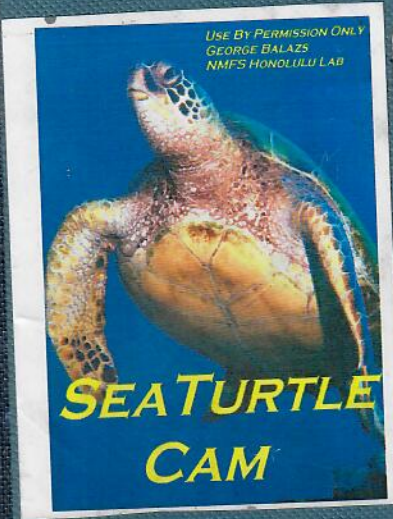




FRENCH FRIGATE
SHOALS

2 of 2

Sea Turtle Cam Phase II 21-27
SATellite LINK SEPT 2004



Tagging and Resights all keratid PS 8/2010

SEE MORE WILDLIFE
SYSTEMS

U.S. DEPARTMENT OF COMMERCE

CD0001269219

G.H. BALAZS

Sea Turtle Cam Phase III 11-17
THERMAL IMAGING SEPT. 2007

USCG C-130 24 OCTOBER 2009

6/2007
East



Tag Information:

Palau Sub Adult 70.7 TO East

Tag Number	Date	Tag Type
1211		
413615681E	6/18/1999	PIT
424F160D25	6/20/2001	PIT
42501C0B58	6/20/2001	PIT
514C	6/27/1996	I681
9171	7/6/1989	I681
9172	7/6/1989	I681
9173	7/6/1989	I681
BBA442	7/6/1989	R
W984	5/23/1992	I681
W985	5/23/1992	I681

Date	Type of Encounter	Location:	TumorR:
6/18/2004	Nesting	East	0
6/19/2004	Nesting	East	0
6/20/2004	Nesting	East	0
7/1/2004	Nesting	East	1
7/2/2004	Nesting	East	1

6/2007 East

Date	Type of Encounter	Location:	TumorRank:
7/6/1989	Near Shore	Molokai, Palau G	70.7 SCL 0
7/17/1991	Near Shore	Kauai, Kapaa	0
7/26/1991	Near Shore	Kauai, CAVES	0
5/23/1992	Nesting	Tern	0
5/24/1992	Nesting	Tern	0
6/24/1992	Nesting	Tern	0
7/8/1992	Nesting	Tern	0
4/26/1993	Near Shore	Kauai, CAVES	0
6/27/1996	Nesting	East	0
6/4/1999	Nesting	East	0
6/17/1999	Nesting	East	0
6/18/1999	Nesting	East	0
6/30/1999	Nesting	East	0
6/20/2001	Nesting	East	2
6/20/2001	Nesting	East	2
6/6/2004	Nesting	East	0

920 SCL

P&H 1983 TO EAST 2000 & 2007

Tag Information:

Tag Number	Date	Tag Type
500F22410A	5/29/2000	
7104	7/3/1983	1681

Date	Type of Encounter	Location:	Tumor
7/3/1983	Near Shore	Pearl and Hermes Reef, Southeast Island	82.7 SCL 0
5/25/2000	Nesting	East	91.0 SCL 0
6/12/2000	Nesting	East	91.0 SCL 0
6/2007		EAST	

P&H subadult TO EAST 2007

Tag Information:

Tag Number	Date	Tag Type
6972	5/5/1983	1681

Date	Type of Encounter	Location:	TumorRank:
5/5/1983	Near Shore	Pearl and Hermes Reef, Southeast Island	71.2 SCL 0
7/5/1983	Near Shore	Pearl and Hermes Reef, Southeast Island	0
6/2007		EAST nest	

Palaa subadult 1992 TO EAST 2007

Tag Information:

Tag Number	Date	Tag Type
H768	5/29/1992	1681
H769	5/29/1992	1681
H770	5/29/1992	1681

Date	Type of Encounter	Location:	TumorRank:
5/29/1992	Near Shore	Molokai, Palaa E	69.3 SCL 2
7/31/1992	Near Shore	Molokai, Palaa B	2
2007/6		EAST nest	

Tag Information:

Tag Number	Date	Tag Type
7857	10/18/1984	1681
7858	10/18/1984	1681

Date	Type of Encounter	Location:	Tumor
10/18/1984	Near Shore	Molokai, Kawela Outside Kawia Fishpond	41.5 SCL 0
6/07		EAST nest	

Tag Information:

Tag Number	Date	Tag Type
127C	5/30/1997	1681
3152	6/18/1979	1681
3153	6/27/1979	1681
3203	6/21/1979	1681
42434F2275	6/26/2001	PIT
4250004164	6/15/2001	PIT
F818	6/5/1993	1681
F819	6/5/1993	1681
W503	7/29/1989	1681

6-foot EAST

Date	Encounter	Type of	Location
6/18/1979	Near Shore	East	90.5
6/21/1979	Nesting	East	SL
6/22/1979	Near Shore	East	
6/22/1979	Nesting	East	
6/24/1979	Near Shore	East	
6/27/1979	Nesting	East	
6/27/1979	Near Shore	East	
6/28/1979	Near Shore	East	
6/28/1979	Near Shore	East	
6/29/1979	Near Shore	East	
6/15/1985	Nesting	East	
6/16/1985	Nesting	East	
6/16/1985	Near Shore	East	

Date	Encounter	Location
6/18/1985	Near Shore	East
6/19/1985	Near Shore	East
6/20/1985	Near Shore	East
6/21/1985	Near Shore	East
6/24/1985	Near Shore	East
6/26/1985	Near Shore	East
6/27/1985	Nesting	East
6/28/1985	Near Shore	East
6/28/1985	Nesting	East
6/29/1985	Nesting	East
6/30/1985	Near Shore	East
6/30/1985	Nesting	East
7/8/1985	Near Shore	East
7/9/1985	Near Shore	East
7/10/1985	Near Shore	East
7/15/1985	Near Shore	East
7/16/1985	Near Shore	East
5/26/1989	Nesting	East
5/26/1989	Nesting	East
5/27/1989	Nesting	East
5/28/1989	Nesting	East
5/28/1989	Nesting	East
6/8/1989	Nesting	East
6/8/1989	Nesting	East
6/9/1989	Nesting	East

Date	Encounter	Location
6/9/1989	Nesting	East
6/10/1989	Nesting	East
6/10/1989	Nesting	East
6/22/1989	Nesting	East
6/22/1989	Nesting	East
6/23/1989	Nesting	East
6/23/1989	Nesting	East
6/23/1989	Nesting	East
7/4/1989	Nesting	East
7/4/1989	Nesting	East
7/16/1989	Nesting	East
7/16/1989	Nesting	East
7/17/1989	Nesting	East
7/17/1989	Nesting	East
7/28/1989	Nesting	East
7/28/1989	Nesting	East
7/29/1989	Nesting	East
7/29/1989	Nesting	East
8/11/1989	Nesting	East
8/11/1989	Nesting	East
6/5/1993	Nesting	East
6/16/1993	Nesting	East
6/17/1993	Nesting	East
6/28/1993	Nesting	East
6/29/1993	Nesting	East
5/30/1997	Nesting	East

Date	Encounter	Location
6/12/1997	Nesting	East
6/13/1997	Nesting	East
6/15/2001	Nesting	East
6/26/2001	Nesting	East
10/19/2001	Near Shore	Maui, Olowalu
6/12/2004	Nesting	East 93.2
6/25/2004	Nesting	East
7/17/2004	Nesting	East

Subject: Fiberglass patch-special turtle7564 Re: East island, first report

MT-15

This surely has to be one of ours that carried a satellite tag. So really appreciated that you noticed it (fiber patch). Pictures will be very valuable-- yes a couple close up of the patch, but more importantly whole body- with enough space around the turtle in the framing- to make a "pretty picture" of her nesting or at least up on the beach, or even basking.

This reminds me of something I had totally forgotten until right now. Mototool numbers. To confirm, you mototool then you spray white with spray paint. One issue last year (minor but worth mentioning now) is that special turtles- and any turtles that were photoed after MT'ing) ended up with a large white "spot" of spray paint in the photo. Number hardly not readable, if at all. I realize that with passing weeks the overspray paint rubs off leaving the nice crisp readable MT number. But that does seem to take weeks. And certainly when the number is first applied and sprayed it will be that way. So here is a suggestion. For special turtles, and for when you re-encounter any turtles after MT'ing, have a piece of coarse sand paper with you. Give a few strokes of sanding to take off the overspray. That will expose MT number nice and pretty. And the photos will be *so* much better.

Sound ok?

More later. Thank you, G

Not in TDPS.

Hm...

SKM

On Thu, 14 Jun 2007, Irene.Nurzia-Humburg@noaa.gov wrote:

- > Special turtles! One case I think might be of special interest: it's turtle
- > mototool #15, she has what looks like an epoxy patch on the 1st central and
- > 1st R lat scutes. Her metal tags are: RHF 7564, RF34 7562, RFL 7562, LFL
- > 7560 and LF34 7561. Her PIT LHF 423231446F and since the RHF wouldn't read I
- > applied a new one: RHF 452673132B Let me know if she has an interesting
- > history... I have taken picture of the epoxy patch, and just in case, some
- > general ones too. I think so far I've only seen 4 or 5 turtles with tumors,
- > and a good number of injured hind flippers, mostly completely healed. 2 or 3
- > completely missing one of their hind flippers.

SAT TAG =

Tag Information:

Tag Number	Date
423231446F	6/21/2002
7560	11/13/1983
7561	11/13/1983
7562	11/13/1983
7563	11/13/1983
7564	11/13/1983
F157	6/22/1992

Fiberglass PAT-A

MT 15-2007

Date	Type of Encounter	Loc
11/13/1983	Near Shore	Site #2
6/22/1992	Nesting	East
6/23/1992	Nesting	East
6/23/1992	Nesting	East
6/25/1992	Nesting	East
6/26/1992	Nesting	East
7/9/1992	Nesting	East

7/9/1992	Nesting	East
7/10/1992	Nesting	East
7/11/1992	Nesting	East
7/12/1992	Nesting	East
7/12/1992	Nesting	East
7/23/1992	Nesting	East
7/24/1992	Nesting	East
7/24/1992	Nesting	East
8/4/1992	Nesting	East
8/4/1992	Nesting	East
8/16/1992	Nesting	East

Date	Type of Encounter	
8/17/1992	Nesting	East
8/19/1992	Nesting	East
8/30/1992	Nesting	East
8/30/1992	Nesting	East
6/8/1996	Nesting	East
6/9/1996	Nesting	East
6/10/1996	Nesting	East
6/11/1996	Nesting	East
6/12/1996	Nesting	East
6/23/1996	Nesting	East
6/7/2002	Nesting	East
6/18/2002	Nesting	East
6/19/2002	Nesting	East
6/20/2002	Nesting	East
6/21/2002	Nesting	East



607 MT 33

Tag Information:

Tag Number	Date	Tag Type
2240	6/28/1977	1681
3231	6/25/1979	1681
502E532450	5/29/2000	PIT
502E7F2963	6/21/2000	PIT
5384	6/10/1981	1681
5411	6/13/1981	1681
971C	6/6/1997	1681
A656	5/30/1992	1681
F330	7/17/1992	1681
U707	6/9/1995	1681
U723	6/10/1995	1681
W284	7/8/1989	1681
W64	5/13/1989	1681

6/2007 EAST

Date	Encounter	Location:
6/28/1977	Nesting	East
6/24/1979	Nesting	East 1010 SCL
6/25/1979	Nesting	East
6/28/1979	Near Shore	East
6/28/1979	Near Shore	East
6/29/1979	Near Shore	East
6/10/1981	Near Shore	East
6/13/1981	Near Shore	East
6/13/1981	Nesting	East
6/16/1981	Near Shore	East
5/11/1989	Nesting	East
5/11/1989	Nesting	East
5/13/1989	Nesting	East

Date	Encounter	Lo	Date	Encounter	Locat
5/13/1989	Nesting	East	6/1/1992	Nesting	East
5/28/1989	Nesting	East	6/1/1992	Nesting	East
5/28/1989	Nesting	East	6/12/1992	Nesting	East
5/29/1989	Nesting	East	6/12/1992	Nesting	East
5/29/1989	Nesting	East	6/24/1992	Nesting	East
6/11/1989	Nesting	East	7/6/1992	Nesting	East
6/11/1989	Nesting	East	7/6/1992	Nesting	East
6/24/1989	Nesting	East	7/17/1992	Nesting	East
6/24/1989	Nesting	East	7/17/1992	Nesting	East
6/25/1989	Nesting	East	7/18/1992	Nesting	East
6/25/1989	Nesting	East	7/18/1992	Nesting	East
7/8/1989	Nesting	East	7/30/1992	Nesting	East
7/8/1989	Nesting	East	7/30/1992	Nesting	East
7/16/1989	Nesting	East	6/9/1995	Nesting	East
7/16/1989	Nesting	East	6/10/1995	Nesting	East
7/17/1989	Nesting	East	6/11/1995	Nesting	East
7/17/1989	Nesting	East	6/12/1995	Nesting	East
5/28/1992	Nesting	East	6/23/1995	Nesting	East
5/28/1992	Nesting	East	7/4/1995	Nesting	East
5/29/1992	Nesting	East	7/5/1995	Nesting	East
5/29/1992	Nesting	East	7/6/1995	Nesting	East
5/30/1992	Nesting	East	6/6/1997	Nesting	East
5/30/1992	Nesting	East	6/7/1997	Nesting	East
5/31/1992	Nesting	East	6/19/1997	Nesting	East
5/31/1992	Nesting	East	5/29/2000	Nesting	East

Date	Encounter	Type of
5/30/2000	Nesting	East
6/10/2000	Nesting	East
6/21/2000	Nesting	East
6/22/2000	Nesting	East
6/4/2002	Nesting	East
6/15/2002	Nesting	East
6/27/2002	Nesting	East
6/28/2002	Nesting	East
6/13/2004	Nesting	East
6/14/2004	Nesting	East
6/27/2004	Nesting	East
6/2007	Nesting	East

30 years
1977 - 2007
JUNE - JUNE



Date: Thu, 17 Feb 2005 08:29:34 -1000
 From: Timothy Brian Clark <clarkt@hawaii.edu>
 To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: FFS

Reduce
 FFS Book

George,

A long while ago you asked me for dates when I was at FFS. Sorry I didn't respond earlier, but my computer has been in to Dell for over a month so I didn't have my resume. Thought I would have it back sooner.

I was up there during the following years:
1986, 1992, 1996, 1997, 1998, and 1999.

1996-99 (4 years)
 Dedicated at East
 Turtle Project

Unfortunately I can't remember who I worked with during what years. I know 1986 I worked with Mimi, Dick, and Vanessa. I also worked with Vanessa Pepi during the 1996-1999 years. I should remember the names of the other people I worked with, but I seem to be loosing my memory with age.

Hope this helps.

Tim

NOT VANESSA PEPI

Tim Clark
 Zoology Department
 University of Hawaii
 Honolulu, HI 96822
 (808) 226-1853

Alyssa
 WAARD

Tag Information:

<u>Tag Number</u>	<u>Date</u>
F279	7/14/1992
G565	6/18/1996
G995	6/18/1996
W231	6/23/1989
W281	7/8/1989

6/2007 East Recovery

<u>Date</u>	<u>Type of Encounter</u>	<u>Location</u>
6/23/1989	Nesting	East
6/23/1989	Nesting	East
7/7/1989	Nesting	East
7/7/1989	Nesting	East
7/8/1989	Nesting	East
7/19/1989	Nesting	East
7/19/1989	Nesting	East
7/20/1989	Nesting	East
7/20/1989	Nesting	East
7/21/1989	Nesting	East
7/21/1989	Nesting	East
8/2/1989	Nesting	East
8/2/1989	Nesting	East
6/21/1992	Nesting	East
7/13/1992	Nesting	East
7/14/1992	Nesting	East

Page 1 of 2

Tag Information:

<u>Tag Number</u>	<u>Date</u>
407740537A	6/20/1998
407759274B	6/8/1998
G205	6/28/1995
U914	6/15/1995
U915	6/15/1995
U916	6/15/1995

6/2007 Recovery EAST

<u>Date</u>	<u>Type of Encounter</u>	<u>Location</u>
6/15/1995	Nesting	East
6/17/1995	Nesting	East

<u>Date</u>	<u>Type of Encounter</u>	<u>Location</u>
7/14/1992	Nesting	East
7/25/1992	Nesting	East
7/25/1992	Nesting	East
6/5/1996	Nesting	East
6/6/1996	Nesting	East
6/18/1996	Nesting	East
6/20/1996	Nesting	East
6/30/1996	Nesting	East
7/2/1996	Nesting	East
7/3/1996	Nesting	East

6/28/1995	Nesting	East
6/29/1995	Nesting	East
7/2/1995	Nesting	East
6/7/1998	Nesting	East
6/8/1998	Nesting	East
6/19/1998	Nesting	East
6/20/1998	Nesting	East
6/5/2001	Nesting	East
6/15/2001	Nesting	East
6/17/2001	Nesting	East
6/18/2001	Nesting	East
6/28/2001	Nesting	East
6/29/2001	Nesting	East

<u>Date</u>	<u>Type of Encounter</u>	<u>Location</u>
6/1/2004	Nesting	East
6/25/2004	Nesting	East
6/25/2004	Nesting	East
7/6/2004	Nesting	East
7/7/2004	Nesting	East

Tag Information:

Tag Number	Date
4135752F0F	6/9/2000
5019192538	6/24/2000
587T	6/18/1997
U362	6/13/1994
U363	6/13/1994
U370	6/13/1994

KIMO

Date	Type of Encounter	Location:
6/13/1994	Nesting	East
7/2/1994	Nesting	East
7/3/1994	Nesting	East
6/18/1997	Nesting	East
6/19/1997	Nesting	East
6/9/2000	Nesting	East
6/11/2000	Nesting	East
6/12/2000	Nesting	East
6/13/2000	Nesting	East
6/24/2000	Nesting	East
6/25/2000	Nesting	East
6/5/2002	Nesting	East
6/7/2002	Nesting	East
6/19/2002	Nesting	East
6/20/2002	Nesting	East
6/22/2002	Nesting	East
6/24/2002	Nesting	East
6/25/2002	Nesting	East

Continued

Date	Type of Encounter	Location:
6/26/2002	Nesting	East
8/12/2003	Near Shore	Maui, Honokowai, Alaeloa
7/6/2004	Near Shore	Maui, Honokowai
6/6/2005	Nesting	East
6/7/2005	Nesting	East
6/8/2005	Nesting	East
6/10/2005	Nesting	East
6/11/2005	Nesting	East
6/13/2005	Nesting	East
6/25/2005	Nesting	East
6/26/2005	Nesting	East
6/27/2005	Nesting	East
6/28/2005	Nesting	East
6/29/2005	Nesting	East

Tag Information:

Tag Number	Date	Tag Type	Tag Position
R37	3/18/1993	I681	RFL
R38	3/18/1993	I681	LFL
R39	3/18/1993	I681	LHF
R40	3/18/1993	I681	RHF

*Subadult 1993
KBAY
TO FFS
2007*

Date	Type of Encounter	Location:	TumorRank:	NestingAct:	Straight Carapace
3/18/1993	Near Shore	Oahu, Kaneohe Bay; Kapapa Choy	2	-	65.2
6/2007	East	NEST			

Tag Information:

1999
Midway adult
TO
FFS
2007

Tag Number	Date
36257B0C	9/25/1999
363C2156	9/25/1999
SON469	9/25/1999
TDR99421	9/25/1999

Date	Type of Encounter	Location:
9/25/1999	Near Shore	Midway Island, Sand Island, Inner harbor, inside seawall
6/6/2005	Nesting	East
6/17/2005	Nesting	East
6/18/2005	Nesting	East
6/29/2005	Nesting	East
6/30/2005	Nesting	East

Tag Information:

Tag Number	Date
4523736234	6/22/2005
45265C7C25	6/22/2005

Date	Type of Encounter	Location:
6/22/2005	Nesting	East
7/12/2005	Nesting	Tern

Tag Information:

Sub adult
tagged Kauai
1994
TO
FFS
2007

Tag Number	Date
J809	10/18/1994
J810	10/18/1994
J811	10/18/1994
J812	10/18/1994

Date	Type of Encounter	Location:
10/18/1994	Near Shore	Kauai, Nukunoi Point
6/2007	EAST	NEST

Tag Information:

Tag Number	Date
4526650C19	6/30/2005
F765	
F766	6/3/1993

McTAGGert

Date	Type of Encounter	Location:
6/3/1993	Nesting	East
7/9/1998	Near Shore	Maui, Honokowai
6/21/1999	Nesting	East
7/6/2001	Near Shore	Maui, Honokowai
6/30/2005	Nesting	East

Not a problem George--I had planned on emailing you with an update tonight before I left to go back to East tomorrow (Wed 6/13) anyhow. The latest numbers are as follows:

2007
 6/09/07 Total # turtles up = 42
 # of new Turtles Id = 27
 N = 4, P = 3, M = 5
 6/10/07 Total = 44
 # new = 23
 N = 1, P = 2, M = 11
 6/11/07 Total = 42
 # new = 16
 N = 3, P = 3, M = 6

Metal tags seen thru to 6/8/07:

358-C
 360-C
 G-978
 G-980
 G-981
 848-C
 846-C
 F-342
 F-341
 F-249
 U-988
 523-C
 524-C
 7564
 F-750
 164-C
 G-524
 576-T
 710-T
 A-656
 U-707
 3231
 F-405
 G-599
 F-406
 675-C
 G-350
 G-351
 801-C
 802-C
 799-C

Handwritten: *FFB*

Date: Wed, 25 Apr 2007 07:00:21 -1000
 From: David Zabriskie@dws.gov
 To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
 Cc: Angela Anders@dws.gov
 Subject: Re: Camera

George,

RE: TERN

We are seeing lots of turtles. We see groups of 6 or so in the water, there are usually 5 or so basking on east beach, 2 on crab beach and several on south beach. Our last trip to east island was April 4th, there were several basking on the beach. I think we may go again in mid-May. The other outer islands are packed, between the turtles and seals there is hardly anywhere to park, reminds me of Honolulu, ok maybe not. We have seen copulations, but have not seen any nesting activity, yet. All the volunteers love to see big sea turtles just everywhere, wait till the hatchlings come around, that's my favorite part. Hope to see you soon, let us know if we can help you with general observations.

Dave Zabriskie
 Wildlife Refuge Specialist
 Tern Island, French Frigate Shoals

As you requested, I took lots of updated pictures of the island, they are in the "work" camera we are using on the island, I will download them when the first card gets full and send some.

I took GPS points every five steps circling the perimeter of the island, so that you can see if it's changed and by how much, matching it with the pictures. The first 3 nights very nice, as far as weather goes: it only rained during the day, helping us sleep, and never during the night.

As Tammy went back to Tern, it rained on me 2 nights in a row, but nothing during forced me to abandon any shift.

And then yesterday and the day before, the wind has died down. completely, making night-work sweaty and "buggy". But again, the dedicated don't give up, so all the data are in the field book.

The main hurdle I must say, were the monk seals, there are currently 5 pups and their moms, plus some adults and they seem to have found a way to spread out so evenly, that it gets really tricky to work around them without disturbing them. You know I do my best. But I know I've had to let a couple of turtles go since they were way too close to be "worked on" safely.

Data-loggers:

On the first day I retrieved all the "sand" data-loggers and replaced them with

Let's talk Island:

The big log that used to be in front of the tent is gone, and new ones have been exposed. Also, further to the east from the tent, on the north shore, more iron and a long pole has been exposed by erosion. The other major change I notice, is the berm being a lot less steep (very gradual slope from land to sea now), especially in front of the tent (2 turtles were crawling around in front of it last night, that had never happened last year..) and on the spit.

The result is that as an estimate, I find more turtles attempting nesting and especially basking on the spit. It also seems to me that sand has been added to the spit, seen best at low tide.

new ones, in the same position. All but one: the DL on the spit, or more precisely, the tank it was attached to, disappeared. The description only states "middle of spit", and since as you know it's all just sand, I didn't think it made sense for me to randomly start digging around. So I had hoped the turtles would maybe expose it again by digging, but no luck. So, next time I'm there, I'll attach a new "sand" datalogger to something larger and deploy it anyway. Maybe the old one will still show up. As far as "nest" DL. I have already retrieved 5 of the 13 that were deployed last year, and Tammy knows to look for the remaining ones, the plan is to retrieve at least one every day, so far, it's looking good.

Baskers: The first thing that struck me is how the distribution seems to have changed from last year. They don't seem to aggregate in the "usual" cove (SE), but are spread out along the perimeter, except for the NW shore part (in front of the vegetation) and in front of the tent. Daily numbers have varied from as low as 57 yesterday to 116 on the second day. I don't know if it's just a coincidence, but as the wind died down, there were less baskers, and if one day there were about 15 or more on the west spit, the coming day there was maybe 3. It'll be really interesting to follow the evolution of this in the coming weeks. I'll try and make an additional map with basking distribution and see. (I won't ask Tammy to do that yet, I think she has already enough things to remember all at once..)

Special turtles: well, it might be an impression, I'll wait to see if numbers confirm it, but it seems like there are more PIT tagged turtles up this year than there were last year. Also, many metal tags as you have seen from Tammy's list. as soon as I am done entering my data I'll update that list with what I've seen. One case I think might be of special interest: it's turtle mototool #15, she has what looks like an epoxy patch on the 1st central and 1st R lat scutes. Her metal tags are: RHF 7564, RF34 7562, RFL 7562, LFL 7560 and LF34 7561. Her PIT LHF 423231446F and since the RHF wouldn't read I applied a new one: RHF 452673132B

Let me know if she has an interesting history... I have taken picture of the epoxy patch, and just in case, some general ones too. I think so far I've only seen 4 or 5 turtles with tumors, and a good number of injured hind flippers, mostly completely healed. 2 or 3 completely missing one of their hind flippers.

I mototooled up to 150 on my last shift,
last night's numbers:

6/12 TOT 39

NEW 18

N4

P2

M3

So, I think you might have been right, either it's a slower year, or I remember last year being a lot more work because I was slower and still learning ;)
But I have a feeling last year we had more than 150 the first week...I might be wrong..

We'll see.. I really hope Tammy isn't overwhelmed, and is following my advice...

Also, as you had asked, I tried to estimate a number of nests there prior to our arrival, which proved difficult, because of overlapping pits, rainfall etc. so..I've come up with a number that could vary between 150-170....does this sound very off?as you said, it would be a rough estimate, so please, treat it like that... :)

Well, nothing else comes to mind at this point, if something sparked your

interest and you have more questions, I can be more specific on any topic. This was just the first update.

Will definitely write before I head back out, and if by entering the data something else comes up that I can't think of right now.

Angela has asked us to take the golf cart around the island at sunrise to check for trapped turtles, which I think is an excellent idea, so.. I'll make myself one the way now..

Hope this first, let's call it letter, finds you well

Aloha

Irene

NURZIA-HUMBURG

Date: Tue, 17 May 2005 05:51:07 -0400
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Peter Bennett <honu@turtles.org>
Subject: 2005 FFS WATCH LIST

HSK

Hi, George. Sorry for taking so long to pull up this information. Here's a list of tag numbers for this FFS season. Note that this is an incomplete list because I still haven't analyzed all the video/photos for 2004.

I'll try and complete all that before we get to Hawaii (otherw... no, I simply HAVE to).

FEMALE LIST

- U362 Kimo (known since 1992) (Honokowai, Alealoa)
- U164 Lomi
- U249
- 122C Tiamat (known since 1991)
- 605C
- 436C
- 812C
- 417T
- F765 McTaggart (known since 1994)

35 total, 19 new N-2, P-2, M-4

45 total, 27 new N-4, P-3, M-5

41 total, 17 new N-3, P-3, M-1

8-16-05 P.A.3

Absence of algae brings hope

HONOLULU STAR-BULLETIN



ON ASSIGNMENT

Star-Bulletin reporter Diana Leone is on the 10-day educational cruise to the Northwestern Hawaiian Islands

By Diana Leone
dleone@starbulletin.com

ABOARD THE HI'IALAKAI >> When Cindy Hunter went on an 85-foot dive near the Northwestern Hawaiian island of Mokumanamana on Sunday, the good news was that the algae wasn't there.

She was looking for hookweed (*Hypnea musciformis*), a runaway algae that has plagued Maui beaches, has been detected on Kauai and Molokai, and was pulled from test lobster pots around Mokumanamana just two months ago.

Isabella Abbott, a world-renowned algae expert, has studied samples brought back to her from the Northwestern Hawaiian Islands since 1997. One of the ways she gets the samples is via National Marine Fisheries Service research to see how the lobster population is doing.

Abbott first saw hookweed taken from Mokumanamana lobster pots in 2000, but the

ALIEN ALGAE SPECIES INVADING HAWAIIAN WATERS

There are five alien algae species that are causing the most problems in the main Hawaiian Islands:

>> **Hookweed** (*Hypnea musciformis*): Commercial interests introduced hookweed to Hawaii in 1974 to create an industry for carageenan, a stabilizer used in food products. The industry did not go anywhere, the algae escaped and spread, and has been growing wild ever since. It gets its common name from the tiny hooks on the end of some branches of the seaweed. Because of the hooks, it can form dense mats that wash up on beaches and then rot, creating a stench. This has happened most frequently on Maui, but the seaweed has been identified on Molokai and Kauai as well.

>> **Gorilla ogo** (*Gracilaria salicornia*): Found in Hilo Harbor previous to 1970 and introduced to Oahu in 1974 for the aquaculture of agar. It now dominates the reef at Waikiki near the aquarium and remains in spite of removal of more than 100 tons through community cleanups. A huge vacuum dubbed the "super sucker" is being tested on gorilla ogo in Kaneohe Bay. Scientists also are studying ways to fight it include using a native sea urchin or fish to reduce its spread.

>> **Spiny seaweed** (*Acanthophora spicifera*): Found on all main Hawaiian islands by 1961, this algae was introduced via a fouled ship hull in Pearl Harbor in the early 1950s. The most widespread alien algae in Hawaii, it out-competes native limu and can grow from tiny pieces.

>> **Smothering seaweed** (*Kappaphycus* spp.): Growing rapidly in Kaneohe Bay, where it is smothering coral by growing on top of it. Can disperse by fragments. Changes the physical structure of the reef because it has a large, three-dimensional growth.

>> **Leather mudweed** (*Avrainvillea amadelpha*): Likes sandy and soft bottom areas where it is pushing out Hawaii's only native sea grass. Could be causing habitat loss for native limu and fishes. Recently detected on Oahu's South Shore and on Kauai.

profusion of it in June alarmed her. Hookweed has not been seen elsewhere in the Northwestern Hawaiian Islands.

So Abbott asked Randy Kosaki, research director for the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, to investigate the presence of the alien algae at Mokumanamana. Kosaki asked Hunter, a coral specialist who also knows her algae, to take a look during the current 10-day voyage for teachers to the Northwestern Islands by the National Oceanic and Atmospheric Administration.

Abbott was concerned about how much of the invasive plant

had accumulated in just 12 hours underwater.

So on Saturday Hunter prepared the teachers aboard the Hi'ialakai for her dive, explaining how hookweed costs Maui County and hotel and condo owners millions over the years to remove rotting mats of the stuff from Kihel beaches.

"It was like a detective game," Hunter said in describing her Sunday dives. "We really looked but we found nothing."

While that does not guarantee the unwanted algae is not spreading, it at least lowers the volume on the alarm bell.

"I don't think that means we need to scour the area for the

missing hypnea, but we do need to keep an eye out for invasives — algal and invertebrate — up there," Hunter said of the Northwestern Islands Coral Reef Ecosystem Reserve, which encompasses federal waters out to 50 miles from the islands.

The next scientific cruise to the area later this month will have an algae expert on board who will be watching for evidence of hookweed, Hunter said.

However, the results of Hunter's dive yesterday were not all good news. In a routine reading of his dive watch on the dive, Hi'ialakai Lt. Cmdr. John Caskey got a water temperature reading of 82 degrees at 82 feet deep.

TEACHERS AT SEA



ON THE NET

>> Trip postings from teachers and other information:
hawaiiantolls.org
>> U.S. Fish and Wildlife Service, Pacific Islands
www.fws.gov/pacific/pacificislands/wnwr/pnorthwestnr.html
>> Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve:
www.hawaiiireef.noaa.gov

That is pretty warm, but whether it will lead to widespread coral bleaching remains to be seen. Bleaching is the effect when tiny symbiotic algae that live inside live coral leaves die, leaving the coral animals without its main source of food.

When corals bleach, they turn white because the algae that were living in them are gone. A rise in temperature or disease can cause bleaching.

In 2002 and 2004 voyages to the Northwestern Hawaiian Islands, scientists noted significant bleaching of coral that coincided with periods of warmer water temperatures. Coral are so sensitive they can bleach when temperatures rise by just a few degrees from what they are accustomed to.

Date: Thu, 09 Jun 2005 09:08:44 +0000
From: joseph spring <josephspring@hotmail.com>
To: gbalazs@honlab.nmfs.hawaii.edu, Dominique_Horvath@fws.gov,
itsahonuworldinhawaii@hotmail.com
Subject: Hi All - Update

Hi All,

CANTI

All is going well. Lisa did extremely well on the first 3 training nights and she sounded in high spirits on her first night alone on East.

George,

Thanks for the extra mototools. All the old ones were charged for exactly 3 hours before we went to East. Some of the old ones just don't have the battery life they should. I think we went through 6 on the second night. anyways - the addition of the 4 new ones ensures we won't have to stress about charging and switching out mototools. Thank You very much.

Domo,

Thanks for the new tent fly and thanks in advance for getting the velcro, heavy duty tape, and looking for the battery powered fan. The winds shifted yesterday and now come through the front of the tent - Like Heaven! (Or, at least not hot as hell - HA). The new tent fly will really help and Stefan and Jen will be going out with us in the next few days to set it up. Stefan has assured us the new tent will be much cooler and at least similar to what we used in the past. Thanks for getting this out - I know it was a lot of weight on the plane, but it will make a huge difference.

We really appreciate the work you both did on such short notice to get us these extras to make the field season a little more comfortable and less stressful.

Everyone here has been amazing at taking care of switches, offering up ideas on how to make the tent less hot, and just offering general assistance. The NMFS team was great about helping us to set up the tent and carrying out switches - plus they are allowing us space in their back office to do our data since it is so crowded here. Stefan and Jen have been great about asking what we need and planning out future switches and coordinating schedules. They have been very attentive to helping us get what we need since we work at night. Greg helped a great deal setting up the tent with us and offering suggestions on how to improve it.

The ticks are not so bad. It was weird though - I got bit once and all my old bites from last year came back. Talked to people here and occasionally that happens - so no biggie. Part of the reason they call it FIELD work. The biting bugs come with the fun stuff.

Thanks for all your help again! I know we kind of rushed stuff on you with last minute requests.

Below are the numbers on East for the last 4 days:

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

From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 To: "French Frigate Shoals" <ffs2570@wcclp.com>
 Cc: "Carolyn Cornish" <carolyn.cornish@noaa.gov>
 Sent: Sunday, May 15, 2005 11:31 AM
 Subject: George response- Re: Dead Adult Male turtle on Little Gin

> Sorry to hear that but delighted you collected data (including a photo or
 > two that you'll send I'm sure). Are you SEEING many more tigers (if any)
 > in the shallows when motoring around? Post-season sending details is fine
 > (to answer your question below). A thought just occurred to me. And maybe
 > you're way ahead of me. But when you encounter a turtle like this, might
 > be cool to take your pit scanner and go over the hind flippers, as you
 > know our standard is one PIT in each hind. Many turtles now have PITS
 > like this, and No metal flipper tags. Never know. Might be a 'beep' (like
 > Las Vegas slot)!

> Re towing out to sea, I certainly Do understand why you would want to do
 > that. Ever see a tiger cruising around when towing?

> On Thu, 12 May 2005, French Frigate Shoals wrote:

>> Hey George, wanted to let you know that we found another dead turtle,
 >> this
 >> time an Adult Male on Little Gin. His LFF was amputated - likely shark
 >> caused. We got carapace measurements and lots of photos. I will send you
 >> the
 >> details on the next flight if you want or wait until post season.

>> CCL - 94cm

>> CCW- 85cm

>> Plastron straight length - 74cm

>> Plastron straight width - 72cm

>> Left the turtle on the beach, but no guarentee he won't wash away.

>> By the way, part of the reason we towed the A/F off the beach at East
 was

Daily Totals 2005		
Date	Turtles Up	# New Turtles ID'ed
5/31	11	11
6/1	32	26
6/2	25	14
6/3	35	19
6/4	47	27
6/5	41	17
6/6	46	23
6/7	58	19
6/8	48	23
6/9	44	28
6/10	42	18
6/11	48	14
6/12	42	9
6/13	50	8
6/14	36	6
6/15	35	3
6/16	51	5
6/17	44	5
6/18	49	3

Date: Sun, 15 May 2005 23:08:46 -1000
From: French Frigate Shoals <ffs2570@wcclp.com>
To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: George response- Re: Dead Adult Male turtle on Little Gin

Hey George, Yeah, if we find another dead turtle we'll try pit tag scanning for sure! We only have one scanner between two boats though, so depending on who finds it will determine who can scan it. But I'll let the crew know.

Have not seen any Tiger sharks around East yet. Aaron and Dan saw an 8ft Tiger outside of Tern island the other day, but that's it so far.

We are getting turtle counts on all islands once a week, but can increase the East island counts to everytime if you want, it doesn't take us much time to count them. Let us know your preference. There were more than I've seen on East today than previously. Very rough estimate is about 100.

No worries about getting turtle camp set up - your guys have it wired pretty well and it is quite organized and relatively easy to do. It is our pleasure! We are after all part of the Honu team remember....we have the tshirts to prove it!

As far as response time to your emails, we typically download twice a day on our sat phone system, once mid morning and once early evening, so we may not be able to respond as quickly as you'd like. That's why the delay. Just thought you ought to know.

Alright George, aloha -suzanne *CANJA*

Date: Mon, 14 Feb 2005 09:30:00 -1000
From: French Frigate Shoals <ffs2570@wcclp.com>
To: George Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Liz Kashinsky <lizabeth.kashinsky@noaa.gov>
Subject: From Aaron

AARON D.
AT SEP
Male or female?
FFS
Book

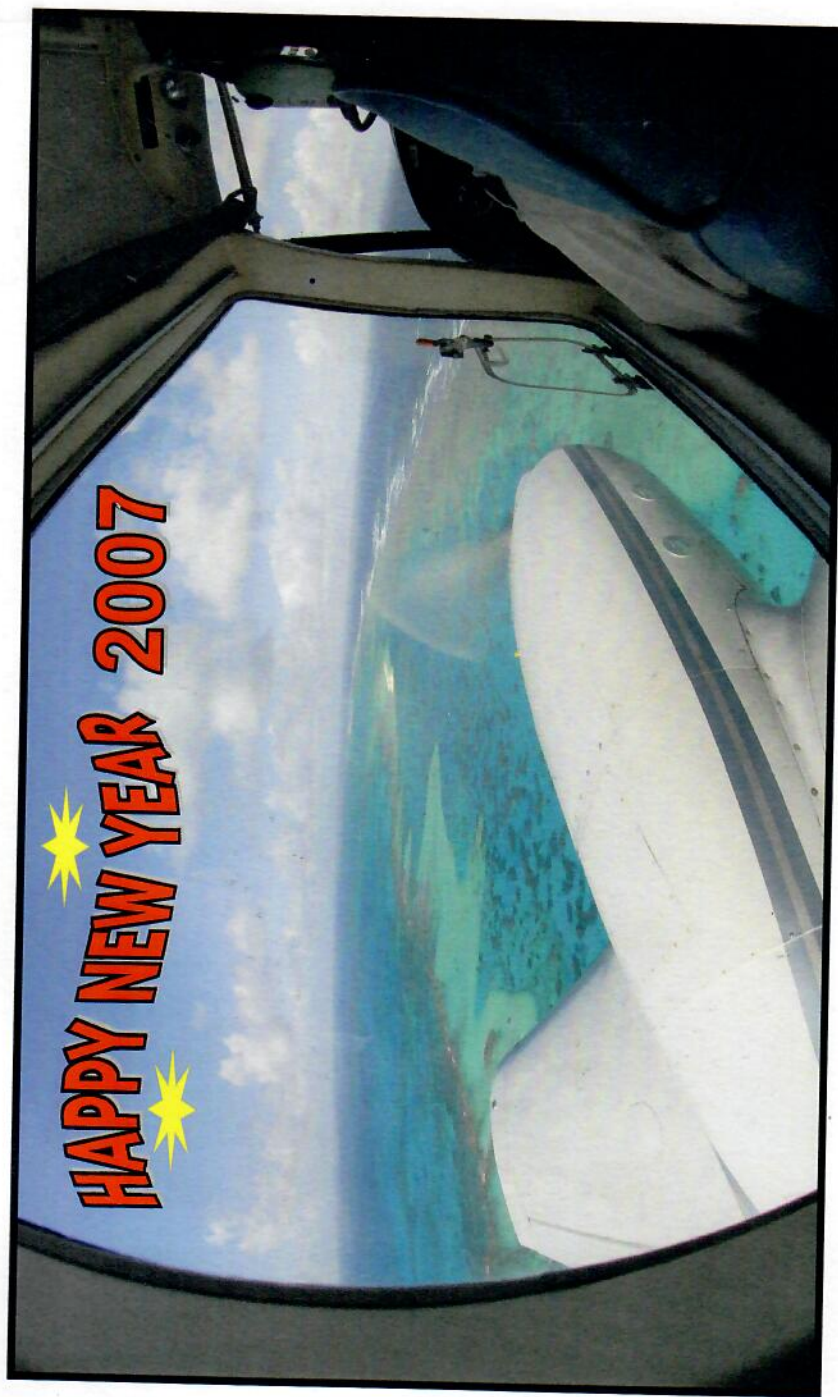
Aloha George,

Yep, still here. Pretty sure we are here until March 7th, so we still have time to ground truth the #'s of animals you can see from the turtlecam. That was our footprints the other day, we had just left. Did you do a count then, we could compare #'s if you want. There was one basker on south of the distillation equipment while we were there, did you see him? Seems like in the past two weeks, there is a small increase in basking turtles (not usually more than two at a time, but more frequently). Think we are going to have another big year? Bigger than last year? Whats up with Chris Nappy, he coming back?

MH
F

2004

We should be doing a survey on East tomorrow, will you be around? Trying to figure out the best way to coordinate a start time for it. We do our surveys on the Gins first, usually starting about 1230hrs, but it can take anywhere from ~1.5 hours to 2.5hrs then about 35 minutes to get to East and get anchored and ready, which would mean starting at East anywhere from about 1430 to 1530hrs. One thought is we could bring the satellite phone and give you a quick call and tell you we are starting. The other hitch is that Dan and I do the survey at the same time, so unless one of us sits out the survey it would be only following someone for half the island. Think about it and let me know what you would like to do.



Tern Island from the cockpit



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Ecoregion
Pacific Remote Islands National Wildlife Refuge Complex
300 Ala Moana Boulevard, Room 5-231
Box 50167
Honolulu, Hawaii 96850

September 14, 2004
COPY

George A. (Bud) Antonelis, Jr.
Chief, Protected Species Investigation
National Marine Fisheries Service
Southwest Fisheries Science Center Honolulu Laboratory
2570 Dole Street
Honolulu, HI 96822-2396

Dear Bud,

This letter will act as an amendment to Special Use Permit (SUP) 12521-04005 as requested by George Balazs via electronic mail "Proposal amendment request for Phase II of a digital imaging experiment to remotely monitor sea turtles and their habitats at East Island FFS" on 13 September 2004.

The request refers to installing additional satellite equipment associated with the previously established remote monitoring system at East and Tern Islands. The National Marine Fisheries Service (NMFS) will provide all equipment, a small boat, fuel, personnel, flights, and personnel room and board costs at French Frigate Shoals (\$20/person/day) to complete this project. U.S. Fish and Wildlife Service (USFWS) will continue to provide logistical support in Honolulu and at Tern Island, and additional maintenance support for equipment while NMFS staff are not present at Tern Island. NMFS staff and contractors who are to install equipment at Tern Island must work with on-site Tern Island staff to establish locations for all equipment and electrical needs. The Permittee will provide an updated Standard Operating Procedures document to on-site USFWS Tern Island staff and Honolulu staff as soon as possible. Images resulting from this remote monitoring system will be made available and accessible to both NMFS and USFWS. This amendment does not allow for the resulting images to be broadcast or made available to outside parties without further consultation.

All conditions of SUP 12521-04005 also apply to this amendment. If you have any questions please feel free to contact me at 808-792-9560.

Sincerely,

Donald Palawski
Donald Palawski
Project Leader

Tidbit dataloggers deployed at FFS, summer 2004 (3.2 hour sampling intervals)

CHRIS NAAPP
Does this work?

Serial #	Deployment date	Deployment location/description	Sand/Nest
483454	6/26/04	Tied to White Ball - 1m SE of T2 @ 04:37 Depth 40cm	Nest
483456	6/25/04	Tied to Black Ball - 2m S of 11 log SE End @ 03:15 Depth 50cm	Nest
742718	6/6/04	Grey Milk Crate @ 2342 ~3m W. of 11 log (Pictures, C#-1)	Nest
742730	6/10/04	Black Ball S of Small T @ 0442	Nest
742775	6/5/04	Yellow Buoy ~10m W. of 6eas ~10m S. of large log Time 19:17 Depth 50cm	sand
742776	6/25/04	~9m S of T2 Attached to White Buoy @ 0108	Nest
742777	6/26/04	Tied to Black Ball - SE Corner of T2 Depth 50cm - Time 23:05	Nest
744605	6/24/04	Large Broken Black Buoy - ESPIT ~7m from N. Shore Time 02:07 Picture 60, Digital	Nest
744606	6/16/04	Yellow & Black Buoys ~5m South of T1 06:19 Picture 32 Digital	Nest
744607	6/20/04	Attached to Black Buoys SE of Blacks (Middle) Time 01:35 Picture 35, Digital	Nest
744608	6/21/04	Red Crate South of T5 Middle of Island Time 23:32 Picture 53, Digital	Nest
*744609	6/5/04	Orange Buoy ~5m S of T-log Time 19:10 Depth 50cm	sand
744610	6/22/04	Orange Buoy ~15m SW of T1 Time 04:37 Picture 55, Digital	Nest
744611	6/13/04	White Buoy ~10m from S-shore ~South of T-log Time 06:23 Picture 19, Digital	Nest
744612	6/5/04	White Buoy ~5m W of Tumb's Time 19:36 Depth 50cm	sand
744613	6/29/04	Orange Buoy 10m E. of Mt. Balazs Time 00:26	Nest
744614	6/14/04	Grey Buoy ~10m SW of Small T Time 00:57 Picture 24, Digital	Nest
744615	6/27/04	Tied to Black Ball - on West End Middle of G. Dump @ 03:21	Nest
744616	6/5/04	Silver Propane Tank ~10m from N. Shore on East Spit Time 19:58 Depth 50cm	sand
744617	6/18/04	Black Ball 25m S of Mt. B @ 0545	Nest
744618	6/5/04	Red Basket ~10m W of Small T Time 19:46 Depth 50cm	sand
744619	6/17/04	7m SW of blocks, 10m E of tent tied to black ball @ 07:10	nest
*744616	7/2/04	found on top of sand reburied 7/3/04 @ 0730 same location	

- * 744609 found on top of sand 6/19/04 @ 19:00 - reday hite & placed in sand
 * 744614 found on top of sand 7/6/04 @ 22:15 - reburied 7/8/04 @ 0408 in Nest
 of turtle #253 5m S of Small T tied to black ball
 * 744606 found on top of sand 7/8/04 @ 0540 not reburied

19
18
6
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JOE SPRING
LISA CANTO →
012005

National Marine Fisheries Service
Marine Turtle Research Program
2570 Dole Street
Honolulu, HI 96822

Jo Spring
LISA CANTO
NAPPI

2004 RETRIEVAL of dataloggers deployed at FFS in 2003

Serial #	Unit Type	Retrieval Date	Retrieval Location/Description
71054	SA	6/4/04	@ 19:11 on top of sand ~20m SouthEast of 11log in middle of desert
1409	SA	6/15/04	@ 19:08 Depth ~50cm Tied to Cream Buoy & Driftwood ~10m North of Westernmost Gen
77501	SA		
141198	SA		
144073	SA	? (6/14-6/21)	Tied to a woody stake on surface on South Beach. (Found by Volunteer)
155020	SA		
243570	SA	6/20/04	Time 07:27 Depth ~85cm Picture 46, Original Tied to Grey Crate South of T5 ~2m from S. Bar
243573	SA	6/13/04	Time 19:39 Depth ~70cm Tied to Black Buoy ~10m South of Tombs
266016	SA	6/5/04	Time 18:50 Depth ~48cm ~10m South of Blocks Tied to Black Buoy
383500	TB	6/13/04	Time 19:47 Depth ~70cm Tied to Grey Jug and Black Buoy Prespit South of S.
383507	TB	7/12/04	Time 00:45 Depth? Tied to Black Buoy Sof Tennis Court on Tern
464580	SA	6/13/04	Time 18:00 Depth ~70cm Tied to Orange Buoy
557671	TB	6/5/04	Time 19:36 Depth ~70cm ~10m W Small T tied to Red Basket
557674	TB		
557677	TB	6/17/04	Time 19:20 Depth ~67cm Tied to orange buoys 10m S of Tombs
557680	TB	6/5/04	Time 19:05 Depth ~75cm ~5m S Flag tied to Orange Buoy
557681	TB	6/5/04	Time 18:56 Depth ~27cm ~5m S of T5 Tied to Large Black Buoy
557682	TB	6/13/04	Time 19:27 Depth ~80cm Tied to White (Bleached Pink) Buoy SE T6 ~8m from South Shore on surface of sand - stuck to a copper pipe on South Beach (Found by Volunteer)
557684	TB	6/22/04	
557685	TB	6/5/04	Time - 19:31 Depth ~45cm ~5m W Tombs tied to White Buoy
381365	TB	6/23/04	Time 19:15 Depth ~50cm ~5m SW T1 tied to end of log (From a different year than 03)

all found from original location



OCEAN WATCH

Susan Scott

HSB — 9/17/04

Threadfin papio make thrilling dockside sight

RECENTLY, while sitting on the dock eating lunch at Kewalo Basin, reader Eric Sadoyama noticed an array of fish: tilapia, mamu (sergeant majors), manini (convict tangs), kihikihi (Moorish idols), boxfish, a baby kaku (baracuda) and some butterflyfish accompanied by a trumpetfish.

"But what really caught my eye," Eric writes, "was a school of eight or nine silvery fish ... with diamond-shaped bodies and beautiful long, trailing threads from their top and bottom fins. What were they?" he asks. "Are they native?"

Only in Hawaii can a person sit in the middle of the largest aquarium in the world and watch the marine world go by. I do it too in the neighboring Ala Wai Boat Harbor and often see the same fish. Only a few times, however, have I been lucky enough to spot the spectacular threadfin ulua (jack) or ulua kihikihi.

When I replied to Eric that those beautiful Hawaii natives are young threadfin ulua, he wrote back; "Aha, threadfin papio! One of my office mates hit it on the nose."

Threadfin papio, meaning juvenile ulua, is indeed the best name for these fish, because as they grow, their sparkling threads become shorter and shorter until they disappear.

Since the fins resemble box jellyfish tentacles, researchers believe those flashy threads scare off predators.

At the same time, their bodies

The scientific name of these striking fish is *Alectis ciliaris*. The species swims in tropical waters around the world, including the coasts of Africa. This explains the fish's official common name, African pompano.

A juvenile fish hauling around long, eye-catching fins seems to be asking for trouble, but the effect is the opposite. Since the fins resemble box jellyfish tentacles, researchers believe those flashy threads scare off predators.

Grown-up ulua don't need tricks to protect themselves. They just bully their way around the reef.

Last year while I lived and worked on Tern Island, a field station in the Hawaiian Islands National Wildlife Refuge, I came to know several ulua well. We guessed that some of the older ones swimming around the little island weighed up to 100 pounds. And those Goliaths weren't afraid of anything.

Jump in the water, open your eyes and a big black ulua might be staring you in the face. While scuba diving there, I once tried to push a pesky ulua away with my hand. The fish didn't quite let me touch it, but remained close to my side. The ulua there never tried to bite us; they were simply curious, fearless and always on the prowl for a meal.

During turtle season, these magnificent fish turned natural selection into a heartbreaking game. Each morning, one of us would scour the island for lost hatchlings. After collecting them in a bucket, we would lovingly set them on the sand near the waterline and let them swim naturally to sea.

With those ulua there, some turtles didn't get far.

Ulua are a favorite target of spear fishermen and are now scarce around the main islands. These fish are good to eat but have a major drawback: Members of this family feed on reef fish that can carry the poison called ciguatera.

Unless an ulua has been tested, eating one is risky. The best way to enjoy these fish is to take your lunch to a city dock, sit down and watch those beauties swim by.

Susan Scott can be reached at
www.susanscott.net

(S) SAFEWAY

4 Boxes
 120 lbs
 WELCOME TO SAFEWAY
 HAWAII KAI
 TOTAL = 30lbs per box average

2@4.69	APPLES GRANNY	3LB	9.38 B
2@3.99	APPLES RED DEL	3LB	7.98 B
3.07 lb @ 3.29 /lb			
WT	TOMATOES		10.10 B
3.07 lb @ 1.99 /lb = 6.11			
SC 1956	CLUB TOMATOES		3.99-B
4@2.99	POTATOES 5LB		11.96 B
4 @ 1.00			
SC 2366	CLUB POTATOES 5LB		4.00-B
3.60 lb @ 3.29 /lb			
WT	TOMATOES		11.84 B
3.60 lb @ 1.99 /lb = 7.16			
SC 1956	CLUB TOMATOES		4.68-B
4.19 lb @ 1.49 /lb			
WT	CUCUMBER		6.24 B
4.19 lb @ .99 /lb = 4.15			
SC 7478	CLUB CUCUMBER		2.09-B
	BABY CARROTS		7.99 B
SC 1967	CLUB BABY CARROTS		4.00-B
1.28 lb @ 1.69 /lb			
WT	LETTUCE ROMAINE		2.16 B
1.04 lb @ 1.69 /lb			
WT	LETTUCE ROMAINE		1.76 B
2.21 lb @ 1.69 /lb			
WT	LETTUCE ROMAINE		3.73 B
2.48 lb @ .99 /lb			
WT	REG BANANAS		2.46 B
3.94 lb @ .99 /lb			
WT	REG BANANAS		3.90 B
1.74 lb @ 1.99 /lb			
WT	GREEN BELL PEPPERS		3.46 B
1.30 lb @ 1.99 /lb			
WT	GREEN BELL PEPPERS		2.59 B
3.19 lb @ 1.29 /lb			
WT	PAPAYAS LARGE		4.12 B
3.19 lb @ .79 /lb = 2.52			
SC 1878	CLUB PAPAYAS		1.60-B
2.91 lb @ 1.29 /lb			
WT	PAPAYAS LARGE		3.75 B
2.91 lb @ .79 /lb = 2.30			
SC 1878	CLUB PAPAYAS		1.45-B
3.34 lb @ 1.29 /lb			
WT	PAPAYAS LARGE		4.31 B
3.34 lb @ .79 /lb = 2.64			
SC 1878	CLUB PAPAYAS		1.67-B
3.56 lb @ 1.19 /lb			

WT	ORANGES VALENCIA		4.24 B
3.56 lb @ .99 /lb = 3.52			
SC 1981	CLUB ORANGE VALENCIA		.72-B
2@2.69	ONIONS 3LB BAG		5.38 B
3.44 lb @ 1.19 /lb			
WT	ORANGES VALENCIA		4.09 B
3.44 lb @ .99 /lb = 3.41			
SC 1981	CLUB ORANGE VALENCIA		.68-B
3.03 lb @ 1.19 /lb			
WT	ORANGES VALENCIA		3.61 B
3.03 lb @ .99 /lb = 3.00			
SC 1981	CLUB ORANGE VALENCIA		.61-B
3.58 lb @ 1.19 /lb			
WT	HEAD LETTUCE		4.26 B
**** TAX	3.91 BAL		97.73
VF VS XXXXXXXXXXXXXXX4405			97.73
CHANGE			.00

TOTAL SAVINGS 25.49
 9/19/04 12:52 0215 06 0073 0969

LINDA BALAZS 1424

Club Card Savings \$ 25.49
 Total Savings Value 21% \$ 25.49

You can earn coupons to Sears through
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SAFEWAY STORE #0215
 377 KEOHOLE STREET
 HONOLULU HI 96826

EFT CREDIT SALE 09/19/04 12:52
 CARD # XXXXXXXXXXXXXXX4405
 REF:0409191 AUTH:012166

GEORGE H BALAZS
 PAYMENT AMOUNT

3@4.09	XLG AA EGGS	3	12.27	B
4@2.19	FOSTER FRANK	2	8.76	B
4 @ .69				
SC 3354	CLUB FOSTER FARMS		2.76	-B
	LUC CHED CHS	2	8.49	B
SC 953	CLUB LUCERNE CHEES	1	2.00	-B
	LUCERNE SWISS CHS	1	8.69	B
	MOZZAR LOAF	1	8.49	B
SC 1269	CLUB MOZZAR LOAF		2.00	-B
	THICK BACON	1	6.89	B
	SLICED BACON	1	6.89	B
2@3.99	TURKEY BACON	1	7.98	B
	STRING CHEESE	2	9.99	B
SC 1435	CLUB STRING CHEESE		2.50	-B
2@3.59	HOT SAUSAGE	1	7.18	B
2 @ 1.09				
SC 3757	CLUB LISBOA PORTUG		2.18	-B
2@5.19	BB SMKD WHITE TKY	1	10.38	B
2@5.19	BB TURKEY HAM	1	10.38	B
2 @ 5.19				
SC 3210	CLUB BUTTERBALL LU	4	10.38	-B
	BF TOP SIR STK CLU		21.20	B
2.83 lb @ 4.49 /lb = 12.71				
SC 3072	CLUB BF TOP SIR ST		8.49	-B
	BF TOP SIR STK CLU		20.45	B
2.73 lb @ 4.49 /lb = 12.26				
SC 3072	CLUB BF TOP SIR ST		8.19	-B
	BF TOP SIR STK CLU		19.85	B
2.65 lb @ 4.49 /lb = 11.90				
SC 3072	CLUB BF TOP SIR ST		7.95	-B
	BF TOP SIR STK CLU		16.70	B
2.23 lb @ 4.49 /lb = 10.01				
SC 3072	CLUB BF TOP SIR ST		6.69	-B
	BF TOP SIR STK CLU		20.75	B
2.77 lb @ 4.49 /lb = 12.44				
SC 3072	CLUB BF TOP SIR ST		8.31	-B
	BF TOP SIR STK CLU		21.95	B
2.93 lb @ 4.49 /lb = 13.16				
SC 3072	CLUB BF TOP SIR ST		8.79	-B
	PORK LN CHOPS VPC		14.08	B
2.17 lb @ 4.49 /lb = 9.74				
SC 3321	CLUB PORK LN CHOPS		4.34	-B
	PORK LN CHOPS VPC		13.89	B
2.14 lb @ 4.49 /lb = 9.61				
SC 3321	CLUB PORK LN CHOPS		4.28	-B
	PORK LN CHOPS VPC		18.37	B
2.83 lb @ 4.49 /lb = 12.71				
SC 3321	CLUB PORK LN CHOPS		5.66	-B
2@4.29	TORT CHIPS	2	8.58	B
2 @ .79				

SC 2498	CLUB MISSION CHIPS	1	1.58	-B
	SALSA		3.39	B
2@5.59	KLLG RAISN BRN CRN	1	11.18	B
2 @ 2.59				
SC 7985	CLUB CORN FLAKES		5.18	-B
	QUAKER INST		5.29	B
2@2.19	RED VINES	1	4.38	B
	POP TARTS	2	3.25	B
2@3.25	POP TARTS	2	6.50	B
2@7.65	HAW'N ISLE	1	15.30	B
2 @ 3.66				
SC 2143	CLUB HAWN ISLES CO	1	7.32	-B
**** TAX	9.70	BAL	242.60	
VF VS XXXXXXXXXXXXXXX4405			242.60	

CHANGE .00

TOTAL SAVINGS 98.60
9/19/04 13:38 0215 04 0273 5194

LINDA BALAZS 1424

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Total Savings Value 30% \$ 98.60

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your award for \$5 off \$15 apparel
purchase at Sears - expires 10/2/04

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SAFEWAY STORE #0215
377 KEOHOLE STREET
HONOLULU HI 96826

EFT CREDIT SALE 09/19/04 13:38
CARD # XXXXXXXXXXXXXXX4405
REF:0409191 AUTH:097125

GEORGE H BALAZS
PAYMENT AMOUNT 242.60

Date: Sat, 18 Sep 2004 21:53:57 -1000
From: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
To: Daniel Zatz <SeeMoreDZ@aol.com>
Cc: Todd Erickson <terickson@seemorewildlife.com>
Subject: Why we're going--- Objectives for work at FFS (fwd)

NUMERO ONE- 1) Install under Daniel's direction the satellite dish and related gear on Tern to hopefully get East Island pictures to the rest of the world;

NUMERO TWO- Replace the Top Camera on East and clean-up refurbish the East Island system as neededl;

and as circumstances permit:

- 3) Attempt to dismember the two lodged logs on East and disseminate the pieces to the far corners of the western Pacific;
- 4) Collect seawater samples for PCR herpesvirus analysis;
- 5) Recover temperature loggers buried with egg-nests in June by our turtle techs;
- 6) Make observations as possible on predation by fishes on hatchling turtles;
- 7) Deploy an ST24 satellite tag on a green turtles nesting on Tern close to the FWS building;
- 8) Give Shawn 24 hours of show-and-tell of Tern Island that will last her a lifetime. Or at least until she gets up there again!

REMOTE VIDEO CAMERAS INSTALLED AT FRENCH FRIGATE SHOALS

The remote Northwestern Hawaiian Islands are a U.S. National Wildlife Refuge and home to several rare and endangered species of wildlife. The green turtle, Hawaiian monk seal, many species of sea birds, and a few species of land birds call these remote atolls home during all or part of their life.

French Frigate Shoals is an 18-mile long semicircular atoll about 480 miles northwest of Honolulu and is composed of a dozen or so small sand islands with a total acreage of only 70 acres. Tern Island is the site of the old Coast Guard station and is occupied today by U.S. Fish and Wildlife Service (FWS) personnel who manage the refuge.

East Island, a 900-meter-



Konrad Schaad, Daniel Zatz, George Balazs, and Marc Rice in front of the East Island pole.

land. This is a first-of-its-kind effort to monitor the nesting and basking activity of green turtles on this important sand island.

The team put two cameras on a 65-foot pole in the center of East Island. The entire island is monitored every two hours during the day, seven days a week.

Using the cameras, researchers and wildlife managers hope to count the number of turtle nests that occur each night, count and locate the basking green turtles, study predation on hatchlings, study island erosion, monitor and evaluate the monk seal population, observe bird behavior, and check for marine debris that might endanger wildlife.

AG 2003 THE HONOLULU GAZETTE
of the U.S. National Marine Fisheries Service (NMFS), Daniel Zatz and Konrad Schaad of SeeMore Wildlife Systems, Inc., and Marc Rice, director of the Sea Turtle Research Program at Hawaii Preparatory Academy, flew to Tern Island to install two remote video cameras on East Is-

land, is the major nesting beach for the Hawaiian green turtle population. In fact, nearly 90 percent of all nests are laid on the islands of the atoll.

On May 23, George Balazs of the Pacific Islands Fisheries Science Center

2003

Date: Thu, 23 Sep 2004 23:22:28 +0000
From: honu world <itsahonuworldinhawaii@hotmail.com>
To: morrisr005@hawaii.rr.com, bmcbride@mail.nmfs.hawaii.edu,
bonnie.oshiro@noaa.gov, denise.parker@noaa.gov,
gbalazs@honlab.nmfs.hawaii.edu, george_balazs@hawaii.edu,
chooven@mail.nmfs.hawaii.edu, smurakaw@honlab.nmfs.hawaii.edu,
thierry_work@usgs.gov, Susan.Kamei@noaa.gov
Subject: Historical email from Tern Island FFS from George Balazs by
SeaTurtle Cam System

We are Up and Running via the 2.4 meter satellite dish we just finished installing thanks to Daniel Zatz SeeMore Wildlife Systems Inc! And of course our own vision and hard work of all concerned at the PIFSC!



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Fisheries Science Center
2570 Dole St. • Honolulu, Hawaii 96822-2396
(808) 983-5311 • Fax: (808) 983-2922

September 17, 2004

To Whom It May Concern:

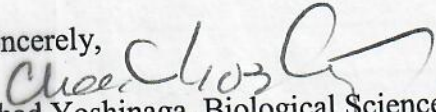
This letter is an authorization for George Balazs to operate class A and I boats for the Pacific Island Fisheries Science Center (PIFSC). Under this authorization, boating operations may be conducted but are limited to work directly related to research for the PIFSC. All operations must comply with the NAO 217-103 and the PIFSC Vessel Policy.

George Balazs has demonstrated excellent boat handling skills and knowledge. He has performed the duties of Coxswain for the Pacific Island Fisheries Science Center (PIFSC) and is a coxswain in good standing with the PIFSC Vessel Safety and Operations Program. Mr. Balazs has been operating class A and I boats to conduct research on sea turtles at French Frigate Shoals (FFS), northwestern Hawaiian Islands and in Kaneohe Bay, Hawaii for over 30 years.

Prior to conducting boat operations at FFS, Mr. Balazs will consult with the Refuge Manager, or designee, to review the FFS boat policy regarding regulations related to boat operations, launching and recovering vessels from Tern Island, and weather patterns.

Mr. Balazs has logged many hours operating boats to conduct research for the PIFSC. I feel confident that he possesses the necessary skills and knowledge to safely conduct his work. Please feel free to contact me if you have any questions.

Sincerely,


Chad Yoshinaga, Biological Science Technician/Boating Safety Coordinator
Protected Species Division, Marine Mammal Research Program
Off: (808) 983-5717

Cc: Samuel Pooley, Science Center Director
Michael Seki, Deputy Science Center Director
Bud Antonelis, Chief Investigator, Protected Species Division



CHRIS NAPPI

GB

JOE SPRING

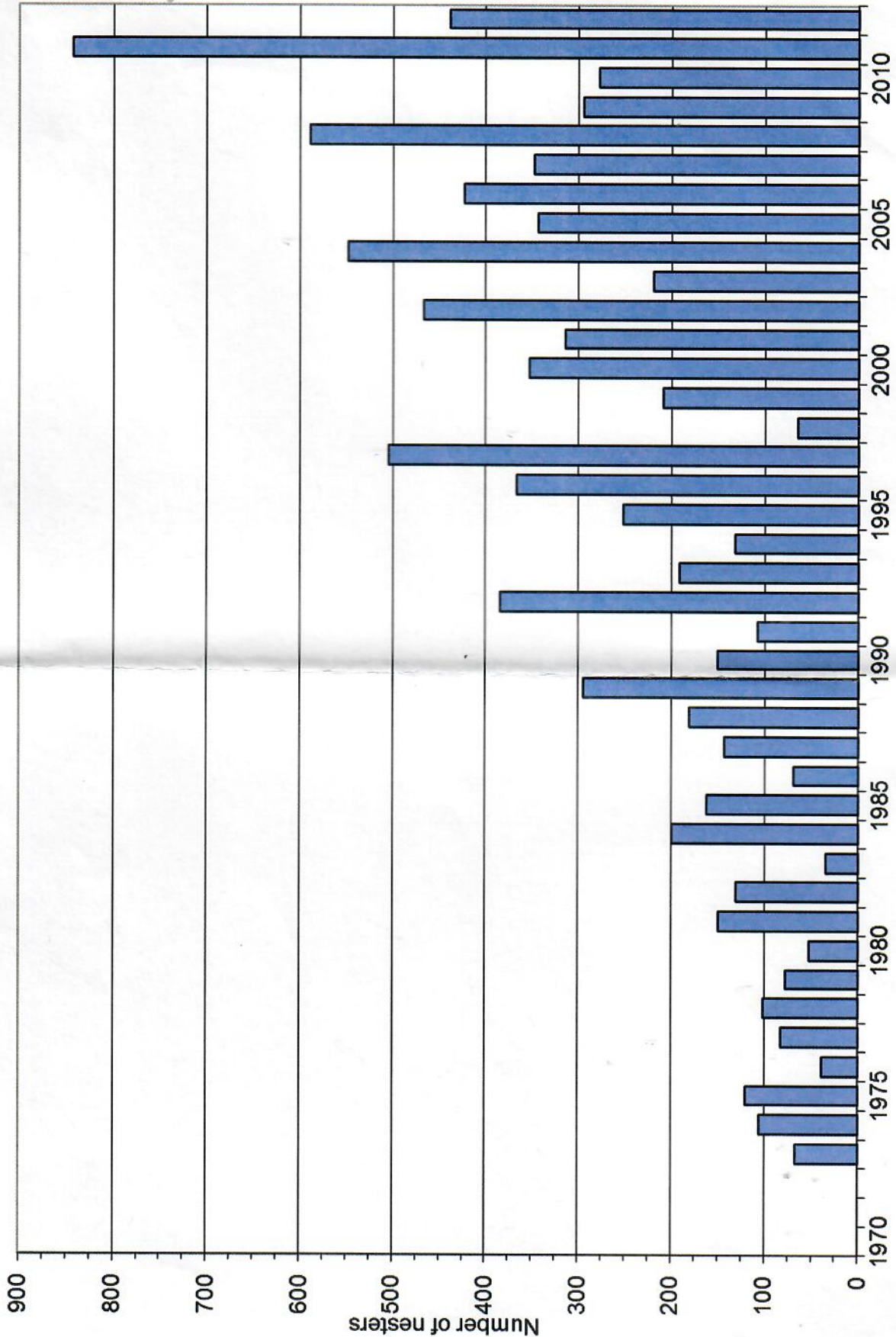
at LANIAKEA

Table 1. Estimated number of green turtles nesting at East Island, French Frigate Shoals, 1973-2012 (shaded area indicates saturation surveys).

<u>Year</u>	<u>Survey nights</u>	<u>Turtles ID'd</u>	<u>Estimated nesters</u>
1973	43	66	67
1974	59	104	105
1975	30	111	120
1976	13	24	39
1977	9	44	82
1978	11	66	101
1979	13	55	77
1980	20	45	52
1981	23	127	149
1982	19	111	130
1983	17	28	35
1984	20	157	199
1985	18	131	162
1986	29	59	69
1987	26	124	143
1988	101	180	180
1989	143	294	294
1990	133	150	150
1991	119	107	107
1992	129	384	384
1993	31	181	191
1994	26	122	132
1995	31	240	252
1996	31	349	367
1997	33	481	504
1998	32	61	64
1999	31	198	209
2000	33	337	353
2001	31	295	314
2002	34	447	467
2003	41	213	219
2004	38	534	548
2005	40	336	344
2006	35	409	423
2007	33	334	348
2008	43	580	589
2009	36	270	295
2010	23	227	278
2011	35	808	843
2012	28	402	439

JAW

15 August 2012



TURTLE ID	2011 MOTO	NEARSHORE DATE	NEARSHORE CCL	NEARSHORE SCL	CAPTURE SITE	1st time nester	2011 CCL	2011 SCL
7315	213	1/20/1984	42		45 MOLO	2011	101	94
8709	686	10/22/1987	52.7		56 HAWA	2011	98.5	91.7
8730	399	6/3/1993			70.5 LANA	2011	93	87.6
9433	699	7/19/1985	52		55.5 MOLO	2011	98	92.1
4232586A31	437	4/17/2002	74.3		80 HAWA	2011	95	86.4
43587A0650	738	7/25/2002	79.1		84 MOLO	2011	96.5	90.6
H594	735	5/27/1992	58.9		63.5 MOLO	2011	100	93
V138	84	12/6/1991	72.6		77.5 MOLO	2011	96	89
Y672	199	4/25/1990	56.4		60 HAWA	2011	98	92
Y845	9	5/23/1990	44		47.5 OAHU	2011	93	86.1
Y916	786	7/2/1990	55.5		60 MOLO	2011	102	95.4

Nesting

Date

6/24/2011

7/5/2011

6/28/2011

7/6/2011

6/28/2011

7/11/2011

7/10/2011

6/22/2011

6/24/2011

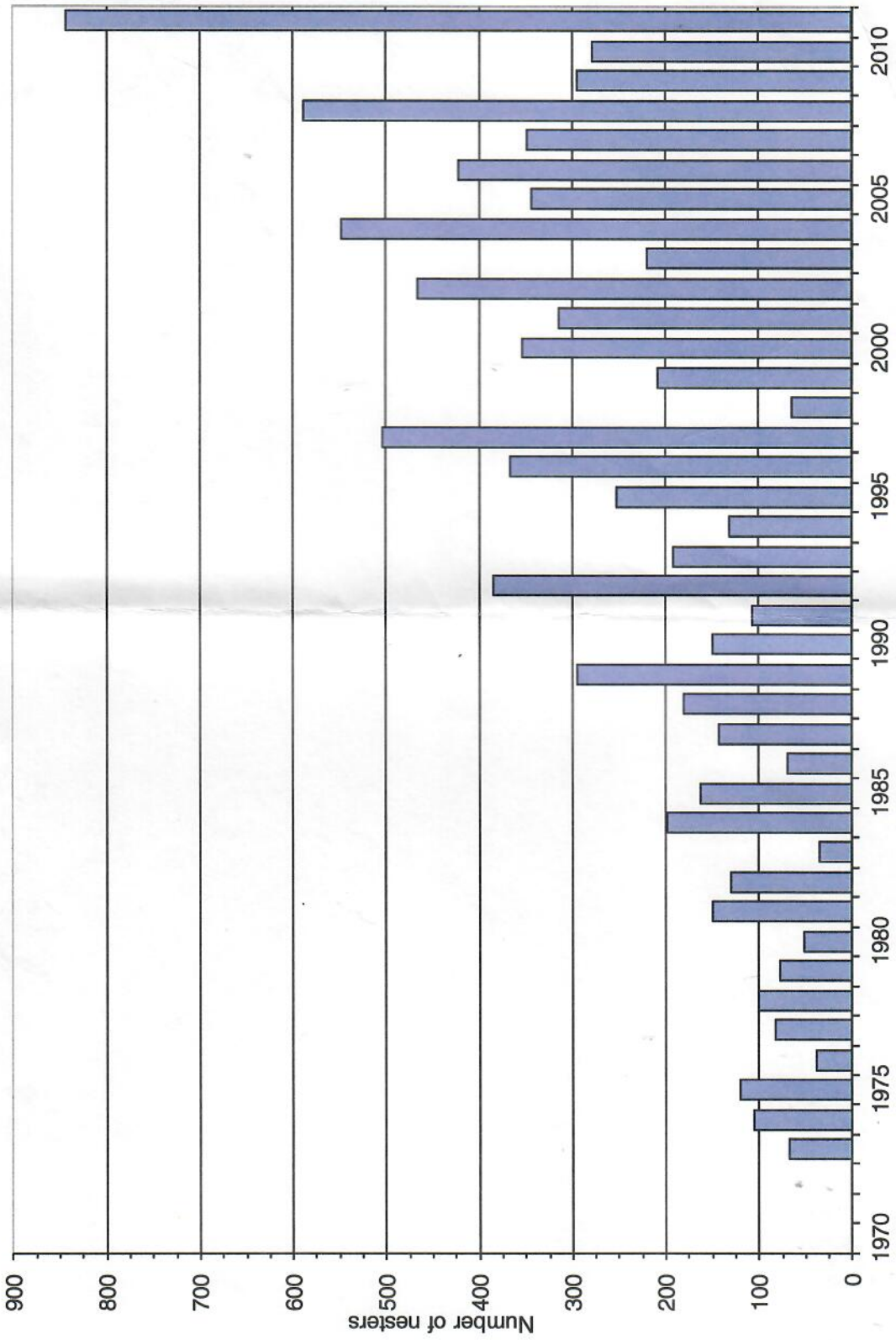
6/22/2011

7/18/2011

FFS
book +

Estimated number of green turtles nesting at East Island, French Frigate Shoals, 1973-2011
(shaded area indicates saturation surveys).

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1983	17	28	35
1984	20	157	199
1985	18	131	162
1986	29	59	69
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1989	143	294	294
1990	133	150	150
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1992	129	384	384
1993	31	181	191
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1997	33	481	504
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2005	40	336	344
2006	35	409	423
2007	33	334	348
2008	43	580	589
2009	36	270	295
2010	23	227	278
2011	35	808	843



DATE	TOTAL UP	# OF NEW	M	P	N
6/22/2011	95	95	14	4	3
6/23/2011	98	65	19	10	5
6/24/2011	107	61	28	3	9
6/25/2011	111	57	25	10	12
6/26/2011	103	48	22	8	8
6/27/2011	107	61	11	2	8
6/28/2011	106	52	17	6	7
6/29/2011	97	49	21	1	9
6/30/2011	93	45	22	1	3
7/1/2011	76	36	17	11	7
7/2/2011	76	41	19	9	5
7/3/2011	78	41	8	6	8
7/4/2011	101	26	24	8	5
7/5/2011	97	17	18	7	9
7/6/2011	92	10	22	7	8
7/7/2011	106	12	28	3	5
7/8/2011	99	5	22	2	3
7/9/2011	105	7	23	5	14
7/10/2011	105	8	21	4	6
7/11/2011	103	12	20	12	9
7/12/2011	91	7	17	5	7
7/13/2011	102	6	21	2	6
7/14/2011	89	5	12	5	11
7/15/2011	75	5	19	9	5
7/16/2011	105	5	20	12	9
7/17/2011	103	8	17	7	10
7/18/2011	108	2	24	6	4
7/19/2011	106	4	15	10	7
7/20/2011	108	7	21	5	5
7/21/2011	120	4	25	4	9
7/22/2011	104	2	27	9	6
7/23/2011	82	3	18	6	7
7/24/2011	76	1	16	4	6
7/25/2011	63	1	15	3	2
7/26/2011	77	0	17	7	7
	96.11428571	808	685	213	244

Date: Fri, 23 May 2008 12:13:53 -1000
From: Irene.Nurzia-Humburg@noaa.gov
To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Tern island nesting survey today

FFS Book

I walked around Tern island early this morning to try and assess nesting activity.

following are results

South beach: 13 nests and ~20 fresh pits

East Beach: 1 nest and 7 crawls

Crab beach: 0 crawls, 1 basker

Shell beach: 0 crawls, 1 basker

This is an estimate counting only what seemed to be last night's activity, there's obviously a lot more pits almost back to back from past weeks.

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

From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Date: Thursday, May 22, 2008 4:58 pm
Subject: Re: fan on camera pc?
To: Irene.Nurzia-Humburg@noaa.gov

> Really great. Yes please ask Steve stressing heavily the
> no-disturbance of
> seals. Take care that your footprints in the sand to not say
> something
> different :)

> On Thu, 22 May 2008, Irene.Nurzia-Humburg@noaa.gov wrote:

> > Absolutely yes, MMRP folks say that there are pits (digging) "all
> over" Trig. I saw some pictures and there were 100+ baskers at Trig
> last week. Here on Tern, I only have taken one walk around so far and
> there are pits in every area accessible by turtles that I have seen,
> on Shell beach and east beach (which is half the size it was last year
> by the way). They do not have pits back to back, but I'd say there's a
> good level of activity.

> > South beach is normally closed off because of the seals so I
> haven't checked at all. if you'd like I can ask Steve to let me take
> one walk and get an estimate, given that no seals are disturbed to do
> it.

> > I will go around again in the coming days and try to put some
> numbers on these estimates.

> > Irene

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

> > From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
> > Date: Wednesday, May 21, 2008 9:09 am
> > Subject: Re: fan on camera pc?
> > To: Irene.Nurzia-Humburg@noaa.gov

> >> I'm viewing East right now and nesting digging has been happening.

> Did

> >>

> >> monk seal folks report the same for Trig? And has there been any
> >> emergencies at all thus far on Tern? Important that you record such
> >> things-



**Photo Record
East Island FFS, 2011**

Date	Location	Picture #	Card	Turtle Mototool	Description
6/23/2011	Tent	1	A		Tyler in tent
6/23/2011	E of T-5	2	A	79	Old moto #476
6/23/2011	Cement Blocks	3	A		Irene with glass ball
6/24/2011	Around East	5,7-14	A		Tyler working
6/26/2011	Desert	15-17	A	80	Missing 95% LFF
6/26/2011	Spit	18-19	A	154	Missing LHF and parts of LFF
6/26/2011	Spit	20-21	A	266	Missing RFF
6/27/2011	S of Tombs	22	A	293	Burying #252 nesting
6/27/2011	S of Tombs	23-25	A	279	HIMB Tag

Marine Turtle Research Program
 Pacific Islands Fisheries Science Center
 NOAA National Marine Fisheries Service
 2570 Dole Street
 Honolulu, Hawaii 96822-2396

6/27/2011	Spit	26-40	A		Sunrise Rainbow
6/28/2011	N of Tombs	41-42	A		Albatross
6/28/2011	S of T-5	43-48	A	310	Nesting
6/30/2011	Boobie Rock	49	A	2	LFF tumor regressing
6/30/2011	Prespit	50-51	A		RHF broken and Lodged to Carapace
7/1/2011	Island	52-65	A		Updated Island Pictures
7/2/2011	Gens	66	A	549	Broken Postcentral
7/2/2011	S of Tombs	67-68	A	492	Nesting, RHF injury
7/2/2011	T-5	69-76	A		Shark Eating Albatross
7/2/2011	Desert	77-79	A	549	Broken Postcentral
7/3/2011	Island	80-83	A		Sunrise

Marine Turtle Research Program
Pacific Islands Fisheries Science Center
NOAA National Marine Fisheries Service
2570 Dole Street
Honolulu, Hawaii 96822-2396

7/4/2011	N of Small T	84	A	650	L Eye Cataract
7/4/2011	N of Mt B	85-87	A	623	Possible Regressing Tumor LFF
7/4/2011	N of Mt B	88	A	623	Live embryo scattered by 623
7/5/2011	E of =Log	89-91	A	71	Eye Tumor
7/5/2011	S of Mt B	93-99	A	677	Eye Tumors
7/6/2011	Glass Dump	100	A	627	Uncovering another nest
7/6/2011	Small T	101-102	A	490	HF's Missing 50%, crushing eggs
7/7/2011	Small T	103-104	A	702	RHF missing and carapace damage
7/7/2011	Cement Blocks	105-107	A		Turtles crawling in the morning
7/8/2011	Small T	108	A		Turtle crawling over another
7/9/2011	Parallel Log	109	A	267	#2 LJH Tumor

Marine Turtle Research Program
Pacific Islands Fisheries Science Center
NOAA National Marine Fisheries Service
2570 Dole Street
Honolulu, Hawaii 96822-2396

7/9/2011	EPT	110-113	A		Baskers
7/9/2011	Tent	114	A		Tent
7/10/2011	Spit	115	A	559	Trembling
7/10/2011	Prespit	116-122	A		Shark and Turtle
7/11/2011	S of Tombs	123-124	A	276	Missing RFF
7/11/2011	SW of T-1	125-127	A	417	Nesting
7/11/2011	S of T-3	128-130	A	137	Missing RFF
7/12/2011	Spit	131-132	A	266	RFF injury
7/12/2011	S of T3	133-134	A	481	L Eye Tumor
7/12/2011	N of Tombs	135	A	258	Digging under a log
7/12/2011	S of Tombs	136-137	A	753	Crack on Carapace

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7/13/2011	Glass Dump	142-144	A	756	Tumors and torn cloaca
7/13/2011	Spit	145	A	22	LFF missing 75%
7/14/2011	Gens	146	A	459	Post central broken
7/14/2011	S of Mt B	147-148	A	396	Trying to excavate over a small pipe
7/14/2011	Mt B	149-151	A	594	Boobie standing on carapace
7/14/2011	Glass Dump	152	A	762	Missing 50% LHF, and carapace damage
7/15/2011	Spit	153-154	A	767	Carapace damage
7/15/2011	Spit	155-156	A	771	Hind Flipper and carapace damage
7/17/2011	S of small T	157	A	508	
7/17/2011	S of T1	158	A	307	Nesting while being burried
7/17/2011	N of Tombs	159	A	732	Nesting

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7/17/2011	N of T1	160	A		Hatchling
7/17/2011	N of T1	161-162	A	302	Shallow chamber
7/17/2011	W Spit	165-169	A	24	Posterior Carapace injury
7/18/2011	S of T2	170-172	A	671	LFF wound
7/18/2011	S of T5	173-174	A	733	LHF injury
7/19/2011	N of Small T	175-176	A		Hatchling to water at night
7/19/2011	S of Mt B	177-194	A	466	Hatchling and 466 crawling to water
7/20/2011	N of Mt B	195-197	A	414	RFF injury
7/21/2011	Desert	198	A	797	Digging up another nest
7/21/2011	Desert	199	A	301	Digging up hatchlings
7/22/2011	S of Boobie Rock	200-202	A	492	Crushing eggs due to broken RHF

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7/22/2011	T1	203-204	A		Eggs dug up
7/23/2011	Parallel Log	205-224	A	800	Pics of 800
7/23/2011	S of Mt B	225-226	A	220	Digging up another nest
7/23/2011	N of Mt B	227-229	A		Removing a net from a bird
7/23/2011	S of T3	230-231	A	252	Digging up another nest
7/23/2011	Desert	232-237	A		Dug up hatchlings
7/23/2011	S of Mt B	238-246	A	801	Found Dead
7/24/2011	Desert	247-250	A	306	Irene with hatchling
7/24/2011	S of T5	251-255	A		Hatchlings
7/24/2011	S of Mt B	256-259	A	801	After Spraypaint
7/24/2011	S of Pole	260	A		Distance from pole to shore

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7/24/2011	Prespit	261-263	A		Hatchling Emergence
7/25/2011	Prespit	264-266	A	807	
7/25/2011	W Spit	267-269	A	748	Nesting
7/25/2011	Gens	270-272	A		Basking
7/25/2011	Gens	273-274	A	806	Carapace damage
7/25/2011	Desert	275-276	A		Baskers
7/25/2011	Desert	277	A	82	RHF injury
7/25/2011	Desert	278-280	A		Baskers
7/25/2011	Desert	281-282	A		Boobie on turtle
7/25/2011	Spit	283-284	A		Crab eating Hatchling
7/25/2011	Prespit	285-297	A	808	

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7/26/2011	S Desert	298-301	A	137	RFF injury
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[MOKUMANAMANA (NECKER) ISLAND]

2009

'We were in a time warp'

*Two scientists recall a visit
to a pristine cultural haven
in the Northwestern Islands*

BY HELEN ALTONN
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AFTER LIVING 18 days on a remote island in the Northwestern Hawaiian Islands, Kekuewa Kikiloi is reveling in the "incredible" experience and still nursing sore feet from the rugged volcanic terrain.

"There is definitely a little bit of mystery and suspense" about Mokumanamana (Necker) island in the Papahānaumokuākea Marine National Monument, said the University of Hawaii graduate student in anthropology.

Kikiloi and Anan Raymond, U.S. Fish and Wildlife Service regional archaeologist based in Portland, Ore., were dropped off on Mokumanamana by the National Oceanic and Atmospheric Administration research ship *Hi'ialakai* during a monthlong marine and archaeological expedition.

The ship returned to Honolulu on Sept. 6, but Kikiloi said he is still recovering from the "feat" of living in a remote environment with no fresh water or trees about 460 miles northwest of Honolulu.



PHOTOS COURTESY OF KEKUEWA KIKILOI

An unfinished human stone carving is seen at Mokumanamana, an uninhabited island about 460 miles northwest of Honolulu. A trowel is in the picture for scale.

He described the expedition at a news conference yesterday in Honolulu with Raymond speaking from Chicago by teleconference.

The monument has been nominated as a United Nations Educational, Scientific and Cultural Organization World Heritage Site.

Kikiloi said he has been to the monument nine times and four times to Mokumanamana, second in the northwest chain after

Nihoa. He and Raymond studied 34 heiau (religious structures) on the 46-acre island.

It was the longest archaeological research project ever conducted there. Kikiloi said the island's "archaeological record as a whole" was the most significant discovery.

"There are few cases in Hawaii where you can see an intact cultural landscape" with nearly 100 percent native plants and animals," he said.

The scientists found more than 30 craters from bombings and shrapnel fragments next to heiau sites but are not sure who caused the damage. Nonetheless, Kikiloi said, "The landscape is uncompromised by human development. It is incredible ... invigorating to go there."

Even so, he said, they were "counting the days" until the ship picked them up. "We were in a time warp."

"How did they do it?" Kikiloi asked, regarding the island's early inhabitants. "We can barely do it today, and we have all this technology. How did they get water? These people were stronger than we ever thought."

He said Mokumanamana has "some of the most interesting archaeology in Hawaii, if not the Pacific."



Kekuewa Kikiloi photos

Researchers spent 18 days doing an archaeological survey of the 46-acre Mokumanamana island.

Ancient objects found on remote Mokumanamana

BY AUDREY McAVOY
Associated Press

Researchers on a rare expedition to a now uninhabited rocky outpost north of the main Hawaiian islands found a partially finished human stone carving and the remnants of what may be a craftsman's workshop.



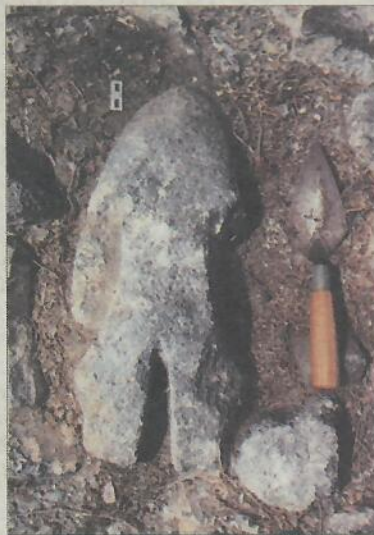
Kikiloi

The findings at the remote Mokumanamana island, about 460 miles northwest of Honolulu, were part of the most extensive archaeological survey of the tiny out-

crop in 85 years.

University of Hawai'i anthropology doctoral student Kekuewa Kikiloi spent 18 days on the 46-acre island along with Anan Raymond, a U.S. Fish and Wildlife Service archaeologist.

The inhospitable island lacks fresh water, trees that would provide cover, and is continually buffeted by wind. It's frequented by



seabirds, but is otherwise desolate save for the ruins of ancient heiau, or shrines, that line the top of a ridge running along the spine of the is-



See a video and more photos from the expedition to Mokumanamana at

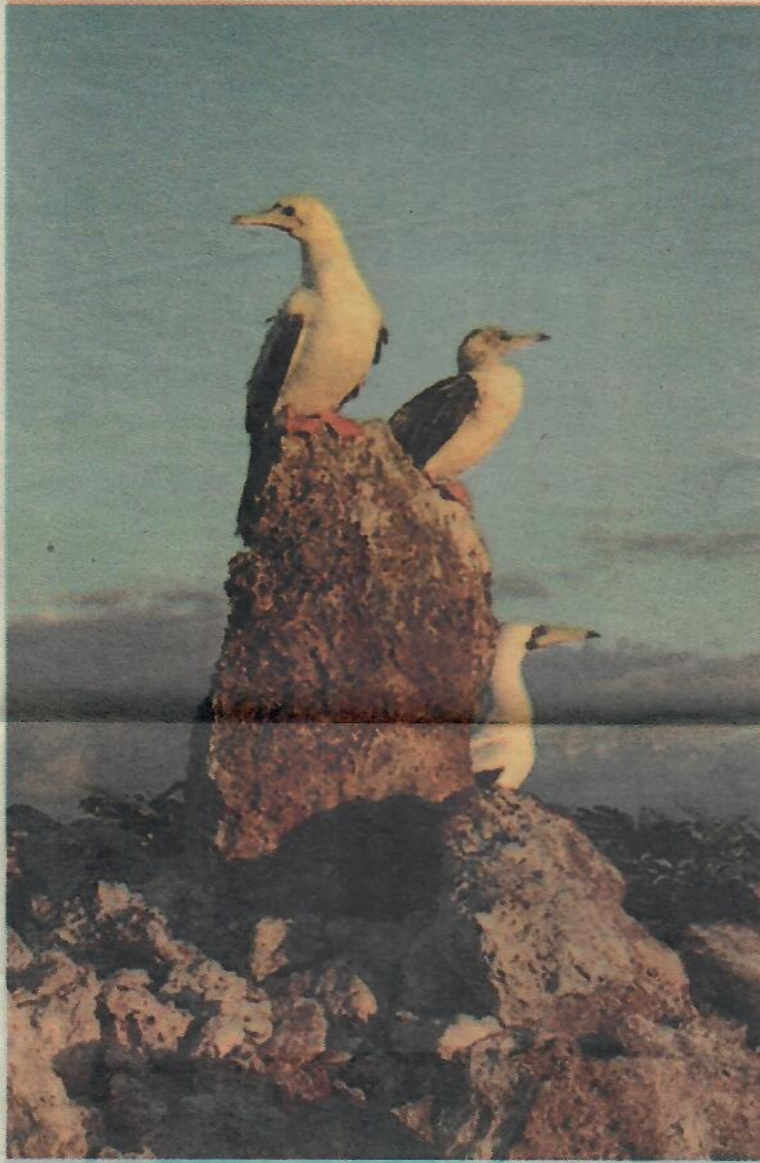
HONOLULUADVERTISER.COM

land.

"It's somewhat of an archaeological mystery as to how people survived on this island in the past and constructed these huge monuments," Kikiloi said yesterday.

The newly discovered carving resembles other stone figures found on Mokumanamana during a trip to the island sponsored by Hawai'i's provisional government shortly after the U.S.-backed overthrow of the Hawaiian monarchy in 1893.

SEE OBJECTS, B5



Birds sit on upright temple structures during sunrise on Moku-manamana island.

It was an "awesome" experience, both as an anthropology student and native Hawaiian because of the religious significance of the heiau, Kikiloi said. How the people survived and constructed large monuments remains a puzzle, he said. Only three agricultural terraces were found, and the source of the stone for the structures is unknown.

Raymond said the island is a dangerous place to walk around because the 15 million-year-old volcanic rock crumbles easily with the weight of feet or a hand. And thousands of birds cover the island.

"Where you would like to put your hand or foot has seabird chicks. You have to move very slowly. It is extremely rugged. You have to travel on all fours in many locations."

The heiau has upright structures along the crest of the island, perhaps oriented to astronomical phenomena, the scientists said. Kikiloi said there are similar upright structures on Hawaii's mountain peaks.

Stone images have been collected from the island, most of which are in the Bishop Museum and some in the British Museum, he said.



