105 empty shells, 2 dead, 2 live

6/28 - A19 - basking track at S
 6/29 #31 - 1 exc, 50 NE of M
 7/1 - A20 - basking track at S
 7/2 #32 - 2 exc, 18 ft NE of S (7/3 water in base of exc)
 7/4 #33 - 1 exc, 75 ft West of B
 7/4 #34 - 4 exc, 60 ft North of M
 7/4 #35 - 1 exc, 10 ft North of S
 7/5 #36 - 1 very long exc, over top #18, 150 ft East of E
 7/6 - A21 - long track between P & O
 7/7 #37 - 6 exc, 30 ft S of K
 7/8 #38 - 6 exc, between P & O - very shallow last excavation

7/8 – Hatch #2 – Nesting Trip #3 - no tracks visible, only large exit area depression

- 7/9 - 2 hatchling tracks out
- 7/12 - 2 tracks out
- 7/14 - 1 track out
- 7/16 - dug nest – 100 empty shells, 7 undeveloped, 10 dead, 3 live

7/9 #39 - 80 ft North of R - very shallow last excavation
 7/11 #40 - 1 exc, 30 ft West of K
 7/12 #41 - 5 exc, between R & S – still digging on way out
 7/13 #42 - 1 exc, 30 ft NNE of E
 7/13 A22 - up to top of dune at D
 7/13 A23 - tracked above high tide line and returned
 7/14 #43 - 5 exc, top of dune – 60 ft SE of H
 7/15 #44 - 5 exc, base of dune – 40 ft E of L
 7/17 #45 - 4 exc, base of dune -12ft West of C
 7/18 A24 - basking track at S
 7/22 #46 - 2 exc, 30 ft SE of K

7/22 #47 - 4 exc, 35 ft North of S – shallow & very close to water

7/27 – Hatch #3 – Nesting Trip #12 – dig after #44 hatches – nests overlapping

9/14 - dug nest – 60 empty shells, 4 undeveloped eggs

7/28 - Hatch #4 – Nesting Trip #11

8/6 - dug nest - 53 empty shells, 19 undeveloped eggs (kept 18 – 1 broken)

7/29 - #48 - 3 exc, between I & J 25 ft from base of dune

7/31 - #49 - 1 exc, 50 ft west of C in base of sand bank at water's edge

8/3 – Hatch #5 – Nesting Trip #13

8/17 - dug nest - 35 empty, 65 undeveloped eggs (kept 8 – least rotten)

8/10 - #50 - 3 exc, 30 ft SE of D

8/10 - #51 - 1 exc, between H & I – 45 ft North from base of dune

8/10 – Hatch #6 – Nesting Trip #17

8/17 - dug nest - 105 empty shells, 2 undeveloped eggs, 5 dead hatchlings

8/10 – Hatch #7 – Nesting Trip #19

8/17 - dug nest - 65 empty shells, 21 undeveloped eggs (kept 6)

8/14 - #52 - 3 exc, 80 ft North of N – washed over by high surf 10/9

8/15 – Hatch #8 – Nesting Trip #22

8/19 - 1 track out

8/27 - dug nest – 74 empty shells, 6 undeveloped eggs, 1 dead hatchling

8/22 - #53 - 2 exc, 60 ESE of K - washed over by high surf – 10/9

8/23 - #54 - 1 exc, 45 ft North of G

8/24 - #55 - 1 exc, 63 ft South of K

8/25 – Hatch #9 – Nesting Trip # 28

8/28 - 1 track out

9/3 - dug nest – 68 empty shells, 21 undeveloped (1 tiny), 1 dead, 1 live – sand very moist

8/26 - Hatch #10 – Nesting Trip #29

8/27 - two tracks out

9/3 - dug nest – 94 empty shells, 1 undeveloped, 1 undeveloped egg, 59 dead (very decomposed – kept only the most intact), 1 live – sand very moist

8/29 – Hatch #11 – Nesting Trip #31

8/31 - 1 track out

9/3 - 83 empty shells, 5 undeveloped eggs – sand very moist

9/2 – Hatch #12 – Nesting Trip #36

9/10 - dug nest – 60 empty shells, 20 undeveloped eggs (saved 19 – 1 broken)

9/2 – Hatch #13 – Nesting Trip #37 – 2 tracks out

9/3 - large number of tracks out

9/4 - several tracks out

9/10 - dug nest – 98 empty shells, 15 dead, 1 live – sand very moist

9/9 Hatch #14 – Nesting Trip #44

9/14 - dug nest – 67 empty shells, 3 undeveloped eggs, 1 dead

9/17 Hatch #15 – Nesting Trip #46

9/24 - dug nest – 99 empty shells, 2 undeveloped eggs, 4 dead & 1 live

9/27 Hatch #16 – Nesting Trip #48

10/4 - dug nest – 56 empty shells, 21 undeveloped eggs

10/7 Hatch #17 – Nesting Trip #51

10/12 dug nest – 61 empty shells, 18 undeveloped eggs

10/14 – Hatch #18 – Nesting Trip #52

10/14 – 1 faint track

10/15 – 6 - 8 tracks out

10/9 Nest had been flooded by high surf

10/18 & 19 heavy rains

Decided against digging – sand very wet - assumed high mortality and advanced decomposition

10/20 Hatch #19 – Nesting Trip #55

10/27 dug nest – 81 empty shells, 4 undeveloped eggs

10/22 Hatch #20 – Nesting Trip #54

10/27 – dug nest – 52 empty shells, 33 undeveloped eggs

2014 Green Sea Turtle Nesting Survey Kawa'aloa Bay, Moloka'i

This survey was done by a group of volunteers on behalf of Nature Conservancy of Hawaii Molokai, under direction of George Balazs of the National Marine Fisheries Service in Honolulu. The 2014 Green Sea Turtle Nesting Survey was carried out from April 15 until October 30. Volunteers checked the beach in the morning up to 7 days a week, depending on expected activity, weather, and road conditions.

April 15 all location markers were refreshed. The procedures for identifying and recording the last excavation of each nesting trip on shore was done by using landmarks and measurements to a stake marking the center of the body pit.

There were 79 trips on shore, 24 false crawls and 55 that produced excavations. Heavy rains and high surf during the nesting season washed out 12 excavations and flooded 10.

Of the remaining 43 nesting trips, 20 hatches were observed. After at least 3 days after the last hatchling had been observed to emerge 19 of these nests were dug up.

The contents of these nests were as follows:

	Nest	Successful Hatches	Undeveloped	Dead	Live	Total Eggs Laid
Hatch 1	2	103	0	2	2	105
Hatch 2	3	90	7	10	3	107
Hatch 3	12	60	4	0	0	64
Hatch 4	11	53	19	0	0	72
Hatch 5	13	34	65	1	0	100
Hatch 6	17	100	2	5	0	107
Hatch 7	19	65	21	0	0	86
Hatch 8	22	73	6	1	0	80
Hatch 9	28	67	21	1	1	89
Hatch 10	29	35	1	59	1	95
Hatch 11	31	83	5	0	0	88
Hatch 12	36	60	20	0	0	80
Hatch 13	37	83	0	15	1	98
Hatch 14	44	66	3	1	0	70
Hatch 15	46	95	2	4	1	101
Hatch 16	48	56	21	0	0	77
Hatch 17	51	61	18	0	0	79
Hatch 18	52					
Hatch 19	55	81	4	0	0	85
Hatch 20	54	52	33	0	0	85
		1317	252	99	9	1668

The 9 live hatchlings found in Nests 2, 3, 28, 29, 37, and 46 were released to the ocean.

The undeveloped eggs and the dead hatchlings recovered from the nests were frozen and sent to George Balazs November 17.

9 of the 24 false crawls crawled high up onto the beach and 15 stayed below the high tide line. The 15 that were below the high tide line were found at the western end of the beach.

Nesting activity was not concentrated in any one area of the beach.

March 19 an olive ridley sea turtle was found tangled in fish nets with severely injured front flippers. It was released from the net and returned to ocean.

March 24 it was found dead on the beach. Nature Conservancy Staff retrieved and shipped the remains to NOAA in HNL

No monk seal activity was observed.

Green sea turtle nesting activity was also found on the Beaches to the West of Kawa'aloa in two locations.

East of Kalani Point at the base of the trail down from the archeological site

West of Kalani Point approximately half way along the beach to the cliffs at the West end of the Preserve.

These areas were not monitored on a regular schedule.

Of the 25 trips reported, 18 excavations were located & recorded. Of these, 10 hatches were observed. There were 2 hatches found from unrecorded nests for a total of 12 hatches. These nests were dug and the contents were as follows:

	Nest	Successful Hatches	Undeveloped	Dead	Live	Total Eggs Laid
Hatch 1	W701	59	4	0	0	63
Hatch 2	W701-2	89	2	0	0	91
Hatch 3	E701	78	4	0	0	82
Hatch 4	E unrecorded	59	0	0	0	59
Hatch 5	W unrecorded	78	35	3	0	116
Hatch 6	W 716	64	3	0	0	67
Hatch 7	W 726	82	6	0	0	88
Hatch 8	E 728 – 1	61	1	2	0	64
Hatch 9	E 728 – 2	54	8	3	0	65
Hatch 10	E 812	71	6	0	0	77
Hatch 11	E 814	82	2	0	0	84
Hatch 12	E 828	60	0	0	1	64
		837	75	8	3	920

The 75 undeveloped eggs and the 8 dead hatchlings, were frozen and sent to George Balazs November 17.

May 1 – remains of a turtle and eggs were found on the sand East of Kalani Point.
Nature Conservancy staff reported it to DOCARE

Nesting activity was reported at Papohaku Beach in the same area as in 2008 and 2011
One hatch was observed July 30 and the nest was dug August 4
The contents of the nest were 84 empty shells and 4 undeveloped eggs.
The 4 undeveloped eggs were frozen and shipped to George Balazs November 17

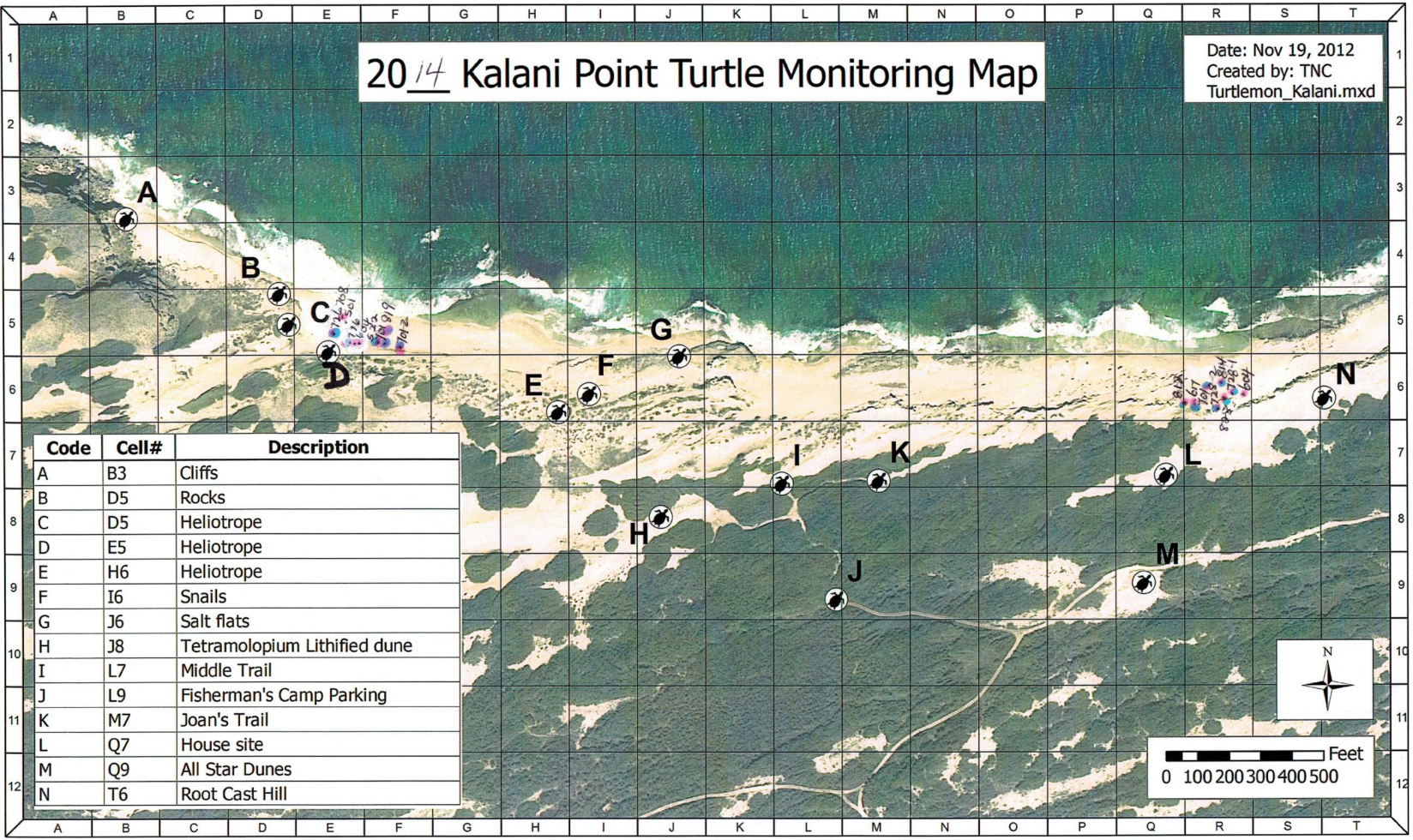
Submitted by:
Lil Macmillan

excavation ●

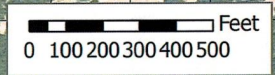
hatch ●

20¹⁴ Kalani Point Turtle Monitoring Map

Date: Nov 19, 2012
Created by: TNC
Turtlemon_Kalani.mxd

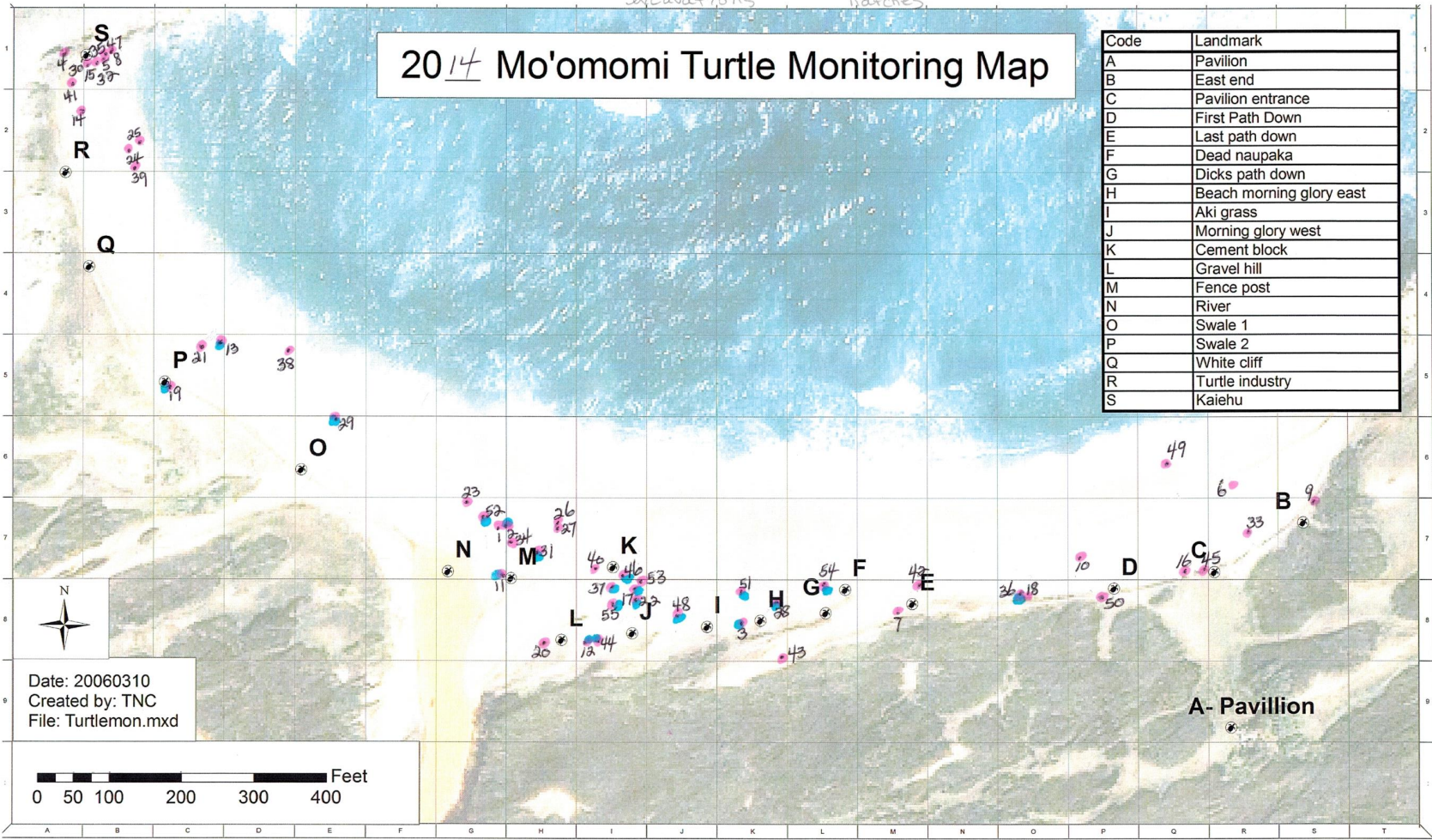


Code	Cell#	Description
A	B3	Cliffs
B	D5	Rocks
C	D5	Heliotrope
D	E5	Heliotrope
E	H6	Heliotrope
F	I6	Snails
G	J6	Salt flats
H	J8	Tetramolopium Lithified dune
I	L7	Middle Trail
J	L9	Fisherman's Camp Parking
K	M7	Joan's Trail
L	Q7	House site
M	Q9	All Star Dunes
N	T6	Root Cast Hill



2014 Mo'omomi Turtle Monitoring Map

Code	Landmark
A	Pavillion
B	East end
C	Pavillion entrance
D	First Path Down
E	Last path down
F	Dead naupaka
G	Dicks path down
H	Beach morning glory east
I	Aki grass
J	Morning glory west
K	Cement block
L	Gravel hill
M	Fence post
N	River
O	Swale 1
P	Swale 2
Q	White cliff
R	Turtle industry
S	Kaiehu



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