

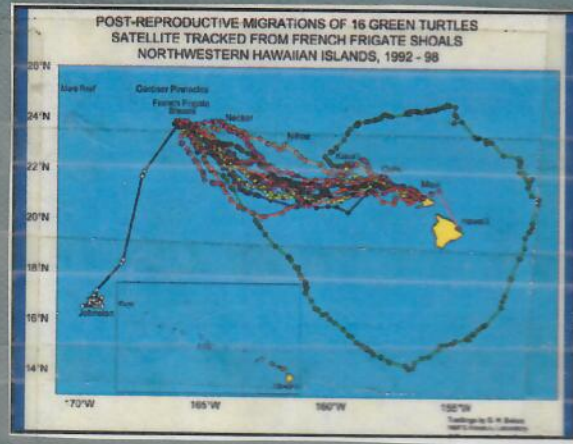
G. BALAZS LOG

FFS 1999
EAST 2000
2001

ISLAND

Depart 6-6-01 Wednesday
7:05 AM
Depart TERN 6-14-01
11:15 AM

FRENCH FRIGATE SHOALS



FFS Expedition No. "Reconnecting to a time in the past"
6 JUNE 2001 - p. 63
Tide chart p. 106

Bob Justman's
512th Flight

TO RECONNECT AND RECALL
The Good Times and The bad times "1999 = p. 31
2000 = p. 101

6 - JUNE 2001
wed. Thurs.

2001 = p. 103
2001 calendar p. 106

BASKING CENSUS
p. 110

PHOTO LOG p.

Data Loggers p. 94

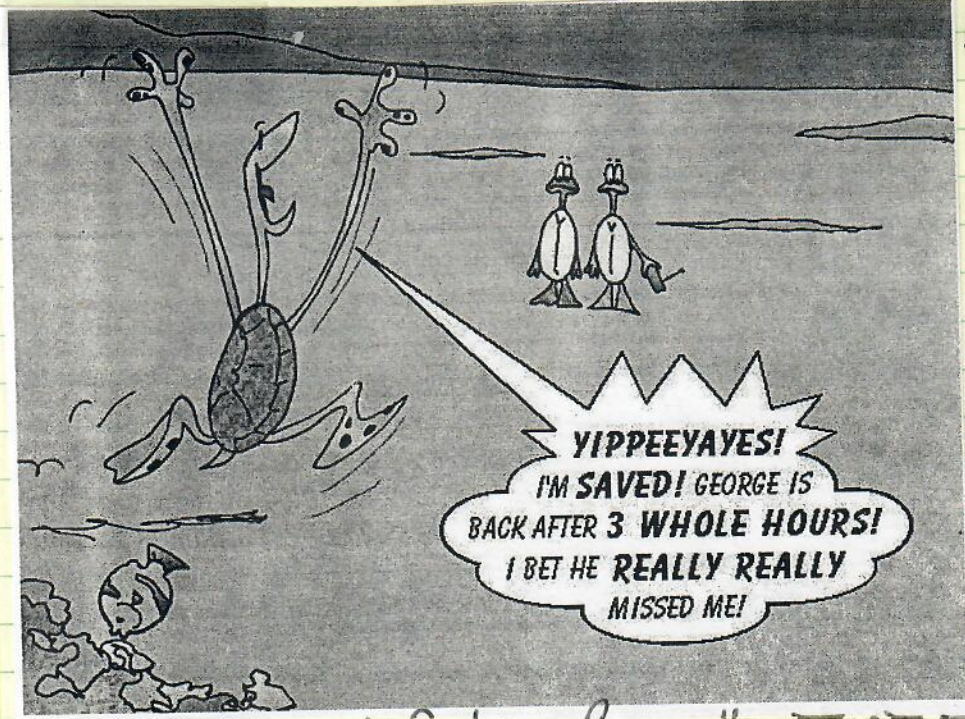
Video TRV900
TAPE 1 60min - ALL TERN
TAPE 2 60min - ALL EAST
TAPE 3 60min -

~ 15 pm departure from East 6/13/01 Wed. =
Thoughts

"You don't have to worry about never
coming back, because you never left.
And you never will."

Give Away TAGS Recovered
+ PIT TAG NUMBERS

need
Tides
time of
each year



correlate
no. turtles
up w/ tide
phases
+ Annual -
look for
years that
tide rhythm
correlates
w/ high NOS.

URSULA and Peter Bennett TURTLE TRAX
WWW.TURTLES.ORG (905) 826-6564
4:15 pm 6/10/01 Sunday - STATOS phone call
to Ursula and Peter from East Is. Tent

- Original green Petal Shampoo
- BLACK BAG hanging shower

Photo Needs "How" whaler (barge) & me; ghost crabs,

- Need
- ① Annual CCL/SCL size
 - ② Percent tag recoveries
 - ③ Clarification of Tumors on Turtle East/Tern
 - ④ Reduction Xerox yellow Rite in Rows for my days on East

13" RAIN AT TERN IN MARCH 2001?

ach
possible
ST
ern
2005
15 to

I. General Monitoring

The 1999 turtle season was a short season consisting of only one month of monitoring. There were 198 nesting green sea turtles (*Chelonia mydas*) identified on East Island during this time as calculated from the ID data.

Turtle Camp began on June 1, 1999 and went through July 1, 1999 consisting of 31 nights of monitoring. Each night ideally consisted of six turtle walks around the island at 21:00, 23:00, 1:00, 3:00, 5:00, and 7:00 (sunset to sunrise). Due to the duration between walks, it is possible that some turtles that were up crawling or digging false pits were not seen. However, it is unlikely that those turtles that actually nested were not recorded as being up.

There were 270 possible nests recorded on East Island during the season. Eggs were witnessed for 68 of these nests. Turtles were seen covering egg chambers (patty-caking) for 68 nests and backfilling 134 nests.

II. Data Notes

Identification data is recorded in the DBASEIII file EASTID99.DBF. This includes tag numbers applied and measurements taken for nesting females in the 1999 season on East Island. It also includes tumored turtle information. Sighting information is recorded in the DBASEIII file ESTSIG99.DBF. This file contains the turtle activity for each night of monitoring.

Moto-tool numbers A40 through A238 were used during the 1999 season. Moto-tool number A43 was accidentally not used, giving one less turtle than would be expected by adding up the moto-tool numbers.

Internal, magnetically coded PIT tags were used for the second season at French Frigate Shoals. No external tags were applied. PIT tags were applied in both the left and right hind flippers. PIT tags were not in series, but most tags this season began with 4135-, 4136-, 413E-. A few tags with the prefixes 411F-, 4134-, 4137-, and 413D- were also used. Tags were verified using a portable PIT tag scanner after the second week of turtle camp. Verified tag numbers are recorded in the file ESTSIG99.DBF under the heading "vertagno".

The tags 41356D1967 and 4135690C2C were misapplied and recovered. The needle pierced the flipper but the tag was not injected.

III. Tumors

Needs - New Campfencing; new CookWARE, new Tent
 - PIT TAG farther posterior
 - gloves knee pads; Alkohol makes "MOD" Needle cap dont fool w/it.
 - Tape moto; 2 nights off after 2nd; pull camp 6th; no computer entry. TMR distinction vs skin; Not absolutely essential
 2 PITs all turtles; YANOGA project - TMRs - Symposium paper
 smooth Repressed; AARON Repair toward end of time there.

Twenty four turtles had tumors this year, or 12.12% of the nesting females on East Island. The tumored turtles were A52, A55, A64, A66, A77, A82, A86, A95, A117, A123, A124, A127, A148, A150, A155, A158, A161, A177, A178, A199, A210, A218, A228, and A238. Tumor sizes and locations are recorded in the ID database file.

Severity?

IV. Data loggers

1999

Eight data loggers were buried on East Island to measure sub-surface temperatures during the nesting and hatchling season. East Island data loggers were designated E1-E8. The data loggers were buried 40-50 cm deep at various locations around the islands. The dates they were buried are as follows: June 3 - E3, E4, E5, and E7. June 4 - E6. June 5 - E1, E2, and E8. Each data logger is tied to a stake and a map of approximate locations of the data loggers accompanies this report and is on file in the Tern Island office. The data loggers were left in the ground at the termination of turtle camp to be recovered at a later date.

V. Miscellaneous Notes

Turtle A66 had a fish hook in her right shoulder. The barb of the hook was cut off, the shaft removed, and the site sterilized with betadine.

size? kept?

Turtle A78 had old moto-tool number V180 still visible.

= year

Turtle A82 had fiberglass from an old satellite tag. The scute looked normal where the tag would have been.

Turtle A95 had a blue tag at R34 with the numbers worn off.

A82 = TAG TAKEN OFF?

Turtle A154 had the old moto-tool number V116 still visible.

year 1997

Turtle A162 had a large metal tag on her right front flipper with the tag number 1306.

Need

East beach Sand

One turtle died on East Island this year during the first week of turtle camp while basking. No reason for her death was obvious. A biopsy was not performed since she was not discovered for at least 24 to 48 hours after her death and was extremely bloated. She had tags 483-C LHF, 482-C RHF and 484-C RFL. She measured 97 cm straight carapace length and 104 cm curved carapace length. The ulna was collected for age studies and a piece of skin was collected for genetic analysis.

humans need for DENISE

Important ISSUES: EROSION OF EAST - Loss of Habitat ON North Shore VS Growth of Island on South. What Will Island be in another 60 years? loss of pole possible

Prefixes EAST IS.

2000 prefix or suffix

year = suffix 2000 U

MOTOTOOLS
 1989 W
 1990 C
 1991 L
 1992 U
 1993 S

1994 Z
 1995 X
 1996 J
 1997 V
 1998 D on East (start 40)
 NONE on Tern except

1999 A
 2002 suffix

year suffix = EAST
 2001 prefix - S - Tern
 NOAA-15 = NOAA-K
 NOAA-14 = NOAA-J
 NOAA-12 = NOAA-D
 NOAA-11 = NOAA-H

ISSUES: Growth of Frigate Colony of East + Galapagos prey on hatchlings; Camouflage netting on East.

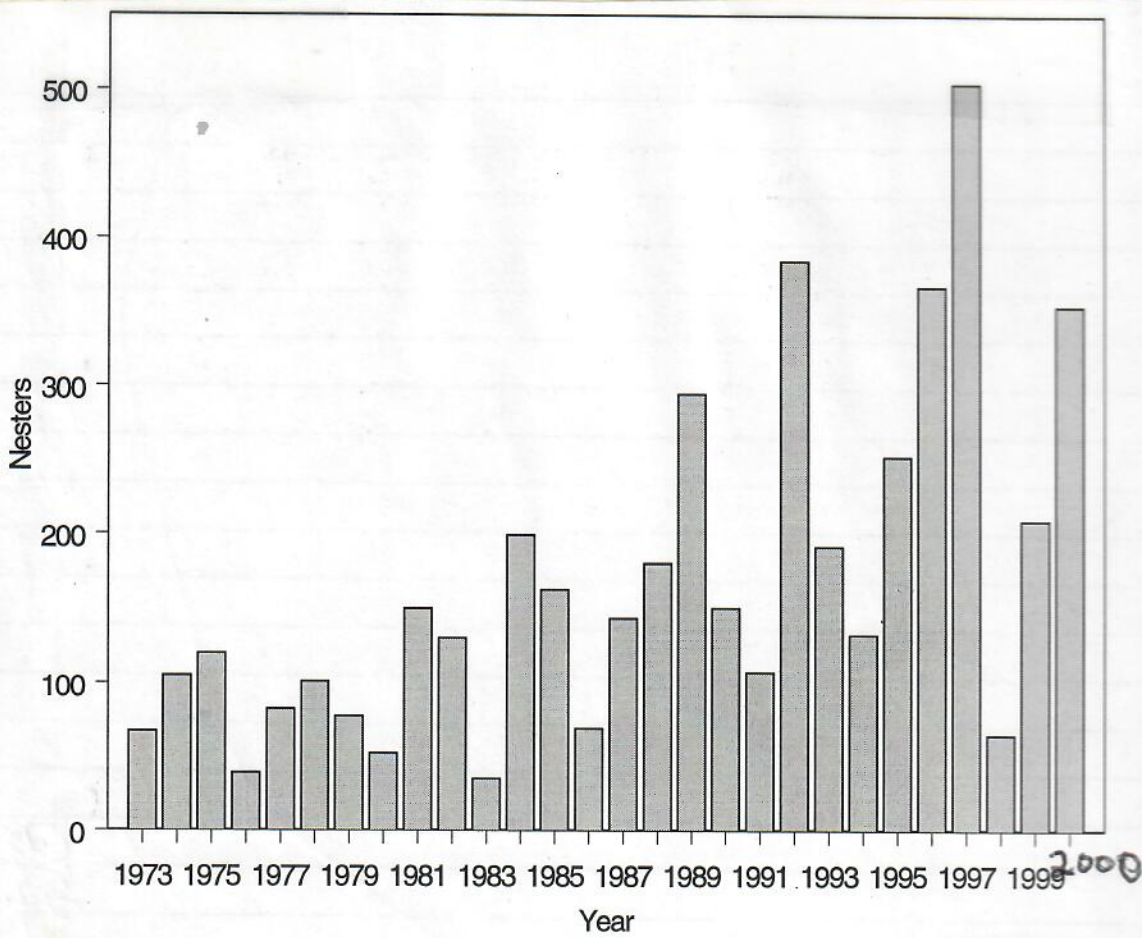


Figure 1. Estimated number of green turtles nesting at East Island, French Frigate Shoals.

Year	Survey nights	Estimated nesters
1973	43	67
1974	59	105
1975	30	120
1976	13	39
1977	9	82
1978	11	101
1979	13	77
1980	20	52
1981	23	149
1982	19	130
1983	17	35
1984	20	199
1985	18	162
1986	29	69
1987	26	200
1988	101	143
1989	143	180
1990	133	294
1991	119	150
1992	129	107
1993	31	384
1994	26	191
1995	31	132
1996	31	252
1997	33	367
1998	32	504
1999	31	64
2000	33	209

JAN 31
2000

Date: Tue, 22 Sep 1998 15:59:01 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: note from Tern

Need
Reduce
FFS book

5

Hello George,
Sorry about the delayed response to your messages. E-mail is new to me and I need to get accustomed to using it. Thank you for the update and your kind remarks. We feel great about being of assistance to you and helping your project be successful.
Since your departure, we had one sighting of a instrumented turtle, D-70 on Tern Island on 5 September. Visits were made to East and the Gin Islands on 15 September. We will be visiting Trig Island at the end of the month and East and the Gin Islands shortly thereafter.
I ended nightly turtle walks on 20 September due to lack of activity. No turtles were up on 7 nights over the last two weeks and no turtles were up on the last three nights. The last new turtle identified was on 4 August. A season total of 39 nests were marked for hatching success analysis and 34 nesting turtles were identified. Julie will provide a full report ASAP.
Aloha, Brian

Date: Fri, 20 Nov 1998 14:52:40 EST
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: FFS turtles

Reduce
FFS

1998

Aloha George-
I Can't Believe my time here on Tern Is almost up, only 3 more days on land two days traveling the open ocean and if all goes well I will be home the day before Thanksgiving. On Nov. 16 we successfully dug up the remaining four Data Loggers on East Island I will be digging up the ones left here on Tern the day before I depart (Nov. 21) and all of them will be coming back with me on the Cromwell.

If you have the time, It would be helpful if you could send us a quick note confirming the number of data loggers still remaining on Tern Island.
Thank you, Julie

Hi George,

I was hoping that you could please confirm the sites of pit tag deployment on the juvenile turtles. We remembered you saying to pit tag the front and hind left flippers but I was still a little uncertain. The first two juvenile turtles of the season washed over the seawall in a recent storm. Julie did a super job providing demonstration for all the rest of us. She will be bringing you the tissue samples. Thank you. Brian

My understanding is that Julie also has tissue samples from two turtles. The great if you could let me know if you receive them.
It was a real pleasure working with Julie. She provided a great job for us. If Tim or Vanessa do not return for Thanksgiving, Julie has my full support and appreciation for the work she has done. Aloha, Brian.

1998

Reduce for FFS

Date: Sun, 22 Nov 1998 14:42:28 -1000 (HST)
 From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 To: Mike Salmon <salmon@acc.fau.edu>, Ken Lohmann <klohmann@email.unc.edu>
 Cc: Marc HPA Rice <mrice@hpa.edu>
 Subject: Re: RECOMMENDATION to do One More Year

Mike/Ken (cc Marc) Sorry for my delay in answering, as follows, giving reasons in strong support of our continuing another year:

- 1) Solid progress has been made progressively each of the past two years, we've demonstrated we can deploy, the turtles have been successfully tracked, we have no reason to believe the gear isn't staying in place and functioning;
- 2) Our current N is statistically very small hence an additional season is warranted as the results to date do not rule out the use of magnetic fields for navigation;
- 3) A third and final year will allow added evolution and fine tuning based on experiences of the past two years;
- 4) Four TCD units have been paid for and will be available at no added cost for use during the 1999 FFS nesting season;
- 5) I (GHB-NMFS) will commit my program resources to a third and final year that will substantially involve the costs of satellite transmitters (4), field logistics including \$9K for aircraft charters, and related expenses/program expertise;
- 6) There is currently no other site besides the Hawaiian Archipelago better suited for the conduction of this study.

```

*****
*      George H. Balazs, Leader      *
*      Marine Turtle Research Program *
*      National Marine Fisheries Service *
*      Honolulu Laboratory           *
*      2570 Dole Street              *
*      Honolulu, Hawaii 96822-2396 USA *
*      Tel:(808) 983-5733            *
*      Fax:(808) 983-2902           *
*Email: gbalazs@honlab.nmfs.hawaii.edu*
*****

```

On Thu, 12 Nov 1998, Dr. Mike Salmon wrote:

- > George:
- >
- > Okay, but why? In view of our record thus far, some justification is
- > essential esp. since I'll have to make that case to NG. So give me some
- > ammunition!
- >
- > Right now, we're shooting blanks.
- >
- > Mike
- >
- > At 09:08 AM 11/12/98 -1000, you wrote:

Date: Tue, 24 Nov 1998 09:19:52 -1000 (HST)
From: Denise Ellis <dellis@honlab.nmfs.hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Temperature data loggers.

1998

George

FYI - just a list for you to keep your eye out for, we still have some data loggers up at FFS or if they have returned I haven't downloaded them yet. None of these have been deployed recently either so no worries about lost data. The list is as follows:

FFS Book

>From 1997: S/N 17475 (hobologger E3 - tag BBA477)
S/N 71042 (Stowaway T4 - tag Z956)

>From 1998: S/N 122325 (Stowaway T1) Tern
S/N 122323 (Stowaway T4) Tern
S/N 144073 (Stowaway E1) East
S/N 144070 (Stowaway E4) East
S/N 1409 (Stowaway E5) East
S/N 122326 (Stowaway E8) East
S/N 181186 (Stowaway N1) West
S/N 181194 (Stowaway N2) West
S/N 181192 (Stowaway N9) West

LOCATED BY ME
AREA 1 "E3" logger
JUNE 2001
4 years!

----- The following addresses had permanent fatal errors -----
<gbalazs@honlab.nmfs.edu>

----- Transcript of session follows -----
550 <gbalazs@honlab.nmfs.edu>... Host unknown (Name server: honlab.nmfs.edu:
host not found)

----- Original message follows -----

Received: from Hinwr@aol.com
by imo27.mx.aol.com (IMOV16.10) id CQNYa02195
for <gbalazs@honlab.nmfs.edu>; Mon, 23 Nov 1998 18:44:21 -0500 (EST)

From: Hinwr@aol.com
Return-path: <Hinwr@aol.com>
Message-ID: <db9b576d.3659f355@aol.com>
Date: Mon, 23 Nov 1998 18:44:21 EST
To: gbalazs@honlab.nmfs.edu
Mime-Version: 1.0
Subject: FFS turtles reply
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7bit
X-Mailer: AOL 3.0 for Windows 95 sub 18

NOV. 1998

George,

Thank you for the information on turtle tagging. Julie did a superb job on demonstrating application technique --I just wanted to clarify which flippers were to be tagged being that my memory of what you said wasn't fully clear.

Julie did leave before your message arrived (on the Cromwell during the afternoon of the 21st). She has the East and Tern Island data loggers with her and will be bringing them to you. If it turns out that not all of them were retrieved, please let me know and I will locate them. I will be coming into Honolulu on 9 December to go on vacation and could bring them to you then.

My understanding is that Julie also has tissue samples from two turtles. The Cromwell departed early and I did not get a chance to ask her. It would be great if you could let me know if you receive them.

It was a real pleasure working with Julie and she did a great job for us. If Tim or Vanessa do not return for the 1999 East Island camp, Julie has my full support and recommendation for the position. Take care. Aloha, Brian.

Date: Mon, 30 Nov 1998 22:17:37 -0500
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: honu@turtles.org
Subject: Ode to Going Nutz

[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]

(With apologies to Emmett)

Wish I were at GBI
With no one else around
Flying with the Sooty Terns
Far above the ground

I'd watch the honu swim below
Heads poking up for air
And basking in the shallows
I'd see Aikane there!

Walking 'long the shoreline
I'd set Imagination free
And taste the kickass THUNDER
Of a Douglas DC3

Instead I'm stuck in Canada
The honu far away
Fussing with this abstract...

-and it doesn't GET more boring than that...plus there's a driving rain here...

PLUS the French Frigate Shoals are playing the Honokowai Honu at Whaleskate 8:30 pm your time and we don't get it on our cable system!
bummer

(Peter just came down the stairs. Guess his part's done too. Mahalo for all your help sir. Got past the first hurdle... Outta here)

4800 FFS

Date: Thu, 3 Dec 1998 11:30:55 -1000 (HST)
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
To: Skippy Hau <skippy@dar.ccmil.comuserve.com>
Cc: Denise Ellis3 <dellis@honlab.nmfs.hawaii.edu>, Shawn Murakawa <smurakaw@honlab.nmfs.hawaii.edu>
Subject: Satellite Transmitter Tag 4800

9-98 Deploy

depth

Skippy Thanks for the message left on my phone recorder yesterday while I was on the Big Island. Great News indeed of the first-hand sighting at 40' off the Lahaina Chart House of our turtle 4800 (transmitter deployed early September 1998 at East Island French Frigate Shoals. She was a nesting female. We've tracked her to that area mentioned, but of course the technology of satellite telemetry usually isn't suitable for finite resolution of location. In a few minutes I'll fax you the tracking map. We continue to receive signals from her on a daily basis. But the quality of those signals is not sufficient for pin-point accuracy as was possible by diver Randy Miller.

I think it would be best if you took the lead to call Randy back to convey this information. If you would do that, please also obtain a mailing address and we can send him some literature from here.

Also, it's important to mention that Randy's observation of there being no antenna was entirely correct. This transmitter is an experimental design having an embedded internal helix antenna. We call it the GeoBar. Only four have ever been built (by Telonics in Mesa, AZ). Two were deployed here in Hawaii, the other two in Florida by Barbara Schroeder of our agency.

Best regards, Thanks for the wonderful information. George

Date: Wed, 7 Apr 1999 23:56:42 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Tern Island

1999

Hello George! It's been quite some time since we last communicated, so I thought I would give you an update on happenings here. I'm not sure what has changed, but we have not had any entrapments of juvenile turtles all winter. The last were two that washed over in November when Julie was still here. We have had high seas wash over and through the seawall on several occasions, with one event on 26 Feb that sent water and debris (and fish) across most of the runway. I'm not sure if this means that far fewer are present this year or if possibly they are escaping through the rapidly expanding holes in the seawall. We had been sighting juvenile turtles on the north side during this time. Recently, we have noted an increased number of adult turtles around the atoll (most seem to be males). We have also observed two copulations, one off Little Gin and one near East. There were approximately 12 hauled out at East on 1 April. Glad to hear that you will have a solid bunch of turtle folks out here this year. Chuck told me that Tim and Allison will be doing East. I'm real happy for Julie and Vanessa --sounds like some exiting work. Well, hope to see you out here this year. Let me know if I can help you out in any way. Aloha, Brian.

Date: 4/12/99 10:06 AM
Sender: John R. Henderson
To: George Balazs
Priority: Normal
Subject: Message from Lisianski
George--FYI turtle info below

Date: Mon, 12 Apr 1999 18:38:08 +0000 ()
From: 493133026@msg.por
To: cus328@cbox.aor

19lis2hon
Lis ok Cenus tot 65.7, n=3; 14 births, 2 dead, 2 weanrs. AP & DD saw birth #44 --New enigmnt S3M w/ eel cone on muzzle & freed 1 turtl necrspy; muscl & humeri smpls colctd 4 George.
Cheers-DAL

Date: Fri, 16 Apr 1999 01:52:54 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: FFS turtles

Hello George,

Hope you had a great trip to Taipei. Thought you would like to know that numbers of basking adult turtles have continued to increase over the last couple of weeks. On 13 April, 10 males and 2 females were observed basking on Trig Island, and on 15 April, 14 males and 12 females were observed basking on East Island (most on the SW end). Sightings have increased on Tern as well. We are keeping notes on the activity and have stepped-up on the detail for you. Looks a good season ahead.

Aloha, Brian

Date: Wed, 21 Apr 1999 03:13:45 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: FFS turtle update

FFS reduce

Hello George,

Sounds like you had a nice visit at Taipei. Turtle numbers are continuing to rise at FFS. We traveled to the Gins and East on 17, 18, and 19 April to collect samples for contaminants work, and we conducted some counts for you as well. At East, on the 18th, three turtle pairs were observed copulating (no full count was conducted), and on the 19th at 1400, we conducted an island-wide count: five copulations were observed, 20 male and 21 female adults were basking, and 11 adults were sighted in the water just off shore. We also recorded the following tags: 5253 RFL (male), 788-C LRL (female), G-136 RRL (female), F-820 RRL (female). On 19 April, at Gin Island, we counted 3 male and 2 female adults basking, and one copulation at waters edge. A full count was not conducted at Little Gin, but numbers looked to be near the same as at Gin. On the 17th, we sighted 3 adults basking at Round and none at Mullet. We have not been to Trig or the Whaleskate area since I last wrote you, but we will go there within the next week. On the 17th, at Tern Island, one copulation was observed in the west channel. On the 20th, at Tern, 6 adult males were sighted basking.

Date: Sat, 1 May 1999 02:18:52 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: Tern turtle data

5-99

FPS
 redunt

Hi George,

We have turtle ID data for two years on Tern Island, 1997 and 1998, in dBase III files. Past nesting and hatching success data is on forms only, so there is no electronic version. I have made a copy of the 1997 and 1998 dBase files for you and they will be going out on the plane on Monday, 3 May. I sent 4 different files for 1997 and I'm not sure exactly what you are getting. The 1998 files should be all data entered by the three volunteers that worked on the project: Julie, Jennifer, and Rita (supervised by Tim).

Since I last wrote you, we have been to Trig and Shark Islands. At Trig on 27 April, there were 7 males and 5 females basking and 5 unidentified observed in the water just off shore. We also observed 3 body pits. At Shark on 25 April, there were 13 males and one female. One male was just over body-deep in a body pit, resting. We have also noted adults hanging out along the north seawall at Tern (as well as basking on beaches). One 29 April, we watched a male and female meet together and begin to engage to copulate --right along side the boat. One turtle sighted north of the seawall was a juvenile.

I will be going to Disappearing and the Gins late next week, or early the following week, transporting divers for contaminants work. I'll give you another update, then.

Sounds like super opportunity going to the Arabian Gulf! Aloha Brian.

Date: Thu, 6 May 1999 19:51:31 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: Turtles Galore?

Hi George,

We haven't confirmed any nests yet, but we have noted a few body pits on Trig, East, and Tern. On 2 May on East Island, there were 24 females and 16 males basking. One female had an oozing cloaca and we saw just one body pit.

Brendan is a fine young man, a great worker, and would work out very well as an East turtle tech. I spoke to him about it and he is very excited about the opportunity. However, there is one potential problem. We tried to get Brendan hired on with us recently and were unsuccessful due to insufficient information on his application (his resume, which was geared for volunteer work, was mistakingly sent to Portland by our office). Chuck has gotten them to re-advertise the position and we expect to have him hired and on the payroll by the end of the month (working on Tern as a re-assigned Laysan tech). Although, there is some risk that it would not work out (ie., Vet). Because of this, Brendan has applied to other positions as a safeguard. So, the short of it is that he is not for sure yet.

I do have one other concern about the East camp working arrangement which I spoke to Chuck about. If the other fellow who was hired, was "technically" hired for the East Island position, and he discovered at some point that his position was in reality meant to be for East work and not Tern, what recourse may he have? Could this put us in a bad situation? Maybe I just worry too much --and we can re-assign people as we see fit. I'm not sure of the rules of this sort of thing. I want to ensure that you have the personnel you need, but could you comment on this?

By the way, I'm glad to be of help to you and I thank you for asking if you could do something for me. One thing I can think of that would be great, is if you might have another one of those cool turtle shirts.

Date: Fri, 14 May 1999 15:56:12 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: FFS turtles

George,

I did a lot of boating over the last week for the contaminants study and have a little more information for you. On 8 and 9 May, we were at Disappearing Island and saw two turtles hauled out on the 8th, only. On the 9th, I walked the island and saw no body pits. On the 9th, we also passed by Trig Island. I did not take a count, as we did not land on the island, but there were at least 10 turtles basking on the north shore. During the last week on Tern Island, there were two suspected turtle nests found by volunteers, based on criteria I gave them to look for. Julie and Vanessa conducted their first checks yesterday and last night. Most turtles are still male and they marked the female, which we rescued from the middle of the runway early this morning. We should make another visit to the outer islands within the next week or so and I will pass along to you what we see.

I spoke with Chuck some more about personnel assigned to turtle work (he told me that you had talked to him). Everything is set. Brendan is on board to work with Tim at East and Nicholson will work here on Tern with Vanessa and Julie. I spoke with Vanessa and Julie about it yesterday. Tim will have time to work with Brendan on Tern Island, so I think all should work out very well.

Ma, Brian

"Nihoa is a relatively undisturbed ecosystem," Flint said. "Of the 26 plant species that have ever been found there, only six were alien. We found only two ... non-natives on this trip. There are no non-native birds or mammals on Nihoa."

That makes the insect invasion both unusual and a greater concern.

"Many of them were found to be feeding on native plants, perhaps causing significant damage," Nishida said. "Others may be feeding on native insect species. Their impacts on the island's native populations are unclear."

Nihoa is so remote and access so difficult that humans may not be the major source of new insect introductions.

The grasshopper may have managed to fly on its own from O'ahu, where it was found about 15 years ago at Sand Island.

"Many of the insects likely arrived on Nihoa on their own," Nishida said. "Some of the insects like the large grasshopper, which I found all over the island, are capable of flying great distances. Others perhaps hitchhiked on birds or were transported by the jet stream."

The grasshopper, in feeding on 'ilima, is competing with native insects for food, he said.

The last insect survey on Nihoa was in 1996. Nishida said he will need to study the results of his collecting before he knows better how much the insect environment on the island has changed.

B4 • Tuesday, September 26, 2000

Alien bugs invading remote island

By Jan TenBruggencate
ADVERTISER SCIENCE WRITER

A plague of alien insects has infested Nihoa Island in spite of its isolation far beyond Kauai and Ni'ihau.

One of the pests is a large, far-flying grasshopper related to the African desert locust, and it is eating native 'ilima bushes and competing with native insects.

Nihoa is a lonely slab of rock 130 miles northwest of the islands of Kauai County. It covers just 170 acres, and its 910-foot peak is the highest spot in the Northwestern Hawaiian Islands.

"The extent of alien insects on Nihoa is surprising," said Bishop Museum entomologist Gordon Nishida, who spent 10 days on the island as part of a multi-agency research effort to learn more about the islands from Nihoa to Kure Atoll.

He was plucked off Nihoa Thursday by the Rapture, one of two ships participating in the Northwestern Hawaiian Islands Rapid Assessment and Monitoring Program. For more information on the project, visit explorers.bishopmuseum.org/nwhi/.

Nishida said the alien insects, which include the giant grasshopper, three species of ants, leafhoppers, wood-boring beetles and Australian cockroaches, outnumber the native insects on the island.

Nihoa, although rocky and eroded, has about two dozen plant species, almost all of them native. U.S. Fish and Wildlife Service biologist Beth Flint said that except for the insects, life on Nihoa is largely native.

12

For
1999 Season

All

3.2 hour
Sampling① Hobos All Recalibrated
4/98
by TraneTO
TIM
CLARK
5/17/99

E1 16592

E2 17472

E4 17473

E5 17476

E6 17474

E7 17469

E8 17471

T1 17468

T2 17470

T3 16591

T4 16593

② onset stowaways

1409

122324

71054

243570

243571

243572

243575

198448

243573

243579

243579

243574

Date: 09 Dec 1998 20:27:52 -0500
 From: Denise Ellis <Denise.Ellis@noaa.gov>
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Temperature data loggers

Still in the field: From 1998 - E8 - S/N 122326 (Stowaway)
 From 1997 (probably a lost cause) - E3 - S/N 17475 (Hobologger)
 T4 - S/N 70142 (Stowaway)

Nick Nicholson 1999 Season
 P.O. Box 1101
 Kilauea, HI 96754
 808-828-1520
 email: betspat@gte.net

1999 FFS Season - Temperature loggers

Hobo Loggers

<u>S/N number</u>	<u>FFS number</u>
16592	E1
17472	E2
17473	E4
17476	E5
17474	E6
17469	E7
17471	E8
17468	T1
17470	T2
16591	T3
16593	T4

Optic Stowaways

- S/N number
- 1409
- 122324
- 198448
- 71054
- 243569
- 243570
- 243571
- 243572
- 243573
- 243574
- 243575
- 243576
- 243577
- 243578
- 243579
- 243581
- 243583

Five from Thane sent also

Date: Mon, 24 May 1999 13:16:31 -0500
From: Thane Wibbels <biof009@uabdp.dpo.uab.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: URGENT

Rodney

George:

I just returned from Fedex, 5 optic stowaways are on the way. I launched them so they just need to be put into nests. It would be useful to put a couple of them adjacent to nests with dataloggers in them. That is, one data logger in the center of the egg mass and another in the sand at midnest depth, about 0.5 to 1 meter away from the nest. Since we only have a limited amount of loggers, I would only do that for a couple of nests. In that way we can get a good handle on the metabolic heating which really looks interesting. Alternatively, you could also use the adjacent dataloggers as the "sand temperature" data loggers.

You will note that I taped over the light on the optic stowaways that I sent (with black electrical tape). If the loggers are going into nests, I do that so the blinking light will not affect the hatchlings. I have no idea what effect it might have, but this avoids any potential problems (since they seem to use light as an orientation cue). You will want to do this with your data loggers if they are going to be put into nests.

Date: Tue, 25 May 1999 11:48:53 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: FFS turtles

Hi George, Our e-mail was down for a short period, but we eventually received your messages. All is going well. Brian.

George,

Turtles are going well. Everyone is trained and we have bled 31 turtles so far with 1 tumored male and 4 tumored females. There have been 32 new females IDed with nightly numbers running around 8-9 turtles up. Seems like it will be a good year but not overwhelming. Mabe a "normal" year if there is such a thing.

I have a question about my employment after turtle camp. LeeAnne is expecting me to be working full time for her after East which will include weighing and bleeding the 60 turtles for her study, doing nightly turtle walks, and digging up eggs. When we talked, you seemed to have the impression that I would be mainly concerned with collecting biopsies for you. My question is who is paying me and what exactly are my job duties? My concern is that I will be working every night for LeeAnne and not have any time for manta work. LeeAnne has given me the impression that she is paying me and I am working for her. Let me know if this is true.

Brendon is working out well and has learned turtles pretty quickly. We also have a second volunteer working on Tern. Neither one of them have wrist watches. Could you please send two cheap watches up on the plane?

We will be starting turtle camp either on the 27th or 28th. I would like to start the 27th but may need to start on the 28th so we can train Nick to do turtles and the new volunteer to do Brendon's bird work. I have trained Brendon already on Tern so East should be pretty easy for him.

Alona George -

Received 6-4-99

Thanks so much for the photo and the supportive words. I am grateful knowing you are there to help. I respect your candor with both Vanessa and I. It turns out that you have been right on with all "inside" information provided. I was not nearly as shocked when Lee Ann finally informed us that funding, most likely, will not be available to us next year.

About the field work, I am sure T. work reported to you after two very productive stays - Since then things have slowed up a bit (we are only sampling tagged and previously tagged animals) but the actual handling of the animals is going even so smoothly. We have got one good turtle team out here. →

We are just responsive, low disturbance and wondering in affection. Your turtles are in good hands.

We will sit down in the next couple of days and construct an informative E-mail (old tags read, # of turtles sampled...). We will keep in touch.

Thanks again
Julie
Leeth

Date: Tue, 1 Jun 1999 14:28:21 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: FFS turtle update

Hello George-- We received your message on 30 May and we have some new information to pass along.

Brendan's employment as a paid technician has not been settled to date and this has affected earlier plans for East Island work. Rather than go into detail, I will just summarize the likely changes. Brendan will be leaving Tern Island on 2 June or 13 June and will begin preparing to go to Laysan (in Honolulu) if Personnel approves David's selection (we should know this week). This means that we have decided that he will not be working with Tim on East Island, unless he is leaving on the 13th and you and Tim feel he could work there for part of the season. However, the most likely option would be that Tim would conduct work on East for the season and be spelled by Vanessa for a break/s. We feel it would be best to have Nick stay on Tern since he lacks much of the needed experience to work on a sensitive island (seal pups, burrows, etc). If you want further comment on this, please get back to us. Sorry that things went this way. Brian.

George - Not sure how we are going to work out East Island this year. Right now it looks like I am doing it with a break somewhere in the middle of June from Vanessa unless something is worked out. I am starting camp tomorrow, June 1st. Weather has kept me from starting earlier.

Dataloggers are under control. I am placing 8 on East in the sand and the rest are going on Tern. On tern 4 will be placed in their usual places and the rest will be placed in LeeAnne's study nests with a second one placed 1 meter away. Two nests have dataloggers already.

Aloha, Tim

Date: Wed, 2 Jun 1999 19:48:30 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Turtle Update & 1 Joke

*Reduce
Give*

Aloha George,

Previously tagged turtles obs. (each # a ind. turt.)

- 1) LHF F949
- 2) LHF A964
- 3) LHF 876-T, LFL 7953, RFL TERN
- 4) LFL 5166
- 5) RFL W574, LFL W-576
- 6) LHF F-689, RHF F690, RFL F692, LFL F691
- 7) RFL A937, LFL 8158, RHF U878, LHF A892
- 8) LFL 9749,
- 9) RFL W595, LFL W596, RHF 892T
- 10) RFL W965, LFL W966
- 11) LFL W577, RFL W578
- 12) LHF A956
- 13) LHF G110, RHF G109, RFL G111
- 14) Prev. PIT tag LHF 4136267D51

Study Turtles:

10 males sampled; 9 nontumored & 1 tumored
 28 females sampled; 20 nontumored (10 D20) & 8 tumored (7 D20)

All is going well & all are hard workers. Tim wants to know if I (Vanessa) may spell him on East for a few days (give him a break). Would that be acceptable to you? We'll keep up semi-regular updates! Spontaneous bottles of wine sent out to Julie & I would be gracefully accepted :) !

Julie & Vanessa

George- I just spoke with Tim and he asked about getting spelled by Vanessa on a schedule of once per week. This would give him a break and an opportunity to do some manta work. We want to see if this is arrangement is OK with you. Brian

Date: Mon, 22 Mar 1999 00:14:51 +0000
From: Ken Lohmann <KLOhmann@email.unc.edu>
To: "Dr. Mike Salmon" <salmon@fau.edu>,
"George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Fw: Re: Magnetic turtles

*Larry
Hawton
Brandy*

[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]

Hi Mike and George,

It was good to see you guys at the symposium. Below is the latest from Floriano Papi. It sounds as if their methods are solid and they seem to be aware of the multiple cues problem (as one would expect from people who have worked with homing pigeons).

Regards,
Ken

Reduce

-- Begin original message --

> From: Floriano Papi <papi@discau.unipi.it>
> Date: Fri, 12 Mar 1999 12:46:18 +0100
> Subject: Re: Magnetic turtles
> To: KLOhmann@email.unc.edu (Ken Lohmann)

> Dear Ken,

> Sorry for the delay in replying to your latest message. Paolo and I
> have been busy in organizing and doing new satellite tracking experiments
> in South Africa and in preparing a manuscript about our 1998 experiments
> with magnetically disturbed Ascension turtles.

> Here are the answers to the questions reported in your email of 10 Dec. 1998:

> 1. Were you able to confirm in some way that the magnets stayed attached to
> the turtles during the migration?
> We feel that a dislodgment of the magnets from all the turtles is very
> unlikely. All the experimentals left Ascension shortly after magnet
> application, and their courses were indistinguishable from those of
> controls even in the very
> first segments. So, the magnets would need to have detached in a very short
> time from all the turtles. The glueing system was quite safe: in other
> unpublished experiments, time-depth recorders were attached to turtles with
> the same glue and were recovered still in place after 12 days; the
> transmitters of two controls were attached with the same glue and held for
> 61 and 78 days.

> 2. Were the magnets strong enough to disrupt receptors throughout the body,
> or only near the head?
> We scattered the permanent magnets over the entire turtles' body in such a
> way as to prevent them picking up of correct information, no matter where
> any magnetoreceptor was located. Moreover, we used mobile magnets that
> produced variable fields as the turtle swam, thus also preventing
> magnetoreception based on induction. The strength of the field produced by
> magnets was different in different regions of the body, but always above
> 6000 nT, while the tips of the front flippers were exposed to a variable
> field ranging from about 1000 to 15000 nT depending on their position

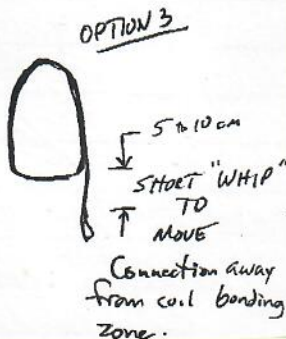
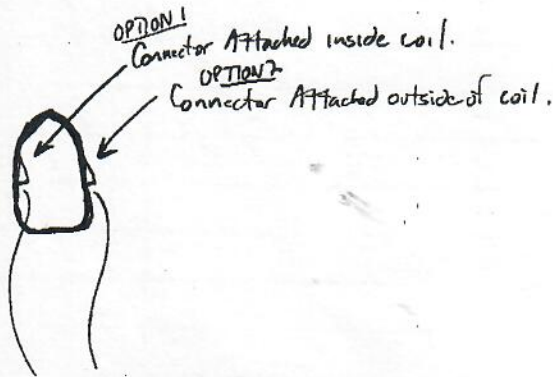
> From: Ken Lohmann <KLOhmann@email.unc.edu>
> To: Mike Salmon <salmon@fau.edu>
> Subject: TCD Connect

> There is one distributor that has the connector set listed at [unclear]
> what Larry used on the O&A.

> during swimming. These artificial fields were superimposed over the natural
 > field varying roughly between 26000 and 29000 nT. We feel confident that,
 > with such an arrangement, navigation based on a magnetic map could have
 > hardly been possible.
 >
 > 3. Finally, I am curious as to what conclusions you feel should be drawn
 > from these data.
 > Our conclusion is that, even if adult turtles possess a magnetic map, this
 > is not not essential to Ascension turtles to navigate. It is thus necessary
 > to think to alternative mechanisms that allow such performances. We are
 > currently performing (or planning) tracking experiments with turtles
 > displaced at long distance from the capture site, either in South Africa
 > (with loggerheads) and at Ascension. The first data we are getting indicate
 > that their ability to compensate for passive displacements is limited and
 > that they are not able to home from every location. I will certainly keep
 > you informed about the outcomes of these (and future) experiments of this
 > kind.
 >
 > I am looking forward to hearing from you about your work and your future
 > programs.
 >
 > All best wishes, Floriano
 > *****
 > Prof. Floriano Papi
 > Dipartimento di Etologia, Ecologia, Evoluzione
 > Universita' di Pisa
 > Via A. Volta 6 I-56126 Pisa, Italia
 >
 > Tel.: +39-05048469, 05020447, 05020255
 > Fax: +39-05024653
 > Email: papi@discau.unipi.it

Harbor Branch Oceanographic
 Institution, Inc.
 5600 U.S. 1, North
 Fort Pierce, Florida 34946

DATE: 06/01/99	
TO: George Balazs	
FROM: Larry Taylor	
FACSIMILE: (561) 464-9094	TELEPHONE: 561-465-2400, ext 258
PAGES TRANSMITTED (INCLUDING COVER SHEET): 1	
COMMENTS: See sketch below. Refer to E-mail of June 1rst, 8:36am.	



Date: Thu, 27 May 1999 21:52:25 -1000
From: Marc Rice <mrice@hpa.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: TCD Connectors (fwd)

George,

Read the article about your exploits as a turtle researcher. Nice job done by Ann. Congratulations.

I went down to visit with Leon T. tonight. He called a couple of times saying that the turtle (his Mable) was basking and had been out of the water for 5 days now. The turtle looked fine.. it looked robust and didn't appear to have any injuries although I just look at it from a distance. I'll check again tomorrow and see how it is doing.. If he is correct, however, this will be a record as far as I know. We visited with him for quite some time and he asked me to give you his best.

Laura has stopped by for a few days on her way back to micronesia and we down with me. She talked to Mrs. T for a long time and really liked her. She will go back to Pohnpei on Monday morning. We are pleased to be able to visit with her. She seems well and ready to return for some more sponge farming! I don't recall if I mentioned it or not, but Pat and I will be going down there to visit with Laura during the month of July.

Marc

At 03:49 PM 5/27/99 -1000, you wrote:

>Larry, I can't locate what you were referring to on the web site you
>indicated:

>
>www.omnetics.com



>However, below is a message from Marc listing a number of sites, two that
>specialize miniature uw connectors. Note also Marc's good input, sent to
>me last year after we returned from the field.

>If you could just estimate the price, you could then send the bid (which
>of course can always be flexed later as needed) and I move ahead at this
>end. Many thanks, George

```
*****
*      George H. Balazs, Leader      *
*      Marine Turtle Research Program *
*      National Marine Fisheries Service *
*      SWFSC Honolulu Laboratory      *
*      2570 Dole Street               *
*      Honolulu, Hawaii 96822-2396 USA *
*      Tel:(808) 983-5733             *
*      Fax:(808) 983-2902            *
*      gbalazs@honlab.nmfs.hawaii.edu *
*****
```

>----- Forwarded message -----

>Date: Sun, 20 Sep 1998 22:35:53 -1000
>From: mrice@hpa.edu
>To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
>Subject: TCD Connectors

>
>Here is one distributor that has the connector (at least it looks like it)
>that Larry used on the Coil.

Date: Mon, 14 Jun 1999 03:31:07 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Turtle camp

Reduce

George,

All is well with turtle camp. We have around 150 turtles so far and are averaging around 20 animals up a night. One turtle died basking but we did not do a necropsy since it was bloated like a giant ballon by the time it was discovered. I also had a turtle up with old fiberglass from a sat. tag. Scutes looked great where the tag went. I have tag nos., etc. but I brought the wrong bucket back to tern (data and dirty laundry are still on East). Vanaessa gave me the last two nights off and has told me she will relieve me once more during the season. The turtle crew here is entering my data so I should be up to date on data entry when the season ends. Please let Vanessa know if you want to check tags this year. The turtle crew is not too busy the next two weeks and will probably have time to e-mail any data you would like. Overall the turtle season is going pretty well and I enjoy the longer stays on East. Too many film crews on Tern this year! I just got your note on the plane. I am not too sure of my plans, but a lot of what I do will depend on the manta work. Brian informed me a few days ago that FWS does not have enough gas to continue to support my study. Mitch has offered to supply gas or take me out, so my plans after camp will probably depend more on how that situation works out. Thank you for the note though, it is good to have your blessings. Aloha, Tim.

Date: 6/2/99 5:20 AM
Sender: gbalazs@honlab.nmfs.hawaii.edu
To: George Balazs
Priority: Normal
Subject: Once uponna time... (fwd)

* George H. Balazs, Leader *
* Marine Turtle Research Program *
* National Marine Fisheries Service *
* SWFSC Honolulu Laboratory *
* 2570 Dole Street *
* Honolulu, Hawaii 96822-2396 USA *
* Tel: (808) 983-5733 *
* Fax: (808) 983-2902 *
* gbalazs@honlab.nmfs.hawaii.edu *

----- Forwarded message -----
Date: Sun, 30 May 1999 08:56:19 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Once uponna time...
need →

Once uponna time I finally got to tell YOU a story.
<<http://www.turtles.org/ffs/ffsss/ffsss00.htm>>

Thanks for taking me on this journey, George. Thanks for the stories and the especially images you've swirled around inside my head --and for the new FFS friends I've made as a result.

Note, when you get to your East Island "pan" shot, you'll need to go to the bottom of the screen and SCROLL right to see the entire shore of East go by. Beautiful shots you took.

I really couldn't think of an appropriate end so right now we just aim people for the FFS page. But there has to be something... but it has to be perfect and yesterday, perfect just didn't come knocking.

^
0 0 /V^ /V^
/V Malama na honu V\ <mailto:howzit@turtles.org>
http://www.turtles.org

"Take me with you on this journey
Where the boundaries of time are now tossed"

--Loreena McKennitt
the book of secrets

TURTLE TAG
CELEBRATING THE 25TH ANNIVERSARY OF THE FFS TAGGING PROGRAM

Date: Sun, 06 Jun 1999 09:04:25 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Trax update

The FFS pages have been removed from our front door and added permanently to the Table of Contents.

Next, to mark the end of the 25th Anniversary this week, we prepared a five-panel comic just like we did a year ago to celebrate the week of June 1st. A cliff hanger.

We graced it with the FFS logo.

Also different, we added commentary to this week's comic to explain why we're not finished the LOST SHOALS series. Goes on to say there really IS an N36 and an East Island and Sooty Terns and dedicated researchers there.

And of course we thanked you for the ideas you've given us for this comic strip.

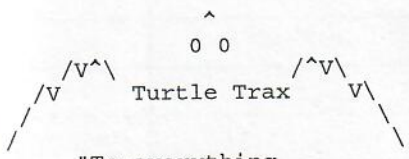
The toon is at: <<http://www.turtles.org/toon.htm>>

Commentary: <<http://www.turtles.org/shoals.htm>>

About the commentary, I love the way the FFS pics and my drawings match so well!

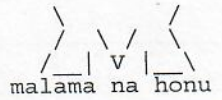
FFS 25th now officially over. Even my SIGs won't have the "CELEBRATING THE 25TH ANNIVERSARY OF THE FFS TAGGING PROGRAM" on them any more.

P.S. If you ever feel so inclined though, I'd still appreciate any stories you may wish to share because I'm as interested as I've ever been. More so, actually.



Ursula Keuper-Bennett
mailto: howzit@turtles.org
<http://www.turtles.org>

"To everything...
TERN TERN TERN
There is a season...
TERN TERN TERN"



--Adapted from The Byrds

Date: Sat, 19 Jun 1999 14:09:14 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Turtle

Redone

Aloha George,

Tnx for the wine! This past eve we saw a turt. w. "18" on her 3rd lat. scute (on both sides). Tags were N-21 LFL and N-20 RFL. Who is she? Is she special?

Our pit tag reader died. I guess seal was broken & when it fell out of turt. vest and got wet from a wave; water got inside. Tim says extra you sent with him doesn't read pit tags in the bag. We will send defunct reader back on the July 7 flight w/ a more detailed explanation.

All else going well. My sub for Tim went well. Guess I am sorta doing turtle camp!

Vanessa (& Julie)

Date: Fri, 25 Jun 1999 21:17:38 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Etc.

"18" Midway

Hi George,

Turtle 18 ('from' Midway) nested on Tern Island on 18 June. We didn't 'do' anything to her because those mototools looked recent (i.e., no pit tag - we didn't have a reader).

As to the not-working-too-well reader... The Model is MPR by Destron Fearing; serial number 1090-2061. One of the pricey ones. I had always kept the thing in a ziploc. Well, with one thing and another (excluding all names except my own) the reader was taken out of the ziploc to use and not put back in ziploc or not sealed in ziploc when put in vest. I was chasing a turtle in a failed attempt to pit tag (& failed attempt to zip 'cause zipper jammed) and the pit tag reader fell out of vest sans bag and was washed over by a wave. I brought it back and realized the inside was wet. We (me making final take apart decision) decided to take it apart to get it dry and discovered that the seal had been previously broken. Don't know by whom. It is dry but the LED is largely unreadable. Tim has 2 on East; we have the broken one on Tern. Tim thought that the extra pit tag reader didn't work because it didn't read tags that were still in the bag. However, aft. talking to Melissa (they use that brand) he found out that they don't read tags in bag, but read tags in flesh. He is supposed to send the reader over here today.

As to the turtle with the previous pit tag number. We just figured out that someone moto-tooled the turtle on the wrong scute. It started out as 86. Once again, I came along while the turtle was excavating a body pit - saw no moto-tool and then moto-tooled her on the correct scute. I think she may have 2 pit tags inserted into RHF - not sure. When Tim scanned the turtle only the LHF flipper showed a tag. But, I pit tagged her on the RHF on a later date.

Completed 5 study turtles! Got them after their 3rd nest. Vanessa (& Julie)

CAPTURE DATE, LOCATION AND METHOD:

April 12 1994 Sand Island Midway Atoll - Crosspoint

Basking turtle - box placed over

Basking turtle

PERSON RECORDING DATA: Michael Romich

hand/box

OLD TAGS:

NEW TAGS: RPL

414B005762

TUMOR SCORE

0

OTHER NEW TAGS:

LFL
RHF

413B26476C

STRAIGHT CARAPACE-LENGTH:

91.5

WIDTH:

72.5

NOTCH LENGTH:

91.3

DB:

L.O.

VB:

L.O.

CURVED CARAPACE LENGTH:

97.0

WIDTH:

90.0

HEAD WIDTH:

12.2

SEX: MALE, FEMALE OR UNDETERMINED

U

PPS: YES OR NO OR NE

Y

TAIL LENGTH:

T

26.5

C

5.5

RIGHT FRONT FLIPPER WIDTH:

14.0

SAMPLES COLLECTED:

PLASTRON LENGTH:

WEIGHT:

DESCRIPTIVE REMARKS:

Mototool #18 3rd lateral rt + left.

Small tail, suspected female.

Date: Sat, 19 Jun 1999 14:12:19 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: from Brian

Redmy

George. There is a matter I need to inform you about. Due to all the projects we have supported this year with boats and fuel, we are currently in very short supply of unleaded gas. David had asked me to limit boat use to basic refuge needs if we do not have extra gas. We do not have extra gas and this has meant that I had to tell Tim that we can not support his manta ray work by supplying him gas. This upset Tim and he told me that he would quit working and leave, so that he would be able to do manta work. He said that the manta work is his primary reason for being here.

I have since worked out a solution with Mitch, who has extra gas on hand. Mitch is supplying Tim with gas for use of our boats. He has also offered to have Tim come on trips with them when they travel in the direction Tim conducts his work.

I am unsure of what has been promised to Tim, as Chuck did not specify this with me, or is Tim's permit specific. The number of trips Tim told me that were necessary for success of his work would necessitate at least 3 drums of fuel. With the current arrangement, I was hoping that you and David might work out the details of Mitch being compensated for fuel he has donated. Mitch or I can let you know what that amounts to.

Thanks, Brian

Date: Tue, 22 Jun 1999 04:21:53 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: boat gas

Redmy

Hello George,

Sorry I have bothered you with this, but yes the only issue has been the supply of gas. FWS gas on Tern is down to three 55 gal drums, due to all the special projects we have supported (filmcrews, contaminants, etc.). The Cromwell will be here in two days and again in July and August. FWS can not get a delivery of gas from the Cromwell until the August cruise, and that is still not certain. NMFS (Mitch) has all space on the Cromwell for gas being brought out. Because Mitch has an abundant supply, he has been very generous in supporting people/projects that I can't. Currently, this is Tim and Nat Geo. Tim told me that he needed 15 trips of manta work (this was after he had already made 2-3 trips). It takes 6 gal of gas to go to East and back. Tim's work is beyond East, near the Gins. Some of these trips can start from East (change-over days) and many would be based from Tern. For easy figuring, 15 trips X 6 gal = 180 gal. I told you 3 drums, 150 gal. I think this is an under estimation for 15 trips, especially since we have few change-overs this year. I don't know what Tim was promised by Chuck, but this magnitude of work seems excessive for us to support, and further we simply don't have any gas to give at this point. We have worked out a solution to support Tim by having him burn NMFS gas and also by going out with Mitch on occasion. Today, I brought Vanessa out to East, let Tim have the boat for two hours, and brought Tim back to Tern for a break. Tomorrow I will bring him back and he will have another opportunity for manta work. The only remaining issues, at this point, are whether Tim's needs are satisfied with what he has to work with, and who will compensate Mitch for the gas he is providing. Should FWS later give fuel back to Mitch, Tim be responsible, or NMFS absorb the cost. This is not for me to decide. I was hoping you could work this out with David Johnson. I have discussed all of this with David, but have not yet told him that I have informed you and asked that you talk to him. Sorry again for the trouble, but I hope to get this cleared up. I will be leaving for 2 months on 7 July. Aloha Brian

Date: Mon, 28 Jun 1999 17:29:06 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: To Vanessa- It was unfair..

George,

All letters are from Julie and I! I just type faster! Tim has only had a total of three days off from East Island, so he has been unable to write often. He is planning on breaking camp from East on July 2.

We will send the defunct pit tag reader on the July 7 flight. We also will need more pit tags. We have gotten into Tim's stash. We are pit tagging in both hind flippers. Tim sent the mini-reader to us and we have been using it. I think it works well.

We have collected some more biopsy samples on some tumored turtles. There has been one (that I know of w/o looking through Tim's data sheets) that has tested over on East. She hasn't returned to Tern since we collected blood from her. A few other turtles have never returned.

54 turtles have been sampled in total: 13 Males (9 non-tumored & 4 tumored) and 41 females (28 non-tumored & 13 tumored). 7 of the tumored turtles had biopsys taken.

All is well, Vanessa & most definitely Julie

Date: Mon, 28 Jun 1999 07:43:25 -1000 (HST)
 From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 To: GeorgeH Balazs <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: Dawning of the Age of Aquarius, or, A Sign of the New Millenium!

That's what ran through my mind today. It takes a lot to really get me worked up on turtles.. realize I've been exposed to quite a bit over 29 years. Well, all this past week we have been getting reports of bunches of turtles, some Very Big, in close on the North Shore. First concern was sickness, strandings. But, no way. Today my son Paul (13) and I went "exploring" 9 hours worth. North Shore. Multiple stops, to look and take pictures. Something wonderful and beautiful is happening. Dawning of a New Age.. and the turtles.. gentle vegetarians.. are signaling it? That's crazy of course. But I couldn't help think it when watching 8 or more 300 pounders, perfectly clean and healthy looking, relaxing and grazing in 2-3ft of water next to shore at Chuns Reef, Laniakea, and east of Haleiwa. And, kids and adults standing in the water with them. My kid joined also. Watching them, petting them, thrilled out of their mind. And, feeding them. Yes, that will make you ballistic. But. Wait. The turtles were there to feed on Ulva and Enteromorpha. It grows in shallow. Turtles were there to eat it. Some of the best was out of the reach of their Big Bodies. So people were picking bunches and handing it to the turtles which gently munched it from them.

I don't know what to make of it. But I loved it. Some lifeguards I spoke to at Waimea Bay said "Oh sure, this has been happening, whenever the surf is down, and sand shifts to expose certain rocks that the algae grows on!" I think I need to go the the North Shore more often. Instead of making trips half way around the world! And Ursula and Peter, you ought to get over to Oahu sometime. Don't need to bring your scuba. Geo.

Date: Fri, 9 Jul 1999 20:31:44 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Turtle camp

George, I am back on Tern after 31 days of turtle camp. We started June 1st and broke down on July 2nd. I believe we had 198 turtles this year but will need to finish entering/proofing the data before I can give a definite number. It was a good year and everything seemed to work out. Vanessa gave me two breaks so I could eat ice cream and stock up on beans again. We averaged 20-30 turtles a night once the season got going. I can give you some better numbers once I get equipment and data cleaned up. Not sure if you are aware but FWS has withdrawn all support of my manta research. I learned this two days before camp ended. Mitch is letting me use their boat and fuel whenever they are not using it or when we can piggy-back projects. Right now is perfect weather and tides for mantas so I have been going out with them every day since camp ended. We have been having 10-12 mantas/day and I have been able to get 3-6 biopsies/day. I am trying to get as much of my work done before anything else happens. I am afraid I am ignoring the turtle data because of the time I am spending with the mantas. I would like to know if you need the data to be complete by the 7th or if I can finish it at a more convenient time. If you need it then I will have it completed but I would rather not stress over it if it is not necessary.

How about a phone conversation? We have access to the sat. phone for free from 9-10 weekdays for business. Are there any days this week after Tuesday you would be available?

Aloha, Tim

Date: Mon, 12 Jul 1999 19:35:16 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: turtle tracks

Redwine

Aloha George-

Here are the measurements that you wanted of the 5 turtle tracks: 102cm, 100cm, 112cm, 92cm, 103cm.

Everything is moving right along out here- we have completed 14 turtles so far. Vanessa is only waiting for 3 more tumored D20 turtles to return for their 3rd nest and I am happy with my sample size of 14 males (9 nontumored & 5 tumored). It is nice to have Tim as part of the turtle team, although I think that he would rather be on East. We all sat down and enjoyed a glass of red wine (thanks to you) and cheered to his arrival.

Much mahalo -Julie and Vanessa

Date: Tue, 0500 (EST)
From: KENNETH LOHMA <email.unc.edu>
To: gbalazs@honlab.nm... .edu
Subject: Turtle Thoughts

Reduce

Hi George,

At last I have a chance to sit down and write about turtles. I apologize again for the delay. We've had a rough couple of weeks here, so I hope that we've gotten all of our illnesses and misadventures for this year out of the way early.

I've had a chance now to read Mike's report and ponder the data, so let me first give you my interpretation of the science, which perhaps differs slightly from Mike's. It seems to me that there are four basic hypotheses that might plausibly account for our results. I'll summarize each below.

MALFUNCTION HYPOTHESIS: The possibility here is that something went wrong (e.g., the insulation leaked) in some or all of the trials, so that the field did not always change in the way that we intended. Some variation in the results between different turtles might be explained by how well each coil functioned (e.g., the first coil worked; the last two didn't). Here we are hypothesizing that the turtles will be affected IF the field is changed.

NO MAGNETIC CUES HYPOTHESIS: Here we postulate that the coil worked as planned and that the turtles did not change course (the final two, anyway) because turtles do NOT use magnetic cues in navigation. For this to be true, we would also have to hypothesize that our first turtle was a fluke and that its strange path was just an unfortunate coincidence.

MISSED RECEPTORS HYPOTHESIS: We assume that the coil worked as intended, but the field had little effect because the magnetic receptors are not in the head (or not near to where the coil was attached). In other words, the field would have had an effect if it had been applied to the location where the magnetoreceptors are.

MULTIPLE CUES HYPOTHESIS: In this case we hypothesize that adult turtles, like migratory birds, rely on several different cues to migrate and that the earth's magnetic field is only one of them. Thus, turtles may use the earth's field if it is available, but if it isn't, then they simply switch over to a different cue. A useful analogy is that you usually use visual cues to guide yourself around your house, but if the power goes off at night and you are left in the dark, you can still navigate around using memory and a sense of touch (things you don't use under ordinary circumstances).

With these four different possibilities in mind, the question becomes: how can we distinguish between them experimentally? After pondering this, I think I'm inclined to agree that it may not be possible with our PRESENT approach; some modification is likely to be needed to progress beyond where we are now and allow us to falsify one or more of the various hypotheses.

For example, if we could modify the electronics to prove (via a signal to the satellite) that the coil came on when it was supposed to, then we could at least rule out the first hypothesis. That would be a good step forward. Distinguishing between the other possibilities

experimentally seems very difficult. In fact, I haven't been able to come up with a way to do it. If you see an approach that I've overlooked, please let me know.

So how should we proceed from here? I don't have the answer, but in the absence of an obvious next step, it may be time for a year or two of brainstorming to see if we can hit on a really clever idea. Turtle navigation is a fascinating mystery, but my guess is that it will keep a few years. I could be wrong, but at this point I don't think anyone is going to crack this with a single, simple experiment, just as bird navigation apparently cannot be explained with a single cue (although people have tried for years). I'm not opposed to doing more trials if you think that the logic I've outlined above is wrong, but my experience has often been that when data are ambiguous, taking a step back and contemplating the approach often leads to major improvements in methodology that can help crack the tough puzzles. To use the sports analogy, I suspect we're in a long ballgame now and we've just finished the first couple of innings.

In any event, those are some thoughts. Let me know what you think. Regardless of what comes next, though, I'd like you to know that I've really enjoyed working with you and Mike on this crazy project!

Forwarded message
Date: Mon, 04 Jan 1999 19:15:08 -0500
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Fwd: Re: French Frigate Shoals

Did I mention I have regular email with about six former FFSers? This guy's cool and has been feeding me wonderful photos. He's sent me three pics (four in total) of an FAA DC3 but checking pics of N36, this plane's different --I'm certain. Pretty, mind you. Just not N36.

Still interested because it is FFS (Tern) history none-the-less. Just going back a little further than I'd like.

'course now the question. What happened to N23? I bet Harry knows...

The FFS story. The email Coasties. The FFS comic strip. Keeps me from obsessing too much about FP.

>X-Sender: hainesink@theriver.com
>X-Mailer: QUALCOMM Windows Eudora Light Version 3.0.6 (32)
>Date: Mon, 04 Jan 1999 16:37:49 -0700
>To: Ursula Keuper-Bennett <howzit@turtles.org>
>From: Al Haines <hainesink@theriver.com>
>Subject: Re: French Frigate Shoals

>v
>v
>Having grown up in Yellowstone Park I know what a storm is and have
>spent
>30 years avoiding that white stuff on the ground or in the air.

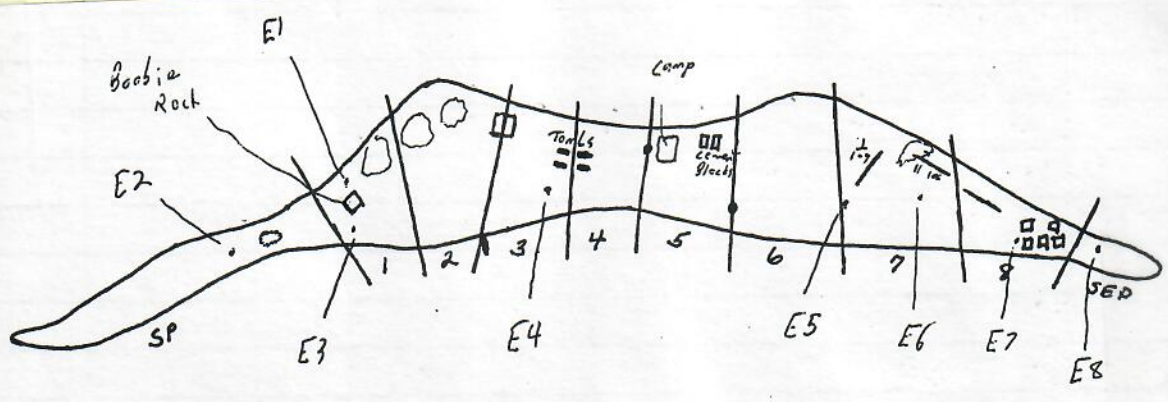
>v
>To cheer you up I am sending a couple of pictures that I found in my
>collection of keepsakes. I found reference to N23 in my photo

>collection
>so I wonder if there was more than one C-47/DC-3 that flew to the Island.
>That may explain the paint difference you noticed.
>The three guys standing by the wing are the Engineman, the CO, and myself
>(ETL). Picture said it was N23 on the back so I don't know.
>The
>second
>picture is the good old bird with our local transportation.
>rickshaw is the FAA pilot and our CO Henry Kofron. The third picture is
>a
>shot off that distinctive wing structure.
>Enjoy...
>Al
>
>At 05:59 PM 1/2/99 -0500, you wrote:
>>Good to hear from you again. We got us a winter storm warning in
>>effect here in Toronto so Hawaii is very much on my mind right now.
>>You know if you are really serious about visiting the FFS, you can
>>approach the U.S. Fish and Wildlife Service and put in for a
>>volunteer.
>>
>>(My goal is to visit as well. Right now the images and stories I
>>have
>>in my head will do just fine)
>>
>>Your reunion idea sounds wonderful. If you guys'll hold it on Oahu
>>during either July and August I would love to attend and just sit
>>there and listen to your stories. It would also give me an
>>opportunity to visit N36 again.
>>
>>I'm serious.
>>
>>Best wishes to you as well. Peace and Happy New Year.
>>-----
>>At 07:53 AM 1/2/99 -0700, you wrote:
>>
>>That plane is an American success story. All of us Loran coasties
>>had
>>a
>>link to the real world through planes like that but particularly
>>the
>>FAA

>>>employees who served FFS. Let me know if you hear of any
>>>opportunities
>>>to
>>>revisit FFS. Some of us who served with Chief VonKessel are looking
>>>to
>>>do
>>>a reunion for the 30th year since we all served there. I wouldn't
>>>mind
>>>even doing a spell as a volunteer there.
>>>Best Wishes,
>>>
>>>
>>>

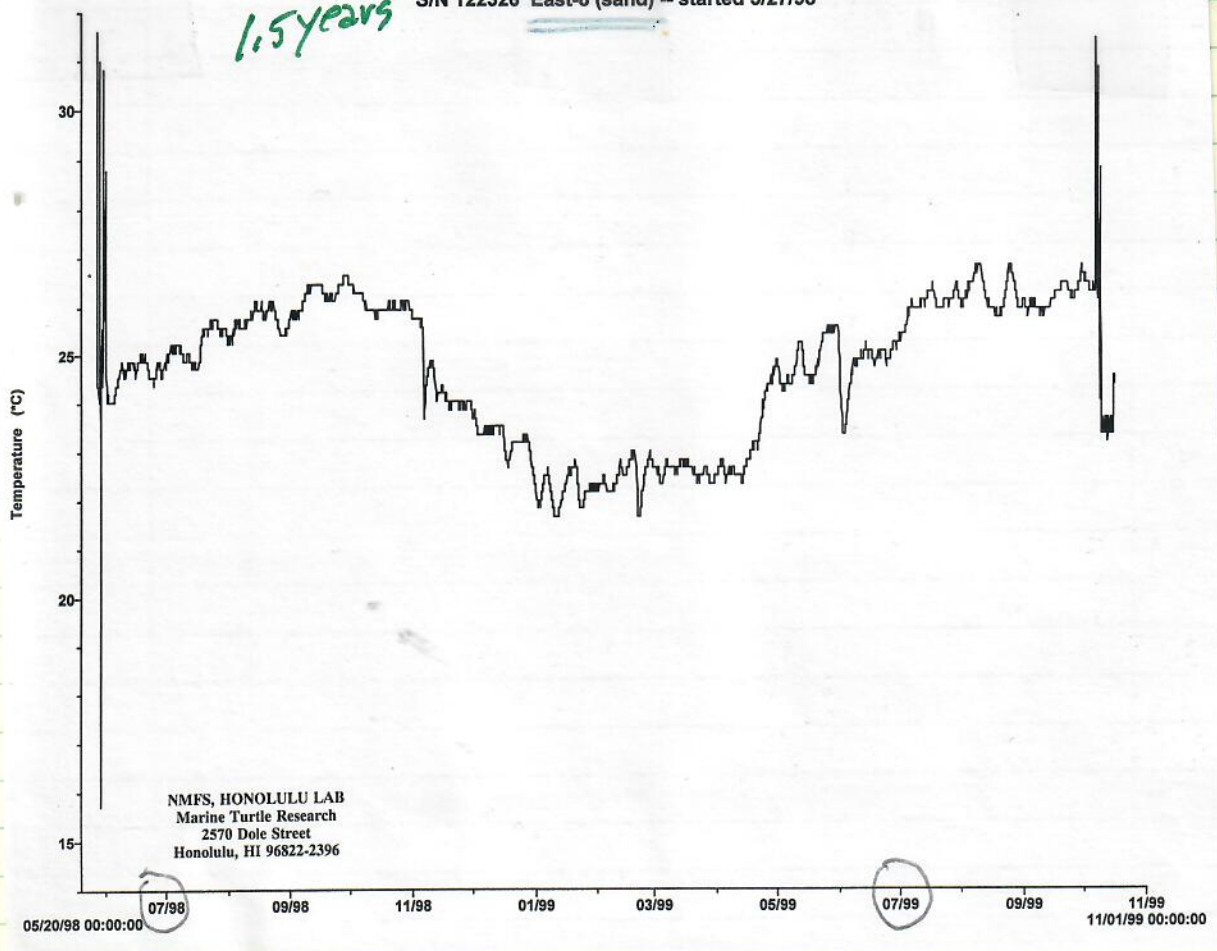


1999 East Island Dataloggers



1.5 years

S/N 122326 East-8 (sand) -- started 5/27/98



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

DAILY TOTALS
NESTING GREEN TURTLES
FRENCH FRIGATE SHOALS, ~~1998~~ 1999

Island: East

nest/Aob./mate

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
6/1/99	23	23	0/1/3	T.C.	set up camp in light rain. First night of the camp is cold & wet!
6/2	25	14	1/2/2	T.C.	Sun Jack! beautiful night. Good to be back East & off of Tern!
6/3	21	7	0/2/3	T.C.	lots of mating going on around sunset. most occurring on the basking beach.
6/4	26	12	5/3/3	T.C.	shark-man bated tiger up today. monk seal haul w/ bloody wound this evening.
6/5	26	16	5/3/8	T.C.	clear night. windy. Green stubs is gone in my water containers.
6/6	20	13	0/3/4	T.C.	Turtles are E-eating out. I need to work & being stealthy again. A turtle tagging shadow!
6/7	23	14	5/2/1	T.C.	Turtle found dead today. very bloated and stinky. No necropsy for fear of gassing!
6/8	20	10	1/3/4	T.C.	low low tides in evening & very in morning, Reef exposed.
6/9	13	8	2/1/2	T.C.	Even lower tides today. Fewer tracks. Two numbers dropped off after 1:00.
6/10	16	5	2/0/4	T.C.	Could not get much done on turtles. They are all next to seals. One basking right in a pile of N-eggs by 2 mom & pups - dark but Nix Nix slept thru OTOB walk -> bad Vanorse.
6/11	14	8	1/0/3	V.P.	barely any wind; skittish turtles Chiphatch
6/12	13	7	2/0/3	V.P.	lots of digging: <u>crackland</u>
6/13	14	4	0/2/4	T.C.	saw a BPLC turtle monk seal P-1 dead on W. shore. Poss. still!
6/14	21	7	2/2/2	T.C.	Got sick after dinner. I think the chick got went bad. we need a new fridge!
6/15	16	5	1/3/2	T.C.	Orizzing tonight night.
6/16	23	3	2/2/3	T.C.	2 large & long rain squalls during night. I got soaked in one - yuck!
6/17	28	3	3/2/4	T.C.	Birds starting to fledge were not many on island this year. Slow shark activity.
6/18	34	1	5/0/5	T.C.	Went manta-hunting this afternoon. Always many many mantas. I think low tide & clear was
6/19	16	3	3/0/1	T.C.	slow night on both East and Tern. monk seal weiner died today. male seal is mounting juv
6/20	27	2	5/3/7	T.C.	sick again. I think I have been getting food prep. no more leftovers!
6/21	22	4	0/1/5	V.P.	Timisa fragledupe! Nice evening - 1/2 moons
6/22	17	0	3/1/3	T.C.	
6/23	21	4	2/1/1	T.C.	
6/24	22	5	2/5/2	T.C.	Tiger shark action is getting better. Two bird cuts & trail are gone
6/25	18	6	3/1/5	T.C.	showers at beginning of night. Nice
6/26	19	4	2/1/2	T.C.	
6/27	20	1	3/2/6	T.C.	
6/28	30	3	1/3/7	T.C.	semi-heavy turtle night. lots of false pff.
6/29	27	3	2/2/10	T.C.	
30	29	1	2/5/11	T.C.	

31

DAILY TOTALS
NESTING GREEN TURTLES
FRENCH FRIGATE SHOALS, ~~1998~~ 1999

Island: East

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
7/1/99	24	2	7/4/4	T.C.	Last night - Great turtle camp ju the right number of turtles to keep busy but not swamped. Loved be having the long camp Easier than transferring every day breaking up the routine. Only ps is none of my data is in the computer!
					Need new fridge for next yr but sick twice this year & after that had threw out en that was I opened. - wasted lots of food.

Date: Mon, 4 Jun 2001 09:46:09 -0600 (MDT)
From: Terry Spraker <tspraker@lamar.ColoState.EDU>
To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Alonso Aguirre <aguirre@wpti.org>
Subject: Re: Biopsies of adult greens nesting at FFS.

George

JUNE 2001

Redm
FFS Foot

Ideally smaller tumors would be totally removed and fixed. However punch biopsies would be great. On larger tumors take several punch biopsies. Also on larger tumors take two from the same hole. That is take several levels of the tumor ie deeper layers. The more you take ie superficial & deep, sides, and center of the tumor the more info we will get. For each tumor it would be helpful for you could draw a picture of the tumor and draw on the tumor where the biopsy was taken.

I have more to tell you about the eyes, but have to go and do some other work now. I will get back to you later.

Terry

On Sun, 3 Jun 2001, George H. Balazs wrote:

- >
- > If all goes as planned I'll be up on East Island at FFS from the 6-14
- > June. Am fully preparing to take biopsies of tumors for our long quest
- > of the regressed tumor issue. I need your advice on what to target for
- > and in what way. Obviously working out of a tent on 250lb turtles I
- > can't do much surgery. I'm taking 6 mm biopsy punches and also some
- > scaples (and of course buffered formalin). Please give me some insight
- > as to what's best to do, not to do. Quick turn-around time appreciated.
- > Aloha, George
- > PS Yes all tissues will be sent to Terry.
- >

DAILY TOTALS
NESTING GREEN TURTLES
FRENCH FRIGATE SHOALS, 1999

Island: Tern 1999

Pg 1 of 11

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
May 13	1	1	✓	Relief	1st night → 8 ♂♂, 3 ♀♀, all ^{all} ^{Simon}
May 14	5	5	1-IP	JR	9 ♂, 2 ♀s Snoozing by H ₂ O Edge
May 15	1	0	1M	VP	1 hurt was noted but mystery ^{Scals.}
May 16	3	1	1M	JR	8 ♂ Snoozing
May 17	5	3	1M	VP	nice night - many scals
May 18	3	1	0	JR	We started collecting blood for Cont St
May 19	6	4	1N, 1P	TC+VP	
May 20	8	5	1N, 1M	TC	East beach turtle rodd!
May 21	9	4	0	VP	training Brennan
May 22	8	4	1N, 1P	B	training Brennan
May 23	8	4	2N	VP, B	
May 24	10	5	2N	TC, B, A, J	eggs collected from 2 nest, Aaron tra
May 25	9	4	0IP	A, B	blood equilibration on #81
May 26	10	6	0	B	"Free!"
May 27	8	1	2P	N ² , B	training Nick
May 28	9	4	1P, 1N, 2M	N ² , B, TC	blood on #s 89, 91, 92
May 29	6	1	3N, 1P	A	fertile night, baby boom ^{in 10}
May 30	3	2	1P	VP	^{+20:00 hrs} High wind, rain, rough seas; 10 ^{weeks} ¹⁹⁹⁹ ¹⁹⁹⁹ ¹⁹⁹⁹
May 31	7	4	0	JR	Rain, still stormy
June 1	10	2	0	J, N ²	
June 2	9	1	0	A, N ²	
June 3	5	1	1M	JR, A	
June 4	11	2	0N, 1P, 2M	N ² , VP	^{you} data loggers deployed
June 5	10 7	2	2N, 0P, 0M	N ² , VP	V's Drain went by, by
June 6	13	5	2N, 2P, 3M	JR, A	much to do
June 7	11	5	3N, 0P, 5M	N ² , VP	
June 8	8	3	^(2N) 2N, 1P, 1M	JR, A	2 more turtles Processed ^{10:20, 1:00pm}
June 9	17	4	3N, 0P, 4M	N ² , VP	
June 10	13	1	0N, 1P, 2M	JR, A	

DAILY TOTALS
NESTING GREEN TURTLES
FRENCH FRIGATE SHOALS, 1989 -

33

pg 2 of -

Island: Tern 1999

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
June 11	12	3	2N, 2P	N ² , JR	2 blood turtles
June 12	3	1	2P	A, JR, N ²	
June 13	10	1	2N, 0P, 1M	VP, N ²	2N, 0P, 1M
June 14	5	0	0N, 2P, 2M	JR, A	low tide, very low → new moon
June 15	8	2	2N, 0P, 3M	VP, N ²	a couple squalls; nice night.
June 16	11	5	1N, 1P, 2M	JR, A	
June 17	15	5	3N, 1P, 2M	N ² , VP	
June 18	15	3	3N, 1P, 2M	JR, A	Busy, Busy
June 19	13	2	2N, 1P, 0M	VP, N ²	moonlight in beginning walks. nice!
June 20	16	1	3N, 1P, 3M	JR, A	
June 21	13	0	2N, 3M	N ² , JR, T	
June 22	13	0	4N, 1P, 2M	A, JR	eggs a popping
June 23	10	0	2N, 4M	N ² , VP	
June 24	18	2	3N, 3P, 2M	Jr, A	
June 25	12	3	3N, 4M	N ² , VP	
June 26	8	2	0N, 1P, 1M	A, Jr	
June 27	10	1	2N, 0P, 3M	VP, N ²	almost full moon
June 28	12	1	1N, 2P, 0M	Jr, A	Full moon
June 29	16	1	3N, 1P, 3M	N ² , VP	
June 30	16	1	2N, 1P, 1M	Jr, A	
July 1	17	1	1N, 1P, 3M	VP, N ²	
July 2	19	1	5N, 0P, 6M	Jr, A	
July 3	12	1	3N, 0P, 1M	VP, N ²	
July 4	14	2	2N, 2P, 2M	Jr, A	
July 5	22		2N, 2P, 3M	VP, N ²	
July 6	20	3	6N, 1P, 3M	Jr, A	
July 7	17	0	4N, 0P, 7M	VP, T	
July 8	9	0	1N, 0P, 4M	Jr, A	
July 9	8	1	2N, 3P, 0M	T, Jr	
July 10	12	1	1N, 0P, 1M		

1999

Page 3 of

Island: Tern 1999

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
12 July	8	0	0N, 1P, 0M	JR, A	
13 July	12	0	0N, 5P, 5M	TC, VP	
13 July	18	1	2N, 1P, 6M	TC, VP	
14 July	20		1N, 1P, 3M	JR, A	
15 July	26	2	3N, 1P, 6M	TC, VP	
16 July	20	0	2N, 1P, 2M	JR, A	
17 July	16	1	4N, 2P, 0M	VP, TC	
18 July	15	0	2N, 1P, 0M	JR, A	
19 July	24	2	2N, 2P, 3M	TC, VP	
20 July	21	2	1N, 2P, 1M	JR, A	
21 July	22	2	3N, 0P, 3M	TC, VP	82up
22 July	20	1	3N, 3P, 1M	JR, A	82up
23 July	12	1	1N, 0P, 5M	VP	82up
24 July	17	0	1N, 7P, 1M	JR, A	82up
25 July	12	0	4N, 1P, 1M	TC, VP	82 finally nested!
26 July	10	0	0N, 1P, 1M	JR, A	
27 July	14	0	3N, 1P, 4M	VP, TC	
28 July	15	0	1N, 1P, 3M	TC	
29 July	18	0	1N, 1P, 5M	JR, A	
30 July	16	0	1N, 1P, 3M	VP, A	
31 July	14	1	0N, 0P, 2M	JR, VP	
1 Aug	19	1	3N, 2P, 0M	JR, VP	
2 Aug	19	2	1N, 3P, 3M	VP, A	
3 Aug	19	1	2N, 4P, 1M	JR, VP	
4 Aug	20	0	4N, 1P, 1M	JR, A	
5 Aug	12	0	0N, 2P, 1M	VP, A	super low tide
6 Aug	8	0	0N, 0P, 3M	JR, VP	low tide
7 Aug	13	0	0N, 0P, 3M	JR, A	low tide
8 Aug	10	2	0N, 0P, 2M	VP, A	Low tide
9 Aug	16	0	3N, 2P, 1M	JR, VP	

DAILY TOTALS
NESTING GREEN TURTLES
FRENCH FRIGATE SHOALS, 1989

Island: Tern 1999

1999 Page 4 of —

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
10 Aug	13	1	1N, 0P, 1M	JR, A	
11 Aug	18	1	1N, 3P, 2M	VP, A	make sure 77 isn't back up on 12th
12 Aug	12	0	2N, 1P, 1M	JR, VP	
13 Aug	9	1	0N, 1P, 1M	JR, A	
14 Aug	9	0	3N, 0P, 1M	VP, A	
15 Aug	9	1	0N, 0P, 1M	JR, VP	
16 Aug	11	0	4N, 0P, 0M	JR, A	
17 Aug	13	1	4N, 1P, 3M	VP, A	
18 Aug	3	0	0N, 0P, 1M	JR	
19 Aug	11	1	1N, 0P, 2M	VP	make sure A88 isn't back up tomorrow
20 Aug	6	0	0N, 2P, 2M	JR	
21 Aug	3	0	1N, 0P, 1M	VP	
22 Aug	7	1	2N, 0P, 3M	JR	
23 Aug	6	0	1N, 2P, 1M	VP	
24 Aug	6	0	0N, 0P, 2M	JR	check to see if 179 comes back tomorrow
25 Aug	6	0	0N, 2P, 1M	VP	
26 Aug	4	0	0N, 1P, 1M	JR	
27 Aug	3	0	0N, 0P, 2M	VP	
28 Aug	4	0	0N, 0P, 0M	JR	
29 Aug	6	0	2N, 0P, 2M	VP	
30 Aug	5	0	2N, 0P, 0M	JR	
31 Aug	6	0	2N, 0P, 1M	VP	
1 Sept	4	0	0N, 0P, 3M	JR	
2 Sept	2	0	0N, 0P, 1M	VP	
3 Sept	1	0	0N, 1P, 0M	JR	
4 Sept	3	0	0N, 1P, 0M	VP	
5 Sept	0	0	—	JR	
6 Sept	3	0	0N, 0P, 1M	VP	
7 Sept	2	0	1N, 0P, 1M	JR	
8 Sept	1	0	10N, 0P, 0M	VP	

Island: Tern, 1999Page 5 of —

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
9 Sept	1	0	DN, IP, BM	JR	
10 Sept	0	0	—	VP	
11 Sept	2	0	IN, OP, BM	JR	
12 Sept	1	0	DN, OP, BM	VP	
13 Sept	2	0	DN, OP, BM	JR	
14 Sept	1	0	DN, OP, BM	VP	
15 Sept	0	0	DN, OP, BM	JR	
16 Sept	2	0	DN, IP, BM	VP	
17 Sept	2	0	DN, IP, BM	JR	
18 Sept	0	0	—	VP	
19 Sept	0	0	—	JR	
20 Sept	2	0	DN, OP, BM	VP	
21 Sept	2	1	DN, OP, BM	JR	
22 Sept	2	0	DN, OP, BM	VP	
23 Sept	1	0	DN, OP, BM	JR	
24 Sept	1	0	DN, IP, BM	VP	
25 Sept	1	0	DN, OP, BM	JR	

8115 9909 8291
 Fedexed TO THANE FOR CALIBRATION

year 1999?
 2000

Temperature Data Loggers

ONSET STOWAWAY N=8

309440
 295518
 224566
 224562
 295520
 81755
 295519
 309441

HONOLULU LABORATORY
 NOAA, NMFS
 2570 Dole Street
 Honolulu, HI 96822-2396

21 ONSET STOWAWAYS

Temperature Data Loggers

ID#

Fedexed # 8115 9909 8280
 TO Thane for Calibration and
 rapid return.

122324
 243574
 141198
 198448
 243576
 243581
 141201
 122326
 243571
 243577
 141202
 141199
 243583
 243575
 243578
 243573
 71054
 141200
 1409
 243572
 243570



GEORGE H. BALAZS
 ZOOLOGIST AND LEADER
 MARINE TURTLE RESEARCH

and

Regional Vice Chairman for the Pacific Islands
 IUCN Marine Turtle Specialist Group

HONOLULU LABORATORY
 SOUTHWEST FISHERIES SCIENCE CENTER
 NATIONAL MARINE FISHERIES SERVICE
 2570 DOLE STREET
 HONOLULU, HAWAII 96822-2396 (808) 983-5733
 Email: gbalazs@honlab.nmfs.hawaii.edu Fax: (808) 983-2902
 Report turtle strandings: (808) 983-5730

Date: Tue, 29 May 2001 15:35:25 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Aloha George

May 2001

George,
 Thanks for the updated information on "My Loggerhead". I'm happy it was capture alive. I'm all for Aaron taking on the majority of the days on East Island. This is the busy season out here and there's much work for Matt here on Tern.

On 15 May there were 92 turtles basking on East Island. Yesterday morning on Tern Island, I counted approximately 17 turtles, which hauled up onto South Beach the prior morning. East Beach on Tern has been a hotspot for turtles basking this year. Earlier in the month, over 40 were counted in the morning and at twilight. While snorkeling at Shark on the 19th, at least 4 adults were seen in the water in close proximity to us. Yesterday, I looked over the seawall on the north side and spotted two juveniles with fore flipper tags. I should have jumped in, as I'm sure you would of, and got resighting information. Please, while you are here, show me some of your tricks of the trade.

Take care, Aloha, Tony

Date: Sun, 4 Jul 1999 03:07:31 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: from Brian

Reduce

Hi George,

Well, I think you will be pleased with my replacement while I'm gone. It will be Anthony. He needed some money and I needed a vacation, so it worked out great. My praise of the Tern workers, it seems, brought forth something I was not aware of. Today, Vanessa spoke with me about some problems with Nick. Tim had mentioned similar concerns to me earlier. I'll let the two of them fill you in, later. I just want to say that I understand Vanessa's complaints, but think she may be wound a little too tight about it. We broke East camp yesterday and Tim is now on Tern. He said he is staying to work for Lee Ann, but is concerned about not getting support from FWS for his manta work. He has had some good days getting samples. Today, with Mitch, he got three more. Great conditions. Maybe we will get a chance to talk when I come back from training and vacation. I'll be in Honolulu from 30 Aug to 7 Sept.
 Aloha, Brian

Date: Wed, 21 Jul 1999 16:35:27 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: For Vanessa, Julie, Tim

Reduce

Thanks for the info about the pit tag reader! Hopefully we will not have to follow those 'emergeney' instructions that you have given us.

Many of the "B" samples are here in a regular freezer. We will take them out of the freezer and put them in the Dewer and then send the Dewer off island (will be very judicious about telling all and sundry when, where, & how we will send those samples off). Since our phone call we have been putting all bank samples in the Dewer.

We received the pit tags! Thankyou very much.

Date: Tue, 27 Jul 1999 16:01:25 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: Data problems

Reduce

George, Finally figured out the problem - bad disk. Had to re-enter quite a bit of data but it seems OK now. I have made 5 backups on 3 computers so I hope I am covered this time. I am finishing up proofing now so will know soon if it was something else.

Had some good talks with Bud. I took him out on a turtle walk so he could see what we do on Tern. I think his main concern is having people that are well trained to work around seals. We talked about next year having Mitch talk to the turtle people about working around seals and also possibly getting the turtle people put on the monk seal permit and having us record human/seal interactions and turtle/seal interactions. He also mentioned using night vision goggles but after talking with Vanessa (who has used them) I am not sure if they would work.

LeeAnne has arranged for Julie and Vanessa to come off Aug. 17. They are trying to get in touch with her since their study won't be done by then. Many of the turtles are only on their third nest right now. Overall things are working very smoothly with the turtle team. Very good group of people. I did find the missing notebook with the datalogger info while I was cleaning up camp. Also note one turtle died on 6/7 while basking. Tags 483-C LHF, 482-C RHF, 484-C RFL.

I will be bringing back the 6 old mototools and 3 new. I am leaving 2 craftsman motos and one pit tag reader. Do you care which one? Only one nest has hatched so far so I am leaving most of the dataloggers here. Also bringing back the rest of the tumor biopsies.

Aloha, Tim

Date: Tue, 27 Jul 1999 16:02:16 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Re: Message for Tim Clark

George,
I am being picked up by the Cromwell on July 29 arriving Honolulu Aug. 2. My flight for Fiji leaves the morning of Aug. 6. Since it looks like we won't have time for a meeting I will write something up about notes/concerns/ect. about the season. I will be coming back through Honolulu on Aug. 28 and could delay my departure to the mainland a day if you are going to be in town. A friend got me a great ticket this year that lets me change my return date for free so I might as well take advantage of it!
Tim

----- Forwarded message -----
Date: Tue, 27 Jul 1999 15:00:08 -1000
From: Peter Bennett <honu@turtles.org>
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Fwd: Re: really remote webcam

Aloha George,

The reply below is from a friend of mine who specializes in setting up remote internet access. I assume that you want periodic stills (I don't see why streaming video would be needed) and that we could make use of the internet connection at Tern Island. As you can see, he thinks it's feasible if those assumptions are correct.

If they are, I need to know more about the Tern Island connection. Any other requirements? Remote control, for example? Will you be inviting the monk seal people to participate?

:there are two serious issues to be worked out, that of power, and that of communications.

:the first thing that comes to mind is solar charged batteries. this technology has come a long way, so i'd think it is doable.

:the problem of communications is tougher to solve.

:assuming we go with low ball technology, and only collect periodic stills from the camera, the power required for transmission could be gauged based on that frequency.

:if live video is needed, we are talking about a whole different set of requirements, and unless there are some serious bucks involved, i suspect it

Date: Thu, 5 Aug 1999 08:08:08 -0400
From: Larry Taylor <Taylor@HBOI.edu>
To: "George H. Balazs'" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Karen Drake <KDrake@HBOI.edu>
Subject: TCD Status - Potted Coil Image

[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]

Here is an image of a potted coil for you to review. The marked scale is centimeters. The cable will be terminated with the HBOI supplied connector. The connector also serves as the break-away. In the field, you will simply plug-in the cable from the Timer and then fold-over a piece of mastic tape that we provide. The mastic is self-sealing and is formed over the connection with your fingers. We have conducted pressure (sealing) tests and break-away tests with this arrangement. The assembly was pressurized to 200 p.s.i. for 24 hours, successfully leak tested and then pulled apart. The assembly completely separated at 8 lbs.

The coil is dipped (twice) in 2-part polyurethane. The coil is formable and will stay in place when formed. This should accommodate the need to bend the front "down" to match the profile of the head.

I believe that you will be pleased.

<<TCD_Coil.jpg>>

Larry Taylor
Project Leader
Harbor Branch Oceanographic Institution, Inc.
5600 U.S. 1 North
Fort Pierce, Fl 34946
561.465.2400 ext. 258
fax: 561-464-9094
email: <mailto:taylor@hboi.edu> taylor@hboi.edu

[Part 2, Image/JPEG 236KB]
[Unable to print this part]

8/23/99

George H. Balazs, Leader
Marine Turtle Research Program
National Marine Fisheries Service
SWFSC Honolulu Laboratory
2570 Dole Street
Honolulu, Hawaii 96822-2396 USA
Tel:(808) 983-5733
Fax:(808) 983-2902
gbalazs@honlab.nmfs.hawaii.edu

George, Here are your TCDs. They have all been successfully tested with a +/- 5% limiting accuracy. The plug-in connector is polarized. To make the connection water-tight, peel-off the white backing from a section of the mastic tape, carefully fold-over and squeeze with your fingers (no tools and no goopy stuff). The taped-connection serves as the break-away. We tested this set-up after a 200 psi leak test and measured a disconnect force of 8 lbs. Read carefully the section below to review the new on/off procedures. If you are ever able to recover one of these units, please save it and call us. Good luck with your field deployment !!

Larry Taylor and George LaBarca
HBOI Inc.

Specifications:

- **Timer**
 - Number of Cycles : 1
 - Cycle Definition: Selectable On Delay (5 or 10 days), Coil On time of 5 days, Coil Off time of 12 Days, 2nd Coil On Time of 12 Days, End.
 - Microcontroller: PIC16LF84 or equivalent, crystal control 32kHz, power = 100uA max
- **Driver**
 - Constant current control during on time = 15mA
 - On/Off controlled by Microcontroller
- **Control**
 - On/Off: External magnet with internal reed switch (normally closed). When magnet is removed, power is applied. After a 5 second delay, the microcontroller will pulse an internal light emitting diode a number of times to indicate proper operation. Pulsing 3x(1 second on time) indicates that the unit has been successfully activated for the short delay of 5 days. If the unit flashes 5 times, the long delay of 10 days has been selected. After the confirmation flashes, the coil current will be turned-on for 5 seconds. This feature is available to verify field strength and polarity before deployment. The controller will then start the initial delay counter. The magnet can be reapplied to halt program execution and then removed again to restart the entire process.
 - Initial Delay Time: The selected delays are 5 days or 10 days before first on cycle. The "days" of delay are not based on an accurate real time clock, but are instead based on accumulated counts of microcontroller clock cycles, i.e. a "day" may not be 24 hrs to the nearest second. A coarse accuracy seemed adequate for your mission needs and the desire to conserve power.

The black mark on the side is where you place the auxiliary magnets to select the long or short delay. The long delay will be selected if the magnet is not in place when the unit is turned on. Once the unit is on, the auxiliary magnet can be put away and not deployed with the unit.

Therefore, if you want an approximate 10 day delay from power-pack turn on to start of first "coil" activation, just leave the auxiliary magnet in your pocket.

Driver Specifications:

- Size: 10.2 cm x 7.6 cm x 4 cm
- Material : PVC
- Weight :
 - In Air: 320 grams
 - In Water: 46 grams
- Power Control: Internal Reed Switch operated by External Magnet (Remove to Activate).
- Pressure Integrity: Optical Port and all Seals Tested to 200 p.s.i.
- Power Source: 3V Lithium "D" Cell.
 - Manufacturer: Tadiran,
 - Model TL-2300/TBP.
- TCD Quiescent Current while timing Delays (Coil off) : < 250uA
- Coil Current: 15mA (+/-0.2mA)

Coil Specifications:

- Size: Nominal 6.4 cm x 9.6 cm
- Sealing Material: 3X Dip : 3M #2130 Polyurethane. Durometer approx. 85 Shore D.
- Wire: Belden #8055 , 30 AWG , Heavy Polythermalize Insulation.
- Number of Turns: 120
- Connector: Gold Pins, Polarized (1 Male / 1 Female). Water proof in field via Mastic Tape.(supplied). Connector Placed 10cm from coil

Cable Specification:

- 26 AWG Twisted Pair, 7 x 34 Stranding, Black PVC Insulation 0.4 mm Thick
- Total Length From Exit of Driver to Coil Connector: 75 cm

Date: Sun, 5 Dec 1999 22:30:55 EST
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Cc: dave_n_johnson@fws, Gov@aol.com, beth_flint@r1.fws.gov
Subject: from Tern

Reduce
FFS
Book

Hello George,

It has been a while since we have been in contact. I hope all is well. I have some bad news to pass along. A dead adult female green turtle was found today along the north seawall near the old Coast Guard dump. The pit tag number for the left hind flipper was 4136324033. Apparently the turtle had not been seen during daily seawall checks for quite some time. The body was decomposed and the carapace was badly weathered with many scales fallen off. The location of the turtle was obscured by a short segment of adjoining seawall and debris. I would guess that the turtle has been dead for at least a couple months, probably since active nesting. Part of the moto-tool # was still present, ?93.

Date: Tue, 21 Dec 1999 10:58:26 EST
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: dead turtle on Tern

Reduce FFS

Hi George,

I asked Aaron Dietrich to gather all that you wanted from the dead turtle. He informed me that high surf had taken much of it away. He collected the humeri, but was unable to locate the scute with partial mototool, or the hind flipper with the pit tag. Pictures were also not taken since the carcass was no longer intact. Aaron is departing Tern today and will bring you the humeri.

----- Forwarded message -----
 Date: Thu, 02 Dec 1999 11:00:46 -0600
 From: Osha Gray Davidson <osha@pobox.com>
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Kridler photo

Geo--I can't remember if I already sent you the photo Gene Kridler mailed me. I've attached it to this E-mail just in case. He wrote on the back that it was taken in September 1966 on Southeast Island, Pearl & Hermes Reef. That's three years earlier than his Spring Trip mention of FP. Don't know how important this is to you, but thought you'd want it.
 Best,
 Osha

[Part 2, Image/JPEG 163KB]
 [Unable to print this part]

[Part 3: "Attached Text"]

Osha Gray Davidson
 Adjunct Associate Professor
 International Programs, University of Iowa

14 S. Governor St.
 Iowa City, IA 52240
 USA
 Phone: 319-338-4778
 www.oshadavidson.com



Date: Tue, 4 Jan 2000 15:13:20 EST
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: from Brian, 1

George,

Thanks much for your generous remarks about my time at Tern. It's been a pleasure working with you and I'll be looking forward to seeing you again. Tony worked for NMFS during 1994-95 and his supervisor was Tom Shearer.

Thanks also for making it clear that we are not to front flipper pit-tag juvenile turtles. I'm glad that what I did was correct. I think my questions bring to light our need for a well written SOP on the handling and data collection of juveniles. The infrequency of doing this work in the absence of well trained turtle crew makes relying on memory alone insufficient. My apologies. What do you think about having Tony spend a night or two on East with a tech next turtle season, so he will be well informed and have some good experience? He has some experience from 1994-95. (cont'd)

Date: Wed, 29 Dec 1999 07:19:14 -0500
 From: Ursula Keuper-Bennett <howzit@turtles.org>
 To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: Re: Honu Time Capsule suggestion

Reduce FF
~~12/29/99~~ *Bob*

Jeez, you caught me off guard. I knew you'd like the idea but didn't think you'd accept. I figure you'd just say you've been collecting stuff for your successors for years.

OK, well I went shopping. Same company that our fireproof safes and chests come from. There's a media safe there.

<http://www.sentrysafe.com/store/product.cfm?ProductID=831>

\$175.00.

Same size/look to the ones we bought for \$42.00. Difference? Yours has additional fire protection. We chose to buy lots of cheaper chests and put them inside a BIGGER safe --two per safe plus all our paper/photo documentation.

Well I'd try to do all this before 2000 because then you can say it's from 1999. Future 2000'ers would find that cool.

Location? The StarBull article said that was crucial. People have buried capsules then forgotten where. Also said it was surprising how soon a capsule could be forgotten.

Archie Carr Center? Tern Island facility? Honlab?

Material? The chest but the samples have to be protected at all cost in highly durable non-leaking containers. An inventory must be included inside so people know they got everything that was intended.

If you collect most of the stuff over the next few days you can be forgiven if you date it 1999 and you'd seal it in 2000. We can even use today's date if you already start collecting some items. Looking at my item list I figure you could grab a dozen of them EASY.

Take a pic or two of you doing it. We post to Trax for posterity. We could then announce to CTURTLE and therefore the message is archived so future-people could read about the capsule.

 At 07:56 PM 12/28/99 -1000, you wrote:
 >Very Intriguing. With some modification, it might indeed be something to
 >puruse. Also include some Prorocentrum, and tumor tissue (sealed in
 >glass ampule like small pox, because 100 years from now they will be able
 >to truly tell if it's the virus that did the dirt).
 >
 >Where do you in your wildest imagination think this capsule should be be
 >located, sealed away? And What would it be, glass, plastic, or ?
 >
 >Let's play around with this.
 >

Date: Sat, 15 Jan 2000 07:18:53 -0500
 From: Ursula Keuper-Bennett <howzit@turtles.org>
 To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 Cc: Peter Bennett <honu@turtles.org>
 Subject: Happy 35th

'morning.

Congratulations George. Lucky Live Hawaii with the Honu!

 At 06:35 AM 1/11/00 -1000, George H. Balazs wrote:

>Another topic- Something significant in my life nearly wizzed by me/us.
 >35 wonderful years living in The Land of Aloha. 35 years in Hawaii-Nei.
 >35 years in Paradise. 35 years being (pretty much) Exactly where I wanted
 >to be. I say "pretty much" because truth is it was Tahiti I wanted to get
 >back to, Hawaii was similar (and closer than California), so Hawaii it was
 >and is.
 >
 >35 years January 15, 2000, as near as we can recall to the exact date.
 >Please send this message back to me on that day and say, Congratulations,
 >George "Lucky Live Hawaii" with the Honu!
 >
 >You live here too. All the time. Within and through TRAX.

44
Date: Tue, 2 May 2000 13:40:00 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: East Island Turtle Count

FFS

Hi George:

I thought I'd email the latest turtle numbers we counted on East and Gins Islands. I'm looking forward to meeting the turtle techs and spending time on East Island to learn the protocol. The following counts were completed on 28 April. East Island: 23 in the water, 44 basking (unknown sex) and one pair copulating.

Little Gin: 1 Male, 2 Females and 12 other unknown basking, 4 in the water
Gin: 3 Male, 7 Female and 11 unknown basking, 12 in the water and 8 turtle pits documented.

As always, it's good to hear from you and learn of your excitement for the season to come. Brian returns on 17 May. Looks like the month of May will turn out to be quite a busy one. I hope you enjoyed your Lei Day.

Aloha from Tern Island NWR,
Tony

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

ALL Silicon sealed

22 Onset Optic Stowaway Temperature Data Loggers
FFS 2000 - Set up for 3 hours and 12 minutes

For 2000 season

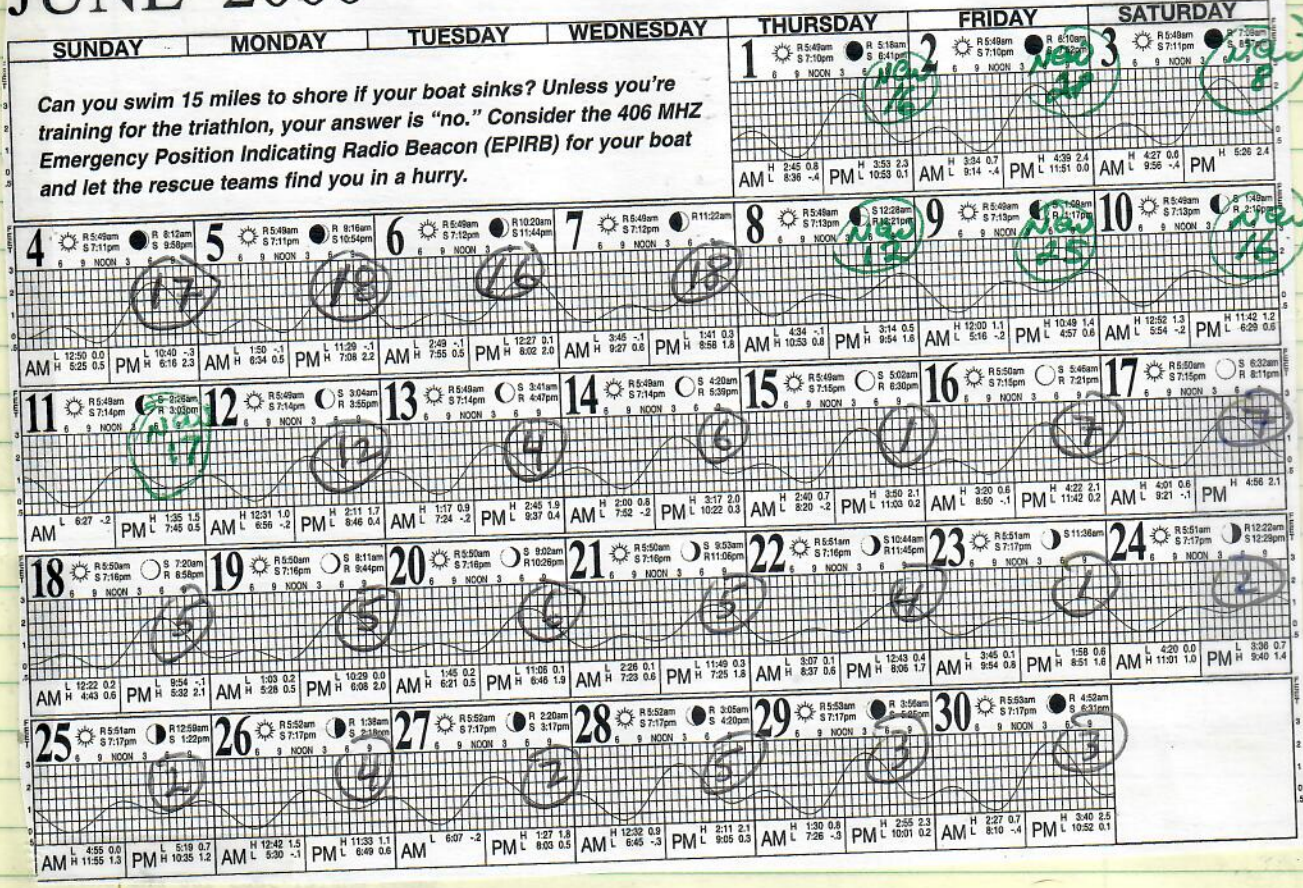
70 FFS 5-24-00 with photos for
and Karen Dietrich

DATE STARTED	SERIAL NUMBER	TIME STARTED
5/19/00	224562	1356
5/19/00	243573	1357
5/19/00	243570	1357
5/19/00	243571	1358
5/19/00	224566	1359
5/19/00	122324	1400
5/19/00	243575	1401
5/19/00	141199	1402
5/19/00	295520 (NEW)	1403
5/19/00	243577	1404
5/19/00	243581	1406
5/19/00	141201	1407
5/19/00	198448	1408
5/19/00	243574	1408
5/19/00	141200	1409
5/19/00	141202	1410
5/19/00	243583	1412
5/19/00	141198	1413
5/19/00	71054	1413
5/19/00	81755	1414
5/19/00	309440 (new)	1419
5/22/00	243572	0800

11 ft yellow cord attached to each
red marks 45 50 55 cm

TRAIN 5/29 = (21) NEW
 TRAIN 5/30 = (13) NEW
 5/31 (29) 45 NEW

JUNE 2000



Can you swim 15 miles to shore if your boat sinks? Unless you're training for the triathlon, your answer is "no." Consider the 406 MHZ Emergency Position Indicating Radio Beacon (EPIRB) for your boat and let the rescue teams find you in a hurry.

Date: Sat, 24 Jun 2000 22:37:18 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: VANESSA Re: How many..

BONES

George,

I am heading over to East today. First, my address is going to change around Jul 15. I don't know the Agricultural Science Bldg. address off of the top of my head. I guess that would be the one for the next 2 months. Animal Sciences something Agricultural Sciences Bldg. something East-West Rd. Aaron and I are moving in together, so our address problem is the same. You could still just mail stuff to USPWS office or you could email me and I can pick it up since I am not that far away from your office when I am on campus.

Previously PIT-tagged turtle - She is 323U now with 22052D0173 LHF and 40774G4A50 RHF and no old metal tags.

2 obtained ?

I was asleep when the plane took off and did not know you wanted the bones. I was planning on bringing them back with us. Aaron that rather heroically cut out the wrong ones. With no gloves, etc. he hacked the femurs out (apparently, lots of rotting juices, gore and gagging). When I talked to him before he went there I kept correcting him with a "humerus", but for some reason "femur" stuck in is brain. We have the femurs. Do you need the humerus? We can go back and get them if you would like.

Aloha, Vanessa

----- Forwarded message -----

Date: Sun, 11 Jun 2000 13:20:09 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: Peter Bennett <honu@turtles.org>
Cc: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Fwd: Re: Fw: mystery bit --and Disney DC3

fyi. I announced what happened to N36 on the DC3 mailing list. I think it was important to do that.

>Date: Sun, 11 Jun 2000 13:17:50 -0400
>To: dc3notap@centercomp.com
>From: Ursula Keuper-Bennett <howzit@turtles.org>
>Subject: Re: Fw: mystery bit --and Disney DC3
>Cc: "Bill Ewing" <westwing@escape.ca>

>>Thanks SO MUCH Sarg! You've made me very happy today.
>>And think about it. Our parts are the nuts that secured the FUEL TANK
>>straps together.
>>And "Trunnion" is a great word! And the parts are over 50 years old and
>>look almost good as new.
>>In July 1998 I made a special trip to Oahu just to visit with that plane
>>--FAA N36-- that flew weekly duty into French Frigate Shoals.
>>I presented the plane with leis.

>><http://www.turtles.org/ffs/n36/n36-3.jpg>
>>I was hoping to visit her again this summer and never gave up hope that
>>someone would restore her to former glory.

>>It wasn't to be. And all that my husband, me and a friend sea turtle
>>researcher have left are one of three identical "trunnions" I was kindly
>>allowed to keep from my 1998 visit to N36.

>>We made a special tribute page for N36
>>at: <http://www.turtles.org/ffs/n36/ffsn36.htm>

>>A couple weeks ago we added the final "chapter" to her story. I share it
>>now because the DC3ers here have been so kind helping me out. And because
>>I'd like people to know what happened to N36.

----- Original Message -----

Date: Mon, 29 May 2000 06:51:33 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Peter Bennett <honu@turtles.org>
Subject: Re: N36- A fitting farewell (I think)

"When you reach the part where the heartaches come
The hero would be me. But heroes often fall.
And you won't read that book again
Because the ending's just to hard to take."

Gordon Lightfoot

At 09:26 PM 5/28/00 -1000, you wrote:

>I haven't been hiding this from you, rather a mental block in remembering
>to write and tell you what I learned. When taking Aaron and Vanessa to
>the charter for Tern, I noticed no fuselage of N36 next door at Harry's.
>I asked Bob the Tern charter pilot (he worked for Harry flying a
>Beechcraft to Tern in the 70's). Bob said that Harry sold her (fuselage)
>to Disney for the Pearl Harbor major movie they filmed some for here at
>PH. Some attack scenes etc. Bob didn't know what she was used for but
>very logically surmised being blown up. A pang of sorrow hit me. Then, I
>said, Hey, better to "go" that way, to be on film forever for people to
>see (even though they won't know what they're seeing is N36) (hey, we can
>tell them!), then to sit forever in sadness disgrace (no wings no
>engines) at Harry's. Or, to go to a scrap yard, be ground up, and never
>be put on major movie film for history to have and to hold.

>Anyway, now you know what I know. Aloha N36, we love you, George
>*****

----- Forwarded message -----

Date: Sun, 11 Jun 2000 13:19:06 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: Peter Bennett <honu@turtles.org>
Cc: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Fwd: Fw: mystery bit

What each of us carry from N36 now identified. It was an IMPORTANT part!

>>From: "Bill Ewing" <westwing@escape.ca>
>>To: <howzit@turtles.org>
>>Subject: Fw: mystery bit
>>Date: Sun, 11 Jun 2000 11:48:55 -0500
>>X-Mailer: Microsoft Outlook Express 4.72.3110.1

>>-----Original Message-----

>>From: Bill Ewing <mailto:westwing@escape.ca>
>>To: Ed Hake <mailto:dc3@centercomp.com>
>>Date: Sunday, June 11, 2000 11:40 AM
>>Subject: mystery bit

>>>ATTENTION ALL!!!!

>>>FOUND THE LITTLE SUCKERS!!!

>>>Check on the fuel tank securing straps. These are the "nuts" that secure
>>>the straps together. The correct designation is:
>>> p/n 1118139 - Trunnion, fuel tank support sling, or
>>> p/n 1323725 - Trunnion, fuel tank cradle support bracket.
>>>I know if I thought about it long enough, I'd remember!!
>>>Bill Ewing

>"The Fate of N36
 >
 >On May 28, we received word of the fate of N36. George Balazs, who often
 >rode in N36 on her once-weekly flights to Tern Island, wrote to tell us
 >that GENAVCO had finally sold what remained of the noble craft to Disney
 >Productions for use in filming a movie about the Japanese attack on Pearl
 >Harbor (current title "Pearl Harbor", due for 2001 release). Sometime in
 >mid-April, they blew her up during the filming.
 >
 >Our first reaction was a pang of sorrow, as was George's, but in his note
 >to us he also wrote:
 >
 >"Better to go that way, to be on film forever for people to see (even
 >though they won't know what they're seeing is N36; hey, we can tell
 >them!), then to sit forever in sadness and disgrace (no wings no engines)
 >at Harry's. Or, to go to a scrap yard, be ground up, and never be put on
 >major movie film for history to have and to hold."
 >
 >The only thing left of N36 now is the memories of the people who flew in
 >her, and of course a few pictures such as those we feature here. She's
 >gone now, but she had a long and distinguished career that would do any
 >airplane proud. She can have no finer epitaph than the closing words of
 >George's email:
 >
 > "Aloha N36, we love you!"
 >
 >Well that isn't QUITE accurate. There exist three "trunnions".
 >
 >N36 was a very special Gooneybird and even at her very end she wound up
 >serving her country.
 >
 ><http://www.turtles.org/ffs/n36/n36-16.jpg>
 >
 >
 >Best wishes,
 >Ursula Keuper-Bennett
 >TURTLE TRAX

Date: Fri, 17 Mar 2000 22:04:53 EST
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: FFS turtles, 1

Reduce FFS

Hello George,

We went boating yesterday (3/16) and found the first signs of activity for the coming nesting season. There were two copulations observed near east island and our East Island count included the following: 3 males and 1 female basking, and 9 adults (unknown sex) at waters edge or in the water. I will be going to Trig tomorrow. (cont'd)

Date: Sat, 1 Apr 2000 12:38:59 EST
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: FFS turtles

FFS Reduce

Hi George,

Another update on activity for you. Due to weather and being short on personnel, we didn't make it back to East or the Gins. I'm leaving today for 6 weeks, but have asked Tony to take notes and report to you. Aloha, all the best, Brian.

Tern: Over the last week, there have been between 2-6 adults basking on beaches during the day, mostly males. On 28 March, there were a pair copulating with 6 other adults surrounding them in shallow water off east beach. There was also one male basking on crab beach. The following day we saw 4 adults congregated together in the same location off east beach.
 Trig: On 28 March, we counted 6 males and 4 females basking at waters edge and one pair copulating in the water.

Date: Fri, 26 May 2000 14:11:43 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Basking info request

We're now curious if any of the Honokowai honu have been recording as basking at East. And I'd like Randy's 4800 also in the mix. I'll tell you why after (only I figure you likey already know why I'm asking)

Honu are:

U521, U359, F765, A240, 122C and U249

Mahalo in advance.

Handwritten notes: U359, F765, A240, 122C, U249. A circled 'A240' is present in the typed text above. A scribble with the word 'reduce' is also visible.

Date: Tue, 23 May 2000 01:47:42 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Aloha from FFS

Hello George,

Tony and I got your e-mail message today. Yes, lots 'o turtles. On East Island on 12 May at 1525, 112 adults were counted basking, and 16 in the water. Again on East Island on 21 May at 1700, 403 adults were basking, 5 were in the water, and several were seen in a reef area in the distance to the east including at least one copulation. We have also noticed about 20 turtles in the evening on east beach on Tern island. By the end of the week we should have new counts for the Gins and Trig.

Hope all is well with you. It's good to be back on Tern. Aloha, Brian

Date: Tue, 30 May 2000 23:16:37 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: FFS turtle update

Handwritten note: reduce

George,

My first trip to East after returning was on 21 May and nesting activity was extensive on the SE length of the island (facing La Persouse). We do not have numbers (other than the # of basking turtles we sent), but continuous body pits extended from one end of the island to the other. On 26 May on Trig Island, 49 turtles were counted basking and there were numerous body pits (no count). One copulation north of Trig was observed. On 23 May on Gin Island, 29 turtles were basking and 13 were observed in the water. Body pits were present but no count was conducted. There were at least 5 turtles basking on Little Gin (no full count). Last night on East Island, Vanessa and Aaron reported 35 turtles up and 26 pit tags applied. I will take an early morning walk tomorrow and look for tracks to estimate numbers nesting on Tern. Aloha, Brian

Date: Tue, 6 Jun 2000 13:42:23 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: FFS turtle update

Hi George,

We picked up Vanessa yesterday and I believe she emailed you East Island data today. I went to Trig today and we counted 53 basking adults. Several more were in the surrounding water. On 1 June, Tony and I counted 23 turtle tracks up and back (in which digging occured) on Tern, and again 25 on 2 June. I felt my skills were too rusty to accurately count nests. Vanessa said she would do a morning nest count while on Tern. Let me know what kind of reporting schedule you want for East data and we'll see that you get it.

Brian

Date: Mon, 5 Jun 2000 18:24:32 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: Very Concerned

Aloha George,

I just came off of East yesterday. All numbers I give you are thru the night of 6/3.

5/29 21 turtles up, 21 new, 0N/0P/2N (only two walks - training)
 5/30 23 turtles up, 12 new, 2N/0P/0M (only one walk - training)
 5/31 43 turtles up, 29 new, 3N/0P/4M (first full night)
 6/1 40 turtles up, 16 new, 2N/6P/3M
 6/2 45 turtles up, 28 new, 4N/1P/1M
 6/3 34 turtles up, 8 new, 6M/3P/1N

As of 6/3 up to mototool number 154U, approx. 162 PIT tags applied AND!! two previously PIT tagged turtles!

108U U-447 LHF she nested on 6/3 - eggs were observed.

MOTO
 F-164 RHF
 W-113 LFL
 407755285B LHF
 4077334654 RHF

MOTO
 143U G 96 LHF
 G95 RHF
 G98 LFL
 G97 RFL
 22000C4977 LHF
 4077345655 RHF

Four dataloggers have been placed on Tern and four on East. Two have been placed in nests so far. One on 6/1 with turtle #110U and one on 6/2 turtle #138U.

Last night was Aaron's first night and he seemed to be doing well. Tnx for extra PIT tags and moto tools.

All seems to be going well so far. Turtles are digging up East and "forcing" the seals to move around a lot to get away from their digging activity. Luckily, there is only one mom and pup pair on island and the mom guards her pup well. Several nights there were numerous turtles digging around her and her pup.

Vanessa

----- Forwarded message -----
 Date: Sat, 03 Jun 2000 18:11:10 -0400
 From: Ursula Keuper-Bennett <howzit@turtles.org>
 To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: Trax N36 update fyi

Anything you uncomfortable with let us know.

Added to: <http://www.turtles.org/ffs/n36/ffsn36.htm>

The Fate of N36

On May 28, we received word of the fate of N36. George Balazs, who often rode in N36 on her once-weekly flights to Tern Island, wrote to tell us that GENAVCO had finally sold what remained of the noble craft to Disney Productions for use in filming a movie about the Japanese attack on Pearl Harbor (current title "Pearl Harbor", due for 2001 release). Sometime in mid-April, they blew her up during the filming.

Our first reaction was a pang of sorrow, as was George's, but in his note to us he also wrote:

"Better to go that way, to be on film forever for people to see (even though they won't know what they're seeing is N36; hey, we can tell them!), then to sit forever in sadness and disgrace (no wings no engines) at Harry's. Or, to go to a scrap yard, be ground up, and never be put on major movie film for history to have and to hold."

The only thing left of N36 now is the memories of the people who flew in her, and of course a few pictures such as those we feature here. She's gone now, but she had a long and distinguished career that would do any airplane proud. She can have no finer epitaph than the closing words of George's email:

"Aloha N36, we love you!"

<http://www.radiojerry.com/pictures/ffs30a.jpg>

Historical Information for Turtle Tag A240

Tag Information:

Tag Number	Date	Tag Type	Tag Position
40772D6029	6/8/98	LHF	LHF
4077532361	6/21/98	RHF	RHF
A240	5/26/91	RFL	RFL
A241	5/26/91	LFL	LFL
U200	6/15/93	LHF	LHF
U201	6/15/93	RHF	RHF

A240
SHREDDER

Date	Type of Encounter	Location	Tumor/Rank	Nesting Act	Curved Carapace	Since Last Encounter				Overall			
						Interval		Growth-Rates		Interval		Growth-Rates	
						Month	Year	cm/mo	cm/yr	Month	Year	cm/mo	cm/yr
5/26/91	Nesting	East	0	C	102.5	--	--	--	--	--	--	--	--
5/27/91	Nesting	East	0	X	102.5	--	--	--	--	--	--	--	--
5/28/91	Nesting	East	0	P	102.5	--	--	--	--	--	--	--	--
5/28/91	Nesting	East	0	P	102.5	--	--	--	--	--	--	--	--
6/11/91	Nesting	East	0	P	102.5	--	--	--	--	--	--	--	--
6/11/91	Nesting	East	0	P	102.5	--	--	--	--	--	--	--	--
6/24/91	Nesting	East	0	N	102.5	--	--	--	--	--	--	--	--
6/24/91	Nesting	East	0	N	102.5	--	--	--	--	--	--	--	--
7/6/91	Nesting	East	0	X	102.5	--	--	--	--	1.0	0.1	0.0	0.0
7/6/91	Nesting	East	0	X	102.5	--	--	--	--	1.0	0.1	0.0	0.0
7/7/91	Nesting	East	0	N	102.5	--	--	--	--	1.0	0.1	0.0	0.0
7/7/91	Nesting	East	0	N	102.5	--	--	--	--	1.0	0.1	0.0	0.0
7/20/91	Nesting	East	0	M	102.5	--	--	--	--	1.0	0.1	0.0	0.0
7/20/91	Nesting	East	0	M	102.5	--	--	--	--	1.0	0.1	0.0	0.0
8/1/91	Nesting	East	0	N	102.5	--	--	--	--	2.0	0.2	0.0	0.0
8/1/91	Nesting	East	0	N	102.5	--	--	--	--	2.0	0.2	0.0	0.0
6/15/93	Nesting	East	0	X	103.5	22.0	1.8	0.0	0.6	24.0	2.0	0.0	0.5
6/16/93	Nesting	East	0	X	103.5	--	--	--	--	24.0	2.0	0.0	0.5
6/17/93	Nesting	East	0	X	103.5	--	--	--	--	24.0	2.0	0.0	0.5

Date	Type of Encounter	Location	Tumor/Rank	Nesting Act	Curved Carapace	Since Last Encounter				Overall			
						Interval		Growth-Rates		Interval		Growth-Rates	
						Month	Year	cm/mo	cm/yr	Month	Year	cm/mo	cm/yr
6/29/93	Nesting	East	0	P	103.5	--	--	--	--	25.0	2.1	0.0	0.5
6/29/93	Nesting	East	0	X	103.5	--	--	--	--	25.0	2.1	0.0	0.5
6/8/96	Nesting	East	0	N	104.0	35.0	2.9	0.0	0.2	60.0	5.0	0.0	0.3
6/21/96	Nesting	East	0	M	104.0	--	--	--	--	60.0	5.0	0.0	0.3
6/22/96	Nesting	East	0	P	104.0	--	--	--	--	60.0	5.0	0.0	0.3
7/3/96	Nesting	East	0	C	104.0	--	--	--	--	61.0	5.1	0.0	0.3
7/4/96	Nesting	East	0	X	104.0	--	--	--	--	61.0	5.1	0.0	0.3
7/19/97	Near Shore	Maui, Honokowai	0	-	--	12.0	1.0	--	--	73.0	6.1	--	--
7/27/97	Near Shore	Maui, Honokowai	0	-	--	--	--	--	--	74.0	6.2	--	--
6/7/98	Nesting	East	0	C	--	10.0	0.8	--	--	84.0	7.0	--	--
6/8/98	Nesting	East	0	X	--	--	--	--	--	84.0	7.0	--	--
6/9/98	Nesting	East	0	M	--	--	--	--	--	84.0	7.0	--	--
6/21/98	Nesting	East	0	M	--	--	--	--	--	84.0	7.0	--	--
6/26/99	Near Shore	Maui, Honokowai	1	-	--	14.0	1.2	--	--	99.0	8.3	--	--

6/6/99 EAST

1-#1 EYE

Date: Mon, 12 Jun 2000 17:31:29 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: another PIT tagged turtle

Aloha George,

Well, my first four days were exciting and awesome, had a bit of weather and lost a good size chunk of the rain fly, but it still keeps mostly dry inside. My last day, 2nd to last walk, I had my first previously PIT tagged turtle (LHF 40772D6029, RHF 4077532361) which was kind of exciting. I also had a turtle with fiberglass remnants around the center/back of her carapace and a large mototool #8 to the right side of the remnants. She has an old flippertag on the LHF that read 573-T. Thought that might be interesting too. So far (as of the 8th) we have used 262 tags and have 232 left. The new daily total #'s are: 5th- 32 up, 18 new, 1M, 2P, 3N; 6th- 37 up, 16 new, 5M, 1P, 2N; 6th- 37 up, 16 new, 5M, 1P, 2N; 7th- 32 up, 18 new, 7M, 0P, 1N; 8th- 25 up, 12 new, 3M, 2P, 0N. Thats all for now. Aloha, Aaron.

shredder A240

573-T
ID 24198
9/10/97
Deploy East
TO Kahului Bay
Maui

> He also said that there was a large mototoo! "8" on the carapace, but
> interestingly my field book makes no mention this. I need to search
> pictures we took then. How about your stills, any of this turtles? The
> mototoo on it (put on earlier in the season) was V426. Aloha, George
> PS I guess I/we put the 8 there because of 2419 "8", memories fade, huh?
> ----- Forwarded message -----
> Date: Tue, 13 Jun 2000 22:46:17 -1000 (HST)
> To: FFS TERNUSFWs
> Subject: Aaron/Vanessa/Brian/Tony
> Aaron's recovery of tag 573-T with fiberglass scraps on carapace is our
> satellite tracked turtle 24198 from 9/10/97 (Balazs and Rice deployment
> on East Island). This turtle went to Kahului Bay, Maui, departing the
> Shoals on 9/13/97- a beautiful track indeed. She arrived Kahului 10/23,
> covering 1297 km (806 miles).
> Aaron/Vanessa, this is the sort of discovery that prompted me to give you
> cameras, my good one and the throw-away kind. Please if you haven't
> already take a few pictures of her, side view, full turtle showing the
> fiberglass patches. Also, a shot or two on top showing where the
> transmitter had been. We didn't use pit tags in that year, so inserting
> them now will be valuable to ensure longterm recognition.
> The other turtle Aaron wrote to me about (double pit tag recovery) is one
> of the several I alerted you about in email right after your arrival. A
> "special" turtle because it's been under observation for some time by
> divers (www.turtles.org) off W. Maui. It is known as A240 named
> "Shredder." She should still have a metal tag A240 in the RFL (right arm
> pit). Please look her over special for tumors. Also, take a few photos
> that include the left side of the head, and "attractive" scenic shots of
> her nesting.
> All I can say is, Mahalo Mahalo! Great work, keep it up, keep the info
> coming and I'll give you the feed back. Aloha, George

----- Forwarded message -----
Date: Thu, 15 Jun 2000 20:26:39 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>,
Peter Bennett <honu@turtles.org>
Subject: Re: I wrote it wrong, sorry

A240

122C *tiamat*

U362

A249

U362

Oh WOW, George this is WONDERFUL! ALL FOUR! And look Peter --my May 23rd message to George. I called all four and ONLY four! 100%!

MAN THIS FEELS GOOD! Yessir. That must be SOME party. Note in 1994 U249 likely had FP but video was too poor for confirmation. I believe her to be a regression case also but can't prove. Honokowai is sending East some primo genes.

And of course I'm speculating but I suspect a lot of other places in the archipelago are sending regression cases your way. Like 4800 who clearly has FP in her underwater pic (and you missed while at East). I bet she's going to be ok too.

Mahalo for this wonderful news. Note Ti 122C is very special. First nester during your 25th Anniversary. True Silver Honu!

>Shredder (A 240 (unlikely but watch for her. She got FP last year. I believe she will regress this year. Just a feeling)

>Tiamat (122C (your silver honu)

>U 362 (only sighted once in 1996 but to my eye she looked like her tumours were regressing. If she's around for 2000 or in your records after 1996, regression would be confirmed)

>A 249

>That's it. Mahalo.

>If they see Shredder or Ti, pics would be nice.

>The rest of the wahines SHOULD be with us this summer. Mahalo.

Date: Thu, 15 Jun 2000 16:57:06 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: U362

Reminder we only ever sighted her on one dive in 1996. Eye tumours gray and on the way out. Body tumour like a dried mushroom. Regression. But we don't officially proclaim regression until we have a subsequent sighting showing tumours smaller or gone.

You can do that for us George.

If you can please have your people look very carefully for tumours. (I don't trust FFS records without them being instructed to look hard what with the darkness and everything.) We'd really like to rack her up as a "resight" and a regression case.

Only you can do that for us.

We really don't expect to see her again. She's not a Honokowai honu.

Date: Thu, 15 Jun 2000 17:08:28 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Regression - ball's in your court

regression 115

I just told you about U362. Just some lady passing through when we sighted her that one time. But her tumours were clearly regressing. Only you can put her in the "REGRESSION CONFIRMED" pile.

And Shredder A240. Same thing. Unless of course we get lucky and she gets back in time

If I'm right in what I saw (concluded) last summer we're going to rack up an impressive pile of regression cases if all (most) show for 2000.

And we really need as many regression cases for our next regression paper. I hope to push regression in subadults/adults to 50%. I know that's happening. I want to PROVE it. Those two wahines are important in that goal.

Mendelbrot = U359

No, not writing the paper and getting the proof after. Just educated eyeballs seeing but now eager to PROVE.

Date: Thu, 15 Jun 2000 02:34:05 EDT
From: Hinwr@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Turtle update cont.

Dear George,

All 4 special turtles that you want us to photo have shown up. No pictures taken yet, but are working on it.

- A-240 was Motoed (223U) on 6/7 recorded as a Maybe nester - should see her on 21 June.
- U-362 was Motoed (256U) on 6/9 recorded as excavating.
- A-249 was Motoed (260U) on 6/9 recorded as a probable nest - should see her on 3 June.
- 122-C was Motoed (281U) on 6/11 recorded as excavating.

Datalogger info.

- N#1 logger # 243581 Moto 110U; old tags - 457-C RHF, 9712 LFL, 9714 RFL.
- N#2 logger # 295520 Moto 138U: " " - 159-C LHF, 160-C RHF, 161-C LFL, 162-C RFL.
- N#3 logger - I have to find this one - I'll give an update later - it is dinner time!
- N#4 logger 243577 Moto 257U; old tags - 345-C RHF.
- N#5 logger 243570 Moto 73U: old tag - U124 rhf
- N#6 logger 243574 Moto 217U; old tags - 11636 lhf, 11635 rhf, 11638 lfl, 11637 rfl.

Aloha, Vanessa

----- Forwarded message -----
Date: Thu, 15 Jun 2000 23:12:00 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Peter Bennett <honu@turtles.org>
Subject: Re: I wrote it wrong, sorry

Well sir now that you mention it I just went through the database.

In 1995 we spotted a honu with X25 on shell and you said it was tag U164. Not a Honokowai honu. Spotted once I believe in 1995 and again once in 1996. Have her down as having FP by 96. Eye tumours - #1's. Not sighted since. Don't know her nesting record at all.

Also sighted fairly regularly for first time this summer 605C. Rear end badly injured (likely infected you said) all whitish. Not tumours but left eye and neck look suspicious. Don't know nesting record here either.

And Mendelbrot nested in 1998 so is unlikely there but I guess you can check for that too. (She's another regression case)

Mahalo for asking.

At 04:45 PM 6/15/00 -1000, George H. Balazs wrote:
>Any more number you might want to give me that they can watch out for?
>(although God Knows they are so busy as is it's amazing they have any
>extra time to watch for anything- what I mean is be aware of it now, on
>the spot, instead of us picking it up later post-season, which naturally
>would happen, eventually). Aloha, George
>

Date: Thu, 15 Jun 2000 02:33:48 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: Turtle Update

Dear George,

We received your emails about dBase III, not to worry, we have been steadily entering data. When I went for my 2nd stint on East, 8-11 June, I made a decision on PIT tags before I read your email with your wishes. I was worried about numbers 'cause each time before Aaron and I applied approx. 100 PITs each. I know Aaron sent you the numbers thru 7 June. On my stint I applied 70 PITs only in LHF. The total number PITs applied as of 11 June were 333. Aaron should also be applying only to LHF. I am hoping that we will have enough till the 23rd. I don't know how many Aaron has applied in the last 2 nights as we have radio troubles also. If remaining PIT. If numbers are very low the last 4 nights before the 23rd, I am thinking/suggesting that we apply PITs only to turtles with no previous tags?

Daily totals:

6/8 25 up 12 new 3M, 2P, 0N
 6/9 41 up 25 new 11M, 3P, 4N
 6/10 37 up 16 new 7M, 3P, 1N
 6/11 38 up 17 new 12M, 2P, 3N

From 29 May - 11 June a total of 253 turtle IDs and 149 of them previously tagged. so approx. a 59% resight.

More to follow.

Aloha, Vanessa

----- Forwarded message -----
 Date: Sat, 17 Jun 2000 21:54:13 -0400
 From: Ursula Keuper-Bennett <howzit@turtles.org>
 To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>,
 Peter Bennett <honu@turtles.org>
 Subject: Re: I wrote it wrong, sorry **ERROR**

Must go back to this message:

>As per your message of 23 May, the tags you listed:

>
 >A240
 >
 >122C
 >
 >U362
 >
 >A249
 >

>All are at East, having a party. Without you. Also with out me!

It wasn't you who wrote it wrong. And I don't know how it happened because I have the tags memorized so there is no mistake that way. It's a pure typo.

A249 is NOT our honu!

We have (and I MEANT to type U249. U.

Peter picked up on it just now --although sooner or later I would have too. This is entirely my fault and I apologize.

I ask though if you can look at East for U249. First sighted in 1994 and you met her when you dived with us then.

Haven't a clue what could have happened. The A and the U aren't even CLOSE on a keyboard! And I know for certain all tags so there's no chance of confusion there either. Again, sir, I apologize.

U249 George. She may be at East.

Date: Thu, 22 Jun 2000 14:12:30 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: How many..

Reduce FFS

Aloha George,
 I don't know if Aaron told you, but the turtle with tag U249 is still moto 260U. Apparently, I decided (in sleepless haze) that that was the turtle we wanted, even though, at that particular time, tag numbers didn't exactly match up. Aaron is in awe of my "powers".

12 June	41 up	12 new	5M, 5P, 0N	AD
13	34	4	2M, 1P, 0N	AD
14 June	38	6	0M, 3P, 3N	AD
15	31	1	3M, 3P, 2N	AD
16	34	7	3M, 5P, 4N	VP
17	43	7	13M, 2P, 3N	VP
18	45	5	7M, 2P, 2N	VP
19	39	5	9M, 2P, 4N	VP

As of 19 June, approx. 382 PIT used and 113 unused on Tern. There are 205 turtles left that need 2nd RHF PIT, however, we won't see some of them again.

We were up to 300 turtles ID'd. I told Aaron to start putting in RHF tag last night. I guessed another 125-150 tags to get us through? To account for new turtles that will continue to come up and all of the RHF tags that need to be applied. We are anticipating breaking down camp on 1 July. We will have 31 full nights of data and that will leave us 2, 3, and 4 July to clean up. To be honest, we would like to take at least a half day off for the 4th to have fun with everyone on island. We leave on the 5th.

Last night Aaron photo'd A-240 (moto 223U) digging an egg chamber. She was close enough to seals where he didn't feel comfortable coming back repeatedly to catch her laying eggs.

Vanessa

Date: Wed, 21 Jun 2000 11:09:11 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: FFS turtles

Reduce FFS

Hi George,

Been in the boat repair business lately and haven't been to able to get you more nesting info from the outer islands. We will be going to East and the Gins tomorrow and Aaron will come along to the Gins and collect the humeri from a dead adult found by the NMFS seal crew.

Aloha, Brian

----- Forwarded message -----
 Date: Tue, 20 Jun 2000 18:41:53 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: sorry for the delay

hi, sorry I didnt get back to you sooner, have been busy with misc. things here. The PITs are going in fine and it looks like we will make it ok until the flight on 23rd. The #s for new turtles from June 4,5,6,7 are (in order) 17, 18, 16, 18. #s of new turtles were much lower on my last 4 days (June 12,13,14,15) but I forgot to bring the numbers back with me beause it was a hurried exchange, but I will have Vanessa send you those #s tomorrow and an estimate of PITs needed on the flight. We'll be sure to look for U249 instead of A249.

Aloha, Aaron.

Historical Information for Turtle Tag W112



Tag Information:

Tag Number	Date	Tag Type	Tag Position
407734654	6/15/88		RHF
407752858	6/15/88		LHF
F163	6/22/82		LHF
F164	6/22/82		RHF
F165	6/22/82		RFL
F166	6/22/82		R34
G781	6/11/86		RFL
U447	6/17/84		LHF
W112	5/25/89		RFL
W113	5/25/89		LFL

Date	Type of Encounter	Location	Tumor/Rank	Nesting/Act	Curved Carapace	Since Last Encounter				Overall			
						Interval		Growth-Rates		Interval		Growth-Rates	
						Month	Year	cm/month	cm/yr	Month	Year	cm/month	cm/yr
5/25/89	Nesting	East	0	X	93.5	--	--	--	--	--	--	--	--
5/28/89	Nesting	East	0	N	93.5	--	--	--	--	--	--	--	--
6/3/89	Nesting	East	0	C	93.5	--	--	--	--	--	--	--	--
6/7/89	Nesting	East	0	P	93.5	--	--	--	--	--	--	--	--
6/18/89	Nesting	East	0	X	93.5	--	--	--	--	--	--	--	--
6/29/89	Nesting	East	0	C	93.5	--	--	--	--	1.0	0.1	0.0	0.0
6/30/89	Nesting	East	0	N	93.5	--	--	--	--	1.0	0.1	0.0	0.0
7/10/89	Nesting	East	0	C	93.5	--	--	--	--	1.0	0.1	0.0	0.0
7/12/89	Nesting	East	0	X	93.5	--	--	--	--	1.0	0.1	0.0	0.0
7/13/89	Nesting	East	0	X	93.5	--	--	--	--	1.0	0.1	0.0	0.0
7/24/89	Nesting	East	0	C	93.5	--	--	--	--	2.0	0.2	0.0	0.0
7/25/89	Nesting	East	0	X	93.5	--	--	--	--	2.0	0.2	0.0	0.0
8/7/89	Nesting	East	0	C	93.5	--	--	--	--	2.0	0.2	0.0	0.0
8/8/89	Nesting	East	0	P	93.5	--	--	--	--	2.0	0.2	0.0	0.0
5/3/89	Nesting	East	0	N	95.7	33.0	2.8	0.1	0.8	36.0	3.0	0.1	0.7
6/11/92	Nesting	East	0	C	95.7	--	--	--	--	36.0	3.0	0.1	0.7

Historical Information for Turtle Tag G95

Tag Information:

Tag Number	Date	Tag Type	Tag Position
22000C4977	5/31/88		LHF
4077345655	6/30/88		RHF
G95	6/20/85		RHF
G96	6/20/85		LHF
G97	6/20/85		RFL
G98	6/20/85		LFL

Date	Type of Encounter	Location	Tumor/Rank	Nesting/Act	Curved Carapace	Since Last Encounter				Overall			
						Interval		Growth-Rates		Interval		Growth-Rates	
						Month	Year	cm/month	cm/yr	Month	Year	cm/month	cm/yr
6/20/85	Nesting	East	0	C	98.0	--	--	--	--	--	--	--	--
6/21/85	Nesting	East	0	X	98.0	--	--	--	--	--	--	--	--
7/4/85	Nesting	East	0	C	98.0	--	--	--	--	--	--	--	--
7/5/85	Nesting	East	0	M	98.0	--	--	--	--	--	--	--	--
5/31/88	Nesting	East	0	C	99.5	34.0	2.8	0.0	0.5	35.0	2.9	0.0	0.0
6/1/88	Nesting	East	0	P	99.5	--	--	--	--	35.0	2.9	0.0	0.0
6/16/88	Nesting	East	0	N	99.5	--	--	--	--	35.0	2.9	0.0	0.0
6/30/88	Nesting	East	0	N	99.5	--	--	--	--	36.0	3.0	0.0	0.0

6/100 East

Date	Encounter	Location	Tumor/Rank	Nesting/Act	Curved Carapace	Interval	Year	Growth-Rates	Interval	Year	Growth-Rates
6/12/82	Nesting	East	0	X	95.7	--	--	--	36.0	3.0	0.1
6/22/82	Nesting	East	0	C	95.7	--	--	--	36.0	3.0	0.1
7/4/82	Nesting	East	0	X	95.7	--	--	--	37.0	3.1	0.1
7/14/82	Nesting	East	0	X	95.7	--	--	--	37.0	3.1	0.1
7/24/82	Nesting	East	0	N	95.7	--	--	--	37.0	3.1	0.1
8/4/82	Nesting	East	0	N	95.7	--	--	--	38.0	3.2	0.1
8/15/82	Nesting	East	0	N	95.7	--	--	--	38.0	3.2	0.1
6/17/84	Nesting	East	0	P	95.5	22.0	1.8	0.0	80.0	5.0	0.0
6/28/84	Nesting	East	0	X	95.5	--	--	--	61.0	5.1	0.0
6/29/84	Nesting	East	0	N	95.5	--	--	--	61.0	5.1	0.0
6/17/85	Nesting	East	0	M	97.0	23.0	1.9	0.1	84.0	7.0	0.0
6/21/86	Nesting	East	0	X	97.0	--	--	--	84.0	7.0	0.0
6/22/86	Nesting	East	0	X	97.0	--	--	--	84.0	7.0	0.0
7/2/86	Nesting	East	0	M	97.0	--	--	--	85.0	7.1	0.0
6/4/88	Nesting	East	0	P	97.0	23.0	1.9	0.0	108.0	9.0	0.0
6/15/88	Nesting	East	0	N	97.0	--	--	--	108.0	9.0	0.0
6/26/88	Nesting	East	0	X	97.0	--	--	--	108.0	9.1	0.0
6/27/88	Nesting	East	0	M	97.0	--	--	--	108.0	9.1	0.0

6/100 East

Date: Wed, 16 Aug 2000 13:21:30 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: Aloha Brian

Hi George,

All is well here. Turtle nesting has slowed and we are getting large numbers of hatchlings. Hatchlings are being rescued from the north seawall and runway every day, and we have rescued at least 12 adults so far. I was on the Gins a few days back and they seem to have considerably more body pits than I remember in past years. Although I had just got here in 97, the big year, and don't recall that year real well. Trig is covered with body pits too. We have not been on Shark or Disappearing. Right now, Tony and I are assisting the marine debris project and we've seen a few adults between Tern and Trig, where we've been working. How did the East Island season turn out for you? I know that Vanessa and Aaron worked very hard. I hope all is well with you. All the best, Brian

FFS

Date: Tue, 19 Sep 2000 17:47:25 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Aloha from Tern

Hi George,

One of your temperature data loggers was found on the surface of the ground by one of our volunteers. I was just recently informed and have it in my office, but apparently its been out of the ground for quite some time. What would you like me to do with it? We have a flight on friday.

Hope all is great with you.

Aloha, Brian

data logger

FFS

Date: Tue, 4 Jul 2000 01:43:06 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: VANESSA- Address and Bones

George,

My parent's address is:
 c/o Peter and Regula Pepi
 11501 Brookview Rd.
 Woodbury, MN 55129
 (651)436-5961

They will accept phone calls and mail for their largely homeless daughter.
 Update;

20 June	38 turtles up	6 new	5m, 0p, 3n
21	50	4	4m, 1p, 3n
22	42	4	4m, 1p, 3n
23	40	1	2m, 1p, 5n
24	53	2	10m, 1p, 3n
25	44	2	9m, 4p, 3n
26	55	4	11m, 1p, 0n

Aaron is on East and the last night is tonight (the 30th). He has had the new "record" number of turtles up - around 65. The humeri are on Tern - NMFS cut the flippers off and brought them back. I am going to excise the humeri this aft.

Aloha, Vanessa

Date: Fri, 8 Sep 2000 13:34:11 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Aloha from Tern Island

Hi George,

Hope all is great with you. Things are quiet on Tern with just 3 of us out here now. Wanted to let you know that I will be coming into Honolulu on 22 Sept and will be around for 1-2 weeks. If your not gone somewhere during that time, I'd like to see you. I haven't gotten the new job I want yet, but I likely will soon, and this will be my last stint on Tern.

Over 20 adult females rescued from entrapment so far this season.

All the best, Brian

Reduce
FFS

Date: Mon, 07 Aug 2000 15:36:35 -1000
 From: Kristy Masada <kmasada@s360.swfc2.nmfs.gov>
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: New humeri

Hi George,

Just wanted to let you know that I picked up a set of humeri fr Liz Kashinsky down at KRF. Here's the info that was on the card:

Collected by A. Dietrich
 Fr. Jin Island, FWS, HI NWR
 June 21, 2000
 Female-found dead

I re-bagged and labled it and put it on the right side of the top shelf in the up right freezer (the door was too filled).

I'm really sorry about the stench in A2. I should've been more careful.

Reduce

FFS

Date: Thu, 10 May 2001 18:04:17 EDT
 From: Hinwr@aol.com
 To: gbalazs@honlab.nmfs.hawaii.edu
 Subject: Re: Items of G. Balazs coming on Cromwell

George,
 Thanks for the information. I tried several times with no luck to email you with updated turtle info. I will attach part of that message here. But the gist of it is we are frequently observing 15-20 turtles on East beach. And two days ago 32 were counted either on the beach, copulation near shore or basking. I will try and get a haul up number to you this week.

Hi George,
 I appreciated the articles, as well as the email you sent me. Interesting stuff; it's nice to see our efforts paid dividends like that. I've been extremely busy with flights, USCG dump clean-up logistics, and the increasing activity in the seabird plots. I was walking the north side of the island today while doing a mean incubation count for white terns and counted six adult turtles on Shell beach; basking and in the water. Further on down at East beach, there were another 6-8 turtles. At least two pairs were copulating. Others in the shallows and a few basking. I have a sneaking suspicion this year will be a large nesting year. I look forward to your correspondence and this turtle season.

With warm aloha,
 Tony

ON TERN

CRAB is the westerly beach (to the left facing North)
 Shell is the beach to the right

2001

May 2001 07:14:06 -1000
Duke Aycock@r1.fws.gov
George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Propane and Plane

Propane
Does not have any special food needs as far as I know. All the
plants last year came from Vanessa. A field biologist who won't eat
meat. I still haven't heard a peep from Aaron. There is plenty of
Propane up there. They are the 10 gallon size for the fridge and the camp
or the 10 gallon size for the stove which ever works better for the
camp. I would rather us pay for the 31st flight if that is all right with
you. As far as Passengers on that flight there will be you, Aaron, a
volunteer, and a NMFS person. So if you have any special gear that will
fit on the ship I would recommend sending it that way. I do have some room
left in the pallet tub going up on the Cromwell. I sent a box of
rite-in-the-rains up on the last cromwell cruise along with all the other
turtle requests from the SOP.

Nesting.... I asked Tony this morning on the Radio about turtle activity.
He said they have noticed 5-6 body pits. There is lots of basking and
copulation going on too. He predicts a busy year from what he has seen so
far.

Speaking of Tony. He wanted me to let you know that he has been trying to
email you, but has not been able to get through yet. He said he will try
one more time and then ask some one to forward it to you.

The refrigerator.... I could actually pick that up today. I will call you
from Kapahulu. I have a safety inspection there today and so I will pack
up the van in preparation for Monday. I will call you from there to
arrange things for either today or Monday whichever will work better for
you and your staff.

I hope this answers all your questions so far. I will talk to you later
this morning.

Domo

PS

"George H. Balazs"
<gbalazs@honlab.nmfs.hawaii.edu>
05/03/2001 09:10 PM
To: Dominique Aycock
<Dominique_Aycock@r1.fws.gov>
cc:
Subject: Propane and

Plane

Just double checking again on a few things:

Aaron have any special food item needs?

Propane is up there, plenty?

Plane on 5/31 will be my payment on my PO?

Nesting up there. Please. Please can you find out from Tony what in the
way of nesting they are seeing up there yet? Any? Even if they haven't
been going to East, for me to know what is or isn't happening on TERN
would be helpful. Mahalo George