

BALAZS

1997, 1999-2000

1997 PUNALUU

33, 34, 35
(1997)(9/97)(6/97)

1999 PUNALUU

R75

#43

7/11/2000 #44 P.

DEC 6, 2000 "A DAY IN THE LIFE OF PUNALUU BAY" P. 87
GB VIDEO PRODUCTION

2 of 2

G. H. BALAZS

The Honolulu Advertiser HAWAII

SECTION B MONDAY • DECEMBER 6, 1999

HAWAII'S ENVIRONMENT

JAN TENBRUGGENCATE

Students rescue rare turtle from pond

No one knows for certain how long the endangered hawksbill turtle had been trapped inside a large Punaluu pool.

It might have been as long as a year. The turtle was freed last month from the pool and from a tight band of fishing line wrapped around one of its fins.

It took some patience and a group of students from the University of Hawaii at Hilo to help.

National Marine Fisheries Service researcher George Balasz joined a group of students from the Marine Options Program on Nov. 16 to do research on turtles and search for an animal that had been mentioned as being trapped in a pond.

"Reports said it was tangled with fishing line, or not knowing how to get out. I put 18 students around the pond watching," Balasz said.

The story of the turtle freeing is available, with photos, at www.turtle.org/kaula.htm on the Web. The main site, www.turtle.org, is operated by Peter Bennett and Ursula Keuper-Bennett and dedicated to the protection of turtles.

Balasz said he had expected a green sea turtle, the kind most people see around the Islands. But when the animal surfaced, it turned out to be an extremely rare turtle known in Hawaiian as *homo'ou*.

He and the students were able to capture the adult female, which had 10 or more strands of monofilament line wrapped tightly around its left front flipper.

They removed the line and checked on an identifying tag the turtle had been fitted with during a nesting attempt in August 1988, when it had been swimming freely in the ocean.

Once the fishing line was removed and another tag was added to improve identification of the animal if it is caught in the future, the turtle was released into the ocean.

Hawksbills grow to about 3 feet long, somewhat smaller than green sea turtles. They feed primarily on sponges. By contrast, green sea turtles are vegetarians, feeding primarily on seaweed.

Hawksbills are at risk from threats including the hunting of the animals for their shells, which are used to make products from combs to cribbage sets. While the shells of other turtles are also taken, the hawksbill has the most intricately figured shells, making them the most valuable.

It is illegal to harm hawksbill turtles or to bring anything made from turtle shell into the United States. Wildlife agencies say there is nonetheless an active international trade in the turtles' shells.

Jan TenBruggencate is The Advertiser's Kauai Bureau chief and its science and environment writer. You can call him at (808) 245-3074 or

Date: Sun, 9 Mar 1997 16:15:26 -1000
From: Kimberly Krusell <krusell@hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: TDR96366 (fwd)

59

Dear George,

I went to Punaluu on WEDnesday and found TDR96366. I was only able to obtain about 20 min worth of data before he headed out past the breakers. I think he came in after I'd been there a while as I had been snorkeling about a half an hour before sighting him. Once again, I encountered him by the rocky penninsula on the boat ramp side of the bay. He was feeding and resting and then very slowly began swimming back out towards the sea. I'll be going again on WEDnesday. Did you receive my proposal? I hope you had a good time at the sea turtle symposium. Aloha, Kimberly

The Honolulu Advertiser Monday, March 17, 1997 B5

Big Island tremor causes no damage

By Hugh Clark

Advertiser Big Island Bureau

HILO, Hawaii — An earthquake felt islandwide caused no known damage, police and civil defense officials said yesterday.

The shaker occurred at 4:19 a.m. and woke up residents all along the eastern side of the Big Island.

National Park officials said the quake measured 4.4 in magnitude; civil defense administrator Harry Kim said he was told it was 4.1. Other agencies were not available to confirm the figures yesterday.

Mardie Lane, chief spokeswoman at Hawaii Volcanoes National Park, said park operations were not affected by the earthquake, centered about 2 1/2 miles southeast of Pu'u 'O'o at a

moderate depth of around 5 miles.

Kim said he was surprised by the early damage assessment, given how widely the quake was felt — even in Waimea and the western side of the island, which often does not feel Kilauea rift zone shakes.

Geologists were not available to report on any changes in the eruption of Kilauea, centered at the vent at Pu'u 'O'o. A thin layer of molten lava has been spotted at the vent in the past month, while the eruption that started in 1983 continues to reinflate after a major shift in activity on Jan. 30.

Police said they had many calls about the event, described as a "slow roller," but no reports of property loss or landslides.

**Synopsis of Observation of the Green turtle, TDR9696366, in Punaluu Bay from
February 2-March 19, 1997**

Kimberly Krusell

VISIT #1

1 February 1997
12:04-1:14

Clear skies, calm seas, fairly murky water

Found TDR96366 immediately upon entering water in the sub-bay on the boat ramp side of Punaluu. Turtle moved in a triangulating pattern from boat ramp to the rocky peninsula on the boat ramp side to offshore about 1/2 way to the breakers. Behavior was mostly slow swimming and feeding.

VISIT #2

6 February 1997
3:00-4:30

Cloudy, light drizzle, fair visibility

No turtle sighted. Swam two surveys for 45 minutes each. Swam entire bay, other turtles present but not TDR.

VISIT #3

7 February 1997
1:00-3:00

Cloudy, light drizzle, fair visibility

No turtle sighted. Swam a transect for one hour encountering other turtles but not TDR.

VISIT #4

12 February 1997
1:30-1:50

Found the turtle in the shallow end of the boat ramp side of the bay. He swam to the rocky peninsula then headed straight out towards the breakers.

2:56-3:41

Relocated the turtle in front of the rocky peninsula. After three minutes he hauled out into the tidepools and began feeding. The surf washed the turtle out after 6 minutes. He then hauled out again into the tidepools to feed for 1/2 hour. The turtle then entered the water and headed straight out from the peninsula toward the breakers.

VISIT #5

19 February 1997
1:00-2:00

Partially cloudy, fair visibility

Swam transect for 40 minutes without finding the turtle. Checked each tidepool thoroughly, TDR was not present.

VISIT #6

22 February 1997
12:47-3:19

Clear skies, many turtles present in bay

Found turtle hauled out basking just bioatramp side of the rocky peninsula with another turtle basking about 12' away. The turtle entered the water after 1/2 hour as what seemed to be the result of many tourists aggregating in the area. The turtle swam over to the peninsula and hauled out and began feeding in the tidepool on the boat ramp side of the rocks. Throughout the observation period the turtle would feed, enter the water, swim to the next tidepool, haul out and feed. He worked his way down the tidepools in this fashion.

VISIT #7

26 February 1997
1:00-2:00

No turtle found. Bay appeared completely devoid of all turtles. Heavy thunderstorms had rained the previous night and early that morning. Jeanette Howard informed me she had not seen any turtle heads surface all day. One turtle did emerge to bask as I was leaving.

VISIT #8

5 March 1997
11:32-11:46

Overcast skies, poor visibility

Found the turtle in the water in front of the rocky peninsula feeding. The turtle slowly swam out into the breakers at which time the I lost sight with the turtle. I continued to swim and survey the bay for another 45 minutes but did not see the turtle for the remainder of my observation period.

Date: Mon, 14 Apr 1997 13:38:53 -1000
From: "Dr. Walter C. Dudley" <dudley@hawaii.edu>
To: krusell@hawaii.edu
Cc: gbalazs@honlab.nmfs.hawaii.edu
Subject: Environmental Data for the data turtle

Re: data

61

Kimberly,

In order to try and correlate the turtle's activities with various environmental factors you should go to the following sources for data:

1. detailed tidal curves for Honuapo - tide software installed on Coney's computer in the MOP office. See John.
2. wave conditions - SOEST web site with information on NOAA buoys. This may be harder as the data links aren't always there. If all else fails a telephone call or email message to Manoa MOP may get you linked up with this data.

If you have problems, give me a call.

Dr. D.

VISIT #9

12 March 1997

3:21-4:42

cloudy skies, good visibility

I arrived at Punaluu at 1:30pm but did not encounter the turtle for an hour and fifty minutes after my arrival. I surveyed the bay without sighting the turtle and a snorkeller informed me she had sighted the turtle at 2:15pm. When I found the turtle, it was in the boat ramp side tidepool feeding. The turtle remained in this pool feeding for the duration of the observation period. At 4:40, the turtle entered the water.

VISIT #10

19 March 1997

12:51-2:28

partially cloudy skies, clear water

Entered water at 12:15 and swam until I encountered the turtle at 12:51 in front of the rocky peninsula. After three minutes he hauled out into the boat ramp side tidepool and began feeding. He remained feeding in the tidepool throughout the observation period.

PUNALOU #34 4 APRIL 97

4/4/97 625 am depart Aieha
 Friday w/Bud Antonellis - Arrive 720 AM
 National Car Rental #31.
 TO PUNALOU arrive - 845 AM

OBJECTIVE: Capture and Download
 DATA from TDR 96366 SON 257
 Already there -

Lea, John Carey, Kimberly Russell, her male
 friend - MARC Rice + George Watson
 Low Tide.

only a few turtles seen by Rocky Ledge
 and boat ramp. Watched + Kimberly

Swimming looking + Marc w/hydrophone
 Nothing heard or seen until I

saw turtle, green fiberglass patch
 on left, TDR on right at about
 1130 AM. Turtle was purposely

swimming in front of rocks toward
 boat ramp beach. A few
 minutes later the turtle basked

out to bask, and we picked
 it up and carried to plywood
 pen in shade for downloading -

2 - at 25 min. + 2-3 minute fast
 type. Two other turtles basked

out to bask on beach shortly (within
 15 min) of the TDR one. TDR released
 1:35 PM. Seemed to head out (?)
 - not on beach, not by rocks feeding.

needs - ①
 Punalou
 objectives
 to Bud

②
 Kavil's/de
 loan Bud

③
 contract
 or student
 help

④
 Council Leon
 Community

Service
 Monument
 spruce -
 veg. growing!

⑤
 Handouts
 TO MAS,
 Howard

⑥
 John's
 ballpoint
 pen

⑦
 Xerox
 data
 pages for
 Shamp

83

4/497 one of the two other basking turtles went
Friday back into the water while we were
downloading TDR. The second turtle was
still there = SCL 65.4 R587 R586, 9260
R588.

Depart Punaluu about 230pm. Noted
sign at ^{Buy} Enceques gift stand about renting
 snorkel gear - seeing turtles, etc.
Second baby born (lost week - first (boy)
is not 17 months old.

Depart Hilo 505 pm

See p. 69 for Punaluu #35 6 June 97

Author: Shawn Murakawa at -NMFS-HONO
Date: 4/8/97 12:06 PM
Priority: Normal
TO: George Balazs
Subject: John Kahiapo

He called to ask if you (or know of the person who) allowed Janette Akiu, a vendor at Punaluu Beach Park (the one closest to the ocean), to have a Hawksbill turtle in a container with solution in her possession. She said that a scientist allowed her to keep this so that she can use it to show tourists. John would like to either call him @ 974-6208 or fax him @ 974-6222 regarding this. He would like more information about this.

Also, he said that he saw a turtle basking near the boat ramp area yesterday around 2:00pm. Tags V528 LFL/V529 RFL/V530 LHF/Q273. When they went back around 5:00pm the turtle was gone.

He said they're still monitoring the beach to warn tourists not to touch the turtles.

Date: Sun, 20 Apr 1997 15:08:19 -1000
From: Kimberly Krusell <krusell@hawaii.edu>
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: TDR96366

reduce

Dear George,

I just wanted to send you a note to let you know I saw our turtle at Punaluu on last Wednesday. He followed his predictable routine, coming into the bay at 12:30pm and hauling out to feed in the tidepools. I left him after two hours of observation, he was still feeding in the pool at that time.

I've done a rough data correlation, and I can at least say the turtle is not at 30' when I observed him onshore! I'm still working on the analysis, and will check with the sources that Dr. Dudley informed me about to check for environmental correlations.

Unfortunately, Manoa still has not made a decision regarding my application, so I cannot tell you if I will be able to qualify for the student help position on Oahu. Of course, I understand if you need to hire someone else who can assure you of their enrollment status. I'll keep you posted with any new observations or analysis. Take care. Aloha, Kimberly

Date: Sun, 27 Apr 1997 17:05:15 -1000
From: Kimberly Krusell <krusell@hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: TDR96366

Red

Dear George,

I have signed on as a student worker over here. I wanted to thank you for making it possible to actually get paid to be involved with such a neat project! I will be on the Big Island until the end of May. I believe Leon also hired Brent Larsen as well, though his paperwork lagged behind mine a little. We were both planning to make the Punalu'u trip on Friday together so the project can continue once I'm gone, though I'm going to miss that turtle! Take care. Aloha, Kimberly

On Sun, 27 Apr 1997, George H. Balazs wrote:

> Kimberly- Thanks for writing back. Question- Are you now signed up as a
> student worker over there via the positions I arranged with Leon? Hope
> so. Best regards, George

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*****
*      George H. Balazs, Leader      *
*      Marine Turtle Research Program *
*      National Marine Fisheries Service *
*      Honolulu Laboratory           *
*      2570 Dole Street              *
*      Honolulu, Hawaii 96822-2396 USA *
*      Tel:(808) 943-1240            *
*      Fax:(808) 943-1290           *
*      *Email: gbalazs@honlab.nmfs.hawaii.edu*
*
*      Deputy Chairman              *
*      IUCN/SSC Marine Turtle       *
*      Specialist Group              *
*****
```

> On Sun, 27 Apr 1997, Kimberly Krusell wrote:

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> > during my observation period. The high tide was not until later that
> > evening, so I think that may have played a role. I plan to go back on
> > Friday again, hopefully with better luck. Unfortunately, I still do not
> > know my status at UH Manoa, and the other grad school in Florida has not
> > notified my of my admission status as of yet either. Again, I understand
> > if you cannot continue to "hold" the Oahu job slot for me. I'm still
> > working with the data from the last logging period. I should have a
> > preliminary report for you before the semester ends, with a more in depth
> > analysis after finals are done. I'll be in touch. Aloha, Kimberly

Date: Sun, 27 Apr 1997 14:30:39 -1000
From: Kimberly Krusell <krusell@hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: TDR96366

Red

Dear George,

4/26/97

I went to Punalu'u yesterday from 12-3pm, but the turtle was not present during my observation period. The high tide was not until later that evening, so I think that may have played a role. I plan to go back on Friday again, hopefully with better luck. Unfortunately, I still do not know my status at UH Manoa, and the other grad school in Florida has not notified my of my admission status as of yet either. Again, I understand if you cannot continue to "hold" the Oahu job slot for me. I'm still working with the data from the last logging period. I should have a preliminary report for you before the semester ends, with a more in depth analysis after finals are done. I'll be in touch. Aloha, Kimberly

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To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: TDR96366

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> > preliminary report for you before the semester ends, with a more in depth
> > analysis after finals are done. I'll be in touch. Aloha, Kimberly
> >

Date: Fri, 2 May 1997 10:06:44 -1000
From: Kimberly Krusell <krusell@hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: TDR96366

Re

Dear George,

I wanted to let you know I will be going to Punalu'u tomorrow instead of today so the other student employee can go as well. Also, I still haven't heard the graduated decision from manoa, but I have decided to go as an unclassified student there even if I'm not formally accepted. I don't know if you still have the student position available, I would be interested. I will be here on the Big Island until the end of May. I'll be working on my final project report this weekend and will submit for review to Leon and Karla on Monday, make their suggested revisions and then forward the final draft onto you. (Of course, I'll welcome your comments and feedback as well and make necessary changes). Thanks for everything. I'll be in touch and let you know if we see our turtle this weekend.

Oh, one other thing, student employment I will not be eligable to work on the Punalu'u project once I have graduated. I just wanted to let you know.

Aloha, Kimberly

Date: Sun, 4 May 1997 13:52:58 -1000
From: Kimberly Krusell <krusell@hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Hawaii Preparatory Academy <mrice@hpa.edu>
Subject: Re: TDR96366

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Dear George,

Very exciting news. I've been working up the TDR data and have found the turtle spends about 57% of its time resting, 30% of its time feeding and about 3.5% of its time basking (although he only basked for 21 out of the 62 data sampling days). I think it's all very exciting, especially since most of the papers I've read have concentrated mostly on diet composition or ecological implications, but not actual activity budgets! So, I just wanted to keep you posted as new findings develop. I'll be in touch.
Aloha, Kimberly

Date: Sat, 3 May 1997 16:25:18 -1000
From: Kimberly Krusell <krusell@hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: TDR96366

Reduce

Dear George,

I've started to try and seriously analyze the diving records from TDR96366. As I've said before, his profiles are matching up with my ground-truthed observations. I am a little perplexed as to what types of behaviors the turtle may be engaging in while he is in deeper water. I'm assuming during most of the longer dives, he is resting in caves. Do you feel the turtles are only grazing within they enter the shallow water? Also, do you think there would be a difference in behavior within the bay nocturnally vs. diurnally? I noticed on a few evenings, usually for a few nights in a row, the turtle is overnighting in shallow water. I would think he must be in the bay during this time, since it would seem to me, resting at the surface in deeper water in the middle of the night would be a behavioral disadvantage. I was hoping to construct a daily activity budget for our turtle from the data, but I wanted to get you insight before I just started making assumptions as to what may be happening. As it stands right now, I've been interpreting the shallow times as basking or foraging and the deeper times as resting. Please let me know what you think.

Also, I went to Punalu'u today with Brent Larsen, the new student employee. We found the turtle in water feeding in front of the rocky peninsula and were able to observe him for about a half an hour. It will be neat for the new student to see if the turtle shows any large variations in behavior from the last data logging period.

That's all for now. I'll look forward to hearing your input. Thanks again. Aloha, Kimberly

Date: Tue, 6 May 1997 15:47:42 -1000
From: Kimberly Krusell <krusell@hawaii.edu>
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Pau for now!

Reduce

Dear George,

I just wanted to let you know I have submitted a copy of my final report to Dr. Hallacher today. He informed me he should have comments back to me next week, and I will make revisions accordingly and submit the final draft to you and await your feedback. It's been fun. I'll be in touch.
Aloha, Kimberly

Date: Fri, 9 May 1997 08:54:55 -1000
From: Leon Hallacher <leonh@hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Walter Dudley <dudley@hawaii.edu>, John Coney <jconey@hawaii.edu>, Leon Hallacher <leonh@hawaii.edu>
Subject: Re: Punaluu

everybody
except
for
Geo
& Su
KA

George,

Russell

I hired Kim and Brent Larsen. I just signed off on Kim's time sheet and I think she's working about 20 hrs/wk. Larsen has only been out one time - that with Kim to learn the ropes. When Kim "retires" in a week, you and I need to decide if we need to hire another student (I have several applications in hand) or whether we go with Brent alone.

I won't have time to look at Kim's report until Tuesday during my first final (7:30-9:30 am). I'll return it to her then for any editing that I think it needs and have her forward the next draft to you.

We have two summer dates to consider. The first, turtle tagging in conjunction with the oceanography lab is set for Tu/W July 22-23. The second date is to download old Bleeper. Coney and I could do that any day between June 3 and 6, which should be OK for Marcd. Frankly June 4 or 5 would be best for me, but I could go on the 3rd or 6th. You decide and we'll follow.

I guess that's it. Caroline Kohan has been wonderful to work with. She is so helpful. I hope you appreciate how lucky you are to have that kind of support. Cheers. Leon

copy
supplied
to Susan
Kramer

On Thu, 8 May 1997, George H. Balazs wrote:

- > Leon- I've lost my memory and lost contact. Where do we stand on the
- > Punaluu summer trip? Please update me from your perspective. Also, I
- > don't believe you ever told me who you hired and how they are doing and
- > how many hours a week they are working. When you have the time. Aloha,
- > George
- >
- > I understand from Kimberly that she turned in a semi-draft to you, but
- > doesn't want to send it to me until it's cleared through you. Fine with
- > me, as long as I have a crack at it before it's called "final." Marc also.
- >
- > Your pal, Geo.
- >

3/4 Punaluu #35

6 JUNE 97 FR. 122 Hawaiian 750 AM TO HILO
FRIDAY alone

Objective: Download data from
TDR 918366 SON 257, last downloaded
4 April 97 Punaluu #34, w/ Colorado students
MAEC picked me up w/ ^{5:00 a class} George & Sandy Watson
at airport at ~ 8:45 AM.

Arrive Punaluu ~ 10 AM. Leon, Brent
Brent Larsen, other students already there -
TDR turtle under observation in shallow water
off of boat-ramp beach. Watched for
a while. low tide.

Walked out and Marco caught it with
scoop net. Very little struggling.
Two downloads of data.

Turtle released at 12:40 PM.
Agreed w/ Leon and Brent Larsen
that he will be paid for 20 h
week to come to Punaluu twice
a week, 5 hours of observation, 1.5
each way drive time = 8 hours, trip
x 2 = 16 / 4 hours for gas wear-tear on car.

Returned Hawaiian Air arrive
Honolulu ~ 4:45 PM

Saw Jim Carpenter at Hilo Airport.
Also, student from Punaluu
trip - going home to Chicago
for summer w/ ~~the~~ rabbit.

Not at
Pua
Sent

need -

They stayed at Peggy's cottage, Kapo H.
Guna Bed & Breakfast
on Maui.

Bob & Ann BABSON
3371 KEHA DR
KIHEI MAUI HI 96753
(808) 874-1166

- closed-cell foam - surfboard type
to sculpture

TDPS V529 RFL 930am to at least 1140 AM 71
6/6/97 Q273 RH Batching
on Road-Ramp block

Prevent -
do not
approach and
read tags
note numbers only
observational work
only

Date: Tue, 10 Jun 1997 14:41:28 -1000
 From: Brent Larcen <larcen@hawaii.edu>
 To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 Cc: John Coney <jconey@hawaii.edu>, Leon Hallacher <leonh@hawaii.edu>
 Subject: Re: Work at Punaluu

Reduce

Dear George,

Yesterday, (Monday, June 9th.) I arrived at Punaluu at 11:30 AM and saw the turtle at noon. I arrived during a low tide, and saw the turtle near the boat ramp. I got in the water and I stayed about 10 feet away from him, and he slowly began to make his way to deeper water. I followed, keeping a distance and watched him swim in deep water about 100 feet from shore. He did a bunch of dive cycles that lasted for about 10 minutes. He would take about four breaths and then dive to various depths, I estimate about 20 feet at most. I watched him for about an hour and then left him to do his business. I left the water at about 1:30.

I did not see him again until 4:00 pm. He came back into the shallow water and fed a little. I watched him from shore, and then I think he went back to the deep water at about 4:15 pm, because I never saw him again for the rest of the evening. I left Punaluu at 6:00 pm.

If you don't want me to snorkel with the turtle, I have no problem with that at all. It is very feasible to do all my observations from shore. The rocks that jetty out into the harbor would allow me to observe his deep water behavior from shore. It would probably be a good idea to remove the human in the water factor anyway, I kept wondering yesterday, even though I stayed 10 to 20 feet away from him, if he was "running away" and my presence was influencing his behavior.

I plan to go back to Punaluu at the end of the week.

Thank You.

Brent Larsen

Date: Mon, 16 Jun 1997 10:48:32 -1000
 From: Brent Larcen <larcen@hawaii.edu>
 To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
 Cc: John Coney <jconey@hawaii.edu>, Leon Hallacher <leonh@hawaii.edu>
 Subject: Re: Turtles hauled out basking on the beach at Punaluu

Reduce

Hello George,

Yesterday (June 15, 1997) I was at Punaluu. I arrived at 11:00 am and immediately saw Bleeper in the tidepools eating. The tide was on its way up the entire afternoon so I observed him from shore swimming around the exposed rocks near the beach. He swam into various tidepools to feed as the water level allowed him to. He was still feeding very close to shore when I left at 5 pm. There were no turtles on the beach that day. But the time before yesterday's outing I did see one turtle on the beach, but I did not get close enough to see the tag numbers. However I am sure it was the same one that we saw when we down loaded the data.

I plan to go back on Wednesday the 18th. I also plan in going on Saturday very early in the morning to see if I can catch Bleeper when he is hauled out.

Thank You

Brent

ma

Date: Mon, 23 Jun 1997 08:51:04 -1000
From: Brent Larcen <larcen@hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: John Coney <jconey@hawaii.edu>, Leon Hallacher <leonh@hawaii.edu>
Subject: Re: Turtles hauled out basking at Punaluu

Greetings George.

Yesterday (June 22, 1997) I was at Punaluu from 10 am to 3 pm and the tide was real low but rising and I did not see "bleeper" the entire time I was there. I did see two other large turtles hauled out on the beach. Both of them stayed on the beach for about one hour a piece. I wrote down the exact times I saw them haul out and then go back into the ocean in my log book.

Thank You

Brent Larsen

Date: Mon, 30 Jun 1997 13:29:26 -1000
From: Brent Larcen <larcen@hawaii.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: Leon Hallacher <leonh@hawaii.edu>, John Coney <jconey@hawaii.edu>
Subject: Re: Turtles

Dear George,

On Saturday June 27, 1997, I went to Punaluu and got there at 9:00 am. I immediately saw the turtle hauled on the beach.

It was very interesting he went back into the water, and then hauled out a second time. I wrote down the exact times he did the behaviors.

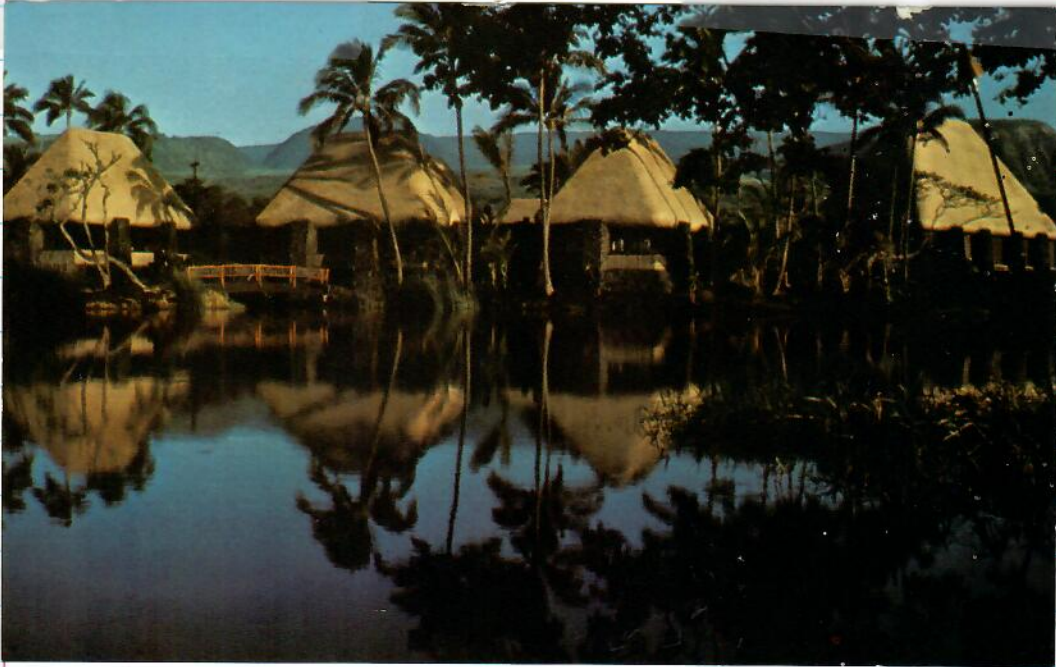
I also recorded the haul out times, and reentry times of three more turtles who also hauled out that day.

After "Bleeper" went back into the ocean, I observed him swim into shallow water, I think I saw him stay in shallow water relatively close to the shore but I did not observe him feeding in the tide pools like he has normally done at high tide. This was very interesting to me that he did not feed in his usual manner.

I left Punaluu at 5:00 pm.

Thank You

Brent Larsen



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PUNALU'U VILLAGE RESTAURANT, gem of the Ka'u Coast: On the Black Sand Beach of Punalu'u, a new jewel graces the historic setting of the Big Island's ancient kingdom of Ka'u. Punalu'u Village Restaurant overlooks palm-fringed freshwater lagoons that once served as royal fish ponds. Decor and architecture are authentic Polynesian, and sumptuous buffets are served from genuine outrigger canoes. Adjoining is the fascinating Ka'u Center of History & Culture and Seamountain Ninole Golf Course—all part of Seamountain-Hawaii, the Big Island's new residential resort community.



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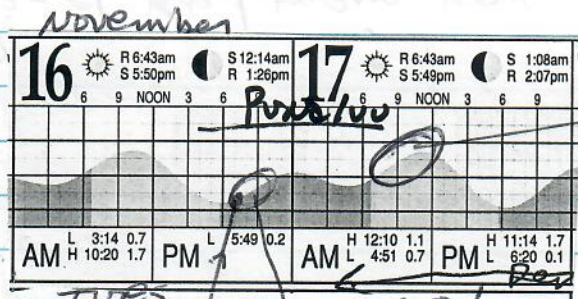
7 Signature Dole Cannery (7)
Sunday, November 14, 12:45pm
Regular Screening
\$6.00

No Refunds or Exchanges Seats Held Only Until Showtime

Punaluu

16-17 November 75
1999

#43



Hand Snorkel
18 caught

11/16/99 Depart Aieha 12:15pm S. Barretto & GHB
ARRIVE HLO 1PM.

OBJECTIVES: (1) Find and Remove turtle
Seen in Restaurant Pond
(2) Capture as many as possible in Bay
for routine remeasurements & Health
Screening.

Arrive Punaluu ~ 3:30PM, Large
Pavilion.

Set up watch at Pond by Restaurant -
Julie Enrygves call Guy, he said turtle
spotted behind second bridge. Turtle seen
there - 50'x8' net set down from bridge.
Boys had crayfish, Mrs. Howell said there
are Mollusks in pond. Discovered it
was an adult hawksbill. Student saw
it "poking around" on bottom.

Turtle came close to net - I jumped
into pond - turtle ~~egg~~ tangled in net.
put phone on tube, carried out, driven to
Pavilion
See page 332.

emo's
steer
shower
watched
2 AM 11/17
one seen

11/17 8:15am net under Ford Bridge.
 Wednesday taken out ~ 12 noon. no other
 turtles spotted

11/17/99 depart 4:15pm Aola -
 Arrive Honolulu 5pm
 to Damien HS open house
 for Paul

"11/16/99 Punaluu watches"

NPS Larry's Volunteers

Kelly Connell bruzier12@hotmail.com

Michele Harmon mharmon@bwn.net

Watching two wired nests - one at Day 74 days now
Closer to Pond than Ocean

Needs:

- ① Rescue ^{Howard} on web turtles.org
- ② Handouts (correct phone numbers) to Mrs. Howard
- ③ hatching from nests - may go to pond.
Sand between needed
- ④ Thor - Position Description: Clean, prepare,
store gear for sea turtle beach
- ② Respond to stranded turtles -
store, ship, measure, record data
- ③ ^{do sightings} Maintain data files

need
10 h week
student

From page 48

End no #43
11/17/99
11/16-11/17/99

CAPTURE DATE, LOCATION AND METHOD:

11/17/99 Punalua - hand snorkel
PERSON RECORDING DATA: KURTENBACH

OLD TAGS: 1281
NEW TAGS: RFL LFL
TUMOR SCORE 0
OTHER NEW TAGS: 1282, 1283

LH 407 A452043
STRAIGHT CARAPACE-LENGTH: 62.1
WIDTH: 50.2

NOTCH LENGTH: 61.9
DB: L.O. VB: L.C.
CURVED CARAPACE LENGTH: 67
WIDTH: 62

HEAD WIDTH: 9.3
SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE YES
TAIL LENGTH: T 16 C 10.5

RIGHT FRONT FLIPPER WIDTH: 10.1
SAMPLES COLLECTED

PLASTRON LENGTH: 47.9

WEIGHT: []

DESCRIPTIVE REMARKS: MISSING R.H. flipper - HEALED. Amputat. distal joint of femur

PC in mouth

CAPTURE DATE, LOCATION AND METHOD:

11/17/99 Punalua hand-snorkel
PERSON RECORDING DATA: KURTENBACH

OLD TAGS: H193
NEW TAGS: RFL LFL
TUMOR SCORE 0
OTHER NEW TAGS: J415, H192

LH 407 A452043
STRAIGHT CARAPACE-LENGTH: 60.3
WIDTH: 41.36330F15

NOTCH LENGTH: 60.0
DB: L.O. VB: L.C.
CURVED CARAPACE LENGTH: 66
WIDTH: 60.6

HEAD WIDTH: 9.7
SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE YES
TAIL LENGTH: T 13.5 C 9

RIGHT FRONT FLIPPER WIDTH: 11.0
SAMPLES COLLECTED

PLASTRON LENGTH: 46.7

WEIGHT: []

DESCRIPTIVE REMARKS: PC IN MOUTH

PC in mouth

CAPTURE DATE, LOCATION AND METHOD:

Punaluu Hand Snorkel
PERSON RECORDING DATA: SHARON PARSON

OLD TAGS: V537
NEW TAGS: RFL
LFL
TUMOR SCORE: 0
OTHER NEW TAGS: V493, V538, V536

STRAIGHT CARAPACE-LENGTH: 68.6
WIDTH: 53.7

NOTCH LENGTH: 68.6
DB: L.O.
VB: L.C.
CURVED CARAPACE LENGTH: 74.5
WIDTH: 70.0

HEAD WIDTH: 10.5
SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE Y
TAIL LENGTH: T 15 C 11

RIGHT FRONT FLIPPER WIDTH: [] SAMPLES COLLECTED: []

PLASTRON LENGTH: 52.2
WEIGHT: 94 lbs

DESCRIPTIVE REMARKS: []
blood for T.WORK

COMMENTS:

P.C. in mouth.
407D273906 (old tag)

PLASTRON IS a little flat.

START PUNALUU #44

CAPTURE DATE, LOCATION AND METHOD: (17)

PUNALUU HAND SNORKEL 7-11-00
PERSON RECORDING DATA: SHARON P.

OLD TAGS: R88
NEW TAGS: RFL
LFL
TUMOR SCORE: 0
OTHER NEW TAGS: R87, ~~R88~~ K492, R89

STRAIGHT CARAPACE-LENGTH: 67.5
WIDTH: 52.1

NOTCH LENGTH: 67.3
DB: L.O.
VB: L.C.
CURVED CARAPACE LENGTH: 72
WIDTH: 68

HEAD WIDTH: 10.5
SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE Y
TAIL LENGTH: T 19 C 12

RIGHT FRONT FLIPPER WIDTH: [] SAMPLES COLLECTED: []

PLASTRON LENGTH: 52.7
WEIGHT: 94 lbs

DESCRIPTIVE REMARKS: []
blood for T.WORK

COMMENTS:

41307D6254 (old tag)
P.C. in mouth.

CAPTURE DATE, LOCATION AND METHOD:

③

PUNALU'U

HAND SNORKEL

7-11-φφ

PERSON RECORDING DATA: SHARON P.

OLD TAGS:

R67
R66
B8
R68

NEW TAGS: RFL

LFL

TUMOR SCORE

OTHER NEW TAGS:

0

407A95487F (old tag)

STRAIGHT CARAPACE-LENGTH:

58.1

WIDTH:

46.1

NOTCH LENGTH:

57.9

DB:

L.O.

VB:

L.C.

CURVED CARAPACE LENGTH:

63.5

WIDTH:

56.5

HEAD WIDTH:

9.1

SEX:

MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE

Y

TAIL LENGTH:

12.5

C

8.0

RIGHT FRONT FLIPPER WIDTH:

SAMPLES COLLECTED:

PLASTRON LENGTH:

45.0

WEIGHT:

60 lbs

DESCRIPTIVE REMARKS:

Comments:

AF6D593962 (old tag)

P.C. for mouth; suspicious tissue in jaw hinge.

CAPTURE DATE, LOCATION AND METHOD:

④

PUNALU'U

HAND SNORKEL

7-11-φφ LH

PERSON RECORDING DATA: SHARON P.

OLD TAGS:

4054
4053
4052
4051

NEW

500E112425

RH

TUMOR SCORE

OTHER NEW TAGS:

0

500E154570

STRAIGHT CARAPACE-LENGTH:

59.0

WIDTH:

46.8

NOTCH LENGTH:

58.7

DB:

L.O.

VB:

L.O.

CURVED CARAPACE LENGTH:

64.0

WIDTH:

58.5

HEAD WIDTH:

9.5

SEX:

MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE

Y

TAIL LENGTH:

14.5

C

10.5

RIGHT FRONT FLIPPER WIDTH:

SAMPLES COLLECTED:

PLASTRON LENGTH:

44.1

WEIGHT:

64 lbs

DESCRIPTIVE REMARKS:

Comments:

MOTO

"UV" middle heel, second lateral left and right

(Demonstration for Larry KATAHIRA)

blood for

7. WORK

CAPTURE DATE, LOCATION AND METHOD: ⑤

PUNALO'O HAND SNORKEL 7-11-00
PERSON RECORDING DATA: SHARON P.

OLD TAGS: 41350C130D

NEW TAGS: REF LFL

TUMOR SCORE

OTHER NEW TAGS: J461

○

J458; J459 (old tag)

STRAIGHT CARAPACE-LENGTH: 71.2

WIDTH: 56.4

NOTCH LENGTH: 71.2

DB: 76.0

L.O. 72.5

VB: L.C

CURVED CARAPACE LENGTH: 76.0

WIDTH: 72.5

HEAD WIDTH: 11.0

SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE Y

TAIL LENGTH: T 19

C 13

RIGHT FRONT FLIPPER WIDTH: []

SAMPLES COLLECTI

PLASTRON LENGTH: 55.3

WEIGHT: 118

DESCRIPTIVE REMARKS:

Comments:
P.C. in mouth

CAPTURE DATE, LOCATION AND METHOD: ⑥

PUNALO'O HAND SNORKEL 7-11-00
PERSON RECORDING DATA: SHARON P.

OLD TAGS: R596

NEW TAGS: REF LFL

TUMOR SCORE

OTHER NEW TAGS: J424

○

407A356945

STRAIGHT CARAPACE-LENGTH: 61.1

WIDTH: 48.9

NOTCH LENGTH: 61.1

DB: 61.1

L.O. 58

VB: L.

CURVED CARAPACE LENGTH: 65

WIDTH: 58

HEAD WIDTH: 9.8

SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE Y

TAIL LENGTH: T 13

C 9.5

RIGHT FRONT FLIPPER WIDTH: []

SAMPLES COLLECT

PLASTRON LENGTH: 48.7

WEIGHT: 65 lbs

DESCRIPTIVE REMARKS:

Comments:
407D0F044 (old tag)
P.C. in mouth

CAPTURE DATE, LOCATION AND METHOD: ⑦

PUNALU'U HAND SNORKEL 7-11-00
PERSON RECORDING DATA: SHARON P.

OLD TAGS: F13 NEW TAGS: RFL LFL
TUMOR SCORE V452 OTHER NEW TAGS: F12 4135116B16
407A40351C

STRAIGHT CARAPACE-LENGTH: 72.3 WIDTH: 54.1
NOTCH LENGTH: 71.9 DB: L.O. VB: L.C.
CURVED CARAPACE LENGTH: 77.0 WIDTH: 67.5

HEAD WIDTH: 10.5 SEX: MALE, FEMALE OR UNDETERMINED
PPS: YES OR NO OR NE Y
TAIL LENGTH: T 19.5 C 13.0

RIGHT FRONT FLIPPER WIDTH: SAMPLES COLLECTED
PLASTRON LENGTH: 56.4
WEIGHT: 100 lbs
DESCRIPTIVE REMARKS:

comments: Healed notched LH tag lost
P.C. in mouth

CAPTURE DATE, LOCATION AND METHOD: ⑧

PUNALU'U HAND SNORKEL 7-11-00 LH
PERSON RECORDING DATA: SHARON P.

OLD TAGS: K581 NEW TAG: 500E082A62
TUMOR SCORE K579 OTHER NEW TAGS: 500F1A170F RA
K582 K580

STRAIGHT CARAPACE-LENGTH: 62.8 WIDTH: 48.3
NOTCH LENGTH: 62.5 DB: L.O. VB: L.C.
CURVED CARAPACE LENGTH: 69 WIDTH: 61.5

HEAD WIDTH: 9.8 SEX: MALE, FEMALE OR UNDETERMINED
PPS: YES OR NO OR NE Y
TAIL LENGTH: T 13.0 C 10.5

RIGHT FRONT FLIPPER WIDTH: SAMPLES COLLECTED
PLASTRON LENGTH: 48.3
WEIGHT: 75 lbs
DESCRIPTIVE REMARKS:

comments: P.C. in mouth

CAPTURE DATE, LOCATION AND METHOD:

9

PUNALU'U HAND UNORKEL
PERSON RECORDING DATA: SHARON P 7-11-00

OLD TAGS:

V529
407A2E1909
V528
407A296845
0273 V530

NEW TAGS: REF

LFL

OTHER NEW TAGS:

STRAIGHT CARAPACE-LENGTH: 73.3

WIDTH: 60.8

NOTCH LENGTH: 73.3

DB:

L.O.

VB:

L.C

CURVED CARAPACE LENGTH: 78

WIDTH: 76

HEAD WIDTH: 11.4

SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE N

TAIL LENGTH: T 76

C 9

RIGHT FRONT FLIPPER WIDTH:

SAMPLES COLLECTED

PLASTRON LENGTH: 59.8

WEIGHT: 124 lbs

DESCRIPTIVE REMARKS:

Comments:

Plastron is a little flat.

CAPTURE DATE, LOCATION AND METHOD:

10

PUNALU'U HAND UNORKEL
PERSON RECORDING DATA: SHARON P 7-11-00

OLD TAGS:

NEW TAG 500F2F1E09 LH
OTHER NEW TAGS: 500E1B7412 RH

TUMOR SCORE

0

STRAIGHT CARAPACE-LENGTH: 59.3

WIDTH: 45.5

NOTCH LENGTH: 59.2

DB:

L.O.

VB:

L.C

CURVED CARAPACE LENGTH: 63.5

WIDTH: 58

HEAD WIDTH: 9.4

SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE N

TAIL LENGTH: T 72.5

C 8

RIGHT FRONT FLIPPER WIDTH:

SAMPLES COLLECTED

PLASTRON LENGTH: 47.2

WEIGHT: 59 lbs

DESCRIPTIVE REMARKS:

Comments:

small crack on head
P.C. in mouth

one live
BB in
Plastron

12

CAPTURE DATE, LOCATION AND METHOD:

PUNALOA HAND SNORKEL 7-11-00
PERSON RECORDING DATA: SHARON

OLD TAGS: Q224 NEW TAGS: RFL LFL
Q225 LFL
OTHER NEW TAGS: Q223 Q251

TUMOR SCORE 0
4077304345 (old tag)
STRAIGHT CARAPACE-LENGTH: 61.6 WIDTH: 47.3
NOTCH LENGTH: 61.2 DB: L.O. VB: L.O.
CURVED CARAPACE LENGTH: 66.5 WIDTH: 61

HEAD WIDTH: 9.6 SEX: MALE, FEMALE OR UNDETERMINED
PPS: YES OR NO OR NE # N C
TAIL LENGTH: T 14 C 9

RIGHT FRONT FLIPPER WIDTH: [] SAMPLES COLLECTED: []
PLASTRON LENGTH: 48.3
WEIGHT: 71 lbs
DESCRIPTIVE REMARKS: blood for tissue

comments: 407D386103 (old tag)
P.C. in mouth

11

CAPTURE DATE, LOCATION AND METHOD:

PUNALOA HAND SNORKEL 7-11-00
PERSON RECORDING DATA: SHARON P.

OLD TAGS: V523 NEW TAGS: RFL LFL
K583 LFL
OTHER NEW TAGS: 8922 8923

TUMOR SCORE 0
419E147E50 (old tag)
STRAIGHT CARAPACE-LENGTH: 72.5 WIDTH: 54.2
NOTCH LENGTH: 72.4 DB: L.O. VB: L.C.
CURVED CARAPACE LENGTH: 77 WIDTH: 70

HEAD WIDTH: 10.6 SEX: MALE, FEMALE OR UNDETERMINED
PPS: YES OR NO OR NE Y C
TAIL LENGTH: T 24 C 16.5

RIGHT FRONT FLIPPER WIDTH: [] SAMPLES COLLECTED: []
PLASTRON LENGTH: 57.6
WEIGHT: 106 lbs
DESCRIPTIVE REMARKS: blood for tissue

comments: 407A546D3D (old tag); little flat plastron; DIGITAL PHOTOS
suspect bump on dorsal aspect of right eye #11 & 12

CAPTURE DATE, LOCATION AND METHOD:

PUNALU'U HAND SNORKEL (13) 7-11-06

PERSON RECORDING DATA: SHARON P.

OLD TAGS:

Empty boxes for old tags

NEW:

500E1B4E1D RH



OTHER NEW TAGS:

500F216059 LH



TUMOR SCORE

0

STRAIGHT CARAPACE-LENGTH: 61.9

WIDTH: 49.7

NOTCH LENGTH: 61.9

DB: L.O. VB: L.C.

CURVED CARAPACE LENGTH: 67.5

WIDTH: 60

HEAD WIDTH: 9.4

SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE Y

TAIL LENGTH: T 12

C 8

RIGHT FRONT FLIPPER WIDTH:

PLASTRON LENGTH: 49.2

WEIGHT: 82 lbs.

DESCRIPTIVE REMARKS:

Comments:

3 small suspicious bumps left jaw hinge. Rem of 2cm fishhook - all test from RFF 6"

CAPTURE DATE, LOCATION AND METHOD:

PUNALU'U HAND SNORKEL (14) 7-11-06

PERSON RECORDING DATA: SHARON P.

OLD TAGS:

Empty boxes for old tags

NE

5027225B7F RH



OT

X

TP

500F153F62 LH

TUMOR SCORE

0

STRAIGHT CARAPACE-LENGTH: 56.7

WIDTH: 41.5

NOTCH LENGTH: 56.5

DB: L.O. VB: L.C.

CURVED CARAPACE LENGTH: 61.5

WIDTH: 49.5

HEAD WIDTH: 8.9

SEX: MALE, FEMALE OR UNDETERMINED

PPS: YES OR NO OR NE N

TAIL LENGTH: T 12

C 8.5

RIGHT FRONT FLIPPER WIDTH:

PLASTRON LENGTH: 43.4

WEIGHT: 57 lbs.

DESCRIPTIVE REMARKS:

Comments: Robust PLASTRON

1st central impact injury ~~Robust PLASTRON~~ Robust PLASTRON

CAPTURE DATE, LOCATION AND METHOD:

PUNALU'U HAND SNORKEL
PERSON RECORDING DATA: CHARON P. 7-11-06

OLD TAGS: B332 B334 B335 B333
NEW TAGS: 500E475E35 LH
TUMOR SCORE: 0
OTHER NEW TAGS: 502E624445 RH

STRAIGHT CARAPACE-LENGTH: 64.4 WIDTH: 57.0
NOTCH LENGTH: 64.4 DB: L.O. VB: L.C.
CURVED CARAPACE LENGTH: 69.5 WIDTH: 64

HEAD WIDTH: 10.0 SEX: MALE, FEMALE OR UNDETERMINED
PPS: YES OR NO OR NE Y
TAIL LENGTH: T 13 C 8.5

RIGHT FRONT FLIPPER WIDTH: SAMPLES COLLECTED: 10
PLASTRON LENGTH: 49.8
WEIGHT: 85 lbs
DESCRIPTIVE REMARKS: blood for work

Comments:

CAPTURE DATE, LOCATION AND METHOD:

PERSON RECORDING DATA:

OLD TAGS: NEW TAGS: REL LFL
TUMOR SCORE: OTHER NEW TAGS:

STRAIGHT CARAPACE-LENGTH: WIDTH:
NOTCH LENGTH: DB:
CURVED CARAPACE LENGTH:

HEAD WIDTH: PPS: YES OR NO OR NE
TAIL LENGTH: T

RIGHT FRONT FLIPPER WIDTH:
PLASTRON LENGTH:
WEIGHT:
DESCRIPTIVE REMARKS:

UMAX

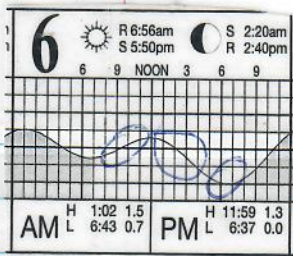
Enoch Ma

Assistant Manager
Strategic Procurement Division
Computer/Communication Business Center

UMAX DATA SYSTEMS INC.

8F, 68, SEC 3, NANKING E.RD.
TAIPEI, TAIWAN, R.O.C.
TEL: 886-2-25170055.25170066(Ext.8472)
FAX: 886-2-25173466
E-mail: enoch_ma@umax.com.tw

Print photo + digital - for photo
Howey Moon
TAWA
12-6-00
Saul



DIGITAL
 Video - Day Devoted to filming - 87
 "A Day in the Life of Punalulu Bay"

DECEMBER 6, 2000 Wednesday Depart Alone FL40 Aoha 5:20am
 For Hilo. National Rental car - to Punalulu - with stops along the way for video coming down the hill from Volcano.
 Call from Peter Button working nets in San Diego Bay.

- OBJECTIVES:
1. Stop, step back, and consider what all has been done, where we are at now, and where we should go for future work at Punalulu. Considering status of science, former objectives, accomplishments, and perceptions of community to catch, bleeding PIT tagging etc
 2. Watch turtles, and people, tourists, etc, without influence of catch activities, students, our presence.
 3. Talk to local people
 4. FILM in digital video as many aspects of Punalulu, Nikole etc as possible (did ~ 1 hr 45 min worth)

Significant events of the day:

* Spoke at length with Guy ENRIQUES -

1. Many small turtles seen by him recently can't see from when throwing net
2. Saw large turtles with spearfishing close to shore starting south of Kamehame working toward Punalulu
3. Will take 20' or 25' boat for support for us to snorkel - write small P.O.

What was date/time = TIDE?

4. Buses have recently resumed - after RAIN washed out road. TO P. 88

88

12/6 / ☺☺ Wednesday

GUY ENRIQUES (S) Giftstands had to take out barbeq & Awning in back

* Spoke TO and videoed several visitors from Taiwan

* Sugar cane debris along shoreline - piled in places

* Saw Mrs. Howard

* Generally good Manners seen by people around turtles.

* Shading of Kaula portrait in Golf course club house -

Not pleasant same woman working there. Rays of

joy not present → ^{transferred} my images ("In order to
be by the sea")

need - phone Club house - put picture by the sea.

Needs: Walk from NINOLE to KAWA

Walk to and video "Turtle Bay"

Video Oahu N. Shore feeding

UV video of turtles at Punaluu

Photo of me w/ MRS. Howard.

Send Mrs. Howard more handouts that she likes.

"Red Turtle Rising" TO GUY ENRIQUES

Depart 8:10 PM Flight 49 Aloha

H915 eye tumor surgery removal

Release
OKW

Honolulu, HI 96822-2396

983-5730

SEA TURTLE TUMOR FORM

RECOVER DATE: ~~01/01/99~~ MTRP STRANDING ID 12-14-99

CONTACT: GUY ENRIQUES DATE: 1-20-99 LOCATION: PUNALUUA BEACH PARK, HAWAII
PERSON RECORDING DATA: JTLP

DESCRIPTIVE REMARKS:

motor tool "P" 2nd Lateral L+R - white paint

~~12 ml blood taken~~

Released Kawaiki Beach
1-20-99 3:40 PM Swam out fine,
Park, OKW

LH# H917, RPE H915, LL H916

TUMOR TAGS: [] SEX: MALE, FEMALE OR UNDETERMINED []
SCORE: [] LHF 4077366142 DB: [] VB: []
LFF 407A510A52

STRAIGHT CARAPACE-LENGTH: 67.1 cm WIDTH: [] cm

NOTCH LENGTH: 66.7 cm PPS (Y/N): []

CURVED CARAPACE LENGTH: 73.5 cm WIDTH: 65.5 cm

HEAD WIDTH: [] cm

TAIL LENGTH: T [] cm C [] cm

RIGHT FRONT FLIPPER WIDTH: [] cm

PLASTRON LENGTH: [] cm

WEIGHT: [] #

SAMPLES COLLECTED:

12 cc blood taken

for DNA + plasma banking

3 Photos taken -

2 w/ Kristy Metzger

- M.H. EM 12/20/99 -

NOVEMBER 1999 REVISION

DOCARE 974-6208
Hilo (MART)
NMFS LE 541-2727

Keala HAWAII
928-870
1018
Shannell
Washburn 967-1122

MTRP USE ONLY:
TOPS:
LOGBOOK

987-3590

MARINE TURTLE RESEARCH PROGRAM
NMFS-HONOLULU LABORATORY

Mail Address =
974-7364

SEA TURTLE STRANDING QUESTIONNAIRE: (definition of "stranding" is any injured, sick, dead, or abnormally acting sea turtle ashore). Note: Due to personnel safety concerns, we do not normally go into the water to salvage a turtle. However, we would like to record details of such reports.

To be filled out by switchboard operator when no one is available to answer the telephone for the Marine Turtle Research Program (i.e. Stranding line x5730, S. Murakawa x5731, D. Parker x5732, S. Eames x5747, G. Balazs x5783).

Note: Normal Marine Turtle Research Program personnel working hours are 7:00 a.m.-4:00 p.m. Monday-Friday. After hours, including weekends and holidays, please refer the caller to 24-hr. Hotline 587-0077 (Oahu), State Division of Conservation and Resources Enforcement (DOCARE) or page our contracted Sea Turtle Stranding Group at 288-5685. (NOTE: this pager number should normally NOT be given out to the public.)

Coney 974-7544 home = 967-8092

Pager: 899-1255

The purpose of this questionnaire is to help facilitate a quick response (when appropriate and possible) to calls received from the public and other agencies on stranded (live or dead) turtles.

Person calling:

Date and time of call: 12-14-99/11:10am

Name: Guy Enriquez

Phone: (808) 928-8439

Address: (optional)

Punaluu Beach Park, Hawaii

VERY IMPORTANT

Location

Where is this turtle located? Found live turtle beached at water's edge @ Punaluu Beach Park, Hawaii. Spent yesterday all day, but it later returned to water

How close is it to the nearest access way?

near telephone pole Kona side of stop

Turtle

Is the turtle alive or dead?

(A) D Uncertain

Tag: K529 RHF

About how large (shell length) is the turtle? 1/2 - 1 ft; 1 - 2 ft (2) 3 ft; 3+ ft

or "is it too large for one person to lift?"

Approx. weight of turtle? lbs. 25lbs. 50lbs. 100lbs. 200lbs. (or circle one above)

What is the condition of the turtle? (i.e. rotten, fresh, intact or not, etc.)

Tumor (baseball-sized) on left eye, skiddish

(899) 974-7311

Are there any obvious signs as to the cause of death or injury? Yes

Any evidence of law enforcement violation?

If yes, please briefly describe: tumors

Assure the person that the turtle will be attended to and/or someone will call them back just as soon as humanly possible (when involving normal working hours). Personnel and other resource limitations may cause delays. If the person indicates that there is a law enforcement problem, ask them to also call 541-2727 NMFS Law Enforcement Office at the Federal Building. Explain briefly that the office they have called is the Research branch and that we will also be involved responding to a turtle stranding that relates to law enforcement, but only in unison with an enforcement agent. For MTRP personnel, a response will only be possible during normal working hours and only when there is sufficient working hours remaining in the day to accomplish the job. After hours cases (from 4:00p.m. to 7:00a.m. weekdays) will be handled by our contracted Sea Turtle Stranding Group (pager 288-5685).

Name of person filling out this questionnaire: SKKM

If the person is calling from a neighbor island, and no one can be contacted in the Marine Turtle Research Program, please record the person's name and phone number and ask him or her to call the State DOCARE office or Division of Aquatic Resources Office located on their island.

Big Island: Hilo - 974-6208; or Kona - 323-3141; or Waimea - 887-6196
Molokai: 567-6618
Lanai: 565-7916
Kauai: 274-3521
Mau: 984-8110

(808) 974-7544
SKKM called John Coney (MTRP) to inform him of case. He can't respond today, but will try tomorrow. SKKM will call Guy tomorrow @ 10:15 to see if turtle is there.

Historical information for turtle H915

Punaluu Book + Koko Book

*12-16-99
Bob-*

*Conservation
Fishes Project*

H915

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

*This is the turtle now
at Makai.
See 2/17/99 capture - eye
nodules were small then -
grew to what it is
now in only 10 months.
George*

Tag information--

| Tag Number | Date Tagged | Tag Type | Tag Position |
|------------|-------------|----------|--------------|
| 77366142 | 12/02/98 | PIT | LHF |
| 7A510A52 | 07/15/98 | PIT | PIT |
| H915 | 07/14/92 | 1681 | RFL |
| H916 | 07/14/92 | 1681 | LFL |
| H917 | 07/14/92 | 1681 | LHF |
| K529 | 04/05/94 | 1681 | RHF |

Historical information--

| Date | Type of Encounter | Location | Tumor Score | Nesting Activity | Straight Length | Since Last Encounter | | | | Overall | | | |
|----------|-------------------|---------------------|-------------|------------------|-----------------|----------------------|------|---------------------|-------|----------------|------|---------------------|-------|
| | | | | | | Interval Month | Year | Growth-rates cm/mon | cm/yr | Interval Month | Year | Growth-rates cm/mon | cm/yr |
| 07/14/92 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 51.8 | --- | --- | --- | --- | --- | --- | --- | --- |
| 11/18/92 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 52.8 | 4 | 0.3 | 0.3 | 3.3 | 4 | 0.3 | 0.3 | 3.3 |
| 04/14/93 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 53.5 | 4 | 0.3 | 0.2 | 2.3 | 9 | 0.8 | 0.2 | 2.1 |
| 07/14/93 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 54.3 | 3 | 0.3 | 0.3 | 2.7 | 12 | 1.0 | 0.2 | 2.5 |

--continued

2

Historical information--

| Date | Type of Encounter | Location | Tumor Score | Nesting Activity | Straight Length | Since Last Encounter | | | | Overall | | | |
|----------|-------------------|-------------------------------------|-------------|------------------|-----------------|----------------------|------|---------------------|-------|----------------|------|---------------------|-------|
| | | | | | | Interval Month | Year | Growth-rates cm/mon | cm/yr | Interval Month | Year | Growth-rates cm/mon | cm/yr |
| 04/05/94 | Near Shore | Hawaii, Punaluu Bay, Pavilion area | 0 | - | 57.2 | 8 | 0.7 | 0.4 | 4.1 | 20 | 1.7 | 0.3 | 3.2 |
| 07/06/94 | Near Shore | Hawaii, Punaluu Bay, Site #1 | 0 | - | 58.3 | 3 | 0.3 | 0.4 | 3.7 | 23 | 1.9 | 0.3 | 3.4 |
| 10/07/94 | Near Shore | Hawaii, Punaluu Bay, Site #1 | 0 | - | 58.8 | 3 | 0.3 | 0.2 | 1.7 | 26 | 2.2 | 0.3 | 3.2 |
| 04/21/95 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 60.5 | 6 | 0.5 | 0.3 | 3.4 | 33 | 2.8 | 0.3 | 3.1 |
| 11/29/95 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 61.3 | 7 | 0.6 | 0.1 | 1.3 | 40 | 3.3 | 0.2 | 2.9 |
| 02/08/96 | Near Shore | Hawaii, Punaluu Bay | 1 | - | 61.8 | 2 | 0.2 | 0.3 | 2.5 | 42 | 3.5 | 0.2 | 2.9 |
| 01/24/97 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 64.9 | 11 | 0.9 | 0.3 | 3.4 | 54 | 4.5 | 0.2 | 2.9 |
| 04/04/97 | Near Shore | Hawaii, Punaluu Bay, Boat Ramp area | 0 | - | --- | 2 | 0.2 | --- | --- | 56 | 4.7 | --- | --- |
| 07/23/97 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 65.9 | 3 | 0.3 | --- | --- | 60 | 5.0 | 0.2 | 2.8 |
| 11/21/97 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 66.0 | 3 | 0.3 | 0.0 | 0.3 | 64 | 5.3 | 0.2 | 2.7 |
| 07/15/98 | Near Shore | Hawaii, Punaluu Bay | 1 | - | 66.4 | 7 | 0.6 | 0.1 | 0.7 | 72 | 6.0 | 0.2 | 2.4 |
| 12/02/98 | Near Shore | Hawaii, Punaluu Bay | 1 | - | 67.0 | 4 | 0.3 | 0.1 | 2.0 | 76 | 6.3 | 0.2 | 2.4 |
| 02/17/99 | Near Shore | Hawaii, Punaluu Bay | 1 | - | 66.9 | 2 | 0.2 | 0.0 | -0.5 | 79 | 6.6 | 0.2 | 2.3 |

Date: Sat, 29 Jan 2000 13:39:41 -1000 (HST)
From: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
To: Spraker Terry <tspraker@vth.colostate.edu>,
Terry Spraker <tspraker@vthl.vth.colostate.edu>
Cc: Alonso Aguirre <aguirre@wpti.org>, Bob Morris <gturtle@aloha.net>
Subject: Tumor samples "ID 12-14-99 (H915)"

Fedex 815466249359

Aloha Terry (cc to Bob and Alonso): On Monday I'm Fedexing you samples for your expert histological analysis, four vials with slices of a tumor removed by Bob from a green turtles stranded at Punaluu on the east coast of the Big Island. We have "known" this turtle for nearly 10 years when we first tagged it in our field studies. Every year since then we have recaptured the turtle, remeasured it, and looked for tumors (as we have with a few hundred other greens at Punaluu over the years). I should note that very few turtles at this location have ever been found with tumors. Both Bob and Alonso know this site well, because they have both accompanied me there on past study trips.

The history of H915 is that a few years ago a small (1.5cm) black nodule appeared in the corner of the left eye. The turtle was recaptured in subsequent years (3-4 times) and the nodule was still present with no apparent change in size or surface texture. We caught the turtle and examined it as recently as 2/99 with no apparent change noted in the nodule. Then, during 10/99 we started getting reports of a turtle being seen at Punaluu with a "golf-ball" size tumor popping out of it's eye. We tried several times to find the turtle, but with no success. Until 12/14/99 when we had success in obtaining the turtle (it had been beaching itself in plain view at Punaluu). The turtle was then shipped alive to Honolulu, turned over to Bob's care, and found to have only the single large tumor on the eye. Rather I should say that the eye had become the tumor, the eye projected from the socket "imbedded" within the tumor. Bob did successful surgery removing the tumor/eye the turtle was kept for postop care with us for some weeks, and then released (on the south shore of Oahu).

Immediately after the tumor was removed I sectioned it and preserved in 10% buffered formalin, refreshing it 48 hours later. There are four tubes I'm fedexing to you, I've just now drained out 90% of the liquid for shipping purposes. The package should be delivered to you on Tuesday February 1st. I should also note that sections of the tumor were also stored in my ultralow for possible viral and other screening, as per your advice.

I've enclosed a copy of this email message with the samples. Best Regards, I hope that your work is going well. George

Date: Sun, 16 Jan 2000 19:46:42 EST
From: Jakleialoha@aol.com
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Re: Sand

Reduce Knowl

Whoops sorry about the blank email...pressed the send button by accident. Anyway as for the "taking of sand for personal use" the answer is yes. We feel it is a loophole in the law and have already been discussing it with Sen. Andy Levin. Current State Administrative Rules (Chapter 13, I believe) allow a bucket of sand to be taken for "home consumption" not for sale. Unfortunately there is nothing in the rules disallowing the taking sand out of State, and as you know, until a species is "also" awarded "Critical Habitat" status there are no Federal guidelines either. The only species given critical habitat status in Hawaii is the Palila. The closest species at this point to possibly receiving this status are the Oahu tree snails (*Acatennella* sp. though it has been hung up in Section 7 reviews for years).

At this point, since it can take years to ammend administrative rules, our best option is education. The last discussion we had with Tim Johns, we felt it may be worth the time to work with the Hawaii Visitor's Bureau. I have been thinking about when the Nature Conservancy put out informercials on the airlines to educated people about alien species and the importance of not bringing anything in. Perhaps we could do something similar. I agree that the taking of sand is inappropriate, particularly in turtle habitat...but the bottom line is, unless one intends to "sell", they can technically get away with saying it is for home consumption. Now the only other thing that kind of works to our advantage is under the County Parks and Recreation regulation, the taking of "anything" form a County Park is prohibited. This is how we got the County to place "taking of sand prohibited" signs at Punalu'u. Here is the cinchere...talk about a can of worms. Because there has been no "reclassification" of lands in Punalu'u since the 1975 earthquake sunk some 500' of shoreline, it is still unclear who really has jurisdiction over certain sections of Punalu'u. We have been working with Mr. Johns who has been working with his guy Sam Lemmo on looking into the matter. It is quite clear who owns the submerged lands in Punalu'u and a certain portion of the sand (high tide mark et.al.) but there are numerous questions about other portions like the land fronting the pavillion and land surrounding the lei stands. The county "leases" the property from C. Brewer for the County park. The lei stands supposedly leases the land from Roberts Hawaii, but there are no building permits for the sturctures. Weather they fall under grandfather clause has yet to be determined. To make it even more confusing...the boat ramp is technically illigal as it was a private launch when that section of land originally belonged to KSBE, who then swapped some land with C. Brewer, yet C. Brewer says it is not theres. We have been trying to find out from the State Dept. of Boating and Aquatic Resources who is responsible for ensuring the safety of boat launching facilities.

It is a major hodgepodge down there. Anyway, this is all I can tell you, but the reporter is right, unfortunately. So, what do you think about the informercial thing?

Date: Sun, 23 Jan 2000 17:28:34 EST
From: Jakeialoha@aol.com
To: gbalazz@honlab.nmfs.hawaii.edu
Subject: Re: Sand stuffs

Reduce

Hi George,

Great news about the turtle being released.

Senator Levin and Senator Inouye (Lorraine rep. for Kohala-Hamakua) are co-sponsoring a bill and concurrent resolution for Punalu'u. Both are asking for the State to look into the problems at Punalu'u and take into consideration possibly acquisition of private parcels to add to the State Park system. I think it is a start, but kowing that State Parks is broke (big time), I doubt the bill will float. I thought I had your fax number but I don't. I will fax a copy over to you if you could get your number to me. We are still fine tuning the resolution and the bill so if you have any comments let us know. We will more than likely be presenting testimony for the bill and may ask your assistance. Council woman Julie Jacobson is also helping us. The sand thing is going to take sometime, we're working with Earthjustice folks to see what would be the best way to close this loophole. As for ili'ili, my understanding under Chap. 13 guidelines it is the same thing, but not 100% sure. However, under the admin. rules, the same is for flora with permits, but no permits are required for sand taking. Lots of holes to deal with. It is unlikely we will be able to push any rule amendments through this session, but have to start somewhere.

No I haven't seen Red Turtle Rising yet, but it is palying at the National Park this Tuesday and plan to see it then.

My snail mail address is P.O. Box 1792, Kea'au, HI 96749; Phone is 965-7742/Fax. 965-0619 (also doubles as my modem line, so if I'm online, a fax won't come through right away).

Aloha...Julie

Date: Mon, 31 Jan 2000 17:16:39 -1000 (HST)
From: "George H. Balazs" <gbalazz@honlab.nmfs.hawaii.edu>
To: Spraker Terry <tspraker@vth.colostate.edu>
Cc: Terry Spraker <tspraker@vth1.vth.colostate.edu>, Alonso Aguirre <aguirre@vpti.org>, Bob Morris <gturtle@aloha.net>
Subject: Re: Tumor samples "ID 12-14-99 (H915)"

Terry, and Very Good to hear from you so soon, much appreciated. Yes, the eye growth was indeed the only tumor on the animal (externally, we of course don't know internally). And yes, it popped out grew amazingly fast after being so "dormant" for so long. I have sent you a photo, but separate from the fedex because I had already sealed it up when remembering about the picture. Expect it in a day or two, business size envelope. Only one photo (but a very good one) is enclosed, but I have more from slightly different angles. Also, if I dig, I can locate photos of the turtle and the eye from several years ago showing the small black nodule (not unlike what we see in eyes that developes into fibropapilloma tumors).

The surface of the tumor was smooth for the mostpart, and colored black and pink in places. "Did the tumor invade the eye, or only push it out?" That's a tough one to answer. Bob, what was your impression? Mine was maybe that the tumor "engulfed" the eye, then moved it outward. Looked very bizarre to me. Likely with the various numerous slices I've sent you might make some better sense of it all.

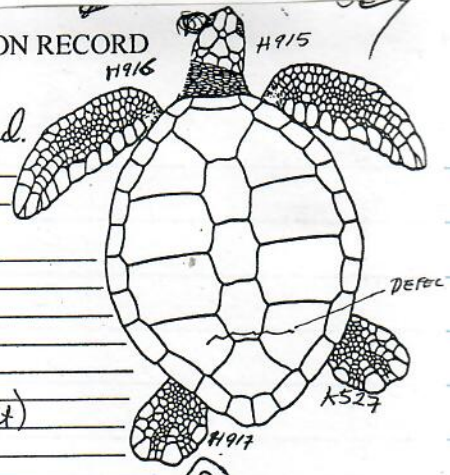
Those long-overdue Oaxaca samples that Javier handcarried to me in September will be fedex to you soon, I promise.
Aloha, Stay in Touch, George

On Mon, 31 Jan 2000, Spraker Terry wrote:

- > George
- > It is nice to hear from you. The deer work is starting to slow down, but the spongiform encephalopathy (chronic wasting disease) has now spread into the captive elk herds and these people are spreading the disease all over the US and Canada --- not good news.
- > Thanks for the samples from turtle # H915. I will cut and read the samples immediately so you should have your results by 7 Feb. It is amazing that this tumor grew so fast. As I understand it the tumor of the eye was the only tumor on the turtle?? Was the cut surface of the tumor black or white. Perhaps this is another kind of tumor some times melanomas act as this one does. Did the tumor invade into the eye bulb or only pushed the eye out of it socked from growth by expansion??
- > Did you get pictures??
- > Thanks
- > Terry

83.4/16 LIVE TURTLE EXAMINATION RECORD

Date: 12-14-99
Turtle ID: Punaluu Beach Park, Big Island
Comments: received at clinic 12/15/99



PHYSICAL EXAM

Head and neck: _____

Mouth: INCIPENT THJ MASSES BILAT

Eyes: LARGE OCULAR TUMOR O.S. (Left)

Front flippers: _____

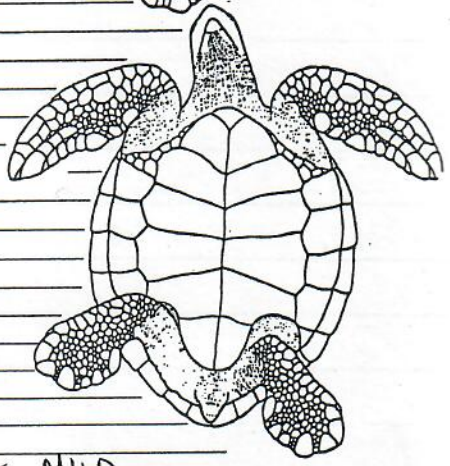
Shell: OLD FISSURE CALD. CAXAPACE

Plastron: _____

Rear flippers: _____

Tail: _____

BODY CONDITION: SLIGHT EMACIATION MILD



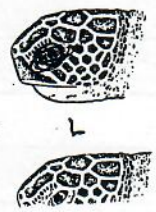
SAMPLES TAKEN

PCV 2 TP. 29
CBC Chemistries
Others _____

APPROXIMATE TUMOR SIZE CATEGORIES:
#1 = DETECTABLE PATCH TO 1CM DIAMETER
#2 = >1CM TO 4CM
#3 = >4CM TO 10CM
#4 = >10CM

RECOMMENDATIONS: EXUCLEATE O.S. send to
Keweenaw- evaluate cyt/cdem

Signed: T. M. M., DVM



IAKAI ANIMAL CLINIC, 420 Uluniu Street, Kailua, HI 96734

MEDICAL HISTORY - CLINICAL RECORD

00

| | | | | | |
|----------------------------------|------------|---|-------|-----------|--------------------|
| NAME NMF5 | | ADDRESS | | TELEPHONE | |
| PATIENT NAME POMALUU - HAWAII | | SPECIES | BREED | SEX | COLOR AND MARKINGS |
| ALTERED ES NO D | BIRTH DATE | SPECIAL INFORMATION STRANDING 12/14/99 | | LAB | X-RAY |

| DATE | PROB NO | BM | UR | AP | TP | DESCRIPTION |
|----------|---------|----|----|----|----|--|
| 12/17/99 | | | | | | turtle at Kawaia Iowa well A Blood Chem - slight elevation in BUN PCV 22 WBC 10,500 Blood work OK - Recommended surgery enucleation |
| 12/20/99 | | | | | | Checked at Kawaia - resting on traction Schedule Surg 12/21 |
| 12/21/99 | | | | | | to Makai Anest 1,000 mg Ketamine IP 250 mg Diazepam IP (25) Local lidocaine blocks around eye Time 1 hr + 15 min before inject, anest took effect - still sensitive around eye - lid white and put on 3% A sulfasone - 3cc (30mg) intral for pain IM Eyes covered with amber - upper + lower lids adhered to tumor lid not invaded - Direct away lid attachments - enucleate eye + muscle attachments - Tumor did not seem to invade deep in socket - packs with gauze to control bleeding - 2-0 vicryl S & sutures - 2-0 - Nylon mattress for lid closure after delimiting lid margins - lid IR 15 beats/min post surgical - post Very deep anesthetic plane, splash |

Supernave of socket for pain -
MAKAI ANIMAL CLINIC

MEDICAL HISTORY - CLINICAL RECORD

| OWNER NAME J MFS | | ADDRESS | | | | TELEPHONE |
|-----------------------------------|------------|---------------------------------------|-------|-----|--------------------|---|
| PATIENT NAME PUNA'AWU - HAWAII | | SPECIES | BREED | SEX | COLOR AND MARKINGS | |
| ALTERED YES NO | BIRTH DATE | SPECIAL INFORMATION eye evaluation | | | LAB | X-RAY |
| DATE | PROB NO | BM | UR | AP | TP | DESCRIPTION |
| 1/5/00 | | | | | | <p>Went to Maheau - ate 13 seeds 2 fresh 12/27/99 - lethargic this AM PE: drainage from surgical site (eye) seems active/strong - smear of drainage A) possible infection Some mild swelling posterior to (O), socket P blood tox screen - * Smear - cocci chains & some rods</p> |
| 1/6/00 | | | | | | <p>Blood drawn for reptile. Purple - will hold in clinic until 1/7 WT 82.6 lbs, loss of 8.5 lbs seems strong</p> |
| 1/7/00 | | | | | | <p>Start on 200 mg Amoxicillin (M) dispense 3 more of 100 mg (2cc) to be given 1/10, 1/13, 1/17 send smears to Kewalo * In Dx infection - eye - will evaluate next week.</p> <p>Blood results - only BUN N as before - PCV lower 17. WBC about the same - P) Re v next week - fluids if not letting. P-11</p> |
| 1/9/00 | | | | | | <p>Reported strong well at Kewalo P found AB & release of strong well</p> |

Table 1.--Mean, standard deviation, and range of straight carapace length, weight, and plasma biochemistry values for clinically healthy green turtles (*Chelonia mydas*), Hawaiian Islands, 1991-95.

| Variable | Kaneohe Bay, Oahu | | | PUUAWO - HAWAII 12/14/99 | |
|-----------------------------|-------------------|-------|-----------|--------------------------|---------|
| | Mean | ±SD* | Range | | |
| | n = 53 | | | | |
| Straight Carapace Length | 45.3 | 4.8 | 37.4-55.2 | 12/17 | 11600 |
| Weight | 14.1 | 4.7 | 7.7-25.4 | 93.4 | 82.6 |
| Protein (g/dl) | 4.2 | 0.6 | 2.9-5.6 | 3.6 | 3.4 |
| Albumin (g/dl) | 1.7 | 0.4 | 0.6-2.2 | 1.3 | 1.2 |
| Globulin (g/dl) | 2.7 | 0.5 | 1.8-4.0 | 2.3 | 2.2 |
| Albumin/Globulin ratio | 0.6 | 0.2 | 0.2-1.2 | 0.6 | |
| Total Bilirubin (mg/dl) | 0.2 | 0.1 | 0.0-0.4 | | |
| Direct Bilirubin (mg/dl) | 0.05 | 0.1 | 0.0-0.5 | | |
| Indirect Bilirubin (mg/dl) | 0.2 | 0.1 | 0.0-0.4 | | |
| ALAT ^b (U/l) | 3.9 | 7.0 | 0.0-50.0 | 4 | 3 |
| ASAT ^c (U/l) | 158.4 | 41.5 | 1.0-270 | 1.51 | 2.17 |
| Alkaline Phosphatase (U/l) | 33.5 | 12.2 | 12-62 | 15 | 16 |
| GGT ^d (U/l) | 2.7 | 1.5 | 0.0-5.0 | | |
| LDH ^e (U/l) | 203.8 | 180.4 | 55-1286 | 917 | 747 |
| Urea Nitrogen (BUN) (mg/dl) | 5.2 | 14.1 | 0.0-64.0 | 69 ↑ | 136 ↑ |
| Creatinine (mg/dl) | 0.2 | 0.1 | 0.1-0.5 | 0.2 | 0.3 |
| BUN/Creatinine Ratio | 25.8 | 70.7 | 0.0-320.0 | | |
| Uric Acid (mg/dl) | 1.3 | 0.8 | 0.0-4.5 | 1.3 | |
| Calcium (mg/dl) | 9.1 | 1.7 | 1.1-12.1 | 7.3 | 6.8 |
| Phosphorus (mg/dl) | 8.2 | 1.3 | 5.9-11.8 | 6.0 | 6.5 |
| Cholesterol (mg/dl) | 140.0 | 43.0 | 32-280 | 94 | 87 |
| Triglycerides (mg/dl) | 124.2 | 68.7 | 28-331 | | |
| Glucose (mg/dl) | 114.7 | 35.0 | 64-234 | 100 | 80 |
| Iron (mcg/dl) | 46.3 | 64.8 | 9-321 | | |
| Sodium (meq/l) | 158.0 | 4.0 | 146-170 | 164 | |
| Potassium (meq/l) | 5.2 | 0.9 | 3.9-8.6 | 4.1 | 4.2 |
| Chloride (meq/l) | 115.2 | 5.7 | 103-130 | | |
| | | | | 15730 | 11298 |
| | | | | WBC 10,500 | Rev 117 |

*Standard Deviation
^bAlanine Amino Transferase
^cAspartate Amino Transferase
^dGamma Glutamyl Transpeptidase
^eLactic Dehydrogenase

CPK

MAKAI ANIMAL HOSPITAL
420 ULUNIU ST.
KAILUA, HI 96734

INDEX VETERINARY SERVICES
West Region 800-444-4210
Oregon/Washington 800-290-4210
East/Central/Colorado 888-433-9987

1-808-262-9621 ACCOUNT #: 1303

PATIENT: NMFS, PUNALU

REQ #: 1906989
AGE: B1520382
SPECIES: SEX:
BREED: GANSEATUBLE

COLLECTED: 12/17/1999
RECEIVED: 12/18/1999 20:21
REPORTED: 12/19/1999 05:49

DOCTOR: MORRIS, R
TEST PROCEDURES
REPTILIAN PROFILE #1
* ALK. PHOSPHATASE
* ALT (SGPT)
* AST (SGOT)
* CK
* LDH
* ALBUMIN
* TOTAL PROTEIN
* GLOBULIN
* BUN
* CREATININE
* CHOLESTEROL
* GLUCOSE
* CALCIUM
* PHOSPHORUS
* POTASSIUM
* SODIUM
* A/G RATIO
* URIC ACID
* AVIAN/EXOTIC CBC AND PLASMA PROTEIN
* WBC COUNT
* HCT
* HETEROPHILS
* NEUTROPHIL SEG
* LYMPHOCYTES
* EOSINOPHIL
* ABSOLUTE HETEROPHIL
* ABSOLUTE NEUTROPHIL SEG
* ABSOLUTE LYMPHOCYTE
* ABSOLUTE EOSINOPHIL
* THROMBOCYTES

RESULTS
15 IU/L
4 IU/L
151 IU/L
15730 IU/L
913 IU/L
1.3 g/dL
3.6 g/dL
2.3 g/dL
69 mg/dL
0.2 mg/dL
94 mg/dL
100 mg/dL
7.3 mg/dL
4.1 mg/dL
164 mg/dL
0.6 mg/dL
1.3 mEq/L
10.5 mg/dL
22.0 THOUS.
58 %
16 %
20 %
6 %
6090 WMS
1680 /uL
2100 /uL
630 /uL
ADEQUATE

REFERENCE RANGE UNITS

MAKAI ANIMAL HOSPITAL
420 ULUNIU ST.
KAILUA, HI 96734

INDEX VETERINARY SERVICES
West Region 800-444-4210
Oregon/Washington 800-290-4210
East/Central/Colorado 888-433-9987

1-808-262-9621 ACCOUNT #: 1303

PATIENT: NMFS, PUNLUE

REQ #: 1907117
AGE: B1703177
SPECIES: RBKTURTLE
BREED: GAN SEA TURTLE

COLLECTED: 01/06/2000
RECEIVED: 01/07/2000 09:56
REPORTED: 01/07/2000 18:52

DOCTOR: MORRIS, R
TEST PROCEDURES
REPTILIAN PROFILE #1
* ALK. PHOSPHATASE
* ALT (SGPT)
* AST (SGOT)
* CK
* LDH
* ALBUMIN
* TOTAL PROTEIN
* GLOBULIN
* BUN
* CREATININE
* CHOLESTEROL
* GLUCOSE
* CALCIUM
* PHOSPHORUS
* POTASSIUM
* SODIUM
* A/G RATIO
* URIC ACID
* AVIAN/EXOTIC CBC AND PLASMA PROTEIN
* WBC-CORRECTED
* WBC COUNT
* HCT
* HETEROPHILS
* NEUTROPHIL SEG
* LYMPHOCYTES
* EOSINOPHIL
* THROMBOCYTES
* BLOOD PARASITES
* NO PARASITES SEEN

RESULTS
16 IU/L
3 IU/L
217 IU/L
11298 IU/L
747 IU/L
1.2 g/dL
3.4 g/dL
2.2 g/dL
136 mg/dL
0.3 mg/dL
87 mg/dL
80 mg/dL
6.8 mg/dL
6.5 mg/dL
4.2 mg/dL
153 mg/dL
0.5 mEq/L
0.6 mEq/L
10.0-12.0 mg/dL
7.0-9.0 THOUS.
UNABLE TO DO WHITE COUNT DUE TO WHITE CELL CLUMPING
REFER TO WHITE ESTIMATE
17.0 (L)
77 (H)
7 (H)
10 (L)
6 (L)
ADEQUATE
25-40 %
30-60 %
0-1 (AZUROPHILS) %
25-60 %
0-10 %

REFERENCE RANGE UNITS

REPORT CONTINUED ON NEXT FORM

DATA PAGES 79-86

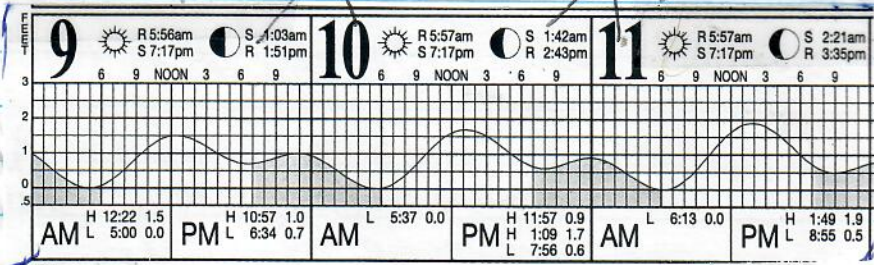
JULY 2000

NAME/NAME

NAME/NAME

PUNALU

15 captures
(12 Recapt)
3 New



OF THE 12 Recaps
3 didn't have PIT TAGS.

DAY TIME ONLY

11 JULY PUNALU EXPEDITION #44
TUESDAY

OBJECTIVES: SAMPLE blood for multi site
HEMATOLOGY STUDY w/ Thierry work

| NAME | COMMENTS | CITY STATE | EMAIL or Address |
|----------------|---|------------------|--|
| Jessica Phelps | I would like to do this forever! | Phoenix | minus83@hotmail.com |
| Maria Ruud | I am very interested in this research! | Seattle, WA | ruuda@u.washington.edu |
| Becky Jenkins | This is so much fun + I would love to do it again | Calveston TX | rainyhilo@yahoo.com |
| Kerri Kuebler | Thank you so much your wonderful! | Prescott AZ | KerriKuebler@hotmail.com |
| Damian Jimenez | Thanks for the wonderful time! | Atlanta Georgia | Damjim6@aol.com |
| Jennifer Zink | Very cool!! | Brockport, N.Y. | jz0314@brockport.edu |
| RYAN CHIASSON | Very informative, a chance of a lifetime | Lafayette, LA. | BRCCHIASSON@AOL.COM |
| Chuck Segawa | Was fun & interesting | Hilo, Hawaii | |
| Lisa Cohen | lots of fun thankyou | | ldcohen18@aol |
| Sean Band | Righteous! Shaka brada | Kurtistown, HI | S. B. c/o General Delivery 96760 |
| DANIEL PADUANO | NICE ONE!! | New York, NY | dp@brown.edu |
| Brandon Dalton | thanks | Laramie, Wyoming | bdalton@uwyo.edu |
| Heather Sims | This was sooo interesting & so much fun I would love to get involved more | Yuba City TX | 1018 Hillcrest Ave 95991 |

7-11-00

Ashlee Smith I loved this experience. 1306 Delmar Ave.
 it's like nothing before! Morgan City,
 Can't wait to do it again. Louisiana
 Please send me some info 70380
 on the turtles. Thanks!

Cielo Borso This was very fun
 1758 N. Humboldt Blvd would love to experience
 Chicago IL 60647 this again too bad
 I live in the midwest

Brandy Petrush *This was a great experience
 of a lifetime. Very
 educational & fun.
 Bayonne N.J. (East coast)
 E-mail - Beardip143@aol.com

Carly Hranek Pismo Beach, California
 Email - CJhranek@aol.com

CATHY GILLESPIE SANTA ANA, CA cathygill@yahoo.com
 I HAD A GREAT TIME AND IT WAS VERY EDUCATIONAL

Silvia Pireiro North Arlington, N.J.
 email: SP_ROMA@hotmail.com
 This was a great experience, please
 send me some info.

July 11, 2000 Tuesday

Justin Corley Ft. Worth, TX jlc2138@tamug.tamu.edu

Had a wonderful time, one of the best experiences I've had in Hawaii. Would love to help out more & more often.

Sharon Parrani 612 Montgomery St. Jersey City, NJ 07302
CUNETZ@HOTMAIL.COM

I had a wonderful time helping write data down & become an assistant. It's so interesting & fun to take part into this activity. I wish I could stay longer & assist you. Maybe one day on my return I can join your team in tagging the turtles. THANK YOU for this great opportunity! Please send me some info.

Kanako Uchino kana@sfc.ne.jp
(kanau531@hotmail.com)

Thank you very much for this experience.

I learned a lot. Please tell me more about the turtle found in CHIBA. That's amazing, isn't it?

Kristen Hoss wolkey@prodigy.net

This was a wonderful experience. Thank you for the opportunity. It reaffirmed the fact that field research is my dream. Keep up with your obsessions!

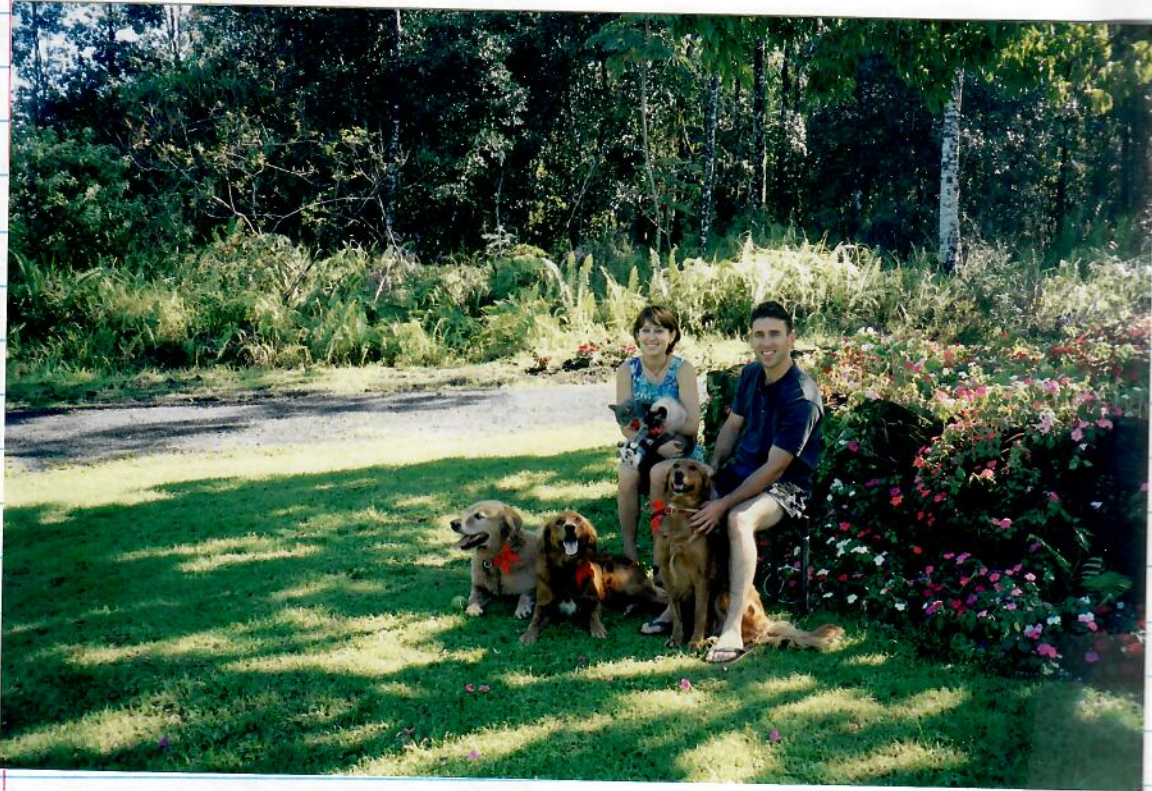
;) ~~It~~ I will continue to pursue my dreams - Thanks Again - it was a pleasure meeting you and working with you!



DAWN & PAUL PATTERSON
HCR 1 Box 5614 • Kee'au, HI 96749

111

Dawn, Paul, Rusty-
Makana & Anela
CHRISTMAS 99



GEORGE-

3/31/00

THANK you, THANK you FOR ALL the information that you SENT ME, IT WILL be VERY helpful AND HAS ANSWERED ALOT of questions.

BOBBIE WANTED me to write and tell you that a customer, SHERRY St. CHARLES, CAME thru her check-out line AT MEIJER in WOODHAVEN. SHERRY had on a UofT SWEATshirt, so BOBBIE STARTING talking to HER AND found out that Sherry was on VACATION here from SCHOOL and that she had gone Turtle Tagging with you, and SAVED HAWKSBILL TURTLE with you. IT SURE is a SMALL WORLD isn't it? BOBBIE GAVE Sherry her and mom's names, SHERRY will probably be telling you about it too.

ALL FOR NOW. TAKE CARE.

LOVE to ALL
Cuz,
Becky

P.S. your Dad called mom this Past Week. Misses her, he said.

Punaluu #43
16-17 November 1999

Participants: + Walt & Jotta

- MARK A. ALBINS albins@hawaii.edu
- KRISTIN WILDERMUTH wilderkr@hotmail.com
- Cindy McCarty
393 A. Enehene, Hilo, HI 96720 cmccarty@hawaii.edu
- Sherry St. Charles SStCharles@hotmail.com
- Lyndsey Rock LROCK@hawaii.edu
- Shawn Norris Sraynorris@aol.com
- Jamie Evans JamieLEvans@hotmail.com
- Jackie Holbrook guammie11@hotmail.com
(Hilo) 603 W. Lanikaula St Hilo 96720 (Guam) 113 East End Rd Yona, GU 96914
- Jeff Eble Eble@hawaii.edu
- Anna Chase Kiwichase@hotmail.com
- Rochella Baranica ro@beammunpscott.com
959-8917 @ Pohaku Lani
- Rod Floro rodfloro@hotmail.com Hilo, HI 96720
- Kristin Britton kbritton@hotmail.com (935-3499)
- Jen Krenz krenz@hawaii.edu

THORBJØRN VYNNE, PO Box 61 HI 96720, tbvynne@hotmail.com

Courtney Porter 62 Pihalan St. Hilo HI 96720 c.o.u.r.t@usa.net

Cari Costello Hale Kahan 210 B 603 W. Lanikaula St Hilo HI 96720

KATE KURTENBACH Hele Kavanoe JOVA "kekuike" ^{Exut. con}

Frank Student

Nathaniel Fleming 189 Kirkwood 909 621 7127 con
"Thanks for da swim" Claremont, CA 91711

Daniel Okumura 2589 Kinai St. Hilo, HI 96720 DanielOkumura@aol.com

Jodie Jones 2589 Kinai St. Hilo 96720 jodiej@hawaii.edu

Michael Childers MChilders@hawaii.edu

Patrick Loby [Next time is 4 & you have to remember me] loby@hawaii.edu

Energy H. Barretto

1007 Lowell Pl.
Honolulu, HI 96817

sharrett@hawaii.edu
sharretto@ncas.gov

Tag information--

| Tag Number | Date Tagged | Tag Type | Tag Position |
|------------|-------------|----------|--------------|
| 7550 | 12/18/83 | 1681 | RFL |
| 7570 | 12/18/83 | 1681 | LFL |
| 7571 | 12/18/83 | 1681 | L34 |
| 0598 | 06/26/96 | 1681 | LHF |
| SON68 | 11/20/97 | SON | SON |
| TDR97245 | 11/20/97 | TDR | TDR |
| Y649 | 04/09/90 | 1681 | RHF |

Historical information--

| Date | Type of Encounter | Location | Tumor Score | Nesting Activity | Straight Length | Since Last Encounter | | | | Overall | |
|----------|-------------------|----------------------------------|-------------|------------------|-----------------|----------------------|---------------|---------------------|--------------------|----------------|---------------|
| | | | | | | Interval Month | Interval Year | Growth-rates cm/mon | Growth-rates cm/yr | Interval Month | Interval Year |
| 12/18/83 | Near Shore | Hawaii, Punaluu Bay, <i>HAND</i> | 0 | - | 66.4 | --- | --- | --- | --- | --- | --- |
| 04/09/90 | Near Shore | Hawaii, Punaluu Bay, <i>HAND</i> | 0 | - | 78.6 | 75 | 6.3 | 0.2 | 1.9 | 75 | 6.3 |
| 11/28/90 | Near Shore | Hawaii, Punaluu Bay, <i>NET</i> | 0 | - | 78.8 | 7 | 0.6 | 0.0 | 0.3 | 83 | 6.9 |

--Continued

2

Historical information--

| Date | Type of Encounter | Location | Tumor Score | Nesting Activity | Straight Length | Since Last Encounter | | | | Overall | |
|----------|-------------------|--|-------------|------------------|-----------------|----------------------|---------------|---------------------|--------------------|----------------|---------------|
| | | | | | | Interval Month | Interval Year | Growth-rates cm/mon | Growth-rates cm/yr | Interval Month | Interval Year |
| 04/24/91 | Near Shore | Hawaii, Punaluu Bay, Boat Ramp area, <i>HAND</i> | 0 | - | 78.6 | 4 | 0.3 | -0.1 | -0.7 | 88 | 7.3 |
| 11/13/91 | Near Shore | Hawaii, Punaluu Bay, <i>HAND</i> | 0 | - | 78.8 | 6 | 0.5 | 0.0 | 0.4 | 94 | 7.8 |
| 04/15/92 | Near Shore | Hawaii, Punaluu Bay, Site #1, <i>HAND</i> | 0 | - | 79.2 | 5 | 0.4 | 0.1 | 1.0 | 99 | 8.3 |
| 07/14/92 | Near Shore | Hawaii, Punaluu Bay, <i>HAND</i> | 0 | - | 78.6 | 2 | 0.2 | -0.3 | -3.0 | 102 | 8.5 |
| 07/15/92 | Near Shore | Hawaii, Punaluu Bay, <i>NET</i> | 0 | - | --- | --- | --- | --- | --- | 102 | 8.5 |
| 11/18/92 | Near Shore | Hawaii, Punaluu Bay, <i>NET</i> | 0 | - | 78.4 | 4 | 0.3 | --- | --- | 107 | 8.9 |
| 06/26/96 | Near Shore | Hawaii, Punaluu Bay, <i>HAND</i> | 0 | - | 77.2 | 43 | 3.6 | 0.0 | -0.3 | 150 | 12.5 |
| 11/20/97 | Near Shore | Hawaii, Punaluu Bay, Pavillion area, <i>BASK</i> | 0 | - | 77.6 | 16 | 1.3 | 0.0 | 0.3 | 167 | 13.9 |

Author: Shawn Murakawa at ~NMFS-HONO
Date: 4/8/97 12:06 PM
Priority: Normal
TO: George Balazs
Subject: John Kahiapo

He called to ask if you (or know of the person who) allowed Janette Akiu, a vendor at Punaluu Beach Park (the one closest to the ocean), to have a Hawksbill turtle in a container with solution in her possession. She said that a scientist allowed her to keep this so that she can use it to show tourists. John would like to either call him @ 974-6208 or fax him @ 974-6222 regarding this. He would like more information about this.

4/7/97 Also, he said that he saw a turtle basking near the boat ramp area yesterday around 2:00pm. Tags V528 LFL/V529 RFL/V530 LHF/Q273. When they went back around 5:00pm the turtle was gone.

He said they're still monitoring the beach to warn tourists not to touch the turtles.

Cast caught - 11/14/96 Hand snorkel Punaluu ^{Bay} night dive.
"STINK breath" turtle.

TDR 96366

Tag information--

| Tag Number | Date Tagged | Tag Type | Tag Position |
|------------|-------------|----------|--------------|
| H194 | 04/14/92 | I681 | LHF |
| N388 | 07/18/90 | I681 | RFL |
| N389 | 07/18/90 | I681 | LFL |
| N537 | 11/27/90 | I681 | RHF |
| SOM257 | 11/15/96 | SON | SON |
| TDR96366 | 11/15/96 | TDR | TDR |

Historical information--

| Date | Encounter | Type of | Location | Tumor Score |
|----------|------------|---------|-------------------------------------|-------------|
| 07/18/90 | Near Shore | | Hawaii, Punaluu Bay | 1 |
| 11/27/90 | Near Shore | | Hawaii, Punaluu Bay | 1 |
| 04/24/91 | Near Shore | | Hawaii, Punaluu Bay, Boat Ramp area | 1 |
| 04/14/92 | Near Shore | | Hawaii, Punaluu Bay | 1 |

| Straight Length | Since Last Encounter | | Overall | |
|-----------------|----------------------|---------------------|----------------|---------------------|
| | Interval Month | Growth-rates cm/mon | Interval Month | Growth-rates cm/mon |
| 69.5 | --- | --- | --- | --- |
| 69.8 | 4 | 0.3 | 4 | 0.3 |
| 70.4 | 4 | 0.3 | 9 | 0.8 |
| 71.4 | 11 | 0.9 | 20 | 1.7 |

| Date | Type of Encounter | Location | Tumor Score | Flight Length | Since Last Encounter | | Overall | | | |
|----------|-------------------|---------------------|-------------|---------------|----------------------|------|----------------|------|-----|-----|
| | | | | | Interval Month | Year | Interval Month | Year | | |
| 10/06/94 | Near Shore | Hawaii, Punaluu Bay | 1 | 72.3 | 29 | 2.4 | 50 | 4.2 | 0.1 | 0.7 |
| 11/29/95 | Near Shore | Hawaii, Punaluu Bay | 0 | 71.6 | 13 | 1.1 | 64 | 5.3 | 0.0 | 0.4 |
| 02/08/96 | Near Shore | Hawaii, Punaluu Bay | 0 | 71.9 | 2 | 0.2 | 66 | 5.5 | 0.0 | 0.4 |
| 06/26/96 | Near Shore | Hawaii, Punaluu Bay | 0 | 71.8 | 4 | 0.3 | 71 | 5.9 | 0.0 | 0.4 |
| 07/05/96 | Near Shore | Hawaii, Punaluu Bay | 0 | --- | --- | --- | 71 | 5.9 | --- | --- |
| 11/15/96 | Near Shore | Hawaii, Punaluu Bay | 1 | 72.4 | 4 | 0.3 | 75 | 6.3 | 0.0 | 0.5 |
| 12/01/96 | Near Shore | Hawaii, Punaluu Bay | 0 | --- | --- | --- | 76 | 6.3 | --- | --- |

01/24/97 Near shore Hawaii, Punaluu Bay 71.9

4/4/97 Near shore Hawaii, Punaluu Bay 71.8

SIGHTING INFORMATION TURTLE AND SEAL

Animal sighted (circle): 1 Turtle Green Seal
 Number of animals: 1 Type, if known: W De Rody
 Date: 3-17-97 Observer: _____
 Address & phone _____
 Time: 10: AM (optional): _____

Location: Leleiu
 Observed from (circle): shore, boat (name: _____)
 while skin or SCUBA diving (on surface or _____)
 Estimated size (length): _____



382 KAMEHAMEHA AVE.
 HILO, HAWAII 96720
 (808) 935-6939

Comments: (such as color pattern; injuries; scar patterns; tumors; whether flipper tags are present (Y/N); color and number of the tag(s); bleach marks (number/letter); behavior; and weather)

Re: Turtle 4651 - Several other tags observed but unable to read. Most

Seals and sea turtles are protected under Federal and State law.

DO NOT DISTURB.

noticeable was blue plastic tag on
 RF Flipper

SIGHTING INFORMATION TURTLE AND SEAL

Animal sighted (circle): Turtle Seal
 Number of animals: 1 Type, if known: Green
 Date: 2/20/97 Observer: _____

Address & phone _____
 Time: 10:00 (optional): _____
 Location: Leleioi, HILO, HAWAII
 Observed from (circle): shore, boat (name: _____),
 while skin or SCUBA diving (on surface or at 30 feet deep).
 Estimated size (length): Neotusa
 Comments: (such as color pattern; injuries; scar patterns; tumors;
 whether flipper tags are present(Y/N); color and number of the tag(s);
 bleach marks (number/letter); behavior; and weather)

NAUTILUS DIVE CENTER, INC
 382 Kamehameha Ave.
 Hilo, Hawaii 96720
 Seals and sea turtles are protected under Federal and State law.

(Y651) Please check history

DO NOT DISTURB.

this animal can only see forward because of eye tumors est-TS2

Historical information for turtle Z1

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

Tag information--

| Tag Number | Date Tagged | Tag Type | Tag Position |
|-------------|-------------|----------|--------------|
| N834 | 04/24/91 | 1681 | RHF |
| <u>Y651</u> | 04/10/90 | 1681 | LFL |
| <u>Y652</u> | 04/10/90 | 1681 | L34 |
| <u>Z1</u> | 04/10/90 | R | RFL |

Historical information--

| Date | Type of Encounter | Location | Tumor Score | Nesting Activity | Straight Length | Since Last Encounter | | | | Overall | | | |
|----------|-------------------|-------------------------------------|-------------|------------------|-----------------|----------------------|------|--------------|-------|----------|------|--------------|-------|
| | | | | | | Interval | | Growth-rates | | Interval | | Growth-rates | |
| | | | | | | Month | Year | cm/mon | cm/yr | Month | Year | cm/mon | cm/yr |
| 04/10/90 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 69.6 | --- | --- | --- | --- | --- | --- | --- | --- |
| 04/24/91 | Near Shore | Hawaii, Punaluu Bay, Boat Ramp area | 0 | - | 70.8 | 12 | 1.0 | 0.1 | 1.2 | 12 | 1.0 | 0.1 | 1.2 |
| 07/15/92 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 72.8 | 14 | 1.2 | 0.1 | 1.7 | 27 | 2.3 | 0.1 | 1.4 |
| 11/18/92 | Near Shore | Hawaii, Punaluu Bay | 0 | - | 72.9 | 4 | 0.3 | 0.0 | 0.3 | 31 | 2.6 | 0.1 | 1.3 |

PUNALUU #29 Narrative p.43 DATA pages 6-26, 28-29 NOVEMBER 95 TAGS USED = Students Page 49es
TOTAL = 21 (18 RECAP, 3 NEW) Q223-Q225
Q251-Q260

193 TMR brought to Honolulu P.II. Subsequent Sat. Tel. ID 24/79

PUNALUU #30 Narrative p.77 DATA = p.27-56
8-9 FEBRUARY 96 w/MORRIS DVM TAGS USED
TMR Score 2, SL-70.4 7622-23 7632, 825 2/19/96 Hills Q261-Q271

TOTAL = 24 (20 RECAP, 4 NEW) NIGHT SNOOKEL = 5 (all resting)
DAY SNOOKEL of which 2 ARE NEW, 4 w/TUMORS
16 (2 are new) 20 w/TMR SCORE = 0

PUNALUU #31 Narrative p.80 (79) Data pages 57-
25-26 JUNE 96 p.84 and 82 LIST OF STUDENTS TAGS USED = Q594-9598

TOTAL = 19 (18 RECAP, 1 NEW) 16 Blood samples
(4 w/Score = 1) + (2 w/suspicious bumps)



JACKSTOUR 11/7/96 - p.4

Composition Book • 9 3/4 in. x 7 1/2 in.

Available As:

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

Ruling
College Ruled & Margin
College Ruled & Margin & Paged
College Ruled & Margin

11/15/96



Esselte Pendaflex Corporation, Garden City, NY 11530
Made in U.S.A. B&P and Boorum & Pease are trademarks of
Esselte Pendaflex Corporation.

Deployed TDR MK596366
w/SON 257 on SCL=72.4 115 lbs
N388, N537, H194 Q645-9656

PUNALUU #32 Narrative p.3 TAGS USED =
14-15 NOV. 96 p.95 deploy TDR 96366 ALL HORSESHOE LIST OF STUDENTS = p.81
DATA PAGES p.85-101 [4 NEW, 14 RECAP] page = 83, Blood sample numbers
6 Handsnorkel - Horseshoe night
12 handsnorkel - Punaluu Bay (1-11/15 day; 1-11/4 NIGHT)

■ **Herbert Kawainui Kane** of Captain Cook, Hawaii has been awarded the Charles Reed Bishop Medal, recognizing his achievements as an artist, historian and author, and a key figure in the renewal of pride and understanding of the Hawaiian/Pacific culture. Kane was general designer, builder and first captain of



Catherine Barroga

the Polynesian voyaging canoe, Hokule'a; one of the founders of the Polynesian Voyaging Society, and founding trustee of the Bishop Museum Native Hawaiian Culture and Arts Program.

| | | |
|------------|------|--------------|
| hectometer | (hm) | 109.36 yards |
| kilometer | (km) | 0.62 miles |
| myriameter | | 6.2 miles |

AREA

| | | |
|-------------------|--------------------|------------------|
| square centimeter | (cm ²) | 0.155 sq. inches |
| square meter | (m ²) | 1.196 sq. yards |
| are | (a) | 119.60 sq. yards |
| hectare | (ha) | 2.47 acres |
| sq. kilometer | (km ²) | 0.3861 sq. miles |

WEIGHT

| | | |
|------------|------|---------------|
| milligram | (mg) | 0.015 grains |
| centigram | (cg) | 0.154 grains |
| decigram | (dg) | 1.543 grains |
| gram | (g) | 0.035 ounces |
| decagram | (Dg) | 0.353 ounces |
| hectogram | (hg) | 3.527 ounces |
| kilogram | (kg) | 2.2046 pounds |
| quintal | | 220.46 pounds |
| metric ton | | 1.1 tons |

STEM WITH U.S. EQUIVALENTS

IVALENT

METRIC UNIT (1) U.S. EQUIVALENT

VOLUME

| | | |
|------------------|--------------------|--------------------|
| cubic centimeter | (cm ³) | 0.061 cubic inches |
| cubic decimeter | (dm ³) | 0.0353 cubic feet |
| cubic meter | (m ³) | 1.31 cubic yards |
| cubic decameter | (Dm ³) | 13.10 cubic yards |

CAPACITY, CUBIC

| | | |
|------------|------|--------------------|
| milliliter | (ml) | 0.06 cubic inches |
| centiliter | (cl) | 0.6 cubic inches |
| deciliter | (dl) | 6.1 cubic inches |
| liter | (l) | 61.02 cubic inches |
| decaliter | (Dl) | 0.35 cubic feet |
| hectoliter | (hl) | 3.53 cubic feet |
| kiloliter | | 1.31 cubic yards |

CAPACITY, DRY

| | | |
|------------|------|--------------|
| deciliter | (dl) | 0.18 pints |
| liter | (l) | 0.908 quarts |
| decaliter | (Dl) | 1.14 pecks |
| hectoliter | (h) | 2.84 bushels |

CAPACITY, LIQUID

| | | |
|------------|--|-------------------|
| milliliter | | 0.27 fluidrams |
| centiliter | | 0.338 fluidounces |
| deciliter | | 0.21 pints |
| liter | | 1.057 quarts |
| decaliter | | 2.64 gallons |

$$\frac{\text{*No. tagged turtles recaptured}}{\text{Total No. turtles captured}} = \frac{\text{Total No. turtles tagged}}{\text{Total No. turtles in resident population (X)}}$$

**Total number of tagged turtles reduced by one as of 11/4/84 when an individual tagged in 5/84 was found dead.

***Total number of tagged turtles reduced by one as of 10/14/95 when an individual tagged in 4/69 was found dead.

| Study Dates | Total No. Captured | No. Newly Tagged | No. Tag Resightings | Total No. Tagged in Population to Date | Peterson Population Index Estimate* |
|-------------------|--------------------|------------------|---------------------|--|-------------------------------------|
| July 26-28, 1991 | 6 | 6 | 0 | 6 | - |
| Sept. 24, 1983 | 2 | 2 | 0 | 8 | - |
| Nov. 26, 1983 | 3 | 3 | 0 | 11 | - |
| Dec. 15-19, 1983 | 11 | 9 | 2 | 20 | 61 |
| Jan. 8-10, 1984 | 13 | 9 | 4 | 29 | 65 |
| Feb. 17-19, 1984 | 12 | 10 | 2 | 39 | 174 |
| March 24-27, 1984 | 32 | 20 | 12 | 59 | 104 |
| April 13, 1984 | 2 | 1 | 1 | 60 | 118 |
| May 14-17, 1984 | 11 | 7 | 4 | 67 | 165 |
| June 26-28, 1984 | 12 | 7 | 5 | 74 | 161 |
| March 23-25, 1987 | 6 | 4 | 2 | 77** | 222 |
| March 21-23, 1988 | 3 | 3 | 0 | 80 | - |
| April 10-12, 1989 | 14 | 10 | 4 | 90 | 280 |
| April 9-10, 1990 | 11 | 7 | 4 | 97 | 248 |
| July 17-18, 1990 | 13 | 6 | 7 | 103 | 180 |
| Nov. 27-28, 1990 | 17 | 5 | 12 | 108 | 146 |
| April 23-24, 1991 | 20 | 4 | 16 | 112 | 135 |
| July 16-17, 1991 | 15 | 3 | 12 | 115 | 140 |
| Nov. 12-13, 1991 | 22 | 8 | 14 | 123 | 181 |
| April 14-15, 1992 | 15 | 4 | 11 | 127 | 168 |
| July 14-15, 1992 | 22 | 3 | 19 | 130 | 147 |
| Nov. 17-18, 1992 | 26 | 10 | 16 | 140 | 211 |

| | | | | | |
|----------------------|----|----|----|--------|-----|
| April 13-14, 1993 | 23 | 12 | 11 | 152 | 293 |
| July 13-14, 1993 | 16 | 2 | 14 | 154 | 174 |
| Nov. 30-Dec. 1, 1993 | 24 | 9 | 15 | 163 | 246 |
| April 5-6, 1994 | 27 | 7 | 20 | 170 | 220 |
| July 5-6, 1994 | 29 | 3 | 26 | 173 | 190 |
| Oct. 6-7, 1994 | 27 | 4 | 23 | 177 | 203 |
| April 20-21, 1995 | 31 | 3 | 28 | 180 | 196 |
| July 5, 1995 | 13 | 1 | 12 | 181 | 195 |
| Nov. 28-29, 1995 | 21 | 3 | 18 | 183*** | 211 |
| Feb. 8-9, 1996 | 26 | 4 | 22 | 187 | 216 |
| June 25-26, 1996 | 19 | 1 | 18 | 188 | 197 |
| Nov. 14-15, 1996 | 18 | 4 | 14 | 192 | 242 |
| Jan. 23-24, 1997 | 18 | 2 | 16 | 194 | 216 |
| April 4, 1997 | 3 | 0 | 3 | 194 | 194 |
| June 6, 1997 | 2 | 0 | 2 | 194 | 194 |
| July 22-23, 1997 | 12 | 0 | 12 | 194 | 194 |
| Nov. 20-21, 1997 | 16 | 4 | 12 | 198 | 259 |
| Feb. 19-20, 1998 | 20 | 4 | 16 | 202 | 248 |