The field research season at Palmyra took place from August 5 to August 24, in two stages. During August 5-14, the team consisted of Eleanor Sterling, Katherine Holmes, and Kevin Frey from AMNH, George Balazs from NOAA PIFSC in Honolulu, and George's colleague, Marc Rice from Hawaii Preparatory Academy in Kamuela, Hawaii. The team for the second stage, August 14-24, consisted of Eleanor Sterling, Katherine Holmes, and Kevin Frey from AMNH and Katherine McFadden from Columbia University, all members of the AMNH sea turtle conservation team. Over the course of the August research season, the teams carried out the following field activities: a) Sea turtle capture (n=44); b) Examination and measurement for demographic studies (n=41); c) Tagging individuals with flipper (n=37) and PIT tags (n=41) for population assessment and connectivity research; d) Tissue (blood, skin, carapace) sampling to investigate: diet through stable isotope analyses, connectivity using genetic analysis, and health (n=40); e) Gastric lavage for feeding ecology assessment in a subset of captured turtles (n=7); f) Collection of fecal material from the environment and/or from captured turtles (n=1); g) Fitting of tracking devices for migration/movement studies (n=6); h) Digital photography of turtles for documentation, identification, and archival purposes (n=41); i) Sea turtle release, and j) Subsequent tracking of turtles outfitted with tracking devices.

In addition, the team extended ongoing sea turtle and algal habitat distribution and abundance surveys, testing and piloting our capture and handling techniques. One turtle count was carried out, 75 turtles sighted during the roughly 2-hour survey period, as consistent with past results. Data and samples collected during field seasons will subsequently be processed in AMNH and Columbia University laboratories, analyzed, reported, and prepared for scientific publication.

Results were presented at professional meetings, included in outreach and environmental education activities, and are being prepared for publication. In June 2008 an invited keynote talk about protecting flagship species in the marine environment, including at Palmyra, was presented to an

(12)

Palmyra

(96) Bob Morris = 291-2053

PALMYRA

need to return

need Returned or Replaced

Small GAG

2nd on Right file cabinet

Lowep

extention handle for scoop net gwen

all sent

not brought

(1) JOHN SCOTT (2) CHRIS JOPKIN (3) X3 PATRICK CHING BOOK

~~95 cm calper~~

P. ching book sent

Scott DAY

"L-BAND SATELLITE" "SKYVIEW" PALMYRA

#4 5-14 August 2008
Tues Thurs

August 4 Monday Departure cancelled due to "Severe Rain" over Palmyra

Aug. 5 Tuesday departure ~ 1:30 pm
GI #39,000 3 hr 50 min flight
Arrive ~ 5:30 pm 6000' runway, smooth landing. Started raining shortly after arrival. Bill Smith departed
~~Departure~~
Chris Depkin (from Georgia) arrived for 3 wks. Then Beth Flint, then Steve Becky.
Chris here 2001-2002 prior to TNC PARC new buildings.
Evening - orientation talks

CAPT. B. JOHN (girlfriend STACY)

AUGUST 6 Wednesday
Tour of Lagoon - Turtles feeding outside just before major channel - dark close but couldn't touch on one. Tour of Turtle Hole - East. Saw clear water. Juv. Turtles on flats over blue. But spooked when approached. Saw Paper Turtles. Snorkel net

Snorkeled Blind inlet on north - net could go across mouth. murky with worn down heads of limestone rock.

2 Boats - Chris Depkin Fins

"Wheeling" "Depush" "IDEA"

AUGUST 7 Thursday AM. CAPT. JOHN
Snorkeled Turtle hole A.M. I saw 1 small hawksbill - Marc Team 3 greens northern side.

P.M.
Shark nurser Reef - across from camp.
150' net caught 113 lbs
Caught 72 cm SCL
LFL = 4E02 RFL = 4E01

(1) INCONEL SIZE 681 photos

MT = A1 LAR "AL" STOP TAIL

(98)

PALMYRA — EMAIL TO JOHN

A Mollusc name = "Heteropod"

As Remnant shelf

2 Turtles seen eating it drifting in to North.

ABAGAIL = 9y.o.

Eleanor Sterling - Book Nat. History of Viet Nam

✓ TW - Manuscript Palmyra - GARRETT

5-14 AUGUST 08

(2A) TOOLS - Knife / Pliers - Cutter

(1) VIGILANCE / SAFETY < Human Turtle

(2) BYCATCH Small RAYS ✓ SHARK ✓ CORAL ROCKS ✓ — But Large Shark

(4) Number of personnel

EFFICIENCY of catch

(3) Health - STRANDINGS

Recommendations given

(5) FYI ✓ Contributed ST 24

Pay 2nd turtle together NO. Sets

Dive hand snorkel

BOAT DIVE SCOOP NET

work in Boat as platform for data collection

foam - core float line TO TW

on turtles whenever possible

Melissa Snover

08-08-08 CABIN 8 PALMYRA (98)

~11AM

AUGUST 8, 2008 Scott, GB, MR, Eleanor, KATE, Kevin
FRIDAY Set 400' foot net - a 100' to left just inside channel of TURTLEBLE

PM Set 400' around SHARK NURSERY Reef
nothing - EAGLE RAY 4 barbs out

MR + GB
late afternoon + evening walked N. Beach Road looking for COCONUT CRABS to Photo

AUGUST 9, SATURDAY

(Set 1), (Parallel to shore)
PARADISE ISLAND - 400' net just east of PILL BOX 2 captures adult males

ALL washed up on the beach

(2) ♂	B1	4E03	4E04
(3) ♂	B2	4E05	4E06
	More to East 400' set 2.		
(4) ♂	B3	4E07	4E08
juvenile (5)	B4	4E09	4E10
(6)	B5	4E11	4E12

PLASTICOL white line near keel

(100)

George;

You old hound dog. The book is beautiful, well written, and very much appreciated. When I went in for my exit interview at TNC, they gave it to me and I opened it to a lot of ooh's and aah's. I think that up until that moment, they doubted my Doctor of Turtleology.

Please stay in touch and tell all the turtle folk "doc chris says hey".

Thanks again for the book.

Yours,

Chris Heard, turtle guy

cs1996@bellsouth.net

Dr. Chris Heard
1800 Bakers Grove Rd
Hermitage, Tn. 37076

PALMYRA

AUGUST 10, 2008 morning off.
Sunday "Complexity" yatch departed for Cartan

~ 130pm 400' net set on (around)
Shark nursery patch reef – 2 catches
within 20/min.

(7) MT = "A2" Juvenile w/ hind flipper & associated marginals
missing and healed. 4E013
4E014

(8) MT "A3" "AUDREY" spot 5 epoxy
subadult named by Ingrid Attached.
(foil fast)

4E015
4E016 Released ~ 845pm
multiple abnormal carapace scutes.

AUGUST 11, 2008
Monday MARC 2x Scuba NW end
whirling DERVISH 2 near misses = ∅
400' by Bird Is. ∅ (1 eagle Ray)

400' net west side turtle hole
Turtle Hole = 13 meters
(9) 4E017 > "C1" Mototool
4E018
(10) 4E019 > "C2" MT
4E020

PALMYRA

(105)

August 12, 2008
Tuesday, MARC SCUBA by
Rusting "Dolphins"

Depart ~ 12 noon for Turtle hole
Set net 400' west side of
turtle hole. 3 captives - 1 Small
comatose.

(11) "C3" MT 4EØ21, 4EØ22

(12) "C4" MT 4EØ23, 4EØ24

Found Comatose. Bottom of net by Turtle Hole.
RHND only

(13) ~ 38 cm SCL
Need TDPS → 4607334F6F
Tube from pen (pencil) into glottis.
~ 215 - 330 pm came back to life. "MADE IN TAIWAN"
Kept overnight in Cabin 8
Aug. 13 = Released ~ 830am to the East, channel
before turtle hole.
No MT, no samples.

Set 400' on Shark Nursery Reef - nothing

(104) Need Pow

johnthevikingahelloworld.com John Svendsen

ST24 8/13/08 PALMYRA
Hedise Islet Release =
N 05° 52.705'
W162° 03.423'

August 13, 2008
Wednesday — 11Am TO Paradise Island 16 Lagoon Boat w/ 2 tyAKS.

No turtles seen first two "turtle areas" netted 2 days ago. As tide rose ones down left "Open area" - upright slab in water marks the start.

Set 400ft - Caught "B6" New MT by holding up "float line" (polyprop only)

Mesh size 14" knot-to-knot

= B6 maturing male 73cm SCL has some Hawaiian appearance.

new "B7" caught by hand (Adult Male) by Kevin Frey. ~82 cm SCL

~~ST24~~ put on B7 "FOIL-FAST" EPOXY

My ST24 ARGOS ID 23513 ATTACHED w/ FAST-FIX MARINE EPOXY

Released 6pm. 4E27
4E28

"B8" MTOOL Missing FF Soft Plastron hand caught by Marc - green algae on carapace. Smooth skin on hind base.

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RUTH UTZURRUM DMWR need Again

Chris Heard

cheard@tnc.org

need

sent need

GANTON

Barrie F. Morgan
Deputy Director Palmyra Program

The Nature Conservancy
Protecting nature. Preserving life.

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Honolulu, HI 96817

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Tel (808) 587-6213
Fax (808) 545-2019
palmyra_admin@tnc.org
nature.org

100% post-consumer materials

home: 254-6501
personal cell: 391-6501

sent

STEVE BRECLAY

4017 E. Huber St.
Mesa, AZ 85205
480.832.8202 hm
480.734.7777 cell

Chris Depkin
Depkin@AOL.Com
843-384-4244

Sent
~~Need~~

Chris Depkin
1378 Julienton RD NE
Townsend, GA 31331

~~Need~~ JOHN SVENDSEN POSTAL =
~~Sent~~ PO BOX 2061
KLIHEI HI 96753

AUGUST 14, 2008
Thursday

~8AM Set 400' net on Shark Nursery Reef. — Nothing caught. one turtle seen surfacing over deep area near edge.

Cleared Cabin / Kate leaves.

See page 98 Met w/ Eleanor. Met with Chris Depkin.

G1 arrived 105 pm. KATE McFADDEN leaves.
Depart Palmyra 240 pm.

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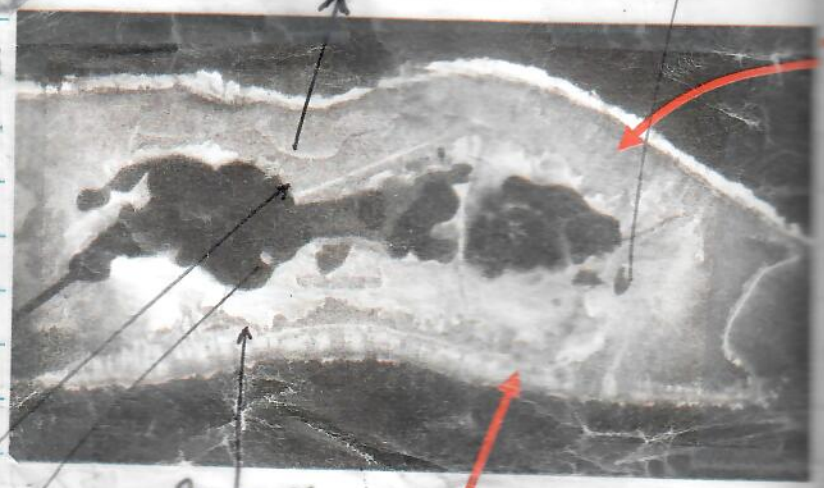
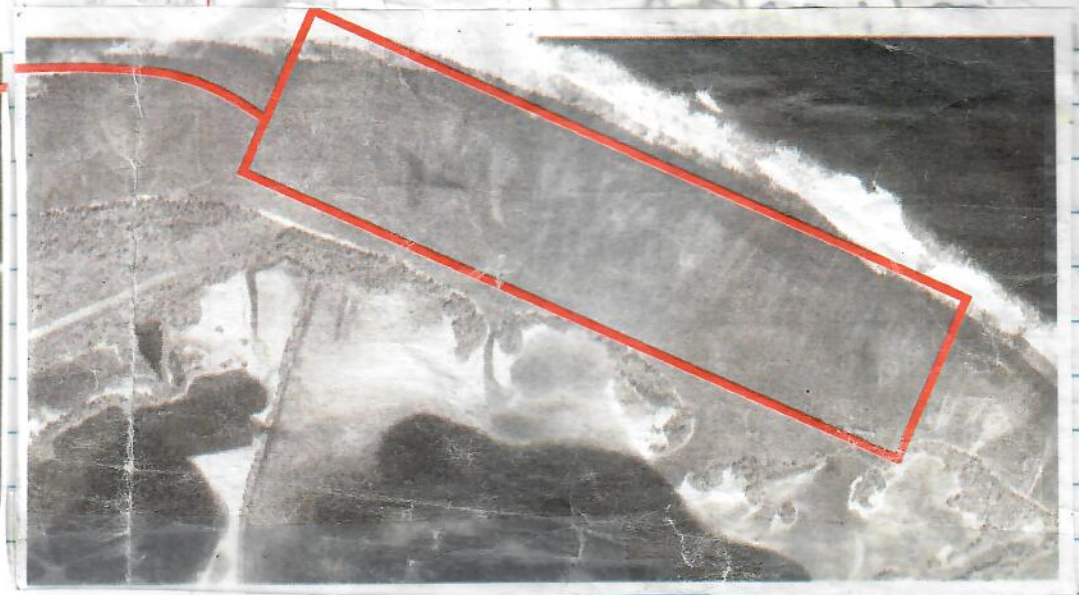
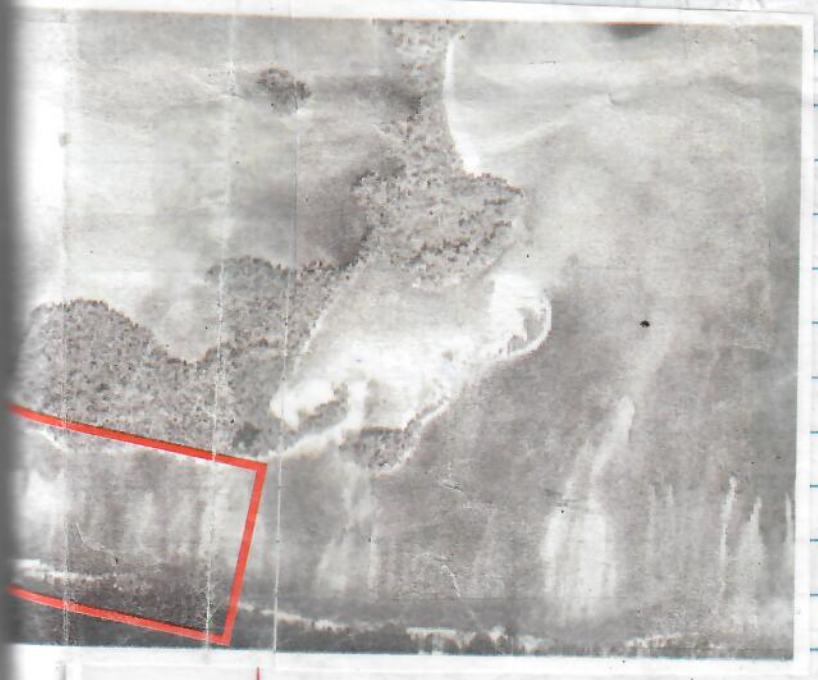

NORTH BEACH
"TURTLE HOLE"
PARADISE IS.
CANAL
SHARK NURSERY REEF





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HOLIDAY TRADITIONS

12/30/08 HSB

COURTESY HAWAII KOTOHIRA JINSHA

Shrine offers spiritual start to 2009

Explore the spiritual side of the New Year's — the one that doesn't involve fireworks and champagne toasts — at Hatsumode 2009, a Japanese celebration, from midnight Wednesday to 5 p.m. Thursday at Hawaii Kotohira Jinsha–Hawaii Dazaifu Tenmangu.

Events will include a traditional New Year's blessing, Shishimai Lion Dance and free bowls of ozoni — mochi soup.

Omamori, or lucky amulets, for 2009 will be sold, including the shrine's exclusive hibiscus- and honu-print omamori, as well as charms for the Lunar Year of the ox.

Admission is free.

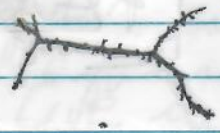
The shrine is at 1239 Olomea St. in Kalihi. Shuttles will run from Damien School, where parking will be available from midnight to 3 p.m.

Call 841-4755 or visit www.e-shrine.org.

HONOLULU LITE

Charles Memminger is on vacation. His column returns Jan. 13.

Palmyra 8/08



Acanthopora

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See also AMNH 9/08 Rep. Palmyra Report 5-14 Aug 08 P. 8 See P. 96-108 in 3

Date: Sun, 24 Aug 2008 16:29:28 -1000 (HST)
From: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
To: Don Palawski <Don_Palawski@fws.gov>
Cc: Steve Barclay <steve_d_barclay@hotmail.com>, Chris Depkin <Depkin@aol.com>, Thierry Work <thierry_work@usgs.gov>, William Smith <William_Smith@fws.gov>, Beth Flint <Beth_Flint@fws.gov>
Subject: For FWS Personnel: Palmyra training of AMNH turtle team August 5-14, 2008

Don and FWS Team, Thank you again for FWS sponsorship of my travel to Palmyra for the AMNH turtle training mission. I'm very appreciative and deem the trip as having been fully successful. It was a pleasure to work closely with Chris Depkin on a daily basis; I have admiration for his management and communication skills.

As I conveyed to Chris during discussions prior to departure on the 14th, the three AMNH researchers were good learners and fully obtained the basics in using their tangle nets to catch turtles in Palmyra habitats.

A brief historical recap of events leading up to the trip may be useful. As you will recall, four AMNH personnel (Eleanor Sterling, Kevin Frey, Eugenia Naro-Maciel, Katherine McFadden) came to Hawaii in early January 2008 for a week of training under my program. This session was a pre-requirement for the NMFS Permit Office issuing authorization to capture and sample sea turtles at Palmyra. That training went very well and was reported as 'successfully accomplished' to the Permit Office. However, the use of tangle nets to catch turtles in Hawaiian habitats was recognized as very different from what could be expected in the atoll environment of Palmyra. Hence, the Permit Office made it a condition of permit issuance that training (oversight, if you will) be continued by my program on-site during the first AMNH field trip to Palmyra. Following the January training, I had two very helpful meetings with Bill Smith (that included Thierry Work) to discuss conditions and multiple other aspects relating to issuing an FWS Refuge Permit to AMNH. I am indebted to Bill for his advise, professionalism, insights, and friendship.

After ironing out several modest issues with AMNH, I traveled to Palmyra and worked with their team August 5-14, 2008. Marc Rice, a 20-year veteran research collaborator in Hawaii, accompanied me as a seasoned field worker. Thierry Work had made other commitments for this time-window, so couldn't participate as originally planned. The AMNH team consisted of Sterling, Frey, and Katherine Holmes (note McFadden arrived on 8/14/08, Naro-Maciel was unable to participate).

Nine of the 10 days at Palmyra involved ocean activities, eight of which included the use of tangle nets. Nets were deployed adjacent to the Turtle Hole, at Shark Nursery patch reef, on the ocean reef of Paradise Island, and adjacent to Bird Island. Turtles, totaling 14, were captured at three of these sites (none caught by Bird Island). Two other turtles (making 16 total) were captured by hand, one of which was in poor body condition, on the ocean reef of Paradise Island.

Bycatch amounted to eight eagle rays, and all were released unharmed (with demonstrations given to maximize human safety during their release). Several small sharks were seen passing through the net sets, but none became entangled. Limestone rocks and rubble commonly became entangled on the bottom of the net on the Paradise Island reef flat. However, only rarely was living coral involved. Care was taken to not lay the nets in areas of obviously living coral. The smallest turtle captured (~38 cm) became heavily entangled in the bottom of the net during one of the sets near Turtle Hole. This incident served as an

excellent example of the need for vigilance to prevent mortality and injury, when netting for turtles. The turtle was held long enough to ensure good health before release.

The following recommendations and observations were emphasized to the AMNH Team on several occasions, especially to and through Eleanor Sterling, the leader of the team:

- Maintain high vigilance of nets and conduct all activities with great care, keeping human safety and the safety of turtles, as the highest of priorities (in that order).

- One person in the immediately area of a deployed net must have a razor-sharp folding knife and pliers on their person. These tools are absolutely essential for responding to capture urgencies (cutting out bycatch or a turtle heavily entangled, and (using pliers) extracting the dangerous deadly barbs of a ray).

- Two or more people must be involved in the removal of a ray or other bycatch. It is unsafe for one person to do so.

- Great care must be taken so that a sufficient number of personnel, with adequate safety and skill training, are present if a net is deployed that can catch more than one turtle at a time. Surround netting of a group of foraging turtles could end up entangling multiple animals and create an overwhelming situation dangerous to the turtles and the personnel. In one of our sets on the Paradise Island reef, five of us were ~~were~~ only marginally adequate to handle the capture situation that unfolded.

- Be alert to the possibility of both a turtle and a ray being entangled close to one another and only the turtle being observed before rushing in to untangle it. During the early 1980's just such a situation occurred to me, resulting in a ray barb stabbing my assistant's arm requiring major emergency surgery to remove it. Victims can and do go into serious shock from ray-barb injuries.

PALMYRA August 5-14, 2008

- There is the distinct potential for bycatch of a large shark in a tangle net at Palmyra. Tiger sharks occur there, probably in greater numbers than commonly realized because of the scarcity of sightings. Turtles are a common prey of tiger sharks. Several of the turtles we captured had injuries suggestive of tiger shark attack. If a large shark tangles in the net the situation will immediately become critical, especially in terms of human safety, attempting to release it. Extreme common sense and calm will be required. The approach taken to respond will depend upon the circumstance. It may be entirely necessary to do nothing and stay away, because doing something may subject personnel to considerable danger.

The following information will be useful for internal FWS records:

- The used tangle net loaned to AMNH by a researcher in Florida for use at Palmyra should be removed from the island without being placed into Pacific waters. This is a repeat of an earlier recommendation I made, and indeed may already have been accomplished.

- The turtle nets that AMNH had fabricated for the project, patterned after the nets used in my program here in Hawaii, were not made the same. The "float" line of AMNH nets consists solely of polypropylene line. This line should have been "foam-core float line" a special line designed to be very buoyant and light weight. Attaching separate floats to the polypropylene line (standard practice) can't really compensate for the lack of foam-core line. The AMNH nets constructed in this fashion present no particular negative factor to the habitat at Palmyra. But they are more difficult to use, especially to retrieve, under

PALMYRA

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the conditions we experienced.

- In addition to the above, the AMNH nets were constructed from 14 inch knot-to-knot webbing. This apparently was all the company had to offer. The tangle nets used in my program over the years have 16 or 18-inch webbing. Smaller webbing means that relatively smaller non-target species can potentially become entangled. It also means that larger turtles (large subadults and adults) can and will bounce off the net, swim along it, find the end and swim off free. Or, swim over the net in areas where external floats aren't attached (see above). The fact is that Marc Rice and I witnessed these avoidance strategies by the turtles at Palmyra, made possible by the smaller webbing. Is this a problem to the habitat of Palmyra? No, not based on our experience while there. However, it could possibly affect other things relevant to the AMNH study design and statistical analysis. AMNH has been made aware of these views.

- Any and all turtles found dead at Palmyra should be submitted to Thierry Work for necropsy health evaluation. This would also include carcasses in less-than-fresh condition. Large animals will present a serious problem of storage and shipment, but small to medium turtles should be triple bag sealed and frozen for shipment to Dr. Work's lab here in Honolulu. Samples desired (and authorized by FWS) for AMNH research can be collected and forwarded by Thierry. Certain samples from such turtles are also appropriate to submit to my program (such as humeri for skeletochronology where we have full capacity for analysis).

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AUGUST 5-14, 08 PALMYRA REPORT

Palmyra

- Because the AMNH turtle project is significantly funded by a contract from NOAA/NMFS Pacific Islands Regional Office, from the early planning stages the stock assessment quantitative skills of Dr. Melissa Snover (PIFSC) were encouraged for collaboration with AMNH. I spoke about this with Eleanor and she agreed that reconnecting with such an endeavor was something she wished to pursue.

- An ST-24 Telonics satellite tag from my program was donated to Eleanor for use at Palmyra with the resulting data being included as an integral part of the AMNH research. That tag was deployed at Paradise Island on a ~82 cm male turtle on 8/13/08.

Thank you again. If you have any questions or need clarification of any aspect, I'm of course always pleased to be at your service.

Aloha, George Balazs

Note: I've included Thierry Work as a recipient of this message. While not FWS, he is indeed an integral part of federal turtle studies in Hawaii and elsewhere throughout the Pacific, and is referred to at several places in my above report.

BALAZS
2008

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