LOGGER

Burned/ 5 meters from west end of camera

3 meters from North Mauka

← 141072 6-9-00

← 181486 6-9-00

- 261374 - sluice 6-9-00

- 29551 - Pond 2 6-9-00

PUAKO KIHOLO
KEAWA NUI
MAUNA LANI
KALOKO WAIKOLOA 1999-2001

SEA TURTE CAM

PUAKO 2 MAY 2000 | KIHOLO 9 JUNE ØØ

6 JULY 2000 KIHOLO P.39 | KEAWANUI Loggers P.101 - 26 JUNE ØØ P.111

30 AUGUST ØØ KEAWANUI | MAUNA Lani 1 JULY ØØ P.137
2 Fishpond turtles - P.38

ML 4 JULY 2000

KALOKO, KENNEDY

BALAZS

Roaring Spring
Compositions
Name GEORGE BALAZS
808-983-5733
808-326-6406
9¾ in. x 7½ in. 100 Leaves
Roaring Spring, PA 16673
0 70972 77229 8

KIHOLO TDR 24 OCT. 2001 P.C. - P.82 & 167
2 MKTS ATTACHED + 5 OWS

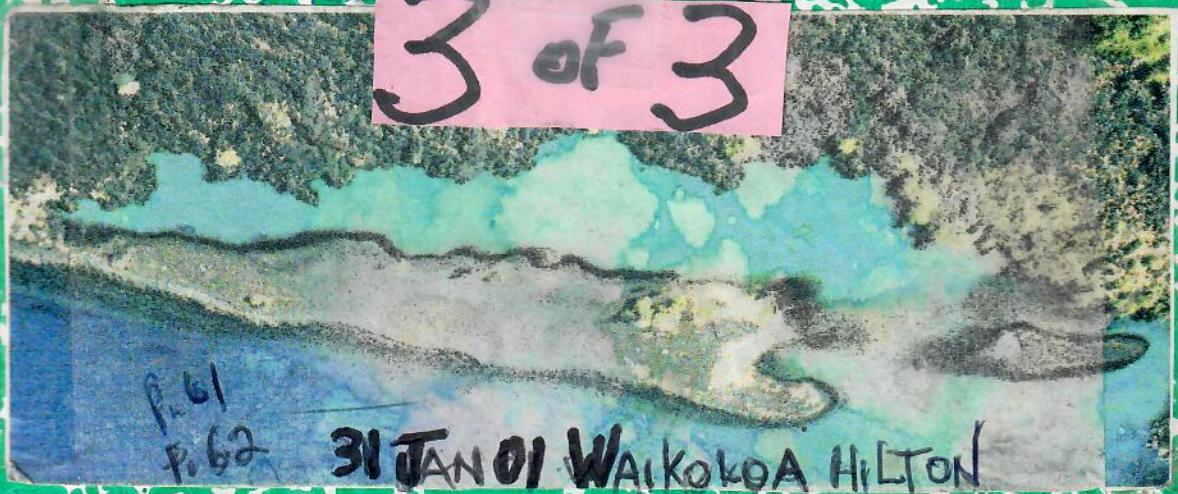
KALOKO 8 APRIL 2000

SeaTurtleCam 7-9 APRIL 2000 - KIHOLO

SEATURTLE CAM 13 OCTOBER 2000 KIHOLO
PAGE - ND

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

3 of 3



P.61
P.62

31 JAN 01 WAIKOLOA HILTON

130

6-26-00

KEDWANUI

Indiana

Kathie Hilbert (Indiana) hilbertk@fayette.~~kia~~ Kiz. in.

Joyce Bohlander (Indiana)

Lisa King volcanolisa@hotmail.com

Mika Conley conley@HPA.edu.

Nick Quintance nquintance@hpa.edu

Alston Nesbitt studnesbitt@hotmail.com

Kelly Wheeler wheeldog_63@yahoo.com

Allison Haselwander zeke@si-net.com

Lauren Wood Lwood@si-net.com

Rachel Robeson rmr@webworks2000.net

~~Kyle Robbins~~ ~~Krob@hotmail.com~~ ~~Krob_10@hotmail.com~~

Kyle Robbins Krob_10@hotmail.com

Need Kyle's Mya worked with us Waikiki taught at UH Lab School

Marie Alexander lalex@webworks2000.net

Tyra Shimabuku tyrar@hawaii.edu

Amy Jones

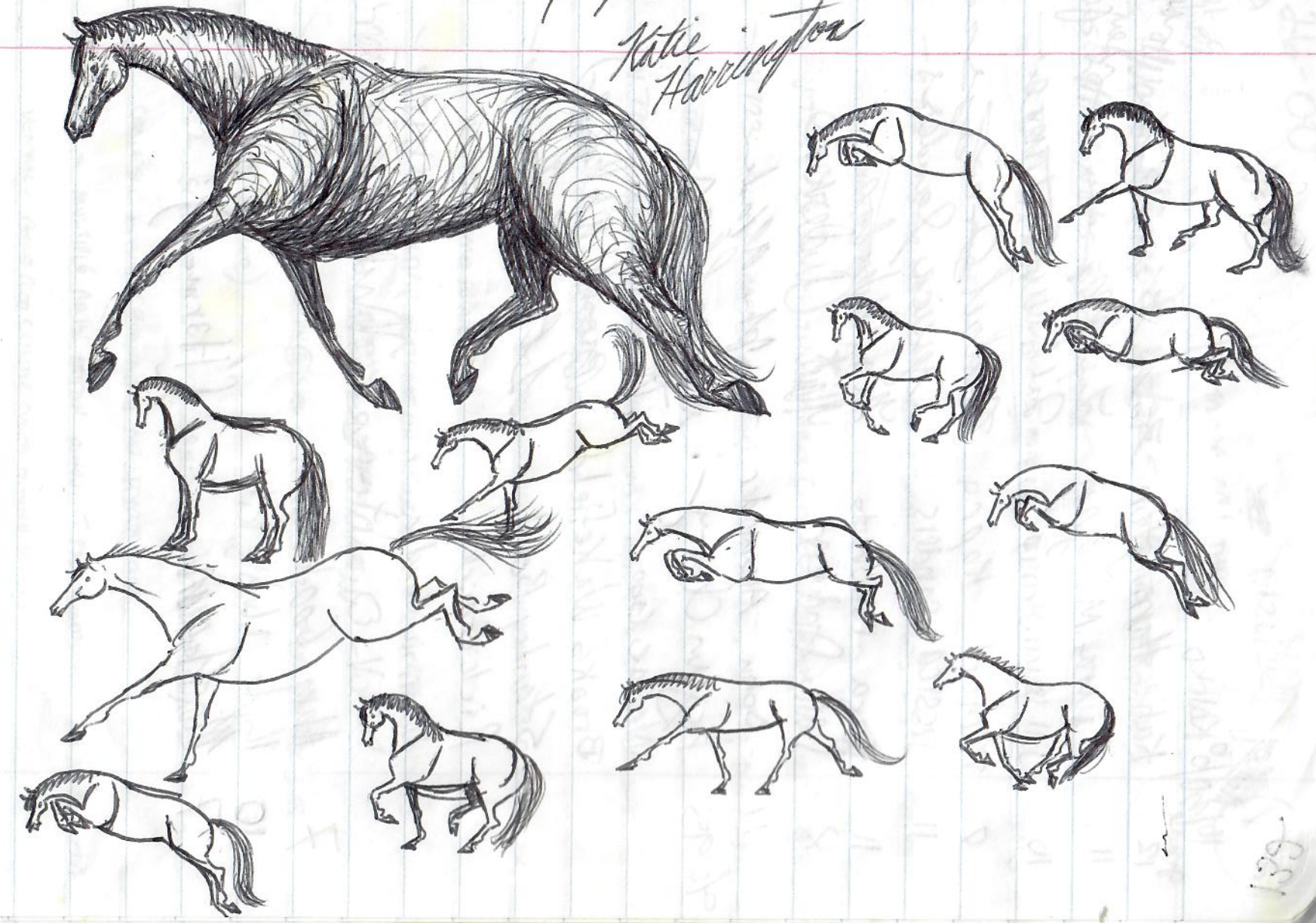
Amanda Ball princesstodaygoddesstomorrow@hotmail.com

Alyssa Friedland falyssa@hotmail.com

+ Christine of Connersville INDIANA

10/30/00

Katie Harrington



132

10/30/00 Monday Kaloko

grade		
12	Katie Harrington	Katie Harrington Horsey
11	Laura Morgan	Laura Morgan Horsey
10	Jill Quaintance	Jill Quaintance
8	Michael Kopra	Michael J. Kopra
11	Jessica Sanders	Jessica Sanders
11	Kara Fukumoto	Kara Fukumoto
8	Nani Anderson	Nani Anderson
11	John Alexander	John Alexander
6/0'95	Arjun Clarry	Arjun Clarry
	Wenae Goo	Wenae Goo
	Brooks Wakefield	Brooks Wakefield
	Stanley Bond	Stanley C. Bond
	Rick Gmirkin	
	Dominic Cardea	
	Nick Quaintance	Nick Quaintance
7	Adam Goodman	
10	Kyle Urbig kit	
7	Max Harman	(Harman)

6-26-00
MAUNA LANI CAPTIVES

N=18

6/26/2K

MAUNA LANI TURTLES

(133)

Work, Morris & Balazs ORAL Exams

Descriptive Notes By T. WORK

- V738 - MULTIPLE PINPOINT PALE LESIONS W HYPOREMIC BORDER ON SOFT PALATE
- V747 5 OR LESS SMALL PINPOINT RAISED PALE AREAS W LESS HYPOREMIA THAN V738
- V725 COALESCING YELLOW PLAQUES W HYPOREMIC BORDER ON SOFT PALATE
- V723 MULTIPLE RAISED RED FOCI ON SOFT PALATE. 2 1MM TAN PLAQUES ON TIP OF TONGUE
- V739 - LARGE # OF RAISED TAN LESIONS W HYPOREMIC BORDERS ON SOFT PALATE & PROXIMAL DORSAL ESOPHAGUS
- V736/~~737~~ LARGE RAISED TAN-BROWN LESION W HYPOREMIC BORDER AT JX OF SOFT + HARD PALATE
- V719/20 MULTIPLE PETECHIAE ON TONGUE SOME W NECROTIC CENTRE SMALL PLAQUE ON ~~CRANIAL~~ ROSTRAL ASPECT OF CHOANAE
- V740 1MM PLAQUE ON (L) SIDE OF TONGUE. SM. PINPOINT ON SOFT PALATE (NO RED)
- V722 SCATTERED <10 DORSAL PINPOINT RAISED AREAS SOME OF WHICH COALESCE AROUND CHOANAE & NO HYPOREMIA
- V737 - MULTIPLE PALE ~~RATHER~~ PINPOINT FOCI SURROUNDED BY HYPOREMIA VENTRAL- ~~RED~~ RED LINEAR AREA AROUND GLOTTIS

134

6 - 26 - 00
Manzanni captives - continued

- V 743 - SAME AS ABOVE, SOME COALESCE & EXTEND DOWN TO ESOPHAGUS
- V 745 - EG EGA YELLOW DIFFUSE NODULE AREA ON SOFT PALATE
- V 742 - DORSAL POSTERIOR ESOPHAGUS - MANY YELLOW LINEAR PLAQUES
- V 741 - ~~#~~ VS PINPOINT ⊙ NOD ON SOFT PALATE
- V 744 CLEAN
- WB08 - LARGE RAISED YELLOW NODULE AREA COVERING ENTIRE SOFT PALATE & DORSAL ESOPHAGUS, ~~YELLOW~~ SIMILAR FOCAL LESIONS ON VENTRAL ESOPHAGUS OPPOSING. 2 PETECHIAE ON TONGUE
- WA9L - CLEAN
- WA 89 - <5 PINPOINTS ⊙ NOD ON TONGUE & SOFT PALATE

136 Continued from p. 171

KEAWA NUI

Keawa Nui - 26 Monday June 00

MARC reported baskets on Pahoehoe outside Keauanui inlet. Scuba + snorkelers reported seeing only one turtle offshore. Boat house personnel said in past 2 years far fewer turtles seen. Proceeded to work up all turtles including mouth exams. 1245 Noon after Coach Bob Morris, GB, T.W. and Veronica & Jill went to hotel ponds - 18 SLP turtles had been taken out by Marty & Danny. Proceeded to inspect each mouth, found lesions, plaques Ranging Mild → Severe in 17 of the 18. See p. 133-134 TW Notes. DIGITAL Photos Sandie Patton + VP for hotel present. Returned to Cottage - 4 more had been caught - Scoop net along shoreline - Keawa Nui inlet etc.

Thierry took blood from all 13 for comparative hematology study (multiple sites). I took Dot Blots for OA test.

Conclusion of the 3 of us: ① DO NOT RELEASE UNTIL LESIONS DIAGNOSED. ② RETURN TO SLP TO Quarantine ASAP

Bob Morris & GB Aloha 455 pm TO HONOLULU

need correspondence on Fishpond turtles

TIDE chart = Page 129

Mauna Lani (Lots)

(137)

1 July 00 Depart FL 216 ~ 1145 AM

Saturday Thierry flew to Kona earlier this morning.

DATA = PAGE 38

OBJECTIVE: (1) TO CAPTURE 3(?) TURTLES IN FISHPONDS) TO determine health status, especially with regard to ORAL CAVITY

(2) Remeasure to determine growth in ponds (no external food know - feeding not happening

(3) Make a decision on fitness to release -
a) safety TO WILD POPULATION?
b) positive or negative for the turtles?

Arrive ~ 115pm - Hotel lobby - Marc, Laura, Mathew, Marty, Sandie, Discussed plans - one turtle in large Chuapua Pond had been caught yesterday - seen basking behind boathouse. TURTLE NOW in Makaha.

(caretaker) saw 2nd turtle he believes, ~ 2 wks ago. Third turtle (Large) is in "quelling" pond north of hotel near golf course / Banyan apartments ($3,500 day w/ butler). Danny & Marty tried to catch it yesterday, but zoned hard on.

138

LISA
DAVID
CHARLES DA
GENE NITTA, +

TAG #
10551 RFL
10552 LFL
10553 distal

(rf-front 3-4)

Turtle #1

plastron 55.6
head 9.6
tail 19.5 (likely ♂)
Rt front flip 11.6
wt 104 lbs

SL 66.6
65.9

SW - 52.9

C 71 X 65.5

Robust plastron.

Nowcomed
3/18/92
SL = 66.9 x 51.8
CL = 71.0 x 65.0
weight = 100 lbs
TAIL = 27.5 (18.0)

6/30/88 MAUNA LANI HOTEL POND
1pm

Turtle #2

54.7
10.0
12.5
10.7
88 lbs

S - 67.2 SW 54.2
N - 67.0
C - 73.5 x 67.0
Tag # 10554 (THROUGH PARTIAL HOLE) left front fl.
10556 left front (3-4)
Tag # 10555 right (3-4)

NOT Robust

1st scale

Rt scale rt. tear & tag hole on right. fl. RIGHT
front flipper
PARTIAL HEAL hole on left front

MAX ____ 111
MANAGER
+ Norman AHI

TURTLE #3

44.9
8.2
10.8
8.7
55.5 lbs

S 55.7 SW 42.9
N 55.2
C 61.0 x 53.0
Tag # 10557 rt front 3-4

Tag # 10558 left front fl (3-4)

Tag # 10559 rt rear RHIND

ventral
rt front likely tag tear

KIHOLO-TAGGED TURTLES THAT COOPER TORE TAGS OUT OF?

4th TURTLE IN POND NOT ABLE TO CAPTURE.
Lecture at Mauna Lani.

Historical Information for Turtle Tag V539 Redure

Tag Information: Found at Necropsy

Tag Number	Date	Tag Type	Tag Position
7F491C74	5/4/93	PIT	PIT
R841	5/4/93	I681	RHF
V539	11/20/91	I681	RFL
V540	11/20/91	I681	LFL
V541	11/20/91	I681	LHF

Date	Type of Encounter	Location:	TumorRank:	NestingAct:	Straight Carapace	Since Last Encounter Interval Month	Since Last Encounter Interval Year	Since Last Encounter Growth-Rates cm/mon	Since Last Encounter Growth-Rates cm/yr	Overall Interval Month	Overall Interval Year	Overall Growth-Rates cm/mon	Overall Growth-Rates cm/yr
11/20/91	Near Shore	Hawaii, Puako	0	-	56.6	---	---	---	---	---	---	---	---
5/4/93	Near Shore	Hawaii, Puako	0	-	58.0	17.0	1.4	0.1	1.0	17.0	1.4	0.1	1.0
12/22/93	Near Shore	Hawaii, Puako	0	-	58.4	7.0	0.6	0.1	0.7	25.0	2.1	0.1	0.9
1/18/95	Near Shore	Hawaii, Puako	0	-	58.8	12.0	1.0	0.0	0.4	37.0	3.1	0.1	0.7
8/10/00	Near Shore	Hawaii, Puako	0	-	---	66.0	5.5	---	---	104.0	8.7	---	---

Dead Puako Necropsy 9-21-00 TW

Date: Thu, 10 Aug 2000 12:04:12 -1000
From: Marc Rice <mrice@hpa.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: smurakawa@honlab.nmfs.hawaii.edu
Subject: Re: SCHEDULING FOR MIDWAY (fwd)

Puako Redure

George,
Thanks for following up with the call about the stranded Puako turtle. Below is a summary of the events:
Thursday... 8/10/00
~0930 h notified by Shandel that there was a report of dead turtle at 56 Puako Beach Road

~1030 arrived at 56 PBR and was met by Jim Penny who reported the turtle and is a carpenter working on the house (56 pbr). He noticed the
smell this morning.

~1040 the turtle was located approximately 12 feet in front of large cement barrier wall in front of house. It was facing north east. There were no apparent injuries on the dorsal surface. The animal appears to have been dead for several days as the ventral scutes were falling off and the marginals came free when I tried to lift the turtle.

there was an apparently healthy turtle out of the water 10 feet behind the dead turtle.. it appeared to be basking. Our presence eventually caused it to crawl back in.

Tags-- 4 metal flipper tags ...read two of them V541, V540. Did not check for PIT.

Greg Erickson, Jim Penny and two assistants helped to bag the turtle and transport it to the trailer. I brought it back up to HPA and plced it in the freezer at 1130 h.

The lady that owns the house commented that she was worried because she wasn't seeing as many turtles as she used to. she also was concerned by the death of this turtle. I told her we would let her know what we /you find out subsequent to a necropsy.

ADDRESS:
Alice McKittrick
56 Puako Beach Road
Kamuela 96743
882-9976

or--- 4555 N. Caminito Pass
Tucson, AZ 85718

If you would, please send her some literature.

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OCT 2000

SeaTurtleCam III
Re-installation

10-13-00
Friday Depart 610 Am
Aloha FL 82 - no rental
cars available in town (Triathlon weekend) -

Accomplished Objectives & Reinstall Mele & Maka
"The Eyes have it" and associated Electronics
Recently shipped TO Marc by Daniel Zatz

Not Done (2) Video close ups of Turtle eyes - bashers at Kiholo
(Measure also weigh) Very Few Bashers

(3) Look for MT 81 (high 04) NOT seen

Accomplished (4) Retrieve old data loggers (along edge of lagoon) NOT ENOUGH TIME

(5) Pretty Video of bashers w Audio
and of Kiholo

Picked up by MARC - TO Kiholo - Met by G. Watson,
Bill _____ (Maui SuperComputing Center - UHA), Katherine
Harrington student, Gary _____ 7-8th graders
camping at Kiholo - Brooks & Barbara COPRA teachers,
Mary & others motored gear to Peninsula.
I walked around edge doing Video.
Same cameras installed "#1" & "#2"
Mele (looking from land side) Right
Maka (Closest to Palm tree.) left

Carpet Need
on Rocks Sony Tripod w/Remote control in Pouch

10/13/00 Took out windshield washer boxes -
Friday not needed. Installed controlled box
about in center of Peninsula = higher
and shallower to prevent flooding.
Solar panels behind it. Larger microwave
antenna - though it doesn't seem much larger.
Cameras are closer to the water - at least Male
camera is.
Saw one Grapsid crab while moving stones.
Very few turtles seen - only one near camera -
shallow water close to shore. However, Achilles
pulled up there - waiting a deterrent.
Completed all installation work about
12 30pm. Walked back taking video.
One turtle in shallow water - out for
awhile - toward end (Peninsula side) of
lagoon. Another turtle, TM 45, on Peninsula
toward coconut trees.
Report by Brooks of ~ 5 turtles
feeding in shallow water in front of
Bokkens' house.

Marc drove me back to Airport - Aloha
150 PM FL TO
Honolulu.

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Date: Wed, 23 Aug 2000 09:02:08 -1000
From: thierry work <thierry_work@usgs.gov>
To: stanley_c_bond@nps.gov, gbalazs@honlab.nmfs.hawaii.edu
Subject: Kona

Stan-

KALOKO

Upon reviewing some of the hematology we did from turtles in Kiholo, it appears some are very anemic and low on protein which would tend to support the theory that food may be limiting for immatures over there.

If you're interested, we (GHB and TMW) propose to do the following with turtles from Honaunau or areas immediately adjacent.

Take weights and measurements
Take blood samples and run for hematology, total protein, and bacterial cultures.

This would give us an idea of the general health (body condition-weight and measurements;
physiologic status-hematology; possibility of infectious agent-bacterial cultures) of the Honaunau turtles.

A budget for the above would be as follows:

Hematology $30.00/animal X 10 animals = $300.00
Bacteriology $180.00/animal X 10 =$1800.00
Bacteriology media =$450.00

The budget you outlined ~2800 should cover this. Please do not hesitate to call if you have questions.

Thierry M. Work
Wildlife Disease Specialist
US Geological Survey
National Wildlife Health Center
Hawaii Field Station
PO Box 50167
Honolulu, HI 96850
tel: 808 541-3445
Fax: 808 541-3472
email: thierry_work@usgs.gov

Date: Tue, 29 Aug 2000 14:54:29 -0400
From: Stanley C Bond <Stanley_C_Bond@nps.gov>
To: gbalazs@honlab.nmfs.hawaii.edu, thierry work <thierry_work@usgs.gov>,
KAHO Superintendent <KAHO_Superintendent@nps.gov>
Subject: Re: Kona

Thierry

Looks good. The turtles to be tested will come from Kaloko-Honokohau NHP rather than Pu'uhonua o Honaunau, although we could spread this project across the two parks if it is feasible. We should plan on taking samples no later than october, otherwise the number of turtles in the park drops (however we also need to wait until the funds reach RCUH). I look forward to the park being a part of this research.

Stan Bond

Reply Separator

Bedure

ona
rry work <th usgs.gov> at np--interp

DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
FAX TRANSMITTAL
Date: September 19, 2000

To: M Dupree, NMFS/PIAO, FAX # (808)973-2941
G Balazs, /Hon. Lab, 983-2902

From: Dave Eckert, DAR Honolulu
FAX (808) 587-0115; VOICE (808) 587-0113

Subject: "Hughes" (TV commercial) filming at Kiholo 9/21/00

Number of pages including this sheet 1

Disposition:
x Immediate Action
x Review/Comments
Information

Message: Margaret, George--

On basis of latest info from film office, and further discussion among our staff, we now intend to issue our ok for this project, with conditions. Wanted to let you know as far in advance as we could, and our reasoning.

Info (these become conditions)

- one day (w/ second day for weather contingency)
- only one hand-held camera--no other equipment, wires or cables, or vehicles beyond bounds of private (Mitchell) property, and no more than 13 people off said property (i.e. at/near shore)
- no person, vehicle, equipment or other object to enter water
- permittee has arranged for a DOCARE officer on-site at permittee's expense

further info

- turtles which bask at Kiholo come and go--periods when no turtles are basking are common
- minimum approach distances are set for marine mammals (50 yds for monk seals hauled out), but there are none for turtles

DAR's additional conditions

- permittee's staff--including supervisory, technical, artistic, staff and "talent"--may not approach within 50 yds of any turtle: any filming not possible under this condition is not permitted
- all lands outside the boundaries of the private (Mitchell) property must left in the condition in which they are found (including, but not limited to, removal of all waste, trash, rubbish, etc.)
- all activity outside the boundaries of the private (Mitchell) property--including setup, filming, cleanup, and restoration--must be completed within 6 hours
- DAR will inform the main (Honolulu) DOCARE office of these conditions of approval, but Hawaii Film Office will accept responsibility for ensuring that the DOCARE officer on-site receives a written copy as well

We'll advise Film Office that 1) our conditions do not substitute for or relieve permittee of any applicable Federal requirement; 2) in future, DAR would want enough notice (2 weeks) to arrange for one of our staff to be present, to observe actual activities and any impacts.

Please fax any suggestions for additional conditions, other comments ASAP--we gotta give our final answer tomorrow.

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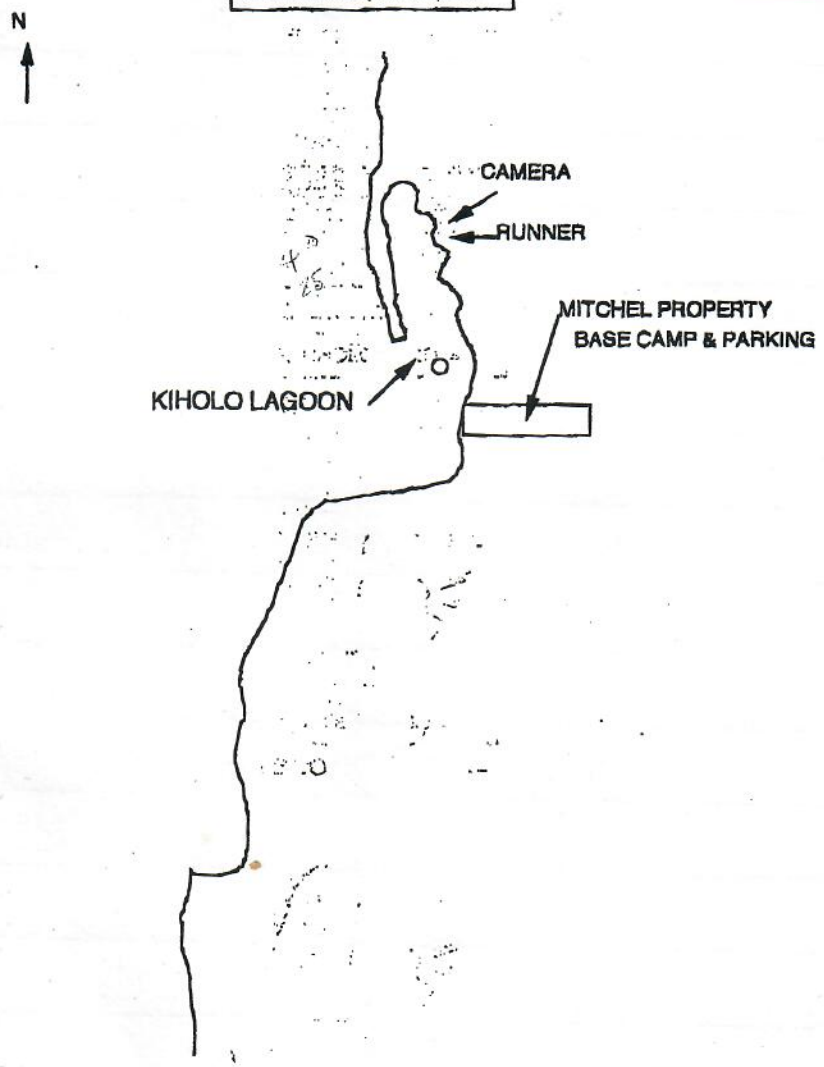
FAXED

Straw Dogs / Hughes

MAP: KIHOLO LAGOON



MAP NOT TO SCALE

FIPAC #01-113

(Complete this section for **EACH** location requested.)
REVISED

Applicant: STRAW DOGS **Project Name:** HUGHES

Kiholo Lagoon – (Name of Location) Hawaii (Island) Thurs., 9/21/00, 9am-1pm weather day: Fri., 9/22/00 (Dates and Time)

8. DESCRIBE ACTIVITY YOU WILL BE FILMING / TAPING AT THE LOCATION:
Film a man Running on the Lava next to the lagoon.
Applicant is aware that turtles inhabit the area and has stated that they will not go into the water and will not disturb/affect the turtles.

9. TOTAL NUMBER OF PEOPLE (CAST AND CREW) ON LOCATION? 25

10. DESCRIBE ALL EQUIPMENT AND VEHICLES ON LOCATION (Indicate Parking Plans):

a. Equipment: Grip, Camera, Electric

b. Vehicles: Camera truck, Motorhome, 6 Passenger Cars

c. Parking Plans: Parked on Private Property = Mitchel Property

11. DESCRIBE ANY USE OF BOATS / THRILL CRAFTS / PLANES / HELICOPTERS / RECREATIONAL VEHICLES / PYROTECHNICS / SPECIAL EFFECTS / ANIMALS AND / OR ANY OTHER PROPS (Attach a separate sheet if necessary):

Karen L. Greenler 9/15/00
Applicant / Authorized Signature Date

Both production company and its Hawaii representative or agent are responsible for the locations and activities listed herein.

FOR USE BY HAWAII FILM OFFICE AND / OR GOVERNMENT AGENCIES 9/15/00

SUBMITTED BY: Sandra Pichiraya (Hawaii Film Office Staff Signature) SENT TO: DLNR - Big Island Olcand Ugut (Agency Aquatics Date)

APPROVED / DENIED BY: _____ Signature _____ Agency _____ Date

Approved Subject to: ☐Special / Standard Conditions ☐General Conditions ☐Additional Conditions
☐Obtaining approval from County Gov't. / Federal Gov't. / Private Land Owner

INSURANCE: ☐Required ☐Not Required ☑Attached ☑On File with the Film Office

FAXED / SENT TO: ☐Applicant ☐DAGS ☑DLNR (DOBOR / DOCARE / DOFAW / LM / NARS / Parks)
☐DOT (Air. / Har. / Hwys.) ☐DBEDT (HCDA) ☐Judiciary ☐UH (IfA) ☐Other: _____

COMMENTS / ADD'L CONDITIONS / NOTES: _____

Fees $ _____ Make payable to **STATE OF HAWAII** **FIPAC** #01-113

Revised on 3/17/00

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State of Hawaii - Department of Business, Economic Development & Tourism
Hawaii Film Office - 250 South Hotel Street, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii, 96804-2359
Telephone: (808) 586-2570; Fax: (808) 586-2572

FAXED

FROM: Hawaii Film Office TO: ① Stan Tamura, DOT-Highways, 4 pages; + ② Gordon Heit, DLNR-Land Mgmt., 4 pgs.

FILM PERMIT APPLICATION: General Information Section

1. APPLICANT (Company Name): Straw Dogs
2. PROJECT NAME: Hughes
3. ADDRESS: 8330 West Third Street
   Los Angeles, CA 90048
4. PHONE #: 323-782-0777 FAX #: 323-866-3189
5. ON-SITE CONTACT (Name & Phone #): Karen KK Greenlee
6. HAWAII ADDRESS (If different from above): Outrigger Waikoloa Hotel

   PHONE #: (808) 886-6789 FAX #: (808) 886-7852 Pgr. / Cel. #: 808-639-8396

STATISTICAL INFORMATION

PROJECT TYPE:
- ☒ TV Commercial
- ☐ Feature Film
- ☐ Print Ad. / Stock / Calendar / Mag.
- ☐ Music Video
- ☐ TV Episode / Special / MOW
- ☐ Documentary / Educational / News
- ☐ Travelog / Industrial / Video stock / Tour video
- ☐ Hawaii-based Network TV series
- ☐ Sports / Exercise
- ☐ Miscellaneous
- ☐ Multi Media CD ROM

FORMAT:
- ☐ Still
- ☒ 16mm; 35mm; 70mm movie film
- ☐ Video

Budget: $350,000 Hawaii Expenditure: $200,000 # Local Employees: 15 # HI Shoot Days: 4

7. FILM LOCATION REQUESTED, DATES AND TIMES (To make processing easier and faster, please attach a map of the exact location requested, or street address, Tax Map Key number, or describe in as much detail as possible. If necessary, attach a separate sheet with additional location information.):

   ~~4H~~ DOFAW a) Mauna Kea (Name of Location) Hawaii (Island) 2 days during 9/18-22/00 (Dates and Time)
   6 hours between 5:00/am and 8:00/pm

   DOFAW b) Mauna Loa (Name of Location) Hawaii (Island) 2 days during 9/18/00-22/00 (Dates and Time)
   24 hours for parking / Film = 4:00/AM - 9:00/PM

   LM Aquatics c) Kiholo Lagoon (Name of Location) Hawaii (Island) 9/21/00 9am-1pm (Dates and Time)
   weather day: 9/22/00

   d) Kehena Beach (Name of Location) Hawaii (Island) 1 day during 9/19-22/00 (Dates and Time)
   5:00/AM - 9:00/PM

FIPAC #01-113

BENJAMIN J. CAYETANO
GOVERNOR
SEIJI F. NAYA, Ph.D.
DIRECTOR
SHARON S. NARIMATSU
DEPUTY DIRECTOR
DAVID W. BLANE
DIRECTOR, OFFICE OF PLANNING

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

HAWAII FILM OFFICE

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804 Web site: www.hawaii.gov/dbedt
Telephone: (808) 586-2570
Fax: (808) 586-2572

Facsimile Transmittal

Date: 9/15/2000 **Pages:** 4

To: Dave Eckert, DLNR-Aquatics **Fax:**

From: Sandi, Hawaii Film Office, 808-586-2570 (phone); 808-586-2572 (fax); email: sichihar@dbedt.hawaii.gov; web site: www.hawaii.gov/dbedt

Regarding: Film Permit Request for Kiholo Lagoon

Hi! Per my conversation with the location manager, the production would like to pursue filming on the lava at Kiholo Lagoon. Attached is the revised film permit application with the specific film date and times (a weather date has also been included). Please let me know what opinion Mr. George Balaase (?spelling?) of the National Marine Fisheries has about the filming activity. Also, please advise if one of your guys will be able to monitor the filming. The applicant has DOCARE lined up and I've advised her that even if someone from Aquatics is on-hand to monitor the shoot, she will still need DOCARE.

Thanks for your assistance with this matter!

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

TIMOTHY E. JOHNS
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY DIRECTOR
JANET E. KAWELO

ACTING DEPUTY DIRECTOR
AQUATIC RESOURCES
AQUATIC ENVIRONMENT RECREATION
COMMISSION ON WATER RESOURCES
MANAGEMENT
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

FAX TRANSMITTAL

Date: 9/18/00

To: George Balazs
NMFS/Honolulu Lab
FAX No. (808) 983-2902

From: Dave Eckert
FAX: (808) 587-0115
Voice: (808) 7-0113
Email:

Subject: Kiholo Film Permit Application

No. of pages: 5 (including cover sheet)
Disposition:
___ Immediate Reply
___ For review/comments
✓ Your information or

MESSAGE: George

Called back Sandy fr. Film Office before I sent this; she said Planet of Apes sequel still in works, entirely separate from this commercial shoot, and that for this one, "only 13" people would go out to shooting site (rest will stay w/ all vehicles on Mitchell Property) w/ "grip" equipment (meaning hand-carried); she'll find out what's included in "electrical," while I see what Derick says and if we've got a body to observe (if Derick wants).

Dave

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Subject: Re: Request for filming
Date: Tue, 29 Aug 2000 17:23:12 -1000
From: George Balazs <George.Balazs@noaa.gov>
Organization: NOAA
To: Mike.Laurs@noaa.gov
CC: Charles Karnella <Charles.Karnella@noaa.gov>

Mike- I receive multiple inquiries each week asking about the status, biology, ecology and behavior of sea turtles. Georgette of the DBET filming office (who has contacted me in the past) recently called and asked such questions in relation to a request for 5 days of major movie shooting at Kiholo Bay. Kiholo, due to it's very small size, and great numbers of turtles, is likely the most concentrated foraging and resting and basking area for sea turtle in the Hawaiian Islands (and maybe anywhere in the world). Mainly of course green turtles, but also foraging immature hawksbills. She asked for my advice, as a sea turtle biologist. My thoughts turned out to be consistent with what she had already been told by two DLNR aquatic biologists. That is, major activities in the area are very likely to be very disturbing disruptive to the turtles. After hearing these opinions, she indicated she would be removing Kiholo permanently from her list of "potential places" where filming should be considered, at least filming that involved more than a few folks for a few hours. From your message, it would appear she has changed her mind.

We have several papers on our work at Kiholo, I'm mailing copies to Charles and Margaret (who left a voice mail for me earlier today, but it was unclear what she was asking of me). Mahalo, George

Mike Laurs wrote:
>
> *George: I have turned over to PIAO a request from DBET about making a*
> *film (I think on the 'Big Island') which you apparently have made*
> *comments to regarding the possible impacts on sea turtles. This is a*
> *management issue that should be handled by PIAO and Charles has agreed*
> *to deal with it. Pls. send him any information that you may have*
> *regarding the request*

---------- Forwarded message ----------
Date: Wed, 30 Aug 2000 07:47:58 -1000
From: Ursula Keuper-Bennett <howzit@turtles.org>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: New tag read but a weird one

(Wrote this yesterday then forgot to send!)

K808 on RHF. Peter is certain. Said he got an excellent look at it.

We figured your K turtles are Black Rock. we're used to two-digits after the K, not three.

Would appreciate info on this honu

Tag Information:

Historical Information for Turtle Tag K804

Tag Number	Date	Tag Type	Tag Position
K804	5/15/94	I681	RFL
K805	5/15/94	I681	LFL
K806	5/15/94	I681	LHF
K808	5/15/94	I681	RHF

Date	Type of Encounter	Location:	TumorRank:	NestingAct:	Straight Carapace	Inter Month
5/15/94	Near Shore	Hawaii, Kahaluu, South Kona	0	-	57.5	---

Date: Thu, 28 Sep 2000 07:12:34 -1000 High Okadaic ACID
From: "Marc R. Rice" <mrice@hpa.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: This is bizarre..

Don't have much on MT 81 other than it was etched on 6/9/00 and had body temp of 28.3 degrees. No special notes or anything on the condition because you were there and the majority of the data was taken in your book.

--

Marc R. Rice
Assistant Headmaster
Hawaii Preparatory Academy
65-1692 Kohala Mt. Road
Kamuela, Hawaii 96743
phone: 808 881 4004
cell: 808 987 6903
fax: 808 881 4003

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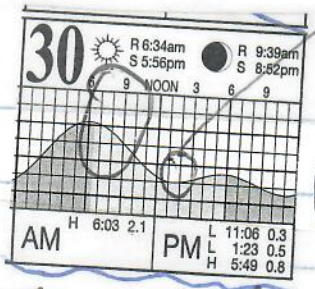
Data pages p. 50-57

KALOKO



STILL TURTLES PRESENT.

Monday Oct. 30 2000

Depart 610am w/ Wende Goo, Bob Lamoyer, Thierry work. TO Kaloko via Honokohau harbor - met by Stan Bond. Set up about 745am - "Kai" school teacher (Physics) Kohala High School (works w/ George Watson). Lots of turtles both sides of fish trap. Easy to catch by Hand & Scoop net. Proceeded to Scrub necks (T.W.) w/ liquid detergent & betadine soap. Then alcohol. Blood drawn for culturing - sent to (1) Madison & (2) Duke lab in California = Blood also retained by TW for hematology & plasma bank. I took and of 10 Blood dots for each turtle. I took oral swabs - return to Bob Morris 10-31 for submission to California lab. Measurements taken of body thickness.

■ BLOOD CULTURE (1 set)

Test Code: 406

Submission Requirements: Two blood culture bottles

Storage/Stability: Room temperature

Suggested Protocol: Wash venipuncture site with soap and rinse with sterile water. Apply 1 - 2% tincture of iodine or povidone-iodine and allow to dry. Remove iodine with 70% alcohol wash. Let dry. Draw 4 ml of blood into sterile syringe. Change the needle and inoculate 2 ml into each of two culture bottles. For animals >40 lbs, call Customer Care for larger bottles.

Turnaround Time: 3 days minimum

Comment: Obtain additional two blood cultures with at least 45-60 minute interval between each. Specimens are incubated for seven days.

"Failure to thrive turtle Disease"

2570 Dole Street
Honolulu, HI 96822-2396

"Turtle Chronic wasting Disease"
"Swimming Dead Turtle Disease"

SEA TURTLE NECROPSY / TUMOR FORM

DATE FORM FILLED OUT 12 / 01 / 00

NECROPSY DATE: 12 / 01 / 00 MTRP STRANDING ID 11-30-00

CONTACT: VIA MARK RICE (HPA) DATE: 11-30-00 LOCATION: PUAKO, HAWAII

PERSON RECORDING DATA: KH / GHB

DESCRIPTIVE REMARKS:
-Thick algal mat on carapace *Bloody fluid in animal carrier
-Separation of skin and anterior edge of carapace over a ~12 cm area. (Likely autolytic separation)
-GI TRACT Filled TO capacity
-Very soft plastron.
-Severe emaciation.
-Left side posterior skull 4cm impact injury through bone. (Likely 3-prong spear)
-Left anterior plastron, small puncture extending to pectoral muscle - May not be recent - No hemorrhage apparent.
LFF 221AGA0306

TUMOR SCORE: 0

TAGS: Q420, Q419, Q421

SEX: Male, Female or Undetermined: M

DB: Ø VB: Ø

STRAIGHT CARAPACE - LENGTH: 43.2 cm WIDTH: 33.4 cm

NOTCH LENGTH: 43.1 cm PPS (Y/N): Y

CURVED CARAPACE LENGTH: 45.5 cm WIDTH: 40.0 cm

HEAD WIDTH: 7.9 cm

TAIL LENGTH: T 9.0 cm C 5.5 cm

RIGHT FRONT FLIPPER WIDTH: 9.1 cm

PLASTRON LENGTH: 34.9 cm

WEIGHT: 18.1 lbs #

SAMPLES COLLECTED: Forestomach Contents + Algae, Humeri w/ tags, soft palate

ALL tissue samples sent TO DR. T. Spraker

Digital #9: Crop/food
#11 & 12 = LFF (Pit tag)

Digital photos #1-4, 5 (PLASTRON), (6, 7, 8) (PLASTRON) FULL LFF (tag)
Print photos # > 3

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	TOTAL	REMARKS
RIGHT EYE						
LEFT EYE						
MOUTH						
NECK						
RFF						
LFF						
RHF						
LHF						
CLOACA / TAIL						
SEAMS / SCUTES						
INTERNAL						
TOTAL						

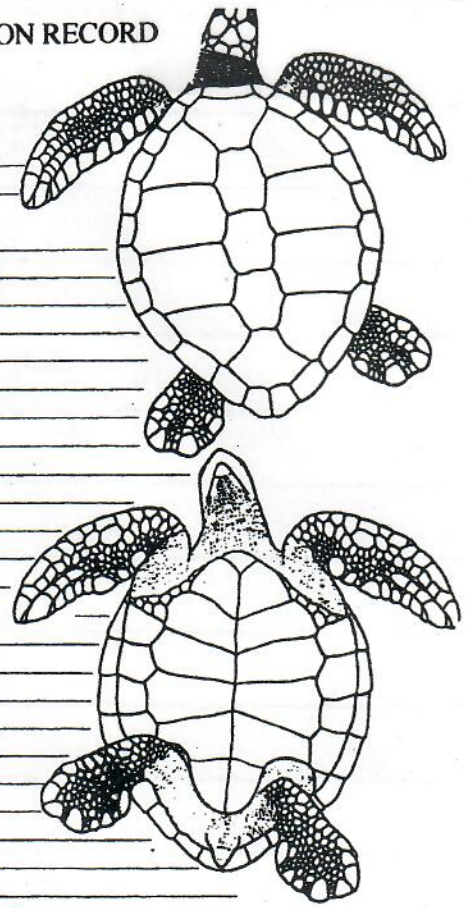
OTHER INFORMATION:
Pectoral muscle severely atrophied *No Liquamycin
Three "bumps" on soft palate (biopsied)
Pit tag in LFF located. Looks good no necrosis. (Digital + Print pix taken) Found in area where injected
Lungs inflated, green (infected)?
Spleen has black (2) nodules on covering membrane.
= All saved for histo =
Gonads - Testes are mainly white
No body fat
Esophagus + crop has fresh algae (red filaments, codium, turbinaria
Algae in stomach + upper intestine, densely packed
Several white nodules on small Intestine (Piece for histo of white nodule)

TUMOR SCORE: 0

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

Samples Collected into 10% formalin for histo
Soft Palate
Glottis w/ gouler bone
Entire heart
Liver - dark brown / green / black
Spleen
Lungs
Testes
Brain
Both salt gland
Upper Intestine
Stomach
Pit tag in muscle

~~LIVE~~ DEAD TURTLE EXAMINATION RECORD



Date: 11/30/00
Turtle ID: PUAKO, HAWAII
Comments: Dropped over from Big Isle in PO - tag # CN-430

PHYSICAL EXAM

Head and neck: separation of shields neck area / lesions of skull - seems to have been produced

Mouth:

Eyes:

Front flippers:

Shell:

Plastron: sunken

Rear flippers:

Tail:

BODY CONDITION: severe emaciation

SAMPLES TAKEN

PCV ____ T.P. ____
CBC ____ Chemistries ____
Others _____

APPROXIMATE TUMOR SIZE CATEGORIES:

#1 = DETECTABLE PATCH TO 1CM DIAMETER
#2 = >1CM TO 4CM
#3 = >4CM TO 10CM
#4 = >10CM

L

RECOMMENDATIONS: turtle died before exam possible chronic head injury - spear ? 2 no tumors seen - to CB for path 12/1/00

Signed: Robert A. Morris

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

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Historical Information for Turtle Tag Q419

Tag Information:

Tag Number	Date	Tag Type	Tag Position
1A640306	4/10/96	PIT	PIT
Q419	4/10/96	I681	LFL
Q420	4/10/96	I681	RFL
Q421	4/10/96	I681	LHF

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

Date	Type of Encounter	Location:	TumorRank:	NestingAct:	Straight Carapace	Since Last Encounter Interval Month	Since Last Encounter Interval Year	Since Last Encounter Growth-Rates cm/mon	Since Last Encounter Growth-Rates cm/yr	Overall Interval Month	Overall Interval Year	Overall Growth-Rates cm/mon	Overall Growth-Rates cm/yr
4/10/96	Near Shore	Hawaii, Puako, Nearshore	0	-	39.7	---	---	---	---	---	---	---	---
7/11/96	Near Shore	Hawaii, Puako, Nearshore	0	-	40.2	3.0	0.3	0.2	1.7	3.0	0.3	0.2	1.7
12-01-00		Puako	0		43.2								

Historical Information for Turtle Tag Q419

Tag Information:

Tag Number	Date	Tag Type	Tag Position
1A640306	4/10/96	PIT	PIT
Q419	4/10/96	I681	LFL
Q420	4/10/96	I681	RFL
Q421	4/10/96	I681	LHF

Date	Type of Encounter	Location:	TumorRank:	NestingAct:	165 Weight	Since Last Encour Interval Month	Since Last Encour Interval Year	Since Last Encour cm/m
4/10/96	Near Shore	Hawaii, Puako, Nearshore	0	-	20.0	---	---	--
7/11/96	Near Shore	Hawaii, Puako, Nearshore	0	-	---	3.0	0.3	---
12-01-00		Puako	0		18.1			

3-23-01

Dear George:

Reef Park (Kona) 3-22-01

We enjoyed your presentation last night. Best of all was meeting you personally after corresponding by letter and phone for 25 years. You have made an exhaustive study of Turtles and for this I award you a Certificate of Merit.

A form was circulated in the semi darkness for suggestion. I wrote a couple down but I am writing to exploit the opportunity.

(1) acquire an amplifier so those of us who don't hear too well can be accomodated (or wear hearing aids)

(2) arrange for audience input - periodically during a presentation at geometric intervals for 5 minutes. Both concerns can be accomplished - one to reset a rest room

(3) Estimate if and when the endangered species will ever be lifted?

(4) In Alaska where I went on a Hunting & Fishing Trip -- a license permit allows 1 Brown Bear 1 year at a price you and I could not afford.

(5) With Turtles that Bag Limit should prevail.

(6) Encourage Native Hawaiians to attend. I seemed to be the only Part Hawaiian in audience

(7) I suspect many of them frown on their inability to acquire Food Resources, known to all of us over 50 years ago.

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Date: Mon, 18 Dec 2000 22:59:56 -1000
From: Marc Rice <mrice@hpa.edu>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Cc: mrice@hpa.edu
Subject: Puako Turtle

George,

Thanks for helping out via phone tonight. I was thinking along the same lines as you led me... The folks at 144 PBR and a neighbor were very helpful and thankful.
We caught the turtle at 2002 hrs
We released the turtle at 2050 hrs.

When released the turtle swam in a "leisurely" fashion. We didn't observe it after release thinking our lights would bother it further. It appeared fine when released.

We were able to cut the line near the region of the soft palate with a pair of long bladed scissors. There were two lines- lines from both sides of the bobber were down the throat so I am not sure how much line was down there. We did as your recommended however and the rest is up to fate.. I guess. I did mark the carapace with a single horizontal 1" stripe on both sides on the second lateral scute with the moto tool and colored it with white paint so that Gavin and his neighbor can identify this particular turtle over the next few weeks. Hopefully it will return to sleep in the tide pools where it was captured. By the way, they claim that there were 20 turtles in the pools tonight.. I didn't have time to count there but there seem to be everywhere.. I observed at least 10 of them!

I will fax the data on the tags etc. tomorrow.

Would you please send you usual packet of information to the people who helped (address below). He is an artist and showed us a stylized turtle he was painting at the time.. very nice.

Send two sets if possible so he can give one to his neighbor.

Gavin W. Harrison
144 Puako Beach Drive
Kamuela, HI 96743
Email: gavinw.harrison@gte.net

Thanks again for your help. Sorry to bother you at night-- especially after you have been molested by an irate citizen!!!

Puako

capture date: 12/18/00
location and method of capture: Puako 144 PBR Intertidal Pond
recorder: M. Rice

New Tags:

PIT tag bar code: RH 415Ø6Ø6441
old tags:
RLH 415Ø3A6Ø66
other new tags:

straight carapace length: notch: 60.0 cm. 60 cm.
curved carapace length: 63.9 cm. 56.5 cm.
Straight width 46.3 63
head width: cm.
male female
sex:
unknown
total cm.
cloaca cm.
PPS: YES NO
tail length: cm.
weight: 57 lbs.
samples collected
right front flipper: cm.
plastron: 47.7 cm.
descriptive remarks

Animal captured in shallow tide pool at 2002 h. It was resting. Had hook deep in throat w/bobber hanging out left side of the mouth. Left gaw hinge cut by line - It has been in the area at least 2 weeks. We clipped the line as deeply in the throat as possible. Turtle released at 2050 h. in same place as captured.
MOTO TOOL - 1" horizontal line, 2nd lateral left and right

urtle Stranding Questionaire.wpd
il 2000 REVISION

MTRP USE ONLY:

TDPS: _____

LOGBOOK: _____

MARINE TURTLE RESEARCH PROGRAM
NMFS-HONOLULU LABORATORY
FOR INTERNAL USE ONLY

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 water over knee deep to salvage a turtle. However, we would like to record details of such reports.

To be filled out by Marine Turtle Research Program personnel or others as available.
(i.e. Stranding line 983-5730, S. Murakawa x5731, S. Eames x5747, L. Arnone x5747, G. Balazs x5733).

Note: Normal working hours of, Marine Turtle Research Program personnel 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 NOT normally be given out to the public.)** ANNA

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 concerning stranded (live or dead) sea turtles.

Person calling:

Name: Greg/Steve (Aloha Dive Shop ~~Hawaii~~)

Date and time of call: 10-17-00 / 1:30

Phone: 223-4444

Full mailing address: (optional - to send sea turtle literature)
577 Keanole St.
(next to Longs)

****VERY IMPORTANT****
Greg's cell (personal) 225-4427

Location
Where is this turtle located? Found piece of turtle shell with a number on it #11
(Koko Craters, Pinnacle Rock) Maunalua Bay

How close is it to the nearest vehicle access way? _____

Turtle
Is the turtle alive or dead? A D Uncertain

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

Turmored? ☐ Yes ☐ No (unk)

or "Is it possible for one person to lift and carry the turtle?" ☐ Yes ☐ No

"Best guess" of the weight of the turtle? _____ lbs. 25lbs. 50lbs. 100lbs. 200lbs.
(or circle one above)

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

Are there any obvious signs as to the cause of death or injury? _____
Any evidence of law enforcement violation?
If yes, please briefly describe: _____

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 of National Marine Fisheries Service and that we will also be involved in 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 are 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: GLKM

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**, or call (from that neighbor island) the operator (dial "0") and ask for "Enterprise 5469"

Big Island: Hilo - 974-6208; or Kona - 323-3141; or Waimea - 887-6196
Molokai: 567-6618 -contact will call when they get back into dock
Lanai: 565-7916
Kauai: 274-3521
Maui: 984-8110

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LEON A THEVENIN
104 PUAKO BCH DR
KAMUELA HI 96743

(8) In Puako there is no such thing as dwindling number of Turtles. In my 2 acre channel enhance I created in 1957 there are 6 permanent Turtle residents, released at Mauna Lani. There were none here prior to that.

(9) I posed a question on the negative effect of Pollution on Turtles. My wife hearing better hearing than I says you covered it in Hilo and Kona.

My friends Ernie Rose and Tim Tracies told me about Kona.

(10) I feel Turtle mortality from Human activity is very minor compared to the attacks by Sharks on juvenile Turtles on the way back to Hawaii for French Frigate Shoal.

(11) Could we not transport by Ship - thousands of young Turtles to Hawaii?

(12) Aqua culture with Fish and Shrimp are prosperous undertakings here and elsewhere. Why not Aqua Turtle Culture in Ponds and many acres?

(13) How many in your audience have ever tasted Turtle steaks? one should say this in a whisper or get assassinated? But I did as a young man and Boy, when it was legal.

This is a delightful experience, provided you know how to clean the flesh of green fat.

(14) Kona is teeming with people and Boats by the thousands now. It was not like this in 1900 when my grandfather had the only power boat on Kona and hauled mail to Kawaihae

I pointed to a Turtle basking in the Sun fronting my home to a 2 year girl visitor from Colorado. Her quick reply was OH, that's Mabel.

She was adequately reproduced in Plaster of Paris mounted on Black Velvet in a Koa Frame for me by a Talented neighbor. Mabel is slanted in the corner.

Marc Ricci and his HPA students frequently visit this area and is a delightful experience for me.

I noted on your Kiholo slide showing the beautiful lagoon and small barren Black Sand Island. Oh one time 6 magnificent Coconut Trees 20' high were there. Some SOB's came there down to get the Coconuts. I propagated 6 replacements from Tahiti to replace those and gave them to Billy Mitchell whose wife was a Maui girl - properly owners to replace.

In the Kiholo lagoon the Turtles resembled the Traffic on H-1 Freeway in Honolulu 25 years ago.

The Turtles in Puako are very domesticated and Tame allowing one to clean their backs. In fact one waits for the Service.

Animals sense when they have Protectors like you and I.

Aloha

Leon A. Thevenin, Mayor
Puako Hi

(808) 882-7969

by UofH

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4-04-01

RSVP

Dear George:

Mr. Leon A. Thevenin
104 Puako Bch. Dr. HC 1
Kamuela, HI 96743

Puako: Turtles

For a long time there have been at least 4 Permanent Green Turtles resedents in the channel area fronting my home (1± acres). (Waima Pt. Puako)

Last week, while I was away; my neighbor, Sean Riley, a visitor from Lake Tahoe CA saw a group of illegal net fishermen surrounding the whole Bay with nets. They caught everything, enclosing the whole Bay 100%. #106

He immediately called the enforcement Div of Fish and Game. There enforcement officers were in Kona & N. Kohala. By the time they arrived the net Fishermen were gone. But, they were intercepted about 1/2 mile down the coast, arrested and fish & gear confiscated. They report No Turtles were involved.

I seriously doubt that, because I have observed No Turtles since then. Only on rare occasion does one see a head break the surface. It could have been a transient visitor from the neighbing Reef.

I suspect the Turtles may have been removed to another vehicle -- undetected by the enforcement officials

Marc Rice, hopefully feels the Turtles escaped the nets. I can't imagine them going over or under a net.

I feel the guilty ones should be further investigated prior to their Court appearance?

In Disgust

RSVP ?

Leon A. Thevenin

MT53 Right 2nd coat

capture date: 10/24/01
location and method of capture: Kiholo Bay Lagoon South Beach Basking 10:20 handcapture
recorder: Veronica M.

PIT tag bar code:

old tags:
LH 4135735726
RH 4136047670
RF 7776
LF 7777

other new tags: TDR 0070883 SON106

LH Q292 RH Y116

straight carapace length: 68.6 cm. notch: 68.3 cm.
straight carapace width: 56.4 cm.
curved carapace length: 74.5 cm. curved width: 70.1 cm.
sex: male ☐ female ☐ unknown ✓
head width: 10.3 cm.
tail length: total cm. cloaca cm.
PPS: YES ☐ NO ✓
weight: 101 lbs.
samples collected
right front flipper: 11.2 cm.
plastron: 58.0 cm
axial: 24.5 lateral: 24.4

Altered SONIC = TDR MK7 =

descriptive remarks

T_s = 1 oral bump & ribbing
T_c =
T_b =
T_e = redone on right
moto tool #53
Sonic tags: TDR# → 0070883
Alpha 10-6 Left side

elastimer applied > 10:55
(2nd appl) resin: 11:30 finished > 11:40
(3rd appl) resin > 11:45 finished >
11:55 - 3rd coat done w/green dye

mild emaciation
release: 12:39

MT94 2nd coat left

capture date: 10/24/01
location and method of capture: Kiholo Bay South Beach handcapture Basking 12:45
recorder: Veronica M.

PIT tag bar code: TDR 00032 SON249

tags:
RF 3317
RH J63
LH 8733
LF 7782

other new tags:
407A307165 LF 1F7115507E

straight carapace length: 71.6 cm. notch: 71.6 cm.
straight carapace width: 56.0 cm.
curved carapace length: 76.5 cm. curved width: 70.0 cm.
sex: male ☐ female ☐ unknown ✓
head width: 10.5 cm.
tail length: total 18 cm. cloaca 12 cm.
PPS: YES ✓ NO ☐
weight: 111 lbs.
samples collected
right front flipper: 13.3 cm
plastron: 59.4 cm
axial: 27.5
lateral: 27.9

descriptive remarks

T_s = 6 oral bumps > Gillidiano filaments collected
T_c =
T_b = MT #94
T_e = Sonic: 249
TDR: 00032
MK7 00-032

Elastimer applied > 1:11
resin applied > 1:20

Released at 1434

Go To Page 167

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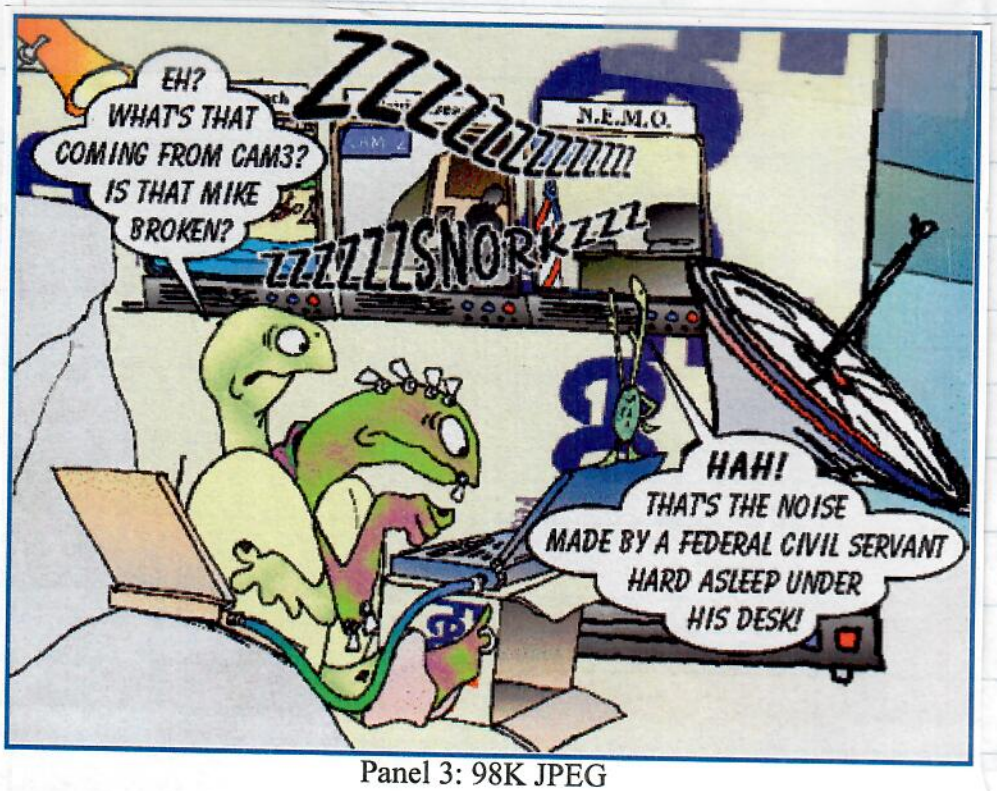
Sound Asleep

Panel 1: 94K JPEG

Panel 2: 104K JPEG



Panel 3: 98K JPEG

This series of toons describes the adventures of the turtles as George develops a webcam system for observing human behaviour. For news about a different kind of sea turtle webcam, see our SeaTurtleCam page.

The *Turtle Trax* Toon is conceived and drawn by howzit@turtles.org (Ursula Keuper-Bennett).

From P. 161

capture date	location and method of capture
10/24/01	Kiholo Bay South Beach
Veronica	Basking 12:45 handcapture
recorder	

PIT tag bar code: 422F175374 RH

422D5B0E41 LH

old tags:
- LF B962
- RF B961
- LH B962
- RH B963

other new tags:

LF 2201366329

straight carapace length: 58.4 cm. notch: 57.9 cm.

straight carapace width: 48.0 cm.

curved carapace length: 62.2 cm. curved width: 55.6 cm.

sex: male ☐ female ☐ unknown ☑

head width: 8.7 cm.

PPS: YES ☑ NO ☐

tail length: total 14 cm. cloaca 9 cm.

weight: 58 lbs.

right front flipper: 10.4 cm.

plastron: 46.6 cm.

axial: 22.2 latural: ~~22.1~~ 22.3

samples collected

New Motorool 98

descriptive remarks

Ts = 1 oral bump

Tc =

Tb = MT done : #98 New

Te = Released at 13:43 from Sandbeach

164

Uncle George,

Thank you so much for all the thoughtful gifts. You were far too kind. Last Friday, as you know, we gave birth to a gorgeous baby boy at 3:52 p.m. His name is Sinkea Alexander Jim. 'Sinkea' means strong in Mokilese (Thomas' father was from Mokil) and 'Alexander' for Marc's father, my grandfather. Labor was difficult, but already I have begun to forget!! Sinkea wanted to join y'all turtle tagging, but I told him 'no'!! Thank you so very much and we can't for Sinkea to meet his Uncle George!

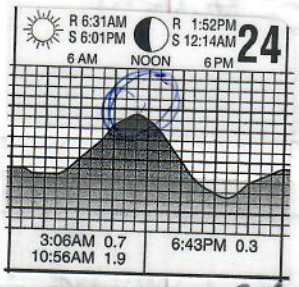
♡ Laura, Thomas & Sinkea

There's no shortage of obtainable comforts in Waimea these days, and Isabella Bird's words have proved prophetic. Long before the British travel writer rode through on horseback, Hawaiians believed that the area possessed a profound body-and-soul-renewing *mana*. In that spirit, members of the Five Mountain Medical Community are working together to make the Big Island known worldwide as "The Healing Island": a place where integrated healing techniques are enhanced by natural beauty and the aloha spirit.

At the forefront of this visionary holistic-medical movement is Dr. Earl Bakken, an extremely active "retiree" from Minnesota. Dr. Bakken earned fame (and fortune) as the inventor of the pacemaker, but locally he is best known for his role in creating the beautiful, innovative North Hawai'i Community Hospital. This soothing showplace facility features a nature-embracing "birthing garden"; a collection of art and music with which patients can customize their rooms; and "healing touch" therapy. "Usually, a hospital is thought of as a warehouse to store sick bodies," Bakken says. "But this hospital is different—from the aromatherapy to the doors that lead into the garden from every patient's room. It doesn't even smell like a hospital."

The Big Island also offers luxury spas, alternative medicine and native traditions such as Hawaiian herbalism and *lomilomi* massage. The hope is that, in addition to attracting wellness seekers "from the Pacific Coast" and elsewhere, the island's growing network of healing options will help local people to attain—and maintain—their birthright of radiant good health.

Medicine man Dr. Earl Bakken at the innovative North Hawai'i Community Hospital



KiHoLo

Alone Depart 8Am Flight 51 Aloha for KONA

OCTOBER 24, 2001
Wednesday

OBJECTIVES: 1. yes Deploy 2 Mk7 TDRs on habitual baskers at KiHoLo 2. N=3 Record measurement data on habitual baskers to look for accelerated growth from basking 3. NO Retrieve any loggers ponds & logan, 4. Need Obtain information on shoreline surveys being done by MARC's students. Student Jessica

Depart KONA 245pm Aloha

TABLE OF CONTENTS (CONTINUED)

6-26-00 (Monday) DATA = p. 26-32
See p. 171
Keawa Nui

7-1-00 data p. 38
Saturday
Mauna Lani fish pond turtles
TW, GB, Marc Rice Laura, Andrew

7-4-00 "Turtle Independence Day"
Tues ~~Monday~~
Mauna Lani (2 fishpond turtles Released)

7-6-00 Kiholo Bay Data Pages = 39
Thursday - objectives: ① Temperatures & motorack IDs of basters
② Crabs & Plastron quantification
③ Temperature Data loggers retrieval - placement
④ bones of dead turtle found by MAEC
⑤ Plan for Kamehame 9-11 July
⑥ Fecals from fish pond turtles - Mauna Lani
⑦ Discuss Waikoloa Sampling

TESSA CAZIMERO 886-1234 ext. 2465

31 JAN. 01 wednesday
Thierry Work, Bob Morris, Simon Chan, Mike Bresette, me.
TESS SOUTH
HILTON WAIKOLOA - KOHALA
p. 75 12 captures - 9 tag recaps, 3 new (page 62)
(includes one hawksbill)

8-30-00 KEAWA NUI
Wednesday
DATA PAGES = 42
Depart 610AM w/ CHRISTINE Muller & Veronica Cummings.
objectives: Demonstrate use of nets; Examine mouths of wild caught turtles; Blood Dots for OA test; Examine turtle from IN Quellingland.

10-13-00 Sea Turtle Cam II - RE-INSTALLATION
Friday KIHOLO p. 140 (following flooding by High Tide)

10-30-00 Kaloko-Honokohau
Monday
Narrative page 150.
Data = page 50-57
P. 131 Horsedrawings - Katie Harrington
15 Captures - 8 New, 7 Recaptured.

Page 132 STUDENT LIST
2 - "LOOK FLAT"
- 500C583A66
- 500F2B3557

10-24-2001 KIHOLO - Deploy MK7 + SONICS TWO TDRS ON baskers
Wednesday
Data pages = 68-69
Narrative =

170

Kiholo Recapture of Keawa Nui Turtle

Historical Information for Turtle Tag 4130

Tag Information:

Tag Number	Date	Tag Type	Tag Position
4130	10/27/97	I681	LFL
4131	10/27/97	I681	RFL
5019261516	6/9/00	PIT	LHF
505A3D68	10/27/97	PIT	PIT

Date	Type of Encounter	Location:	TumorRank:	NestingAct:	Straight Carapace	Since Last Encounter Interval Month	Year	Gr cm/mo
10/27/97	Near Shore	Hawaii, Keawa Nui, South Kohala	0	-	40.5	---	---	—
6/9/00	Near Shore	Hawaii, Kiholo	0	-	40.6	31.0	2.6	0.0

Student List need see P. 130 — P. 127 TIDE CHART Narrative; Data P. 26-32 (171)

6-26-00 KESWANUI — South of MI Bay Hotel

MONDAY I provided Coolers for Bob BOB MORRIS, GHB & Therapy Work MAEC, Sandy, Geo. WATSON Indiana Summer Students

6:15 am Aloha w/ Bob MORRIS

Captures - 13 (8 recaptures, 5 new)

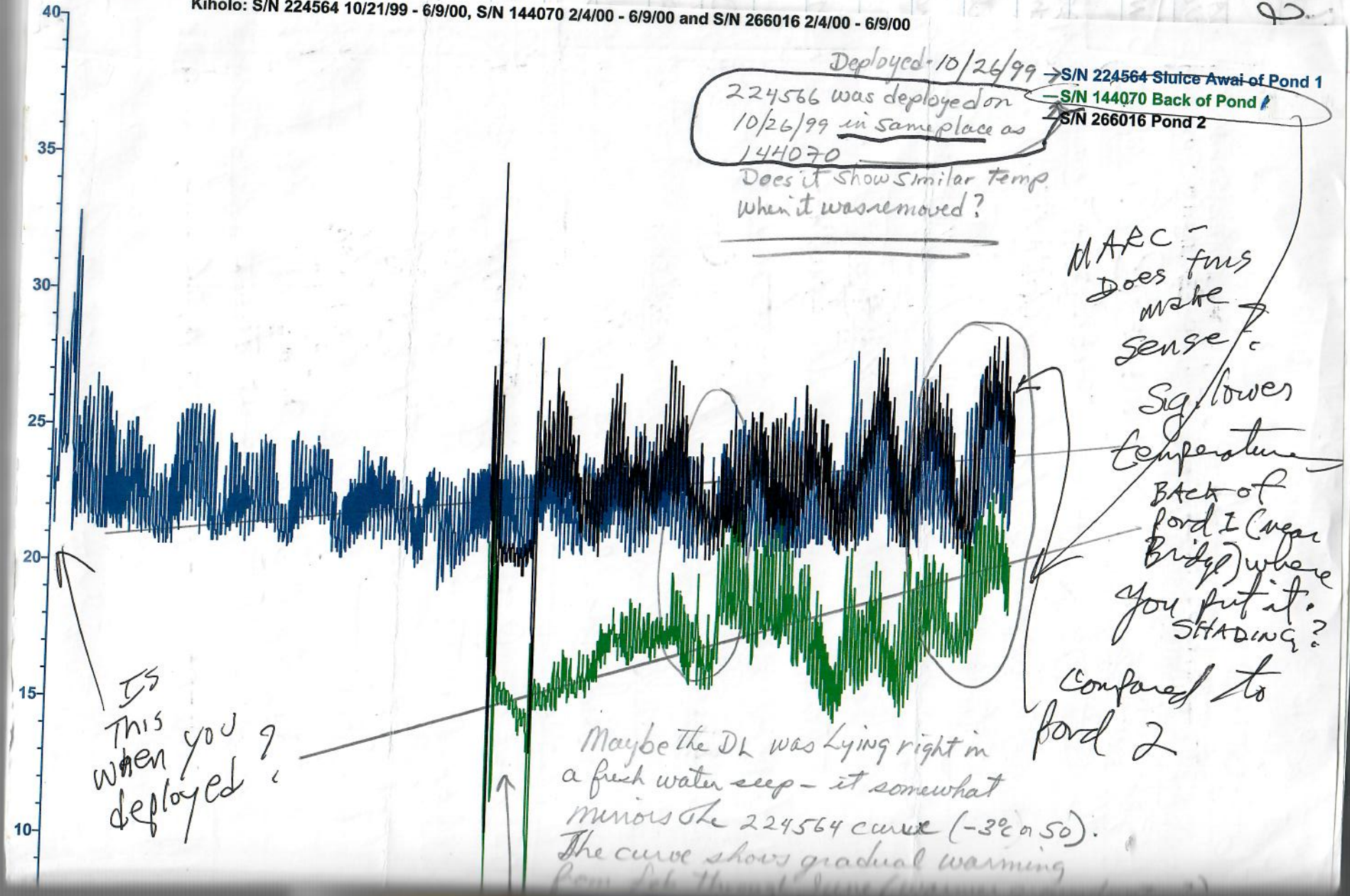
Set 12'x200' + tied 5'x100' across Keswanui inlet - side low. See P. 127 Tide chart

Students swam around - only one turtle seen - caught in net - Moto Tool 11" 3" Bites. Redo Moto Tool took net out so others could come in w/ rising tide.

Team of snorkel and scuba (3) taken offshore in 16' whaler - Geo. WATSON.

I walked w/ Danny/Bob Morris to Bay Beach club to look for bites. None seen, but or guest regular said he sees are (?) all the time, by people. Walked back to Francis Ruddles boat ramp - turtle in there - easy to scoop net. Saw Night Heron feeding there on small mullet released in restocking effort by the state. Walked to Makaha near Hotel - several turtles seen there, and directly off hotel beach - 4-5 clustered together just inside Pohoehoe feeding on algae. Another near Hotel guest waders - looking for food? Scoop netted ~ 6-7 in these areas. Danny grabbed one by hand. All taken back to Cottage. P. 136

Kihoto: S/N 224564 10/21/99 - 6/9/00, S/N 144070 2/4/00 - 6/9/00 and S/N 266016 2/4/00 - 6/9/00



Deployed 10/26/99

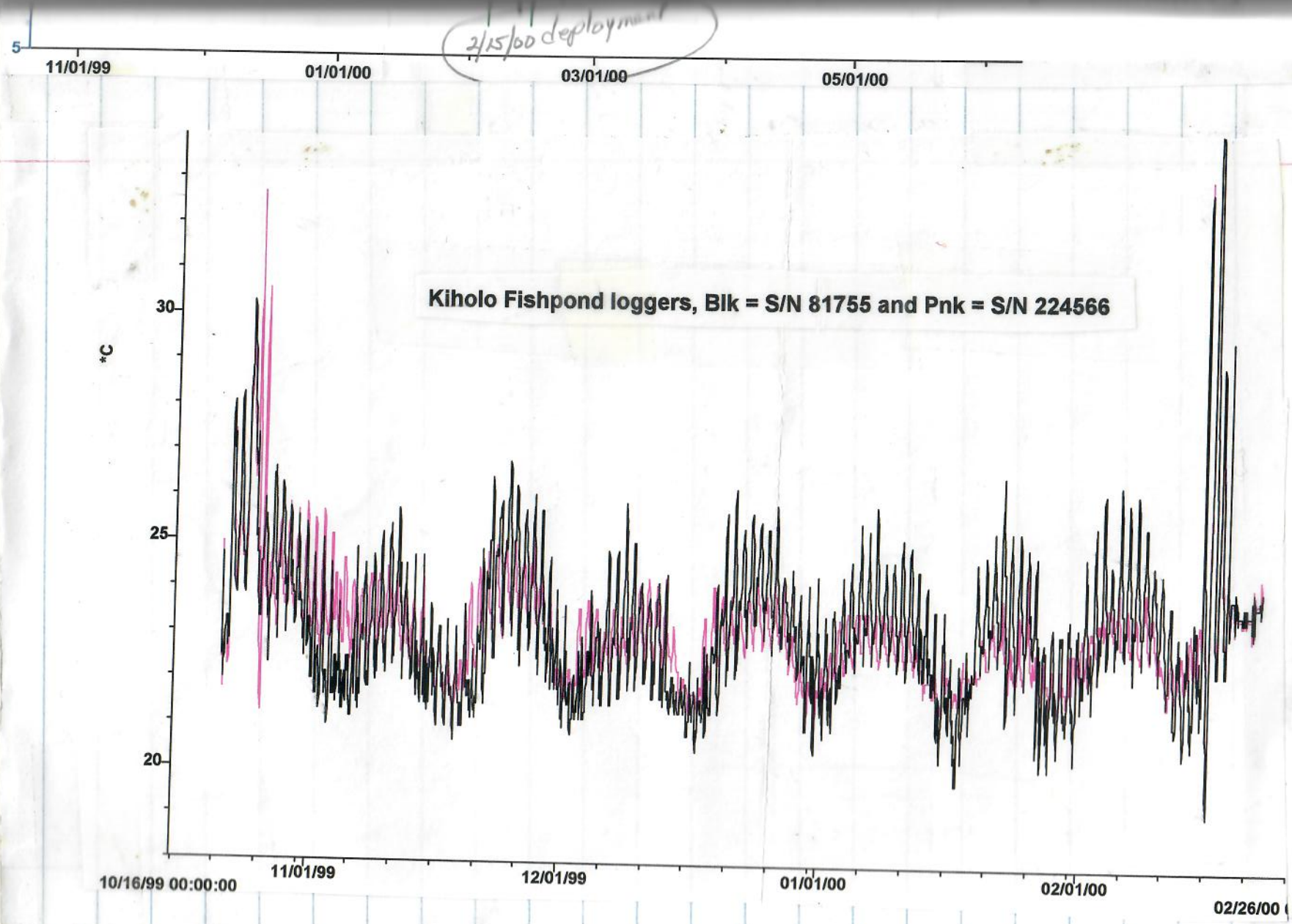
224566 was deployed on 10/26/99 in same place as 144070

Does it show similar temp when it was removed?

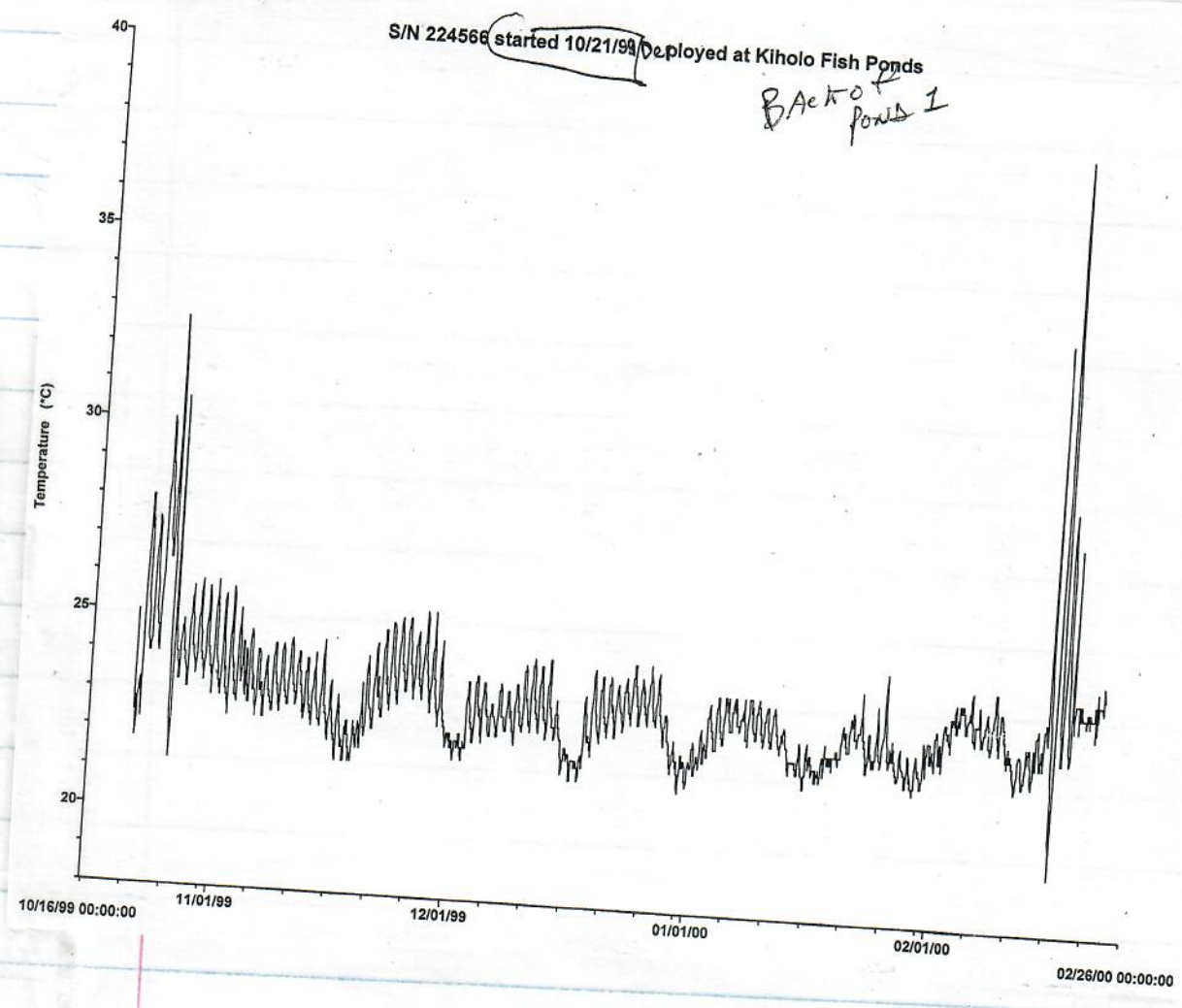
MARC - Does this make sense? Sig lower temperature BACK of Pond I (near Bridge) where you put it. SHADING? Compared to Pond 2

IS This when you deployed?

Maybe the DL was lying right in a fresh water seep - it somewhat mirrors the 224564 curve (-3°C or 5°).
The curve shows gradual warming

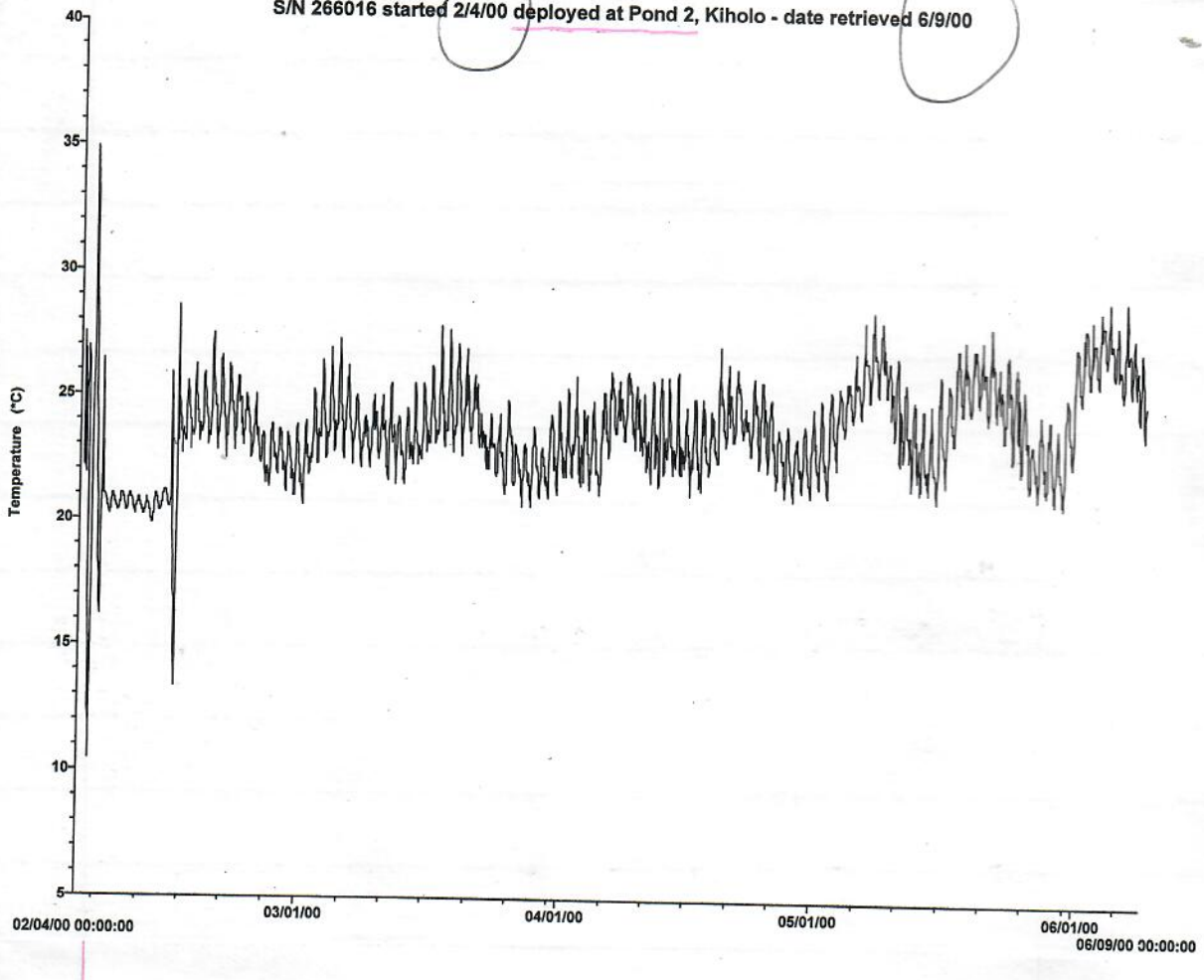

2/15/00 deployment
11/01/99
01/01/00
03/01/00
05/01/00
Kiholo Fishpond loggers, Blk = S/N 81755 and Pnk = S/N 224566
*C
30
25
20
10/16/99 00:00:00
11/01/99
12/01/99
01/01/00
02/01/00
02/26/00

124

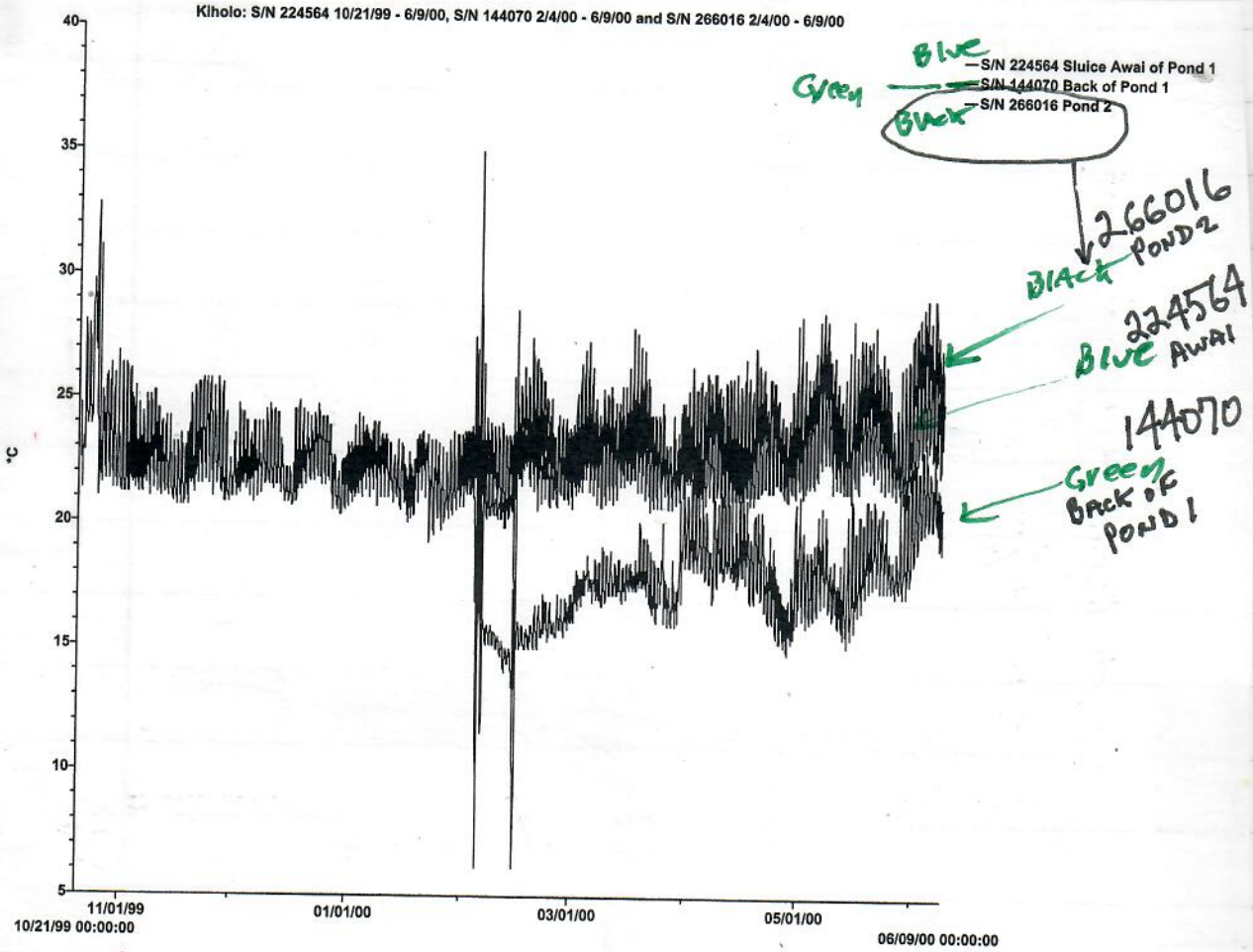

S/N 224566 started 10/21/99 Deployed at Kiholo Fish Ponds
BACK OF PONDS 1
Temperature (°C)
40
35
30
25
20
10/16/99 00:00:00
11/01/99
12/01/99
01/01/00
02/01/00
02/26/00 00:00:00

BACK of POND 1

S/N 266016 started 2/4/00 deployed at Pond 2, Kiholo - date retrieved 6/9/00

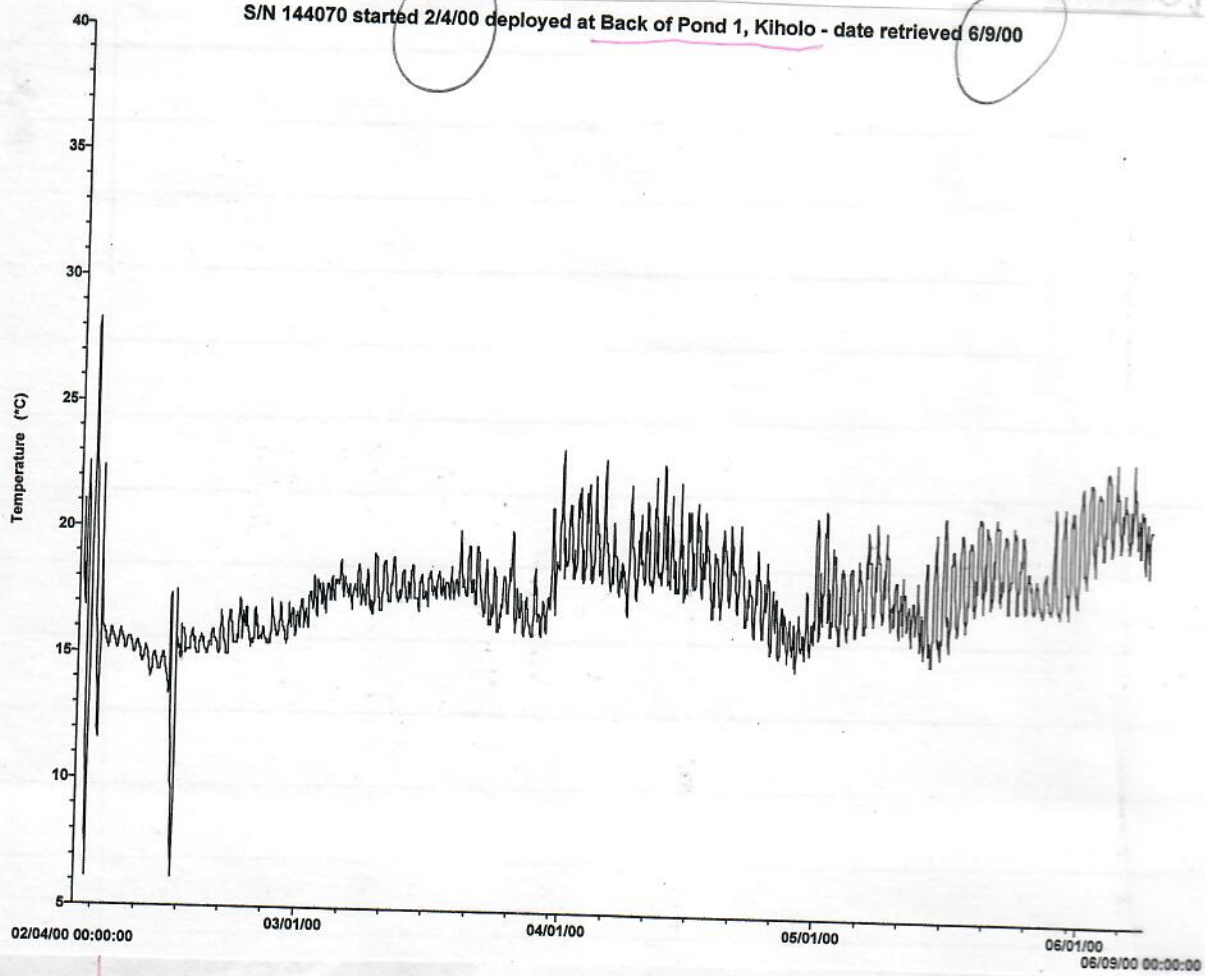


Loggers See purple Kiholo etc. Book
176 P. 109, 145, 142, 150-152 & P. 160



177

S/N 144070 started 2/4/00 deployed at Back of Pond 1, Kiholo - date retrieved 6/9/00



178

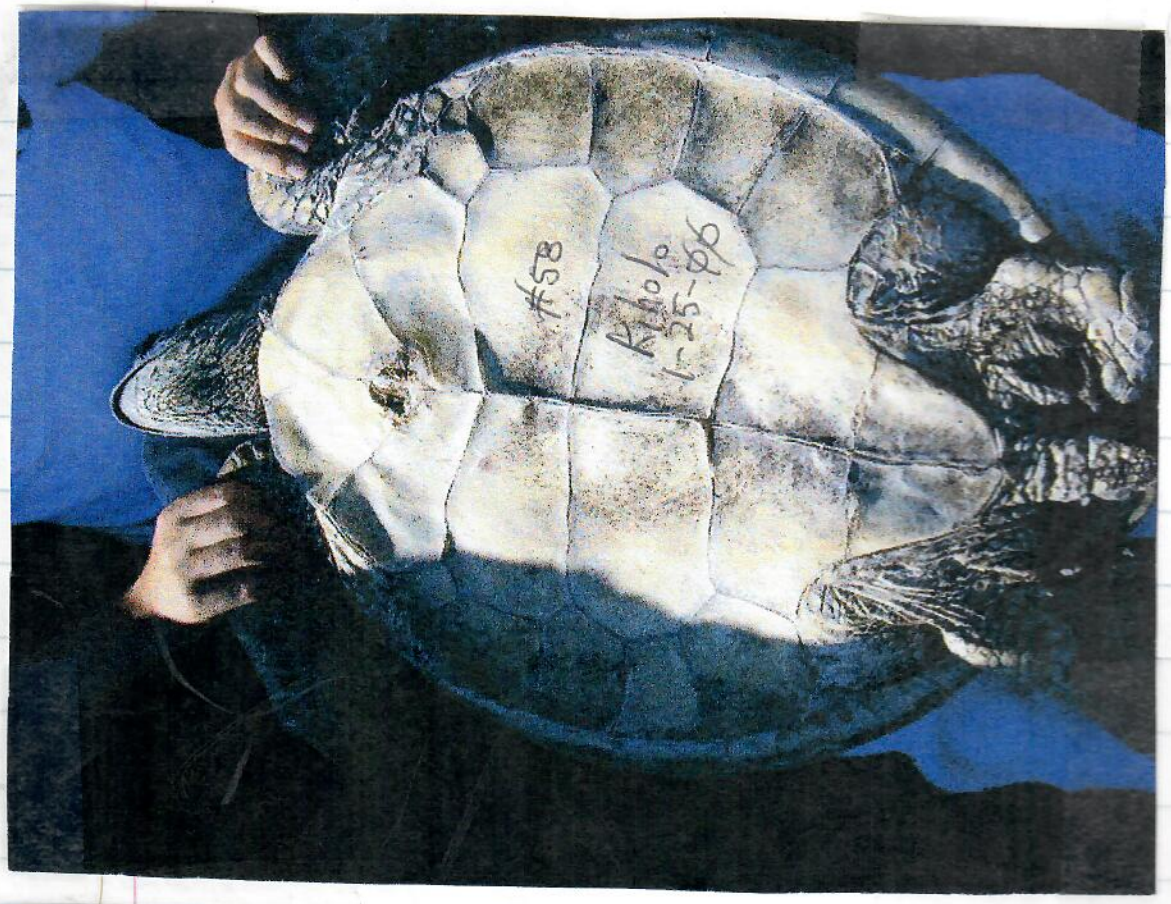
email
x rodeo
glue

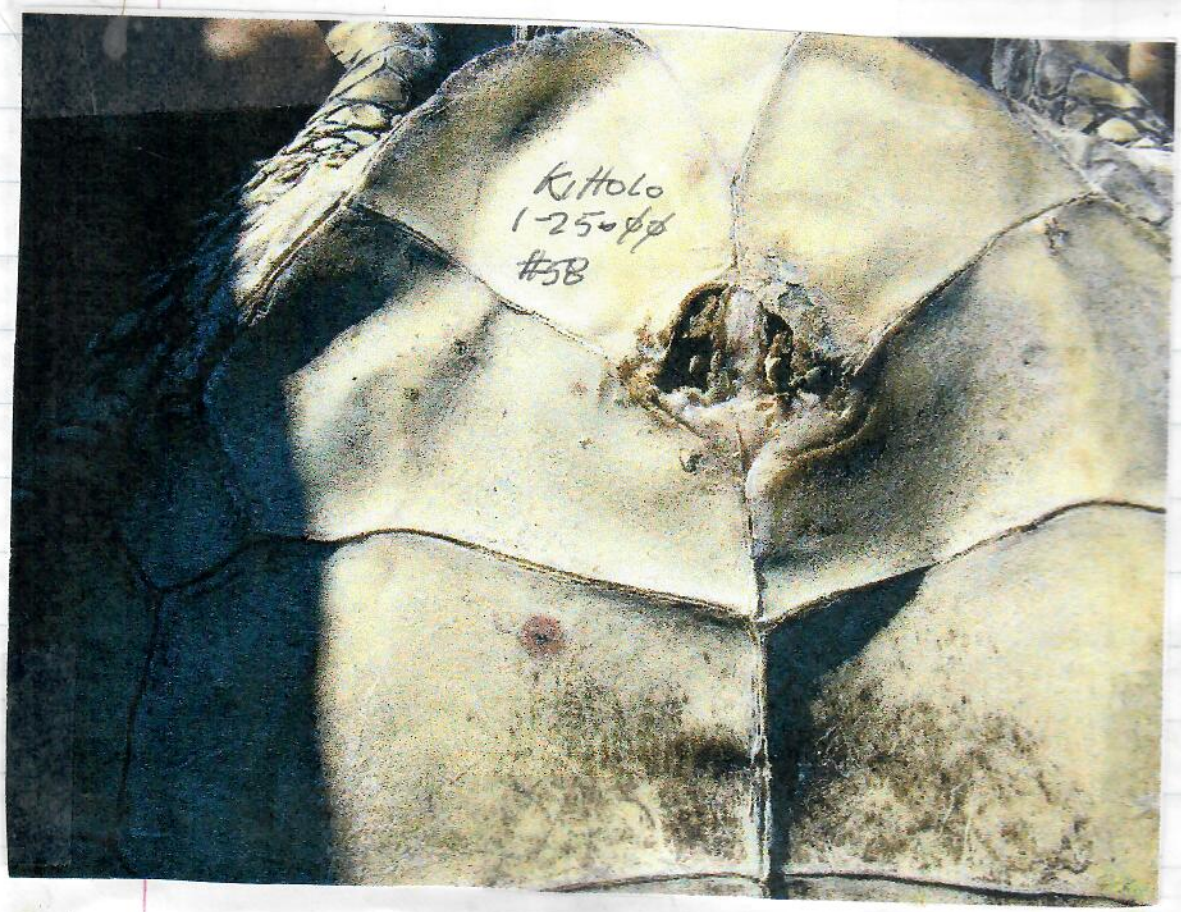
3/28/00

Hi there Mr. Balazs,

My Dad and I were in town for a meeting with the University here to check it out. We thought we'd stop by, but I guess you're on leave. Oh well, we're ready for Midway to get those TOR tags back. Thanks so much for all your help and support at the symposium this year. Say hi to Shawn for me. I hope she's feeling better. Aloha-

Katie Harrington


#58
Kittolo
1-25-00


Kittolo
1-25-00
#58

180

Special Surveys

Green Sea Turtles

Early reconnaissance by boat in some areas of the park indicated that green sea turtles (*Chelonia mydas*) were abundant in park waters. A full and accurate census of the population was beyond the scope of the study, but observations were made opportunistically.

Most sightings were made from a boat (often while enroute between survey sites) as the turtles surfaced to breathe. We took measures to reduce the probability of counting a single individual more than once during a single "sighting" or survey, e.g., by (1) estimating the size of most individuals sighted, (2) counting at a location only once in a day, and (3) using the minimum estimate of the number in a group when multiple counts of individuals seemed likely. Occasionally, when the boat was anchored and turtles appeared, we swam around the immediate area, counting turtles from the surface as they rested on the bottom. Other turtles were encountered at the surface or underwater during survey dives. Both types of encounters permitted observation of habitat use by turtles. Typically turtles found at the bottom were situated between large rocks, under overhangs, or in shallow depressions in rock or coral.

When not obviously disturbed by our presence (we usually made an effort to stand off as far as possible during our observations), it appeared that turtles resting during the day were very site specific. Typically an undisturbed turtle surfaced for air every few minutes, then returned to the same resting spot. When disturbed, turtles swam away out of visual range. Whether they returned to the same resting spot after disturbance is not known. The site specificity of undisturbed turtles helped to reduce confusion between individuals during our censuses.

KAHO-Honokohau 1990 Report (from Jim Parrish)

A total of 47 sightings of green sea turtles (counted by the above methods) were made in park waters during 6 field days (Table 3, Figure 5). Because of the conservative census methods used, each estimate represents the minimum number of turtles present at a specific site for a given day. Only at locations 8 and 9 (Figure 5) on 3 December 1988 were surveys conducted specifically to census turtles (a total of approximately 2.5 SCUBA man-hours). Other observations were made at the surface or during other field work, so it is difficult to compare census results between days.

The greatest number of turtles observed on a single day was 16. This was the result of counting turtles at the surface from a boat, as well as counting submerged turtles using snorkels (see Figure 5, locations 2 and 3). Turtles were often seen in this same general area while passing through by boat.

From these observations, it was clear that turtles were concentrated in at least one area directly offshore of the middle of Honokohau Bay, in the Boulder and Deep Pavement zone. Turtles sighted on these "turtle grounds" accounted for 58% of all those sighted within park waters. Turtles were also consistently observed in the nearby Shallow Cliff habitat. (For these locations see Figure 5, locations 2, 3, 8, 9, 4 and 5).

No tagged or unhealthy (e.g., tumorous) turtles were sighted at KAHO. The majority (79%) of the individuals we sighted were less than 24 in. in carapace length, suggesting that the turtle population at KAHO consists primarily of young, possibly pre-reproductive individuals. If this is the case, KAHO park waters may provide an important nursery for this species.

Underwater Cultural Resources

Many man-hours of underwater observation revealed no evidence of portable artifacts or cultural features (e.g. implements, middens) under water. No architectural structures were found that are not visible from the shore. The underwater portions of emergent structures were examined briefly using snorkel and/or SCUBA. This examination revealed little to our biologists that is not evident from above-water examination.

The major structures examined were the rock walls of Kaloko fish pond and Aiopio fish trap. The base of the former is very little below the surface at low water (of the order of half a meter), and the sea bottom slopes very gently seaward. The wall has been so damaged that its seaward face is a low, sloping jumble of rocks that blends imperceptibly with the boulders covering much of the bottom of Kaloko Bay. No estimate can be made of which boulders were ever part of the wall or where any previous alignment of the wall may have been. Its angle adjoining the north shore suggests that the alignment of at least some of the central portion has been moved landward, probably by heavy seas, but the view from underwater adds no helpful insights. The presence of a damaged mortar and rock construction (remains of a former makaha?) in the central part of the wall supports the idea that the wall has been damaged, rebuilt and modified repeatedly over a long history, with a variety of technologies.

The rock construction in the water at Aiopio fish trap is extensive and is presently less damaged and scattered by heavy seas or other forces. However, it shows clear evidence of rework, and underwater observations added little to the impressions of surface observations. The most seaward point of Maliu Pt. that extends approximately north and shelters the cove or fish trap appears to be almost entirely a natural basalt lava flow, altered little if any by human works. The wall inshore of it on the west side of the trap, the opposite wall on the east side, and the shorter, wall-like structures within are mostly or entirely manmade. However, the former wall has been modified to include a crude boat ramp on its inshore side, and the east wall has been modified to support dwelling houses and other modern structures. Our underwater observations did not discern any clues about the original configurations. Such clues might exist and be recognized by an investigator with appropriate archaeological training, however the visibility is usually poor underwater inside much of the fish trap.

Our examination of the inshore portion of Honokohau Bay in front of Aimakapa Pond revealed no evidence of underwater architecture. A relatively few large boulders occur there. Some that are awash near the south end may have been roughly piled, but we could detect no structure. What appears to be the end of an old makaha, constructed from stone and mortar, protrudes from the seaward side of the sand berm in front of the pond. Any other possible structure there must be buried in the sand berm.

Recommendations

For several problems or opportunities that park development brings, the best management option depends at least partly on basic objectives set by National Park Service (NPS) management. While some of these are clear (e.g., protection of threatened and endangered species under law, safety of park visitors), some objectives that relate to marine environments and resources are less clear. For example, NPS must make policy on the level or state of natural biotic populations desired in the park, balanced against competing uses. If an objective is to restore animal populations as nearly as possible to the levels of ancient Hawaiian times, probably no consumptive/extractive use of the native marine biota can be allowed. Although ancient Hawaiians certainly harvested marine life, human populations were low and scattered compared to Hawaii's modern population, and the technology provided relatively low fishing power. Fishing and other human activities in modern Hawaii have so reduced natural populations of most harvested animals throughout the island (and the high islands generally) that maintenance of the most stringent refuge in the park will not likely return marine populations to the levels of ancient Hawaiian times. In any case, policy decisions by management will be required regarding the desired status of the natural populations versus any consumptive/extractive/disturbing uses considered desirable.

Protection of Sea Turtles

Sea turtles are an important and sensitive element of the park marine biota. Because of their important role in traditional Hawaiian culture, their continued presence in park waters represents a significant cultural resource of the park. Because of their official status as threatened species on State and Federal lists, protection is legally required in any Federal activity potentially affecting them.

The "no management" option would simply comply with minimum requirements of the law by taking no action that would further jeopardize turtles. This may be a viable option. If park development does not result in a significant increase in human activity in the water, particularly in the resting area (turtle grounds)

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AT THE BEACH

Where are all the beaches? This is probably the number one question asked by visitors to the Big Island each year. You're sure they're here, but finding the best beaches the island has to offer can be a chore. The Big Island boasts the greatest variety of beaches of anywhere in Hawaii. We have pristine white sand beaches, salt and pepper beaches of crushed coral and lava, grey sand beaches, black sand beaches formed instantly when molten lava hit crashing waves and even a green sand beach, rich in Olivine. Learn all about the beaches in the next few pages, check the chart for the features of each and locate them in the maps at the back of the Guide. But remember when you find the perfect beach, leave as you found it.

Old Airport Beach Park - What used to be the Kona Airport is now a super beach for relaxing, picnicking, and exploring. Numerous tide pools contain a multitude of tiny ocean creatures. Adjacent to the beach, the old runway is great for walking, jogging or roller blading (on a brand new jogging trail), and the community recreation fields are just south of the runway. For shore diving, park at the far end of the old runway and enter about 25 yards north. •Down Palani, then north on Kuakini Rd to the end. Map 3,E9

Honokohau Harbor - A short hike along the north side of the harbor brings you to a long, quiet and private area of white sand beaches. The beachs, part of Koloko Honokohau National Park, have several protected pools and are great spots for children. Relax, swim, snorkel, shore dive or explore the ancient fishponds. The most protected areas are at the south end of the park. •Hwy 19 north 2.5 miles to left at Honokohau Harbor. Keep right around the marina to the gate at west end. Map 3,C9

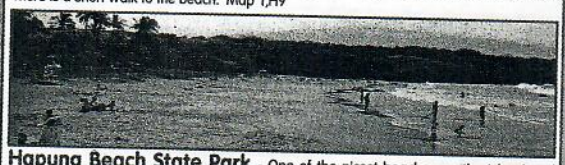
Natural Energy Lab - Near the airport, this collection of shallow tide pools and sandy spots is a great place for plane watching, sunning, relaxing and exploring. This is a nice beach for kids so bring your picnic lunch, sunscreen, snorkel gear and spend the day. If you have four wheel drive, a trail north past the restrooms leads to several private sandy spots, and south is Pinetrees, a long sand dune and lava strip popular with the local surfers. •Route 19 north 5.7 miles to left at Energy Lab sign, then 1 mile to the beach. Map 3,B9

Kona Coast State Park - The road is long and pretty rough, but the trip is worth it. The beach has salt and pepper sand and is a nice spot for swimming, picnicking, snorkeling, shore diving, lazy body boarding and seasonal whale watching. Turtles, dolphins and even seals have been spotted here. Stop short of the park and hike down the road behind the gate on the right to a private sandy beach. There is a good shore dive entry point south of the red house. •Route 19 north 9.3 miles to sign on left, then 1.7 miles to Park. Map 6,G1

Ka'upulehu Beach - Recently accessible, thanks to the Four Seasons Resort, this is a lovely white sand beach that has yet to be discovered by the masses. The area around Kaupulehu is historically important and the resort has erected a halau (canoe house) at a particularly significent site. Fishing is allowed here but be sure to read all the restrictions designed to protect this eco-sensitive area. The site has paved parking and clean restrooms with showers. •Hwy 19 to turn at Hualalai Resort. Left at access sign near resort. Map 1,H9

AT THE BEACH

'Anaeho'omalu Bay - A lovely family beach in the palms, comfortable and fun for young and old, "A-Bay" is consistently calm, has nice sand and excellent facilities. You can rent sailboards, a sailboat or other water gear, and play in the water, or explore the ancient fish ponds. Bring your binoculars for seasonal whale watching. •Route 19 north 23.8 miles to left at Waikoloa, then .8 miles to left at stop sign (at Kings' Shops), then .3 miles to end. There is a short walk to the beach. Map 1,H9



Hapuna Beach State Park - One of the nicest beaches on the Island and possibly anywhere, Hapuna has beautiful white sand, a clean sandy bottom, and great surf. This is the best beach on the island for the beginning body boarder. Covered pavilions are available, along with good facilities and lifeguards. This is a truly great spot. Visit the snack bar where you can rent beach gear or grab a bite to eat. •Route 19 north 30.9 miles to left at Hapuna sign, then .6 miles to the parking lot. Map 1,C9

Kauna'oa Beach -This beach at Mauna Kea is a delightful spot with white sand, clear water and moderate surf. The snorkeling is good at the left end of the beach and this is a great place for children to try body boarding. The beach is clean with nice facilities. The Mauna Kea Hotel limits parking passes, so get there early. •Route 19 north 31.5 miles to left at Mauna Kea sign. Get a beach pass at gate, then follow road 1.3 miles to parking lot past the hotel. Four minute walk to the beach. Map 1,C9

Spencer Beach State Park - Almost always calm, Spencer Beach is a great spot for young children. White sand and clean facilities make this a popular beach for locals and tourists. This is one of the nicer beach parks where camping is allowed. Snorkeling and shore diving are good to the south and sea turtles are often spotted here. Visit the Pu'ukohola Heiau while you're here. •Route 19 north to the left at junction of Route 270, then .2 miles to left at Spencer Beach sign, then to beach. Map 1,A8

Mahukona Beach Park - Once a port and railway head for the sugar industry, Mahukona is now just a quiet beach park on the Kohala Coast. Not great for swimming but a good spot for snorkeling and shore diving when the surf is not high. The shore is all lava so the only good water access is from the adjacent pier. Camping is allowed here, and there are restrooms and showers (water not suitable for drinking). •Route 19 north to left on Route 270, then 8.7 miles to left at sign, then .5 miles to Park. Map 4,C3

Keokea Beach Park - Near the end of Route 270, this Park makes for a pleasant rest stop and picnic spot for those exploring North Kohala. Facilities here are good and camping is allowed. There is a nice protected little cove for the kids to splash around in but most water activities are discouraged because of the year round high surf. The rugged picturesque coastline can be enjoyed from a hilltop shelter. •Route 19 north to left on Route 270, then 22.9 miles to left at Keokea sign, then 1 mile to Park. Map 4,E5

AT THE BEACH

King Kamehameha Hotel Beach - The "King Kam" beach is a popular spot for visitors and locals. The surf is calm so this is a great beach for children. The sand is white and snorkeling is good, especially outside bay. Be sure to see the Hawaiian temple (Ahu'ena Heiau), where King Kamehameha I ruled and died. This is a popular spot for SNUBA, dive instruction and novice divers. •Corner of Palani and Ali'i. Access is from the pier. There is paid parking at the hotel and free parking around town. Map 2,B2

White Sands Beach Park - Also referred to as "Disappearing Sands" this beach loses its sand during the high surf months, usually November through April. But the sand returns in Spring to produce a white sandy beach. This is a favorite body boarding spot, but recommended for experienced boarders only. A good shore diving entry is 100 yards south at the white coral beach. Depths are from 2 to 60 feet with caverns and lava tubes. •South on Ali'i 4.4 miles. Parking available in the park or along the road. Map 2,J4

Kahalu'u Beach Park - This is one of the best, if not the best, snorkel beaches on the island with a huge variety of fish of all shapes and sizes. Bring an underwater camera along with your snorkel gear. The water's a little murky near shore but clearer out by the breakwater. A little lazy body boarding is also an option at the north end of the beach where it's sandy. Go early in the day to avoid the crowds. •South on Ali'i 5.5 miles. Parking available in the park. Map 2,K4

Keauhou Bay - Keauhou Bay is the birthplace of King Kamehameha III. The quiet little beach invites you to picnic, swim, and relax under gently swaying palm trees. It's the gathering place for a local canoe club, beach volleyball enthusiasts, and some very friendly canines. Walk out onto the wooden finger pier and watch for resident sea turtles and occasional mantas. •Route 11 south 4.2 miles to right on Kamehameha III Rd, then 2.0 miles to end of road. Map 2,N4

Honaunau Bay - Another great snorkeling and shore diving spot, but be careful if the surf is up. The water is clear and there is a huge assortment of fish. Children can explore the tide pools on the lava shore and there is a small sandy beach. Natural steps in the lava ease you into and out of the water. Canoe teams practice here and sunning on the lava is popular. •Route 11 south 19.0 miles to right on Route 16, then 4.0 miles to the Place of Refuge Park. Right at the end of the guardrail just before the parking lot. Map 3,N9

Ho'okena State Park - Down a long narrow winding road, the beach is gray sand and the fish are abundant, so bring your snorkel gear and underwater camera. Watershoes are a must here. The surf can be rough so be careful, but there is good body boarding for the more experienced towards the south end of the beach. Shore diving access is from the beach and not recommended if the surf is up. •Route 11 south 21.5 miles to right at Ho'okena State Park sign, then 2.2 miles to beach. Map 6,J2

AT THE BEACH

Pu'ala'a Beach Park - Hot springs in paradise! This lava lined pool is heated by volcanic steam, providing a terrific swimming spot with 95° water. With lifeguard service and shaded picnic areas, this oasis in Puna is not to be missed. Do yourself a favor and continue down the road 2 miles to Mackenzie State Park, a lovely pine forest with steep cliffs and pounding surf. South on Route 11, 7.5 miles to left on Route 130, 11.1 miles to left on Route 132, 7.4 miles to right on Route 137, 2.1 miles to Park. Map 6,J11

Punalu'u Beach Park - One of the few black sand beaches that is easy to get to and hasn't been destroyed by Madam Pele, this long stretch of beach is great for swimming, picnicking, snorkeling and sun bathing. A large fresh water fish pond and lots of palm trees make for a cool resting area. Although you'll be tempted, please do not take a souvenir of black sand with you; we already lose too much to natural erosion. •South on Route 11, 59.0 miles to left at sign, then 0.6 miles to Park. Map 6,L5

Snorkeling Tips

BE PREPARED - Rent high quality snorkel equipment from your favorite beach gear rental shop. Properly fitted fins and mask, de-fogger, sunscreen and fish I.D. card will make snorkeling much safer and more fun. Talk to the rental shop staff to learn the current surf conditions and consult the beach chart in this guide for the best snorkel spots.

BE CAREFUL - Never snorkel in high surf conditions, and since you should never snorkel alone, check your equipment fit and function with your buddy. No hair in the mask? Snorkel positioned correctly? Comfortable? Then ease yourself in and practice in the shallows. Once you feel relaxed and confident, venture into deeper waters, but never beyond the capabilities of your buddy. Snorkel equipment will not make you a better swimmer so go no further than you would without the equipment. If either you or your buddy feels tired, cold or anxious, head back to the beach.

BE RESPECTFUL & HAVE FUN -The reef is a living animal. What may look like just rocks or plants is most likely thousands of tiny organisms, trying to build a home. Therefore, enter, exit and rest only on sandy bottoms and bare lava, **and never dive in!** Approach fish slowly, you'll find they respond best to the passive viewer, not the fish chaser! Green sea turtles are protected by law, so do not touch or disturb them and they will probably swim to you. Also be careful not to stand on the coral as it can be very fragile. With the right equipment, the appropriate precautions, and respect for the fragile marine environment, you may find that Hawaii below sea level is the best part of all!

Body Boarding Tips

THE EQUIPMENT - Rent the appropriate equipment from your favorite rental shop: a board that suits your ability and size, and the proper fins. Of course body boarding could become body board floating or crashing, so find out about the current conditions and best locations.

THE SURF - It will not take you long to discover that the sea is a mighty force so **always exercise caution, especially during high surf conditions.** If you're not an experienced boarder, start with waves that are 1 to 2 feet and break over sand. If the surf is up, catch the wave after it breaks and ride the white water to the beach. Since beaches are different and change with the seasons, ask other boarders about surf, obstacles and current. **Play it safe,** board with others, get advice from the locals, and make friends!

BODY BOARDING ETIQUETTE - Once you have chosen a spot, observe how the other boarders are riding the waves. The locals will take turns with one or two boarders per wave to maximize the fun and minimize collisions. Learn from and respect the experienced boarder before trying some of the advanced moves yourself. Remember, there will always be another another wave so be careful.

Shore Diving Tips

BE QUALIFIED - Diving is for qualified and certified divers only. If you are not certified or haven't been diving for a while, dive only with an instructor. If you are unfamiliar with your dive site, seek advice from an instructor or certified diver who has been diving there before.

BE PREPARED - Rent quality, well maintained, and properly fitted equipment from a reputable dive shop. Get a thorough briefing from the staff about your proposed dive site. Get all the current conditions and complete your dive plan before heading out. Be sure you aren't planning any other activities (flying, etc.) that can compromise safety.

BE CAREFUL - Completely check out the dive site, and especially the surf conditions, before making the decision to dive. If the site looks good, make a snorkel dive first of the entry spot and surrounding area to familiarize yourself with conditions and hazards. **Never dive alone** or beyond your abilities or the abilities of your buddy.

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AT THE BEACH

Coconut Island Park - This quaint little island connected by footbridge to parking behind the Hilo Hawaiian is a favorite spot of the locals for fishing, picnicking and swimming. Once known as Mokuola "healing island" its abundance of coconut palms gave rise to its present name. A large grassy area, quiet surf and shallow pools with sandy bottoms make this an ideal place to bring the keikis "kids". •Banyon Drive to right turn past the Hilo Hawaiian Hotel. Park in the lot and stroll across the bridge. Map 5,B10

Hilo Bayfront Park - This grey sand beach is not a popular swimming beach because the water is cool and very murky, but fishing is a favorite pastime here. This park is also home to canoe clubs, hosts canoe races throughout the year and serves as a gathering place for various community activities. Decades of development and the tsunami of 1946 have significantly reduced the size and recreation potential of this beach but it remains a popular local park. •North .7 miles to Bay. Map 5,B9

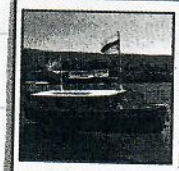
Kolekole Beach Park - The uniqueness of a fresh water river meeting the surge of ocean waves exists in several spots around the island, and Kolekole is one of the nicest. Its cool clear water arrives here soon after cascading down Akaka falls 4 miles upstream. The Park lies 100' below the Hawaiian Consolidated Railway tressel (now a highway bridge), which provides shade for river swimming, fishing and a large picnic facility, all of which adds up to a fun day. •North 12.0 miles to left at sign, 0.6 miles to park. Map 6,F8

Laupahoehoe Point Park - Picnic, play frisbee with the kids or just take a quiet break under a rustic old pine. This area was created when a lava flow from Mauna Kea poured into the sea and created a wide flat point shaped like a leaf (lau). Today a large green span of grass gives dramatic contrast to the rugged lava jutting from the sea. Once one of the few spots where canoes could land between Hilo and Waipi'o, this park is now a favorite camping ground. •North 24.4 miles to right at sign, 1.1 miles to park. Map 6,E7

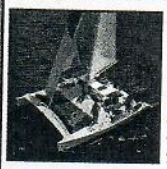
Keaukaha Beach Park - The community around Keaukaha is one of the oldest "Hawaiian Homes Commission" settlements. The large structure in the park is Hale 'Aina, a pavilion originally used as a community social hall. This is a favorite spot for swimming and the spring fed pools offer cool waters with easy access. The area's natural wetness makes for lush deep green grass perfect for picnicking. Also, this is a popular fishing spot of the locals. •East on Route 19, 1.6 miles to park. Map 5,D10

Onekahakaha Beach Park - A large breakwater and a number of retaining walls create several sandy bottom pools in this lovely park, recently renovated and re-opened in Jan. 1996. It offers many pavilions, lifeguard service and beautiful grassy picnic areas. This is a favorite swimming spot for the Hilo community and ideal for adults and children. However be aware that the breakwater does not guarantee safety during high surf months. •East on Route 19, 1.8 miles to left at sign, then 0.2 miles to park. Map 5,D11

ON THE WATER



☺Kailua Bay Charter Company 324-1749
Savor the splendor of Kona's majestic underwater world. This safe friendly trip aboard "Marian", a 36' glass bottomed vessel reminiscent of an Admiral's Barge, explores the beauty of Kailua Bay, above and below the sea. Learn about Hawaii's marine life and enjoy the comforts of easy boarding, shaded cushioned seating, open air breezes, soft music and narration by a friendly and knowledgeable crew. Also available for special functions, this affordable mini cruise departs hourly from Kailua Pier in Kailua-Kona. *Map 2,B3*



☺Kamanu 329-2021 ***Ad Pg 34***
Join Capt Jay Lambert and the crew of Kamanu for an uncrowded 3 1/2 hour adventure to Pawai Bay. Relax and glide over blue waters in quiet comfort as the breeze fills the sails (Kona's ONLY sailing cat). Snorkel amidst multitudes of rainbow hued reef fish while looking for sea turtles and elusive manta and eagle rays. All equipment is provided, with flotations for beginners and non swimmers. Complimentary light tropical lunch with beer, wine, juice and soda. •HWY 19 N 2.5 miles to Honokohau Harbor. *Map 3,C9*

☺Maile Charters 326-5174
Make your vacation the trip of a lifetime. Set sail aboard the comfortable Gulf Star, *Maile*, the only luxurly sailboat operating on the Big Island. Our 20 years of experience sailing Hawaiian waters include whale research, night diving, fishing and exploring our unique environment. Your will have total flexibility on the *Maile* and can plan your own itinerary. Try some hands-on sailing, deep sea fishing, snorkeling or just relax and soak up some rays. Dolphins, turtles manta rays and pilot whales can be found year round. *Map 1,A7*

☺Manta Ray Dives of Hawaii 325-1687
Join us aboard our boat, the Rainbow Diver II, for an up close encounter with the world famous Kona manta rays, as featured in *National Geographic* (Dec, 95) and *Life Magazine* (Aug, 98). Underwater lights set the stage as these gentle giants glide gracefully through the beams, feeding on plankton. Divers and snorkerlers safely view the action and maybe even meet a manta ray face to face. All equipment and a wet suit are provided. Hot cocoa and cookies are served. •Boat access, Keauhou Bay. *Map 2,N4*

☺Nautilus Kona 326-2003
Join us for one of Kona's finest underwater adventures. From the comfort of our semi-submersible's air conditioned cabin, you'll visit the undersea coral gardens of the Kona Coast, where thousands of tropical fish, dolphins and sea turtles abide. Large personal viewing windows, fish feeding by our diver and live narration by our expert crew all combine to make this family fun adventure the "experience of a lifetime." Departures from pier on the half hour. •Shop on Alii Dr across from Kailua Pier. *Map 2,B3*

☺Ocean Eco Tours 324-7873 ***Ad Pg 26***
Have you ever dreamed about surfing or scuba diving? It's easier than you think. Our professional, friendly and knowledgeable staff is dedicated to making your first surfing or diving experience safe, fun and educational. We provide everything, including a healthy lunch. So make your Big Island vacation an adventure, and learn to surf or dive. All our instructors are lifeguard certified, Scuba instructors are PADI certified. Group, private and multi-lesson packages available. Outdoor fun for the whole family. •Kalhlu'u Beach Park. *Map 2,K4*

☺Ocean Safari Kayaking Adv 326-4699
Kayaking is Eco-Touring at its best. You can rent an ocean kayak and explore the Kona Coast on your own, or enjoy a professionally guided adventure with us. Summer is a great time to explore sea caves, do some safe diff jumping and snorkel crystal clear waters. Paddle among dolphins and see a multitude of sea life. Enjoy beautiful scenery and maybe spot a wild parrot. Tours include water, snacks, cold fruit, sodas and snorkel gear. We specialize in small groups of only six kayaks plus guides. Too much fun!! *Map 2,K4*

☺Sea Quest Rafting 329-7238 ***Ad Pg 36***
Sea Quest limits tours to 6 passengers for personalized snorkeling and historic site exploration. A comfortable, safe and large craft created by Nautica or Naiad, ensures access to lava tubes, sea caves and reefs. We start at Keauhou Bay, maximizing the time for snorkeling and exploring Kealakekua Bay Marine Sanctuary and points South. Snacks and snorkel gear (including Rx masks) are included. •Route 11 south to right on King Kamehameha III to left on Ali'i Hwy., follow signs to Keauhou Bay. *Map 2,M4*

☺Torpedo Tours 938-0405 torpedo@kona.net
Put some real adventure into your vacation! Torpedos are fun, exciting and easy to use. No experience required. If you like to snorkel or dive, you'll love doing it with a Torpedo. Experience the freedom of going beyond the mass of other water enthusiasts. You will see pristine expanses of the reef rarely visited by other snorkelers and divers. All equipment and instruction are provided. Snorkeling tours and dive tours from boat or shore. Small, intimate groups of 2-5 people. You've never had this much fun! •Call for directions.

ON THE WATER

☺Aloha Adventure Cruises 331-2992
Join us on Kona's only 65' double-decker, glass bottom coastal cruiser. Choose any of our three Eco-Cruises that depart Kailua Pier. On our 9:30 Dolphin Quest and our 12:00 Humpback Whale Adventure Cruise, we look for playful dolphins and whales, learn about the Island's rich Hawaiian history and the mystical coral reef eco-system from our on-board naturalist. Or relax and enjoy the beautiful Kona sunset on our 5:15 Cocktail Sunset Cruise, offering light pupu's, no-host bar and live Hawaiian intertainment. •Kailua Pier. *Map 2,B3*

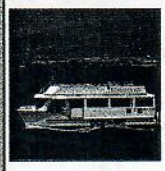
☺Body Glove 326-7122 ***Ad Pg 11***
Join us for four and one half hours of pure fun! Kona's premium snorkel cruise at a non-premium price. Whether you're a non-swimmer or experienced diver, Body Glove offers it all. Witness spectacular marine life and keep an eye out for Dolphins, Manta Rays and our resident Sea Turtles, as we take you to Pawai Bay, a beautiful marine preserve. From January to May, see Humpback whales on our PM 3 hour Greenpeace Whale Watch. **A guaranteed experience or go again free!** •All tours depart Kailua pier. *Map 2,B3*

☺Captain Beans' 329-2955 ***Ad Pg 12***
The folks at Captain Beans' Polynesian Cruise say "All Aboard for Fun!", and fun is what this cruise is all about. Your tour includes a sumptuous dinner and excellent Polynesian show, all to the backdrop of a beautiful Kona sunset. Departing daily at 5:15 p.m., your cruise includes dinner, beverages, the show, transportation and tax. For just $49 from the Kailua-Keauhou area and just $57 from the Kohala Resorts, this fabulous dinner cruise is one of Kona's best values. •Cruise departs from Kailua Pier. *Map 2,B3*

☺Captain Zodiac 329-3199 ***Ad Pg 34***
Our 4-hour morning or afternoon excursions include snorkeling and swimming at Kealakekua Bay, Hawaii's finest marine preserve and site of the Captain Cook Monument. Spinner Dolphins, Manta Rays, and pods of Humpbacks are common sights on this shore-hugging, fun and exciting ride. A tropical lunch, snorkel gear and instruction are provided. Our personable and knowledgeable crew makes this a great experience. The Captain Zodiac shop is in Gentry's marina. •Route 19 north 2.5 miles to left at Honokohau Harbor. *Map 3,D9*

☺Dan McSweeney's Whale Watch 322-0028 ***Ad Pg 6,7***
Welcome aboard this unique and fun-filled whale watch. Want to be certain you'll see and spend more time enjoying Hawaii's whales? Then join Captain Dan McSweeney, a whale specialist and professionl guide, who has over 30,000 hours of experience finding whales- GUARANTEED! Your adventure includes: color whale/dolphin guide, 8x11 color whale photo w/ direct booking, use of binoculars, snacks and cold juices. Microphones capture whale songs! Proceeds help protect whales. •Honokohau Harbor. *Map 3,D9*

☺Dolphin Discoveries 322-8000
Be sure to bring your camera on our "magical boat tour" to watch, learn about and listen to Hawaii's dolphins and whales, year round. Interact and participate in ongoing research with your professional guides, Captains Kevin and Claudia Merrill, certified marine mammal naturalists and wildlife photographers. Our safe, fast state-of-the-art adventure craft allows lots of time with the dolphins and whales, as well as snorkeling at Kealakekua Bay on the AM trip. Kona's original wild dolphin experience. •Departs Keauhou Bay. *Map 2,M3*



☺Eco Adventures 329-7116 ***Ad Pg 36***
SCUBA or Snorkel. Daily 2 location adventures on one of Kona's finest dive boats. The custom fitted 50' double decker vessel is equipped with restroom and hot showers, and we provide a deli lunch on AM charters. All charters include tax, tanks, weights and snorkel gear. Enjoy the Manta Mania night charter or a beach dive anytime (certified and non-certified). PADI 5 Star Instructor Development Center and AND! Nitrox Facility offering 3-4 day Open Water Certification. •King Kamehameha's Kona Beach Hotel. *Map 2,B3*

☺Hawaii Lifeguard Surf Instructors 324-0442
Surfing is the ancient traditrion of the Hawaiians. The feeling of riding an ocean wave will last a lifetime. Hawaii Lifeguard Surf Instructors (HLSI) perpetuates this ancient sport with aloha and a safety first attitude. We specialize in first time surfers and beginners. Your instructor will have a minimum of 15 years experience in the sport of surfing and hold current certifications with the American Red Cross in Lifeguarding, First Aid and CPR. Come learn to surf from our expert, certified Hawaii lifeguards. •Call for times and directions.

☺Honu Sail Charters 322-4668
Come join us for a day of true blue-water sailing along the beautiful Kona Coast. The *Honu* is a custom built 36' Westsail and with onlt 6 guests per charter, you'll have a very personalized and unique experience. We leave the choice to you. Honu offers hands on sailing, snorkeling, deep sea fishing or just sitting back and enjoying the view. We supply the towels, sunscreen, snorkel gear, instruction and great food. Just bring yourself, for a day of wonderous sights above and below the sea. •Hwy 19, N to Honokahau Harbor. Map 3, C9

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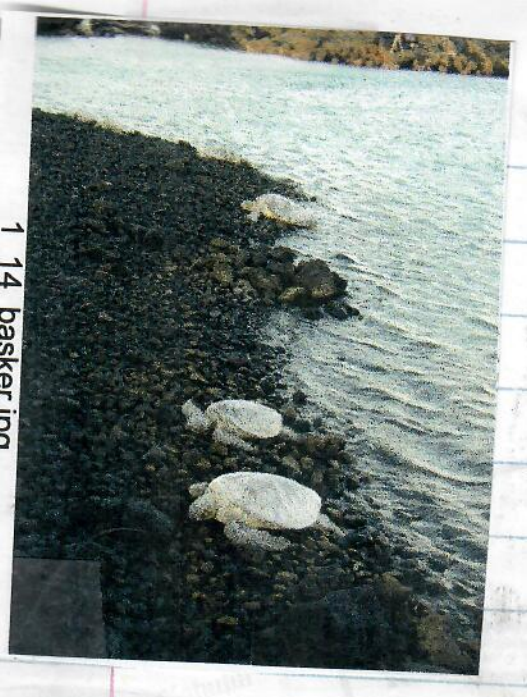

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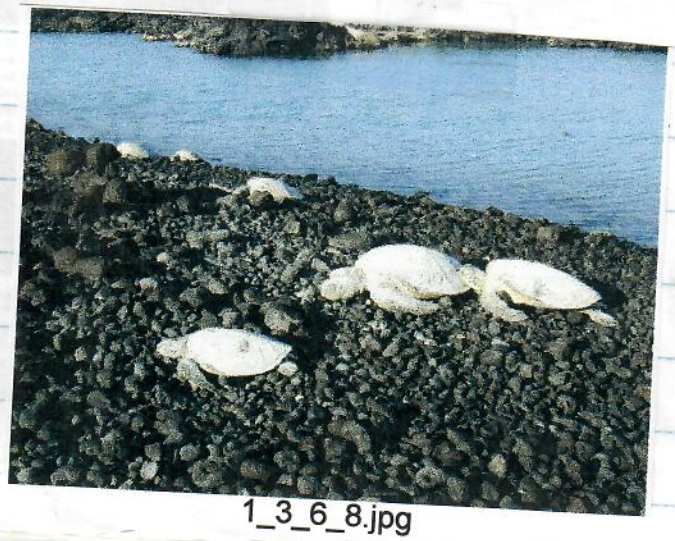

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HABITAT USE OF MIXOHALINE FISH PONDS BY GREEN TURTLES AT KIHOLO BAY, HAWAII, USA

Katherine A. Harrington[1]
Marc R. Rice[1]
George H. Balazs[2]

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[2]National Marine Fisheries Service,Southwest Fisheries Science Center, Honolulu Laboratory, 2570 Dole Street, Honolulu, Hawaii 96822-2396 USA

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Online Safari

Webcams capture lions, leopards, elephants, and eagles in action

AFRICAM HAS CREATED THE world's first virtual game reserve. The South African company provides 24-hour Web viewing from cameras at watering holes, along game-drive routes, and on vehicles tracking specific wild animals at seven of the country's game reserves. It runs Africa's most visited Web site, one that single-handedly accounts for 45 percent of South Africa's Internet traffic.

The Internet has certainly changed the way consumers book vacations, but it is also affecting how we research our destinations. Before they ever set foot on a plane, Africam viewers go on virtual game drives, sit at a blind in the bush, accompany scientists as they monitor the behavior of leopards or wild dogs, watch the birth of a Wahlberg's eagle, and thrill fo such spectacles as a python swallowing an impala, vultures chasing cheetahs off a carcass, and baboons swinging from the cables of Webcams. They can also look at photos taken by a documentary film-making team that actually spends 16 hours a day following and monitoring a leopard named Tjololo at the Mala Mala Game Reserve.

Africam tracks Tjololo the leopard (above) with a mobile camera; stationary cams catch a lion and a herd of elephants.

Africam's cameras and Web site are part of a growing ensemble of high-tech gadgets that not only provide a show for wildlife enthusiasts who log on to the site but also contribute to research and conservation efforts. One camera, for example, is trained on the den of a pack of wild dogs. It is already showing how this endangered species rears and feeds its young, socializes the pups, and teaches them to hunt. Another camera is mounted in a marula tree and perpetually monitors a pair of nesting Wahlberg's eagles. It could help scientists to understand why these birds practice Cainism (whereby one of two hatchlings invariably kicks its brother or sister out of the nest soon after birth).

Another company, the Southern African Natural History Unit, has entered into a partnership with the country's conservation agency and the Discovery Channel to mount a camera on the back of an elephant cow in Kruger National Park. That game reserve is currently at the center of an international controversy over whether elephants in southern Africa should be culled. The camera will record photographs to be broadcast on the Discovery Channel's Animal Planet site. While these images entertain Web users around the world, they will also shed light on issues that inform the debate over what to do about the size of the elephant population. Researchers hope to learn about their feeding habits, the way they create family units, how they rear and socialize their young, how they defend against predators, the damage they cause to baobabs and other rare botanical species, and how they adapt to drought and flood conditions.

Financially, many of these projects are made possible by the interest of the people who click past banner ads to view the pictures. In return, armchair travelers get inspiration to visit in person, and they can see even better close-ups of the animals than they're likely to get from a safari jeep.

–Eddie Koch

BOOKMARKS

AFRICAM.COM

When you log on to this site, the wild-cam photos you'll see are static images; they are refreshed every 30 seconds. And because some of the cameras rely on archaic radio links between the field and the base unit, the quality of the pictures can be poor. In order to improve the site, Africam is spending $15 million on satellite-uplink trucks and equipment capable of beaming live photos—it has already begun doing so with three experimental cameras and hopes to have live-image capability on all cameras by summer's end. The best way to start exploring Africam is by clicking on the links to the mobile cams (which are easily identifiable on the home page) either early in the African morning (10:30 P.M. to 2 A.M. EST) or late in the afternoon (9 A.M. to noon EST).

ANIMALPLANET.COM

Owned by Discovery Communications, this site has still photos from Web cameras focused on everything from ants to tigers. The footage is gathered from more than a dozen animals, all of which are in zoos or some form of captivity, except for the elephant in Kruger National Park—installing the camera on its back is the site's first venture into the wild. Discovery's representatives in South Africa expect the camera to begin transmitting images to the site before fall. It is also discussing plans with its South African partner, Route 66 Productions, to expand the number of wild cams on the Web site.

Dear Mr.Balazs

I would like to thank you for the multiple opportunities you have given me over the years to involve myself in the turtle program. What I have been able to extract from my experiences cannot be expressed in a letter. Being one of the few to work with these animals has been fun and fulfilling. The recent project on basking was a good learning experience that I profited from greatly. I enjoyed getting to see every step of the process, from gathering data to explaining it in Spanish with scientists from Guatemala. I will look back on the study and the trip, as hopefully the start of my science filled life. I only wish I could have given more time to the project, aiding Mr. Rice a little better, but school and all my commitments caught up with me. But now that I can visualize the task at hand, I hope to effectively contribute more time and effort into future projects. Yet I'll have to wait for senior year to come when I have fewer class commitments. Thank you again for all your patience and generosity, I hope to continue giving back to the ocean and its creatures.

Aloha,

4/2000

KOPRA
BOX 6013
KAMUELA, HI
96743

Algae Identified from Green Turtle Mouth Samples
By Dennis J. Russell, April 22, 2000

Date = 04-8-00 Kaloko

Pit Tag #410B653101

Pterocladiella capillacea	100%
Ceramium sp.	Trace
Tolypiocladia calodictyon	Trace

Pit Tag #410B6E6316

Pterocladiella capillacea	95%
Codium edule	5

Pit Tag #41192F4105

Eight lime seed shaped and size barnacles
One fine tangled ball (4-5 mm dia mass) monofilament threads (30-35 um diameter)

Identification of Content in Green Turtle Mouth Samples
by Dennis Russell, April 20, 2000

10-05-100Kaloko-Honokohau, mouth sample, 413623316C

Ulva rigida
Pterocladiella capillacea
Hypnea spinella

KALOKO

10-05-100Koloko-Honokohau, mouth sample, 410B450B19

Enteromorpha sp. (fine and highly branched)
Diatoms

10-05-100Kaloko-Honokohau, Hawaii, mouth sample, 407A2A001E

Enteromorpha sp. (very fine and highly branched)
Ceramium sp.
Hypnea spinella
Polysiphonia tenuis

10-05-100Kaloko-Honokohau, Hawaii, mouth sample, 40615A5F77

Enteromorpha sp. (fine and highly branched)

10-05-100Kaloko-Honokohau, Hawaii, mouth sample, N631

Enteromorpha sp. (very fine and highly branched)
Centroceros clavulatum
Ceramium sp.
Hypnea spinella
Polysiphonia tenuis
Diatoms
Blue and red man-made fibers (10 um diameter)

03-09-00 Honokawai, Maui, Polz Barney, mouth sample, OD6D

Pterocladiella capillacea

03-16-00 Bellows Beach, Oahu, beach sample from limestone rocks

Grateloupia phuquocensis Tanaka & Pham

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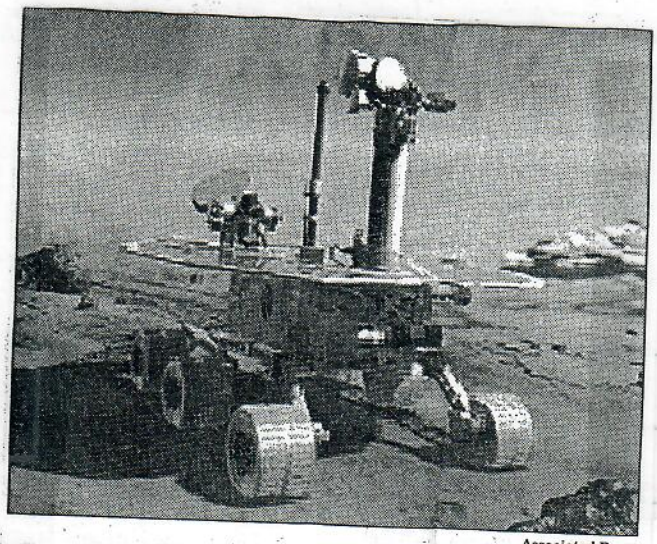

Associated Press

An artist's rendering of the Mars 2003 Rover, which will be used to search for evidence of water on the Red Planet.

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KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

- Established in 1978
- Most of the park purchased in the 1980's
- Area of 1161 acres
  - 616 acres of landmass
  - 545 acres of marine environment

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Summary: Natural Resource Priorities

- Monitor, Manage, Protect, and Preserve Wetlands
  - Fishponds
  - Anchialine Ponds
    - Monitor Water Quality
- Vegetation Management
  - Eliminate Invasive Species
  - Reintroduce Native Species
- Remove Introduced Mammals
- Manage Visitor Activity

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Natural Resources: Animals

- Birds
  - Water Birds
  - Land Birds
- Mammals
- Reptiles
- Transitory Species

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Natural Resources: Marine Resources

- Jurisdiction is controlled by the State of Hawaii
- Large Marine Area Falls Within Park Boundary
- Offshore Zone Contains Significant Coral Reef Areas
- Relatively Unregulated
  - Need for Greater Control

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Natural Resources: Wetlands

- Fishponds
  - Manmade Features
  - Areas of Significant Species Concern
- Anchialine Ponds

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Natural Resources: Vegetation

The invasion of European Introductions into the park is a critical natural resources management issue.

- Endemic Species- 9 % of plant species
- Indigenous Species- 31 % of plant species
- Polynesian Introductions- 7 % of plant species
- European Introductions- 53 % of plant species

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Enabling Legislation

"to provide a center for the preservation, interpretation, and perpetuation of traditional native Hawaiian activities and culture, and to demonstrate historic land use patterns as well as provide needed resources for the education, enjoyment, and appreciation of such traditional native Hawaiian activities and culture by local residents and visitors..."

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Urban Impacts

- Mauka Commercial/Industrial Development
- Honokohau Harbor Development
- Upslope Water Quality
- Highway Widening
- Resort Development
- Increasing Visitation
- Inappropriate Use of the Park

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Cultural Resource

Mankind is intimately connected to the natural environment. The KAHO environment strongly influenced cultural development within the park.

- Focus on Acquisition of Marine Resources
- Primary Residential Areas Along Coastal Region
- Coastal Sites Connected to Mauka Through Ahupua'a Settlement Pattern
- Sites Seen in Context of Broader Hawaiian Social Patterns

KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Natural-Cultural Resources

Natural and cultural resources are intimately linked throughout the park.

- Kaloko and 'Aimakapa Fishponds
- Queen's Bath
- Effects of Vegetation on Archeological Sites
- Marine Sites

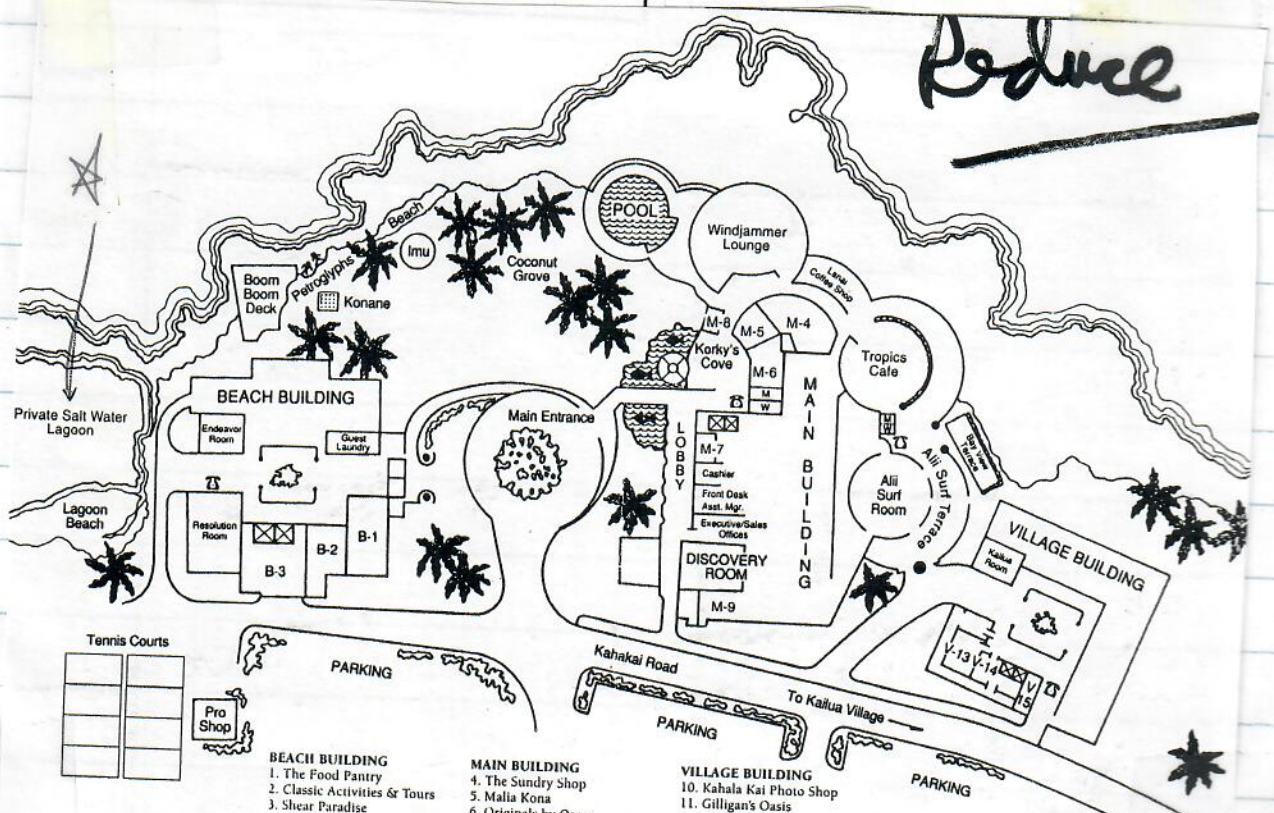
KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Natural Resources: Climate and Geology

Climate and geology are THE controlling factors for natural resources in the park

- Hot Semi-Desert
  - Mean Annual Rainfall of 20-30 inches
- Areas of 'A'a and Pahoehoe Lava
  - 5,000-10,000 BP
  - 3,000-5,000 BP
  - 2,300-2,000 BP

Reduce



BEACH BUILDING
1. The Food Pantry
2. Classic Activities & Tours
3. Shear Paradise

Room Numbers:
148-155, 240-263, 340-363, 440-463, 540-563, 640-663

MAIN BUILDING
4. The Sundry Shop
5. Malia Kona
6. Originals by Oscar
7. Activities Desk
8. The Arts & Crafts Cart
9. Hawaiian Angel Kona Coffee

Room Numbers:
200-239, 302-337, 404-437, 506-530, 608-635, 708-735

VILLAGE BUILDING
10. Kahala Kai Photo Shop
11. Gilligan's Oasis
12. Malia Outlet

Room Numbers:
166-179, 264-287, 364-387, 464-487, 564-587, 664-687

Elevators
House Phones
Coin Phones — Main Building Only
M W Restrooms

Royal Kona Resort
The Essence of Kailua-Kona

198

1-89 Marc Rice

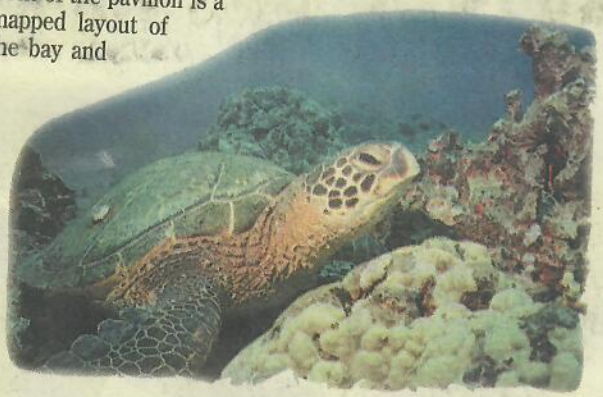
Swim With The Turtles At Kahalu'u Beach Park

Swim with turtles, trumpet fish, uhu (parrotfish), moorish idols, several types of tang, moray eels, and many, many more, right off the shore at Kahalu'u Beach Park. The waters teem with marine life, and a mask and snorkel opens up this underwater world to even the most inexperienced swimmer. The waters are very gentle, protected by what remains of a breakwater built by early Hawaiians to aid in fish farming.

One day a turtle came all the way in to the "lava wading pool" area of the shoreline, delighting children and adults alike. Please don't touch; these endangered creatures existence is a delicate matter and you could be subject to fines. A little further out, you swim through schools of fish that barely move out of your way. For the experienced divers, snorkelers, and swimmers, the shelving sand

near the breakwater provides access to the open waters of the bay.

Kahalu'u became a beach park in 1966, and has all the amenities one needs. White sand, showers, restrooms, three pavilions, mask, snorkel and fin rentals; a lunch wagon, and of course, lifeguards. Normally a safe haven, high surf conditions can create a devastating rip current. In front of the pavilion is a mapped layout of the bay and



its currents, and a key to some of the marine life within. When in doubt feel free to ask one of the friendly and ever alert lifeguards for assistance. Kahalu'u is a busy beachpark, but once you enter the underwater fantasy world of this tranquil bay, the clamor of humanity recedes to the distant background. Kahalu'u Beach Park is about 6 miles south of Kailua on Alii Drive.

Dennis J. Russell
P.O. Box 210-435
Auke Bay, Alaska 99821
(907) 789-1621 Juneau, AK
E-mail: RussDenn@aol.com

George Balazs
Marine Turtle Research Program
National Marine Fisheries Service
SWFSC Honolulu Laboratory
2570 Dole Street
Honolulu, Hawaii 96822-2396

December 22, 1999

Dear George,

The algae collected from the Kiholo ponds consists mainly of:

11-12-99 Kiholo Pond #2, Hawaii Island, Mixohaline

Cladophora hemisphaerica	99%
Cladophora sericea	1%
Ulothrix sp.	Trace
Oscillatoria sp.	Trace
Chroococcus minor	Trace
Diatom mixture	
Foraminifera	
Sponge spicules	
Small round worms	
Spider mites	
Shrimp larvae	

11-12-99 Kiholo Pond #1, Hawaii Island, Awai, Mixohaline

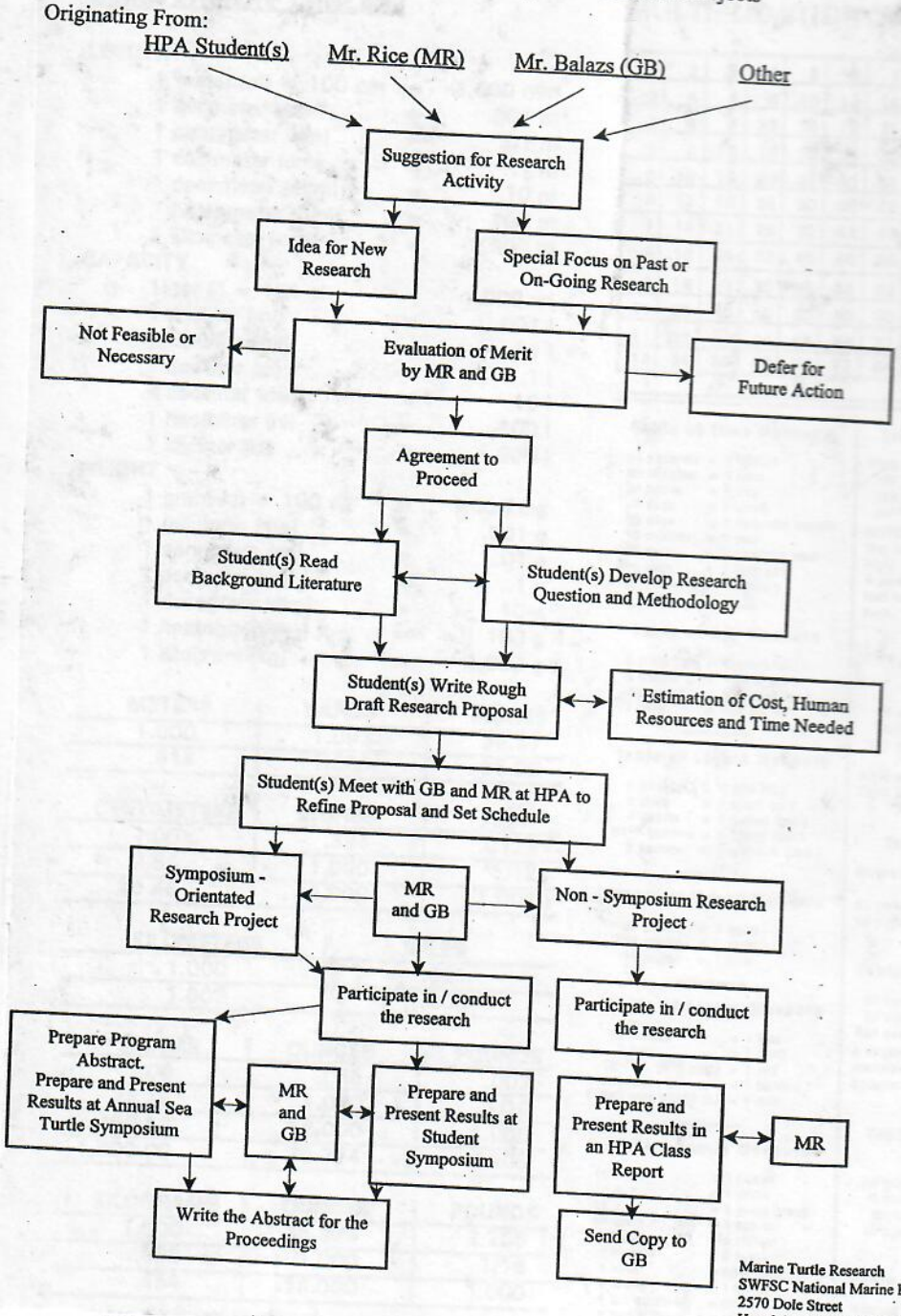
Cladophora hemisphaerica	100%
Cladophora sericea	Trace
Diatom mixture	
Small round worms	

Earlier literature includes *Cladophora hemisphaerica* in the *Cladophora* genus for locations on Hawaii Island, but Abbott does not include the genus in her latest keys. *Cladophora* is not a well understood genus, but *C. hemisphaerica* is definitely a good fit for what you have in the samples. I have made drawings of it for future reference.

Figure 1a. Infrared aerial view of north Kiholo Bay and Waimanalo lagoon.

Useful Information

NMFS / HPA COLLABORATIVE MARINE TURTLE RESEARCH
Flow Chart to Assist in the Development of Student Projects

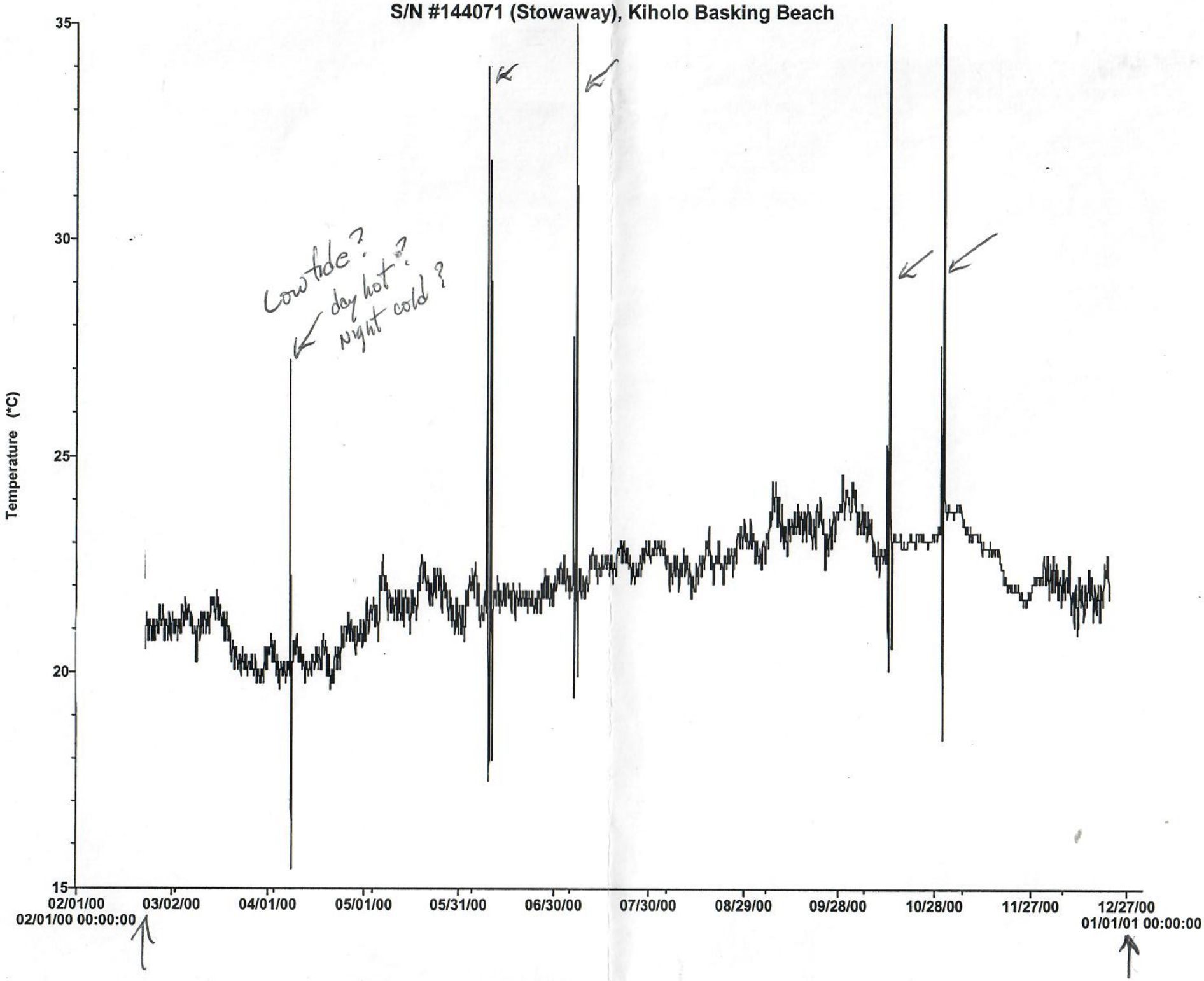


Marine Turtle Research
SWFSC National Marine Fisheries Servic
2570 Dole Street
Honolulu, HI 96822-2396
Ph: 983-5730 or 983-5733
Fax: 983-2902

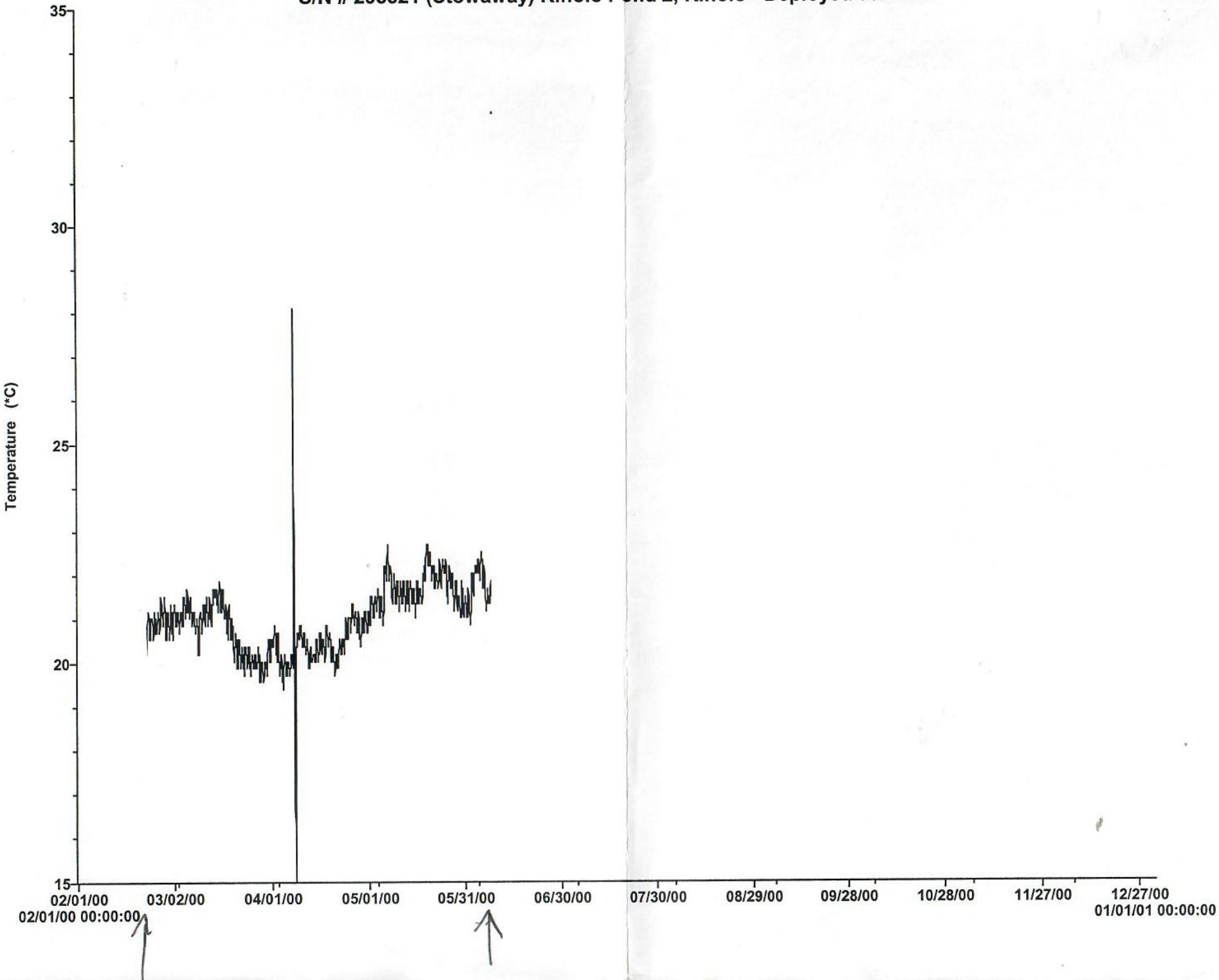
LITERS	PINTS	QUARTS	GAL.
1.000	2.113	1.057	.264
.473	1.000	1/2	1/8
.946	2.000	1.000	1/4
3.785	8.000	4.000	1.000

Diameter of circle x 3.1415 = circumference.
Diameter of circle squared x .7854 = area.
Atmospheric pressure is 14.7 lbs. per sq. in. at sea level.
$13^{1/2}$ cu. ft. of air weighs 1 lb.

640 acres = 1 sq. mile
An acre measures 208.71 ft. on each side.
A section of land is 1 sq. mile.
A quarter section is 160 acres.
A township is 36 sq. miles.


S/N #144071 (Stowaway), Kiholo Basking Beach
Temperature (°C)
35
30
25
20
15
02/01/00
02/01/00 00:00:00
03/02/00
04/01/00
05/01/00
05/31/00
06/30/00
07/30/00
08/29/00
09/28/00
10/28/00
11/27/00
12/27/00
01/01/01 00:00:00
Low tide?
day hot?
night cold?

S/N # 295521 (Stowaway) Kiholo Pond 2, Kiholo - Deployed at 0.5 M



Historical Information for Turtle Tag 7776

Tag Information:

Tag Number	Date	Tag Type	Tag Position
35735726	12/15/99	PIT	LHF
36047670	12/15/99	PIT	RHF
7776	8/9/84	I681	RFL
7777	8/9/84	I681	LFL
Q292	2/22/96	I681	LHF
SON106	10/24/01	SON	SON
TDR0070883	10/24/01	TDR	TDR
Y115	3/1/89	I681	R45
Y116	3/1/89	I681	RHF

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

TO MARC RICE
Historicals for
3 turtles captured
basking
10-24-01
KIHOLO

						Since Last Encounter				Overall			
						Interval		Growth-Rates		Interval		Growth-Rates	
Date	Type of Encounter	Location:	TumorRank:	NestingAct:	Straight Carapace	Month	Year	cm/mon	cm/yr	Month	Year	cm/mon	cm/yr
8/9/84	Near Shore	Hawaii, Kiholo	0	-	52.8	---	---	---	---	---	---	---	---
3/1/89	Near Shore	Hawaii, Kiholo	0	-	57.5	54.0	4.5	0.1	1.0	54.0	4.5	0.1	1.0
4/25/90	Near Shore	Hawaii, Kiholo	0	-	59.4	13.0	1.1	0.1	1.7	68.0	5.7	0.1	1.2
10/25/90	Near Shore	Hawaii, Kiholo	0	-	59.7	6.0	0.5	0.0	0.6	74.0	6.2	0.1	1.1
3/4/91	Near Shore	Hawaii, Kiholo	0	-	59.5	4.0	0.3	---	---	78.0	6.5	0.1	1.0
1/13/92	Near Shore	Hawaii, Kiholo, Mixohaline Enbayment	0	-	60.6	10.0	0.8	0.1	1.4	89.0	7.4	0.1	1.1
2/22/96	Near Shore	Hawaii, Kiholo	0	-	64.2	49.0	4.1	0.1	0.9	138.0	11.5	0.1	1.0
1/14/97	Near Shore	Hawaii, Kiholo, Lagoon	0	-	65.1	10.0	0.8	0.1	1.1	149.0	12.4	0.1	1.0
12/15/99	Near Shore	Hawaii, Kiholo, Lagoon	0	-	---	35.0	2.9	---	---	184.0	15.3	---	---
10/24/01	Near Shore	Hawaii, Kiholo, South Beach	0	-	68.6	22.0	1.8	---	---	206.0	17.2	0.1	0.9

MT53

Historical Information for Turtle Tag B960

Tag Information:

Tag Number	Date	Tag Type	Tag Position
01366329	9/30/95	PIT	PIT
422D5B0E41	10/24/01	PIT	LHF
422F175374	10/24/01	PIT	RHF
B960	9/30/95	I681	LFL
B961	9/30/95	I681	RFL
B962	9/30/95	I681	LHF
B963	9/30/95	I681	RHF

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

						Since Last Encounter				Overall			
						Interval		Growth-Rates		Interval		Growth-Rates	
Date	Type of Encounter	Location:	TumorRank:	NestingAct:	Straight Carapace	Month	Year	cm/mon	cm/yr	Month	Year	cm/mon	cm/yr
9/30/95	Near Shore	Hawaii, Kiholo	0	-	48.5	---	---	---	---	---	---	---	---
10/24/01	Near Shore	Hawaii, Kiholo, South Beach	0	-	58.4	72.0	6.0	0.1	1.7	72.0	6.0	0.1	1.7

new
MT98

Historical Information for Turtle Tag 3317

Tag Information:

Tag Number	Date	Tag Type	Tag Position
3317	3/21/80	I681	RFL
3318	3/21/80	I681	L1
71155D7E	4/21/97	PIT	PIT
7782	8/9/84	I681	LFL
7A307165	2/2/99	PIT	LHF
8933	4/28/88	I681	LHF
8934	4/28/88	I681	R2
J632	9/16/94	I681	RHF
SON249	10/24/01	SON	SON
SON357B	9/16/94	SON	SON
TDR00032	10/24/01	TDR	TDR

Marine Turtle Research
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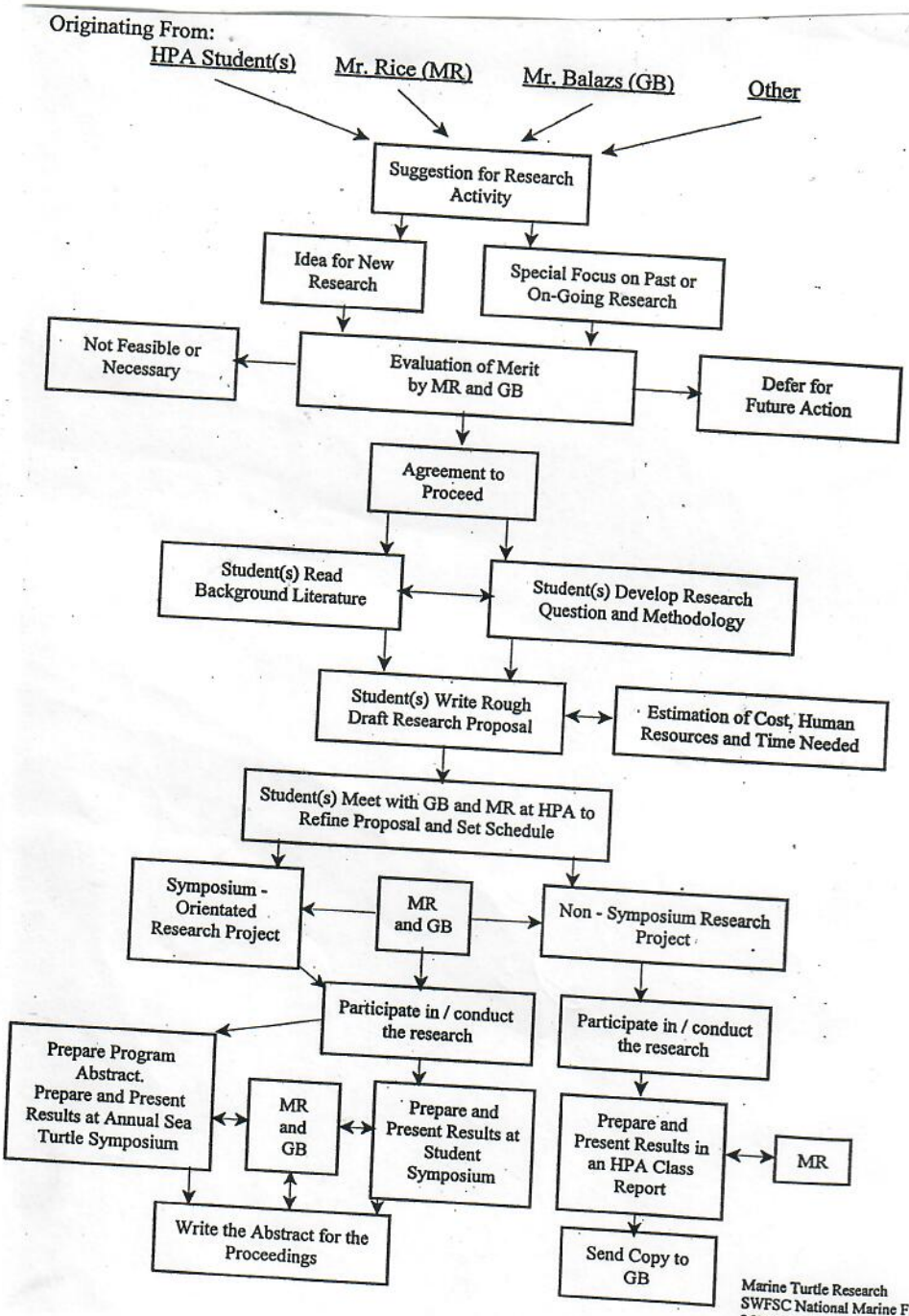
Honolulu, HI 96822-2396

						Since Last Encounter				Overall			
						Interval		Growth-Rates		Interval		Growth-Rates	
Date	Type of Encounter	Location:	TumorRank:	NestingAct:	Straight Carapace	Month	Year	cm/mon	cm/yr	Month	Year	cm/mon	cm/yr
3/21/80	Near Shore	Hawaii, Kiholo, Pond	0	-	49.4	---	---	---	---	---	---	---	---
10/17/80	Near Shore	Hawaii, Kiholo, Pond	0	-	53.0	6.0	0.5	0.6	7.2	6.0	0.5	0.6	7.2
8/9/84	Near Shore	Hawaii, Kiholo	0	-	63.5	45.0	3.8	0.2	2.8	52.0	4.3	0.3	3.3
4/28/88	Near Shore	Hawaii, Kiholo	0	-	65.8	44.0	3.7	0.1	0.6	97.0	8.1	0.2	2.0
3/2/89	Near Shore	Hawaii, Kiholo	0	-	65.8	10.0	0.8	0.0	0.0	107.0	8.9	0.2	1.8
10/19/89	Near Shore	Hawaii, Kiholo	0	-	65.9	7.0	0.6	0.0	0.2	114.0	9.5	0.1	1.7
3/5/91	Near Shore	Hawaii, Kiholo	0	-	65.6	16.0	1.3	0.0	---	131.0	10.9	0.1	1.5
9/16/94	Near Shore	Hawaii, Kiholo	0	-	67.8	42.0	3.5	0.1	0.6	173.0	14.4	0.1	1.3
4/21/97	Near Shore	Hawaii, Kiholo, Lagoon	0	-	69.5	31.0	2.6	0.1	0.7	205.0	17.1	0.1	1.2
2/2/99	Near Shore	Hawaii, Kiholo, Lagoon	0	-	71.6	21.0	1.8	0.1	1.2	226.0	18.8	0.1	1.2
7/6/00	Near Shore	Hawaii, Kiholo, South Beach	0	-	71.7	17.0	1.4	0.0	0.1	243.0	20.3	0.1	1.1
10/24/01	Near Shore	Hawaii, Kiholo, South Beach	0	-	71.6	15.0	1.3	0.0	---	259.0	21.6	0.1	1.0

MT94



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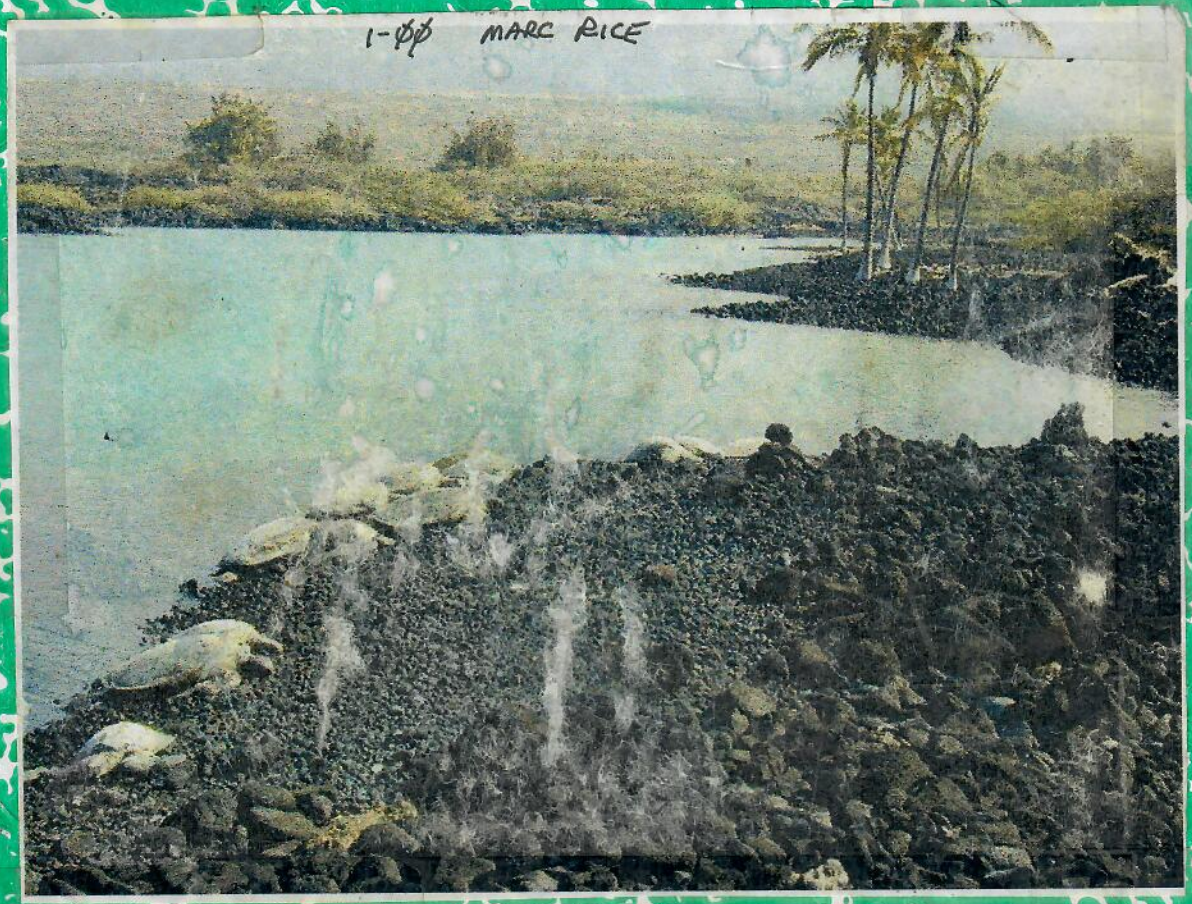

KALOKO