11/9/87

Aloha George -

Here are some photos of the crack in which the turtle was found. The photo with myself in it will hopefully provide you with some context as to the depth of the crack. I would estimate this to be just about 5'. The picture of the shoreline should give you some idea as to the composition of Halape. There are basically two sandy coves; one to the left of the photo and the other in from where I took this picture. The white post you see (its actually a fallen coconut palm that someone carved a Tiki head on) is the general area in which the crack can be found. From this point, the turtle was found just to the right of the Tiki and appx. 2 meters back. The terrain is fairly rough from either beach cove to the area in which it fell.

I hope this can provide you with a better sense as to putting the whole picture together. Maybe if its possible I can accompany you on a trip to Halape. So hope to see you in January. Have been talking with Taylor alot, as well as our Wildlife head, Tanya Katahira and they seem rather enthusiastic in getting a management plan developed. We'll see what happens, but I'll keep working on them.

I'm sure when you come over, there will be lots to talk about.

Sorry I never made it back to the office, we caught an earlier flight home. Give my aloha to everyone, and I'll be in touch again.

A Hui Hou

Julie Tenbohn

8/31/87

Hi George,

Got a bit of turtle information for you. I was at Halape with a work crew when one of our people discovered a dead turtle. I am pretty sure it is a Hawks Bill. The turtle was discovered on its side in a deep crack. I am definite that it died of natural causes. I think what may have happened, was that she (gravid female with appx. 130+ eggs) came in to shore and headed SW towards the crack some 30m away and fell in. There was evidence that she had been struggling to get out. Her bottom plate was partially torn away, where she had apparantly tried to climb a rock. Quite a bit of blood was found in this area. She was found on her side about a foot away from the blood spattered area, seeming to indicate that she had fallen backwards and eventually landed on her side. I would estimate that she had been dead two days at the most. No tags were found. She was discovered on 8/20/87. I have collected the humerus bone and the head for you. I have it here at the park in one of the freezers. Unfortunately I felt that she was to dehydrated for any internal parts to be collected.

Here are some measurements from the shell:

Exterior shell:
Top width (including curve) 83.5cm
Top length (Including curve) 84.0cm

Interior shell:
Width 63cm
Length 84.5cm

Head to tip of tail: 94.5

I apologize for getting this to you so late, but other priorities have been keeping me busy. I may be leaving tommorrow morning for California to fight fire, so if you need to get in touch with anyone, you can contact Chris Zimmer or Dan Taylor at the Resource Management office at 967-8133. I will try to contact you as soon as I can and we can work things out as far as info and what to do about the turtle parts.

Please say hello to the gang there, and ask Bill "what is happening with the Ni'ihau trip"? Anyways I've been extremely busy here with my work and am doing very well. Never a dull moment with Madame Pele. Say hello to Patrick Ching out there on Laysan. I will definitely be in touch.

Aloha,

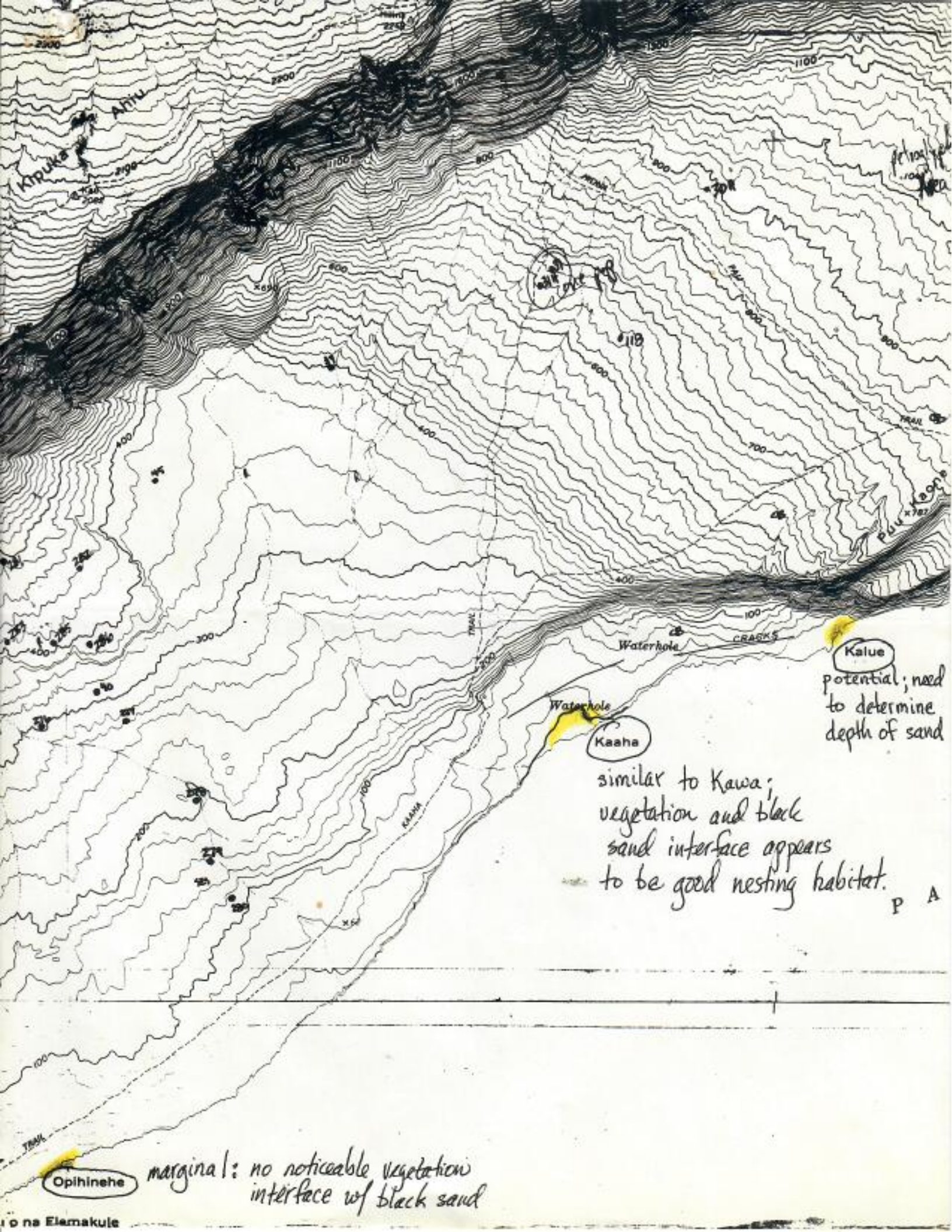
Julie Leialoha

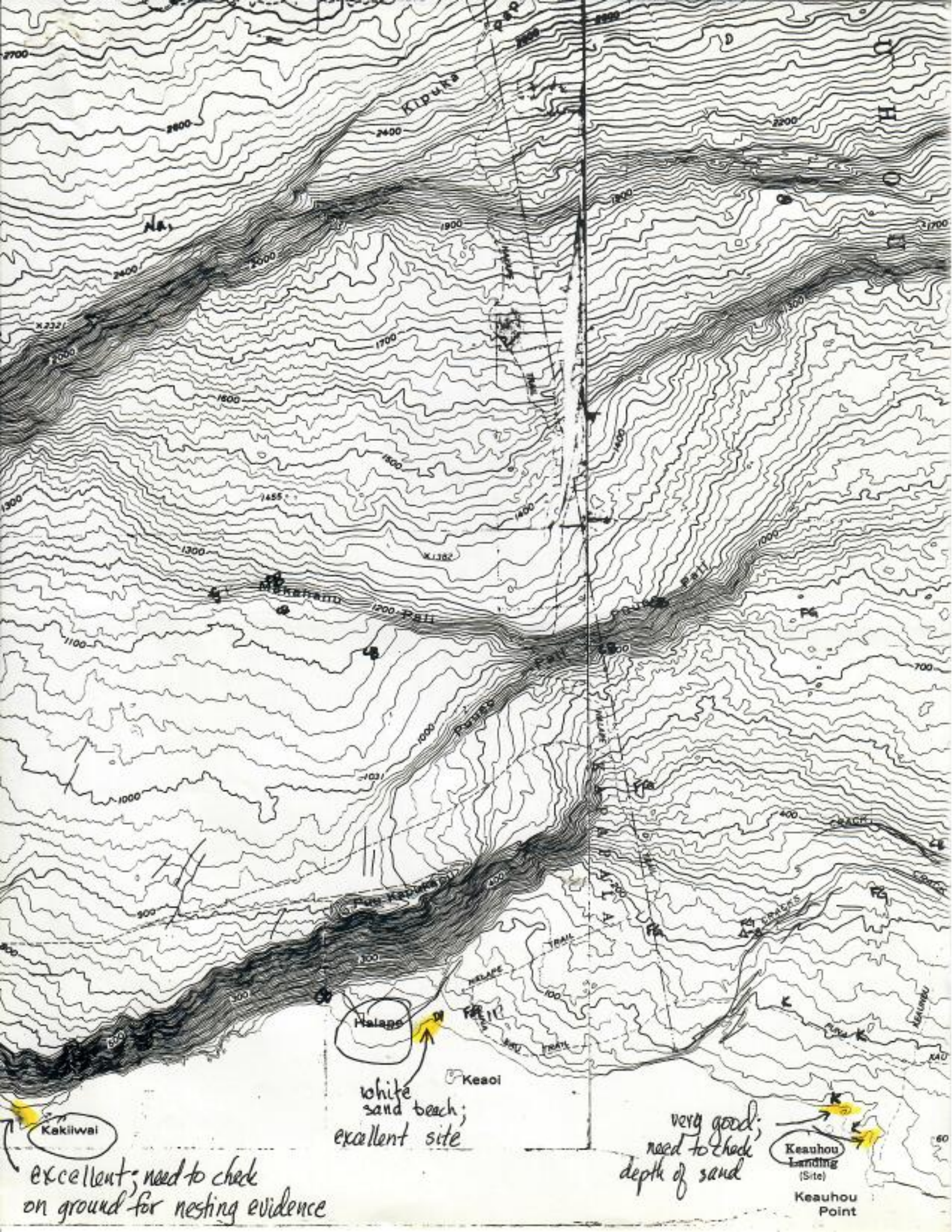
Julie Leialoha
NPS-Resource Mgmt.

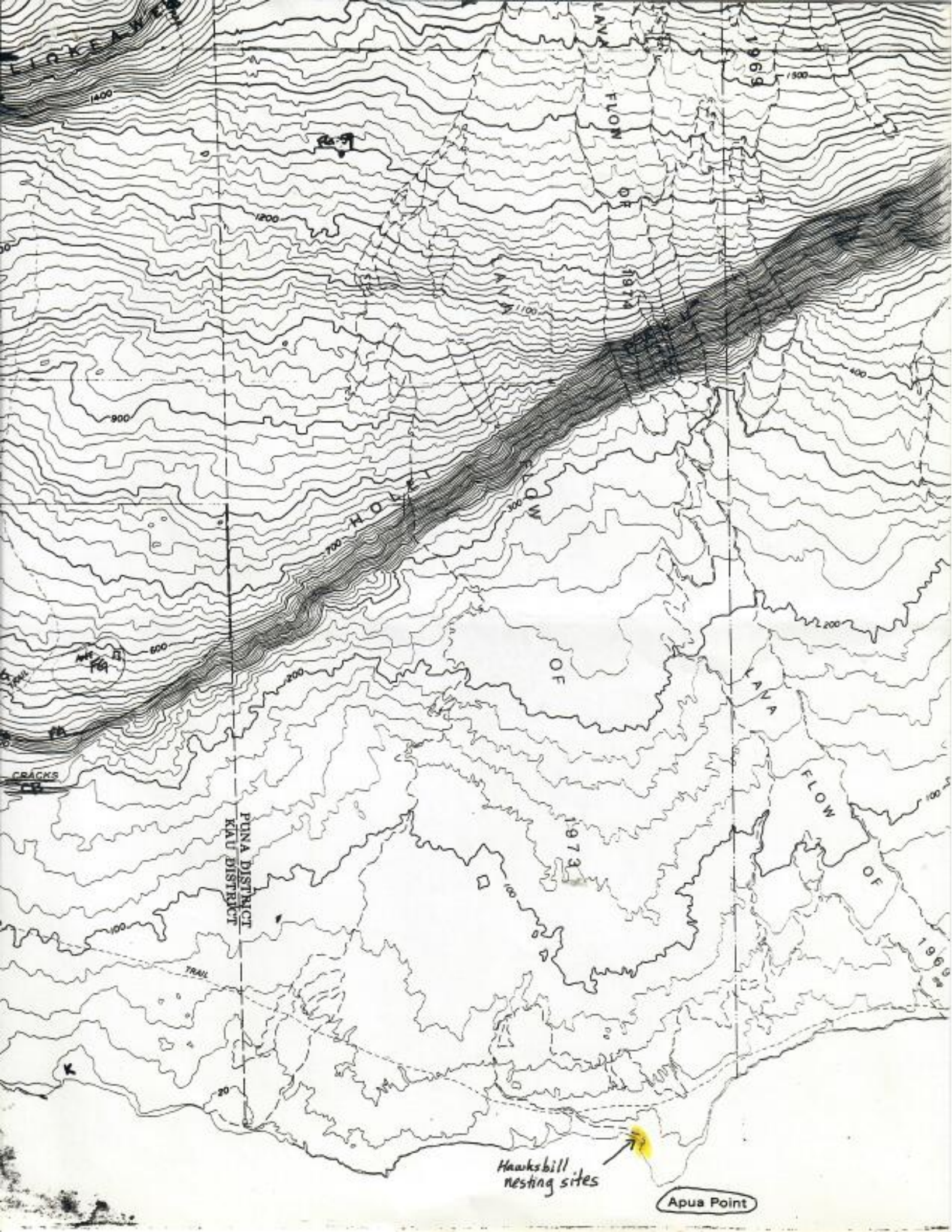
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HAWAII VOLCANOES NATIONAL PARK
HAWAII 96718-0052

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

RESOURCE MANAGEMENT
LEIALOHA


Kipuka Ahiu
Waterhole
CRACKS
Kalue
potential; need to determine depth of sand
Waterhole
Kaaha
similar to Kawa; vegetation and black sand interface appears to be good nesting habitat.
P A
Opihinehe
marginal: no noticeable vegetation interface w/ black sand
TRAIL
KAAHA


Kipuka
Halape
Keaoi
Kaki'iwai
Keauhou Landing (Site)
Keauhou Point
white sand beach; excellent site
excellent; need to check on ground for nesting evidence
very good; need to check depth of sand


1400
1200
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1961
1974
1973
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MAUNA LOA
MAUNA LOA
MAUNA LOA
HOLEI
CRACKS
TRAIL
PUNA DISTRICT
KAU DISTRICT
Hawksbill nesting sites
Apua Point

N1415

October 14, 1988

Dr. George Balazs
National Marine Fisheries Service
2570 Dole Street
Honolulu, HI 96822

Hi George,

Thank you very much for assisting in the aerial reconnaisance for Hawksbill and Green Sea turtles. With your help we are now able to develop and initiate an action plan to monitor Hawksbill nests at Apua Point, and to recognize potential nests along the Park's coastline.

Enclosed are maps noting the areas we considered to be known or potential nesting sites for the Hawksbill turtle. I've also enclosed a couple of slides of you handling the Green Sea turtle. If you want copies of the beaches and turtle tracks, give me a call.

In February or March of next year I plan to excavate the nests at Apua Point to possibly identify the number of successful hatchlings and predation. We surely hope you can return at that time.

Thank you also for the excellent turtle literature and references. I'll keep you informed on our field work.

Larry

Larry Katahira
Resource Management Specialist

United States Department of the Interior
NATIONAL PARK SERVICE
HAWAII VOLCANOES NATIONAL PARK
P. O. BOX 52
HAWAII 96718-0052

IN REPLY REFER TO:

N 1415

August 22, 1988

To: Dr. George Balazs, NOAA

From: Larry Katahira, Hawaii Volcanoes National Park

Subject: Monitor Endangered Hawksbill Turtles at HAVO

Hi George,

We are currently planning an overflight along the Park's coastline to identify potential breeding sites of the Hawksbill turtle. During the past 15 years there has been incidental observations by backcountry hikers of nesting sites, tracks and hatchlings but the Park has not yet developed a management plan for these endangered turtles.

We would like to invite you to assist in initiating this program by taking part in a helicopter overflight along the Park's coastline. We plan to conduct an early morning reconnaisance from the Park's southwestern boundary, Kuee, and follow the coastline easterly to Kalapana.

I've confirmed a helicopter flight for September 7 at 0630 hours. If possible, could you arrive the evening of September 6? We will provide dormitory space for you. Do you need transportation from the airport to the Park?

Enclosed is a new project statement on monitoring turtles which will be included in the Park's Resource Management Plan for fiscal year 1989.

We are looking forward in working with you. Please call me at 967-8133 (bus) or 967-7416 (res) if you have any questions.

Larry K.

HAVO-87 MONITOR ENDANGERED SEA TURTLES

Statement of the problem

The endangered hawksbill and green sea turtles occur along the Park's 21 miles of rugged coastline. Green sea turtles nest only in the Northwestern islands known as the Hawaiian Islands National Wildlife Refuge, but their feeding grounds extend along the main Hawaiian islands. Hawksbill turtles, on the other hand, nest on the main islands with confirmed sites only on Molokai and the Puna-Kau coast of the Big Island. Since 1978, there have been several incidental observations by hikers and employees of turtle nests, tracks, and hatchlings at Apua Point and Halape Beach. In August 1987, an employee at Halape found a dead hawksbill turtle carryiny approximately 320 eggs. Noting the importance of the Park as a nesting area for the hawksbill turtle, Dr. George Balazs of the National Oceanic and Atmospheric Administration (NOAA), has supported the designation of "critical habitat" for Halape.

Due to competing management priorities, the Park has been unable to develop a management plan for the endangered green and hawksbill turtles. The only information received has been through incidental observations by hikers and employees. The Park must protect known and potential nesting sites, solve problems of predation by cats and mongooses, educate the public, and reduce recreational use conflicts such as impacts of camping sites, horses, gill net fishing, and disorientation of turtles by lights.

Alternative Actions and their Probable Impacts

1. No action. Continue at present levels without a monitoring program, and rely only on incidental sightings. This kind of information is not reliable and not proper management practice. Moreover, under the Endangered Species Act, the Park is required to carry out management programs which will ensure the protection and recovery of listed species.

2. Collaborate with NOAA personnel and develop a monitoring program for the green and hawksbill turtles. Gather information on nesting beaches, public use, and occurrence of predators which will enable the Park to develop a more enlightened protection and management program.

Recommended Course of Action

Select #2. This course of action is responsive to the Endangered Species Act.

Cost/Workload

$8,000 first year, .5 FTE
$10,000 second year ff, .5 FTE and support

Environmental Factors

The monitoring action proposed for this project is categorically excluded from further environmental documentation.

RESEARCH ACTIVITIES REPORT

ASSESSMENT OF HAWKSBILL NESTING AT APUA POINT, VOLCANOES NATIONAL PARK MARCH 21, 1989

George H. Balazs and Barry K. Choy
Marine Turtle Research Task
Southwest Fisheries Center Honolulu Laboratory

On March 21, 1989, a follow-up assessment was carried out of sea turtle nesting at Apua Point in the Hawaii Volcanoes National Park (HVNP) on the Island of Hawaii. This work was conducted on an invitational basis, in cooperation with Larry Katahira and Dan Taylor of the Resource Management branch of HVNP. An initial assessment took place on September 21, 1988 when a low-level aerial survey was made using a small helicopter. The purpose of this work was to identify beaches along the 21-mile HVNP coastline where nesting by sea turtles had recently occurred or where habitat characteristics suggested that it was possible for nesting to occur. Six sites were identified that fell in this latter category, and one site (Apua Point) was found to have evidence of recent nesting. In addition, a site outside the HVNP's southern boundary known as Kamehame was found to have recent nesting. Based on historical knowledge of sea turtle nesting along the east coast of the Island of Hawaii, the hawksbill, Eretmocheys imbricata, is very likely the species of sea turtle involved in these recent events. A biological overview of information on the Hawaiian hawksbill, as well as recommendations for the recovery of this critically endangered species, are given in the draft Hawaiian Sea Turtle Recovery Plan. Efforts to learn more about hawksbills and enhance their management

in the HVNP are in concordance with the Hawaiian Sea Turtle Recovery Plan.

The March 21, 1989 assessment was conducted to excavate and examine the remains of nests following natural incubation and emergence of all hatchlings. The objective of doing this was: 1) to confirm that the species involved was indeed the hawksbill, 2) to estimate productivity of the nests, and 3) possible identification of any evidence of excessive predation or other factors contributing to poor productivity.

The excavation and location of nests at Apua Point proved to be more difficult than originally planned. During the allotted helicopter down-time at Apua Point, several hours of digging and searching resulted in the discovery of four nests. Two of these only consisted of small fragments of egg shells representing a very minor portion of previously laid turtle nests. The nature of these pieces suggested that they were from nests deposited prior to 1988. The other two nests found contained numerous whole egg shells that were likely from nestings that had been detected during the September 1988 visit.

A careful analysis of the egg shells and associated remains from the two nests revealed that an estimated 45 and 56 eggs, respectively, had been present. The diameter of the eggs prior to hatching was estimated to be 35 mm which is consistent with the known average diameter of hawksbill eggs. In contrast, the average diameter of the egg of a green turtle, Chelonia mydas, is 55 mm. Partial skeletal remains of approximately two hatchlings associated with one of the nests reconfirmed the species as the hawksbill. This identification was based mainly on the shape of the lower jaw bone.

The presence of only 45 and 56 eggs in each of the two nests in not in agreement with the average known number of eggs laid by the hawksbill as

reported in the literature. The mean number in the Pacific is 125 according to Witzell 1983 (Synopsis of biological data on the hawksbill turtle Eretmochelys imbricata, FAO Fisheries Synopsis No. 137). There are currently no data for the Hawaiian Islands, so a direct comparison in this regard is not possible. The reason for the very low number of eggs in the Apua Point nests is not known. It is unlikely that a significant number of egg shells would have been missed during excavation, since this was accomplished in a fairly intensive and comprehensive manner. Some possibilities to explain the low counts would include: 1) a nesting turtle was severely disturbed during oviposition causing her to "shut-down" egg laying when only half completed and to return on a subsequent night to lay the other half of her clutch, 2) predation occurred in such a manner as to completely remove many of the eggs at the time they were being laid, 3) excavation of the nest by humans and removal of many of the eggs after nesting, and 4) nests by an atypical hawkbill that are at variance with the reported number of eggs per clutch laid by this species.

During the excavation it was noted that the rootlets of the naupaka shrub, Scaevola, had substantially grown around and into the egg shells. Although in some area (i.e. Florida) the roots of plants can cause mortality to incubating sea turtle eggs, this was deemed not to be the case at Apua Point. Except for the hatchling remains previously mentioned, there was no indication that high embryonic mortality had occurred, at least in the latter stages of development. The thickness and other attributes of the recovered egg shells were consistent with eggs that had reached full term and hatched.

Additional monitoring of the hawksbill nesting situation at Apua Point, and elsewhere along the HVNP coastline and adjacent sites, will be necessary to determine how best to effectively manage this endangered species.

Egg Shell Analysis for Apua Sites on the Island of Hawaii

By Barry K. Choy

Objective: Quantification and identification of turtle egg shells recovered at Apua sites 2 & 4.

Methods

A rough estimation from subjective and physical observations as a first cut analysis followed by a more in depth scientific analysis was conducted on the two samples and results compared. A physical count of the shells was accomplished by first cleaning all excess soil and sand from the exterior surfaces and then spreading the shells on a plane surface(black). The shells and fractions thereof were seperated and estimated accordingly. The shells were then replaced in there container and weighed on a sortorius scale after which the mass of the container was subtracted. Several egg shells considered to be complete were weighed to get an idea of the mass of a single shell and then computations as to the estimate of the number of shells in the container based on this was conducted. Measurement of the egg diameter was then accomplished by using a Monostat caliper 15-100-=500 to measure the diameter of the most nearly complete egg considering shrinkage. The outline of the most complete egg was then drawn on the surface of a clean sheet of paper and a surface area analysis was then done using an IBM PC with an area software package with tabloid and mouse to retrace the outline and compute the surface area. Using the simple relation for the area of a sphere the radius "R" could then be back computed knowing the area and subsequently the diameter "D" where D = 2R could be computed and compared to the measured diameter D.

Data

Apua Site #2		Apua Site #4	
Physical Count = 55		Phsical Count = 47	
Mass analysis		Mass analysis	
Entire mass =	70.83g	Entire mass =	56.87g
Container + Clip =	- 19.50g	Container + Clip =	17.27g
Total egg shell mass =	51.33g	Total egg shell mass =	39.60g
Mass of one shell =	Div. .90g	Mass of one shell =	Div. .92g
Number of eggs =	57.03	Number of eggs =	43.04

The most complete egg was found in the Apua site #4 batch infact the skeletal remains of what is believed to be a Hawksbill turtle hatchling was also found within this egg.

Surface area analysis
Relative area(dimensionless pixels) average AV = 616.2
Relative area of a 10cm x 10cm square = 974.3

Surface area analysis continued

974.3/100.0 = 616.2/X

X = (616.2 x 100.0)/974.3 = 63.2

Area of a sphere = $4\pi R^2$ = 63.2

R = the square root of 63.2/4pi = 2.2cm = 22mm

D = 2R = 22mm x 2 = 44mm

Discussion

Looking at the differences in the estimated number and computed number of eggs the numbers are very close, so perhaps we could say thet the number of eggs recovered at site #2 is between 55 & 57 inclusive and the number of recovered eggs at site #4 is similarly between 43 & 47 inclusive. At a first glance it would seem that the variance in the diameter using the two methods is very large, but because of an over eqiupment usage inexperience the 35mm diameter should be looked upon heavily. Not to exclude D = 44mm as a impossible value.

Suggestions

One should carfully compare mandible of skeletal remains found to that of a green turtle hatchling and other species if possible. A more indepth time consuming computer analysis could yield very accurate estimations of egg diameter based on global surface area. Return to site in the future to retrieve fresher samples will greatly improve accuracy.

Acknowledgements

Special thanks to Dr. Richard Brill for the use of AREA software and computer set up capable of measuring nongeometric shapes.

Raw Analysis

Apua site 4

Physical count ~47

Egg diameter ~35mm Range 34-36 $\bar{D}$ = 35 mm

Bag + clip 16.707g - clip (0.568 g)

shell Bag + Clip 56.87

one entire shell 0.917 g

0.579

0.642

Apua site 1 55

Bag + Clip 19.50 g 70.83 g

1.534 / 3

2.5

.904

Sartorius scale

Mongfat caliper 15-100-500

Parrish

> Area trace it Make sure it

Curser

$4\pi R^2$ $4\pi R^2$

$\frac{974.3}{100} = \frac{615}{x}$

63.1 cm^2

$\frac{4}{3}\pi R^3 = 63.1$

15.0

$4\pi R^2 = 62.7$

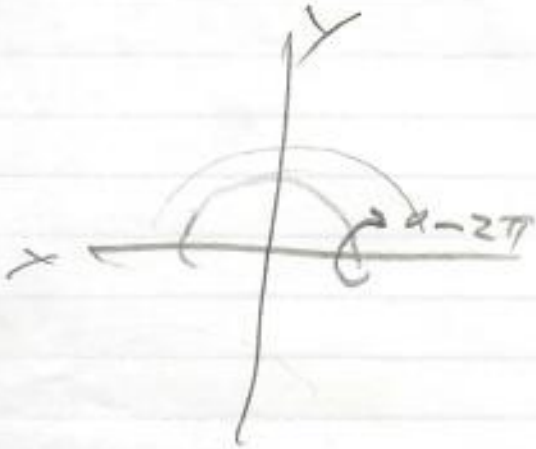
62.7

$4\pi R^2 = 63.4$

Theoretical / volume proof

$4\pi R^3$ rotation along x axis

$$\pi \int_0^{2\pi} R^2 dr \quad \pi \int_0^{2\pi} R^2 dr$$



$\pi \frac{R^3}{3} 2R \quad \pi \frac{R^3}{3} 2R$

$\pi^2 2/R^2 \frac{R^6}{9}$

$\frac{R^3}{3}$

$\frac{2R^4}{3} \quad \frac{2R^4}{3} \quad \frac{4R^8}{9}$

$\pi \frac{R^3}{3} 2R$

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

$\pi \frac{(2\pi)^3}{3} 4\pi \quad 4\pi^2 \frac{4\pi^3}{3} \quad \frac{16\pi^5}{3} \quad \frac{16\pi^5}{3}$

$$\frac{1}{2}\pi \int_0^{2\pi} R^2 dr$$

$$\frac{1}{2}\pi \frac{R^3}{3} 2R$$

$$\pi^2 \frac{R^3}{3}$$

$$\pi^2 \frac{8\pi^3}{3}$$

$dr = 2R$

$$\pi \int_0^{\pi} R^2 dr$$

$$\pi \frac{R^3}{3} 2R$$


start + End
Outline of egg

Trip Report
Kamehame Beach 9/18/90

The newly bulldozed road has been extended towards Kamehame with several side roads to fishing spots. The obvious intention is to connect with the old existing road near Kamehame. It has been extended another quarter mile onto the pahoehoe field following the coastline.

Again we saw tracks left behind by a Green turtle. They were less than two feet from left tip to right tip, and about two inches apart. As with the last observation, the tracks led up the beach beyond the high water mark then turned around 170 degrees. The turtle did not produce any signs of nesting activity. It was definitely too small and probably came ashore to bask.

There were more signs of nesting activity since the last trip (8/17), with about seven false nests and no true nest. Also there was a recent Hawksbill track that was classified as a crawl. To my surprise, the existing nest was not re-dug. There were signs of attempts, but the nest was still intact.

The day was very windy and rough, and there were indications that it was even worse previously as we saw dried rivulets and bent naupaka at the back of the beach. However, the existing nest is in a protected area.

Dan Taylor
Andy Kikuta
Glenn Reed (volunteer)

United States Department of the Interior
NATIONAL PARK SERVICE
HAWAII VOLCANOES NATIONAL PARK
P. O. BOX 52
HAWAII 96718-0052

IN REPLY REFER TO:

N3615

13 December, 1990

George Balazs
National Marine Fisheries Center
2570 Dole St
Honolulu, HI 96822

Howdy, George:

Your letter of enquiry about the status of the illegal road between Punaluu and Kamehame arrived just as I was preparing to call you on that subject. Nobody is answering your phone, so I will write.

I showed the site to Larry Okazaki, an official from DLNR Enforcement Branch, last Wednesday, Dec 5th. We were accompanied by an officer who drove the DLNR vehicle and the leasee, Mr. Freitas. The four of us walked the entire length of the bulldozed track, about 1 1/2 miles.

Okazaki needed confirmation that the track is within the Conservation zoned area, and that it was constructed since the land use designation was established. The leasee needed confirmation that the track existed. All of these elements were confirmed. Okazaki will prepare a report for appropriate officials in Honolulu DLNR, and he will forward a copy to me.

Mr. Freitas claimed he had never seen this bulldozed track before, and that he had no idea who is responsible for it. He claimed no responsibility, since he says he seldom visits the coastal part of his lease and he is not interested in fishing.

Okazaki walked with me through the a'a lava area between the bulldozed track and the Punalu'u boat ramp, which includes ruins of the magnificent Kaneelele heiau and associated features. We walked mostly along a nearly intact trail pavement, an archeological feature of great interest. It is evident that tractors and other vehicle have done much damage to archeological features in this area. I am not certain whether Okazaki will include this in his report.

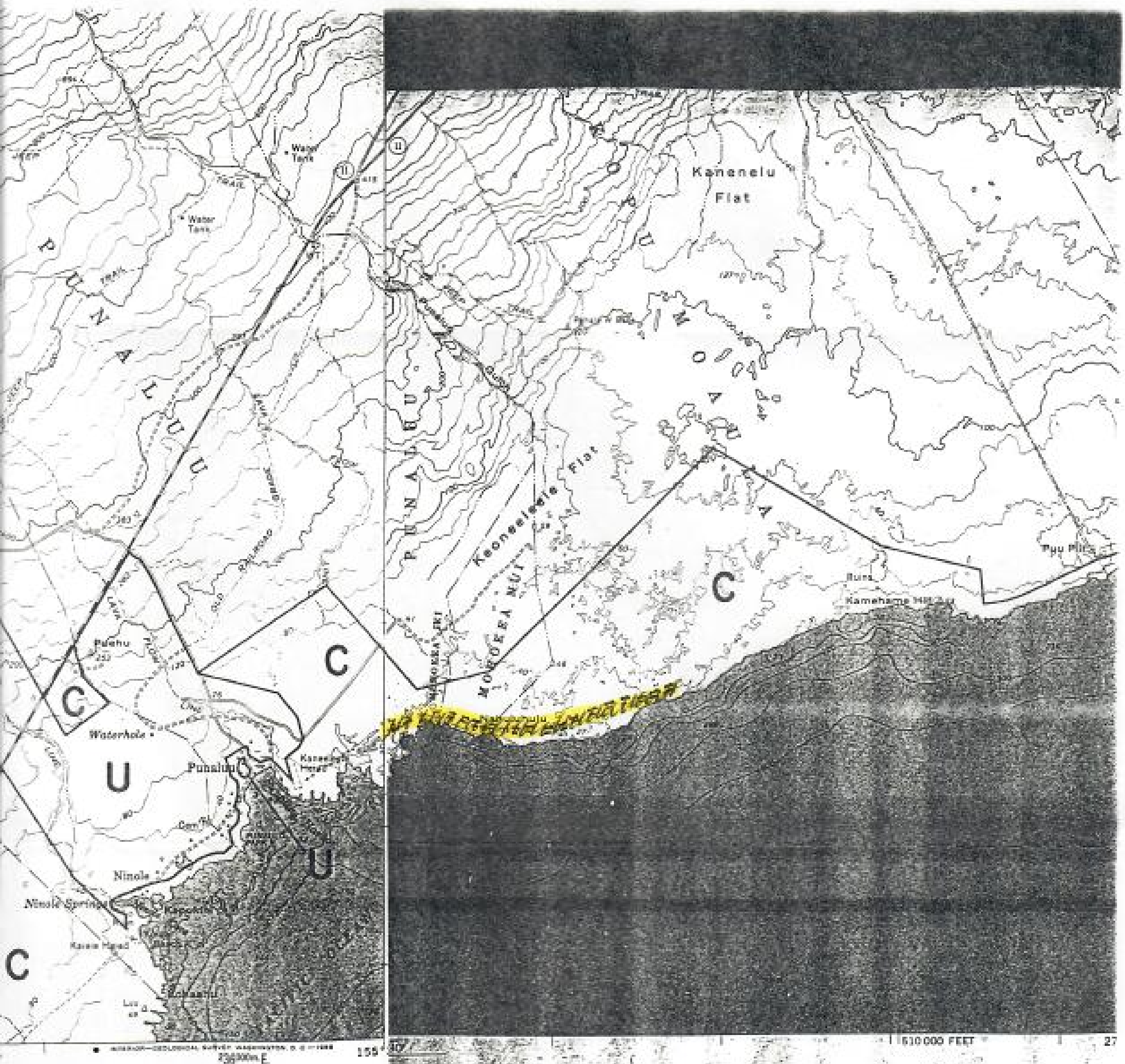
I enclose a map of the area for your reference. I have outlined the approximate axis of the illegal road which passes through the leasee's conservation zoned land.

Next time you are out this way, George, let's take a look at this area. It is quite interesting.

Sincerely,

Dan

Dan Taylor



ROAD CLASSIFICATION

Medium-duty Light-duty

[redacted]

BOUNDARY AMENDMENTS	
DOCKET NO.	DATE

Shaun - A "stranding" for TDB.
Please make copies for your file -
Return these to me.

COPY

DEPARTMENT OF LAND & NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES - MAUI
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5294

October 14, 1994

To: Turtle File

From: Brooks Tamaye, Information Specialist - Maui BT

Subject: Turtle Found at Maalaea Mudflats

On October 5, 1994, DOCARE Officer S. Okamoto notified our office of a Hawksbill turtle found at Maalaea mudflats. The turtle was reported to Maui Police Department and subsequently to him at his residence at 1:30 a.m. that morning. Officer Okamoto responded and found the turtle on the mauka side of the roadway. The turtle was caked in dried mud, indicating that it had been out of the water for sometime. He loaded the turtle in his truck and transported it to the ocean. It seemed disoriented but eventually went to the water.

Officer Okamoto tried to follow its tracks to determine if a nest was dug. The tracks lead to hard substrate where it was difficult to follow. No signs of nesting activity were found.

As time permits a follow-up inspection of the area will be conducted along with Officer Okamoto. Monitoring of the area may follow.

c: DAR-Oahu
NMFS-George Balazs
USFWS-Kathy Smith

DEPARTMENT OF LAND & NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES - MAUI
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5294

October 26, 1994

To: Turtle File

From: Brooks Tamaye, Information Specialist - Maui

Subject: Maalaea Hawksbill Site Inspection

This morning Officer Okamoto pointed out the location where the Hawksbill Turtle was recovered, to U.S Fish and Wildlife staff and myself. It was found about 250 yards south of the bridge on N. Kihei Rd., mauka of the sandy area where vehicles normally pull-off.

Officer Okamoto described the turtle tracks that were found. The turtle came from somewhere near the pond outlet, traveled alongside the roadway and crossed the road near the end of the sand strip. It was found in a dirt-mud area of the Kealia Pond Wildlife Refuge.

Whether or not nesting occurred remains unknown. Periodic inspections for signs of hatchlings in late November may provide verification.

c: DAR-Oahu
NMFS-George Balazs
USFWS-Kathy Smith

MAUI FILE

COPY

DEPARTMENT OF LAND & NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES - MAUI
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5294

October 28, 1994

To: Turtle File

From: Brooks Tamaye, Information Specialist - Maui

Subject: Turtle Sightings at Maalaea

On 10/26/94, DOCARE Officer Dexter Tom related to Officer Okamoto that about 11:00 p.m. the previous night (10/25/94) he responded to Maalaea with Maui Police Officers. Someone had reported a turtle crossing the road. It was reported in the area where the turtle was run over last year. He conducted a search, however no turtle was found. USFWS Kealia Pond Wildlife Refuge personnel were notified of the incident.

Kathy Smith, Refuge Manager informed me yesterday that she had gone out at about 5:00 p.m. on 10/26/94 and conducted an inspection. While there, a beach goer (Tim Stark) informed her that he had come upon a large turtle tangled in pickleweed about 7:00 a.m.. He untangled it and it went directly to the ocean. The turtle was reported to weigh 200 lbs. or more. No injuries were observed. Mr. Stark pointed out the location and it was marked by Kathy Smith. A bowl shaped depression and small mound to the west of it were observed.

On 10/27/94 at about 5:00 p.m. an inspection of the area was conducted by Kathy Smith, Skippy Hau and myself. The location was between where the 1991 nest was and where the turtle was runover last year. The spot where the turtle was stuck, was up against a dirt-sand embankment. The substrate at the base of the embankment was sand with some pickleweed growing. It didn't seem likely that nesting occurred in that spot. The depression appeared to be from the turtles attempts to climb the embankment. Further inspections along the stretch of beach did not reveal any sign of nesting.

It is probable that the turtle found, was the same turtle that was reported crossing the road. Lucky turtle(s)!

If the opportunity presents itself, an effort to tag the turtle(s) will be made.

c: DAR-Oahu
NMFS-George Balazs
USFWS-Kathy Smith

Date: Thu, 21 Sep 95 14:41:12 MST
From: Susan_Pultz_at_1PO-PIE@mail.fws.gov
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: turtles, of course

This is my first message outside of the Fish and Wildlife Service, so it's very exciting for me...

First, I wanted to thank you for your nice note (accompanied by the rap tape -- which is better than I thought it would be!). I would very much like to go to lunch sometime soon.

I also need to introduce you to Heather McSharry, who will be the new point of contact here for turtles. Perhaps we can stop over to your office some time. You name the day and time, and we'll stop by.

As for Kamehame, the Service has coughed up enough end of the year funds to cover the cost of the second satellite transmitter that you attached in August. I placed a purchase order with telonics using the information that you gave Larry from your June order. Please let me know if anything has changed as it just went in and could be changed easily, I'm sure. By the way, thanks for the copy of the Big Island Hawksbill turtle monitoring program booklet. I had not seen it, as you suspected.

On the rest of the Kamehame front, what happened is that I decided that Brooks and Robert were never going to support funding or other efforts with regard to research and management of the hawksbill unless they actually saw a turtle or at least the beach (it's amazing how that works in this office). So Larry and I arranged for him to give Brooks a tour of the beach on August 30. It worked... we got funding for this year's transmitter and Brooks has indicated that he may be willing to purchase one or two for next year (he also whispered to me in a staff meeting this morning that he wishes now that he'd funded a transmitter in Tinian). He also became very enthusiastic about making a video about the hawksbills on the Big Island for public education purposes. This idea comes from the successful making of a public education video on Rota, CNMI this summer, which is being used to sell the habitat conservation plan that's being put together for the island. Anyway, he's very focussed on the video right now, but I think we can use the video to point out a variety of different needs for management/recovery of the hawksbills, many of which were outlined in our February 1994 meeting notes. Then, after the video is made, we're going to look really bad if we don't actually make some of these things happen. At least that's my tentative plan for harnessing Brooks' enthusiasm. Any suggestions would be appreciated.

Brooks asked me to get in touch with you to let you know of our plans, and also to request your review of the "script" once it is written. I had a feeling you didn't get my message when you didn't call back. Communication will be much easier now with e-mail (and I promise all my messages will not be this long). Anyway, Larry will be here next week on September 28, to meet with Brooks, Heather, Barbara Maxfield, our Information and Education Specialist, and me re: a script for the video. You are more than welcome at this meeting. Heather is presently going through my files and putting together a list of background information and management needs for the Hawksbill (not just on the Big Island but throughout Hawaii) that can be used in the video, and hopefully eventually be formulated into a management plan. She will be forwarding a copy of this for your review.

As for our "filming", Heather and I arrived in the office last Tuesday morning to be told that we needed to go to Kamehame that same day and stay through Friday to get some footage of nesting and hatching at Kamehame. Heather stayed one day longer than me and got some great footage of hatching but no adults. Diane Bowen, who's been wanting to get out there anyway, is going out next week in a last desperate attempt to catch a turtle nesting.

One last bit of news, I was able to get $2000 toward the printing of the sea turtle coloring book, so that Sanctuaries is able to print more copies. On that happy note I'll leave you...

Date: Thu, 7 Sep 1995 22:33:20 -1000
From: mrice@hpa.edu
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: Kamehame

George,

Thanks for the fax. I thought that maybe you were out of town or something since I hadn't heard from you.

The trip to Kamehame went well. We arrived there on Monday evening and set up camp. Charlotte and Laura were there and ready to monitor at 1800 as per the schedule. It was a beautiful moonlight night but nothing came out before 0200 hrs. at which time they suspended monitoring (one animal came out at around 0330 but did not nest so we really didn't miss anything the first night. The second night caught us in a heavy rainstorm which lasted until about 0200 hrs. During the night there were five animals that came out of the water and three of them nested successfully. althought it was raining we were able to video the egg laying, nest covering and return to the sea by covering George with a tarp while he did the video- not an easy task for sure. The main problem we had with the video is the lighting- too many hot spots from the dive lights. We are working on this and think that we have some solutions for future efforts. George is putting together a tape to send to Larry, and I will put a copy of it in the mail for you. I think that we can do a much better job in the future (particularly if it isn't raining) but we got a bit of footage that might be useful for an educational video.

During the morning on Wednesday, Jill excavated a nest that had hatched the night before and we were able to get some footage of a few hatchlings that were still in the nest. They were very active and motored down to the sea with great vigor. A wonderful sight!

As we were sitting on the beach during the first night we were discussing the lack of knowledge about the internesting and postnesting behavior of the Hawksbill in this area. The Satellite tags will hopefully help to answer some of the questions about the location of these animals over the next few months. We were wondering about what they did during the time they were off the south coast on a daily basis and Laura suggested that placing an archival tag on a few might be interesting. This sounded like a very clever way to gather information about internesting behavior because the little rascals come back several times to the same beach. The scenario might be to place TDR tags on hawksbills during their first nesting of the season and then plan on recovering the tags either during each nesting or after the third nesting. This would give some 20 to 40 days worth of data on diving behavior, etc. What do you think of the idea? Wouldn't you like to spend a few more days at Kamehame? We even have a new chair for you! Once we perfect the TDR protocol at Kiholo, we should probably take the show on the road--

The trip was a success and the two students I took along enjoyed the experience. They said that they learned a great deal. I agree with you, though, the whole operation could be run more smoothly and efficiently to utilize the help when it is there. We really were not given any monitoring assignments while we were there and 4 hours of each night went uncovered. It is their project and they seem to be gathering some good data - plus, they are stretched pretty thin sometimes.....

I have rambled on enough. Look forward to talking to you soon. Anything I should/could do to help in preparation for the FFS trip? Let me know.

Aloha,
Marc

Date: Wed, 27 Sep 95 09:25:22 MST
From: Susan_Pultz_at_1PO-PIE@mail.fws.gov
To: gbalazs@honlab.nmfs.hawaii.edu
Subject: lunch plans etc.

Welcome back to civilization! How many turtles did you get satellite tags on (that is one reason why you were there, no?)? I'll see if I can track down Marc and your letter just out of interest.

I'm glad you brought up the gill netting at Apua Point. Our meeting with Larry is now on Thursday at 1:00. I plan to throw together a list of problems and management needs, and will be sure to include it.

I'm sorry to hear that you haven't had a signal lately from the hawksbills. I did manage to purchase two more transmitters for next year with end of the year funds, but Brooks doesn't want to make promises as to where they'll be used yet (I think he doesn't want Larry to assume they'll both be used at Kamehame in case he feels there's a better opportunity). Your thoughts on whether it's worth putting them on the hawksbills would be appreciated, as always.

Lunch early next week is good for me. I look forward to it. Any day but Monday -- just let me know what's good for you. I will also bring the tags and pliers from Tinian. I'm meeting Scott Krueger (Donna's counterpart on Tinian) at the airport on Saturday to say goodbyes and pick them up.

Aloha!

Susan

Date: Tue, 07 Nov 95 10:41:30 MST
From: Susan_Pultz@mail.fws.gov
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Hello from the Pacific Northwest

Thanks for the message! I was wondering how things had gone on Rose and glad to get the update. Did you find someone to go with you? Please continue to keep me updated. It will be especially interesting to see where the hawksbills go. Hopefully you'll continue to get some data on them.

At my last meeting with Larry I brought up both the camping and the gillnetting issues. Larry said that camping at Halape had been restricted to a different site where the turtles would not be impacted. Were you aware of this? I didn't have the chance to delve into exactly where it is/ how far from the beach etc. I didn't know if you were aware but thought the move was inadequate, or if he moved it appropriately and didn't inform interested parties, as he is given to do. I hope it's the latter. I'm glad you asked because I'd wanted to ask you.

As for the gillnetting, he denied that there is any going on at Apua Point. There is not much I could say to a flat out denial, except that I had heard that it was happening and was concerned. He seemed irked that the issue was even being raised because he thought he had squelched the rumor before. It seems to me that you'll need another specific report or other additional evidence to get anywhere on this. Perhaps you could contact the Park employee who told you in the first place and have him/her let you know of the next incidence.

I think Larry is a fantastic asset to the Big Island turtles, but am now recognizing that he is more territorial than I initially realized. I'm not quite sure how to approach him on these kinds of issues. I think the biannual meetings is a start. Perhaps you should try to set the first one up soon to review this past season. I'm quite certain the Fish and Wildlife Service would be receptive (you did get a copy of my memo, I hope). Have you met Heather yet? She and Larry get along quite well, so she may be helpful on these type of things.

Well, the weather here's been crisp and clear for the most part -- perfect fall days -- but I think the rain has now begun in earnest. So far no great vitamin D deficiencies. My new work phone is 360/753-4475 (direct line) and I have no home phone yet. I should be moving into my new place sometime this week. My home address is:

3064 Gardenia Lane SW #204
Tumwater, WA 98512

I look forward to further updates!

Reply Separator

Subject: Greeting at your new home, Susan!
Author: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu> at 9de-intr
Date: 11/3/95 4:39 PM

Well, you should be starting to get settled in now to your new life. Ready to come back?? Just kidding.

The trip to Rose went excellent. I don't why, however. There were a

comedy of errors, any one of which could have/should have deep 6'ed the whole operation. I was on the island for 3 nights and had 8 different turtles up nesting. VERY good for Rose. We put a transmitter on every morning, for a maximum of 3 turtles. They are all reporting in right now, but of course haven't yet moved from Rose. They likely will stay there for another 2 months.

When I returned home I found that the 2 hawksbill had provided a few (very few!) positional reports. Enough, however, to say something- and that is that both turtles are along the Hamakua Coast, where they were before I left for Rose. So, the study is "working" (providing useful info), but just barely. But just barely is way better than nothing (=failure).

My wife clipped an article from the paper for me while I was away. It told how HVNP had recently placed some Park areas "off-limits" to camping to protect the "endangered Nene". Well, you know what that reminded me of...

Hence I was wondering what (or if) anything was discussed at your last meeting with Larry regarding 1) Camping restrictions at Halape to guard against another nesting hawksbill from falling and dying in that deep lava crack, and 2) Gill nets allowed to be transported across Park land and set at night in front of the Apua nesting site (I still can't hardly believe that one, but know it true- my source is a Park employee!).

If these items we're discuss, maybe now from afar you could provide some advice on how to handle. I feel burdened harboring this information, but not doing a thing about it. I need to do something. You know in the past I've mentioned it to Larry, but he said there's nothing he could (would?) do.

Write to me when you have the time. Aloha, George

George H. Balazs
National Marine Fisheries Service
Southwest Fisheries Science Center
Honolulu Laboratory
2570 Dole Street
Honolulu, HI 96822-2396

Phone: (808) 943-1240
Fax: (808) 943-1290
Email: gbalazs@honlab.nmfs.hawaii.edu

Aloha! Turtle eggs hatched on Dec. 16th or 17th a.m. according to Larry and Charlotte. Much to my disappointment I had to be away that day when (41) babies came out on their own. On the 22nd, Larry had to be elsewhere. Told Charlotte to get in touch with me which she did to see if there were others that needed help in the nest. Charlotte climbed the fence and dug in and helped (19) of them out alive, while I watched and kept count on the outside. There were quite a few unfertile eggs which I did not get a count of. And I forgot to ask Charlotte. There made many more people watching too with their oh's, ah's and so thrilled to see the little babies 1st time and going straight to the ocean. There was one last one I had to take it to the water as it could not crawl well. The right front flipper kept folding under its body and make it flip over on its back. The coconut roots really grew over the nest within the 2 mos + some days. That may have caused the (19) not able to get out on their own.

1995

Yes + family

Mr. & Mrs. A. L. Howard
P.O. Box 4
Pahala, HI 96777

To say "Hello"
And tell you, too,
How nice it was
To hear from you!

Happy New Year!

Sincerly,
The Howard's
Arnold & Jeanette

Hallmark

175TY 926-7

Thanks for Your Christmas Greeting

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services - Pacific Islands Ecoregion
300 Ala Moana Blvd., Room 3108
P.O. Box 50088
Honolulu, Hawaii 96850
Phone: (808) 541-3441
FAX: (808) 541-3470

October 13, 1995

MEMORANDUM

To: Brooks Harper, Heather McSharry

Through: Karen Rosa

From: Susan Pultz

Subject: Coordination on hawksbill turtle issues

My parting shot... In light of all of the recent activity on hawksbill issues and increasing activities planned for the future, I believe it would benefit everyone involved if the Service, NMFS and NPS hold regular meetings (probably twice a year, both before and after the nesting season) to discuss and update eachother on hawksbill and other turtle issues. George Balazs and I discussed this recently and he too feels that this would assist in coordination. These meetings would enable everyone to get an update on recent activities, to benefit from George's expertise, and to plan and prioritize more effectively. After all, as Robert would say, "we all need to be singing off the same sheet of music". In my opinion, there is no substitute for acheiving this than face-to-face meetings.

Aloha! I'll need my turtles fix periodically, so keep in touch by e-mail!

cc: George Balazs
Larry Katahira

Date: Wed, 14 Feb 96 12:58:21 MST
From: heather_mcsharry@mail.fws.gov
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Sea Turtles

Hi George. You must have ESP, I was just about to call you! I would love to go to the symposium, but with the budget mess, our mainland travel has been suspended (I think Susan is going on her own dime) - maybe next year. No one here has heard anything about congressional inquiries - Karen Rosa thinks they might be calling you because of your appearance on a Discovery Channel show.

A couple of other things... our office is in the midst of a reorganization which has broken the staff up into geographically based teams. This means that there is now a "Big Island Team" which would handle the hawksbill meeting (I'm sure they will ask me to come explain things, and may ask me to go to the meeting). I'll make sure they know the importance of this meeting and of keeping in touch with you - their leader is Jeff Burgett (same #s and e-mail as me, except burgett_jeff). It may be that the office designates "species coordinators" for things that cross geographical lines, so I may be back in change of turtle stuff soon - bear with us! The other thing is the comments we received from the Navy on the Tinian turtle study report. I just got these (and the draft report) last week, and will mail copies over to you for review. I'd sure appreciate your advice! I've also sent them to Susan, so maybe you'll get a chance to talk about it in S.C.

Say hi to Susan and have a bowl of she-crab soup for me!

Heather

_____ Reply Separator _____
Subject: Sea Turtles
Author: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu> at 9DE~INTR
Date: 2/14/96 1:56 PM

Hello Heather: I hear through the grape-vine that Susan will be attending the forthcoming (27-29 Feb) annual sea turtle symposium in South Carolina. So happily I will see her there. If you haven't thought about it, you should plan to go one of these times-- perhaps not too late to go this year. If you want registration information, give me a call.

I haven't forgotten about Susan's memo urging that annual meetings be conducted on the Big Island hawksbill research. I think it is very appropriate, since we all have some involvement in one way or another. The season is over, so likely the data have been summarized and would be interesting to share/look over. Please give some thought as to when would be a good time for you. As with our last meeting, I propose that we fly to the Big Island to meet with Larry and his top personnel, rather than visa versa. A starting point for the informal gathering can be the agenda/minutes that had last time.

Recently our lab has received some congressional inquiries about our involvement with hawksbill research on the Big Island. Have you or any close staff got a similar call?

10/24/96

Dear George,

My friend constructed the ahu at Kamehame in respect, honor and for the protection of the home - her family aumakua. At the top of the ahu was a pohaku which resembled a honu - I'm not sure if it is still there or not. My friend prefers that this information not be shared + especially not publicized.

Thanks for the Kahoolawe information + transmitter paper. As I said I hope to be working with the Hawksbill program during the 1997 season, but I'm not sure what those managers have in mind. Is there anything you can do to encourage them to have qualified / paid people on the beaches w/ volunteers?

Aloha —

Charlotte

FORBES

Charlotte Forbes
P.O. Box 97
Volcano, HI
96785

THE MAUI NEWS FRIDAY NOV. 4, 1994

Community

Halloween was party time in Maalaea

MAALAEA — "Ashes to ashes, dust to dust, life is too short, so party we must," was the message on faux tombstones around the pool area at the Island Sands condo for the Halloween party Saturday night. Those of us who indulged in the lavish potluck buffet threw fears of blocked arteries to the winds with an eat-drink-and-be-merry-for-tomorrow-you-will-diet attitude.

Eight-month-old twins Monique and Richard Plish, dressed as little pumpkins, stood out among the fearsome, funny and beautiful people, as did Ray McMillan in drag as a buxom clown. It was hard to tell who was inside the fabulous clown costume until we heard Ray's unmistakable Cockney accent, eh?

MAALAEA
Lois Janis

Ray's clown costume captured the first prize, while other adult prizes were awarded to a cave woman, a pirate, an ace of spades, a cat, a pumpkin, Pinocchio, a Phantom of the Opera, a red devil, and a Viking.

About a dozen youngsters, ranging in age from the Plish pumpkins to preteen Heather Marino dressed as an 1890s saloon girl, each received a gift-wrapped prize after parading around the pool for a group of judges who simply could not decide which costume was best!

Island Sands resident manager Rob Hudgins and his wife Kathy had a chance to exhibit some hidden talents with their lavish party decorations. The ghoulish theme included a life-size Frankenstein's monster, disembodied hands reaching out here and there, and an animated skeleton dancing either the twist or hula, I couldn't tell which.

During the evening several Island Sands residents commented that next year Hanoli Street should have a progressive Halloween party, with all of the condos taking part so that partiers could go hopping from one to another.

Not a bad idea, eh?

****

TURTLE ALERT: Two rare female hawksbill turtles were reported

808 MAALAEA

Maalaea: Watch out for hawksbill turtles

Continued from Page C1

crossing North Kihei Road in the Kealia Pond National Wildlife Refuge in Maalaea last month. The nesting season of the endangered hawksbills begins in early July and ends in late November, according to refuge manager Kathy Smith, who urges the public to be aware of a possible roadway hazard.

On Oct. 5, a turtle weighing more than 200 pounds maneuvered her way safely across the road, and was found caked in dry wetlands mud by a Department of Land and Natural Resources enforcement officer after the sighting was reported to police around 1:30 a.m., Smith said. Another late-night sighting on the roadway was reported on Oct. 25, but that turtle was not found.

These incidents recall for many of us the less fortunate hawksbill female that was killed in the hit-and-run accident in the same area on the night of Aug. 27, 1993, resulting in about 170 turtle eggs being scattered on the pavement by the impact.

Smith told me the females leave the water to seek a nesting area above high tide and are normally guided back to sea by moonlight on the water. It is likely that they confuse vehicle headlights on the highway with moonlight and become disoriented, Smith said.

Information is being sought on a recent unsubstantiated report of a hawksbill on a Hauoli Street condo lawn. If you know something about this, or of any past hawksbill sightings, call Smith at 875-1582. To report a current sighting, a possible nest, or tracks in the sand, contact the DLNR Division of Aquatic Resources at 243-5294.

Hauoli Street condo managers are urged to help promote awareness of the endangered hawksbills nesting in our neighborhood by posting fliers distributed recently by Larry Whitford of the U.S. Fish and Wildlife Service.

We never know when any one of us may be of help to a hawksbill in a hazardous situation. Tim Stark of Kihei was walking on the Maalaea beach one morning recently when he noticed one in obvious distress beside a sand dune. On closer inspection, he saw that she was struggling to free a flipper that somehow got wrapped in a pickleweed plant. Stark managed to disentangle the turtle, and she returned to the sea, Smith said.