4802 hawksb.11 9-22-97 MAUI

4801 hawksb.11 9AUG98 0030 HST
(Book 1) BALAZS

98raph.jpg at www.turtles.org

MAUI Book III - BALAZS (808) 395-6409
25 Aug 97 - Aloha Oe/Kat
10-13 Aug 98 Itinerary Scuba

25 AUGUST 97 MAUI ALGAE Collections
P.5 Kahului & Honokowai
Cshipped fedex TO JAN LANDSberg

ST3 22 September 97 Kealia, Maui
4802 ad hawksbill 3/3
Syst. 205358B
Reburbished P.12-

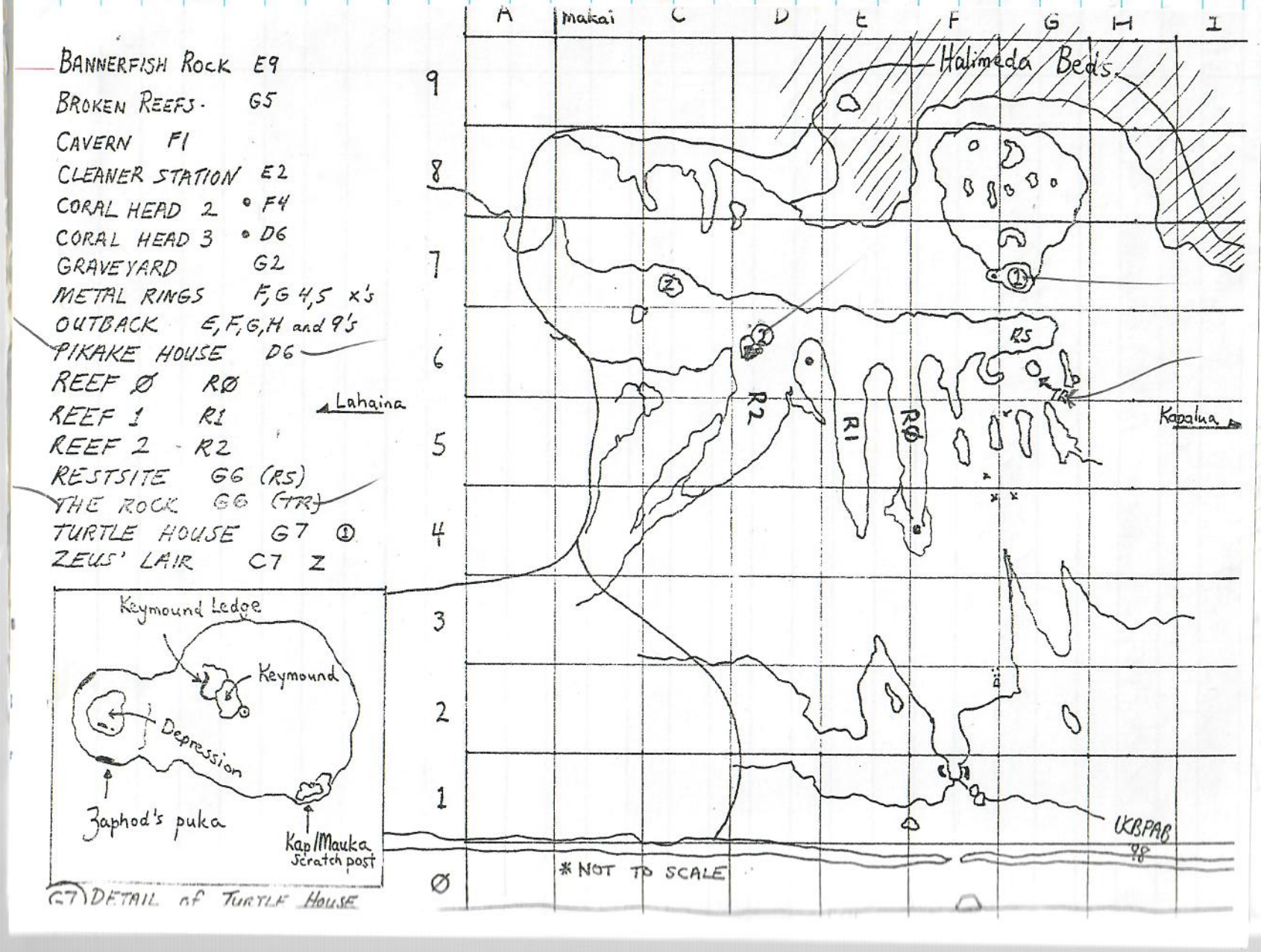
Duty cycle =

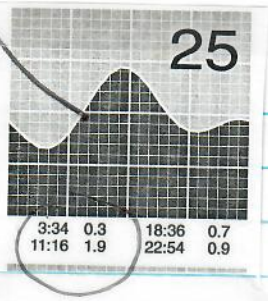
P.61 8/9/98 0030 HST 4801 INTO water
P.64 3/3 Sys. 403927A
NESTING HAWKSBILL

Need 1998 Maui nesting memos - Adhere & glue
Need - Summary Sheet for 4802

10-13 AUGUST 98
HONOKOWAI, MAUI KAPALUA
Peter & URSULA Bennett
Page 63
2 TURTLES Both with TURKS PIT TAGGED
Biopsies taken from one - Both frozen & HISTO formalin

HONOKOWAI Loggers page 59, 60, P. 100-101


BANNERFISH ROCK E9
BROKEN REEFS G5
CAVERN F1
CLEANER STATION E2
CORAL HEAD 2 F4
CORAL HEAD 3 D6
GRAVEYARD G2
METAL RINGS F,G 4,5 x's
OUTBACK E,F,G,H and 9's
PIKAKE HOUSE D6
REEF Ø RØ
REEF 1 R1
REEF 2 R2
RESTSITE G6 (RS)
THE ROCK G6 (TR)
TURTLE HOUSE G7 ①
ZEUS' LAIR C7 Z
A Makai C D E F G H I
9 8 7 6 5 4 3 2 1 Ø
Halimeda Bed's
Lahaina
Kapalua
R2
R1
RØ
RS
TR
UKBPAB '98
* NOT TO SCALE
Keymound Ledge
Keymound
Depression
Zaphod's puka
Kap/Mauka Scratch post
G7 DETAIL of TURTLE HOUSE



8/25/97 Depart alone FL 110 Aloha 620 am → 7AM for Kahului
Monday to collect algae for John Lansbery
fisheries study federal to Florida.
Return 235 pm FL 217 (depart 3 pm)
National car rental $29 – TO Kahului
Photo Power plant → TO wastewater management plant -
Collected bags 1 & 2 on rock jetty.
Drove to Inner harbor of Kahului –
vicinity of Boat ramp – Bags 3 & 4.
Photo Bored / and drove to Federal by about
8:30 AM. Breakfast at McDonalds then
drove to Honokowai, W. Maui –
arrive @ 10:15 AM met Peter &
Ursula Kemper-Bennett. They had collected
Bags A – L. Bag K & L were from
close to shore. Algae obvious on
limestone bench off on beach. But,
Photo a short distance away at Honokowai
Urs #3 with Box Beach Park there appeared to be more.
Depart 11:15 AM
Drove back to Kahului arrive federal
office about 12:05 pm

Date: Mon, 29 Sep 1997 15:15:02 -0600
From: Michelle Guinn <michelle@telonics.com>
To: "'George H. Balazs'" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: ST-3 PTT

Dear George,

I located the refurbishment order for the ST-3 (S/N 205358B). The data stream

ID Code
8-bit Temperature
16-bit Last Dive Time
16-bit Average Dive Time Over "AVGINT" Hours
16-bit Dive Count for Last "AVGINT" Hours
2-bit Failsafe Flag
6-bit Dive Count Since Last Transmission

Sincerely,

Michelle Guinn
Telemetry Systems Coordinator

Telonics, Inc.
932 East Impala Avenue
Mesa, AZ 85204 USA

Phone: (602) 892-4444
Fax: (602) 892-9139
Email: michelle@telonics.com

Tape into MAW B

United States Department of the Interior

FISH AND WILDLIFE SERVICE
KEALIA POND NATIONAL WILDLIFE REFUGE
P.O. Box 1042
Kihei, Maui, Hawaii 96753
Tel. (808) 875-1582
Fax (808) 875-2945

September 22, 1997

MEMORANDUM

To: Files

From: Refuge Manager, Kealia Pond National Wildlife Refuge

Subject: Possible Hawksbill Sea Turtle Nesting Attempt at Kealia

9/19/97 Nesting Crawl

USFWS Dawn Patrol volunteer Jean Johnson called the morning of September 19 to report a crawl and some excavation of the dunes along the path taken by the turtle. Based on my field notes from a follow up site visit, the site should be watched as a possible nest.

The crawl was located West of the 2 mile marker and immediately perpendicular to the 35 MPH sign on N. Kihei Road. It is also just West of a gate opening and makai of a cluster of five kiawe trees. The average distance between extremes of the flipper marks (crawl width) was 32"-33" with a mean carapace drag width of 10".

The turtle emerged from the water at a point in line with the 35 MPH sign and proceeded to explore the low dune fronting this location. There was a lot of garbage and human feces and toilet paper at this site. She dug around the base of a kiawe bush but did not disturb more than a 12" diameter area of grass and this was not well cleared. She proceeded down the dune and W. along its face to an indentation in the dune where the drift fence has been patched by doubling the wood mesh over a hole. At this point she climbed the foot high dune and dug next to the fence, disturbing a 2' x 3' area. Look for this site between the 1st and 2nd metal posts E. of the doubled over fence patch that is also marked by a triangular rock at the base. From here she proceeded back to the water on a path only 10'-12' from her emergence route.

9/22/97 Crawl

Steve Williams reported this morning (9/22) what appeared to him to be only an exploratory crawl approximately 1/8 mile Kihei side (East) of the 2 mile marker. This is an area that has seen a lot of activity both this year and last year. Volunteers call this area the "B2" site near the leaning tree. Brooks Tamaye will have a look at the site today as well.

cc: George Balazs - NOAA, Oahu
Aquatic Resources, Maui
Craig Rowland - USFWS, Oahu and Dawn Patrol Coordiantor S. Williams, Maui
Hawaii Wildlife Fund

9

September 24, 1997

Memorandum For: George Balazs

From: Bill Gilmartin, Suzanne Canja, Hannah Bernard

Subject: Maalaea hawksbill nesting and transmitter attachment

At 2240 on the evening of September 22, 1997 on the beach along the highway across from Kealia Pond NWR, we observed tracks of a turtle leading from the waterline to the beach crest. She had come onto the beach sometime between 22:15 (the last check of this site) and 22:40. At 22:45, using a night scope, we were able to determine that she was digging a pit at the base of the beach berm cliff.

The site is approximately 0.15 mi east of the 2.0 mile marker on the highway (we have marked the wood slats in the drift fence at 0.1 mi intervals by painting a single wood slat black with the mileage written on it in white paint). This is the area of a crawl on the previous night and of a nesting on 9/5/97 (all, we believe by the same turtle). The exact location of the nest pit is 6' directly makai of the 24th fence post west of the second gate from the east end of this beach.

After she completed laying eggs and covering the nest, she began to move toward the ocean. We placed a plywood "corral", lined with carpet, around her at this point. We flipper tagged her (H-326, LFF and H-327, RFF), measured her (87.5cm CCL and 86.0cm CCW), and attached both a satellite transmitter (#205358B, 4803) and VHF radio transmitter (#411190) to her carapace.

She remained relatively calm throughout the procedure and did not hesitate to head to sea on release. We waited on the beach to confirm radio frequency reception from her and then returned to our condo on the shoreline in Kihei. We waited up through a few submergence/surface intervals and have continued to monitor her since during the day. She's settled into a regular 1.5hr down time with about 2min surface times.

This is probably the same turtle identified in the memo of August 19 by Brooks Tamaye as having "a possible abnormality with a left rear flipper." We have also seen this anomaly in her tracks. While we had her restrained, we attempted to inspect her flippers, however we could not fully examine them. In what we could see, we did not identify any obvious problems. We did notice a lack of bilateral uniformity in her crawl down the beach after release, as though she had a "limp" to her crawl.

cc: Kathy Smith
Skippy Hau
Brooks Tamaye
Steve Williams

(301) 713-0376 9/23/97

FAX FOR: George Balazs
c/o Barbara Schroeder

FROM: Bill Gilmartin

Aloha George: We applied instruments this a.m. to a 89 cm (CCL) ♀ — she just fit into the box! All went well, slow setting times gave us an overall time, capture to release, of ~4hr. VHF working fine, reception this a.m, both post release and after our naps! She was released at 0430, only HWF staff present, and except for slow setting time (3oz + 30 drops and 3oz + 4ooz), we had no problems — all went well.

I'll be here till Fri pm and then home on Sat + Sun a.m — Sun ~1200, I head to Midway Should be back on "normal" wake/sleep - schedual by Wed. Call if you have any questions.

George - THANKS for helping to get this project going, good to be working with you again, even though roles are switched! Hope all is going well there.

Bill
+HWF gang.

6 HST = GMT − 10 hours

EAST IS. GMT

FFS

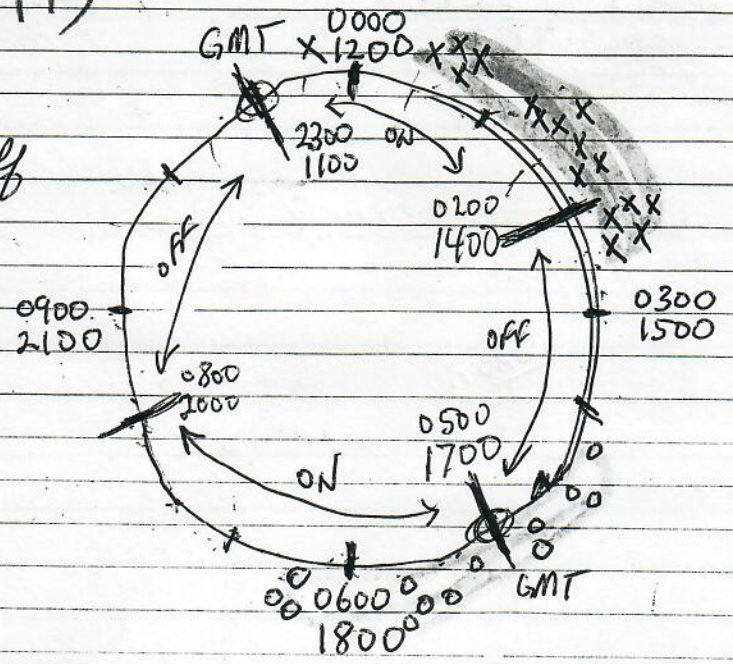
NOAA-14 = X

NOAA-12 = O

ST-14's

3 hours on

3 hours off



GMT "ON" 0500 / 1700 = HST "ON" 7AM or 7PM

1100 / 2300 = 1AM or 1PM

minimum distance from Kealia, Maui TO Weloka = 109nm or 203 km

Date: Thu, 6 Nov 1997 12:32:04 -1000 (HST)
From: Denise Ellis <dellis@honlab.nmfs.hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Place name for Hawksbill

The LC 1 was located right at Kuku Pt. which is just south of Lapahoehoe near a place called Weloka. I can put this on the map if you would like.

Date: 9/29/97
Sender: gbalazs@honlab.nmfs.hawaii.edu
To: George Balazs
Priority: Normal
Subject: ST-3 PTT (fwd)

****

---------- Forwarded message ----------
Date: Mon, 29 Sep 1997 15:15:02 -0600
From: Michelle Guinn <michelle@telonics.com>
To: "'George H. Balazs'" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: ST-3 PTT

Dear George,

I located the refurbishment order for the ST-3 (S/N 205358B). The data stream of that unit is below. It definitely looks as though there is a problem with the Technical File for this unit. All of the data you're receiving looks incorrect.

ID Code
8-bit Temperature
16-bit Last Dive Time
16-bit Average Dive Time Over "AVGINT" Hours
16-bit Dive Count for Last "AVGINT" Hours
2-bit Failsafe Flag
6-bit Dive Count Since Last Transmission

Sincerely,

Michelle Guinn
Telemetry Systems Coordinator

Telonics, Inc.
932 East Impala Avenue
Mesa, AZ 85204 USA
Email: michelle@telonics.com
Phone: (602) 892-4444
Fax: (602) 892-9139

ST-3 3/3
4802 System 205358B
(Refurbished)

12

```
04802 Date : 23.09.97 12:13:59 LC : 3 IQ : 68
Lat1 : 20.794N Lon1 : 156.481W
61952 00 00 00
00 00
```

Processing not set up properly with Argos

```
04802 Date : 23.09.97 13:54:25 LC : 3 IQ : 60
Lat1 : 20.794N Lon1 : 156.487W
62208 00 00 00
00 00

04802 Date : 25.09.97 11:49:42 LC : B IQ : 00
Lat1 : 20.774N Lon1 : 156.514W
61703 3592 36 00
0A 00

04802 Date : 26.09.97 05:09:51 LC : B IQ : 00
Lat1 : 20.761N Lon1 : 156.444W
61449 2566 CF 00
0C 00

04802 Date : 26.09.97 13:24:38 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
61706 55047 72 00
0B 00

04802 Date : 30.09.97 17:52:26 LC : A IQ : 60
Lat1 : 20.732N Lon1 : 156.515W Lat2 : 24.907N Lon2 : 177.581W
Nb mes : 003 Nb mes>-120dB : 000 Best level : -129 dB
Pass duration : 091s NOPC : 0
Calcul freq : 401 650064.1 Hz Altitude : 0 m
242 2498 2336 09
00 00
```

Correct now

```
04802 Date : 02.10.97 17:02:26 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
Nb mes : 002 Nb mes>-120dB : 000 Best level : -126 dB
Pass duration : 139s NOPC : 0
Calcul freq : 401 650000.0 Hz Altitude : 0 m
241 2082 2110 10
00 00

04802 Date : 11.10.97 01:27:38 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
Nb mes : 002 Nb mes>-120dB : 000 Best level : -132 dB
Pass duration : 045s NOPC : 0
Calcul freq : 401 650000.0 Hz Altitude : 0 m
245 1116 308 69
00 00
```

```
04802 Date : 11.10.97 12:16:47 LC : Z IQ : 00
 Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
 Nb mes : 002 Nb mes>-120dB : 000 Best level : -132 dB
 Pass duration : 354s NOPC : 0
 Calcul freq : 401 650000.0 Hz Altitude : 0 m
 246 199 156 101
 00 01

04802 Date : 11.10.97 13:59:11 LC : Z IQ : 00
 Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
 Nb mes : 001 Nb mes>-120dB : 000 Best level : -129 dB
 Pass duration : ? s NOPC : ?
 Calcul freq : 401 650000.0 Hz Altitude : 0 m
 245 325 156 101
 00 00

04802 Date : 12.10.97 01:18:16 LC : Z IQ : 00
 Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
 Nb mes : 002 Nb mes>-120dB : 000 Best level : -132 dB
 Pass duration : 046s NOPC : 0
 Calcul freq : 401 650000.0 Hz Altitude : 0 m
 244 2627 234 90
 00 00

04802 Date : 12.10.97 12:07:08 LC : Z IQ : 00
 Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
 Nb mes : 002 Nb mes>-120dB : 000 Best level : -130 dB
 Pass duration : 045s NOPC : 0
 Calcul freq : 401 650000.0 Hz Altitude : 0 m
 244 627 914 23
 00 00

04802 Date : 12.10.97 13:45:28 LC : 1 IQ : 50
 Lat1 : 20.781N Lon1 : 156.480W Lat2 : 25.240N Lon2 : 176.415W
 Nb mes : 012 Nb mes>-120dB : 000 Best level : -122 dB
 Pass duration : 506s NOPC : 1
 Calcul freq : 401 650098.8 Hz Altitude : 0 m
 239 172 914 23
 00 00

04802 Date : 13.10.97 13:31:34 LC : A IQ : 00
 Lat1 : 20.926N Lon1 : 156.839W Lat2 : 24.112N Lon2 : 171.002W
 Nb mes : 003 Nb mes>-120dB : 000 Best level : -125 dB
 Pass duration : 092s NOPC : 2
 Calcul freq : 401 650017.3 Hz Altitude : 0 m
 243 3066 2343 09
 00 00

04802 Date : 13.10.97 18:02:50 LC : A IQ : 00
 Lat1 : 20.754N Lon1 : 156.436W Lat2 : 27.432N Lon2 : 172.402E
 Nb mes : 003 Nb mes>-120dB : 000 Best level : -127 dB
 Pass duration : 281s NOPC : 3
 Calcul freq : 401 650084.8 Hz Altitude : 0 m
 245 109 2343 09
 00 00
```

```
04802 Date : 14.10.97 00:52:03 LC : B IQ : 00
 Lat1 : 20.595N Lon1 : 156.439W Lat2 : 19.013N Lon2 : 163.342W
 Nb mes : 002 Nb mes>-120dB : 000 Best level : -130 dB
 Pass duration : 054s NOPC : 2
 Calcul freq : 401 650084.8 Hz Altitude : 0 m
 244 560 126 172
 00 00

04802 Date : 14.10.97 13:19:17 LC : Z IQ : 00
 Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
 Nb mes : 001 Nb mes>-120dB : 000 Best level : -131 dB
 Pass duration : ? s NOPC : ?
 Calcul freq : 401 650000.0 Hz Altitude : 0 m
 242 420 194 108
 00 00

04802 Date : 14.10.97 17:42:47 LC : 1 IQ : 50
 Lat1 : 20.588N Lon1 : 156.331W Lat2 : 25.028N Lon2 : 177.267W
 Nb mes : 004 Nb mes>-120dB : 000 Best level : -129 dB
 Pass duration : 396s NOPC : 3
 Calcul freq : 401 650079.6 Hz Altitude : 0 m
 243 56 194 108
 00 01

04802 Date : 14.10.97 23:01:36 LC : Z IQ : 00
 Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
 Nb mes : 001 Nb mes>-120dB : 000 Best level : -136 dB
 Pass duration : ? s NOPC : ?
 Calcul freq : 401 650000.0 Hz Altitude : 0 m
 246 32 16509 166
 00 04

04802 Date : 15.10.97 00:39:20 LC : 0 IQ : 58
 Lat1 : 20.495N Lon1 : 156.302W Lat2 : 20.101N Lon2 : 158.076W
 Nb mes : 007 Nb mes>-120dB : 000 Best level : -130 dB
 Pass duration : 693s NOPC : 2
 Calcul freq : 401 650075.8 Hz Altitude : 0 m
 246 22 125 166
 00 01

04802 Date : 15.10.97 13:17:13 LC : B IQ : 00
 Lat1 : 20.396N Lon1 : 156.274W Lat2 : 21.404N Lon2 : 160.899W
 Nb mes : 002 Nb mes>-120dB : 000 Best level : -131 dB
 Pass duration : 132s NOPC : 2
 Calcul freq : 401 650079.6 Hz Altitude : 0 m
 242 756 16436 14732
 00 27

04802 Date : 15.10.97 17:21:19 LC : A IQ : 00
 Lat1 : 20.264N Lon1 : 156.134W Lat2 : 22.727N Lon2 : 166.895W
 Nb mes : 003 Nb mes>-120dB : 000 Best level : -124 dB
 Pass duration : 541s NOPC : 2
 Calcul freq : 401 650067.3 Hz Altitude : 0 m
 243 12 53 386
 00 01
```

16

04802 Date : 16.10.97 00:28:27 LC : 0 IQ : 58
Lat1 : 20.301N Lon1 : 156.182W Lat2 : 21.080N Lon2 : 152.741W
Nb mes : 006 Nb mes>-120dB : 000 Best level : -126 dB
Pass duration : 701s NOPC : 3
Calcul freq : 401 650074.7 Hz Altitude : 0 m
246 60 7230 1319
00 07

04802 Date : 16.10.97 17:02:43 LC : B IQ : 00
Lat1 : 20.176N Lon1 : 155.275W Lat2 : 20.611N Lon2 : 157.365W
Nb mes : 002 Nb mes>-120dB : 000 Best level : -133 dB
Pass duration : 052s NOPC : 2
Calcul freq : 401 650074.7 Hz Altitude : 0 m
243 05 73 283
00 01

04802 Date : 16.10.97 18:38:10 LC : B IQ : 00
Lat1 : 20.255N Lon1 : 156.008W Lat2 : 30.279N Lon2 : 155.136E
Nb mes : 002 Nb mes>-120dB : 000 Best level : -133 dB
Pass duration : 086s NOPC : 2
Calcul freq : 401 650074.7 Hz Altitude : 0 m
244 46 73 283
00 24

04802 Date : 17.10.97 00:20:42 LC : B IQ : 00
Lat1 : 20.298N Lon1 : 155.879W Lat2 : 22.240N Lon2 : 148.285W
Nb mes : 002 Nb mes>-120dB : 000 Best level : -130 dB
Pass duration : 152s NOPC : 2
Calcul freq : 401 650074.7 Hz Altitude : 0 m
245 102 63 325
00 00

04802 Date : 18.10.97 00:12:16 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
Nb mes : 001 Nb mes>-120dB : 000 Best level : -133 dB
Pass duration : ? s NOPC : ?
Calcul freq : 401 650000.0 Hz Altitude : 0 m
242 43 298 70
00 02

04802 Date : 18.10.97 12:38:02 LC : B IQ : 00
Lat1 : 20.130N Lon1 : 155.609W Lat2 : 17.851N Lon2 : 145.580W
Nb mes : 002 Nb mes>-120dB : 000 Best level : -124 dB
Pass duration : 175s NOPC : 1
Calcul freq : 401 650074.7 Hz Altitude : 0 m
242 235 106 195
00 01

04802 Date : 18.10.97 23:54:23 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
Nb mes : 001 Nb mes>-120dB : 000 Best level : -133 dB
Pass duration : ? s NOPC : ?
Calcul freq : 401 650000.0 Hz Altitude : 0 m
242 09 163 127
00 00

04802 Date : 19.10.97 17:27:46 LC : B IQ : 00
Lat1 : 20.121N Lon1 : 155.392W Lat2 : 24.630N Lon2 : 172.740W
Nb mes : 002 Nb mes>-120dB : 000 Best level : -131 dB
Pass duration : 045s NOPC : 1
Calcul freq : 401 650074.7 Hz Altitude : 0 m
241 1491 250 83
00 00

04802 Date : 20.10.97 23:37:40 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
Nb mes : 001 Nb mes>-120dB : 000 Best level : -134 dB
Pass duration : ? s NOPC : ?
Calcul freq : 401 650000.0 Hz Altitude : 0 m
243 318 1093 19
00 00

04802 Date : 30.09.97 17:52:26 LC : A IQ : 60
Lat1 : 20.732N Lon1 : 156.515W Lat2 : 24.907N Lon2 : 177.581W
Nb mes : 003 Nb mes>-120dB : 000 Best level : -129 dB
Pass duration : 091s NOPC : 0
Calcul freq : 401 650064.1 Hz Altitude : 0 m
242 2498 2336 09
00 00

04802 Date : 22.10.97 18:03:52 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
Nb mes : 001 Nb mes>-120dB : 000 Best level : -134 dB
Pass duration : ? s NOPC : ?
Calcul freq : 401 650000.0 Hz Altitude : 0 m
240 686 1313 16
00 00

04802 Date : 27.10.97 00:06:26 LC : B IQ : 00
Lat1 : 19.964N Lon1 : 155.262W
240 1164 742 28
00 00

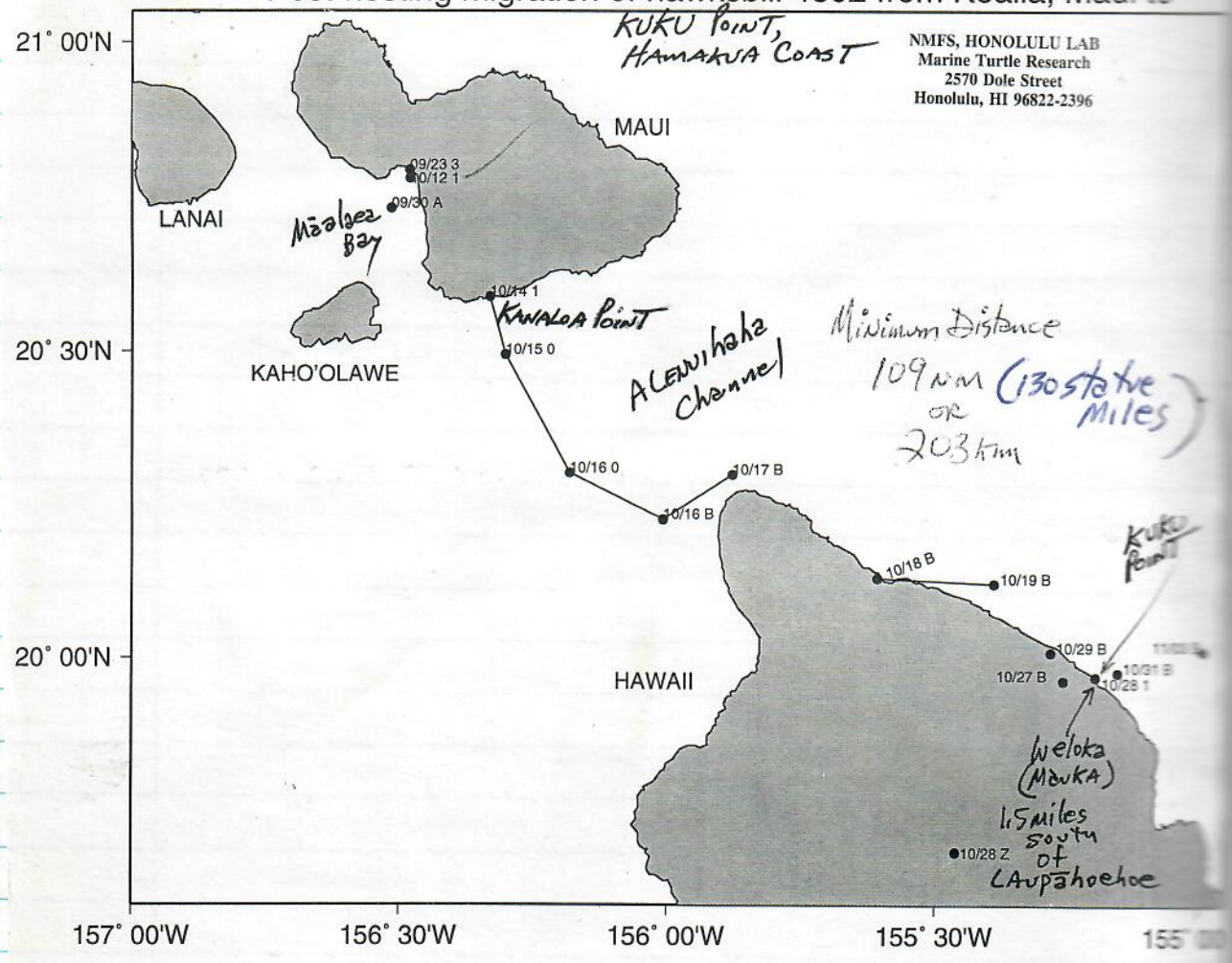
04802 Date : 29.10.97 12:21:10 LC : B IQ : 00
Lat1 : 20.010N Lon1 : 155.285W
238 1987 1748 12
00 00

04802 Date : 28.10.97 23:43:48 LC : 1 IQ : 60
Lat1 : 19.970N Lon1 : 155.202W
239 1392 903 23
00 32

18

1997

Post-nesting migration of hawksbill 4802 from Kealia, Maui to



Date: Mon, 29 Sep 97 09:36:11 -0700
From: katherine_smith@mail.fws.gov
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Re[2]: Kealia hawksbill satellite tracking

Reduce

Rodney

Thanks George--we appreciate the interesting information on her where abouts. Congratulations to you as well for getting the logistics down. That really was a needle in a haystack exercise given the small numbers of females and length of shoreline.

The Dawn Patrol will be anxiously watching. We all look forward to your talk on the 17th.

All the best,

Kathy

_____ Reply Separator _____
Subject: Re: Kealia hawksbill satellite tracking
Author: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu> at ~internet
Date: 9/27/97 9:24 AM

Dear All- I am sure you heard the good news that while I was in Washington this past week Bill Gilmartin and team were able to safely and successfullly place one of my satellite transmitters on a post-nesting Maui hawksbill. This is an extreme stroke of talent good luck. I wanted you to know that so far the turtle has not traveled away from Kealia, hence the possibility of her nesting again. Be assured that either Bill or I will be providing you with periodic updates, as new information becomes available through the Argos system. Aloha, George

04802 Date : 31.10.97 01:03:13 LC : B IQ : 00
Lat1 : 19.977N Lon1 : 155.160W
235 1360 898 23
00 00

04802 Date : 28.10.97 12:25:19 LC : Z IQ : 10
Lat1 : 15.139N Lon1 : 140.466W
238 2502 1097 19
00 00

04802 Date : 03.11.97 00:29:28 LC : B IQ : 00
Lat1 : 20.012N Lon1 : 154.995W
239 2163 1222 17
02 00

04802 Date : 06.11.97 17:33:45 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ???????? Lat2 : ??????? Lon2 : ????????
Nb mes : 001 Nb mes>-120dB : 000 Best level : -133 dB
Pass duration : ? s NOPC : ?
Calcul freq : 401 650000.0 Hz Altitude : 0 m
239 1156 1907 11
00 00

04802 Date : 06.11.97 23:46:48 LC : A IQ : 00
Lat1 : 19.997N Lon1 : 155.212W
239 652 772 4247
02 24

04802 Date : 07.11.97 12:17:22 LC : Z IQ : 10
Lat1 : 14.942N Lon1 : 135.886W
237 2156 1092 19
00 00

04802 Date : 07.11.97 17:13:02 LC : B IQ : 00
Lat1 : 19.888N Lon1 : 155.116W
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238 598 1025 20
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238 1776 791 26
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237 1830 1889 11
00 00

04802 Date : 19.11.97 00:57:36 LC : Z IQ : 00
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237 2294 1741 12
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236 1907 1741 4140
00 00

04802 Date : 21.11.97 00:37:11 LC : Z IQ : 00
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238 72 822 25
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00 00

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00 48

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00 00

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236 1892 1151 18
00 00

09092 04802 3 6 H
1997-12-02 06:03:05 1 236 1892 1151 18
00 00

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236 566 39028 15135
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04802 Date : 10.12.97 00:28:32 LC : Z IQ : 00
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00 00

Date: Wed, 10 Dec 1997 16:01:24 GMT
From: "Automatic Distribution Service (301) 925 4411" <ads@argosinc.com>
To: gbalazs@honlab.nmfs.hawaii.edu

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00 00
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02 20

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237 1038 856 24
00 00

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00 00

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Nb mes : 001 Nb mes>-120dB : 000 Best level : -131 dB
Pass duration : ? s NOPC : ?
Calcul freq : 401 650000.0 Hz Altitude : 0 m
236 993 938 22
00 00

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235 779 1153 18
00 00

04802 Date : 20.12.97 00:11:39 LC : Z IQ : 00
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235 1805 1889 11
00 00

04802 Date : 21.12.97 19:37:55 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
234 1262 1814 28984
00 31

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234 1429 1375 15
00 00

04802 Date : 24.12.97 18:59:54 LC : Z IQ : 00
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234 809 1484 14
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235 820 1091 19
00 00

04802 Date : 26.12.97 18:35:04 LC : Z IQ : 00
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235 1035 1230 17
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04802 Date : 27.12.97 00:36:54 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
235 2081 1600 13
00 00

04802 Date : 27.12.97 18:27:54 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ????????
234 2162 1744 12
00 00

04802 Date : 28.12.97 19:53:42 LC : Z IQ : 00
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234 268 1901 11
00 00

04802 Date : 01.01.98 01:30:35 LC : Z IQ : 00
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00 00

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234 1935 837 9049
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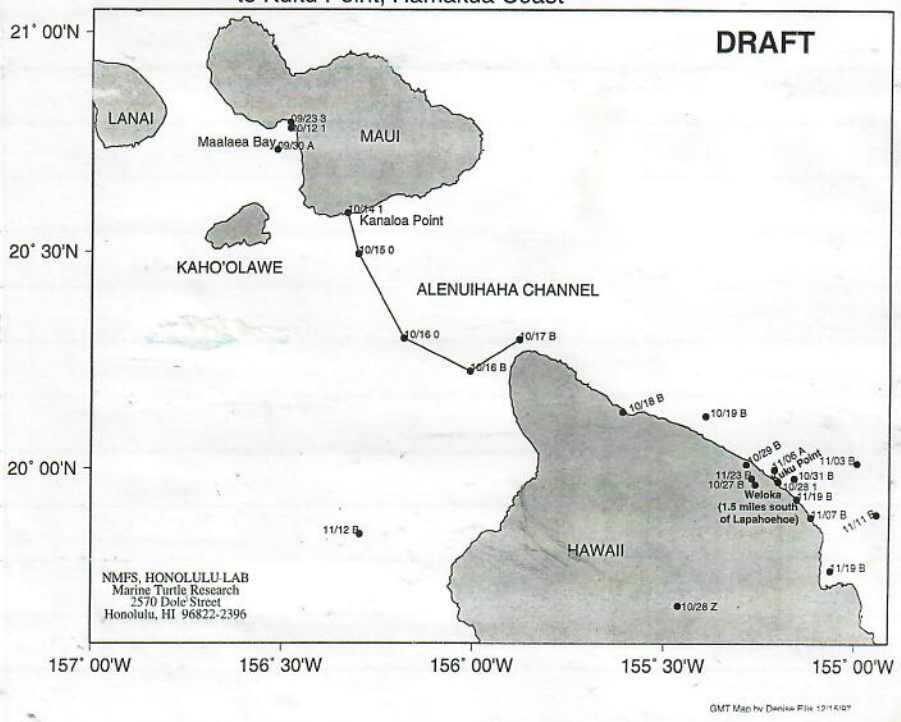
233 353 1748 12
00 00

04802 Date : 05.01.98 18:12:18 LC : Z IQ : 00
Lat1 : ??????? Lon1 : ???????
234 694 1047 20
02 16

Post-nesting migration of hawksbill 4802 from Kealia, Maui
to Kuku Point, Hamakua Coast



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03 02

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Calcul freq : 401 650055.2 Hz Altitude : 0 m
233 4619 3531 06
00 00

04802 Date : 04.02.98 06:07:46 LC : Z IQ : 00
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234 1888 551 18950
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233 674 946 22
00 00

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Lat1 : ??????? Lon1 : ????????
233 576 322 36984
00 61

04802 Date : 06.02.98 01:34:28 LC : Z IQ : 00
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233 2439 1082 19
00 01

04802 Date : 06.02.98 05:49:01 LC : Z IQ : 00
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233 2741 1082 37486
02 11

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00 01

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00 00

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00 00

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231 518 1608 13
00 00

04802 Date : 12.02.98 18:44:30 LC : Z IQ : 00
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00 00

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04802 Date : 16.02.98 17:57:23 LC : Z IQ : 00
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26

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232 843 1896 11
00 00

see P. 64

KEEPING AN EYE ON THE HAWKSBILL TURTLE 4801

MCC student and Quebec native, Maude Tremblay, recently shared her internship experiences with the audience at the 16th Annual Marine Option Program Student Symposium held on April 17 at MCC. The following text is Maude's symposium abstract.

The hawksbill sea turtle (*Eretmochelys imbricata*) is one of the most critically endangered species in Hawai'i. It is estimated that there are fewer than 25 nesting females in the population. To encounter one while snorkeling or diving is a very unusual experience. Regardless of the situation, very little research and conservation efforts have been expended on the hawksbill turtle in Hawai'i.

The nesting season is the perfect time to study the females as they are coming to shore to lay their eggs. During the summer of 1998, only one female nested on Maui. Sasha, as we named her, had a radio transmitter on her back so we could track her movements. Because the transmitter gives signals only while out of the water, we were able to know her surface intervals and the exact time and location of her nesting activities.

During this nesting season, Sasha laid over 1,000 eggs during her five trips to shore in the Kihei area. The data collected also helps studying her behavior such as feeding, daily activity cycle, movement patterns, and shore intervals.

This information allows us to protect the precious nests and determine hatching success. All these efforts focus on one goal — helping the hawksbill sea turtle population in Hawai'i to recover from near-extinct status.

Clockwise from top: Maude at the MOP Symposium; Hawai'i Wildlife Fund founder, Bill Gilmartin and Maude at a night vigil listening for Sasha's transmitter signal; Clearing a path to the beach to prevent future turtle hatchlings in the area from getting lost in the tall grass; Bill Gilmartin attaches a new transmitter to Sasha — the only hawksbill turtle to nest on Maui in the summer of 1998.

Wow, it's almost here! A marine science degree program will soon be available at MCC. Details are still being worked out with UHH (where MCC students might have to spend a summer completing science requirements toward the marine science degree). Stay tuned. We'll let you know when it's time to pack!

Photos courtesy of Maude Tremblay

Date: Fri, 8 May 1998 07:14:14 -1000
From: Casey Jarman <jarman@aloha.net>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: kahalui turtle

I got the message from Denise, but got home too late last night to call her, I will this a.m., but in case of a fault somewhere in contact the last date of VHF reception was April 28, 1997 for Kahalui hawksbill.

Date: Fri, 8 May 1998 09:04:32 -1000 (HST)
From: Denise Ellis <dellis@honlab.nmfs.hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: distances turtles swam across channel

1996 Hawksbill 25695 moved a distance of 76 Km between channels (47 statue miles) 41 nmi

1997 Hawksbill 4802 moved a distance of 70 km (44 statue miles) between channels. 38 nmi.

channel at narrowest point is 55km.

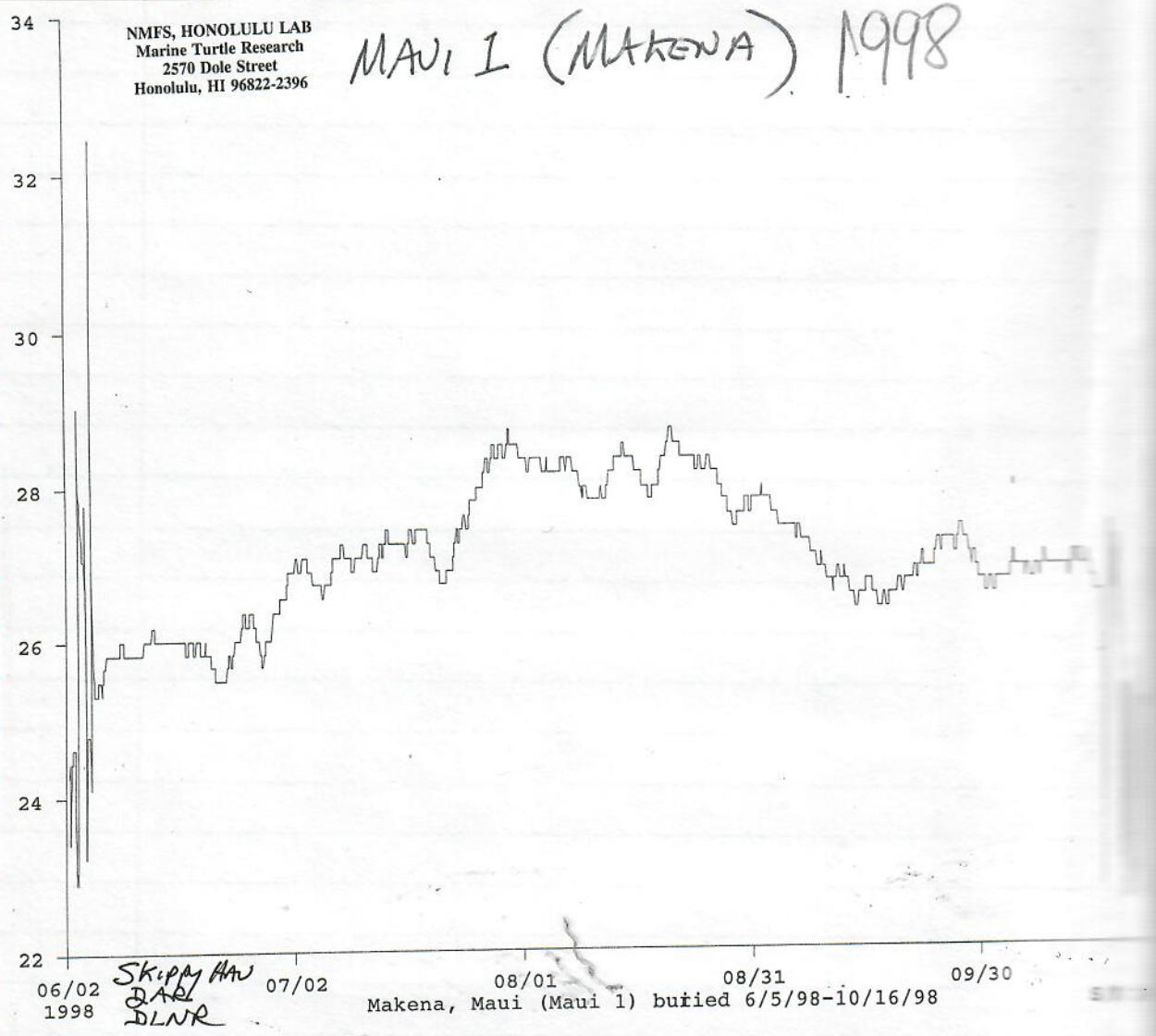
27

28

See P. 62

NMFS, HONOLULU LAB
Marine Turtle Research
2570 Dole Street
Honolulu, HI 96822-2396

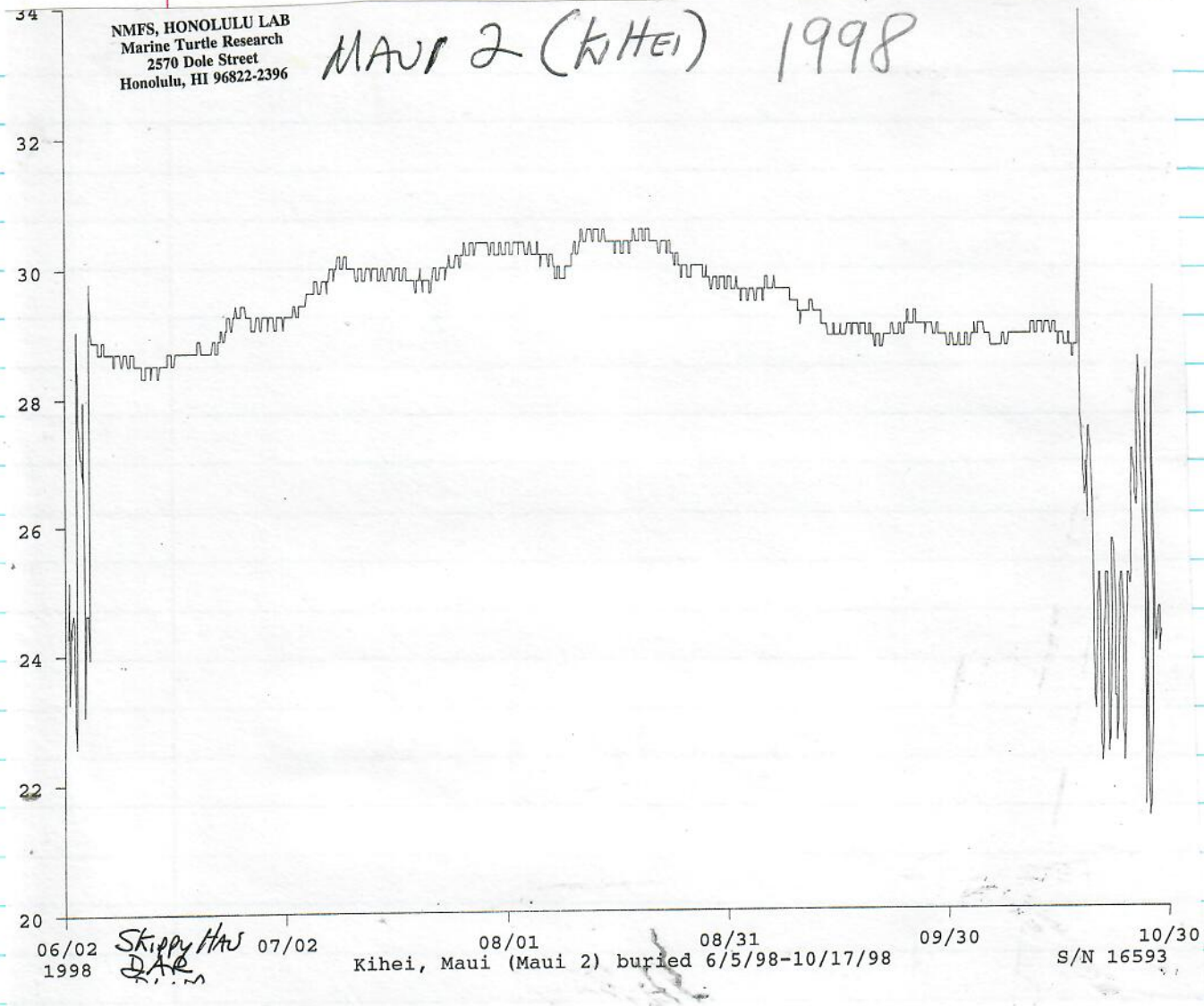
MAUI 1 (MAKENA) 1998



SKIPPY HAU
DAR
DLNR

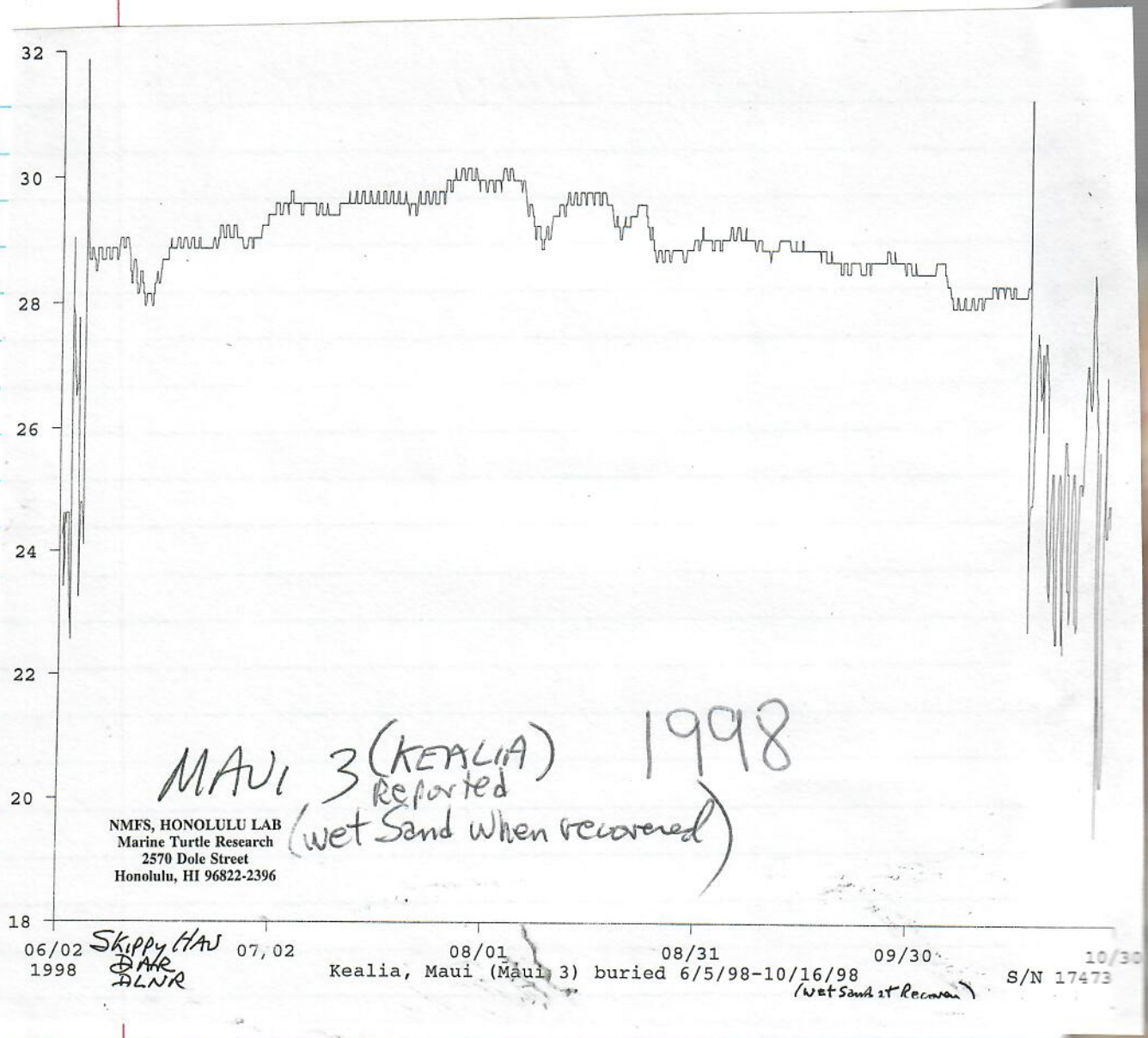
NMFS, HONOLULU LAB
Marine Turtle Research
2570 Dole Street
Honolulu, HI 96822-2396

MAUI 2 (KIHEI) 1998



Skippy HAU DAR

30


32
30
28
26
24
22
20
18
MAUI 3 (KEALIA) 1998
Reported
(wet Sand When recovered)
NMFS, HONOLULU LAB
Marine Turtle Research
2570 Dole Street
Honolulu, HI 96822-2396
06/02
1998
SKIPPY HAS
@ AHR
DLNR
07, 02
08/01
08/31
09/30
10/30
Kealia, Maui (Maui 3) buried 6/5/98-10/16/98
(wet Sand at Recovery)
S/N 17473

HOBO TEMPERATURE LOGGERS

LOGGER ID	S/N	ID	LOCATION	BURIAL DATE	TIME	RECOVERY DATE	TIME
E4 (FFS#9)	17473	MAUI 3	KEALIA	6/5/98	11:38	10/16/98	12:23
T3 (FFS#1)	16591	MAUI 1	MAKENA	6/5/98	11:09	10/16/98	14:11
T4 (FFS#3)	16593	MAUI 2	KIHEI	6/5/98	9:32	10/17/98	10:31

when recovered
Wet Sand
Dry Sand
Dry Sand

STATE OF HAWAII
Department of Land and Natural Resources
Division of Aquatic Resources - Maui
130 Mahalani St.
Wailuku, Hawaii 96793
(808) 243-5294

July 31, 1997

Memorandum

To: Hawksbill Sea Turtle File

From: Brooks Tamaye, Information Specialist BT

Subject: Possible Nesting at Maalaea

Steve Williams, who is assisting with coordinating the "Dawn Patrol" volunteers in conjuction with the USFWS, called to report a sighting of tracks on the beach this morning.

I went to the location at approximately 12:00 p.m. Kathy Smith, the Manager of the Kealia Pond National Wildlife Refuge met me there.

The tracks were located about 1/4 of a mile east of the Kealia Pond outlet. It appears from the tracks that the turtle crawled up the beach and hit a dirt embankment (section left open between fences for pedestrian access). It then turned west and traveled along the new dune fencing until it hit some brush and turned around. It appears that the turtle may have nested in at least one location. It was difficult to tell because of the location on a sand embankment and the human footprints around the area.

The site was marked and will be monitored. After sufficient time has elapsed it will be excavated.

c: DAR-Oahu
G. Nitta, NMFS
G. Balazs, NMFS
DOCARE-Maui

United States Department of the Interior

FISH AND WILDLIFE SERVICE
KEALIA POND NATIONAL WILDLIFE REFUGE
P.O. Box 1042
Kihei, Maui, Hawaii 96753
Tel. (808) 875-1582
Fax (808) 875-2945

August 4, 1997

MEMORANDUM

To: Files

From: Refuge Manager, Kealia Pond National Wildlife Refuge K. Smith

Subject: Hawksbill Sea Turtle Nesting Attempts at Ma'alaea Bay by Refuge

Kealia Pond National Wildlife Refuge volunteers (a.k.a. "Dawn Patrol") are walking the beach at the head of Ma'alaea Bay every morning from May through December this year in search of hawksbill tracks and other evidence of nesting. They are covering the area from the Kealia Condominium/Sugar Beach Resort to Ma'alaea. The beach is patrolled daily at dawn by one or two volunteers. A phone tree allows for substitutes to cover the area in the event a volunteer scheduled to patrol the beach on a given day can not. Any findings are reported first to the State Division of Aquatic Resources and then to the Refuge office or Kathy Smith at home. To date volunteers have located, and we have substantiated with photographs, the following nesting attempts:

7/31/97 Nesting Crawl

Found by volunteer Chuck Burke, approx. 1/4 mile W. of the 2-mile marker at the pullout widened by the State in last year's road work. This is the first pullout Kihei-side of the future parking lot for the boardwalk. There is a blue and white "sea turtle nesting area" sign at the pullout and a three to six foot tall berm of dirt piled between this pullout and the beach. A gate in the drift fence allows you to step over the berm and marks the location where the turtle exited the water and crawled up on to the beach. This was a very distinct crawl averaging 31" in width (between flipper marks) with a range of 30-33". The smooth drag mark of the turtle's carapace on the sand measured from 8-12 inches in width with an average of about 11". The tracks made a broad "U" turn and returned to the sea about 15 feet from the emergence point. There was minor movement of sand and surface vegetation at the 16th picket W. of the gate opening, and at a point directly below the 2nd metal post in this same line. Site documented on film by K. Smith and S. Williams. Site examined by them and by Brooks Tamaye--consensus is a possible but not probable nesting.

8/3/97 Two Related Nesting Crawls and at Least One Body Pit Type Excavation

This nesting foray was marked by two exits and entries in the same area, with the resulting pattern in

the sand forming the letter "M". It was found by P.J. Ryan and photo-documented by K. Smith. Track widths were identical to that of 7/31/97. As viewed from the ocean, the right hand leg of the "M" crawl emerged at nearly the same point as the 7/31/97 crawl and headed for the same gate. The turtle crawled along the fence following the same westward course as earlier, then followed the contour of a pickleweed covered dune, digging at several points along the face of this dune before returning to the ocean. None of the diggings looked very promising.

The second set of tracks from the evening emerged about 50 feet West of the 1st emergence and made the left leg of the "M". The tracks headed straight for a debris pile (dead grass pulled in a restoration effort) and went up over it and along an old roadway paralleling the beach and the fenceline. The turtle explored this area, making contact with the fence at several points before doubling back above the debris pile to a sandy site along the fence surrounded by bufflegrass. Digging at this location might be watched although a more likely nesting site is found farther along the crawl. The tracks proceed East around a patch of akulukuli, loop through some pickleweed then down between two small dunes. There is extensive digging at this location, with a "probable nest" call made in the field. Tracks from this point go directly makai, intersecting the seaward crawl mentioned earlier (hence the center of the "M").

August 4, 1997 Return of the Site Specific Turtle (Round Three)

Same female as was out yesterday and earlier in the week apparently came back again today. Based on track width (approx 31" again) and her choice of emergence locations this is the same turtle. Today's emergence was at the same place as the left leg of yesterday's "M". As such in the last four days she has emerged four times in the same 100 foot stretch of sand and two of the emergence paths have been identical to previous days. The tracks observed this morning virtually overlay the course taken to the debris pile yesterday. She again climbed over the low pile of matted grass and headed directly to the drift fence. She followed along the fence for perhaps 40 feet, intermittently disturbing the soil along the base of the fence (GOOD THING FENCE IS THERE AS ROAD IS ONLY ABOUT 20 FEET DOWNSLOPE FROM THIS POINT). The crawl then turns makai across the old roadway running parallel to fence, and on down to the sand next to a yellow fiberglass survey marker (FWS property boundary) and then out to the water. No obvious nesting attempts. Brooks Tamaye came to look at this site and yesterday's too. We are not sure what's up with this return. Did she nest yesterday as suspected--if so why is she back? If she did not yesterday, then why no evidence of nesting today? Will have to watch this stretch from the gate W. to the yellow survey marker well during her due dates.

cc: George Balazs - NOAA, Oahu
Brooks Tamaye - Aquatic Resources, Maui
Craig Rowland - USFWS, Oahu
Steve Williams - Dawn Patrol Coordinator
Hannah Bernard - Hawaii Wildlife Fund

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9/3/97

MEMORANDUM

TO: file (GEORGE BALAZS)

FROM: Bill Gilmartin DRAFT

SUBJECT: Hawksbill Turtle

On the evening of Tuesday September 2, 1997, Suzanne Canja and I were on the Maalaea Bay beach near the west end of Kealia Pond NWR (in the area of earlier nesting events this season). We had been sitting on the beach since 2030h without lights waiting for a hawksbill to come ashore to nest - after nesting we were going to flipper tag and radio tag the turtle. At approximately 2300h, a bright light was turned on that illuminated the beach such that it was comparable to a clear night under a full moon, but there was no moon this night. The point source of light was to the west, above the kiawe trees behind the shoreline. I believed the light was sufficiently intense that it might deter nesting.

At about 2330, I left the beach to determine the source of the light and see if it might be turned off. I found that the source was the construction site of the new aquarium above Maalaea Boat Harbor (approx. 1.5 mi from the nesting beach) - the lights were illuminating the roadway construction area. I could not find anyone around to report the problem to and determine if the lights could be turned off.

When I returned to our observation area on the beach, Suzanne informed me that when I left at 2330, a turtle had appeared in the water at the shoreline, taken less than a minute to look around and then returned to sea. We remained at this site until 0230 on September 3. The light remained on during this time and we did not see another turtle. Before leaving, I went to the waterline and looked in the direction of the light and found that the light viewed from the water at the shoreline appeared even brighter (because of the reflection off the wave wash) than viewing it over the dry sand. We walked the full length of the beach after sunrise on the 3rd and did not see evidence of any turtle crawl out of the water for the previous night.

Suzanne and I visited the construction site and spoke to the Oahu Construction Co. supervisor, Mr. Cleve Okamura, on Wednesday morning. After explaining the events of the prior evening and suggesting that the bright lights (a set of generator driven 4x4000w lamps) at the construction site could have deterred this turtle from nesting, Mr. Okamura was sympathetic to the problem and said he would talk to the county road supervisor (who had requested the lighting the evening of September 2) and see if the lamps

DRAFT

could be oriented in another direction so that they did not shine toward the beach. He seemed confident that something could be arranged to correct the problem.

This afternoon, I called Mr. Okamura to find out whether he was able to get permission to change the lighting tonight. He had spoken to the inspector, who agreed to lower or change the direction of the lamps. He said that they would be on site working till 2330 and that if we saw problems with the lamps before that time to come up to the site and request further adjustments. Therefore, I expect this problem will not repeat, hopefully not during the balance of the nesting season.

I believe the lighting described above was of sufficient magnitude (even though the source was 1.5 mi away) that it was a major factor in the aborted nesting attempt of the turtle observed by Suzanne that night. The situation highlights one of the delicate balances the hawksbill turtle encounters at this nesting beach: the lighting of the adjacent coastlines. Sitting on this beach at night without a moon, it's easy to speculate that hatchlings would almost certainly be attracted to the Kihei coast or the Maalaea Harbor area rather than where they should be going, south to the open sea. If this beach is ever to become a thriving hawksbill nesting area, a major education effort must be launched to reduce the potential threats of coastal lighting to both nesting attempts and hatchling survival.

cc: Balazs
Kealia Pond NWR
DLNR, DAR, Maui
FWS-Hono

Any comments on text or who, where, etc to cc this? please let me know - can wait till your return from FF. Have a great (escape) trip!

Bill

United States Department of the Interior

FISH AND WILDLIFE SERVICE
KEALIA POND NATIONAL WILDLIFE REFUGE
P.O. Box 1042
Kihei, Maui, Hawaii 96753
Tel. (808) 875-1582
Fax (808) 875-2945

September 9, 1997

MEMORANDUM

To: Files

From: Refuge Manager, Kealia Pond National Wildlife Refuge K. Smith

Subject: Hawksbill Sea Turtle Nesting Attempt at Kealia

9/6/97 Nesting Crawl

Two distinct crawls reported by Dawn Patrol volunteers Diana Schulte and Gloria Adlawan early the morning of Saturday, September 6. Note: Patrols the two previous mornings noted several crawls in this same 2 - 2.5 mi marker area of along N. Kihei Road. Saturday's "probable nesting" is located Just 30 feet East of the first nest to hatch last year (P. Ryan's site). This apparently attractive nesting area is just W. of a big leaning tree with branches extending out over the beach to the water. There is a pullout and secondary road paralleling N. Kihei Road that leads to the beach and nesting site. This most recent nest began as a crawl emerging 40 W. of the leaning tree then and 20' from the gate at the parking pullout. It proceeded W. along the abrupt dune face/eroded edge, with some exploratory surface digging and flipper marks on the clay-sand face of the dune edge leading to a second gate at the point where the old access road met the beach. The extensive digging occurred at a point just E. of this gate and perpendicular to a 2 ft concrete slab and the metal post closest to the gate opening. The nest area is also marked by the W. edge of mass of pickleweed.

The digging consists of tossed and mounded sand extending 8" in height above beach level and covering a 5 ft wide sandy area up against the dune/vegetation edge. This mound slopes to the W. with continued disturbance (tossing) of sand for a total 8 ft before the tracks become prominent again. At this point there is a deep 90 degree turn in the tracks which then head directly to the water. The tracks were an average of 29" wide with a range of 26"- 31" and a plastron drag width of 8"-9" (Likely the same individual that Steve Williams calls "Turtle B" in his August 26 memo).

Note: A second set of tracks was found less than 1/8 mile to the E. and on the opposite side of the leaning tree. This set of tracks came up over the beachrock shallows W. of the diamond shaped navigation marker and proceeded E. along the abrupt dune face for approx. 50' before returning to the water. Width was identical to the above--presumably an exploratory crawl made earlier that evening. Note that this area was extensively visited last year as well.

August 25, 1997 -- NOTE: This was an Undocumented Crawl:

A second hand report from August 25, 1997 by a beach camper and frequent beach walker who spent a lot of time in a van on the dunes, "Andor", at pager #278-5572, noted a distinct crawl and what he thought might be digging on a newly drifted sand dune. Site is located just W. of the 2 mile marker and E. of a gate allowing access from a raised pullout onto the dunes. The pullout has a blue turtle nesting area sign and is shaded by a wind sculpted kiawe tree. The apex of the dune is where he saw the tracks and digging. The dune is accessed via the gate and proceeding E. towards Kihei and a second sculpted kiawe tree. The disturbed site would be about 4 metal fence post Maalaea side of this second tree and at the crown of the drift.

cc: George Balazs - NOAA, Oahu
Aquatic Resources, Maui
Craig Rowland - USFWS, Oahu
Steve Williams - Dawn Patrol Coordinator
Hawaii Wildlife Fund

Date: Fri, 7 Nov 1997 14:54:15 -1000
From: Casey Jarman <jarman@aloha.net>
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: turtle notes

[The following text is in the "ISO-8859-1" character set]
[Your display is set for the "US-ASCII" character set]
[Some characters may be displayed incorrectly]

George: I still don't have a cy of the Maui data here, Hannah is supposed to be getting me a cy. So, I'll wing it for this since this is not a concrete cast it's going into!

---

crawl FALSE 10-10-97

We began monitoring the turtle almost constantly (listening for VHF signals) beginning October 7, the 15th day from her previous nesting. It was early in the evening of Friday, October 10 that that we first received a continuous signal from her, indicating that she was on the beach. We went to the site (near the first group of trees west of the 2mi marker. We were ablt to view her with the night scope. she was at the base of a heavily vegetated dune and throwing sand. When she left this site, she moved directly into the water. She had been on the beach about an hour and we were uncertain whether this had been an actual nesting. We returned to the condo and resumed listening.

night same 10-10-97 all false

She came out again later in the evening, we went to the beach again and found her just east of where she had been previously. She was out well over an hour this time and spent most of her time moving anong the base on the 3' vertical sand cliff at the back of the beach. She made many test digs on this crawl, then returned to the ocean.

10-11-97 nested

On Saturday evening, October 11 (the 19th day from her previous nesting), she came up again and nested in about the same area as the first crawl of the previous evening. Then, we received intermittent signals from her again until about 9am Sunday morning, when we believe she left Ma'alaea Bay.

All signals from her (except for a few near her emergence times) between her two nestings indicated she remained near the center of Ma'alaea Bay.

Date: 9/9/97
Sender: William Gilmartin
To: George Balazs
Priority: Normal
Subject: Maui turtles

We were on the beach 8 nights, saw several nights of crawls by probable same turtle, then nesting early 9/5 a.m. We found this one just as she had finished covering the nest (poor location), not enough time to get the box to her. No beach activity since. My best guess is we have only one turtle nesting there this year, although a small possibility an additional animal was there earlier. We'll try for this one again after the Big Isl trip. We saw that the fence kept turtles off the highway, BUT it also has left them little good nesting habitat on the whole east half of the beach! The construction lighting was taken care of this time...but we'll have to continually check it as some hatching will likely begin by end of the month.

More stories later...

I expect to be at home Wed a.m., possibly in here briefly in afternoon, then meeting Bud for dinner talk, home Thurs a.m., then possibly leave Thurs p.m. for Big Isl.

DIVISION OF AQUATIC RESOURCES - MAUI
DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5327
FAX #(808)243-5326
September 9, 1997

To: Bill Devick, Acting Administrator

From: Skippy Hau, Aquatic Biologist

Subject: Turtle Nest Excavated at Makena

On Saturday, 6 September 1997, Mr. Sean Asuncion (Ph.#878-2938), a student at Maui High School found turtle hatchlings emerging on the white sand beach between 09:30 and 10:00. He and his friends marked the nest with charcoal and made an "X" with sticks. He said there were between 30 and 40 hatchlings.

This evening, after three days, Brooks Tamaye and I went to excavate the nest. We had no problem finding the location. At 18:01, we came across a live hatchling at the top of the nest (about 8 inches from the surface). The hatchlings appeared to be hawksbill turtles. The nest was about 17 inches deep. The diameter was about 8.5 inches. We found ten live hatchlings and 24 dead ones.

We recovered the following items:

147	empty shells
12	undeveloped eggs
1	partially developed
160	TOTAL ESTIMATED EGGS

Approximately 113 hatchlings appears to have emerged on their own. The 123 hatchlings represented a 77% success rate.

At 18:18, the ten hatchlings were released on the beach. The GPS position for the nest was Latitude 20° 38' 01 N Longitude 156° 26' 53 W.

The remains were sorted after we returned to the office. They will be shipped to George Balazs at the Honolulu Laboratory, National Marine Fisheries Service.

c: DOCARE - Maui
George Balazs, NMFS
Kathy Smith, FWS, Kealia NWR
Emily Gardner, DAR

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DIVISION OF AQUATIC RESOURCES - MAUI
DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5327
FAX #(808)243-5326
October 21, 1997

To: Turtle File

From: Skippy Hau, Aquatic Biologist

Subject: Update of Possible Hawksbill Turtle Nesting Site A-1 (Day 78)

Yesterday (on day 78), at 17:00, Brooks Tamaye and I excavated three possible nesting areas at site A-1. We checked the location with slides and photographs taken Fish and Wildlife volunteers at the time turtle tracks were discovered. The areas were in white sand, near beach vegetation. We dug down to the roots or when hard substrate was discovered. At around 18 inches, we stopped digging deeper. No eggs were found. The areas appear to have been false nests.

c: DAR - Oahu
DOCARE - Maui
Kathy Smith (Kealia NWR, FWS)
George Balazs (NMFS)

Rodund

COPY

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DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5327
FAX #(808)243-5326
October 31, 1997

To: Turtle File

From: Skippy Hau, Aquatic Biologist

Subject: Update of Possible Hawksbill Turtle Nesting Sites at Kealia

On Tuesday, 28 October 1997 (on day 74), at 17:00, Brooks Tamaye and I excavated two possible locations near site A-2. We did not find any evidence of nesting. We checked the location with slides taken after finding the turtle tracks. No eggs were found.

We also checked another location identified initially as site B-1 for a different female. The first depression appeared to be a false nest (day 71). The second area was near beach vegetation (corrected to B-2 (day 53) per Steven Williams). We dug down to the roots. Brooks found the nest and recovered 192 undeveloped eggs. The volunteers from the Dawn Patrol described the area as being inundated by several high tides. The top of the nest was about 14 inches from the surface. The diameter was about 15 inches across. The bottom of the nest was about 21 inches deep.

The GPS position for this nest was Latitude 20° 47' 49 N Longitude 156° 28' 58 W.

c: DAR - Oahu
DOCARE - Maui
Kathy Smith (Kealia NWR, FWS)
George Balazs (NMFS)

Rodman

COP

DIVISION OF AQUATIC RESOURCES - MAUI
DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5834
FAX #(808)243-5833
November 1, 1997

To: Bill Devick, Acting Administrator
From: Skippy Hau, Aquatic Biologist

Subject: Turtle Nest Excavated at Kihei (corrected)

On Saturday, 1 November 1997, I went to check the nest area and discovered two dead hatchlings which a neighbor found the day before. According to neighbors and beach walkers, the hatchlings appeared smaller and weaker. Although this was the second day after the first hatchlings, I decided to excavate the nest around 08:00. The original location we had marked did not appear to be the location of the nest. Mr. George Rixey (Ph.#879-8996), owner of the neighboring property reported that his dog tried to dig beneath the ironwood tree. I asked Mr. Rixey to show me where the dog was digging. I decided to check the location and discovered dead and live hatchlings beneath the surface.

After 09:00, we came across hatchlings at the top of the nest (about 9 inches from the surface). The top of the nest with eggs was about 11 inches deep. The diameter was about 10 inches. The bottom of the nest was about 18 inches. We found 12 live hatchlings and 53 dead ones. We recovered the following items:

142 empty shells
9 undeveloped eggs
16 partially developed
167 TOTAL ESTIMATED EGGS

The dead hatchlings were scattered around the nest. Some were caught between the roots of the ironwood. We recovered approximately 83 hatchlings that were dead or undeveloped. Twelve live hatchlings were released on the beach. Seventy-two hatchlings appears to have emerged on their own. The 84 hatchlings represent a 50% success rate. The GPS position for the area was Latitude 20° 45' 17 N Longitude 156° 27' 44 W. The egg shells were re-inspected after I returned to the office. Four more partially developed eggs were reclassified. The remains will be frozen and shipped to George Balazs at the Honolulu Laboratory (NMFS).

c: DOCARE - Maui
George Balazs, NMFS
Kathy Smith, FWS, Kealia NWR
Emily Gardner, DAR

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DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5834
FAX #(808)243-5833
November 1, 1997

To: Bill Devick, Acting Administrator

From: Skippy Hau, Aquatic Biologist

Subject: Hawksbill Turtle Hatchlings From A Third Nest

On Thursday, 30 October 1997, Mrs. Barbara Noel (Ph.#875-7754/ 244-7687 work) and other morning beach walkers again found hatchlings in the same location. She contacted our office. They estimated helping a "hundred" hatchlings that were found in two locations of the beach reserve. I inspected the areas and found one more hatchling and released it on the beach.

On Friday, walkers reported different numbers of hatchlings being released. This morning, I talked with most of the people and determined about 17 live and 5 dead hatchlings were found on the first day after emergence. Three dead hatchlings were placed with the remains from the nest excavation (see excavation memo).

c: DOCARE - Maui
George Balazs, NMFS
Kathy Smith, FWS, Kealia NWR
Emily Gardner, DAR Subject:

DIVISION OF AQUATIC RESOURCES - MAUI
DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5834
FAX #(808)243-5833
November 21, 1997

To: Bill Devick, Acting Administrator

From: Skippy Hau, Aquatic Biologist

Subject: Hawksbill Turtle Nest Excavation at Kealia

Arrangements were coordinated with Hannah Bernard and Bill Gilmartin from the Hawaii Wildlife Fund to excavate the first nesting location by a tagged hawksbill female (September 5, 1997). I came to observe and assist them if needed. Around 17:15, they used shovels to check the beach area. No nest was found. They must have observed digging behavior on a false nest. There was undisturbed stratified layering of sand, dirt and silt.

The GPS position for this false nesting site was Latitude 20° 47' 43 N Longitude 156° 29' 00 W.

c: DOCARE - Maui
Kathy Smith (Kealia NWR, FWS)
George Balazs (NMFS)

bdwr

COPY

DIVISION OF AQUATIC RESOURCES - MAUI
DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5834
FAX #(808)243-5833
November 22, 1997

To: Bill Devick, Acting Administrator

From: Skippy Hau, Aquatic Biologist

Subject: Turtle Nest Excavated at Kihei

On Friday, 21 November 1997, I finally found some time to conduct the excavation of a old turtle nest. Mr. George Rixey (Ph.#879-8996), owner of the neighboring Kihei property, found and reported the nest with undeveloped eggs. The location of the nest was about a hundred feet to the north. There was a depression where a dog could have been digging below a haole koa bush. It does not appear to be the nest responsible for the first group of hatchlings for the area. The hatchlings were found further south.

Around 14:00, I dug below some exposed egg shells at the top of the nest. I estimated the top of the nest to be about 11 inches from the surface. The diameter was about 10 inches. The bottom of the nest was about 18 inches. There were no hatchlings found.

I recovered the following items:

75 empty shells
106 partial/undeveloped eggs
2 irregular shaped eggs
183 TOTAL ESTIMATED EGGS

Estimating 75 hatchlings from the empty shells represents a conservative 41% success rate. The remains were frozen and will be shipped to George Balazs at the Honolulu Laboratory for further analyses. I was not able tell whether the nest was from this or a previous season.

c: DOCARE - Maui
George Balazs, NMFS
Kathy Smith, FWS, Kealia NWR
Emily Gardner, DAR

xc: Hannah Bernard, Hawaii Wildlife Fund

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MAUI

Historical information for turtle K18

National Marine Fisheries Service
2570 Dole Street
Honolulu Hawaii 96822-22396

Tag information--

Tag Number	* Date Tagged	Tag Type	Tag Position
K18	07/29/93	I681	LFL
K19	07/29/93	I681	RFL
K20	07/29/93	I681	LHF

K18 Ursula Bennett-

Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter: Interval Month	Interval Year	Growth-rates cm/mon	cm/yr	Overa: Interval Month	Interval Year
07/29/93	Near Shore	Maui, Black Rock	0	-	42.5	---	---	---	---	---	---
10/19/95	Near Shore	Maui	0	-	---	26	2.2	---	---	26	2.2

Reduce

Date: Thu, 24 Jul 1997 14:51:25 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Strange tag number today

Aloha,

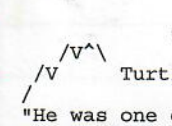
Making this fast. Peter putting on his suit. This morning at about 11:30 Peter read the tags on a subadult (certainly NOT FFS material). Turtle had tumours and we got photos.

Strange tags \ K 18 and this is CERTAIN.

No time for more. Peter is bugging to get into ocean again.

Also saw the worst tumour case EVER. Got photos of that too... a male. Take back what I wrote a week or two ago about maybe FP cooling down a bit. Later.

All the best

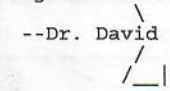


Ursula Keuper-Bennett
Email: howzit@turtles.org

http://www.turtles.org

"He was one of the last great minstrels of wilderness, singing a song of joy mixed with abiding melancholy, a song that saddened his listeners even as it gave them heart to fight, as he did, against the unthinkable outcome."

--Dr. David Ehrenfeld about Dr. Archie Carr



Reduce
K19
MAUI Book

Date: Thu, 24 Jul 1997 19:05:05 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Strange tag number today

Aloha,

What delay? Sent you the message just before 3 pm! Yessir, one of the tags was a 20 (read that myself but even brushing off the brown grundge I could not make out the letter). Peter managed that on the K 19 flipper. He is CERTAIN it was a K.

How'd it look? Got a left and right photo (could have had more but we had two new (and more serious FP cases) swimming around to document plus reading the tag was priority. Tumours posterior both eyes, mild tumours over neck and flippers.

Very tame and now we know why. Still carry measuring tape from the old days when we used to measure them. With your permission we will try. Youngster is considerably bigger now.

Got excellent photos of the worst tumour case ever today (a male) and also badly tumoured very young turtle. Remember the other day I wrote you saying I felt FP was "losing its steam"? I take it back. We are back again concentrating on the Turtle House and not the area directly opposite the Pikake and since we've done that FP here is as strong and ugly as ever.

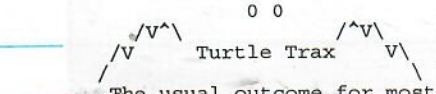
Have documented almost 50 turtles so far and learning a lot. The ocean off the Pikake is a major resting site and likely where they sleep (we're going a night dive or two next full moon to confirm). Got us two other tagged turtles including one we know from '93 and her tumours are better.

We believe we are witnessing a Turtle House starting up at Pikake area (just as you predicted in that Losey/Balazs paper). But it is difficult to monitor two sites. Anyway, enough.

Can send you photos of your K 20 if you wish. Aloha and all the best.

At 04:40 PM 7/24/97 -1000, you wrote:
>Sorry for the delay. Just got back from working all day in Kaneohe Bay,
>and late last night from an overnight at Punaluu Bay in Kau.
>
>K18. May also have k19 and k20. 7/29/93, hand caught by us near Black
>Rock, feeding on Pterocladia, no tumors caliper length 42.5. A little guy
>then for sure. Seen(but not by us) 10/19/95 in the same Black Rock area.
>
>
>How did it look? Aloha, George

Ursula Keuper-Bennett
Email: howzit@turtles.org



The usual outcome for most affected
turtles in Hawaii is debilitation over a
protracted period, followed by death.
-- George Balazs

Date: Wed, 30 Jul 1997 14:36:11 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: A240 and A241

Mahalo for the info,

She's still free from tumours. Don't have records here what year we first saw her...but she's resident here. With your permission we will use the message below for Trax this week.

Wouldn't be too surprised if you find no further records. She looks REALLY old, George, just like Zeus. Old as air --maybe just got more more inside her.

Oh yeah.. remember how you reminded me males leave FFS end of June and take 20-25 days to get back? Saw Nui (known him since 1990 before he showed any tail) yesterday... regression case still doing just fine.

Aloha and best regards

At 02:01 PM 7/30/97 -1000, you wrote:
>Originally tagged nesting at East Is., FFS on 5/26/91. Subsequently came
>ashore seven more times for nesting excursions, the last one being on
>8/1/91. CCL 102.5 cm. No tumors noted.
>
>Other records since 1991 may exist, and I will do a search for them
>later. Aloha, George
>
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George H. Balazs, Leader
Marine Turtle Research Program
National Marine Fisheries Service
Honolulu Laboratory
2570 Dole Street
Honolulu, Hawaii 96822-2396 USA
Tel:(808) 943-1240
Fax:(808) 943-1290
Email: gbalazs@honlab.nmfs.hawaii.edu

Deputy Chairman
IUCN/SSC Marine Turtle
Specialist Group

Ursula Keuper-Bennett
Email: howzit@turtles.org

Turtle Trax

http://www.turtles.org

"He was one of the last great minstrels of wilderness, singing a song of joy mixed with abiding melancholy, a song that saddened his listeners even as it gave them heart to fight, as he did, against the unthinkable outcome."

--Dr. David Ehrenfeld about Dr. Archie Carr

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MAUI

Date: Mon, 04 Aug 1997 14:32:40 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Schedule

Aloha,

Yessir, understood. Delaying is best.

Mail hasn't arrived yet so don't know about the bags. Went to Olowalu early and snorkelled from the outfall all the way south to beyond where we saw Cladophora last year. None.

At Honokowai, we did an extreme north swing today and went farther seaward than ever before into the Halimeda beds (no Cladophora) nothing. Found one tiny sprig of the stuff in about 20 feet of water and left it there until needed.

I think it is important to collect the Halimeda in the Outback (60 feet depth) here because on every single plant has this algae stuff (tufts actually) growing on it that could be dormant Cladophora. If you are taking samples here I want that definitely represented --since George, you wrote we see turtles eating that occasionally. No sir. Every single morning they munch on that stuff. The older turtles. Youngsters don't.

Youngsters and transescents eat lots of Hypnea cervicornis... and we've observed them also eating musciformis too. One year in a bad swell when all the musciformis was sucked in wads to the Turtle House, we saw two big honu eat so much of the drifting/floating stuff, little parts came raining down like purple Christmas tree needles.

On shore you can easily grab musciformis and ulva (fasciata) but I was hoping to provide you with samples from all over from various depths including to the north.

Look. Worst case scenario. Let's say UPS comes back online but you can't find the time to get here (or not low tide conditions). Can WE collect and ship it out via UPS to your Florida people? We'll do that you know just to have Honokowai represented in this. Will pay the shipping too.

Anyway, there's still plenty of August left. EEK! 2:30... at least with this cancelled we can do a "standard" turtle dive again and now have more time to look around for Cladophora.

All the best

At 10:40 PM 8/3/97 -1000, you wrote:
>Stop press. Well, at least don't go to any extreme measures tomorrow
>Monday. As of 6pm this afternoon, UPS went on strike. Fedex (our UNDS
>contract carrier) has been warming about this to its customers for days.
>What this means is that Fedex will be swamped with UPS' business. I have
>to assess the situation tomorrow to determine if I should still make the
>trip to Maui. A one day delay (if it happened) would spoil the samples
>for this type of analysis. So, go and take a chance of it being delayed
>and therefore wasted. Or, delay and collect at a later date after the
>strike ends (but who knows when that will be).
>
>Size up what seems possible in your dive tomorrow. re Cladophora, my
>feeling is that if it is THAT difficult to locate any of it- having to
>search maybe three dive sites- then it can't be all that significant now

Date: Mon, 11 Aug 1997 09:26:43 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Video (Correction)

Aloha,

A while back I read your paper on the habitat use of honu and who eats what where. I followed your limu mentions in Magruder's book as I read your work. It wasn't a typo. It was liking the word Pterocladia better than Acanthophora (which sounds too much like Acropora --the coral).

Either way George, you have to promise to correct me as soon as you figure I am wrong about something --you'd want to be set straight right away.

Regarding Shredder, A 240:

Mahalo for digging that info up on her. We will include (with your permission) the exact wording you provided for Shredder on Trax this Saturday. We have seen Shredder over several years but if you want that info, you have to wait til we get our logs in Canada.

Re. Shredder THIS summer, here is the info.

When seen: July 19th at about 2 pm (when we read her tags). We've seen her perhaps three/four other times this summer.

Where seen: Honokowai turtle house (you have the exact location for that)

Status: Free of tumours

Other info: feet looked like they've been lowered into a paper shredder hence her name. Request you enter that her name is "Shredder" but if you can't I understand. (We've found here that turtles that get named stand a better chance at recovering from FP --not scientific, I know...)

You mentioned you have a note to look up other tags -- yessir. We are waiting on two. They are important ones because BOTH are regression cases here and we're hoping you will confirm this.

One is Tutu U 521. You've already told us a lot about her but the ONE thing we need is what tumour status your people gave her in 1991 or before (we assume she was at FFS because she wasn't here). A tag 1056 she also wears might help pursuing data before 1994.

The other is Mendelbrot (tags read this summer) U 359 (left front flipper) We need her tumour status at FFS too.

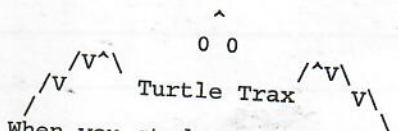
Oh yeah, I think you have Tiamat (no tags --a new nester). Send her back safely. Cuz guess what? She's also one of our regression cases.

All the best

At 09:56 PM 8/10/97 -1000, you wrote:
>I knew that, but didn't want to be too quick to correct. I thought that
>maybe it was a typo or mis-id. Thanks for clarifying.
>
>Went to the turtle celebration on Saturday ("Turtle Independence Day") at
>the Mauna Lani Bay. Big crowd, lots of fun as usual. You should go one
>of these years. There are lots of people like yourself that love turtle,

>eager to talk about them and happy to see them swim free into the ...
>They held it a bit late this year, well after July 4th, because the ...
>was undergoing upgrade renovation (what, "five diamond status" isn't ...
>enough?!).
>
>I have a note listing several tag recoveries to look up for you. I ...
>have one of the three-- tags A240/A241 on the same nesting female, ...
>Island. First seen there and tagged 5/26/91, on East Is. ccl ... cm.
>Came ashore again for nesting purposes (doesn't mean eggs laid each time)
>on 5/27, 5/28, 6/11, 6/24, 7/6, 7/7, 7/20 and 8/1/91. At least again on
>6/15, 6/16, 6/17, and 6/29/93. Was likely there July and August (and
>maybe even September) of 1993, but we had no one out there watching (nor
>did we need to). That's it, not record of nesting, or anything else,
>since 1993. Tell me again please when it was seen, where, and status as
>far as tumors or anything else. Not that no tumors were seen on this
>turtle on any of the observations.
>
>It would appear that the strike will be a looong one. Aloha, George

---

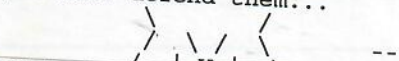


Ursula Keuper-Bennett
Email: howzit@turtles.org

Turtle Trax

http://www.turtles.org

When you study members of another species, when you
habituate them in the wild, when you begin to understand
the intimate details of their private lives, and then
you learn that the population or whole group is sliding
towards extinction, what do you do? In good conscience,
you must defend them...



--- Birute M.F. Galdikas

Date: Fri, 01 Aug 1997 14:41:48 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Yet Another Tag Number D 359

Aloha,

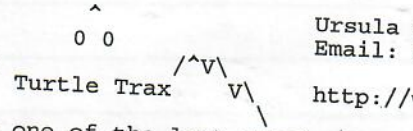
About to go in for second dive. Got us a swell on here and it's rocking your honu even at the Turtle House (50 feet) but it's making for some great cleaning photography.

OK... Peter is certain about tag number ~~D~~ J 359 front left flipper. And that's all I am going to tell you about the wahine. Want to know what your FFS people say about her first.

Saw lots of splashing and flippering through binoculars this morning off the Pikake condo and figured I'd get shots of amorous turtles. But when we got there nothing. Both males, Zeus and Kaula weren't puffing on cigarettes so got no clue at all who was doing what.

Turtles are baffling aren't they George?

All the best



Ursula Keuper-Bennett
Email: howzit@turtles.org

Turtle Trax

http://www.turtles.org

"He was one of the last great minstrels of wilderness, singing a
song of joy mixed with abiding melancholy, a song that saddened
his listeners even as it gave them heart to fight, as he did,
against the unthinkable outcome."

--Dr. David Ehrenfeld about Dr. Archie Carr

Date: Fri, 01 Aug 1997 20:45:07 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Yet Another Tag Number D 359

Aloha George,

RATS!

OK, guess I have to tell you. Got her left profile back from the photographers to prove for certainty who it was. The turtle's name is Mendelbrot and we have known her since 1993. Didn't keep decent logs in '93 but I believe she didn't have tags then (but video would tell us). We didn't see her at all in '94.

Don't have my 95 log for the exact day we first saw her that year but her 95 photo slip says "NEW TAGS". Let's for now assume her complete absence in '94 meant she was at the FFS. How many turtles nested in '94 with 359 on the left front flipper?

She is REALLY important to us George. She represents another Honokowai regression case and the second FFS tagged regression case --which means YOUR people can prove what WE claim (Put yourself in our laypeople shoes. This would confirm stuff... give us credibility)

OK, in 1993 Mendelbrot had eye tumours and a tumour the size of a large canteloupe dangling off her right front flipper armpit area (white and still active).

1994 we didn't see her.

On her return in 1995 her eyes were clear (and they still are in today's photo) and her primary tumour had darkened and shrunkened considerably. Didn't see her in 1996 come to think of it or at least get close enough to a tagged turtle to make an ID.

Mendelbrot is really wary and is quick to give us the flipper. Peter says we can try again (sure, like we see her THAT often and it is THAT easy to sneak up on her)

I hope that is enough for you to go on.

Saw a large female for the second time today with a tumour the size of a longish watermelon growing from underneath her right front flipper from just under her armpit to down midway between elbow and tip of flipper. Ghastly.

Didn't shoot (was packing the wide-angle). Might get lucky and see her again.

Plastic zipper bags huh?

Aloha and take care

At 04:45 PM 8/1/97 -1000, you wrote:
>Well, the FFS Shoals people wouldn't be able to say much of anything
>because, as field techs working for us, everything gets relayed here.. I
>can give you some insight, but maybe not what you might expect. All tags
>with a "D" prefix where made of Monel National Band and Tag Co. Size #1.
>Meaning itsybitsy. Used for hatchlings. So, it the tag was more than
>about a quarter inch long, it wasn't a "D." What might look like a D?
>Well, there were no zero prefix, but there are Q prefixes. Any other
>ideas? Or, was the tag a quarter inch long? Your call.
>
>I've mailed you a package of plastic zipper bags. Have to run home now,
>so will email or phone you about what they are for. Aloha, George

Ursula Keuper-Bennett
Email: howzit@turtles.org

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Need

Date: Sat, 02 Aug 1997 12:05:30 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Not a D, it's a U

Aloha George,

Yesterday I wrote:

>Mendelbrot is really wary and is quick to give us the flipper. [illegible]
we >can try again (sure, like we see her THAT often and it is [illegible]
sneak >up >on her)

Peter was right. She was there this morning. I distracted her [illegible]
away and clearly visible) and Peter sneaked up. He says the T on the front
left flipper has algae horizontally so it looks like a D. But it isn't
and he read another tag just enough to be certain it was a T.

He remains sure of the numbers 359.

George, Mendelbrot is U 359 (left front flipper).

We are hoping your FFS records will show she had a large tumour [illegible]
from her right front flipper in 1994. (Peter says she may have [illegible]
because of the 95 IDnumber we assigned her suggests a turtle who showed
very late in the season). We have photographic proof this turtle has
undergone regression as has U 521 (Tutu).

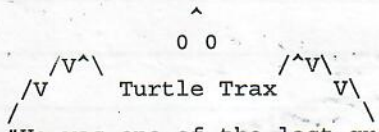
When you are digging about your records, please also have a look at what
your people wrote about Tutu (U 521) in 1991. They should have recorded
tumours that year and your 1996 stats on her should record they've [illegible]

Your FFS records are now critical in confirming the photographic evidence
we have on these two females. Mahalo for the time you will take on our
behalf.

All the best

Ursula Keuper-Bennett
Email: howzit@turtles.org

http://www.turtles.org



"He was one of the last great minstrels of wilderness, singing a
song of joy mixed with abiding melancholy, a song that saddened
his listeners even as it gave them heart to fight, as he did,
against the unthinkable outcome."

--Dr. David Ehrenfeld about Dr. Archie Carr

Date: Sun, 9 Nov 1997 11:35:48 -1000 (HST)
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
To: Susan Pultz <susan_pultz@mail.fws.gov>,
Jana Yonat Swimmer <yswim@umich.edu>
Subject: "Maui-Girl" Hawksbill 4802 Honu'ea (fwd)

Sorry, I should have included you two in this message I sent out yesterday. Aloha, George

****
****

---------- Forwarded message ----------
Date: Sat, 8 Nov 1997 16:32:31 -1000 (HST)
From: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
To: Pete Hendricks <pete@dar.ccmail.compuserve.com>,
Katherine Smith <katherine_smith@fws.gov>,
Craig Rowland <craig_rowland@mail.fws.gov>,
John Coney <jconey@hawaii.edu>,
Walter Dudley <Dudley@uhunix.uhcc.hawaii.edu>,
Roz Rapozo <infinity@lava.net>, Laura Sasaki <tortuga@aloha.net>,
Chuck Monnett <chuck_monnett@mail.fws.gov>,
Donna Liddicote <Marine.Option.Program@mccada.mauicc.Hawaii.Edu>,
Jerry Leinecke <jerry_leinecke@mail.fws.gov>,
Thierry Work <thierry_work@usgs.gov>,
John Lindelow <cybernet@aloha.net>,
Donald Heacock <Don@dar.ccmail.compuserve.com>,
Lisa Choquette <dmakai@divemakai.com>,
Allen Tom <hihwnms@ocean.nos.noaa.gov>,
Leon Hallacher <leonh@hawaii.edu>,
Hawaii Preparatory Academy <mrice@hpa.edu>,
Michael Molina <michael_molina@mail.fws.gov>,
Brian Tissot <Tissot@uhunix.uhcc.hawaii.edu>,
George Watson <gwatson@hpa.edu>, John Naughton <john.naughton@noaa.gov>,
Christine and Rick <mantaman@maui.net>,
Beth Flint <beth_flint@mail.fws.gov>,
Eugene Nitta <enitta@honlab.nmfs.hawaii.edu>,
Sol Kaho'ohalahala <sol@aloha.net>,
Larry Katahira <larry_katahira@nps.gov>, DarcyHu <HAVO_Birds@nps.gov>,
Karen Rosa <karen_rosa@mail.fws.gov>,
"Peter H. Dutton" <peterd@caliban.ucsd.edu>,
James Richardson <rainforestry@earthlink.net>,
Jeanne Mortimer <jmort@seychelles.net>,
Bill Puleloa <puleloa@aloha.net>,
Allen Tom <hihwnms@ocean.nos.noaa.gov>,
"McIntosh, Naomi" <nmcintosh@ocean.nos.noaa.gov>,
Brooks Tamaye <brooks@dar.ccmail.compuserve.com>
Cc: Bill Gilmartin <jarman@aloha.net>
Subject: "Maui-Girl" Hawksbill 4802 Honu'ea

A number of you have called to ask about the Kealia nesting hawksbill we've been monitoring by satellite and vhf radio technology in a joint project by the Hawaii Wildlife Fund (HWF), NMFS and many other helpers.. The news, and our luck as sea turtle scientists, have been VERY good I am pleased to report.

As you may recall, probably not more than two hawksbills (to my knowledge) nested along the south shore of Maui this summer. Nevertheless, the commitment was made to try to track one of them for the important purpose

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of determining the whereabouts of home range foraging grounds. Such knowledge is vital to protecting and learning about habitat requirements, food and other important life-functions. Very few hawksbills anywhere worldwide have as yet been successfully followed by satellite telemetry.

Here in Hawaii we have previously tracked four- all nesting at Kamehame Beach in the Kau District of the Big Island, where Larry Katahira of Hawaii Volcanoes National Park heads-up a hawksbill monitoring and protection project. Two of the turtles tracked in 1995 followed the coastline in a counter-clockwise direction to the opposite side of the island, leading us to discover their home range along the Hamakua Coast.

In 1996, two more were tracked from the Kamehame Big Island nesting site. These two turtles also had small vhf radio transmitters to allow HWF researchers to do shoreline finite monitoring of their exact whereabouts, something usually not possible via the satellites. One turtle followed the coastline in a clockwise direction and again ended up on the Hamakua Coast, where she was picked up by HWF using vhf. The other turtle followed a similar route but, along the South Kohala region, left coastline, swam seaward, and crossed the Alenuihaha Channel to Maui. She then continued along the north shore of Maui, past Hana to Kahului Bay where she stopped and clearly reached her home. HWF again detected her by vhf and, as they successfully did on the Big Island, continued to document her presence (and obviously residency) by vhf for several months until batteries died, antenna damage occurred or the transmitters fell off.

The 1997 monitoring, still in progress as I write this message, represents the first time a hawksbill nesting on Maui has been tracked. The exciting results to date are as follows. On September 23rd transmitting gear was safely and successfully placed on a hawksbill named 4802 Maui-Girl Honu'ea that nested at Kealia.

On October 11th she came ashore again to lay eggs at Kealia, after spending 19 days sleeping long spells underwater in Maalaea Bay, about a mile from shore. Within a day after this nesting she moved south down the Maui coastline to Kanaloa Point (accessible from land only by the Hoapili foot trail). From Kanaloa Point she moved seaward to cross the Alenuihaha Channel, taking about 2-3 days to reach nearshore waters of North Kohala on the Big Island. From there she followed the coastline to the Hamakua Coast, ending up at a site called Kuku Point, about 1.5 miles south of Laupahoehoe. The total minimum distance of her voyage was about 130 miles.

Charlotte Forbes and Bill Gilmartin of HWF are currently trying to intercept vhf signals from the turtle along the Kuku Point shoreline. Access to this remote site is difficult. However, knowing the good luck and "magnetism" both Bill and Charlotte fondly have for Hawaiian hawksbills, I'm sure they will shortly make successful contact with her.

Sea turtle ecology doesn't always seem to make sense. Some hawksbills nest on the Big Island but live in coastal waters of Maui (Kahului Bay). Other hawksbills nest on Maui but live in coastal waters of the Big Island (Hamakua Coast). Why do strange patterns like this exist? We may never know. But what is important is the knowledge that they do indeed migrate in this manner to such places, where they need to be protected.

"Stay safe, Maui-Girl." And return again soon to lay more of your eggs on the Valley isle!

****

Date: Thu, 13 Nov 1997 18:33:57 -1000
From: Casey Jarman <jarman@aloha.net>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Urgency

Red

[The following text is in the "ISO-8859-1" character set]
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Yes, I saw water on the surface come to within 2-3' of the nest so it got some water, I'm sure. (As I'd told you re: relocating nests, this turtle simply came to the end of reasonable time crawling that fence line and had to start digging and laying..Next year we have to have chosen a good site to relocate some nests to. Her next nest was at the same place relative to water wash!) I will try be be there for the dig w/ Hannah, too, on my way to Big Isl for our (hopefully) first 24hr activity cycle monitoring on her, assuming we locate her first!

We listen 2hr at each site before moving to another, I think this is good since we rarely had her approach that time in Ma'alaea, she was usually on about a 1.5 hr or faster surface interval schedule.

Later...

> From: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
> To: Casey Jarman <jarman@aloha.net>
> Subject: Re: Urgency
> Date: Thursday, November 13, 1997 3:40 PM
>
> Thanks Bill. Two days now (or three) with no Argos from her. How long to

> you listen at each set-up location. At least an hour, huh?
>
> Skippy just called. The turtles first nest is coming up to 77 days on
> the 20th and he said he got a call from Hanna that they would excavate
> then. I encouraged Skippy to be there to (since I could tell in his
> voice that he wanted to watch or help). Skippy thinks maybe there was
> ocean washover. Apparently no sign of hatching emergence as yet. Dang!
>
>
> On Thu, 13 Nov 1997, Casey Jarman wrote:
>
> > Hi George: Yea, I agree on the urgency! Charlotte was out there
yesterday
> > at two good sites she said, on the coast below Weloka...no beeps!
> > Charlotte is not available this weekend, so I'm going over and will
work
> > with Julie Rocko (one of last years 2 women from the MOP program).
We'll
> > keep up a good effort till we find her. And, I'll keep you posted on
any
> > developments. -Bill
> >
> > ---
> > > From: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
> > > To: Bill Gilmartin <jarman@aloha.net>
> > > Subject: Urgency
> > > Date: Wednesday, November 12, 1997 10:56 PM
> > >

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11/24/97

FAX FOR: George Balazs
From: Bill Gilmartin

1 page

No turtle on VHF yet! We've covered 3 mi of coast east and west of Kuku Pt and got no hint of a signal. Rain stopped Sat afternoon when it started raining hard and rain continued thru Sunday.

What do you think of my plan B: Wait for another good Argos fix — if she is still there, we'll have to search with a boat or plane, if she's moved, we'll jump on that site right away. How long to wait? 1+2 weeks??

I'll start Monday trying to get cost and availability of boat or plane to scout the area — maybe we can go from there once that is known. If she's there (Kuku) I don't see how we could have missed her, unless antenna is already down.

I'll call you at home tonight or Sat me at 985-7104.

Bill

Date: Tue, 9 Dec 1997 14:01:54 -0500
From: skippy@DAR.CCMAIL.compuserve.com
To: "INTERNET:gbalazs@honlab.nmfs.hawaii.edu"
<gbalazs@honlab.nmfs.hawaii.edu>
Subject: Excavation of Possible Nesting Site of Tagged Turtle

George,

This afternoon, I'll be observing, assisting if needed, Hannah excavating another possible nesting site of the tagged turtle. Today will be day 78 if eggs were deposited. I believe this episode was observed by Suzanne (HWF) while they were tracking her from the condominium.

I've held off on sending the remains from the old nest from the Kihei Beach Reserve. If there are eggs this evening, I'll try to ship everything tomorrow or whenever it will be convenient for pickup.

I was very impressed with last week's workshop. Hope the workshop went as well as planned.

Aloha,
Skippy

Date: Thu, 11 Dec 1997 16:13:14 -1000
From: Casey Jarman <jarman@aloha.net>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Misc.

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Hi George.

I'm home, sick...too much monk seal rec. team, then Steller Rec.Team mtg in Seattle, and short trip to Big Isl.

Update:

1) If you haven't heard, 235 eggs from the nest our Maui girl laid the night we caught her for tagging - none developed, as I had thought. We do need to seriously consider an egg relocation project next year for those nests that may be flooded.

2) I'm becomming disappointed in Charlotte's effort, 2hr over the last 2 weekends! Hannah will muster a crew from maui to go over next week, hopefully 2+ days with 4 receivers out. Nothing new on the turtle from your end I guess.

3) I think it was pretty obvious to many monk seal Rec Team members that Mike L. is in heavy control of that program! Bud actually seemed unusually quiet, Mike responding much of the time when you'd think Bud should have.

4) Right now I don't feel much like it, but am supposed to leave next Thurs for mainland...to be back about 1/10 (or maybe 1/26!). I much prefer the earlier, skipping my currently planned trip to Monaco monk seal conf. that I'm co chair of. I'd much rather try to find that turtle!

Will you be around next week...maybe lunch?

Honolulu loggers

Date: Mon, 24 Aug 1998 13:18:53 -1000
From: Peter Bennett <honu@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Depths

According to my depth gauge, the logger at the Turtle House was at 47'. The one at the wall was at 4-5', depending on tides. That's an estimate, since I don't think the depth guage is reliable at depths that shallow.

When we put out the current pair, we set the one at the Turtle House in approximately the same place, thus 47'. The one at Reef 2 is at 37'.

You should be aware that I've never calibated my depth gauge, though.

At 11:05 AM 8/24/98 -1000, George H. Balazs wrote:
>
>Peter, please give me your best estimate of the depths the loggers were
>at (and the ones at now) for 1) Turtle House and 2) in close near
>wall/Pterocladia. Mahalo, Geo.

_ / /// / /// / // / / Peter Bennett, Mississauga, Ontario
<:-(_)~ VISIT TURTLE TRAX http://www.turtles.org
\ \ \\ \ \ \\ \ \ \\\ \ Email: honu@turtles.org

PLEASE SUPPORT Marine Turtle Fibropapilloma RESEARCH

Date: Thu, 02 Jul 1998 11:56:30 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Loggers in place

MAUI Book

ONSET STOWAWAY Temp. Loggers

All loggers secured and carefully hidden.

1) 181193 right at seawall under a large rock near Pterocladia
2) 0498 at the keymound on Turtle House
3) 0500 where Zeus (1992) and Kaula (1989) hang out at Pikake Turtle House.

8/18/98 CRACKED - leakage NO data

First sighting of Zeus for the season and wonderful news. He developed tumours last year in both eyes. They are all but gone! Have to look very hard for the small gray remnants of what once were. Zeus is now added to our regression list and man are we happy about this.

In other news, Tiamat was in her usual location. When we arrived a young male was pestering her (flying about, sneaking up behind her, being a pest). Ti stayed long enough for me to shoot her from behind.

Snapped shutter just as her RHF tag glinted. I think we got us a really good one off. She lifted and circled a few times deciding on whether to resettle. She didn't so I just have this one. Will be taking the roll to Lahaina and will advise you this evening how it came out.

If it isn't as good as what I saw through my viewfinder, there is always tomorrow.

See Page 100

Date: Tue, 18 Aug 1998 10:55:47 -1000 (HST)
From: Denise Ellis <dellis@honlab.nmfs.hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Honokowai temp recorders

Was able to download 2 of the 3 temp recorders.. It looks like probably the shallow one and a deep one. The other Onset looks like it leaked (Rusty looking under plastic cover). I'll put printouts in your box.
NOTE: IF I reprogram for every 2 hrs, it will take reading for almost 2 years. And we probably should wrap in tape or something as it looks like

See page

Date: Sun, 5 Jul 1998 14:33:21 -1000
From: Casey Jarman <jarman@aloha.net>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: new mailing address and fax and phone

[The following text is in the "ISO-8859-1" character set]
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Geo - I have the last 2 nesting dates: night of 6/7 and night of 6/29 - as I recall I had taken a quick look at the interval of the nest date before 6/7 and it was 19-20 days. So, last week was the 3rd nest for this turtle and her 4th should be about 7/18-21, if the same interval range (19-22d) holds. So, there is still time (2 wks) to ponder what to put on her. Sorry for the false alarm on this...I have tooo much happening at the moment as well as you government types with your program reviews!! We'll be setting up our condo on Maui tomorrow and I'll go over on Tues for planning session, etc. Sure would like to see one of these mama's show up at Kealia soon also.
Later, Bill.

Date: Sun, 28 Jun 1998 18:35:27 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Dive two

OK, George, the honu have grown IMMENSELY since last summer. Reminds me of those old 60's B movies with giant bees and tomatoes. I already told you about Polzbarney (since 1995) who can barely fit under his ledge but just as dramatic is Nibblets (since 1997) who is much bigger too.

If hono grew as much as these guys did they'd reach sexual maturity in 15 years max. It has to be the combination of all this limu and El Nino. They've never grown this much before!

Resighted Hoahele (since 1994) and she's got grievous tumours now (mouth tumours and a #4 on her left flipper where she had a #1 in 96. Both Nibblets and Hoahele acted like no time had passed since last we saw each other. Your honu are real smart, George.

Zaphod (since 1993) was back where she always is --regression still in effect --good news.

Other honu I didn't recognize by sight but it is clear they knew us because they never bothered to move.

Went all the way to the Outback (60 foot Halimeda beds) and there's Cladophora but not near the extent of 91 so that is good news. Lots of particulate (zooplankton, limu shreds) and red hypnea throughout the water column sucked out by low tide.

Cladophora growing around the Turtle House and drifting about --gets in hair, regulators etc.

Only doing the one dive today. We slept part of the afternoon--think all the long work days and yesterday's setbacks finally did us in. But Peter was successful in rigging up something temporary for the video camera and he (we) both felt back on track.

Just completed writing up the fieldnotes. Now have to trap the left and right profiles from video and enter them into our database. Tomorrow I bring in the laminated tumour scoring sheets and fill them in right there underwater.