

LANAI

15-20 SEPTEMBER 2002

31 JANUARY 03

21-22 AUGUST 2003

2002-2003

G. H. BALAZS

2 OF 2

LEWIS &
G. H. BALAZS

BALAZS 286-2899

BALAZS

DATE FORM FILLED OUT

9/17/02 (LoeHi) Hand

①
②

CAPTURE DATE, LOCATION AND METHOD:

9/17/02, White rock, snorkeling
LANAI

PERSON RECORDING DATA:

Jill Q

TUMOR SCORE

0

ORAL TMRS EXT:

YES OR NO

—

EMACIATION CODE

0

OLD TAGS:

None

NEW TAGS:

RFL LH 11892 (metal)
LFL LH 411D003B10
RH 411C61474E

MT#

STRAIGHT CARAPACE - LENGTH:

53.2 cm

WIDTH:

421 cm

NOTCH LENGTH:

53.2 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

57 cm

WIDTH:

495 cm

HEAD WIDTH:

8.4 cm

AXIAL:

21.2 cm

LATERAL:

204 cm

PPS: YES OR NO OR NE

yes

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

11.5 cm

C

7 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

43.8 cm

WEIGHT:

45 lbs #

DESCRIPTIVE REMARKS:

maxim size: fine

White paint

DATE FORM FILLED OUT 9/17/02 (Loeffel)

(8) (179)

CAPTURE DATE, LOCATION AND METHOD:

9/17/02, White rocky snorkeling
LANAI

PERSON RECORDING DATA: Jill

TUMOR SCORE

0

ORAL TMRS EXT:
YES OR NO

—

EMACIATION CODE

0

OLD TAGS:

NONE

NEW TAGS:

RFL LH 11893
LFL LH 41477F0238
RH 414B340712

STRAIGHT CARAPACE - LENGTH:

52.9 cm

WIDTH: 42.3 cm

NOTCH LENGTH:

52.9 cm

DB: 0 L.O.

VB: 0 L.O.

CURVED CARAPACE LENGTH:

57.5 cm

WIDTH: 52 cm

HEAD WIDTH:

8.8 cm

AXIAL: 23.1 cm

LATERAL: 23.1 cm

PPS: YES OR NO OR NE

yes

SEX: Male, Female or Undetermined

4

TAIL LENGTH: T

11 cm

C 7.5 cm

RIGHT FRONT FLIPPER WIDTH:

— cm

SAMPLES COLLECTED:

PLASTRON LENGTH:

43.7 cm

WEIGHT:

50 lbs #

DESCRIPTIVE REMARKS:

maxi eye

DATE FORM FILLED OUT

7/19/02

(Lae Hi)
Hand

ⓐ
ⓑ

CAPTURE DATE, LOCATION AND METHOD:

7/19/02, White rock, Snorkeling
LANAI

PERSON RECORDING DATA:

Jill

TUMOR SCORE

0

ORAL TMRS EXT:
YES OR NO

—

EMACIATION CODE

0

OLD TAGS:

None

NEW TAGS:

RFL

LH 11894 cm

LEL

LH 425006256F



RA

424E1A1635



MT#

STRAIGHT CARAPACE - LENGTH:

67.4
~~60.4~~ cm

WIDTH:

46.0
~~60.5~~ cm

NOTCH LENGTH:

57.7 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

64 cm

WIDTH:

65.5 cm

HEAD WIDTH:

9.9 cm

AXIAL:

23.1 cm

LATERAL:

233 cm

PPS: YES OR NO OR NE

yes

SEX: Male, Female
or Undetermined

U

TAIL LENGTH: T

14 cm

C

10 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

46.9 cm

WEIGHT:

63 #

DESCRIPTIVE REMARKS:

MOUTH EXT: fine

white paint

DATE FORM FILLED OUT 9/17/02

(10)

CAPTURE DATE, LOCATION AND METHOD: 9/17/02, White Rock, snorkeling
Lana'i (Lae Hi)

PERSON RECORDING DATA: Jill

TUMOR SCORE

0

ORAL TMRS EXT: YES OR NO

—

EMACIATION CODE

9

MT#

OLD TAGS:

None

NEW TAGS:

RFL LH 11895 (metal)
LFL LH 423C126324
RH 42500D0B20

STRAIGHT CARAPACE - LENGTH:

66.7 cm

WIDTH:

51.9 cm

NOTCH LENGTH:

65.9 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

73 cm

WIDTH:

63.5 cm

HEAD WIDTH:

10.5 cm

AXIAL:

27.7 cm

LATERAL:

27.5 cm

PPS: YES OR NO OR NE

NO

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

13.5 cm

C

9.5 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

52.5 cm

WEIGHT:

94.05 #

DESCRIPTIVE REMARKS:

Mouth exam: fine wear & induration
7-8 mm diameter

Circular impact 1.5cm diameter white paint
4mm central, suspected human related

DATE FORM FILLED OUT

9/17/02

① ②

CAPTURE DATE, LOCATION AND METHOD:

(LoeHi) Hand

9/17/02, White rock, snorkeling
LANAI

PERSON RECORDING DATA:

Jiu

TUMOR SCORE

0

ORAL TMRS EXT:
YES OR NO

-

EMACIATION CODE

0

OLD TAGS:

none

NEW TAGS:

RFL LH 11894 metal
LEL LH 425022473A
RH 424B1A0938

MT#

STRAIGHT CARAPACE - LENGTH:

51.5 cm

WIDTH:

39.7 cm

NOTCH LENGTH:

51.3 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

55 cm

WIDTH:

46.5 cm

HEAD WIDTH:

8.1 cm

AXIAL:

21.0 cm

LATERAL:

20.8 cm

PPS: YES OR NO OR NE

yes

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

11 cm

C

7 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

- cm

PLASTRON LENGTH:

41.9 cm

WEIGHT:

43 lbs #

DESCRIPTIVE REMARKS:

mouth edge: fine
anomaly on eye
straight white patch
small white spots on pigmented conjunctive

DATE FORM FILLED OUT 9/17/02

(12) (JH)

CAPTURE DATE, LOCATION AND METHOD: *Hand*

9/17/02, white rock snorkeling (Laeti) LAWA1

PERSON RECORDING DATA: Jill

TUMOR SCORE

0

ORAL TMRS EXT:
YES OR NO

-

EMACIATION CODE

0

OLD TAGS:

howe

MT#

NEW TAGS:

RFL LH 11897 metal
LFL LH 424D414B77
RH 42500F6258

STRAIGHT CARAPACE - LENGTH:

64.7 cm

WIDTH: 50.5 cm

NOTCH LENGTH: 64.0 cm

DB: 0 L.O.

VB: 0 L.O.

CURVED CARAPACE LENGTH:

70 cm

WIDTH: 64 cm

HEAD WIDTH: 10.0 cm

AXIAL: 27.5 cm

LATERAL: 28.2 cm

PPS: YES OR NO OR NE NO

SEX: Male, Female or Undetermined U

TAIL LENGTH: T 14.5 cm

C 13 cm

RIGHT FRONT FLIPPER WIDTH:

cm

SAMPLES COLLECTED:

PLASTRON LENGTH: 51.9 cm

WEIGHT: 94 lbs #

DESCRIPTIVE REMARKS:

mouth exp. raised scales to tail, just anterior to ~~tail~~ uroca
second lateral right has a "hump" white faint picture of tail

DATE FORM FILLED OUT 9/17/02 (13)

CAPTURE DATE, LOCATION AND METHOD: (Kushua)

9/17/02 Federation Camp LANAI Set NET
PERSON RECORDING DATA: Jill

TUMOR SCORE

0

ORAL TMRS EXT:
YES OR NO

-

EMACIATION CODE

0

MT#

OLD TAGS:

None

NEW TAGS:

RFL 44 11898
LEL 24 411C772424
RN
407A4B6125

STRAIGHT CARAPACE - LENGTH:

64.4 cm

WIDTH:

50.5

NOTCH LENGTH:

64.3 cm

DB:

0 L.O.

VB:

0

CURVED CARAPACE LENGTH:

71.5 cm

WIDTH:

53.5

HEAD WIDTH:

9.5 cm

AXIAL:

29.1 cm

LATERAL:

29.0

PPS: YES OR NO OR NE

yes

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

13.5 cm

C

10 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

- cm

PLASTRON LENGTH:

50.4 cm

WEIGHT:

94 lbs #

DESCRIPTIVE REMARKS:

Marked

8 centrals

white patch

end

DATE FORM FILLED OUT

9/17/02 (14)

Day 2

CAPTURE DATE, LOCATION AND METHOD:

9/17/02, Federation camp, LAUAI

(Krafft)

~~set~~
hand shocked

PERSON RECORDING DATA:

Jim Q

TUMOR SCORE

0

ORAL TMRS EXT:

YES OR NO

-

EMACIATION CODE

0

MT#

OLD TAGS:

none

NEW TAGS:

RFL

LH 11899 (metal)

LFL

LH 407A2D422C



RH

411F4B3835



STRAIGHT CARAPACE - LENGTH:

57.4 cm

WIDTH:

46.3 cm

NOTCH LENGTH:

57.3 cm

DB:

0

L.O.

VB:

0

L.O.

CURVED CARAPACE LENGTH:

61.5 cm

WIDTH:

56 cm

HEAD WIDTH:

9.1 cm

AXIAL:

24.8 cm

LATERAL:

24.6 cm

PPS: YES OR NO OR NE

no

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

11 cm

C

8 cm

RIGHT FRONT FLIPPER WIDTH:

— cm

SAMPLES COLLECTED:

mouth algae

PLASTRON LENGTH:

46.1 cm

sample taken

WEIGHT:

68 lbs #

DESCRIPTIVE REMARKS:

moult exam. algae

Caught inside the net while party

DAY 3

DATE FORM FILLED OUT

7/18/02

CAPTURE DATE, LOCATION AND METHOD:

9/18/02

Kuahua
Federation Camp
LANAI 4 PM

①

Scoop net

PERSON RECORDING DATA:

Jill

TUMOR SCORE

0

ORAL TMRS EXT:
YES OR NO

—

EMACIATION CODE

0

OLD TAGS:

none

NEW TAGS:

RFL LH 11900 (metal)
LFL LH 407A2D7B34
RHL 407C462A69

MT#

STRAIGHT CARAPACE - LENGTH:

62.5 cm

WIDTH:

47.9 cm

NOTCH LENGTH:

62.2 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

67.0 cm

WIDTH:

59.5 cm

HEAD WIDTH:

9.6 cm

AXIAL:

29.6 cm

LATERAL:

29.4 cm

PPS: YES OR NO OR NE

URS

SEX: Male, Female
or Undetermined

U

TAIL LENGTH: T

14 cm

C

11 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

50.7 cm

WEIGHT:

9516g

DESCRIPTIVE REMARKS:

MOUTH EXTENDING

DATE FORM FILLED OUT 9/18/02

2

CAPTURE DATE, LOCATION AND METHOD: = Kua hua

9/18/02, Sedevation camp, ^{LAWA} scoop

PERSON RECORDING DATA: Jill Q

Scoop net

TUMOR SCORE

∅

OLD TAGS:

None

NEW TAGS:

RFL LH 11751 metal
LFL LH 407A2B7F45
4149050B56

ORAL TMRS EXT:
YES OR NO

—

EMACIATION CODE

6

MT#

STRAIGHT CARAPACE - LENGTH:

65.0 cm

WIDTH:

51.8 cm

NOTCH LENGTH:

65.3 cm

DB:

∅ L.O.

VB:

∅ L.O.

CURVED CARAPACE LENGTH:

70.0 cm

WIDTH:

63.0 cm

HEAD WIDTH:

9.7 cm

AXIAL:

29.1 cm

LATERAL:

28.8 cm

PPS: YES OR NO OR NE

yes

SEX: Male, Female
or Undetermined

U

TAIL LENGTH: T

16 cm

C

18.5 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

53.5 cm

WEIGHT:

100 #

DESCRIPTIVE REMARKS:

mouth ext. fine

DATE FORM FILLED OUT 9/18/02

CAPTURE DATE, LOCATION AND METHOD:

9/18/02, Federation Camp, Sloop
LANAI

PERSON RECORDING DATA: Jill Q

TUMOR SCORE

0

ORAL TMRS EXT:
YES OR NO

-

EMACIATION CODE

0

MT#

OLD TAGS:

None

NEW TAGS:

RFL LH 117952

LFL LH 4135106128



RH 4136045750



STRAIGHT CARAPACE - LENGTH:

61.3 cm

WIDTH:

47.1 cm

NOTCH LENGTH:

61.3 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

64.5 cm

WIDTH:

57.0 cm

HEAD WIDTH:

8.8 cm

AXIAL:

24.7 cm

LATERAL:

24.7 cm

PPS: YES OR NO OR NE

yes

SEX: Male, Female
or Undetermined

U

TAIL LENGTH: T

15 cm

C

10 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

-

PLASTRON LENGTH:

48.8 cm

WEIGHT:

72 lbs #

DESCRIPTIVE REMARKS:

mouth exa: fine

DATE FORM FILLED OUT 9/18/02

CAPTURE DATE, LOCATION AND METHOD:

Kuaha

9/18/02, federation camp, tangel (net) 524pm

PERSON RECORDING DATA: Jill Q

TUMOR SCORE

0

OLD TAGS:

None

NEW TAGS:

RFL LH 11753 (meta)

LFL LH 41356F1F2E



RH 41360B3536



ORAL TMRS EXT:

YES OR NO

-

EMACIATION CODE

0

MT#

STRAIGHT CARAPACE - LENGTH:

66.0 cm

WIDTH:

51.0 cm

NOTCH LENGTH:

66.0 cm

DB:

9 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

70.5 cm

WIDTH:

62.0 cm

HEAD WIDTH:

9.9 cm

AXIAL:

27.2 cm

LATERAL:

27.1 cm

PPS: YES OR NO OR NE

yes

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

16.5 cm

C

11 cm

RIGHT FRONT FLIPPER WIDTH:

— cm

SAMPLES COLLECTED:

mouth sample

PLASTRON LENGTH:

52.9 cm

algal collected

WEIGHT:

98 lbs #

DESCRIPTIVE REMARKS:

Mouth exam: algal in mouth & some what // scratches along left over. (lowest one 6 cm (crane deep)) likely JAWS

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DAY 4

①

DATE FORM FILLED OUT / /

CAPTURE DATE, LOCATION AND METHOD:

9/19/02 WHITE ROCK, *(Laeti)*
 PERSON RECORDING DATA: *RESEARCHER HAND*
OLSON SNOAKE LANAI

TUMOR SCORE

⑦

ORAL TMRS EXT: YES OR NO

—

EMACIATION CODE

①

OLD TAGS:

none

NEW TAGS:

REF LH 11755
 LFL LH 413601757F
 RH 4243402957

STRAIGHT CARAPACE - LENGTH:

50.8 cm

WIDTH:

41.9

NOTCH LENGTH:

50.5 cm

DB:

∅ L.O.

VB:

∅ L.O.

CURVED CARAPACE LENGTH:

54.5 cm

WIDTH:

49.0

HEAD WIDTH:

8.4 cm

AXIAL:

21.0 cm

LATERAL:

21.5

PPS: YES OR NO OR NE

no

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

10 cm

C

8.5 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

41.5 cm

WEIGHT:

43 lbs #

DESCRIPTIVE REMARKS:

White ex-awl

White parrot

DATE FORM FILLED OUT 9/19/02 (2)

CAPTURE DATE, LOCATION AND METHOD: 9/19/02, White Rock, Lanai, Snorkel

PERSON RECORDING DATA: Jill

TUMOR SCORE

0

ORAL TMRS EXT: YES OR NO

—

EMACIATION CODE

0

OLD TAGS:

None

NEW TAGS:

RFL LH 11756 (metal)
LFL LH 423E1B0918
RH 424E667020

STRAIGHT CARAPACE - LENGTH:

51.4 cm

WIDTH:

42.1 cm

NOTCH LENGTH:

51.2 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

55 cm

WIDTH:

49.5 cm

HEAD WIDTH:

8.2 cm

AXIAL:

2.6 cm

LATERAL:

2.7 cm

PPS: YES OR NO OR NE

no

SEX: Male, Female or Undetermined

u

TAIL LENGTH: T

10.5 cm

C

7.0 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

42.4 cm

WEIGHT:

44 1/5 #

DESCRIPTIVE REMARKS:

mouth open, fine skin barnacles white paint

DATE FORM FILLED OUT

EVD JAY 3
9/18/02

CAPTURE DATE, LOCATION AND METHOD:

9/18/02, Federation camp, Kua Hua
LANAI, tangel net (5) 5:21pm

PERSON RECORDING DATA:

Jill

TUMOR SCORE

 \emptyset ORAL TMRS EXT:
YES OR NO —

EMACIATION CODE

 \emptyset

MT#

OLD TAGS:

none

NEW TAGS:

RFL LH 11754 (met)

LFL LH 41360D6F28



RH 4135126E5C



STRAIGHT CARAPACE - LENGTH:

71.0 cm

WIDTH:

52.7

NOTCH LENGTH:

70.1 cm

DB:

 \emptyset L.O.

VB:

 \emptyset L.O.

CURVED CARAPACE LENGTH:

75.0 cm

WIDTH:

60.5

HEAD WIDTH:

10.9 cm

AXIAL:

28.3 cm

LATERAL:

29.0

PPS: YES OR NO OR NE

yes

SEX: Male, Female
or Undetermined

U

TAIL LENGTH: T

18.5 cm

C

14.5 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

55.4 cm

WEIGHT:

119 lbs #

DESCRIPTIVE REMARKS:

mouth extra fine

Day 4

DATE FORM FILLED OUT 9/19/02

(3)

CAPTURE DATE, LOCATION AND METHOD:

Laehi #AWD
snorkel
LAWAI

9/19/02, white rock, LAWA
PERSON RECORDING DATA: JIU

TUMOR SCORE

ORAL TMRS EXT:
YES OR NO

EMACIATION CODE

OLD TAGS:

None

NEW TAGS:

RFL LH 11757
LFL LH 424F240B17
RH 42501D5139

MT#

STRAIGHT CARAPACE - LENGTH:

50.1 cm

WIDTH:

39.1 cm

NOTCH LENGTH:

49.9 cm

DB:

L.O.

VB:

L.O.

CURVED CARAPACE LENGTH:

54.0 cm

WIDTH:

40.5 cm

HEAD WIDTH:

7.7 cm

AXIAL:

20.6 cm

LATERAL:

20.5 cm

PPS: YES OR NO OR NE

yes

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

18.5 cm

C

7.5 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

cm

PLASTRON LENGTH:

40.2 cm

WEIGHT:

37 lbs #

DESCRIPTIVE REMARKS:

mouth ex: fine

White paint



DATE FORM FILLED OUT 9/19/02

CAPTURE DATE, LOCATION AND METHOD:

LoeHi HAND
LANAI

9/19/02, White rock, snorkel

PERSON RECORDING DATA: Jill Q

TUMOR SCORE

0

ORAL TMRS EXT:
YES OR NO

-

EMACIATION CODE

0

MT#

OLD TAGS:

NONE

NEW TAGS:

RFL LH 11758 Cinctus
LEL LH 42500D5155
RHL RH 4250170868

STRAIGHT CARAPACE - LENGTH:

65.5 cm

WIDTH:

48.1 cm

NOTCH LENGTH:

65.0 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

71.5 cm

WIDTH:

59 cm

HEAD WIDTH:

9.8 cm

AXIAL:

24.8 cm

LATERAL:

25.4 cm

PPS: YES OR NO OR NE

4 yes

SEX: Male, Female
or Undetermined

U

TAIL LENGTH: T

12 cm

C

9.0 cm

RIGHT FRONT FLIPPER WIDTH:

1 cm

SAMPLES COLLECTED:

PLASTRON LENGTH:

51.7 cm

WEIGHT:

81 #

DESCRIPTIVE REMARKS:

exam. amphipods
giant PPS 3.7cm long white point

DATE FORM FILLED OUT 9.19.02

CAPTURE DATE, LOCATION AND METHOD:

9/19/02, White rock, snorkeled

PERSON RECORDING DATA: Jill Q

TUMOR SCORE

0

ORAL TMRS EXT:

YES OR NO

—

EMACIATION CODE

0

OLD TAGS:

None

NEW TAGS:

RFL LH #11759 (metal)
LFL LH 424D0D2A14
RH 424F0C7002

STRAIGHT CARAPACE - LENGTH:

61.3 cm

WIDTH:

47.9 cm

NOTCH LENGTH:

60.9 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

67 cm

WIDTH:

54 cm

HEAD WIDTH:

8.9 cm

AXIAL:

24.9 cm

LATERAL:

25.1 cm

PPS: YES OR NO OR NE

yes

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

14 cm

C

9 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

48.0 cm

WEIGHT:

73 lbs #

DESCRIPTIVE REMARKS:

main exam: fine
White paint
two notches a hind tag placement possible tag loss



DATE FORM FILLED OUT 9, 19, 02

Recovery from eye

CAPTURE DATE, LOCATION AND METHOD:

9/19/02, White rock, snorkeled
LANAI

* Mistakenly *
Party worked up
before noting
it was a
recapture

PERSON RECORDING DATA: Jill Q

TUMOR SCORE

Q

ORAL TMRS EXT:
YES OR NO

—

EMACIATION CODE

Q

OLD TAGS:

~~11877~~ 11877
424E6D2A71
424F2A5544

NEW TAGS:

~~11877~~
~~11877~~
11877

MT#

STRAIGHT CARAPACE - LENGTH:

— cm

WIDTH:

—

NOTCH LENGTH:

— cm

DB:

Q L.O.

VB:

Q L.O.

CURVED CARAPACE LENGTH:

66 cm

WIDTH:

57

HEAD WIDTH:

— cm

AXIAL:

— cm

LATERAL:

—

PPS: YES OR NO OR NE

—

SEX: Male, Female
or Undetermined

U

TAIL LENGTH: T

— cm

C

— cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

— cm

PLASTRON LENGTH:

— cm

WEIGHT:

— #

DESCRIPTIVE REMARKS:

exam:

DATE FORM FILLED OUT 9/19/02

CAPTURE DATE, LOCATION AND METHOD: 9/19/02, White rock, Sworkel, Lanai

PERSON RECORDING DATA: JILL

HAND

9/19/02, White rock, Sworkel, Lanai

TUMOR SCORE: 0

ORAL TARS EXT. YES OR NO: -

EMACIATION CODE: 4

NEW TAGS:

REF: LH 1760 (metal)

423E101104

TUMOR SCORE: 0

ORAL TARS EXT. YES OR NO: -

EMACIATION CODE: 0

NEW TAGS:

REF: LH 11761 METAL

LH 424D446C61

STRAIGHT CARAPACE - LENGTH: 50.2

NOTCH LENGTH: 50.2

CURVED CARAPACE LENGTH: 8.4

HEAD WIDTH: 8.4

PFS: YES OR NO OR NE: NO

TAIL LENGTH: T 19.5

RIGHT FRONT FLIPPER WIDTH: 42.1

PLASTRON LENGTH: 40

WEIGHT: 40

DESCRIPTIVE REMARKS:

mouth exam. fine

WIDTH: 40.4

VB: 0

L.O. 0

WIDTH: 48

LATERAL: 20.2

SEX: Male, Female or Undetermined: U

WIDTH: 63.7

VB: 0

L.O. 0

WIDTH: 69

LATERAL: 28.4

SEX: Male, Female or Undetermined: U

DESCRIPTIVE REMARKS:

Small extra scale on seam of plastron
Mouth: amphipods

Review of Feb 6.7.5 6/1/93

DATE FORM FILLED OUT 9/19/02 VJH

CAPTURE DATE, LOCATION AND METHOD: 9/19/02 White Rock Sharkel HAND

PERSON RECORDING DATA: ARSUN C. CANAI

TUMOR SCORE: 0

OLD TAGS: LH

NEW TAGS: LH 11762 METAL

ORAL TISSUE YES OR NO: RH 423E0D370A



EMACIATION CODE: 0

ORAL TISSUE YES OR NO: LH 423F4D0B2E



EMACIATION CODE: 0

STRAIGHT CARAPACE - LENGTH: 58.4 cm

WIDTH: 47.2 cm

NOTCH LENGTH: 58.2 cm

DB: 0

CURVED CARAPACE LENGTH: 9.0 cm

WIDTH: 54 cm

HEAD WIDTH: 12.5 cm

AXIAL: 25.3 cm

PFS: YES OR NO OR NE: Y

LATERAL: 24.5 cm

TAIL LENGTH: 1

C: 9

RIGHT FRONT FLIPPER WIDTH: 46.8 cm

SEX: Male, Female or Undetermined: U

PLASTRON LENGTH: 67

SAMPLES COLLECTED:

WEIGHT: 67

REMARKS: Mouth: unremarkable

DATE FORM FILLED OUT 9/19/02 HAND

CAPTURE DATE, LOCATION AND METHOD: 9/19/02 White Rock Sharkel HAND

PERSON RECORDING DATA: ARSUN C. CANAI

TUMOR SCORE: 0

OLD TAGS: LH

NEW TAGS: LH 424D0F4D04

ORAL TISSUE YES OR NO: LH



EMACIATION CODE: 0

ORAL TISSUE YES OR NO: LH



EMACIATION CODE: 0

STRAIGHT CARAPACE - LENGTH: 74.9 cm

WIDTH: 56 cm

NOTCH LENGTH: 74.9 cm

DB: 0

CURVED CARAPACE LENGTH: 82.5 cm

WIDTH: 71 cm

HEAD WIDTH: 11 cm

AXIAL: 30.2 cm

PFS: YES OR NO OR NE: Y

LATERAL: 31 cm

TAIL LENGTH: T

C: 14

RIGHT FRONT FLIPPER WIDTH: 59 cm

SEX: Male, Female or Undetermined: U

PLASTRON LENGTH: 137

SAMPLES COLLECTED: Mouth Sample

WEIGHT: 137

REMARKS: Mouth sample collected, 1 small red piece

Mouth sample collected, 1 small red piece

DATE FORM FILLED OUT 9/19/02

CAPTURE DATE, LOCATION AND METHOD:

9/19/02 White Rock Sharkel

PERSON RECORDING DATA: ARESW C. CANAI

TUMOR SCORE

0

ORAL TAGS EXT.

YES OR NO

RA 424E2F1462



EMACIATION CODE

0

NEW TAGS:

LH 11763 METAL

424D300817



STRAIGHT CARAPACE - LENGTH:

63.3 cm

NOTCH LENGTH:

9.4 cm

CURVED CARAPACE LENGTH:

9.4 cm

HEAD WIDTH:

N

PPS: YES OR NO OR NE

TAIL LENGTH: T

13

RIGHT FRONT FLAPPER WIDTH:

52.7 cm

PLASTRON LENGTH:

87

WEIGHT:

DESCRIPTIVE REMARKS:

Mouth: unremarkable

DATE FORM FILLED OUT 9/19/02

CAPTURE DATE, LOCATION AND METHOD:

9/19/02 White Rock Sharkel

PERSON RECORDING DATA: ARESW C. CANAI

TUMOR SCORE

0

ORAL TAGS EXT.

YES OR NO

RA 424F0C6D03



EMACIATION CODE

0

NEW TAGS:

LH 11764 METAL

423F4B4259



STRAIGHT CARAPACE - LENGTH:

69.5 cm

NOTCH LENGTH:

7.5 cm

CURVED CARAPACE LENGTH:

9.8 cm

HEAD WIDTH:

N

PPS: YES OR NO OR NE

TAIL LENGTH: T

15

RIGHT FRONT FLAPPER WIDTH:

54.7 cm

PLASTRON LENGTH:

108

WEIGHT:

DESCRIPTIVE REMARKS:

Mouth: unremarkable

Right eye: white area to cornea
RH #2 (2) - 1 DX only
Mouth: unremarkable

Recovery
Hand

DATE FORM FILLED OUT 9/19/02 (12)

CAPTURE DATE, LOCATION AND METHOD:
9/19/02 White Rock Snorkel

PERSON RECORDING DATA: ARJUN C. GAWAI

NEW TAGS

TUMOR SCORE: 3 RH

ORAL TARS EXT. YES OR NO: RFL

EMACIATION CODE: 2

OLD TAGS: LH 1867

NEW TAGS: LH 424E2020D

ORAL TARS EXT. YES OR NO: RFL

EMACIATION CODE: 2

MT#

are pignose

STRAIGHT CARAPACE - LENGTH: 77 cm

NOTCH LENGTH: 77 cm

CURVED CARAPACE LENGTH: 82 cm

HEAD WIDTH: 10.9 cm

PPS: YES OR NO OR NE: N

TAIL LENGTH: T 35 cm

RIGHT FRONT FLIPPER WIDTH: cm

PLASTRON LENGTH: 58.8 cm

WEIGHT: 124 g

DESCRIPTIVE REMARKS:

WIDTH: 77 cm

DB: cm

LO: cm

VB: cm

WIDTH: 73.5 cm

AXIAL: 23.8 cm

LATERAL: 24.7 cm

SEX: Male, Female or Undetermined: M

SAMPLES COLLECTED:

Head ed V notch in LFL
RH #2 (2) Left eye #2 (2)
RH #2 (2) Left eye #2 (2)

DATE FORM FILLED OUT 9/19/02 (13)

CAPTURE DATE, LOCATION AND METHOD:
9/19/02 Federation net

PERSON RECORDING DATA: LANA

OLD TAGS: LH

TUMOR SCORE: 0

ORAL TARS EXT. YES OR NO: -

EMACIATION CODE: 0

MT#

NEW TAGS: RH

EMACIATION CODE: 0

MT#

LH-11765

4135662178

424E3C5713

STRAIGHT CARAPACE - LENGTH: 57.9 cm

NOTCH LENGTH: 57.7 cm

CURVED CARAPACE LENGTH: 80.9 cm

HEAD WIDTH: 8.9 cm

PPS: YES OR NO OR NE: N

TAIL LENGTH: T 12 cm

RIGHT FRONT FLIPPER WIDTH: cm

PLASTRON LENGTH: 46.9 cm

WEIGHT: 59 g

DESCRIPTIVE REMARKS:

WIDTH: 57.9 cm

DB: (61.5) cm

LO: cm

VB: cm

WIDTH: 52.5 cm

AXIAL: 23.7 cm

LATERAL: 23.7 cm

SEX: Male, Female or Undetermined: J

SAMPLES COLLECTED: C 8

Food in mouth - sample taken

Mouth Sample

(14) END OF
Kishua Day 4

DATE FILLED OUT 9/19/02
CAPTURE DATE, LOCATION AND METHOD:
9/19/02 FC LAWAI

PERSON RECORDING DATA:
500E0D7E67
LH-11766

TUMOR SCORE NO OLD TAGS: NONE

ORAL TISSUE EXT. YES OR NO YES NO

EMACIATION CODE 0

STRAIGHT CARAPACE - LENGTH: 53.5 cm

NOTCH LENGTH: 53.1 cm

CURVED CARAPACE LENGTH: 57.0 cm

HEAD WIDTH: 8.3 cm

PPS: YES OR NO OR NE YES

TAIL LENGTH: T 11.5 cm

DB: 0 L.O. 0

VB: 0 L.O. 0

AXIAL: 29.5 cm

SEX: Male, Female or Undetermined U

RIGHT FRONT FLIPPER WIDTH: — cm

PLASTRON LENGTH: 41.7 cm

WEIGHT: 450 lbs

DESCRIPTIVE REMARKS: mouth exam; algae

SAMPLES COLLECTED: mouth sample collected

DAY 5

DATE FORM FILLED OUT MOON ①

CAPTURE DATE, LOCATION AND METHOD:
9/20/02 White Rock LAWAI Hand Shovel

PERSON RECORDING DATA:
424D713A2B
LH-11767

TUMOR SCORE 0 OLD TAGS: NONE

ORAL TISSUE EXT. YES OR NO YES NO

EMACIATION CODE 0

STRAIGHT CARAPACE - LENGTH: 65.9 cm

NOTCH LENGTH: 65.2 cm

CURVED CARAPACE LENGTH: 71.5 cm

HEAD WIDTH: 9.4 cm

PPS: YES OR NO OR NE YES

TAIL LENGTH: T 13.5 cm

DB: 0 L.O. 0

VB: 0 L.O. 0

AXIAL: 26.5 cm

SEX: Male, Female or Undetermined U

RIGHT FRONT FLIPPER WIDTH: — cm

PLASTRON LENGTH: 54.8 cm

WEIGHT: 94 lbs

DESCRIPTIVE REMARKS: both Eyes anomalies

SAMPLES COLLECTED:

11761 - resighting

DATE FORM FILLED OUT 9/20/02
 CAPTURE DATE, LOCATION AND METHOD: 9/20/02 White Rock LANAI Snorkel
 PERSON RECORDING DATA: Beckye E.
 TUMOR SCORE: 0
 ORAL TARS EXT. YES OR NO: NO
 EMACIATION CODE: 0

OLD TAGS: LH-
 RH-
 LH-11768

STRAIGHT CARAPACE - LENGTH: 54.9 cm
 NOTCH LENGTH: 54.8 cm
 CURVED CARAPACE LENGTH: 59.5 cm
 HEAD WIDTH: 8.5 cm
 PFS: YES OR NO OR NE: YES
 TAIL LENGTH: T 9.5 cm

WIDTH: 44.1 cm
 DB: 0 L.O.
 WIDTH: 54.5 cm
 AXIAL: 23.0 cm
 SEX: Male, Female or Undetermined: U

RIGHT FRONT FLIPPER WIDTH:
 PLASTRON LENGTH: 44.8 cm
 WEIGHT: 51 lbs

DESCRIPTIVE REMARKS:

DATE FORM FILLED OUT 9/20/02
 CAPTURE DATE, LOCATION AND METHOD: 9/20/02 White Rock LANAI Snorkel
 PERSON RECORDING DATA: Beckye E.
 TUMOR SCORE: 0
 ORAL TARS EXT. YES OR NO: YES
 EMACIATION CODE: 0

OLD TAGS: LH-
 RH-
 LH-11768

STRAIGHT CARAPACE - LENGTH: 53.7 cm
 NOTCH LENGTH: 52.9 cm
 CURVED CARAPACE LENGTH: 58.5 cm
 HEAD WIDTH: 8.4 cm
 PFS: YES OR NO OR NE: YES
 TAIL LENGTH: T 10.5 cm

WIDTH: 44.0 cm
 DB: 0 L.O.
 WIDTH: 51.5 cm
 AXIAL: 22.0 cm
 SEX: Male, Female or Undetermined: U

RIGHT FRONT FLIPPER WIDTH:
 PLASTRON LENGTH: 43.8 cm
 WEIGHT: 52 lbs

DESCRIPTIVE REMARKS:

DATE FORM FILLED OUT 9/20/02 Joe H Hand
 CAPTURE DATE, LOCATION AND METHOD: 9/20/02 Whiteback Snorkel LAVA (4)
 PERSON RECORDING DATA: Becky F
 TUMOR SCORE: 0
 ORAL TUBES EXT: YES OR NO: -
 EMACIATION CODE: 0
 MTP#

OLD TAGS: LH
 423F463C7A
 424D12272F
 LH 11770

4136350035
 4136025202
 LH 11771

STRAIGHT CARAPACE - LENGTH: 60.9 cm
 NOTCH LENGTH: 60.5 cm
 CURVED CARAPACE LENGTH: 66.5 cm
 HEAD WIDTH: 9.6 cm
 PPS: YES OR NO OR NE: NO
 TAIL LENGTH: T 13.5 cm

WIDTH: 51.0 cm
 VB: 0 L.O.
 AXIAL: 28.2 cm
 LATERAL: 28.6 cm
 SEX: Male, Female or Undetermined: U

RIGHT FRONT FLAPPER WIDTH: - cm
 PLASTRON LENGTH: 49.3 cm
 WEIGHT: 92 lbs

SAMPLES COLLECTED:

DESCRIPTIVE REMARKS:

DATE FORM FILLED OUT 9/20/02 Joe H Hand
 CAPTURE DATE, LOCATION AND METHOD: 9/20/02 Whiteback Snorkel LAVA (4)
 PERSON RECORDING DATA: Becky F
 TUMOR SCORE: 0
 ORAL TUBES EXT: YES OR NO: -
 EMACIATION CODE: 0
 MTP#

OLD TAGS: LH
 423F463C7A
 424D12272F
 LH 11770

STRAIGHT CARAPACE - LENGTH: 55.7 cm
 NOTCH LENGTH: 55.5 cm
 CURVED CARAPACE LENGTH: 60.0 cm
 HEAD WIDTH: 8.8 cm
 PPS: YES OR NO OR NE: YES
 TAIL LENGTH: T 11.0 cm

WIDTH: 44.0 cm
 VB: 0 L.O.
 AXIAL: 23.5 cm
 LATERAL: 23.4 cm
 SEX: Male, Female or Undetermined: U

RIGHT FRONT FLAPPER WIDTH: - cm
 PLASTRON LENGTH: 45.5 cm
 WEIGHT: 56 lbs

SAMPLES COLLECTED:

DESCRIPTIVE REMARKS:

END DAY 58

DATE FORM FILLED OUT 9/20/02 *Loeffli* CAPTURE DATE, LOCATION AND METHOD: *Hand snorkel LAWA1*

PERSON RECORDING DATA: *Beckye* LH
 TUNOR SCORE OLD TAGS:
 ORAL TMS EXT: YES OR NO
 EMACIATION CODE MTP#

5019257105
 500F2E6B20
 LH 11773

STRAIGHT CARAPACE - LENGTH: 74.2 cm WIDTH: 58.9 cm
 NOTCH LENGTH: 73.6 cm DB: \emptyset L.O. VB: \emptyset L.O.
 CURVED CARAPACE LENGTH: 81.5 cm WIDTH: 75.5 cm
 HEAD WIDTH: 11.3 cm AXIAL: 32.9 cm LATERAL: 33.1 cm
 PFS: YES OR NO OR NE YES SEX: Male, Female or Undetermined U
 TAIL LENGTH: T 21.0 cm C 14.5 cm SAMPLES COLLECTED:
 RIGHT FRONT FLAPPER WIDTH: 1 cm
 PLASTRON LENGTH: 58.7 cm
 WEIGHT: ~~151 lbs~~
 DESCRIPTIVE REMARKS:

Hand snorkel LAWA1

DATE FORM FILLED OUT 9/20/02 *Loe* CAPTURE DATE, LOCATION AND METHOD: *Hand snorkel LAWA1*

PERSON RECORDING DATA: *Beckye* LH
 TUNOR SCORE OLD TAGS:
 ORAL TMS EXT: YES OR NO
 EMACIATION CODE MTP#

5031420D2D
 41362C3B36
 LH 11772

STRAIGHT CARAPACE - LENGTH: 64.1 cm WIDTH: 48.6 cm
 NOTCH LENGTH: 63.8 cm DB: \emptyset L.O. VB: \emptyset L.O.
 CURVED CARAPACE LENGTH: 70.0 cm WIDTH: 62.0 cm
 HEAD WIDTH: 9.4 cm AXIAL: 26.7 cm LATERAL: 27.1 cm
 PFS: YES OR NO OR NE NO SEX: Male, Female or Undetermined U
 TAIL LENGTH: T 14.5 cm C 9.5 cm SAMPLES COLLECTED:
 RIGHT FRONT FLAPPER WIDTH: 1 cm
 PLASTRON LENGTH: 51.7 cm
 WEIGHT: 82 lbs
 DESCRIPTIVE REMARKS:

Hand snorkel LAWA1

(START) GPS = 154.87349
20.89455

DATE FORM FILLED OUT: / /

CAPTURE DATE, LOCATION AND METHOD:

1/31/03 White Rock, Lanai Hand/Snorkel

PERSON RECORDING DATA: SMC

TUMOR SCORE:

ORAL TUBES EXT. YES OR NO:

EMACIATION CODE:

NEW TAGS: 442F041057
442F183F28

STRAIGHT CARAPACE - LENGTH: 44.5 cm

NOTCH LENGTH: 44.0 cm

CURVED CARAPACE LENGTH: 47.5 cm

HEAD WIDTH: 17.9 cm

PFS: YES OR NO OR NE:

TAIL LENGTH: T 9.0 cm

RIGHT FRONT FLIPPER WIDTH: 36.2 cm

PLASTRON LENGTH: 36.2 cm

WEIGHT: - g

DESCRIPTIVE REMARKS: Glucose = 77
Picture #2

WIDTH: 38.7 cm

DB:

WIDTH: 41.0 cm

AXIAL: 17.9 cm

SEX: Male, Female or Undetermined: U

SAMPLES COLLECTED: Stomach
Flush by KA

Q8276

Codium

Ziploc bag of fuzzy algae and acaerthophora in 2' water collected by GBS & KA

DATE FORM FILLED OUT: / /

CAPTURE DATE, LOCATION AND METHOD:

1/31/03 White Rock, Lanai Hand/Snorkel

PERSON RECORDING DATA: SMC

TUMOR SCORE:

ORAL TUBES EXT. YES OR NO:

EMACIATION CODE:

NEW TAGS: 442C4E1E7D
442F0E2139

STRAIGHT CARAPACE - LENGTH: 59.0 cm

NOTCH LENGTH: 58.9 cm

CURVED CARAPACE LENGTH: 63.5 cm

HEAD WIDTH: 25.7 cm

PFS: YES OR NO OR NE:

TAIL LENGTH: T 14.0 cm

RIGHT FRONT FLIPPER WIDTH: 47.6 cm

PLASTRON LENGTH: 47.6 cm

WEIGHT: - g

DESCRIPTIVE REMARKS: Jelly-slime in mouth
Glucose = 67

WIDTH: 47.4 cm

DB:

WIDTH: 57.0 cm

AXIAL: 25.7 cm

SEX: Male, Female or Undetermined: U

SAMPLES COLLECTED: Stomach
Flush by KA

Q8260

Jelly-slime in mouth
Glucose = 67

DATE FORM FILLED OUT

CAPTURE DATE, LOCATION AND METHOD:

1/31/03 White Rock, Lanai Hand Snorkel

PERSON RECORDING DATA: SME

TUMOR SCORE

OLD TAGS: RHC

42372A5461

ORAL TMS EXT:

YES OR NO

LHC

42395F5F13

EMACIATION CODE

MTA

STRAIGHT CARAPACE - LENGTH: 44.8 cm

NOTCH LENGTH: 44.8 cm

DB: 0 L.O.

VB: 0 L.O.

CURVED CARAPACE LENGTH: 48.0 cm

WIDTH: 48.0 cm

WIDTH: 43.0 cm

HEAD WIDTH: 17.4 cm

AXIAL: 17.4 cm

LATERAL: 17.5 cm

PPS: YES OR NO OR NE

NO

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T 9.0 cm

C 10.0 cm

RIGHT FRONT FLIPPER WIDTH: 35.6 cm

PLASTRON LENGTH: 35.6 cm

WEIGHT: -

SAMPLES COLLECTED: Stomach

flush by KA

Q8267

DESCRIPTIVE REMARKS

Lg quantity w. 4 few pumps

Carapace is hairy (Carapace = 77)

DATE FORM FILLED OUT

CAPTURE DATE, LOCATION AND METHOD:

1/31/03 White Rock, Lanai Hand Snorkel

PERSON RECORDING DATA: SME

TUMOR SCORE

OLD TAGS: RHC

4232564652

ORAL TMS EXT:

YES OR NO

LHC

422F0E1C69

EMACIATION CODE

MTA

STRAIGHT CARAPACE - LENGTH: 58.2 cm

NOTCH LENGTH: 57.7 cm

DB: 0 L.O.

VB: 0 L.O.

CURVED CARAPACE LENGTH: 62.0 cm

WIDTH: 62.0 cm

WIDTH: 56.0 cm

HEAD WIDTH: 23.4 cm

AXIAL: 23.4 cm

LATERAL: 23.6 cm

PPS: YES OR NO OR NE

NO

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T 13.0 cm

C 8.0 cm

RIGHT FRONT FLIPPER WIDTH: 47.3 cm

PLASTRON LENGTH: 47.3 cm

WEIGHT: -

SAMPLES COLLECTED: Stomach

flush by KA

QA8204

DESCRIPTIVE REMARKS

Acanthopora

Carapace = 65 (Taste Test by GHD and AM on AM Pumps)





Continued from page 100

(5)

103

1/31/03

White Rock, Lanai

Hand/Snorkel

TS = \emptyset

New Tags = RHP

442F79783E

ES = \emptyset

LHP

442F034E47

SCL = 50.9

SCW = 39.5

Notch = 50.7

DB = \emptyset VB = \emptyset

CCL = 53.5

CCW = 46.5

PPS = yes

Axial = 20.5 Lateral = 20.6

Tail T = 10.5

C = 7.5

Plastron = 41.2

Samples = Stomach flush by KA - QA² \emptyset 3

Glucose = 65

(6)

1/31/03

White Rock, Lanai

Hand/Snorkel

TS = \emptyset

New Tags =

RHP

442C646A44

ES = \emptyset

LHP

442D004D54

SCL = 61.3

SCW = 48.5

Notch = 60.9

DB = \emptyset VB = \oplus

CCL = 66.0

CCW = 60.0

PPS = yes

Axial = 26.7 Lateral = 27.1

Tail T = 12.0

C = 8.0

Plastron = 49.6

Samples = Stomach flush by KA - QA \emptyset 2 \emptyset 1

Glucose = 64

Mouth stained black
Removed STRANGE filaments from mouth, saved in formalin - in cryovial.

(2)

2001 3 25



is located in Hawaii

1/31/03

⑦

White Rock, Lanai

Hard / Siorkel

TS = ϕ
ES = ϕ

Tags = RHF

442D021451



442E21320B



LHF

SCL = 48.9

SCW = 39.7

Notch = 48.6

DB = ϕ VB = ϕ CCL = 52 ϕ

CCW = 45.5

PPS = Yes

Axial = 19.0 Lateral = 19.1

Tail = T = 11. ϕ

C = 7.5

Plastron = 38.9

Samples = Stomach flush by KA - QAB202

⑧

1/31/03

Federation Camp, Lanai
End of Road

Scoop net

TS = ϕ

Tags = RHF

44336F1B24



442E26374D



LHF

SCL = ~~48.9~~ 50.3

SCW = 40.4

Notch = 49.9

DB = ϕ VB = ϕ

CCL = 53.5

CCW = 47.0

PPS = No

Axial = 20.9 Lateral = 21.1

Tail T = 10.0

C = 6.5

Plastron = 40.1

Samples = Stomach flush by KA - QAS205

①



GPS N 20° 54.748
W 156° 53.717

(9)

1/31/03 Federation Camp, Lanai Scoop net
End of Road

TS = \emptyset
ES = \emptyset

RHF
Tags =
LHF

442D592405
442D05704E

SCL = 74.8
Notch = 74.5
CCL = 81.5
PPS = No

SCW = 58.4
DB = \emptyset VB = \emptyset
CCW = 74.0

Tail T = 17.0
C = 11.0

Axial = 32.8 Lateral = 32.7
Plastron = 59.0

~~Stom~~ Samples = Stomach flush by KA - QAB207
Food in mouth
Acanthopleura

(10)

1/31/03 Federation Camp, Lanai Scoop net
East end

TS = \emptyset
ES = \emptyset

RFF
Tags =
LFF

442D71672B
442F18664A

SCL = 69.0
Notch = 68.9
CCL = 75.0
PPS = No

SCW = 54.2
DB = \emptyset VB = \emptyset
CCW = 69.0

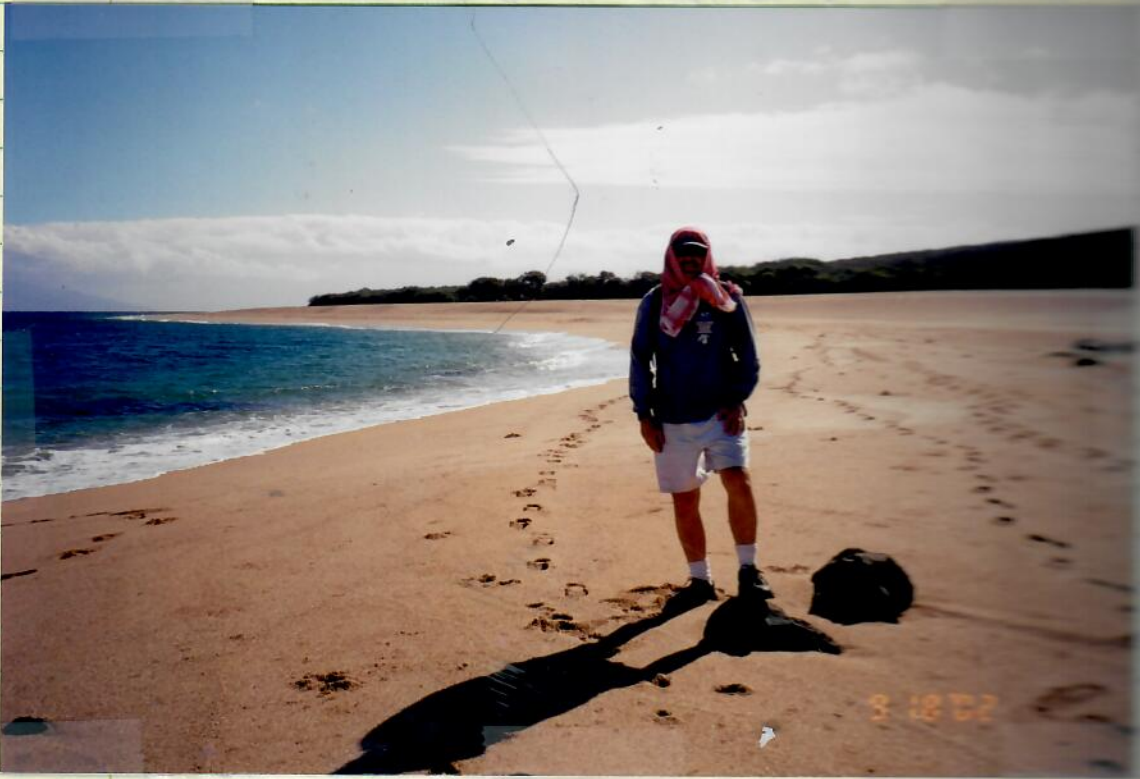
Tail T = 15.5
C = 11.5

Axial = 31.2 Lateral = 31.5
Plastron = 55.9

END of
1/31/03

Samples = Stomach flush by KA - QAB206
Food in mouth
melanomura
Healed indentation^{anterior} edge of LFF

(P)





SCHOOL REPORT

Hawaii Prep students conduct health assessment on

Hawaiian green sea turtles living off the east coast of Lanai appear to be healthy and well fed, according to Marc Rice, director of the Hawaii Preparatory Academy Sea Turtle Research Program.

Recently, Rice and George Balazs, leader of the Hawaiian Marine Turtle Research for the National Marine Fisheries Service (NMFS), Honolulu Laboratory, led a team of five HPA students to capture, measure, weigh, and conduct health assessments on Lanai turtles.

HPA student assistants were Rebecca Emory, Liz Evans, Brenden Lavender, Jill Quaintance, and Nick Quaintance.

HPA alumni graduates Arjun Clary and Mike Coelho, enforcement officer for the Hawaii Department of Land and Natural Resources (DLNR), supported the group.

This was the first time since 1992 that the NMFS examined the Lanai turtles.

The team spent a week working the outer shallows near White Rock and at Federation Camp, located a few miles to the north.

"We swam out about 300-400 yards to capture turtles and then transported them back to shore on tubes for measuring, weighing and health assessment," said Rice.

"We captured 48 turtles with four of those being recaptures of turtles that were tagged in 1992.

"We saw only one case of fibropapilloma tumors, which was marvelous.

"The rate of infection was much higher during earlier expeditions."

Fibropapillomatosis is characterized by external and internal fibrous, non-cancerous tumors that

can cause blindness, difficulty breathing, and increased susceptibility to entanglement, parasites and other diseases.

Although Rice noted it is dangerous to declare any health trends based on this small sample, the results are encouraging.

Team members also walked the more than three-mile length of Polihua Beach to check for any signs of turtle nesting.

"This had been reported as an important nesting beach in historic times," said Rice.

"If it was indeed a nesting beach," he said.

"We found that it doesn't appear to be one now."

After work, the students visited several historic sites, including the Luahiwa petroglyph field and Kaunolu Bay in southwest Lanai.

The group also saw Kahikili Leap, the world-famous cliff diving site and location of the recent Red Bull World Championship Cliff Diving Competition.

HPA student participation in this study was made possible through a unique partnership with the NMFS.

Since 1987, students in the school's marine science program have worked with NMFS on a turtle research and monitoring project in West Hawaii.

The work has grown over the years in scope, magnitude, and importance to overall species conservation.

"Our students did a great job and the people on Lanai were extremely helpful and friendly," said Rice.

"It was a great trip and we will probably return for a follow up in about six months."

Lanai's Hawaiian green sea turtles



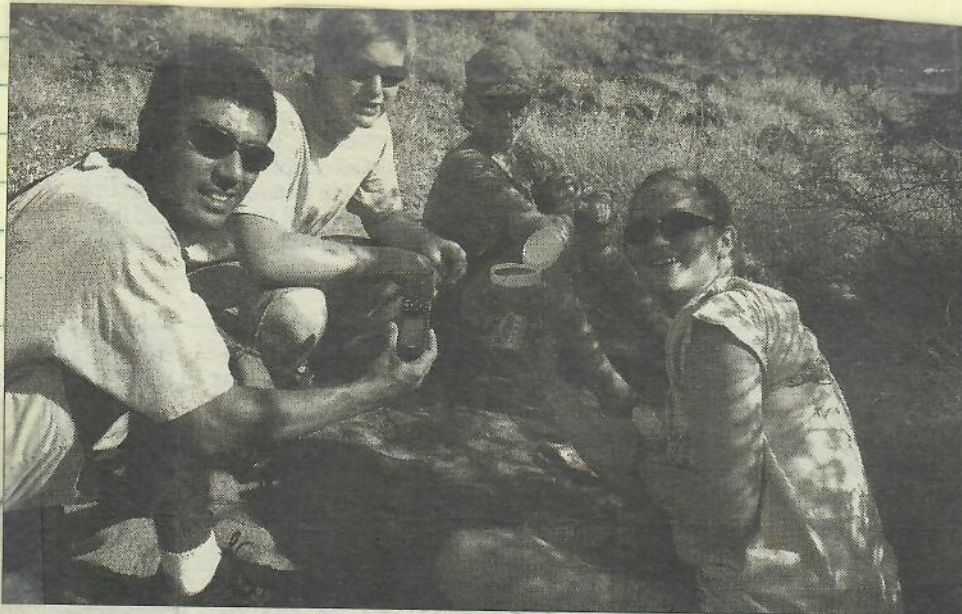


PHOTO BY MARC RICE

Learning how to "geocache" on Lanai, HPA students (left to right) Arjun Clary, Nick Quaintance, Brenden Lavender, and Jill Quaintance show their tools.



PHOTO BY MARC RICE

Members of the Lanai team captured, measured, tagged, and released two green turtles at Federation Camp in East Lanai. Pictured left to right: Jill Quaintance, Rebecca Emory, Brenden Lavender, George Balazs, Nick Quaintance, Arjun Clary, Marc Rice, and Liz Evans.



additional 100 g.

Dear George,

9/03

How can I ever thank you for all the time, energy, effort, money & behind the scenes planning you have put in to facilitate my sampling in Hawaii? I really appreciate everything you have done to help me & only hope that together we can take one small step in the understanding of your beautiful home. Thank you for showing me your stunning island & for introducing me to all of your enthusiastic team and especially for all that you have taught me. I truly value our friendship.

Yours, Karen

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1971. Hawaiian dictionary. Univ. Press Hawaii, Honolulu, 402 p. + additional 188 p.

- In 1971, a turtle was seen right at the water's edge at Polihua.
- On November 23, 1977 at 1000, two large green turtles were seen mating in the sea off Lashi Point, on the northeastern shore of Lanai (Fig. 1).
- On July 31, 1981 at 1300, two "very large turtles" were seen at Polihua "20-30 yards up the beach" near some boulders. No eggs were seen. The observer tried to turn the turtles over, but they proved to be too heavy. "Lots of turtles" were seen offshore. No signs of turtle tracks or digging could be found when the site was revisited several days later. This, again, may have been due to the effects of windblown sand. It should be noted that the basking behavior previously mentioned almost always occurs on shore within a few yards of the water, and never 20-30 yards inland.
- In the spring of 1983, a large turtle was seen during the early morning hours returning to the water at the west end of Polihua. The turtle's tracks were traced up the beach and led to a mass of sand (presumably a nesting site). The area was left unaltered by the observer. A subsequent report indicated that a helicopter service from Maui used this same area of the beach to land passengers. The person who communicated the above information stated he is "convinced" that turtles are again nesting on Lanai.
- During early August of 1983, a large turtle was seen during the daytime in the intertidal shoreline at Awaiua, about 2 miles east of Polihua. The observer left the site to tell a nearby companion, but the turtle was gone when they returned.

COASTAL FORAGING PASTURES

Rich coastal foraging pastures for green turtles are believed to occur along the northern and northeastern shores of Lanai. Gay (1962) mentioned that when he lived on Lanai, "turtles were plentiful along the windward side of the island." As quoted earlier, Kahaulelio (1962) said that: "...if one speared them at Polihua one caught several times that of them."

During the 1960's and early 1970's, green turtles were extensively captured off Lanai for commercial markets on Maui. Persons involved in this fishery commuted in small boats between Maui and the nearby coastal areas of Lanai. In 1968, a fisherman wrote on his monthly commercial catch report: "This area in 1948-1950 I used to catch at least 100 in 4 to 5 days fishing--for some reason there are no turtles there now."

Major algal food sources used by green turtles in Lanai's foraging pastures consist of Amansia glomerata, Acanthophora spicifera, and Sargassum polyphyllum (sometimes called "limu hono"). The sea grass, Halophila hawaiiiana, has also been identified from the stomach of a 60.3-kg adult female green turtle speared by a fisherman in November 1978. This

to be one of the largest of its kind on Lanai. Emory (1924) was unable to determine a name for the heiau since no one had lived in this region of the island for many years.

A series of Hawaiian newspaper articles by Kahaulelio (1902), later translated into English by Mary K. Pukui, contain information about Polihua from the mid- to late-1800's, following abolition of the Hawaiian "kapu system." The relevant sections of the Kahaulelio (1902) account are as follows:

"Polihua at Lanai was a very famous place for turtle catching. The natives catch them on the sand shore if they need meat. Strangers do too, when they want to visit and see for themselves and if they wanted some to eat. It was a good thing to see this famous fish of the birthplace of my beloved mother who has preceded us yonder when your writer was but a wee child. This was the fish that Pahulu asked the gods not to allow it to have any irritation in its flipper or tail. ... Yes, when you get to Polihua to catch turtles, you need all your strength. It is done thus--go to Polihua in the evening and sleep there and in the early morning, in the twilight, draw close to the edge of the clumps of grass adjoining the sands and there you will see large female turtles returning to the sea. Run as fast as you can to reach a turtle, step with your left foot on the left flipper of the turtle and turn the turtle over with your hands with all your might. If you succeed in turning it over, you are going to eat some turtle meat but if you fail, you'll find yourself in the sea. Your writer has been accustomed as he went to sea frequently to seeing turtles gathered close to the reef. At the time that you see the turtles coming up to breathe, paddle softly until you are very close. The turtle will dive downward and then you'll distinguish it clearly. Dive down and catch it, turn it over as quickly as possible and it becomes very light and easy to land on the canoe. This seems to be the method used by most of the people who relish the greenish luau meat in a turtle. Still the easiest way to catch a turtle is by spearing it and if one speared them at Polihua one caught several times four of them."

A description of turtles at Polihua is also given in Gay (1965) for the early 1900's. Gay (1965) states: "Polihua is located near Kaena Point on the northwest coast of Lanai. It was there that the turtles laid their eggs in the sand above the high-water mark. I have seen turtles that weighed in excess of five hundred pounds on this beach and were capable of carrying three medium-sized persons."

VERIFICATION OF SPECIES

It is important to confirm that the species nesting at Polihua was the green turtle, since this is not clearly stated in the historical literature cited above. Evidence for the green turtle includes the chant quoted by Tabrah (1976) and proverb by Pukui (1983) referring to "honu" (the green turtle) as opposed to honu'ea, the hawksbill (Pukui and Elbert 1971). In

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Southwest Fisheries Center Administrative Report 8-84-13

INTRODUCTION

The only site in the main Hawaiian Islands with a well-documented history of nesting sea turtles is Polihua, a mile-long white sand beach on the northern shore of Lanai (Fig. 1). This is also the only location where the traditional Hawaiian place name is descriptive of eggs on a beach (Poli-hua, literally "eggs in bosom," Pukui et al. 1976). The available information suggests that Polihua was an important breeding site for the Hawaiian green turtle, *Chelonia mydas*, until the late 1800's or early 1900's. At present, very little nesting has been reported there or anywhere else in the main Hawaiian Islands. Most of the extant nesting of green turtles in Hawaii takes place at French Frigate Shoals, 200 miles to the northwest of Kauai (Fig. 1). Green turtles seasonally migrate to this small isolated site from resident coastal foraging pastures throughout the Hawaiian Archipelago (Balazs 1980). Before 1786, French Frigate Shoals appears to have been unknown, and therefore unexploited, by the people of Hawaii. The area is currently protected as a National Wildlife Refuge. The hawksbill, *Eretmochelys imbricata*, is a second species of sea turtle that nests in the Hawaiian Islands, but solely in the main islands in small numbers on a few volcanic black sand beaches (Balazs 1976).

There are no reports summarizing the existing knowledge about Polihua and sea turtles, although the significance of the beach has been pointed out in recent publications (Balazs 1975, 1980). In view of the protected status of sea turtles under the U.S. Endangered Species Act, a synthesis of historical information about Polihua and the adjacent coastline of northern Lanai may be helpful to the recovery of the Hawaiian stock. For example, Polihua could prove to be one of the best places in Hawaii to do experimental restocking of green turtles aimed at reestablishing a nesting colony.

REVIEW OF HISTORICAL LITERATURE

Hawaiian folklore relates that Polihua played a key role in the arrival of sea turtles to Hawaiian waters. Beckwith (1876) tells the legend of Aiai, the fish demigod, "marking" a stone at Kaena, the northwestern point of Lanai (Fig. 1). This stone then turned into the first Hawaiian sea turtle, thereby explaining why turtles came to nest at Polihua to lay their eggs (see also Pukui et al. 1976). Tahara (1976) lists part of an ancient Hawaiian chant as "Ua ono o Polihua i ka honu o Polihua," which is translated as "Delighted, the Five Goddesses feast on flesh of turtles from Egg-nest Cape." The lines of this chant are said to "...celebrate the fame of the turtles who lay their eggs at that point of the coast called Polihua" (see also Emerson 1911, November 1919-1920; Emory 1924). Pukui (1983) records the Hawaiian proverb "Ua ono ne'e o Polihua," translated as "The moving turtles of Polihua."

Emory (1924) describes two archaeological sites on the east side of Polihua Valley that are believed to be fishermen's stoves (kaala). Except for their proximity to the beach and ocean, no direct evidence was given to relate either of these stone structures to sea turtles. At Kaena-ka, just south of Kaena, Emory (1924) lists a religious stone platform (kaala) with

addition, Kahaulelio (1902) and Gay (1965) mentioned the large size of the turtles at Polihua. This description is consistent with the known size of the adult green turtle, but not the smaller adult hawksbill. Kahaulelio (1902) also said that the turtles at Polihua were captured for food, a practice not usually carried out in Hawaii with the hawksbill since this species was considered poisonous (Malo 1951).

REVIEW OF UNPUBLISHED INFORMATION

Since 1972, I was able to gather various unpublished material about Polihua through personal correspondence and interviews with several longtime residents of Lanai. The names of these informants are kept anonymous herein to help insure a continuing flow of information, and also, because some aspects may be culturally sensitive. The individuals involved include native Hawaiians, as well as other reliable members of the Lanai community. The following information comes from these sources.

The stone image of a "turtle god" is reported to be at Polihua. At one time, the exact location was known by at least one elderly person, but windblown sand has apparently covered up the stone. Efforts have been made to locate the stone in recent years since shifting sand may periodically expose it. The success of these efforts is unknown. There are also reports of a turtle petroglyph located at Polihua, on or near a rocky point at the east end of the beach. Sand was also reported to shift back and forth over this site. It is possible that the stone "turtle god" and the turtle petroglyph are, in fact, one and the same. However, stone "fish gods" (kuula) in the Hawaiian culture usually consisted of a smooth upright movable stone. In contrast, petroglyphs were mostly inscribed on large boulders or other stationary rock. Two of the best known Hawaiian petroglyphs depicting sea turtles appear on a boulder at Luahiwa in the interior of Lanai (Emory 1924).

Two persons recalled from memory the catching of turtles on Polihua Beach during the 1920's. The sharp decline in nesting during subsequent years has been attributed to the construction of roads and resulting traffic to the north shore. A dirt road now leads directly to Polihua. Other possible adverse factors to nesting, which have also been speculated upon, include changes in coastal vegetation and heavy erosion at higher elevations (Balazs 1975).

Known or attempted nesting during recent years are listed below. It is possible that some of these reports involve turtles hauled out to bask, rather than to nest. Terrestrial basking is common in the Northwestern Hawaiian Islands, especially at French Frigate Shoals, but rare in the main islands of Hawaii and most other areas of the world (Whittow and Balazs 1982).

- In 1954, a "turtle eggs nest" was reportedly seen at Polihua "behind a large sand dune near a keawe tree."
- In 1968, a turtle was seen "up on a north shore beach."

same animal was found to have large pieces of black and white plastic bag packed throughout its intestines (Balazs 1980).

On October 28, 1982, divers from Molokai visited Lanai on Lanai's northern shore (Fig. 1). An aggregation of green turtles was seen in about 6 m of water just west of a prominent ferrocement structure. One of the turtles, a 56.5 cm juvenile, was captured by hand while it was sheltered under a ledge. The turtle was double tagged (No. 4288, 4278) and released.

The coastal foraging pastures of northern Lanai appear to be an attractive habitat for the recruitment of young green turtles. For example, a 9-month old, 33-cm green turtle reared in captivity and released in 1974 off Oahu was speared 11 months later off northern Lanai. It was found with a group of other similar sized turtles. When the fishermen came into view, all of the turtles fled except the captive-reared one (Balazs 1980).

RECOMMENDATIONS

No systematic surveys have been undertaken to ascertain the present status of sea turtles on the beach or in nearshore habitat of Lanai and the adjacent coastline. The effect of shifting sands from normally westerly tradewinds may be masking a greater level of nesting than is now being reported from chance sightings. Periodic nighttime searches by a trained observer need to be made from May through August to accurately quantify nesting activity. A series of scuba diving surveys should be carried out to gain a better understanding of the distribution and numbers of turtles dependent upon northern Lanai's nearshore habitat.

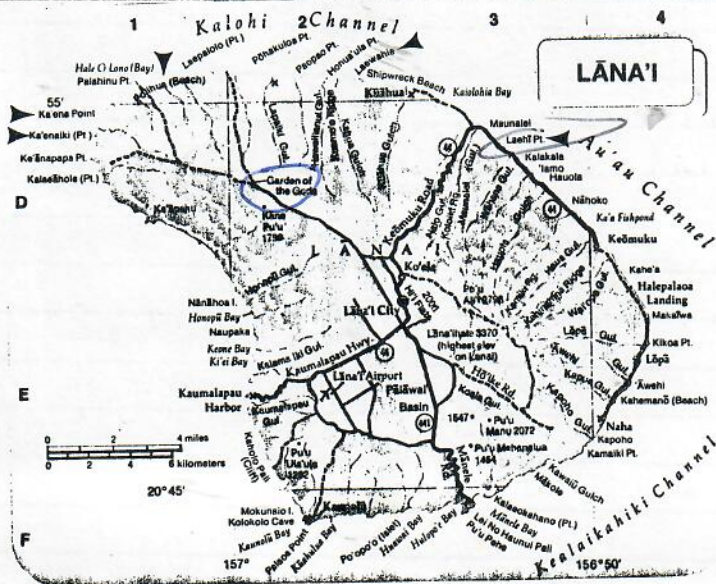
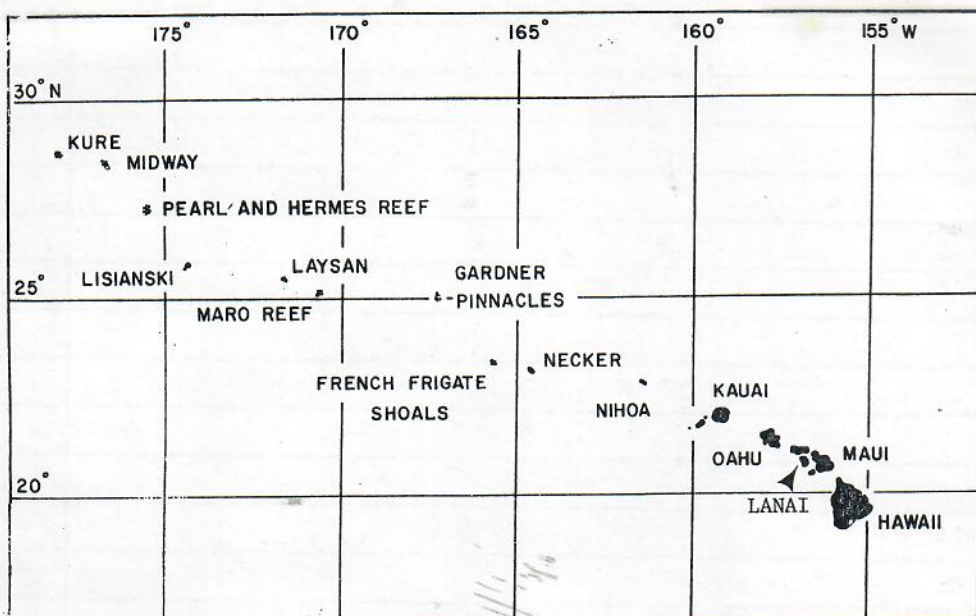


Figure 1.--The Hawaiian Archipelago and an enlarged inset of Lanai (Armstrong 1973).

Pukui, M. K., S. H. Elbert, and E. T. Mookini.

1976. Place names of Hawaii. Univ. Hawaii Press, Honolulu, 289 p.

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Pac. Sci. 36(2):129-139.

¹Bill Puleloa, Division of Aquatic Resources, Department of Land and Natural Resources, State of Hawaii, Kaunakakai, Molokai, pers. commun., 1982.



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Beach at White Rock
with fecal pellets



INN

Family Affair

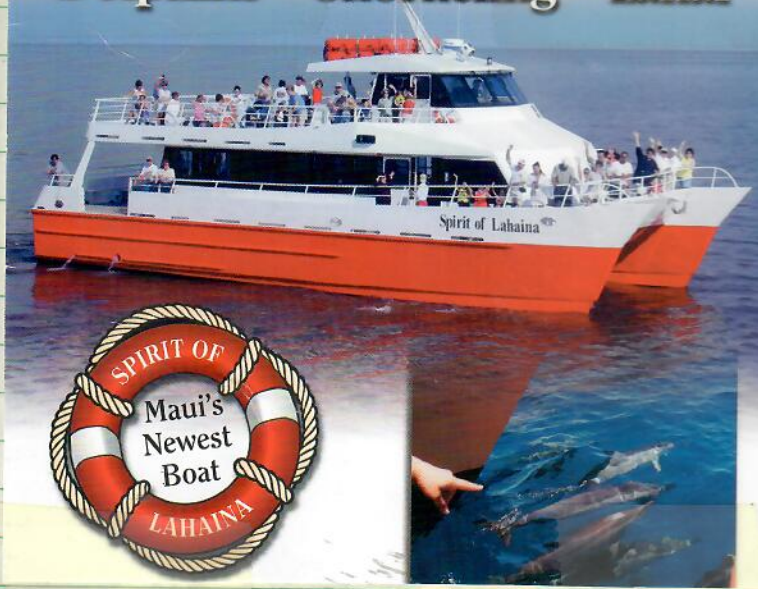
Built in 1923 as a retreat for Duke University executives and guests, Hotel Lānaʻi is heavy on soulful character and charm. Gleaming hardwood floors, vaulted ceilings, ceiling fans, and hand-crafted quilts and pillows all contribute to a pampering feel, as does the veranda that connects the 10 hotel rooms in two wings. Perched under towering Cook Pine on the coast of Lānaʻi City, this country inn was completely renovated in the early '90s and then put up for sale.

Enter Chef Henry Clay Richardson and family. In 1996, the Richardsons moved from Maui with their four children to take over this historic landmark. Not long after, Clay's parents and his brother and sister-in-law flew in from Louisiana to make it a true family business.

The shining star of the inn is Henry Clay's Rotisserie, to which chef Dennis brought a unique Cajun flair: a deep-customized rotisserie to enhance local specialties as Ragin' Cajun Shrimp and Roasted Loin of Venison. The generous portioned entrées average \$22, and the granite bar and outdoor patio are perfect for talking story with friends.

Room rates average \$100 per night. For reservations, call (800) 761-7222 or visit hotellana.com.

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Lahaina Harbor, Maui:

(public loading dock in front of Pioneer Inn)

6:45 am 9:15 am 12:45 pm 3:15 pm 5:45 pm

Manele Harbor, Lana'i:

8:00 am 10:30 am 2:00 pm 4:30 pm 6:45 pm

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Flood channel causes concern for Lanai beach

By Gary T. Kubota
gkubota@starbulletin.com

WAILUKU >> A group of Lanai residents say they are worried about the potential impact of flooding on the Manele-Hulopoe Marine Life Conservation District.

Ron McOmber, a spokesman for Lanaians for Sensible Growth, said a channel was cut into a portion of Hulopoe beach

by floodwaters in January and this month, allowing considerable ponding in the area and runoff into the ocean.

The Hulopoe shoreline near the Manele Bay Hotel is the main beach used by residents and visitors on Lanai.

The beach park is owned by Castle & Cooke Resorts LLC. As part of its county permit, Castle & Cooke allows the public to use the park and is responsible

for maintaining it. "I want to know how they're going to clean it up," McOmber said.

Jason Koga, a state land district agent, said the company is seeking emergency authorization to fill in the channel because it poses a hazard to beachgoers. Koga said state Department of Land & Natural Resources officials will have to review the request.

Company spokeswoman

Sweetie Nelson said most of the beach is in good shape and that the bay is already clear of the runoff.

Nelson said the area experienced 10 to 12 inches of rain in three days earlier this month — an unusual amount for that area of the island.

Residents said the current channel is in the vicinity of a former channel that was filled in by the company.

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SCHOOL REPORT

Hawaii Prep students conduct health assessment on Lanai's Hawaiian green sea turtles

Hawaiian green sea turtles living off the east coast of Lanai appear to be healthy and well fed, according to Marc Rice, director of the Hawaii Preparatory Academy Sea Turtle Research Program.

Recently, Rice and George Balazs, leader of the Hawaiian Marine Turtle Research for the National Marine Fisheries Service (NMFS), Honolulu Laboratory, led a team of five HPA students to capture, measure, weigh, and conduct health assessments on Lanai turtles.

HPA student assistants were Rebecca Emory, Liz Evans, Brenden Lavender, Jill Quaintance, and Nick Quaintance.

HPA alumni graduates Arjun Clary and Mike Coelho, enforcement officer for the Hawaii Department of Land and Natural Resources (DLNR), supported the group.

This was the first time since 1992 that the NMFS examined the Lanai turtles.

The team spent a week working the outer shallows near White Rock and at Federation Camp, located a few miles to the north.

"We swam out about 300-400 yards to capture turtles and then transported them back to shore on tubes for measuring, weighing and health assessment," said Rice.

"We captured 48 turtles with four of those being recaptures of turtles that were tagged in 1992.

"We saw only one case of fibropapilloma tumors, which was marvelous.

"The rate of infection was much higher during earlier expeditions."

Fibropapillomatosis is characterized by external and internal fibrous, non-cancerous tumors that

can cause blindness, difficulty breathing, and increased susceptibility to entanglement, parasites and other diseases.

Although Rice noted it is dangerous to declare any health trends based on this small sample, the results are encouraging.

Team members also walked the more than three-mile length of Polihua Beach to check for any signs of turtle nesting.

"This had been reported as an important nesting beach in historic times," said Rice.

"If it was indeed a nesting beach," he said.

"We found that it doesn't appear to be one now."

After work, the students visited several historic sites, including the Luahiwa petroglyph field and Kaunolu Bay in southwest Lanai.

The group also saw Kahikili Leap, the world-famous cliff diving site and location of the recent Red Bull World Championship Cliff Diving Competition.

HPA student participation in this study was made possible through a unique partnership with the NMFS.

Since 1987, students in the school's marine science program have worked with NMFS on a turtle research and monitoring project in West Hawaii.

The work has grown over the years in scope, magnitude, and importance to overall species conservation.

"Our students did a great job and the people on Lanai were extremely helpful and friendly," said Rice.

"It was a great trip and we will probably return for a follow up in about six months."

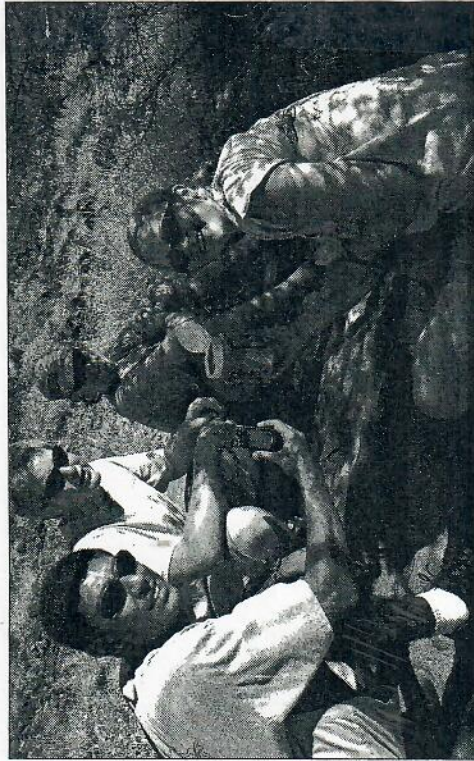


PHOTO BY MARC RICE
Learning how to "geocache" on Lanai, HPA students (left to right) Arjun Clary, Nick Quaintance, Brenden Lavender, and Jill Quaintance show their tools.



PHOTO BY MARC RICE

Members of the Lanai team captured, measured, tagged, and released two green turtles at Federation Camp in East Lanai. Pictured left to right: Jill Quaintance, Rebecca Emory, Brenden Lavender, George Balazs, Nick Quaintance, Arjun Clary, Marc Rice, and Liz Evans.

Synopsis

A beached green sea turtle was discovered on the beach at Kaiolohia, Lanai on 11-25-98 at 1515 by the undersigned. The turtle measured 74 cm curve length, showed no visible wounds, injuries or tumors. As there were no tracks around the turtle, it probably came ashore at the previous high tide (about 0900). The turtle was tagged with NMFS tags V-410 (right front flipper) and V-411 (left front flipper). About 5 minutes after being tagged it returned to the water and swam to a nearby shallow reef where I last saw it.

Tagging information to be forwarded to George Balaz, NMFS.

DISPOSITION: Records

22. REPORT WRITTEN BY <i>[Signature]</i>		Badge No. 12	Date/Time 11-27-98/1600	23. SUPERVISOR APPROVING	Badge No.
24. DISPOSITION <input type="checkbox"/> Unfounded <input type="checkbox"/> Arrested/No Prosecution		<input type="checkbox"/> Citation/No. <input type="checkbox"/> Adult	<input type="checkbox"/> Arrested/Prosecuted <input type="checkbox"/> Juvenile	<input checked="" type="checkbox"/> Other/No Arrest <i>records</i>	
25. Date/Time Reproduced		26. Distribution		27. Connecting Report No.	

Seawords, August 2001

Maritime Archaeology on Lana'i

by Brian Richardson

On Friday, July 13th, students from this summer's Lana'i Island Shipwreck Expedition, otherwise known as the Maritime Archaeology Techniques course (ANTH 668 / OEST 668), met in the Marine Science Building to present the results of their work.

The Maritime Archaeology Techniques course, which is a flagship course for the UH Maritime Archaeology and History Graduate Certificate Program, was once again taught by Hans Van Tilburg, a graduate student with the history department at UH, a frequent lecturer, and MOP familiar.

The course began at the Mānoa campus of the University of Hawai'i, where students were trained to use a wide variety of tools and instruments, and were taught important archaeological and analysis skills.

Following these preliminary days in the classroom, the group travelled to the north shore of the island of Lana'i to research the maritime cultural resources of Shipwreck Beach. Students and staff camped at Awalua, a remote site for 11 days, from June 24th to July 4th, while

investigating some of Hawai'i's historic 19th and 20th century wreck sites. This is the first time areas of Lana'i's fringing reef have been surveyed in any systematic manner. As Hans has pointed out in earlier presentations, to date there has never been a serious cultural survey for these elements of Hawai'i's maritime past.

The students split into three teams. The first team, headed by MAH alum Don Froning, was called "Don's misfits." The second team, headed by Suzanne Finney, another MOP alumna, was called "the lost patrol." The third team, headed by Meagan Moews, who is also a MAH alumna, was called "lau-wiliwili-nukunuku-'oi'oi," which everyone quickly shortened to the "Iwno." The students also received invaluable help from Linda Harrington, the expedition's cook, and MOP alum Jeff Kuwabara, who was in charge of water safety.

On July 13th, following the field trip and the analysis of the data back at UH Mānoa, the final presentations were given.

Ken Corbett began the presentations by describing the survey site. The north shore of Lana'i is not easy to reach by land, and hazardous to reach by sea. There are very few paved roads on Lana'i, and most of the trip from the airport to the shore was over dirt and rocky roads. The students surveyed almost nine miles of the beach. Ken noted that the combination of unpredictable and strong winds, of strong currents, and a shallow, fringing reef help explain why the north shore of Lana'i has been such a common

place for ships to wreck.

Jeff Adams then described the maritime history of the area — a maritime cultural landscape. The goal here was to consider all of the factors contributing to the site, such as trade patterns, weather patterns, tides, resources, cultural practices, economic activity and so on. What was happening on the shore is as much a factor as what was happening in the ocean. All of these factors help explain not only why ships were wrecked, but also why ships were in the area to begin with. Of course, not all of the shipwrecks were dramatic losses. As Jeff pointed out, beginning in the late 19th century, many old or damaged ships were intentionally abandoned and allowed to wreck off of Lana'i. This practice has been stopped, although ships continue to stop at the beach unintentionally.

Trisha Drennan described the first days of the fieldtrip, which, she noted, were following up on a previous maritime archaeology trip to Shipwreck Beach. While the first day was taken up with setting up the camp, the second day was spent producing a general survey of the beach and using hand-held GPS instruments to locate various sites that would become the focus of later study. Distances were computed, baselines were established, maps were produced, and the students went to work on the beach and in the water.

Jennifer Singleton described the measured sketchings that the students made in the water. The drawings were made on tablets, and were designed to capture specific objects. The objects were also



Unidentified ferro-cement wreck at Shipwreck beach, on the north coast of Lana'i. Photo by Hans Van Tilburg.

Spring 2001 Interns

by Brian Richardson and Lacy Lynn

In spring 2001, UH Mānoa MOP placed four internships with the Pilot Biotechnology Interns Program (PBIP) and two with the Whale Sanctuary. Sherwood Maynard, MOP director, pointed out that "The basic idea behind the internship program is that if Hawai'i is going to diversify its economy, it has to expand the skills of the workforce."

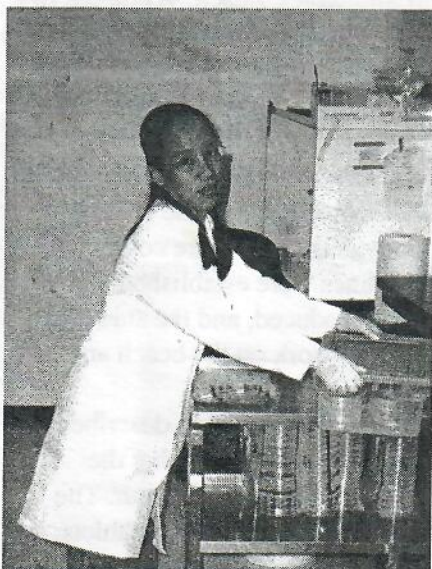
The four students with PBIP were engaged in four very different projects at biotechnology industry sites around Oahu.

Jill Dean, a Mānoa MOP student, worked at the Oceanic Institute's Feed Program where she investigated the gut contents of the Pacific white shrimp, *Litopenaeus vannamei*, to determine its dietary habits. Jill conducted her experiments using a microscope equipped with a digital camera and epifluorescence. Analyzing the pictures for the types and size ranges of phytoplankton ingested, she hoped to better understand what these shrimp consume which will lead to better shrimp feed formulations and cost efficiency. Jill's mentor was Dr. Olivier Decamp.

Ricelle Agbayani, who just graduated from UH Mānoa, worked at the Hawai'i Agricultural Research Center. In her internship, she studied green fluorescent protein injected into papayas, hoping that this process could be used as a tool to track pathogens in the papayas. Fluorescent protein was used because it was a visible means to detect the success of the injection. Ricelle's mentor was Dr. Judy Zhu.

Lauren Hirao, a senior in Biology, worked at the Hawaii Biotechnology Group. In her project, Lauren studied Dengue Fever, a virus which is transmitted by mosquitoes, and in particular created and tested a vaccine on mice. One of skills that Lauren obtained, as she says, was "how to sacrifice mice using a pencil. It's not for faint-hearted people," she quickly added. Lauren's mentor was Dr. Michael Lieberman.

Christopher Lai-Hipp, a student at Kapiolani CC and UH Mānoa, worked at Radiant Research for the first part of the semester and moved to the Hawai'i



Ricelle moving samples for her study of papaya.

Agricultural Research Center for the last part. This intern project focused on helping to test pharmaceutical drugs to acquire FDA approval. In the process, over 4,000 compounds were tested, five were tested on humans, and only one was ultimately approved. Christopher's mentor at Radiant was Jason Lefringhouse. At HARE Chris assisted with a study to define the papaya genome with Dr. Roy Ming.

Two other interns, Michele Quesada and Venesse' Melendrez, assisted the Oahu office of the Hawaiian Islands Humpback Whale National Marine Sanctuary with their annual whale count, which occurred in the middle of February. The whale count involves hundreds of volunteers from around the Hawaiian islands, who collect data during a four-hour period that is used to track whale activities and estimate their population. While whales can be seen in Hawaiian waters from early September through to late May, the peak migration is in February and March. Michele, a MOP student at LCC, is using this project for her MOP Certificate and made a presentation at the MOP Student Symposium held in May of this year.



Jill (to the right), helping Olivier Decamp (left) and Gary Karr (center) of the Oceanic Institute analyse the diet of the Pacific White Shrimp to better understand their feeding patterns.



Lauren working on a vaccine for Dengue Fever.



Scattered debris from an unknown ship, with a boiler and an engine offshore. Photo by Hans Van Tilburg.

located relative to the baseline, so that different objects could be located in the larger site. After a day's work, the crews would consolidate all the data collected in their notebooks, which could then be taken back to the lab for further analysis.

Danielle LaFleur summarized the results from her team, "the lost patrol." Objects were located, drawn and, if possible, photographed. Some of the ships that were found were modern (they had permit stickers, fiberglass rudders, and so on). In a place like this, one of the problems is in determining what pieces fit with what ships. There are fasteners and piles of wood everywhere.

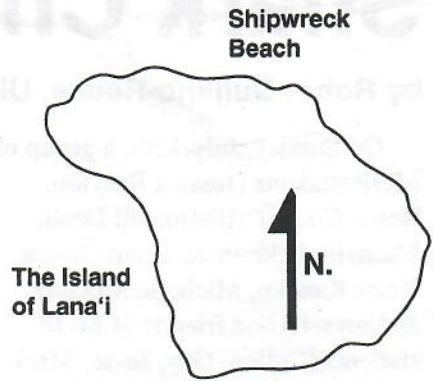
Ryan Ashton then summarized the results from his team, "lau-wiliwili-nukunuku-'oi'oi," who studied, among other things, a pool that, while initially thought to be for aquaculture, was in fact a keiki pond. The primary ship that the team studied, which dated from between the 1930s and the 1950s, was presumed to be either an oiler or a water tanker. Ryan noted how weather conditions and ocean movements could move very large pieces of the ship around. As the ship was being studied, the constant pounding of the waves also had to be contended with.

Following Ryan, Eric Johns summarized the results from "Don's misfits". They also found a wide assortment of flotsam and jetsom, including containers, flotation devices and surfboards. The team found a large boiler and double-compound engine from a steamship.

Kelly Gleason discussed the findings from the survey. The groups all tackled separate sites, which taken together suggested the importance of Shipwreck Beach as a maritime archaeological site. As the different pieces of ships were located and described, it became possible to connect the different pieces together, and not only to help identify the different pieces, but also to help identify the different ships.

One of the ships that was discovered, according to Stephanie Mulick, was the S.S. *Hornet*, which became an inter-island shipping vessel in 1926. The ship was dismantled and intentionally beached on Lana'i at the end of 1927. Most of the wooden hull likely disintegrated, but many of the metal components, from engine parts to fasteners, have survived.

Some of the recommendations that were made, which were presented by Veronika Knierim, included the need to collect and organize much more local oral history about the beach. Many people have lived in the area all of their lives, and are an invaluable source for further archaeological research. Another important recommendation was to do further archival research, especially in naval archives, to determine the identity of the ships in the area and help explain why the ships ended up on the beach. Finally, Veronika pointed out that the current survey was a non-intrusive survey, and that if archaeological technology improves, it may be appropriate to



carry out intrusive surveys on some of the sites. At this point, however, it is better to leave the sites undisturbed.

Hans Van Tilburg, the instructor for the course, offered the closing remarks. He emphasized again the variety and intensity of shipwrecks in the area. But Shipwreck Beach is not the only place to find shipwrecks, and it is important for a comprehensive inventory of submerged archaeological sites to be created.

One of the big surprises, for Hans, was the number of bombs, and the evidence of bombings, that could be found on the beach. The Navy's use of Hawaiian waters for military exercises has been a long-term, state-wide issue, and as archeologists it is important that this never be forgotten. As he ended, Hans described the experiences on Lana'i, and in particular the helpfulness and hospitality of the people on Lana'i.

Stay tuned for next summer's course, which may bring students back to this treasure trove of archaeological fieldwork. A report of this year's fieldtrip is also being prepared. A copy will be made available in the MOP library, and anyone who is interested in obtaining a copy should contact Hans at <hkvant@hawaii.edu>.

Shark Chum

by Robin Quijano-Reuse, UHM MOP Student Coordinator

On Sunday, July 15th, a group of MOP students (Jessica Brayton, Susan Cooper-Alletto, Jill Dean, Michelle Eckerman, Brian Greene, Keith Kaneko, Michelle McGurr, and myself) and friends of MOP students (Collen, Guy, Jesse, Mark, Nick, and Valerie) helped by doing Hammerhead Shark (*Sphyrna lewini*) Tagging Research. Kanesa Duncan, our group leader, and two other assistants (Jim and Eric) helped throughout the evening. Our large group split into three smaller groups, and we headed to Kaneohe Bay in three boats. The boats went to different areas of the bay; one to the south, one to the middle, and one to the north.

I went to the north side of the bay with Kanesa, Jessica, Mark, Valerie, and Nick. I felt great while we motored over to our spot, but when we anchored my equilibrium took a turn for the worst. Kanesa explained all of the steps that would occur to catch and tag the hammerhead pups as feelings of dizziness and nausea began to wash over me. When Kanesa finished her

explanation, she passed out the handlines, Mark cut the squid, and Jessica passed pieces of the squid to everyone. We all baited our hooks and let them over the side. Everyone was in good spirits, chatting and laughing, while I felt worse with each passing minute. A half-hour passed and no one caught anything, so we moved to another location. Needless to say, I was relieved to be moving again.

In the next spot, we anchored, baited our hooks, threw them over, and waited again. Five minutes passed, and I caught a pup. While looking down over the boat and pulling up my hand line, it finally happened, I got the dreaded ocean disease. We got the pup on board and took the hook out. Kanesa then proceeded to call out letters and numbers, Jessica frantically wrote everything down, Mark weighed the hammerhead, Nick watched in awe, and Valerie screamed and got as far away from the pup as she could. After Kanesa released the pup back into the water, my stomach let loose a new flavor of shark chum. A

couple minutes passed while the chum slowly drifted to the bottom, then everyone else started to catch pups, one after the other. I didn't fish anymore, I just hung over the side of the boat feeling lousy. The others weighed and measured 15 hammerheads. A few got away while students were trying to bring them on board. I was grateful when Kanesa said our thirty minutes were up and we were going to be moving to calmer water.

At our last spot, I still felt woosy. Moreover, we weren't catching any hammerheads. Kanesa asked if I had any more chum left over, and everyone started laughing. FINALLY, the time had come for us to head back to Coconut Island. The two other groups were already docked when we got in. I was delighted to be on land; the others were contented and tired. We all ate some snacks and talked story to see how many hammerheads each boat caught. One boat caught 40 pups and the other caught 17 pups. I was pleased to hear that no one else got the dreaded ocean disease.

The evening ended with smiles and jumper-cables. The next hammerhead tagging will be held Sunday, August 19th. Contact the UH Mānoa MOP office for more information.

Bits and Pieces

For the first time in 140 years, the 30-ton steam engine of the shipwrecked Civil War Ironclad, USS *Monitor*, broke the surface of the Atlantic Ocean. The NOAA team and scores of Navy divers worked around the clock for 28 days to free the engine from 240 feet below the surface of the ocean. The engine was placed on a barge and will be brought to the Mariners' Museum where it will be placed in a 93,000 gallon steel tank so conservators can begin a 10-year process to preserve the historic engine. For more information, visit the

Mariners' Museum web site at <<http://www.mariner.org/monitor>>.

Kevin Johnson, a geologist with the Bishop Museum, and a group of other scientists have been researching Kilauea's underwater volcanic activity. What they found was a rugged landscape that indicated the often catastrophic, if hidden, activity of Hawai'i's most active volcano. For more information, visit the website <<http://www.punaridge.org>>.

Congratulations to the Waikiki Aquarium, whose virtual tour was selected as one of the "Digital Dozen" by the Eisenhower National Clearinghouse for Mathematics and Science Education (ENC) website. For more information on the ENC, visit their web site at <<http://www.enc.org>>. The Waikiki Aquarium's virtual tour can be accessed through <<http://www.waquarium.org>>.





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