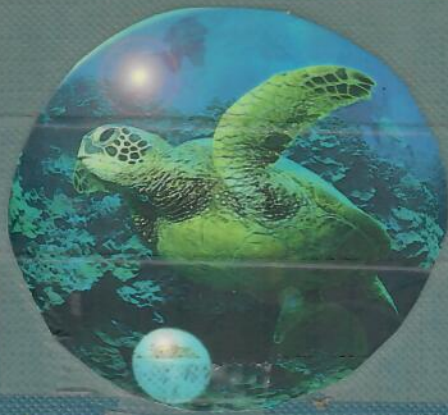


MOLOKAI 7-9 July 98
MOLOKAI 5-9 July 99
MOLOKAI 23-26 July 2002 (Full Moon)



BALAZS

MOLOKAI

2 OF 2

1998-1999

2002

CABBIE
CABRA ~~Dene~~

Kabbie
Kabbradeer

Day 5

23 TOTAL
(12 Turnover)

Score 1 -	5
2 -	3
3 -	4
	<hr/>
	12 TOTAL

I haven't had an opportunity to get on the internet but will when I do. I'll be taking everything

Same site as day 4

SITE DAY 5 "IVA" 9 JULY 99
SL x SA x SW "Kabbie" x CCW

73

①

58.5 58.1 46.5 63 55.5



4136256E4B

LH



4136024A3A

RH

3.0 UQ

Right eye - suspicious bulge

non-cooperative

②

57.2 57.1 46.5 61.5 57.5



4136186972

LH



41361E0F4D

RH

3.0 UQ

③

59.2 58.9 44.3 64 56



4135330928

LH



413E4C3D64

RH

3.0 UQ

④

64.0 63.9 51.4 69 62



4136136110

LH



4135242D22

RH

3.6 UQ

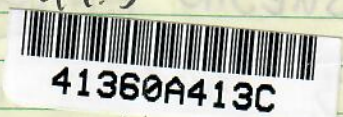
⑤

61.9 61.7 47.5 66 55.5



413643766E

LH



41360A413C

RH

3.6 UQ

"Kabbie juvaco"
~~suspicious bump on right side of mouth~~

74

Sent

Kabbie Juario
Kualapuu HI 96757

Day 5 9 July 9
SITE = D

SL x SN x SW
46.0 45.9 53.3 71 68.5

413E362742
[Barcode]

41362D2968
[Barcode]

4.3 LIQ

LH RH

"Danielle Bicoy"

1 VB on stomach
1 B on right hand flipper

57.9 57.9 47.1 64 59

4136184014
[Barcode]

4136017923
[Barcode]

3.0 LIQ

LH RH

46.7 46.4 38.9 50.5 46.5

41362F3D6B
[Barcode]

413510202A
[Barcode]

1.7 LIQ

LH RH

43.4 43.3 37.3 47.5 42

4136071E3F
[Barcode]

413600767C
[Barcode]

1.0 LIQ

LH RH

"SUEJIN"

52.3 52.3 39.1 56 46.5

4136411938
[Barcode]

4137000206
[Barcode]

1.9 LIQ

LH RH
veches collected from mouth

Day 5 9 July 99

SITE = D

75

SLKSPKSW

CCLXCCW

55.6 55.4 44.6

60 55



41361A3912

41362C6060

LH

RH

SCORE = 1

~~Left eye 2-#1~~

Left eye 2-#1

LFF 2-#1

(12)

48.2 48.2 39.4

52.5 48

Right eye 1-#2

RFF 1-#2

LH 1-#3

RH 1-#2

Right Jaw 1-#2



413607094C

LH



413621610C

RH

(13)

41.3 43.9 36.2

48 42



41360D0403



41362D146A

LH

RH

Left and Right jaw hinge 1-#1

LFF 1-#2 2-#1

RFF 1-#2

SCORE = 1

Suejin Hwang

permanent:

4450 Cromwell Ave

Los Angeles, CA 90027

(323) 664-9151

suej@stanfordalumni.org

Go to PAGE 102

~~SL X SN X SW~~

~~73.5 X 73.5 57.6~~

~~CL X CW~~

~~80.0 X 74.0~~

77

September 9, 1999 • The Dispatch • Page 19

Letters to the Editor

The Dispatch welcomes Letters to the Editor. All letters must be signed and include address and day-time phone number for verification, and no third-party letters will be printed. Due to space limitations, we can not print all the letters received, thus we have a policy of limiting the number of letters published by a single writer. We also reserve the right to edit all Letters to the Editor, particularly if they exceed 250 words in length. Letters to be published will be selected at the sole discretion of the Editors.

Sweet Molokai, You Are So Special To Me

I've been away for two years now and I am leaving again for my third year of school on the mainland. I want to share some thoughts before I go.

This summer I was able to witness the progress this community is making. I've seen leaders rise to stand and guide our community. I've seen steps being taken to preserve our culture. I've seen the signs praising our athletic heroes. I've seen buildings rise to house the development of our minds. I've heard Molokai's positive vibes flowing from the radio. I am so touched, I am so impressed, I am so proud. Returning to Molokai always gives me inspiration to keep

focused and to keep moving in the right direction. I feel so blessed to have such a wonderful place to come home to! I just want to thank all the people who are trying to make a difference on Molokai. It means so much to all of us. Those who are taking the initiative to focus on the positive, to build a better future for us, and who are sharing their talents deserve a big mahalo.

It's moving to see such strength flowing from our community. I continue to look forward to the day when I am pau with school and can return to Molokai to contribute my mana'o and aloha. Thank you once again to everyone who is opening their hearts, giving their time and sharing their aloha in order to preserve this special place.

*Sweet Molokai, this place I call home,
When I am in your arms, I know I'm not alone.
The winds of my island whisper truth to me.
When I walk along her beaches, I know that I am free.*

*When I'm at home in Kawela, I say, "God is near."
And know that the rumble of the surf, is really Him I hear.
When I look across the seashore, I am left feeling inspired.
The spirit of this island continues to lift me higher.
If ever I am lost, on you I can depend,
When I return to you, I find myself again.
You know the value of aloha, how to share and how to give.
You've taught me what love is, and you've shown me how to live.*

*When I am far away from you, you remain in me,
You've pointed me to the heavens, and helped me to see.
In my heart I cherish all the love you've shown,
And I know that no matter where I go, Molokai is my sweet home.*

Mahalo Nui Loa, Molokai,
Nahoe Puleloa

Nahoe Puleloa

78

Invite
Punaluu

DAWN

Father
Bernie Bicoy

DAWN MARIE (BICOY) NG

547A HALILI PLACE

Hilo, HI 96720

ph: 959-3769

CHILDREN AGES: 17, 11, 8



"How's every little thing?"

Dear Dr. George,
Thank-you for
the wonderful
picture, + for the Great
coloring book, I really
liked it. Maybe the
coloring book can answer
some of my sea turtles
questions.

Sincerely,
Ayla Bicoy

Dathan & Alicia Bicoy
HC01-148
Kaunakakai, Hawaii 96748

hello GEORGE,

Thanks for that wonderful pictures. When I went home I told my dad how we checked the turtles and I wrote my name on one of it and he was happy I had fun. That was the first time I had ever hold a turtle and carried it in the water. That was a good new experience. School is almost starting and I can tell my friends that I went turtle tagging ~~and~~. my be'll See you next year.

from
Kabilabon Juarlo Constance Juarlo



Take Care

and I keep a look out
for my turtle.

Kabile Juarlo
P.O. Box 278
Kualapuu, HI 96757

Hey, George!
 Thanks for all the
 photos. Have been
 dutifully distributing them.
 Had found out about
 the dogs from Ed Misaki
 that indeed they are cared
 for. (504-6515)

And my number is
 unlisted to keep quacks
 away but since it is Mahalo
 Airlines' old number I have
 not been successful. 😊

Diane

19 Marble Ave., Pleasantville, NY 10570

Hawaiian-I-Tees

HONOLULU & D CTR * 1 *07-28999*22



George Balazs
NMFS Honolulu Lab
Marine Turtle Research
2570 Dole Street
Honolulu HI 96822-2296

Date: Thu, 1 Jul 1999 10:17:08 -1000
 From: "Diane E. Medeiros" <mcfcudm@aloha.net>
 To: "'gbalazs@honlab.nmfs.hawaii.edu'" <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: Re: Pop

Hi George -

We really appreciate your concern about Pop and thanks for asking about how to deal with the situation. Pop is very matter of fact about it all and has made it so much easier for us to deal with. I think he will probably be business as usual also, but it hasn't seemed to bother him to talk about it at times. He will probably have his oxygen tank with him, so it will be fairly obvious something is going on. He has said, "I don't mind dying so much, but I sure do like living!" That's Pop. Simple and to the point.

He takes what God gives him. What an example. There should be no problem getting a photo with him as we have all been taking a lot of family pictures too because of this. You might even be able to get one of you with 4 generations of Medeiros men! You lucky guy!
 Oh, you were right about Eddie picking me - actually he grabbed me when I was walking down the hall at College of San Mateo! Then told his friend he was going to marry me. I just thought, gee, that was fun.....duh! Had no clue! So 31 years later (next week on the 13th) here we still are!
 See you soon! Love, Diane

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

20 Frozen Vials Fedexed to Jim Casey
 8/31/99 from July 1999 Palaa, Molokai Expedition

Vial ID PIT tag	Marking Pen Vial ID	Marking Pen Other Vial Info	
4137000206	#10	7-9-99	
4136094555	#19	-	Leech
-	#9	-	Leeches
-	#28	7-8-99	Neck
-	#9	-	Mouth leeches
41362D2968	#6	-	Mouth
4104083C02	#21	7-9-99	
-	#26	7-9-99	
41360A413C	#5	-	
-	#21	7-9-99	
-	#10	7-9-99	Tumor
-	#13	7-6-99	
-	#3	7-6-99	
-	#11	7-6-99	
-	#12	7-6-99	
-	#2	7-6-99	
-	#6	7-7-99	
-	#7	7-7-99	
-	#1	-	
-	#2 or 1?	7-7-99	
		7-6-99	

● STAR-BULLETIN • THURSDAY, FEBRUARY 3, 2000 • A-15

OBITUARIES

FROM A-12

Joseph P. Medeiros Jr., 76, of Kiloana, Molokai, died Dec. 21 in Kuanakakai, Molokai. He is survived by wife Prisca B.; son Edwin; daughters Natalie Wilson, Paula Anderson, Tess Washington and Choppie Kalama; sisters Violet Tate and Hilda DeSilvas; brothers Clarence Medeiros and Micheal Madreau; 14 grandchildren; and 18 great-grandchildren. Services: 9 a.m. Feb. 19 at Our Lady of Sorrows Catholic Church in Kaluaaha, Molokai. Memorial services and burial: 10:30 a.m. Feb. 19 at the home of Edwin and Diane Medeiros at 5.5 miles east of Kamehameha 5 Highway. In lieu of flowers, donations suggested to the Father Damien building fund. Aloha attire.

Date: Mon, 27 Dec 1999 17:33:15 -1000
 From: "Diane E. Medeiros" <mcfcudm@aloha.net>
 To: "'George H. Balazs'" <gbalazs@honlab.nmfs.hawaii.edu>
 Subject: RE: The night before Christmas Eve

Hi George -

I'm sorry I haven't been on the machine sooner, but was off work. Pop left us on Tuesday evening at 6:20pm on the 21st. It was peaceful. He didn't drift off to sleep, but the breathing just got shallower & shallower until it stopped. Kolu & Keola were playing ukes & singing to him & we were all holding onto him when he slipped away. It was probably as good as it could have been. The hard part now is getting through life without him. Can't even imagine it. I do hope he finds your mom & tells her about all the fun times we've had together. And especially that last trip that was just so special to us all. Thank you for making that possible & for loving & being a part of our family. Pop always enjoyed harrassing you so much! I'm sorry Christmas is a sad time for you - maybe now - having partners in the loss of our parents at Christmas - will make it somehow easier. I'll be back in the office on Wednesday, but in the meantime will be trying to get me & Eddie over bronchitis. (God's way of making us get some rest!) God bless you, George, you have been a good friend. Love, Diane

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

From: George H. Balazs [SMTP:gbalazs@honlab.nmfs.hawaii.edu]
 Sent: Thursday, December 23, 1999 11:17 PM
 To: Diane E. Medeiros
 Subject: The night before Christmas Eve

Dear Diane, no I haven't called or tried to call. In fact I haven't even emailed you in two days I don't think. The fact is I've finally faced reality and admit that I'm troubled about the "anniversary" of my mother's death tomorrow. She was a real picture of health, 76 years old, walked 3-4 miles a day, always stayed in shape, then went in for a checkup was told immediately she needed bypass (she walked 3 miles fast the day she went to the doctor), had the by pass within 48 hours, had a stoke 5 days after surgery and was gone a few days after that. Don't believe everything the doctors say. Or better yet don't do everything they say to do, or not to do. Get double, triple opinion. Then use your own heart. That's the lesson I learned.

I hope Pop isn't suffering any, I hope he goes to sleep peacefully. I hope he sees my mother soon and I hope he tells her about all the good times we had turtle fishing together. If I could talk to him this moment I would ask him to say to my mom that all's ok here, we miss her terribly, but we know we'll all see each other again soon. Love, George



Joseph P. Medeiros Jr.

Born: February 22, 1923

Died: December 21, 1999

JULY 23-26 2002

4 PICK-UP DAYS

Tuesday Friday

Depart Island Air 6:15 AM 7/23/02 Tuesday, Arrive

~ 7:45 AM. Dollar Car Rental. organized gear ^{Alongside} _{Room}

drove to HK pier. Met Ed, Phil DART, Mrs. Chang, 2nd to youngest - Daughter of Mrs. Chang MAUA (15 years ^{9 kids} _{4 kids} in Colorado). Mrs. Chang lives on the Big Island.

see ^{at} Malia = 4 kids, youngest is 23 months. Also Alicia Bicoy - husband Dayton (engineer). Daughter ^(eye) Ayla. 12 years old now, going into 7th grade.

Dart motored us to IN-DI, ^{FIAT} _{bottom} ^{pet} _{boat} stuck on sand flat by renovated reef house. He has a twin-hull boat, twin 70HPs. I walked all over sand flats - only found two good places

photos with Halophila - sparse - ^{DEEP} sample collected to see which species it is. pulled

~~Acentropus~~ and pulled ^{pushed} on IN-DI, finally got her into water about 11 AM with rising tide.

Picture feet on TURTLE

DOHNA CHEMAIX PAULA BICOY 9 years old sister is Ayla 12 years old

Pick up
Day #1

Day 1 7/23/02 Tuesday

SCL 62.4 SCW 47.6 CCL 67.5 CCW 58.0

62.1 (N)

TS-φ
TUMOR = ∅

AXIL = 24.7

New

50194F622A



LH TAGS



435C3F5F17

RH TAGS

48.4 38.9 52.0 44.5

48.0 (N)

500E1B500B



LH

AXIL = 17.4

TUMOR = ∅

TS-φ



500E096918

RH

TS-φ

50.3 40.3 53.0 47.0

49.9 (N)

500F2E5C50



LH

Left hind = 1/2 missing

AXIL = 18.4

TUMOR = ∅



500F262348

RH

TS-φ

42.2 34.8 45.0 40.5

41.0 (N)

500C547953



LH

AXIL: 15.7

TUMOR = ∅



41352B1A7A

RH

TS-φ

63.9 49.0 68.5 58.5

63.8 (N)

500F1F5B32



LH JAW hinged
Tea #1 (right)
#1 (left)

LEF #3(1) #2(1) RH #1(3)

NECK #3(1) #1(1)

REF #1(4) LH #3(1)
#1(1)



413E4F7528

RH

AXIL 21.4
MILK em

CONTAINED
P.91

REMOVED
Reef
House

210539
GPS = 15700567

3

4

5

Celebration of Joseph's Life
February 19, 2000

Greetings & Invocation

Special Music

Sharing of Memories

Special Music

Message

Benediction

Military Salute

Burial of Ashes



90

FRIDAY 26th July 2002

Pickup DAY 4

(40)

62.9
62.5

49.3

67.0 x 58.5



442D7C4149

RH



442F6B054E

LH

TS-φ

ANCAL = 25.2

END DAY 4 END of Pickups 7/2002 Expedition

23 July 02 Pick up Day #1

From P. 891

SL SW CL CW
65.6 52.0 69.5 63.5
65.5 (N)

6

TS=2

LF #2(2) NECK #3(1)
RF #3(1) Eye #2(2)
#2(1) Eye #2(1) = NO VISION
LJAW #2(1)

LH
4136265437

RH
500F1C5856

AXIL 27.2

TS-0

69.1 52.5 74.0 64.0
68.8 (N) AXIL=27.6

7

RJAW #1(1) Eye = Broken (NO VISION)
Eye #2(1)

LH
43677D3F27

RH
4369212251

TS=1

67.5 53.5 72.5 66.0
67.4 (N) healed no dentation (right)
AXIL = 26.8

8

Tumor 0

LH
4349712F50

RH
4323151A39

TS-0

54.8 44.1 59.0 52.0
54.5 (N) AXIL 20.9 Tumor = 0

9

L
43231B5F45

R
436A0C3050

TOP 93

DAY 4
SL

FRIDAY (26th JULY 2002)

SW

CL

CW

(36)

73.5
73.5 (U)

57.2

78.0

68.5

TS-φ

A29.7



442F752210

RH



442F765E3B

LH

(37)

67.6
67.2

53.0

73.5 x 66.0

TS-φ



442F61495B

RH



442F633447

LH

Axial = 26.8

(38)

Recovery

66.03
66.1

51.8

71.5 x 68.0

TS-φ

LH = 4136293839

RH 413627457E

~~413627457E~~ same

Axial: 24.8

No additional tags added today!

(39)

64.2
64.1

47.4

68.5 x 57.5

TS-φ

Recovery

LF 4150437924

Axial = 26.4

RF #2(2)



442F205201

LH



442D681239

RH

Added today

cont. page 90

23 JULY 02 DAY 1

From P.91

SL	SW	CL	CW
55.1	43.9	59.9	53.0
55.0(N)	AVL = 23.1		

(10)

Turns = 0

TS-φ



LH



RH

(11)

44.2	34.9	47.0	40.0
44.0(N)			

TS-φ

Turns = 0

AVL: 16.2



LH



RH

#(12)

56.7	43.7	61.0	53.0
56.1(N)	AVL = 23.1		

TS-φ

Turns = 0



LH



RH

TS-φ

(13)

54.1	40.4	59.0	50.5
54.0			

AVL = 21.8



RH



L

TS-φ

(14)

60.4	46.2	64.5	54.5
60.1			

AVL: 25.5



L



R

END DAY 1

94

Pickup DAY 4
SL

FRIDAY, 26th July 2002

SW

04

CW

60.9

45.9

66.5

55.5

68.9

(32)



44330F4E6C

RH



4432326E3F

LH

TS-φ

axial 23.9

L & R eyes = suspicious bumps.

(33)

65.9

57.9

71.5

63.5

65.9

TSφ



442F61411D

RH



44336B607D

LH

A: 27.6

59.6

46.7

63.5

55.0

58.6

(34)

* 7 CENTRALS!

A = 18.4

Severe emaciation!!

L jaw #1(1)

right side of head swollen

R jaw #2(1)

(internal tumor??)

TS=1

one tag only →



442D693D65

LH

(35)

recovery

56.5

chelonibia

44.0

60.5

53.0

56.3

Barnacle removed for penstemon



442F0E285C

LH

LH 220 527 2140

TSφ

A 25.6

added today



442D03426C

RH

should see

365A crawled up on coral head!!

cont. page 92

Pick up Day 2

24 July 2002
Wednesday

(SAME SITE AS DAY 1)

80.0 CL 73.9 SL
73.8 SLN

4359381E0A

RH



①
TS=3
CORAL
REF HEAD
BASKET
HAND CAPTURE

leech eggs

RFF #3(2)

left eye #3(1) tail #2(1)

LEF #3(1); #2(2)

right eye #2(1)

NEUR #2(2)

CARAPACE and

(Left hind = fork broken off
and carapace over left hind)

PLASTIC w/ severe scratches
from SHARK Bites

A^{xial} = 24.9

Left jaw #3(1) right jaw #2(1)

(SL)

(SW)

(CL)

(CW)

67.4

51.0

72.5

62.5

67.3 (N)

A^{xial} = 27.8



422D51085F

LH



4234684224

RH

21° 05.39"
157° 05.671"
GPS

65.9

52.1

71.0

62.0

65.7



422D6A411C

RH



4237636333

LH

A^{xial} = 27.2

right eye #1(1) = POSSIBLE

SL

SW

CL

CW

72.6

59.1

77.5 x 71.0

72.2 (N)



413639237A

RH ↑



422D581210

LH ←

A^{xial} = 29.9

continued p. 97

FOR BILL Puteles

Molokaiguru @ juno.com

4th

Grace Metahia MAIKAIOHALANI Keahi

DOB Dec 1, 80 (Molokai)

Calvin TAKASE -

ADALYNNE

ADA-LYANNE Keahi - 9/14/61

actually = ENOS

FATHER

ANDREW Kamao ENOS

Ululani Rodgers (W)

SISTER = WINA Rodgers

Stacy Keahi
(died a couple
year ago)

SISTER

Margaret "Leany"

Alex = Brother

Daughter
= Corinne

Jim Mowbray
Eddie
Gorman

Grace Keahi
P.O. Box 215
Hoolehua, HI 96729
molokaiguru@juno.com

continued from p. 95

Day 2 July 24, 2002 Wednesday

97

SL

SW

CL

EW

65.9

52.9

70.0

63.5

5

65.4(N)



41356D1E6A

RH



41356F6558

LH

TS-φ
AV: 24.9

6

75.9

56.2

81.5

71.0

TS-φ

75.7(N)



4359106C7A

RH



500E204727

LH

AVL: 30.9

posterior left & right eye has rough tissue - Regressed Tumors?

7

70.0

56.4

75.5

71.0

TS=1

69.6(N)

AXIL = 26.3

prop.

possible cut



435B5B363D

LH

REF #3(1)

30.0 cm

gash on

carapace



4352153945

RH

WHISTLER!

(Turtle whistles when breathing, BUT NO ORAL TUMORS)

8

48.7

38.6

52.0

46.5

TS-φ
48.4(N)



4351756927

RH



435B66517E

LH

Large LFT "scales" MISSING ON TRAILING EDGE. OLD TAG LOSS? AVL = 19.7

TS-φ

9

41.6

33.3

44.5

39.5

41.2



4369060B5F

RH



43206D7378

LH

AVL = 18.2

END OF DAY 2

98

Pickup
DAY 4

SL

Friday 26th (4th day)

SW

July

2002

CL

CU

(28)

50.2

38.2

53.0

46.0

~~50.2~~
49.5 (N)



442F612A36

RH



4150487823

LH

TS = 1

Avial: 17.8

right eye #1(1)

L jaw #2(1)

left eye #1(1)

roof mouth #2(1)

(29)

63.6
63.4

50.4

67.5

64.5

TS-φ



43697A5F03

RH



4150537F66

LH

Avial = 27.5

Left & right eyes = suspicious bumps

(30)

71.0
70.3

54.7

77.0

69.0
59.0

TS-φ



442F3B0E12

RH



442D06503E

LH

Avial = 31.2

(31)

71.7
71.7

52.7

77.0 X 67.0

TS-φ

RH = K/Missing; heal

442D540C0F



R

A = 29.3



442F19477E

↙
↘

cont. page

94

ACROSS HARBOUR TO
WEST -
POSSIBLY
SITE A

N 21° 05.540'
W 157° 06.163

7/25/02 DAY 3
Thursday 99

①

76.2 79.9 82.5 x 80.0

76.1 (N)

LFF #3(2)

RFF #3(1)

NECK #3(1); #4(1)

right eye #2(1)

left eye #1(1)

AVIL = 25.9

TS=3

Severe emaciation

RECOVERY! April 20.5

RFF #3(2); LFF #1(1); TS=3

H673 LF

H672 RF - IN #2 tumor!

LH = H674

right eye #2(1) NO VISION

left eye #1(1)

NECK #2(1)

left jaw #2(1)

right jaw #1(1)

SL SW CL CW
>63.0 49.7 67.0 60.0
>63.0 (N)

4352251561

RH

433D1E3766

LH

79.1

60.3^{SW}

84.0^{CL}

77.5^{CW}

78.7 (N)

43587A0650

LH

1/2 LFF missing (healed)

AVIL = 34.5

435C3C286D

RH

TS = tumorless!

(move) - first spot west of harbor

②

3

4

5

CONT. FROM P. 101 100

Day 3 7/25/02 Thurs.

SL SW CL CW
73.9 59.0 79.5 74.0
73.9

(8)



RH



LH

TS-φ

31.5

R jaw hing = 2 teeth

66.1 51.8 71.5 64.5
65.9 (N)

(9)

RECOVERY!

AKL: 28.3
8443 (LFF)
8444 (RF)

pic taken!



LH



RH

may 1986
42.5 cm
H1580

TS-φ

right jaw = 2 teeth

8845
H976
H977 (RH)
H978 (LH)



LH



RH

(10)

RECOVERY

CL CW
82.0 75.5 76.4 60.7
76.1

TS=0

oral 31.6

1-#2 dried up with distinct scales

Left Hind:

scaled - turned on stalk!
= removed by GB!

PICTURE TAKEN

FOR HISTO Terry Sparker (Refrigerated)
and Jim Casey virus

TD P. 98

Day 3

7/25/02 Thurs

101

SL

SW

CL

CW

71.3

58.4

77.0

69.5

④

71.2(N)



LH

434F690531

AVIL: 28.3

Tumorless



RH

43487C6667

TS-0

⑤

76.2

57.8

81.0

71.0

75.7



L

433D1D3636

leech in mouth

AVIL 29.2



R

436969621E

TS-0

TS=1

82.2

59.6

88.0

78.0

82.1



L

4352621046

⑥

~~TS=0~~



R

4349306D68

AVIL 36.4

RFF #3(1) "drying" up

⑦

55.0

44.4

59.0

51.5

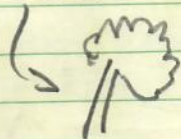
51.0



L

4367573451

LH #3(1) = STALK



R

434F671747

TS=1

AVIL = 21.0

(Cont. p. 100)

From page 75

Day 5 9 July 99 Friday SITE = D

14

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE						
LT. EYE		1				
MOUTH						
NECK		1	1			
RFF						
LFF			1	1		
RHF						
LHF						
CLOACA/TAIL						
SEAMS/SCUTES						
INTERNAL						
Total						

S-73.5 N-73.5 W-57.6 CL80.0 CW-74.0

OTHER INFORMATION:

4135210D39



LHF

413E3E7712



RHF

1 curvilinear piece missing from RHF

Approximate Tumor Size Categories:

#1 = detectable patch to 1cm diameter.

#3 = >4cm to 10cm.

#2 = >1cm to 4cm.

#4 = >10cm.

Overall TUMOR SCORE:

3

15

SCL SN x SW
59.2 x 59.2 x 48.4

CL x CW
65.5 x 61.0

103

Day 5 9 July 99
SITE = D

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE	1	1				
LT. EYE	1					
MOUTH						
NECK						
RFF						
LFF						
RHF						
LHF						
CLOACA/TAIL						
SEAMS/SCUTES						
INTERNAL						
Total						

OTHER INFORMATION:


41362D0319

LHF


4136016A4A

RHF

Approximate Tumor Size Categories:

- #1 = detectable patch to 1cm diameter.
- #2 = >1cm to 4cm.
- #3 = >4cm to 10cm.
- #4 = >10cm.

Overall TUMOR SCORE:

1

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

16 104

SL SN SW
53.9 x 53.7 x 42.2

CL x CW
57.5 x 50.0

7/9/99 DAY 5 SITE=D

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE						
LT. EYE						
MOUTH	#	 				L+R jaw hinge
NECK						
RFF						
LFF						1#1 = LFL-site
RHF						
LHF						
CLOACA/TAIL						
SEAMS/SCUTES						
INTERNAL						
Total						

OTHER INFORMATION:

4136396303



LHT



41357A6302

RHT

Approximate Tumor Size Categories:
 #1 = detectable patch to 1cm diameter. #2 = >1cm to 4cm.
 #3 = >4cm to 10cm. #4 = >10cm.

Overall TUMOR SCORE:

3

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

(17)

SL SN SW CL x CW

59.1 x 59.1 x 44.9

63.5 x 54.0

105

7/9/99


SITE = D


DAY 5

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE						R-eye - cloudy - aviscal 1/4ly
LT. EYE						
MOUTH						
NECK	I	III				patch
RFP		III				1-RFL - Conn patch biopsy of PFL #2
LFP	III					LFL - regress?/r?
RHP	I	I				
LHP	I	I				biopsy 1#2 -
CLOACA/TAIL	III					
SEAMS/SCUTES						
INTERNAL						
Total						

OTHER INFORMATION:


41351A355D
 LHC


4136355F79
 RHP

Approximate Tumor Size Categories:
 #1 = detectable patch to 1cm diameter. #2 = >1cm to 4cm.
 #3 = >4cm to 10cm. #4 = >10cm.

Overall TUMOR SCORE:

2

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

(18)

106

SL x SN x SW

CL x CW

65.4 x 65.3 ~~64.8~~ 49.7

70.0 60.0

7/9/99

SIZE = D
2M5

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE						
LT. EYE	1					
MOUTH						
NECK						
RFF						
LFF						
RFH						
LHF						
CLOACA/TAIL						
SEAMS/SCUTES		1				end of plastron regression?
INTERNAL						
Total						

OTHER INFORMATION:


4136775200

LHF

41361D3626



RHF

regression?

Approximate Tumor Size Categories:

#1 = detectable patch to 1cm diameter.
#3 = >4cm to 10cm.

#2 = >1cm to 4cm.
#4 = >10cm.

Overall TUMOR SCORE:

1

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

SL x SN x SW
57.7 57.5 44.7

CL x CW
61.5 53.5 19

7/9/99

SIZE = D
DAY 5

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE	1	1				Partially Resorbed
LT. EYE		1				" "
MOUTH	11					1#1 @ R+L jaw hinge
NECK						
RFF	11	1				
LFF		1	1	1		bloody - #4
RHF						
LHF		1				
CLOACA/TAIL						
SEAMS/SCUTES						
INTERNAL						
Total						

OTHER INFORMATION:



4136094555

LHF



4136305E42

RHF

1-DB

Approximate Tumor Size Categories:

#1 = detectable patch to 1cm diameter.
#3 = >4cm to 10cm.

#2 = >1cm to 4cm.
#4 = >10cm.

Overall TUMOR SCORE:

3

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

leeches from #4 LFF

30 108

65.4 65.3 51.5 C

DAYS SITED

72.0 x 64.8

2/9/99

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE	1					
LT. EYE	1					
MOUTH						
NECK						
RFF						biopsy
LFF						
RHF						
LHF						
CLOACA/TAIL						
SEAMS/SCUTES						
INTERNAL						
Total						

OTHER INFORMATION:

413E391717



LHF



413642110D

RHF

Approximate Tumor Size Categories:

- #1 = detectable patch to 1cm diameter.
- #2 = >1cm to 4cm.
- #3 = >4cm to 10cm.
- #4 = >10cm.

Overall TUMOR SCORE:

2

NMFS, HONOLULU LAB
Marine Turtle Research
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21

SL x SW SW CL x CW
60.4 60.2 48.2 64.5 57.0

7/9/99

DAY 5 SURV

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE		1				~10% vision
LT. EYE		1				likely no vision ~50% vision
MOUTH		1				L-jaw hinge
NECK		11	1			
RFF		11	11			
LFF	1	1	11			
RHF		1	1			
LHF		11	111			
CLOACA/TAIL						
SEAMS/SCUTES						
INTERNAL						
Total						

OTHER INFORMATION:

4104083C02



41040F2671

LHF

RHF

- Severe emaciation
= leech egg patches

Approximate Tumor Size Categories:
#1 = detectable patch to 1cm diameter. #2 = >1cm to 4cm.
#3 = >4cm to 10cm. #4 = >10cm.

Overall TUMOR SCORE:

3

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

(22) 110

SL SN SW
54.1 57.7 42.9

CL CW
38.5 x 51.0

7/9/99

SITE D
DAY 5

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE						
LT. EYE						
MOUTH						
NECK						
RFP						
LFP						
RHF						
LHF						
CLOACA/TAIL						
SEAMS/SCUTES						
INTERNAL						
Total						

OTHER INFORMATION:


4077454D74

407A521D52


LHF

RHF

- curved 1/8 piece missing from RHF

Approximate Tumor Size Categories:
#1 = detectable patch to 1cm diameter. #2 = >1cm to 4cm.
#3 = >4cm to 10cm. #4 = >10cm.

Overall TUMOR SCORE:



NMFS, HONOLULU LAB
Marine Turtle Research
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SL 8W SW
61.2 60.8 47.6

CL x CW
66.5 58.0

23

111

END

7/9/99 DAY 5 SITE D

LOCATION, SIZE, AND NUMBER OF TUMORS

	#1	#2	#3	#4	Total	Remarks
RT. EYE						
LT. EYE						
MOUTH		1				L-jawing extends to partially cover glottis
NECK		1				
RFF						
LFF						
RHF						
LHF						
CLOACA/TAIL						
SEAMS/SCUTES						
INTERNAL						
Total						

OTHER INFORMATION:



4103780155

LHF



410407500C

RHR

Approximate Tumor Size Categories:

#1 = detectable patch to 1cm diameter.
#3 = >4cm to 10cm.

#2 = >1cm to 4cm.
#4 = >10cm.

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

Overall TUMOR SCORE:
Sue Jin Hwang

1

Hwang

Sue Jin

bag

written

**PROCEEDINGS OF THE SEVENTEENTH
ANNUAL SEA TURTLE SYMPOSIUM****4-8 March 1997
Orlando, Florida U.S.A.**

130

U.S. Dep. Commer. NOAA Tech. Memo. NMFS-SEFSC-415 (1998)

**GROWTH RATES AND INCIDENCE OF FIBROPAPILLOMATOSIS IN HAWAIIAN
GREEN TURTLES UTILIZING COASTAL FORAGING PASTURES AT PALAAU,
MOLOKAI****George H. Balazs¹, William Puleloa², Edwin Medeiros³, Shawn K.K. Murakawa⁴, and Denise M. Ellis⁴**¹National Marine Fisheries Service, Southwest Fisheries Science Center, Honolulu Laboratory, 2570 Dole Street, Honolulu, HI 96822-2396, U.S.A.²State of Hawaii, Division of Aquatic Resources, P.O. Box 248, Kualapuu, HI 96757, U.S.A.³Friendly Isle Fishing Company, P.O. Box 1216, Kaunakakai, HI 96748, U.S.A.⁴Joint Institute for Marine and Atmospheric Research, c/o 2570 Dole Street, Honolulu, HI 96822, U.S.A.

Long-term studies of green turtles, *Chelonia mydas* (honu), in the Hawaiian Islands have been underway to obtain comprehensive data on growth rates, health status, population trends, food sources, habitat use, reproductive migrations, and underwater behaviors. Systematic monitoring for 24 consecutive seasons (1973-96) at the principal breeding site of French Frigate Shoals (FFS) has documented a significant increase in nesting females (Wetherall *et al.*, 1997). However, fibropapillomatosis (FP), a debilitating and often fatal sea turtle disease, is currently an inhibiting factor to the full recovery of the Hawaiian green turtle population. The disease involves the formation of multiple fibrous tumors up to 25 cm in diameter on the eyes, in the mouth, and on all skin surfaces. Other sites affected less frequently include the carapace, plastron, and internal organs. The increase of FP and its epidemiological aspects in Hawaii have been documented in a major foraging aggregation at Palaau, Molokai. Some of the significant results of this work are summarized in this paper.

Green turtles were obtained alive and unharmed as by-catch in a bullpen, a fishing technique similar to the use of pound nets on the U.S. Atlantic coast and fish weirs in the South Pacific, Philippines and Taiwan. From 1982-96, 1,458 green turtles ranging from 34.4 to 89.3 cm in straight carapace length (SCL) were captured, tagged and released along the southern coast of Molokai. During this period a massive increase of FP was recorded, peaking at 61% prevalence in 1995 (Fig. 1). A similar increase of the disease also occurred elsewhere in Hawaii from 1982-96, based on data from strandings, in-water research, and other observations.

Two-hundred and three or 13.9% of the 1,458 turtles were recaptured one or more times, of which 171 turtles ranging from 38.0 to 84.6 cm yielded SCL remeasurement data useful for determining growth. A single growth increment was computed for each turtle based on the initial capture measurement and the measurement taken when last recaptured. The time intervals for the 171 growth increments ranged from 3 months to 12.3 years.

The overall mean growth rate was 2.1 ± 0.9 cm/yr. When each turtle was assigned to a 5 cm size category, ANOVA revealed a significant difference in growth for 10 different size classes (Fig. 2). Duncan-Waller analyses showed that growth rates were significantly faster in five of the size classes encompassing 40-65 cm, compared to the 75-80 cm size class (0.9 cm/yr). In addition, growth rates in the 45-50 cm and the 60-65 cm size classes (both 2.4 cm/yr) were also significantly faster than the 80-85 cm size class (1.1 cm/yr).

Tumored turtles comprised 46.2% of the 171 turtles recaptured and utilized to compute growth. A significantly slower ($P > 0.05$) rate of growth took place in tumored turtles (1.9 cm/yr) than in non-tumored turtles (2.2 cm/yr). ANOVA showed a significant difference in the rates of growth between four levels of tumor severity (Fig. 3). The depression of growth, as identified by these data, should be considered as a minimal estimate of the impact of the disease. Growth rates computed for nearly all of the afflicted turtles in this study included unknown intervals of time, prior to the formation of tumors, that served to bias the growth data.

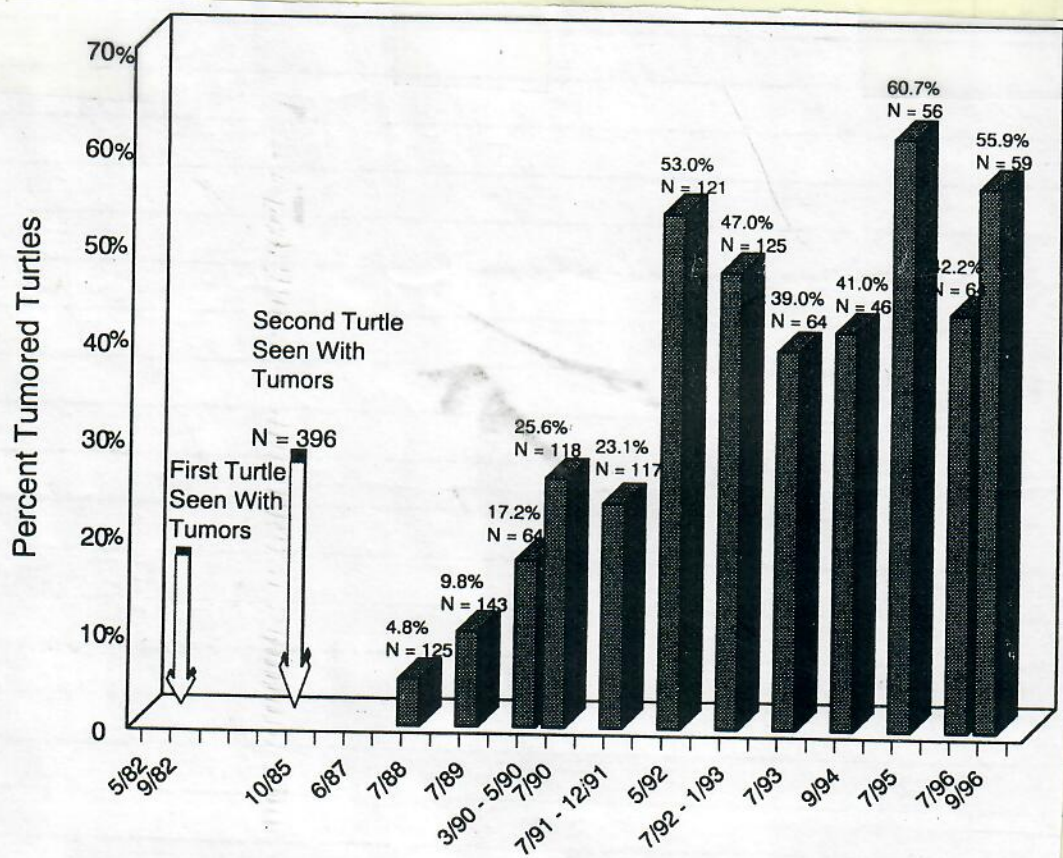
Only a few of the 1,458 tagged turtles have been resighted away from Molokai. Four adults were seen in the seasonal migrant breeding assemblage at FFS after being tagged at Molokai. In addition, two adults tagged at FFS were

recaptured at Molokai. An adult male fitted with a satellite transmitter at FFS was tracked to Molokai on its post-breeding migration (Balazs and Ellis, in press). These data lend strong support to other findings that demonstrate a high degree of residency by Hawaiian green turtles for their foraging areas (Balazs *et al.*, 1994).

LITERATURE CITED

- Balazs, G.H., W.C. Dudley, L.E. Hallacher, J.P. Coney and S.K. Koga. 1994. Ecology and cultural significance of sea turtles at Punalu'u, Hawaii. U.S. Dep. Commer., NOAA Tech. Memo. NOAA-TM-NMFS-SEFSC-351:10-13.
- Balazs, G.H. and D.M. Ellis. In press. Satellite telemetry of migrant male and female green turtles breeding in the Hawaiian Islands. U.S. Dep. Commer., NOAA Tech. Memo. NOAA-NMFS-SEFSC.
- Wetherall, J.A., G.H. Balazs and M.Y.Y. Yong. ^{This volume} 1997. Statistical methods for green turtle nesting surveys in the Hawaiian Islands. U.S. Dep. Commer., NOAA Tech. Memo. NOAA-NMFS-SEFSC-415: 278-280.

Figure 1. Incidence of fibropapillomatosis observed in green turtles captured from 1982-96 at the



Palaau foraging pasture along the southern coastline of Molokai.

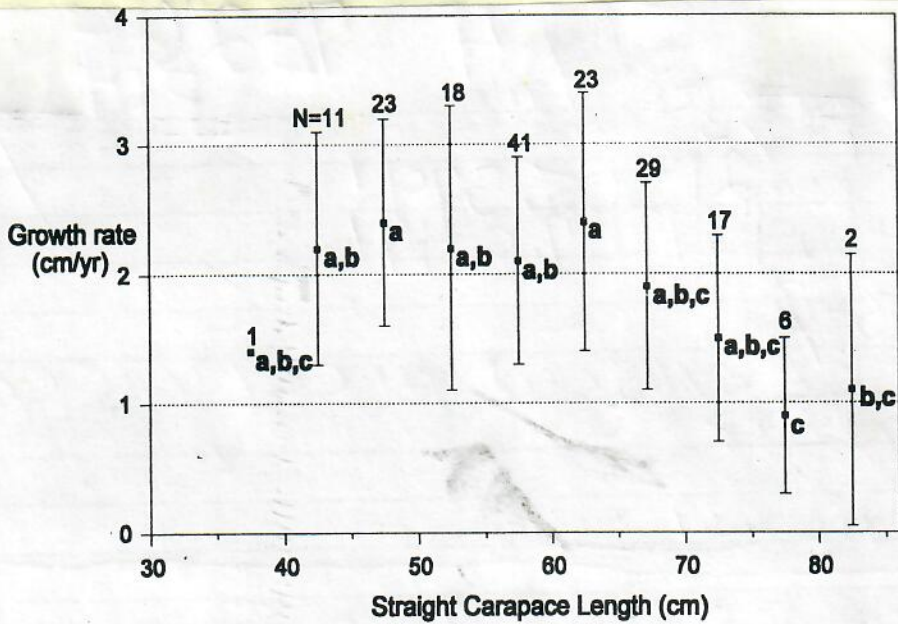


Figure 2. Mean and standard deviation for the rates of growth divided into 5 cm size classes exhibited by green turtles tagged and recaptured at Palaau, Molokai. Means bearing the same alphabet letter (a, b, c) are not significantly different ($P > 0.05$).

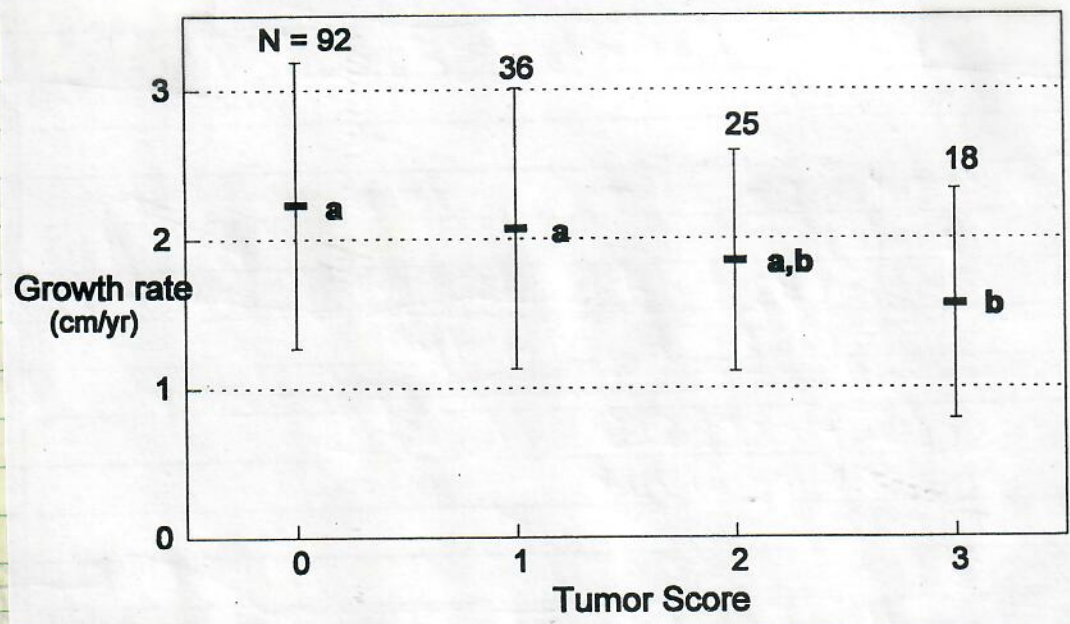


Figure 3. Mean and standard deviation for the rates of growth exhibited by four groups of green turtles tagged and recaptured at Palaau, Molokai. 0 = no visible tumors, 1 = lightly tumor afflicted, 2 = moderately tumor afflicted, and 3 = heavily tumor afflicted. Means bearing the same alphabet letter (a, b) are not significantly different.

Day 4 7-26-02 Friday

Moved farther to the west of Day 3

SITES | N 21° 05.579 |
| W 157° 07.047 |

① TS-∅
SCL 59.6 SCW 47.1 CCL 64.5 CCW 56
N 58.8
Axial 23.9
LH 43486C4E4E RH 435B721802

② TS=2
SCL 50.5 SCW 38.9 CCL 53.0 CCW 46.5
Notch 50.1
Axial 19.9
LE 1#1, RE 2#1 ^{Necrotic}
LFL 2#3, 1#2
LH 4352362C66 RH 4367734A26
LH 4352284A62 RH

③ TS=2
SCL 50.0 Notch 50.0 SCW 38.5 CCL 53.5 CCW 46.0
Axial 20.4
Tumor Check
LE=2#1
LJ Hinge-1#3
1 White Paint-birth from 7/25
LH 4348561A18 RH 435C566971

④ TS=1
SCL 55.7 CCL 59.5 CCW 51.0
Not 55.5 SCW 41.8
Axial 22
LE=1#2
LH 435904645C RH 435C100250

⑤ Axial 27.4 SCL 65.6 Not 65.6 SCW 53.3 RH - 7/8 missing & Healed.
CCL 72.0 CCW 65.0
TS-∅
LH 4352174459 RH 43676A4542

Day 4 7/26/02

(6) SCL 60.2 SCW 546.5 cch 65.5 ccw 58.0
Notch 59.9
Axial 23.6



TS-0

Rejected bent needle
STRAIGHTEN IT AND

(7)

SL 59.6 SW 45.1 CL 64.5 CW 53.0
59.4 (N)



TS-0

AV = 24.3

RECOVERY

SL 71.3 SW 57.4 CL 75.0 CW 65.5
71.0 RFF H587
LFF T50270
Axial 28.6 LH H588



TS-0
hula notch
Posterior marginal right



SL 54.2 SW 43.2 CL 58.0 CW 52.5
54.2 (N)



(9)

severely emaciated axial 17.5

eye #1 (1) #2 (1) right jaw #2 (1)
Left jaw rotten #2 (1)
(Necrotic tube)

TS=1

NOTE! LATER CRAWLED up on coral head & recapture by hands

FRIDAY (4th day) 26th JULY 2002

Pickup 120
DMY 4

SL

SW

CL

CW

(23)

65.1
65.0

49.9

69.0

61.0

TS-φ

A 24.7



442F35057F

RH



41504B2306

LH

(24)

62.2
61.8

48.0

66.5

62.0

TS-φ

43674D7763



RH



442F142046

LH

A 26.1

(25)

59.9
59.6

46.9

63.0

56.5

TS-φ



442E1B7B5C

RH



442D574E31

LH

Axial = 22.7

(26)

Recovery

49.9
49.9

TS-1
36.7

54.0

45.0

OLD PITTAG =
LF 407D275E71

Eye #2 (1)

Axial = 19.3

LHIND
L7



43690E5753

added today!

Pictures

Basic
DIC

SL

SW

TS-φ

CL

CW

53.0

40.8

59.0

50.5

(27)

52.4

Axial = 25.3

44336A4C36



415041772B

RH



LH

CONT PAGE 98

Pickup Day 4

FRIDAY (next) July 2002

121

SL SW CL CW
63.1 52.4 69.0 65.0

(10)

62.8

442E232331

RH

433D37566B

LH

TS-φ A: 26.9

(11)

62.6 46.7 66.5 56.0

62.2

442F624740

RH

442D05450A

LH

TS-φ A: 25.0

right eye = suspicious bump

(12)

66.2 55.2 71.5 67.5

66.1

4358686415

RH

442C696E11

LH

TS-φ A: 27.3

left + right eyes = suspicious bumps.

OLD P. + TAG =

today

LFL B490; IF6D4B5851

NEW tag on LH

RFL B477

RH B491 AVE = 32.2

4150371E45

RH B492

SL SW CL CW
77.4 57.3 83.5 72.5
77.4(N)

Recovery

TS-φ

68.7 55.0 75.0 74.0

68.7

442E342950

R

442E32781F

L

AveL: 29.6

(14)

Pick up Day 4
SL

Friday (76th) July 2002

SW

CL

CW

(19)

72.9
72.4

65.8

77.5

72.5

TS-φ

A: 29.2



442E154A3E

R



442F40311A

LH

(20)

64.1
64.1

48.8

68.5

60.0

TS-φ

A 26.2



442F766723

RH



442C7E314E

LH

RFF #1(i) = Regressing

(21)

59.9
59.7

45.9

64.0

54.0

TS=2



442D74487B

RH



442D0C512D

LH

RFF #3(i)

Neck #1(i)

Eye #2(i)

Eye #1(i)

Axial = 24.5

TS-φ

(22)

67.9
67.7

57.8

73.0

66.5

Recovery

A: 27.9



4432245603

RH



4236283236

LH

INCOVER -

LF N362 . frag

RF top missing Blue plastic

L7 2185

PLASTIC

(cont on page 120)

Pick up
day LH
SL

Friday (26th) July 2002

123

SW 57.4 CL 76.5 CW 69.0

(15)

71.6
71.6



RH



LH

A: 30.0

TS=1

right eye = suspicious bump
Ljaw #1(1) Rjaw #1(1)

(16)

79.7 60.9 85.5 X 78.0
79.6 INCONEL

TS-φ
RECOVERY

RFL Y535



LH

A: 33.8 LFL = NO tag (missing?)



RH

TS=

PIT

(17)

2217623679 on Left PF

RECOVERY

SL 71.8 SW 53.4 L 77.5 CW 67.0
→ 71.7

TSφ

Abul 27.7

RFF "inside" site
tooth &
healed over



LH

today ↑

TS-φ

63.6 = SL SW 54.4 (SW) 68.0 64.0
63.03(N) = 63.3

(18)

245 = A



RH



LH

cont. on page 122

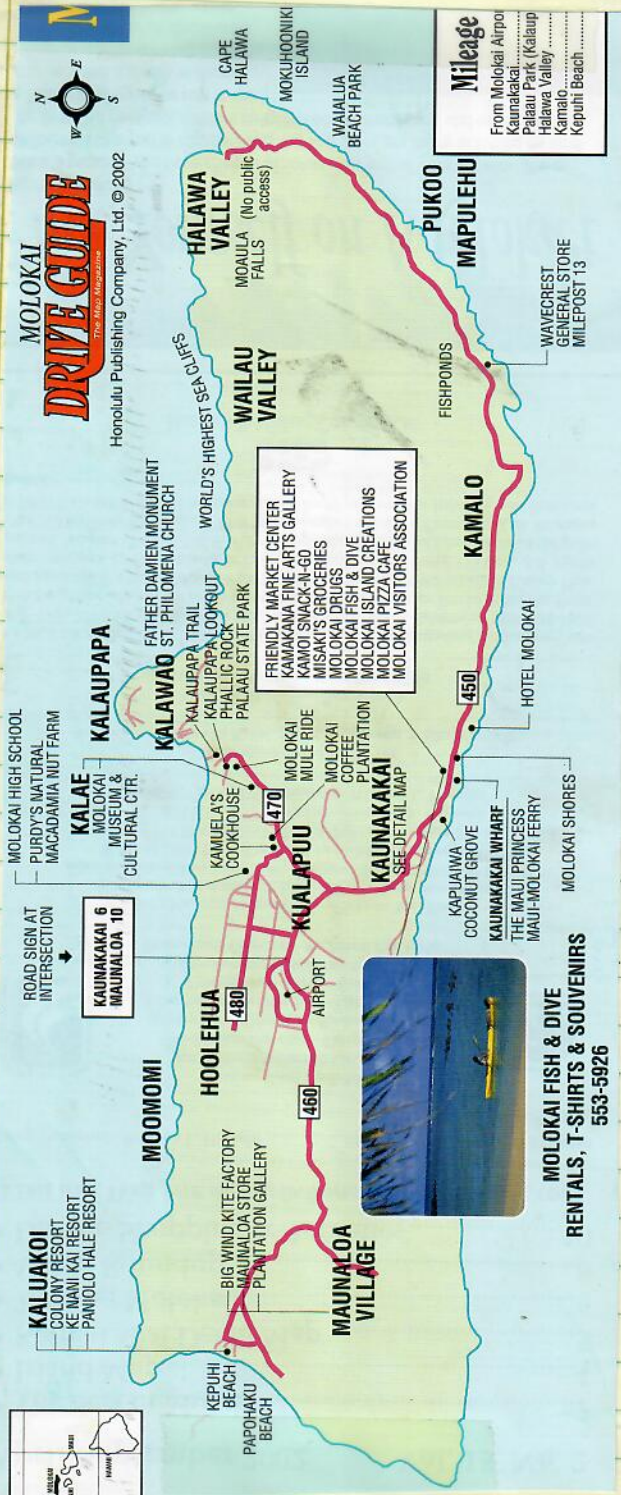
Date caught	Pit tag number	Other tags	SCL (cm)	Place caught	Method caught
7/2/97	1F69127175	H630, T50290, H631	76.9	SITE B (LQ LOW)	Bullpen
7/2/97	1F69513572	J174, J175, J176	68.7	SITE B	Bullpen
7/2/97	1F696E3159		68.6	SITE B	Bullpen
7/2/97	1F6B7B1269	J766, J767, J768, J769	63.0	SITE B	Bullpen
7/2/97	1F6C4E2403		56.5	SITE B	Bullpen
7/2/97	1F6C525E45 (RFF)	B840, H580, 10766	70.8	SITE B	Bullpen
7/2/97	1F6D4D3E69		54.5	SITE B	Bullpen
7/2/97	1F6D61682B		52.6	SITE B	Bullpen
7/2/97	1F6E500D16		61.2	SITE B	Bullpen
7/2/97	1F6F244608		54.3	SITE B	Bullpen
7/2/97	1F6F62216F		56.2	SITE B	Bullpen
7/2/97	1F7065315B	R299, R298, R300	67.9	SITE B	Bullpen
7/1/97	1F71065614	B487, B486, B488, B489	61.2	SITE F (LQ LOW)	Bullpen
7/3/97	1F71184B0D		63.9	SITE B	Bullpen
7/2/97	1F72572C6C		69.0	SITE B	Bullpen
7/2/97	1F74125605		60.5	SITE B	Bullpen
7/9/98	1F74557424	R449, R450, R451, R452	64.9	SITE A	Bullpen
7/2/97	1F74576C2A		51.9	SITE B	Bullpen
7/2/97	1F746E5E21		75.8	SITE B (LQ LOW)	Bullpen
7/2/97	1F75211833	V121, T50242	62.4	SITE B	Bullpen
7/3/97	1F773C1717		49.4	SITE B	Bullpen
7/2/97	20080E2327		59.1	SITE B	Bullpen
7/2/97	2008220A2C		53.9	SITE B	Bullpen
7/2/97	200C587309	V569, V570, T50226	76.9	SITE B	Bullpen
7/2/97	200C70687C		58.4	SITE B	Bullpen
7/8/98	2010250823	B826, B828, B829	77.1	SITE B	Bullpen

7/1/97	2201175B11			48.1	SITE F	Bulpen
6/29/97	22040C1570			56.9	SITE F	Bulpen
7/2/97	2207387D28			49.3	SITE B	Bulpen
7/8/98	2207557557	Y811, Y812		74.6	SITE B	Bulpen
7/1/97	220760023D			56.9	SITE F	Bulpen
7/1/97	220F724152			52.0	SITE F	Bulpen
7/1/97	220F774069	Q118		67.3	SITE F (LQ LOW)	Bulpen
7/2/97	22100C2F05			51.8	SITE B	Bulpen
7/2/97	22100F0329			49.9	SITE B	Bulpen
7/2/97	2211570317			72.9	SITE B	Bulpen
7/1/97	22115A0C13			49.4	SITE F	Bulpen
7/1/97	221A555079			48.2	SITE F	Bulpen
7/2/97	221A5D1174			70.2	SITE B	Bulpen
7/1/97	221A731248			55.5	SITE F	Bulpen
7/1/97	221A744D7B			53.7	SITE F	Bulpen
7/2/97	221A7B5266			64.0	SITE B	Bulpen
6/29/97	40772D5C08			63.8	SITE F	Bulpen
6/30/97	40772F3E21			44.7	SITE F	Bulpen
7/7/98	4077304009			52.4	SITE B	Bulpen
6/30/97	4077331A0F			49.4	SITE F	Bulpen
7/8/98	407733407A			71.6	SITE B	Bulpen
6/30/97	4077335842			43.5	SITE F	Bulpen
6/30/97	4077341844			56.0	SITE F	Bulpen
6/30/97	4077363145			52.7	SITE F	Bulpen
6/30/97	4077364824			50.3	SITE F	Bulpen
7/8/98	407736722B			66.6	SITE B	Bulpen
7/9/98	4077374830	H592, H593, 50272		65.3	SITE A	Bulpen
7/8/98	4077374B27			60.9	SITE B	Bulpen
7/8/98	407738251D			57.6	SITE B	Bulpen
7/8/98	407738772E	9799, 9800		87.6	SITE B	Bulpen
6/30/97	407739327A			52.4	SITE F	Bulpen
7/8/98	40773B3D56			53.9	SITE B	Bulpen
6/30/97	40773C086D			47.5	SITE F	Bulpen
6/29/97	40773C415F			49.6	SITE F	Bulpen
6/29/97	40773D3927			50.9	SITE F	Bulpen
6/30/97	4077460A73			46.6	SITE F	Bulpen

6/30/97	4077461651			47.6	SITE F	Bulpen
7/8/98	4077466D04			64.6	SITE B	Bulpen
6/30/97	4077472301			54.6	SITE F	Bulpen
7/7/98	40774B473A	V768,V769		77.9	SITE B	Bulpen
6/29/97	40774C3575	Y368		77.1	SITE F	Bulpen
7/8/98	40774C4666			49.5	SITE B	Bulpen
7/8/98	40774C7A47			72.7	SITE B	Bulpen
6/29/97	40774D251F			60.3	SITE F	Bulpen
6/29/97	4077503B2A			63.7	SITE F	Bulpen
6/29/97	4077515853			61.4	SITE F	Bulpen
6/29/97	407752313F	V571,V573		70.3	SITE F	Bulpen
6/30/97	4077531A79			49.8	SITE F	Bulpen
6/30/97	407755164E			59.5	SITE F	Bulpen
6/29/97	4077553063			52.6	SITE F	Bulpen
7/7/98	4077553E0B			53.3	SITE B	Bulpen
7/8/98	407755647E			50.6	SITE B	Bulpen
7/8/98	4077573127	10953, 10954		73.5	SITE B	Bulpen
7/8/98	407757591B			72.2	SITE B	Bulpen
7/8/98	407758121B			48.7	SITE B	Bulpen
7/9/98	4077584432			71.3	SITE A	Bulpen
6/30/97	4077584725	Y781,Y782		71.8	SITE F	Bulpen
7/8/98	407758556F			67.4	SITE B	Bulpen
6/30/97	407759620B			48.0	SITE F	Bulpen
6/30/97	40775B2867			50.7	SITE F	Bulpen
7/7/98	407A297A1B			41.6	SITE B	Bulpen
7/7/98	407A2D3E74			67.3	SITE B	Bulpen
7/7/98	407A2D5648			75.3	SITE B	Bulpen
7/9/98	407A2E314C			54.5	SITE A	Bulpen
7/9/98	407A2E690D			67.4	SITE A	Bulpen
7/7/98	407A310175			58.3	SITE B	Bulpen
7/7/98	407A344B66			53.3	SITE B	Bulpen
7/8/98	407A383068			65.0	SITE B	Bulpen
7/9/98	407A3B197D			47.0	SITE A	Bulpen

Palau turtles that have been injected with Liguamycin

7/7/98	407A3D4B25		56.2	SITE B	Bulpen
7/9/98	407A41164C		45.5	SITE A	Bulpen
7/9/98	407A474D21	9499, 9498	82.6	SITE A	Bulpen
7/9/98	407A476447		67.4	SITE A	Bulpen
7/9/98	407A49647B		61.3	SITE A	Bulpen
7/9/98	407A4B1315	R347	64.8	SITE A	Bulpen
7/9/98	407A4B441F		67.9	SITE A	Bulpen
7/9/98	407A517333		71.3	SITE A	Bulpen
7/9/98	407A537277		45.8	SITE A	Bulpen
7/9/98	407A544A33	V877, V878	58.6	SITE A	Bulpen
7/9/98	407A545732		50.3	SITE A	Bulpen
7/2/97	407C753554		63.7	SITE B	Bulpen
7/7/98	407D275520		66.0	SITE B	Bulpen
7/2/97	407D275E71		47.6	SITE B	Bulpen
6/30/97	407D290C7E		51.7	SITE F	Bulpen
7/9/98	407D2C3164	B877, B878, B879, B880	73.1	SITE A	Bulpen
7/1/97	407D354A1E		50.4	SITE F	Bulpen
7/7/98	407D4A4753		59.4	SITE B	Bulpen
7/9/98	41041A3E3D		71.6	SITE A	Bulpen
7/2/97	410420247A	9464, 9465	62.8	SITE B	Bulpen
7/1/97	4104231557		67.9	SITE F (LQ LOW)	Bulpen
7/7/98	4150437924		58.6	SITE B	Bulpen
7/7/98	41505A706E		53.0	SITE B	Bulpen



Summary of green turtles tagged and resighted
off the south shore of Molokai, Hawaii, 1982-96.

George H. Balazs Bill Puleloa Ed Medeiros Shawn K. K. Murakawa

Study dates	Study site	Total No. captured	No. newly tagged	No. tag resighting	Total No. tagged in population to date
5/19/82	Pahiomu (E)	4	4	0	4
8/30 - 8/31/82	Palaau (W)	4	4	0	8
9/1/82	Palaau (W)	1	1	0	9
9/3/82	Palaau (W)	16	16 ^{aa}	0	24 25
¹⁰ 9/13/82	Pukoo (E)	1	1	0	25 26
9/21/82	PalaauI (W) Kaluaapuhi	2	2	0	26 27 28
10/19 - 10/20/82	PalaauA (W) Kahanui Point	20 18	25 18	0 1 (9/3/82)	28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53
10/21/82	PalaauH (W) K'K	1	1	0	46 47 48 49 50 51 52 53 54
10/26/82	Ualapue (E)	7	7	0	61
1/11/83	Kawela (E)	4	4	0	50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
1/14/83	Kawela (E)	1	1	0	66
1/25 - 1/28/83	Kamalo (E)	11	9	2 (5/19/82)	60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
2/8/83	Palaau (W)	1	1	0	76
2/26/83	Kawela (E)	2	2	0	78
4/20/83	Palaau (W)	3	2	1 (5/19/82)	80
5/6/83	Kanukuawa (E)	5	4	1 (1/25/83)	84
6/4/83	Ualapue (E)	2	2	0	86
6/30 - 7/1/83	Kawela (E)	8	8	0	94
7/7/83	Makolelau (E)	4	4	0	98

Green turtles, Molokai, 1982-96.--Continued.
Balazs, Puleloa, Medeiros, and Murakawa.

Study dates	Study site	Total No. captured	No. newly tagged	No. tag resighting	Total No. tagged in population to date
9/6/83	Pahiomu (E)	1	1	0	84 99
9/7/83	Kawela (E)	1	1	0	85 100
11/1/83	PalaauI (W) (K'K release)	1	1	0	86 101
11/16/83	Kipapa (E)	1	1	0	87 102
11/17/83	Kakahaia (E)	2	2	0	89 104
12/17/83	Kanukauawa (E)	1	1	0	90 105
12/20/83	Palaau (W)	7	7	0	97 112
1/5 - 1/6/84	PalaauI (W) (Kawela release)	5	5	0	102 117
1/17/84	Ualapue (E)	2	2	0	104 119
1/20/84	Kawela (E)	2	2	0	106 121
1/26/84	Kawela (E)	1	1	0	107 122
1/28/84	Kawela (E)	3	3	0	110 125
2/7/84	Palaau (W) (K'K release)	1	1	0	111 126
2/8 - 2/9/84	Palaau (W)	3	2	1 (9/3/82)	113 128
2/11/84	PalaauI Biomass (W) (K'K release)	5	4	1 (10/19/82)	117 132
2/23/84	Kawela (E)	4	4	0	121 136
2/24/84	Pahiomu (E)	2	2	0	123 138
3/24/84	PalaauJ (W)	1	0	1 (2/11/84)	123 138
4/4/84	PalaauI (W)	4	4	0	127 142
4/12 - 4/13/84	Kakahaia (E)	4	2	2 (7/7/83 9/7/83)	129 144

Green turtles, Molokai, 1982-96.--Continued.
Balazs, Puleloa, Medeiros, and Murakawa.

Study dates	Study site	Total No. captured	No. newly tagged	No. tag resighting	Total No. tagged in population to date
4/14/84	Kanukuawa (E)	5	3	2 (7/7/83 4/13/84)	132 147
4/25 - 4/26/84	PalaauI Biomass (W)	6	5	1 (1/28/83)	137 152
5/5/84	PalaauK (W)	10	10	0	147 162
5/9/84	PalaauK (W)	2	2	0	149 164
5/10 - 5/11/84	PalaauI (W)	5	5	0	154 169
5/16/84	Palaau (W) (east)	10	8	2 (10/19/82 - 2/8/84)	162 177
10/7/84	Kawela (E)	1	1	0	163 178
10/17/ - 10/18/84	Kawela (E)	3	3	0	166 181
10/20/84	Kamalo (E) Kanukuawa	1	1	0	167 182
4/3/85	Palaau (W) (K'K release)	2	2	0	169 184
4/11/85	Palaau Pakanaka (W) (K'K release)	12	12	0	181 196
4/23/85	PalaauA (W)	8	5	3 (8/30/82 1/5/84 1/6/84)	186 201
4/24 - 4/25/85	PalaauB (W)	39	38	1 (4/11/85) ^a	224 239
4/26/85	PalaauC (W) (K'K release)	3	3	0	227 242
4/30/85	PalaauI (W) (Kawela release)	1	1	0	228 243

Green turtles, Molokai, 1982-96.--Continued.
Balazs, Puleloa, Medeiros, and Murakawa.

Study dates	Study site	Total No. captured	No. newly tagged	No. tag resighting	Total No. tagged in population to date
5/7 - 5/9/85	PalaauJ (W) (K'K release)	9	7	2 (5/16/84 1/6/84)	235 250
5/19 - 5/20/85	PalaauM (W) (Kawela release)	5	4	1 (4/25/84)	239 254
5/23, 5/31, and 6/2/85	Palaau (W) Waiakane (hand captures)	4	4	0	243 258
6/14 - 6/17/85	Kawela (E)	5	4	1 (1/11/83)	247 262
6/28 - 6/29/85	Kawela (E)	6	5	1 (4/25/85)	252 267
7/11/85	PalaauP (W) (K'K release)	16	15	1 (9/3/82)	267 282
7/16/85	PalaauD (W)	10	10	0	277 292
7/17 - 7/18/85	PalaauE (W)	35	31	4 (4/24/85 4/25/85)	308 323
7/19/85	PalaauF (W)	38	37	1 (7/11/85)	345 360
8/15/85	Kawela (E)	1	1	0	346 361
8/25/85	Kawela (E)	1	1	0	347 362
8/30/85	Kawela (E)	5	5	0	352 367
10/3/85	Palaau (W)	20	19	1 (9/3/82)	371 386
10/16/85	Palaau (W)	14	10 ^b	4 (9/3/82 4/11/85 10/3/85)	381 396
1/6/86	Kawela (E) Kanoa	2	2	0	383 398

Green turtles, Molokai, 1982-96.--Continued.
Balazs, Puleloa, Medeiros, and Murakawa.

Study dates	Study site	Total No. captured	No. newly tagged	No. tag resighting	Total No. tagged in population to date
3/5/86	Palaau (W)	19	16	3 (9/3/82 12/20/83 5/16/84)	399 414
5/1/86	Palaau (E) Waiakane (hand captured)	3	3	0	402 417
7/3/86	PalaauI (W)	1	1	0	403 418
7/13/86	Kawela (E) Kanoa	1	1	0	404 419
9/19/86	PalaauA (W)	12	9	3 (9/3/82 7/11/85 10/3/85)	413 429
2/24/87	Palaau (W)	3	3	0	416 431
4/9/87	Pukoo (E) (Strand)	1	1	0	417 432
6/3/87	PalaauA (W)	10	9	1 ^o (4/25/84 5/19/85)	422 441
6/4/87	PalaauC (W)	17	14	3 (9/3/82 10/19/82)	440 455
11/17 - 11/18/87	Kawela (E)	4	4	0	444 459
1/23/88	Kawela (E) Kanoa	1	1	0	445 460
2/5/88	Kawela (E)	4	3	1 (7/7/83)	448 463
2/19/88	Kawela (E) Panahaha	8	7	1 (8/30/85)	455 470
2/20/88	Kawela (E) Kanoa	1	1	0	456 471

Green turtles, Molokai, 1982-96.--Continued.
Balazs, Puleloa, Medeiros, and Murakawa.

Study dates	Study site	Total No. captured	No. newly tagged	No. tag resighting	Total No. tagged in population to date
2/23 - 2/24/88	K'K (W) (Kawela release)	3	3	0	459 474
3/1/88	K'K (W) (Kawela release)	2	2	0	461 476
3/8/88	Kawela (E)	1	1	0	462 477
3/10/88	Kawela (E) (Kanoa release)	2	2	0	464 479
7/11/88	Palaau (W) (SLP release)	(5)	(5)	--	--
7/12 - 7/13/88	PalaauA (W)	38	32	6 ^d	496 511
(dates for resightings not listed hereafter)					573
7/14 - 7/15/88	PalaauE (W)	87	77	10	588
8/27 - 8/30/88	Kawela (E)	4	4	0	577 592
6/10/89	Kawela (E) Kamiloloa	1	0	1 ^e	577 592
7/5 - 7/6/89	PalaauA (W)	115	106	9 ^f	683 698
7/7/89	PalaauG (W)	27	24	3	707 722
* no record 7/9/89	Palaau (W)	1	1 ^g	0	708 723
7/17/89	Palaau (W)	1	0	1	708 723
8/30/89	Kaluaaha (E)	1	1 ^h	0	709 724
11/14 - 11/15/89	Kawela (E) (Kanoa release)	9	9 ⁱ	0	718 733
3/1/90	PalaauA (W)	1	1	0	719 734
3/2/90	PalaauC (W)	12	11	1	730 745

Green turtles, Molokai, 1982-96.--Continued.
Balazs, Puleloa, Medeiros, and Murakawa.

Study dates	Study site	Total No. captured	No. newly tagged	No. tag resighting	Total No. tagged in population to date
5/8 - 5/9/90	PalaauA (W)	50	43	7	773 788
5/10/90	PalaauG (W)	1	1	0	774 789
7/2 - 7/3/90	PalaauB (W)	36	29	7	803 818
7/9 - 7/11/90	PalaauF (W)	82	72 ^d	10	875 890
7/9 - 7/11/91	PalaauG (W)	31	28	3	903 918
11/15 - 11/16/91	PalaauE (W)	45	27	18 7	930 945
12/4 - 12/6/91	PalaauF (W)	41	32 26	9 15	962 971
5/26 - 5/29/92	PalaauE (W)	121	84	37	1046 1055
7/29 - 7/31/92	PalaauB (W)	71 70	58 57	13	1106 1112
1/4 - 1/6/93	PalaauA (W)	55	32	23	1138 1144
7/19 - 7/22/93	PalaauN (W)	64	64	0	1202 1208
9/28 - 10/1/84	PalaauB (W) PalaauC	46	39	7	1241 1247
7/10 - 7/14/95	PalaauA (W)	57 56	42 40	15 16	1283 1287
7/15 - 7/19/96	PalaauO (W) PalaauF	64	57	7	1340 1344
9/24 - 9/26/96	PalaauB (W)	59	42	17	1382 1386
6/25/92	Palaau J	3	2	1	1048

NOTE: E = capture made east of Kaunakakai Wharf; W = capture made west of Kaunakakai wharf.

^aFirst turtle ever seen at Palaau with tumors. Newly tagged 6414, 6415, BBA429 on this date (9/3/82). Tumor score = 2.

^aTag resighting 7939, 7940 also reported "caught in gillnet at Palaau" during early May 1989. Tags mailed to HIMB.

^bSecond turtle ever seen at Palaau with tumors. Newly tagged 9523 on this date (10/16/85). Photos. Tumor score = 3.

^cThird turtle seen at Palaau with tumors (6/3/87). Newly tagged 6698, 6699 at Palaau on 4/25/84 without tumors. Recaptured at Palaau and released at Kawela on 5/19/85 without tumors. Tumor score = 3.

^dTag resighting 9874, 9875 originally tagged 6/87 at Palaau found comatose in bullpen 7/14/88.

^eTag resighting (8624,8625) originally tagged at Kawela 6/29/85 found dead with tumors and left front flipper amputated.

^fAdult male 6109 originally tagged at French Frigate Shoals 6/82 and 6/89 ("nesting") not included.

^gAdult male 7154 originally tagged at French Frigate Shoals 6/83 resighted and considered "newly tagged" to Molokai population.

no record

^hTumors. Found entangled in discarded gillnet. Tagged 9182, 9183 and released.

ⁱThree turtles with tumors (non-Palaau).

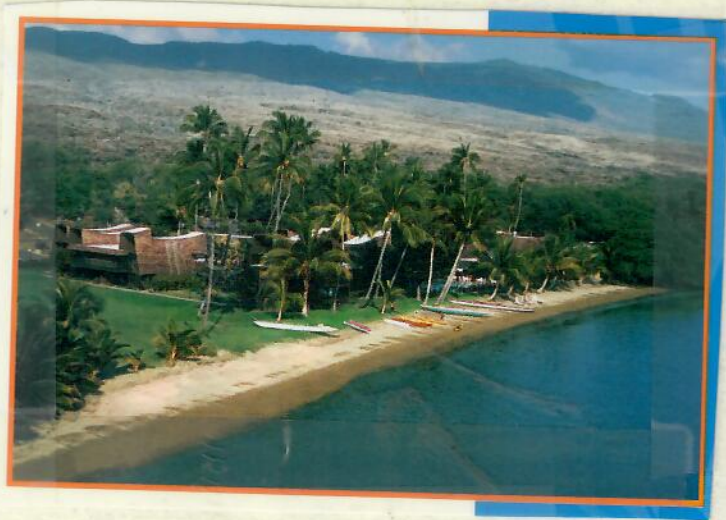
^jComatose juvenile found among turtles on deck not included.

Total No. tagged E = 132
Total No. tagged W = 1256
Total = 1388

Total No. recaptured = 246

Juvenile hawksbill also captured at Kawela (E) on 7/14/88.

TRT-6T.SKM
January 8, 1997





The Marine Turtle Specialist International Workshop

海亀専門家国際会議イン名古屋'92

March 14th(Sat.)-16th(Mon.),1992 / Venue:Nagoya Congress Center

Organizer:Japan Beluga Association

Secretariat:SIMUL INTERNATIONAL INC.,Amaki Office

期間●1992年3月14日【土】-16日【月】会場●名古屋国際会議場

主催：日本鰻甲協会

事務局：(株)サイマル・インターナショナル

