

KAWAIWUI  
4-27-10 N=16  
6-2-10 N=2  
6-7-10 N=2

KAWAIWUI 6-17-08 MW PERRY  
N=10 (6 new) NO TMS RIGHT OF WAY  
mead  
7-28-08 MT 11-18 (Jeff Semindoff)  
**COMPOSITION** N=11  
MTRP 7-1-10 N=9  
10-29-08 N=10  
OFFICIAL® 100 sheets • 200 pages  
9¾ x 7½ in / 24.7 x 19.0 cm  
wide ruled • 09918  
10-30-08  
MW PERRY N=10  
© 2002 MeadWestvaco Corporation, Dayton, Ohio 45463 U.S.A. Made in China  
JULY 7 2009 N=17  
MAY 14 09 MW P

BALAZS  
MARCH 18, 2010 KAWAIWUI  
(N=18 - 6 new, 12 RECAP)  
MT 16, 17 and 2  
LOTERA X2 TDRS ATTACHED.

3 OF 3



GEORGE BALAZS



Revised 08/21/07

3/17/00 47.0 sc

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2570 Dole Street  
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Kawainui  
6-2-10

①  
START

SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 6/2/10

CAPTURE DATE, LOCATION AND METHOD:

Kawainui, Mrs Scherman's

Scopnet

PERSON RECORDING DATA:

SH

6/2/10

TUMOR SCORE

OLD TAGS:

UH

4135787535

RHF

ORAL TMRS EXT:  
YES OR NO

RH

4136282844

LHF

EMACIATION CODE

MT#

NEW TAGS:

STRAIGHT CARAPACE - LENGTH:

53.0 cm

WIDTH: 42.1 cm

NOTCH LENGTH:

52.7 cm

DB:  L.O.

VB:  L.O.

CURVED CARAPACE LENGTH:

56.5 cm

WIDTH: 51.0 cm

HEAD WIDTH:

cm

LATERAL1:  cm

LATERAL2:  cm

PPS: YES OR NO OR NE

Y

LATERAL3:  cm

SEX: Male, Female or Undetermined

TAIL LENGTH: T

13.0 cm

C 8.0 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

cm

PLASTRON LENGTH:

48.8 cm

WEIGHT:

47.5 #

DESCRIPTIVE REMARKS:

RT eye cloudy, possible algae in mouth  
scar tissue; minimal vision if any

2

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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 6/2/10

CAPTURE DATE, LOCATION AND METHOD:

Kawainui	Mrs. Scherman's	Scop net
PERSON RECORDING DATA: SH		6/2/10

TUMOR SCORE <input type="checkbox"/> 0	OLD TAGS:	NEW TAGS:
ORAL TMRS EXT: YES OR NO <input type="checkbox"/> -		RHF: 484F7D131A
EMACIATION CODE <input checked="" type="checkbox"/> 0		LHF:
MT#		

STRAIGHT CARAPACE - LENGTH: 49.8 cm WIDTH: 37.9 cm

NOTCH LENGTH: 49.6 cm DB:  $\emptyset$  L.O. VB:  $\emptyset$  L.O.

CURVED CARAPACE LENGTH: 54.0 cm WIDTH: 46.0 cm

HEAD WIDTH: - cm LATERAL1: 20.3 cm LATERAL2: 18.6 cm

PPS: YES OR NO OR NE N LATERAL3: 14.7 cm SEX: Male, Female or Undetermined U

TAIL LENGTH: T 10.8 cm C 6.5 cm

RIGHT FRONT FLIPPER WIDTH: 4 cm

PLASTRON LENGTH: 39.8 cm

WEIGHT: 37.0 #

DESCRIPTIVE REMARKS:



3

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\* 10/11/03 Strand Rel.

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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 6/2/10

CAPTURE DATE, LOCATION AND METHOD:

Kauai	Mrs. Scherman's	Scoop net
PERSON RECORDING DATA: SH 6/2/10		

TUMOR SCORE	OLD TAGS:	NEW TAGS:
<input checked="" type="checkbox"/>	LH 44127C691C	RHF
ORAL TMRS EXT. YES OR NO	RH 4414973F3A	LHF
<input type="checkbox"/>		
EMACIATION CODE		
<input checked="" type="checkbox"/>	MT#	

STRAIGHT CARAPACE - LENGTH: 52.7 cm WIDTH: 39.8 cm

NOTCH LENGTH: ~~cm~~ DB: 0 L.O. VB: 0 L.O.

CURVED CARAPACE LENGTH: 56.5 cm WIDTH: 47.5 cm

HEAD WIDTH: - cm LATERAL1: - cm LATERAL2: - cm

PPS: YES OR NO OR NE N LATERAL3: - cm SEX: Male, Female or Undetermined U

TAIL LENGTH: T 13.5 cm C 9.0 cm

RIGHT FRONT FLIPPER WIDTH: - cm SAMPLES COLLECTED:

PLASTRON LENGTH: 43.0 cm

WEIGHT: 44.5 #

DESCRIPTIVE REMARKS: LF missing  
Rt post central broken off - no notch meas.



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\* 3/18/10  
59.1

④ \* Channel  
Cleaning  
Station \*

SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 6/2/10

CAPTURE DATE, LOCATION AND METHOD:

Kaunaiul	Mrs. Scherman's	Hand/
		Shovel
PERSON RECORDING DATA: SH 6/2/10		

TUMOR SCORE

∅

OLD TAGS:

LH 467D323920

NEW TAGS:

ORAL TMRS EXT:  
YES OR NO

~

RH 470A444E7B

RHF

LHF

EMACIATION CODE

∅

MT#

STRAIGHT CARAPACE - LENGTH:

59.1 cm

WIDTH: 44.3 cm

NOTCH LENGTH:

58.9 cm

DB: ∅ L.O.

VB: ∅ L.O.

CURVED CARAPACE LENGTH:

64.0 cm

WIDTH: 55.0 cm

HEAD WIDTH:

- cm

LATERAL1: - cm

LATERAL2: - cm

PPS: YES OR NO OR NE

N

LATERAL3: - cm

SEX: Male, Female  
or Undetermined

U

TAIL LENGTH: T

14.5 cm

C 9.5 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

- cm

PLASTRON LENGTH:

46.9 cm

WEIGHT:

66.5 #

DESCRIPTIVE REMARKS:



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\* 9/9/02  
44.7 sec

\* Channel  
Cleaning  
Station\*

SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 6/2/10

- 8/2/09  
54.4 sec

CAPTURE DATE, LOCATION AND METHOD:

Kauai	Mrs. Scherman's	Hand / snorkel
PERSON RECORDING DATA: SA		6/2/10

TUMOR SCORE	OLD TAGS:	NEW TAGS:
<input type="checkbox"/> 0	LH 424F7A7E1B	RHF
ORAL TMRS EXT: YES OR NO	RH 424F7D5536	LHF
<input type="checkbox"/> -		
EMACIATION CODE	MT# 42 2nd LR lats	
<input type="checkbox"/> 0		

STRAIGHT CARAPACE - LENGTH: 55.3 cm WIDTH: 42.0 cm

NOTCH LENGTH: 55.2 cm DB: 0 L.O. VB: 0 L.O.

CURVED CARAPACE LENGTH: 59.0 cm WIDTH: 48.5 cm

HEAD WIDTH: - cm LATERAL1: - cm LATERAL2: - cm

PPS: YES OR NO OR NE Y LATERAL3: - cm SEX: Male, Female or Undetermined U

TAIL LENGTH: T 11.5 cm C 8.0 cm

RIGHT FRONT FLIPPER WIDTH: - cm SAMPLES COLLECTED:

PLASTRON LENGTH: 46.0 cm

WEIGHT: 51.0 #

DESCRIPTIVE REMARKS: 8 centrals, 5 LR lats.



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\* 10/14/02  
~~426 SCL~~  
~ 8/7/09  
52.0 SCL

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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 6/2/10

CAPTURE DATE, LOCATION AND METHOD:

Kawainui Mrs. Scherman's	Scoop net
PERSON RECORDING DATA: SH	6/2/10 new

TUMOR SCORE <input type="checkbox"/>	OLD TAGS:	NEW TAGS:
ORAL TMRS EXT: YES OR NO <input type="checkbox"/>	4HF 4250012F02	RHF TDR L150A-0214
EMACIATION CODE <input type="checkbox"/>	RHF 423F1F0221	LHF Sonic 1066536-3 <sup>rd</sup>
MT#	Old 37" on 2nd L/R lateral	

STRAIGHT CARAPACE - LENGTH:  cm      WIDTH:  cm

NOTCH LENGTH:  cm      DB:  L.O.      VB:  L.O.

CURVED CARAPACE LENGTH:  cm      WIDTH:  cm

HEAD WIDTH:  cm      LATERAL1:  cm      LATERAL2:  cm

PPS: YES OR NO OR NE       LATERAL3:  cm      SEX: Male, Female or Undetermined

TAIL LENGTH: T  cm      C  cm

RIGHT FRONT FLIPPER WIDTH:  cm      SAMPLES COLLECTED:

PLASTRON LENGTH:  cm

WEIGHT:  #

DESCRIPTIVE REMARKS: Grey foamy "spit" from mouth  
Molt/37 renewed.





MT 34 & 37  
New SONICS + LOTEK TDR (1 each)  
MRS. Schermans  
6/2/2010  
See page 165 & 163



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10

- MW side of canal

\* 8/11/03  
41.8 SL

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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 6/2/10

END 6-2-10 Kawainui

CAPTURE DATE, LOCATION AND METHOD:

Kawainui	Mrs. Scherman's	Hand/
PERSON RECORDING DATA: SH		Shovel
		6/2/10

TUMOR SCORE

RH

OLD TAGS:

44523862A

NEW TAGS:

TDR L150A-0213

ORAL TMRS EXT:  
YES OR NO

LH

445258695E

Sonic 1060540

3rd  
Llat.

EMACIATION CODE

MT#

34 old 2nd LR lats

STRAIGHT CARAPACE - LENGTH:

53.9 cm

WIDTH: 43.0 cm

NOTCH LENGTH: 53.5 cm

DB:  L.O.

VB:  L.O.

CURVED CARAPACE LENGTH:

58.5 cm

WIDTH: 52.5 cm

HEAD WIDTH:  cm

LATERAL1:  cm

LATERAL2:  cm

PPS: YES OR NO OR NE  N

LATERAL3:  cm

SEX: Male, Female or Undetermined  U

TAIL LENGTH: T 11.0 cm

C 7.5 cm

RIGHT FRONT FLIPPER WIDTH:  cm

SAMPLES COLLECTED:

PLASTRON LENGTH: 44.3 cm

WEIGHT: 53.0 #

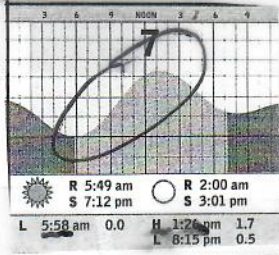
DESCRIPTIVE REMARKS: little algae in mouth  
mototool 34 renewed



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June



EASY ON TAG - low ABRASION  
DATE FORM FILLED OUT / /

SEA TURTLE TAGGING FORM

CAPTURE DATE, LOCATION AND METHOD:

6-7-2010 Scoop Net  
PERSON RECORDING DATA: MONICA M. W. P. Right of way

2010

TUMOR SCORE  0  
 ORAL TMRS EXT: YES OR NO  -  
 EMACIATION CODE  0  
 OLD TAGS: CH 424E633275  
 RT 424E260A37  
 NEW TAGS:  
 RHF  
 LHF  
 MT# 16

STRAIGHT CARAPACE - LENGTH: 57.7 cm WIDTH: 43.8 cm  
 NOTCH LENGTH: 57.5 cm DB: 1 L.O. VB: 0 L.O.  
 CURVED CARAPACE LENGTH: 62 cm WIDTH: 53 cm  
 HEAD WIDTH: cm LATERAL1: cm LATERAL2: cm  
 PPS: YES OR NO OR NE  LATERAL3: cm SEX: Male, Female or Undetermined U  
 TAIL LENGTH: T cm C cm

RIGHT FRONT FLIPPER WIDTH: cm  
 PLASTRON LENGTH: cm  
 WEIGHT: 61.1 #

DESCRIPTIVE REMARKS:  
12.5  
11.4  
61.1

15 sec sampling  
Newer UPPER L150A-0216  
old one 1 sec  
MALFUNCTION  
TAKEN OFF



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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 6/7/2010

10:20 am  
Released  
6/7/2010  
KAWAII  
RIGHT

CAPTURE DATE, LOCATION AND METHOD:

6/7/10	SHAWN CUMMING
PERSON RECORDING DATA: TH & GB	KAWAII

TUMOR SCORE <input type="text" value="0"/>	OLD TAGS:	483B267848
ORAL TMRS EXT: YES OR NO <input type="text" value="—"/>	<input type="text"/>	RHF
EMACIATION CODE <input type="text" value="0"/>	<input type="text"/>	LHF
MT#	"60"	4856520E6C

STRAIGHT CARAPACE - LENGTH:  cm      WIDTH:  cm

NOTCH LENGTH:  cm      DB:  L.O.      VB:  L.O.

CURVED CARAPACE LENGTH:  cm      WIDTH:  cm

HEAD WIDTH:  cm      LATERAL1:  cm      LATERAL2:  cm

PPS: YES OR NO OR NE       LATERAL3:  cm      SEX: Male, Female or Undetermined

TAIL LENGTH: T  cm      C  cm

RIGHT FRONT FLIPPER WIDTH:  cm

PLASTRON LENGTH:  cm

WEIGHT:  #

SAMPLES COLLECTED:

DESCRIPTIVE REMARKS:

Swollen LHF favors RIGHT  
Hook removed from base of LHF by Dr. Morris

3rd CAT

RIGHT T, split & divided into two.



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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT / /

CAPTURE DATE, LOCATION AND METHOD:

6-7-2010

Right-of-Fern  
Scoop Net

PERSON RECORDING DATA: Monica Moller

TUMOR SCORE

0

OLD TAGS:

4# 424 F236C1F

NEW TAGS:

RHF

NEW TDR

ORAL TMRS EXT:

YES OR NO

-

RH 424 D7F6907

LHF

EMACIATION CODE

0

MT# 15 EXISTING

STRAIGHT CARAPACE - LENGTH:

61.2 cm

WIDTH:

48.9 cm

NOTCH LENGTH:

61.1 cm

DB:

0 L.O.

VB:

0 L.O.

CURVED CARAPACE LENGTH:

65.0 cm

WIDTH:

59.0 cm

HEAD WIDTH:

- cm

LATERAL1:

- cm

LATERAL2:

- cm

PPS: YES OR NO OR NE

-

LATERAL3:

- cm

SEX: Male, Female  
or Undetermined

Female

TAIL LENGTH: T

- cm

C

- cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

- cm

PLASTRON LENGTH:

- cm

WEIGHT:

75.8 ~~75.8~~ ~~75.8~~ ~~75.8~~

DESCRIPTIVE REMARKS:

Sonic tag 4th lateral right

TDR-  
L150-0218

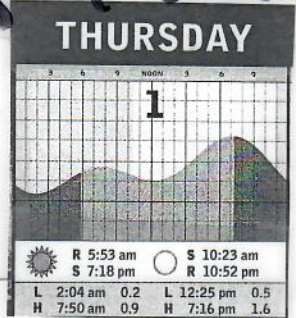


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JULY 2010

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\*Caught up the canal by Mrs. Schumann's.

SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 7/1/10

CAPTURE DATE, LOCATION AND METHOD:

Kawai'i Canal, MWP 7/1/10 Right of Way.  
Hand/ Snorkel  
PERSON RECORDING DATA: SH

TUMOR SCORE:  LHF

ORAL TMRS EXT: YES OR NO:  RHF

EMACIATION CODE:  \*LHF

MT# Old # 21 on 2<sup>nd</sup> left and right laterals -renewed

OLD TAGS:  
41363A0002A  
413578654B  
407A43094E (up higher on flipper) Sonic tag 2nd L lat

NEW TAGS:  
RHF  
LHF

STRAIGHT CARAPACE - LENGTH: 58.1 cm WIDTH: 42.7 cm

NOTCH LENGTH: 58.1 cm DB:  L.O. VB:  L.O.

CURVED CARAPACE LENGTH: 42.5 cm WIDTH: 52.0 cm

HEAD WIDTH:  cm LATERAL1: 23.0 cm LATERAL2: 21.3 cm

PPS: YES OR NO OR NE: Y LATERAL3: 16.9 cm SEX: Male, Female or Undetermined: U

TAIL LENGTH: T 10.5 cm C 7.0 cm

RIGHT FRONT FLIPPER WIDTH:  cm

PLASTRON LENGTH: 47.7 cm

WEIGHT: ~~59.1~~ # 59.1 lbs

SAMPLES COLLECTED: Devon downloaded data from IDs

DESCRIPTIVE REMARKS:

RFF missing and healed  
-numerous still in there.  
-left shoulder all healed up since comments @ last capture.



SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 7/1/10

CAPTURE DATE, LOCATION AND METHOD:

Kawainui Canal, MWR Right of way Hand/Shovel

PERSON RECORDING DATA: SH

TUMOR SCORE	OLD TAGS:	NEW TAGS:
<input type="checkbox"/> $\emptyset$	4H 424F236C1F	RHF
ORAL TMRS EXT: YES OR NO	RH 424D7FL907	LHF
<input type="checkbox"/> -	sonic + TDR 4th R lat.	
EMACIATION CODE		
<input type="checkbox"/> $\emptyset$	MT# 15 renewed.	

STRAIGHT CARAPACE - LENGTH: 61.3 cm WIDTH: 49.0 cm

NOTCH LENGTH: 61.2 cm DB:  $\emptyset$  L.O. VB:  $\emptyset$  L.O.

CURVED CARAPACE LENGTH: 65.0 cm WIDTH: 58.5 cm

HEAD WIDTH: - cm LATERAL1: - cm LATERAL2: - cm

PPS: YES OR NO OR NE - LATERAL3: - cm SEX: Male, Female or Undetermined U

TAIL LENGTH: T - cm C - cm

RIGHT FRONT FLIPPER WIDTH: - cm SAMPLES COLLECTED:

PLASTRON LENGTH: - cm

WEIGHT: 80.5 / 11.5 / 67.0 # 69.0 #

Person downloaded data from TDRs

DESCRIPTIVE REMARKS: \* fiberglass touched up \*



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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 7/1/10

CAPTURE DATE, LOCATION AND METHOD:

Kawainui, MWP Right of Way	Hand/ snorkel
PERSON RECORDING DATA: SH	

TUMOR SCORE	OLD TAGS:	NEW TAGS:
<input type="checkbox"/> $\emptyset$	LH 4250012FL02	RHF
ORAL TMRS EXT: YES OR NO	RH 423F1F0221	LHF
<input type="checkbox"/> -	sonic + TDR 3 <sup>rd</sup> RH lat.	
EMACIATION CODE		
<input type="checkbox"/> $\emptyset$	MT# 37 renewed	

STRAIGHT CARAPACE - LENGTH:  cm

WIDTH:  cm

NOTCH LENGTH:  cm

DB:  L.O.

VB:  L.O.

CURVED CARAPACE LENGTH:  cm

WIDTH:  cm

HEAD WIDTH:  cm

LATERAL1:  cm

LATERAL2:  cm

PPS: YES OR NO OR NE

LATERAL3:  cm

SEX: Male, Female or Undetermined

TAIL LENGTH: T  cm

C  cm

RIGHT FRONT FLIPPER WIDTH:  cm

PLASTRON LENGTH:  cm

WEIGHT:    #

SAMPLES COLLECTED:

DESCRIPTIVE REMARKS:



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\* Caught up  
canal \*

orig. captured:  
6/5/09  
Kawainui

SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 7/1/10

- stranded / released  
6/4/09 stranded @ Kawainui  
Found alive in canal  
fish hook in jaw.

CAPTURE DATE, LOCATION AND METHOD:

Kawainui, MWP Right-of-way Hand/Shovel  
PERSON RECORDING DATA: SH

TUMOR SCORE	OLD TAGS:	NEW TAGS:
<input type="checkbox"/> 0	LH 470D01034B	RHF
ORAL TMRS EXT: YES OR NO	RH 470B301820	LHF
<input type="checkbox"/> -		
EMACIATION CODE		
<input type="checkbox"/> 0		
MT#		

STRAIGHT CARAPACE - LENGTH:

41.1 cm

WIDTH: 34.0 cm

NOTCH LENGTH:

41.0 cm

DB: 0 L.O.

VB: 0 L.O.

CURVED CARAPACE LENGTH:

44.5 cm

WIDTH: 39.0 cm

HEAD WIDTH:

- cm

LATERAL1: 16.8 cm

LATERAL2: 14.8 cm

PPS: YES OR NO OR NE

Y

LATERAL3: 12.4 cm

SEX: Male, Female  
or Undetermined

U

TAIL LENGTH: T

8.0 cm

C 5.5 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

- cm

PLASTRON LENGTH:

33.1 cm

WEIGHT:

22.0 #

DESCRIPTIVE REMARKS:



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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 7/1/10

CAPTURE DATE, LOCATION AND METHOD:

Kauai, MWP Right-of way Scoop Net  
PERSON RECORDING DATA: SH

TUMOR SCORE

∅

ORAL TMRS EXT:

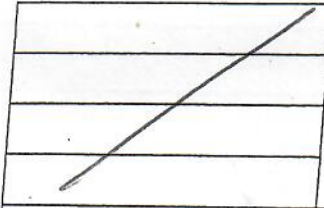
YES OR NO

-

EMACIATION CODE

∅

OLD TAGS:



RHF

LHF

483E6A500F



4851287768



MT#

STRAIGHT CARAPACE - LENGTH:

49.5 cm

WIDTH:

40.0 cm

NOTCH LENGTH:

49.4 cm

DB:

∅ L.O.

VB:

∅ L.O.

CURVED CARAPACE LENGTH:

53.0 cm

WIDTH:

40.0 cm

HEAD WIDTH:

8.0 cm

LATERAL1:

20.0 cm

LATERAL2:

18.3 cm

PPS: YES OR NO OR NE

Y

LATERAL3:

14.5 cm

SEX: Male, Female or Undetermined

U

TAIL LENGTH: T

10.5 cm

C

6.0 cm

SAMPLES COLLECTED:

RIGHT FRONT FLIPPER WIDTH:

8.3 cm

PLASTRON LENGTH:

40.3 cm

WEIGHT:

39.0 #

DESCRIPTIVE REMARKS:

saw #7 under ledge



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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 7/1/10

CAPTURE DATE, LOCATION AND METHOD:

Kawainui, MWP Right-of-Way	Scoop Net
PERSON RECORDING DATA: SH	

TUMOR SCORE <input type="checkbox"/> $\emptyset$	OLD TAGS: LH 42346E2D7E RH 422F0B6F62 Sonic + 2 TDRs 4 <sup>th</sup> L lat	NEW TAGS: RHF LHF
ORAL TMRS EXT: YES OR NO <input type="checkbox"/> -	EMACIATION CODE <input type="checkbox"/> $\emptyset$	MT# 2 renewed. 2 <sup>nd</sup> L/R lats

STRAIGHT CARAPACE - LENGTH: 62.5 cm WIDTH: 46.8 cm

NOTCH LENGTH: 62.1 cm DB:  $\emptyset$  L.O. VB:  $\emptyset$  L.O.

CURVED CARAPACE LENGTH: 66.0 cm WIDTH: 56.5 cm

HEAD WIDTH: - cm LATERAL1: - cm LATERAL2: - cm

PPS: YES OR NO OR NE - LATERAL3: - cm SEX: Male, Female or Undetermined U

TAIL LENGTH: T - cm C - cm

RIGHT FRONT FLIPPER WIDTH: - cm SAMPLES COLLECTED:

PLASTRON LENGTH: - cm

WEIGHT: 85.0 10.1 74.9 #

DESCRIPTIVE REMARKS:



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SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 7/1/10

CAPTURE DATE, LOCATION AND METHOD:

Kawainui, MWP Right-of-Way	Scoop net
PERSON RECORDING DATA: SH	

TUMOR SCORE <input checked="" type="checkbox"/>	OLD TAGS: LH 443A1C2318	NEW TAGS: RHF
ORAL TMRS EXT: YES OR NO <input type="checkbox"/>	RH 443A15535 F	LHF
EMACIATION CODE <input checked="" type="checkbox"/>	Sonic tag 4 <sup>th</sup> central	
MT# 31 renewed		

STRAIGHT CARAPACE - LENGTH:  cm      WIDTH:  cm

NOTCH LENGTH:  cm      DB:  L.O.      VB:  L.O.

CURVED CARAPACE LENGTH:  cm      WIDTH:  cm

HEAD WIDTH:  cm      LATERAL1:  cm      LATERAL2:  cm

PPS: YES OR NO OR NE       LATERAL3:  cm      SEX: Male, Female or Undetermined

TAIL LENGTH: T  cm      C  cm

RIGHT FRONT FLIPPER WIDTH:  cm      SAMPLES COLLECTED:

PLASTRON LENGTH:  cm

WEIGHT: <sup>53.0</sup>  #      <sub>11.9</sub>

DESCRIPTIVE REMARKS:

*2009 photo external markings not 100%*

*to look for with 2009 photo*

*colored behinds (white wing +)*

*2009 photo - 2009 photo*



SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 7/1/10

CAPTURE DATE, LOCATION AND METHOD:

Kawainui, MWP Right of Way	Hand/ Snorkel
PERSON RECORDING DATA: SH	

TUMOR SCORE	OLD TAGS:	NEW TAGS:
<input type="checkbox"/> 0	LH 4A355B323E	RHF
ORAL TMRS EXT: YES OR NO	RH 470C26621E	LHF
<input type="checkbox"/> -		
EMACIATION CODE	MT# 38 - partially grown out	
<input type="checkbox"/> 0		

STRAIGHT CARAPACE - LENGTH:  cm      WIDTH:  cm

NOTCH LENGTH:  cm      DB:  L.O.      VB:  L.O.

CURVED CARAPACE LENGTH:  cm      WIDTH:  cm

HEAD WIDTH:  cm      LATERAL1:  cm      LATERAL2:  cm

PPS: YES OR NO OR NE       LATERAL3:  cm      SEX: Male, Female' or Undetermined

TAIL LENGTH: T  cm      C  cm

RIGHT FRONT FLIPPER WIDTH:  cm      SAMPLES COLLECTED:

PLASTRON LENGTH:  cm

WEIGHT:  #

DESCRIPTIVE REMARKS: both FF entangled in monofilament line + orange

RFF more entangled but not yet strangled

bobber, small lead sinker

line removed

- RFF 1 cm abrasion from line - very minor.

- swallowed line - cut short - ~~to~~

Rf jaw hinge abraded by line

- 1 scute on plastron buckled - left side.



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PND

SEA TURTLE TAGGING FORM

DATE FORM FILLED OUT 7/1/10

CAPTURE DATE, LOCATION AND METHOD:

Kawainui, MWP light gway	Hand/ Snorkel
PERSON RECORDING DATA: SH	

TUMOR SCORE <input type="checkbox"/>	OLD TAGS: LH 445258695E	NEW TAGS: RHF
ORAL TMRS EXT: YES OR NO <input type="checkbox"/>	RH 44523B62PA	LHF
EMACIATION CODE <input type="checkbox"/>	sonic+ ITR 3 <sup>rd</sup> L lat.	
MT# 34 (looks good)		

STRAIGHT CARAPACE - LENGTH:  cm      WIDTH:  cm

NOTCH LENGTH:  cm      DB:  L.O.      VB:  L.O.

CURVED CARAPACE LENGTH:  cm      WIDTH:  cm

HEAD WIDTH:  cm      LATERAL1:  cm      LATERAL2:  cm

PPS: YES OR NO OR NE       LATERAL3:  cm      SEX: Male, Female' or Undetermined

TAIL LENGTH: T  cm      C  cm

RIGHT FRONT FLIPPER WIDTH:  cm      SAMPLES COLLECTED:

PLASTRON LENGTH:  cm

WEIGHT: <sup>655</sup>  #     

DESCRIPTIVE REMARKS:



## Juvenile Green Sea Turtle (*Chelonia mydas*) Diving Behavior in Relation to Habitat Heterogeneity and Water Temperature in Kawainui, Oahu (Hawaii)

The purpose of this proposal is to quantify juvenile green sea turtle (*Chelonia mydas*) diving behavior in a high-use foraging area in relation to habitat and environmental variability operating on diel, tidal, and seasonal cycles. I hypothesize that green sea turtles in the Kawainui Study Area (KSA), within heavily impacted Kailua Bay, will engage in distinct activity patterns in different habitats, and that their foraging activities will vary in response to changes in water temperature and algal biomass. In particular, I anticipate that turtles will focus their foraging in warmer habitats with the highest algae biomass and will conserve energy in cold-water conditions. The results of this study will help elucidate how environmental conditions in space (habitat heterogeneity) and time (diel, tidal, seasonal cycles) influence turtle habitat use patterns. Locally, this information will help managers assess those times and habitats where juvenile turtles are most at risk from human impacts in KSA. Regionally, these data will contribute to the development of models of the energetic requirements and grazing effects of green sea turtles. This improved understanding of turtle habitat use patterns and grazing dynamics will help the implementation of ecosystem-based management approaches for protecting dense foraging aggregations of juvenile sea turtles.

### Background:

Hawaiian green sea turtles inhabit shallow coastal foraging grounds and concentrate in small areas where they are susceptible to mortal threats from human activities. Although green turtle population size has been increasing in Hawaii (Balazs and Chaloupka 2006), recent data (2004-08) suggest that fisheries related mortality may be increasing within KSA, with 88% (vs. 24% between 1982-2003, in Chaloupka et al. 2008) of attributable standings related to entanglement and hookings (Stacy Hargrove, NOAA, pers. comm.) (Figure 1). Additionally, this location is heavily used by people for boating, kayaking, and fishing, potentially increasing the threat to turtles, some of which have a strong fidelity to the location for durations of at least one year (Asuncion et al. 2009). A preliminary study documenting the abundance of green turtles in KSA shows dense foraging concentrations of juveniles, with seasonal abundance estimates ranging from 40 (winter) to 100 (spring) (Asuncion et al. 2009), most of which are immature juvenile or sub-adult turtles (Balazs and Chaloupka 2004). Furthermore, daily abundance of green turtles peaks at midday, when human use of the shallow cove is highest (Asuncion et al. 2009). As this population of green turtles is discrete to the Hawaiian Islands (Dutton et al 2008), it is critical to understand the ecology of these animals. Yet, additional information is needed to understand how these turtles use KSA to forage and to rest, and how environmental conditions, and possibly human interactions, influence their movements and behavior.

### Proposed Research Plan:

I will quantify the diving behavior and habitat use patterns of green sea turtles within and surrounding the Kawainui Study Area (KSA), a small (100 x 100 m) and heterogeneous foraging ground with high human use located in Kailua Bay, Oahu, HI (Figure 1). Turtle behavior data will be related to water temperature variability (on diel, tidal, and seasonal scales), and algal biomass (seasonal scales). To this end, I will use five complementary techniques:

- 1) using time-depth-temperature recorders (TDTRs) to monitor individual turtle diving behavior (dive depth, duration, and water temperature);



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- 2) deploying acoustic tags on turtles and acoustic receivers at locations within and surrounding the study area to track horizontal turtle movements as well as relate diving behavior to habitat/location;
- 3) measuring temperature within the study area using TDTRs for an entire year;
- 4) using quadrat methods to randomly sample algal cover and abundance during each season; and drying algae samples to quantify algal biomass within each habitat; and
- 5) performing behavioral surveys of turtles within all habitats of the study site, using a focal-animal sampling technique (Altmann 1974), to validate the diving data derived from the TDTRs deployed on turtles (working with our NOAA colleagues).

To monitor turtle behavior, NOAA personnel will equip 6 - 12 individuals with two tagging devices – a TDTR (Lotek) and an acoustic tag (Vemco). The TDTR will collect data on dive length and depth, as well as ambient water temperature at 30-second intervals. Five acoustic receivers will be placed around the study area in five different habitat types (Figure 2):

- 1) Kaimalino Cove [very shallow (0-1 m) and rocky, abundant macro-algae];
- 2) the mouth of the Kawainui canal, which delivers cool fresh water from the Kawainui Marsh [shallow (2-3 m) and silty, little macro-algae];
- 3) one km into the canal from the mouth [shallow (2-3 m) and extremely silty, no macro-algae];
- 4) off the point [deep (4-5 m), rocky and sandy, some coral, little macro-algae]; and
- 5) middle of Kailua Bay [shallow (2-3 m) and sandy, some macro-algae].

Upon retrieval after one year of data collection, these instruments will provide detailed information on the habits and habitats of these turtles, which will help managers to determine whether turtles use the study area for foraging (i.e., shallow dives to graze on macro-algae) or for sleeping (i.e., long dives to deep-water caves) (Brill et al. 1995).

To complement, and validate, the devices being used to characterize diving behavior, focal-animal sampling surveys will be performed by surveying individual turtles for five minutes (with 30 second data intervals) within three distinct habitat types in the study site (habitat types 1, 2, and 5 from the list above). Surveys will occur around midday (when turtle abundance is highest in the cove, Asuncion et al. 2009), and will cover rising, high, ebbing, and low tide during each lunar cycle for a full year. Performing this focal-animal behavioral survey is novel for two reasons: 1) there is minimal literature regarding visual behavioral surveys of sea turtles; and 2) while many studies have used time-depth recorders (TDRs) to create vertical profiles of sea turtle diving from which behavior has been inferred, very few studies actually confirm those inferences with visual observations (e.g. Salmon et al. 2004, and the use of a "Cittercam" by Seminoff et al. 2006 and Hays et al. 2007). Visual confirmation of diving behavior is critical to justify the assumptions of behavior based on TDTR dive profiles.

#### Anticipated Results:

It is anticipated that the turtles will use the study area primarily for shallow foraging on the abundant macro- and turf-algae, and for resting in deeper water, primarily in areas in which abundant *Acanthophora spicifera* is found, as this is their preferred diet within KSA (Arthur and Balazs 2008). Foraging behavior will be evidenced by shallow (0-3 m) and brief (0-5 min) dives. I also expect that the turtles will spend most of their time foraging in the cove, and sleeping in the adjacent deeper ledge. Moreover, I anticipate that turtle abundance and habitat use patterns will follow tidal and seasonal sea surface temperature patterns, with most resting occurring in the cooler seasons (late fall - early spring).



### Impacts, Scientific Contribution, and Relation to NOAA's Mission:

This study will help to assess the cumulative impacts of human stresses and environmental variability on juvenile green sea turtles and their coastal ocean ecosystem. This research will provide information on the determinants of green sea turtle foraging behavior in a heterogeneous study area, including temporal changes in water temperature and algae abundance. This ecological information will support ecosystem-based management of green sea turtles in three ways: (i) the variation in turtle distribution and behavior over diel, tidal, and seasonal scales will be related to changes in water temperature within the study area; (ii) the comparison of turtle behavior in different habitats will allow the study of turtle grazing effects on macro-algae; and (iii) together, this enhanced understanding of turtle movements and activity patterns will help managers assess turtle vulnerability to human impacts (entanglement in fishing gear and boat strikes). In summary, by enhancing our understanding of how green sea turtles utilize their coastal habitats, this research will inform the design and implementation of sanctuaries for protecting the natural and cultural features of the marine ecosystem, while allowing resource users to enjoy the ocean sustainably.

This research will address threats from fishing debris by conducting a survey of human activities in KSA. The number of people using the site and their activities during each snorkeling session will be recorded and related to the turtle survey data. Moreover, a questionnaire will be distributed to locals, fishers, and tourists who use the area as another means of quantifying the intensity and type of human uses in KSA. The results of this study will be disseminated through my lab's web-site, public seminars at Hawaii Pacific University, fliers distributed to the community and KSA users, two presentations at scientific meetings, and the publication of a peer-reviewed scientific manuscript.

The proposed study will give me the opportunity to gain valuable skills in designing, implementing, and conducting applied field research. Additionally, it will give me the chance to work alongside university professors, NOAA scientists, and resource managers. These experiences will help shape my future career goals, by leading me to a job with an environmental or governmental agency, or by driving me to pursue a Ph.D. Yet, perhaps the most important contribution of this project is the direct management application of the results, which will be facilitated working closely with the NOAA Marine Turtle Research Group.

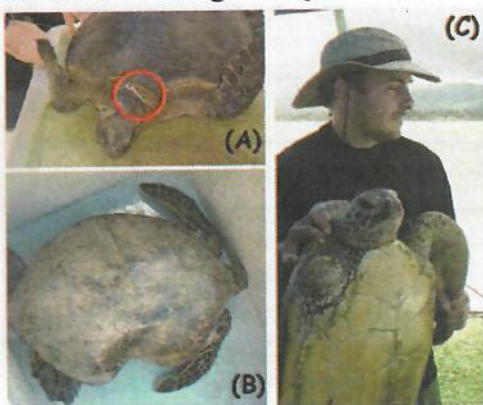


Figure 1. Evidence of human impacts on Kawainui green sea turtles: hooking (A), boat strike (B), amputation from entanglement in fishing line (C).



Figure 2. Acoustic receiver / TDTR locations within different habitats of KSA. See text for description of each habitat type. Image courtesy of Google Earth.



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George,  
Cate  
2009

B. Asuncion  
94-1154 Nanihilihi St.  
Waipahu, HI 96797

Last week, I started the NOAA fellowship with the whale sanctuary people in Hawaii Kai. I'm already learning so much. I'm excited to be working with people interested in advocating place-based management...

It's really a great opportunity for me, so I want to let you know how much I appreciate you expressing your support for me in your letter. You've been a great part of my graduate school experience. 😊 Brenda





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8/19/07



Date: Mon, 10 Aug 2009 15:39:50 -0400  
From: Lizette Olga Durand <lodurand@gmail.com>  
To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>  
Subject: Re: Turtle Picture

George,

Good morning. Yes I will still be here till Friday. My mainland address is:

241 S. 47th Street  
Philadelphia, PA 19139

Thanks again for Friday, I had an amazing time.

Lizette



2-14-09 THA

# Sand to be cleaned of lead pellets

Vacuum, sluices will ease the risk from old skeet ammo at Kaimalino Beach

**BY ELOISE AGUIAR**

*Advertiser Windward O'ahu Writer*

Spent lead pellets that accumulated at an old skeet range and are now scattered on Kaimalino Beach — posing a public health risk — will be removed using a vacuum cleaner and a concept from old gold mining days.

Crews will be on scene starting Monday to clear lead material from a pathway to the beach and along fossilized coral in front of 23 homes.

By the time they're finished in one to two weeks, they will have scoured more than 10,000 square feet of fossilized coral shoreline and removed hundreds of pounds of lead that could pose a threat, particularly to children.

"At this point, I anticipate that the operation will net a few hundred pounds of pellets and significantly reduce the risk of unintended ingestion exposure for small children," Fenix Grange, a supervisor in the state Department of Health office that deals with hazards, said in an e-mail.

Cost of the project is \$50,000.



**BRUCE ASATO** | The Honolulu Advertiser

Sand on a Kaimalino Beach access path will be sluiced to separate out the lead debris, and fossilized coral fronting homes along the shore will be vacuumed.

The area outside Marine Corps Base Hawaii's Mōkapu gate was a skeet-shooting range for about 40 years, and thousands of pounds of lead pellets



**THE ADVERTISER'S VIDEO REPORTS**

Watch video coverage on the cleanup plan and see more photos at

[HONOLULUADVERTISER.COM](http://HONOLULUADVERTISER.COM)

**SEE PELLETS, A5**



# Pellets

CONTINUED FROM A1

were shot into the ocean and at beachside targets before the range closed in the 1970s. In the mid-1990s, the state health department concluded that the lead posed little danger unless it was ingested.

A recent area survey found an increase in the number of pellets in an area that is eroding at Kapoho Point. That situation is a concern, said Cal Miyahara, state project manager for the health department's Hazard Evaluation and Emergency Response Office.

"Based on our testing ... if a child were to consume one pellet, it could be a potential problem," Miyahara said, adding that there have not been any reports of lead poisoning from the area since the department began monitoring it. "So we want to try to help reduce the risk."

The project isn't expected to collect 100 percent of the lead there because lead breaks up into smaller pieces and even dust, he said. But the contractor should be able to collect the larger pieces and even some of the smaller ones using techniques that could be considered low-tech.

## VACUUMING CORAL

A modern version of an old sluice box used by gold miners will remove the sand from the pellets, and an outdoor shop vacuum will suck up pieces in the coral rocks along the shoreline, Miyahara said.

After researching the possibilities, Miyahara said he found two ways to collect the particles, by size or by weight. Since the sand and pellets are of similar size, they decided to use the weight method and the sluice box.

Sand, lead and debris will be hand-fed into the box and seawater will be pumped over the material, he said. Water, sand and debris will flow out into a sock filter, with the water being returned to the ocean.

"The heavier lead pellets will sink toward the bottom of the sluice box and get stuck in the raffle (slats) on the bottom," Miyahara said. "The sand, water and other debris will just flow over the top."

The project should be completed by Feb. 24, he said. The reclaimed lead will be sent to the Mainland for reuse.

The state isn't sure how many pellets are out there, but this pilot project will focus on the pathway, which has relatively thin sand deposits, Grange said.

"These are the areas where

pellets pose potential risk."

According to the federal Agency for Toxic Substances and Disease Registry, lead can affect almost every organ and system in the body. The main target for lead toxicity is the nervous system, both in adults and children, though children are more vulnerable to lead poisoning.

Miyahara said subdivisions were built atop the skeet range but the area was covered with fill, and the eventual topsoil and grass in yards act as a cap to any lead below the surface, guarding against exposure.

## MORE TO DO?

John Stestow, who lives in the area but not near the cleanup sites, said he believes any lead on his property is buried under several feet of fill. The cleanup is good, he said, though he wondered about lead in the water.

"I kind of wonder if it's in fish," Stestow said. "A lot of people come here to fish out on the point."

Knud Lindgard, a Kailua Neighborhood Board member who has been after the state for decades to

clean up the mess, was glad it is getting done but thought the federal government should pay under a special program that cleans old hazardous sites.

Lindgard predicted that once the project gets under way, the contractor will find bigger problems.

"They've completely disregarded that at one time or other there was a total of six ranges involved," he said. "They're only doing half of it."

The pilot project is being paid for by the state with the understanding that it could seek federal funds later, Miyahara said. The pathway is about 700 square feet and the coral rocks that are being vacuumed cover about 10,000 square feet, he said.

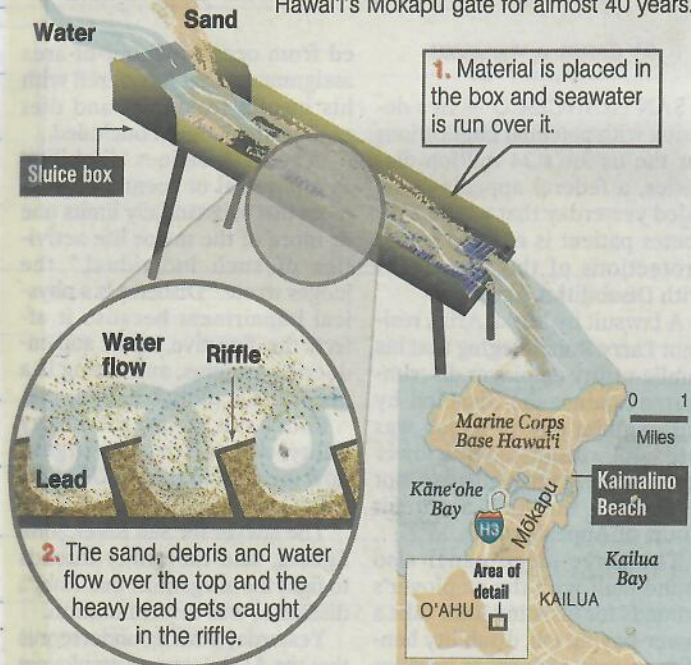
"We can elect to ask EPA (the U.S. Environmental Protection Agency) to pay, but not at the moment," he said. "We're going to do post monitoring to see if the problem recurs."

Reach Eloise Aguiar at 239-7618 or [eaquiara@honoluluadvertiser.com](mailto:eaquiara@honoluluadvertiser.com).



### STATE TO MINE LEAD FROM BEACH SAND

The state will be using gold-mining technology to rid sand at Kaimalino Beach of lead pellets left over from a skeet range that operated outside Marine Corps Base Hawai'i's Mōkapu gate for almost 40 years.



Source: GoldFeverProspecting.com

The Honolulu Advertiser



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More...

Map

Satellite

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*[Faint, illegible handwriting on lined paper]*



(2P)



Lisa Koda, a visitor from California, feeds tufts of grass to a pair of green sea turtles that were interacting with swimmers Tuesday in a sheltered lagoon at Carlsmith Beach Park. Koda was following the lead of other swimmers who were offering grass to the honu. During the half hour or so she was in the water, Koda and her two acquaintances were joined by a third green turtle, and one of the turtles nipped her on the abdomen without causing any bleeding.

WILLIAM ING/Tribune-Herald



### MULTIPLICATION TABLE

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

### CONVERSION TABLE

#### LENGTH

- 1 meter (m) = 100 cm = 1,000 mm
- 1 millimeter (mm) = .001 m
- 1 centimeter (cm) = .01 m
- 1 decimeter (dm) = .1 m
- 1 decameter (dkm) = 10 m
- 1 hectometer (hm) = 100 m
- 1 kilometer (km) = 1,000 m

#### CAPACITY

- 1 liter (l) = 100 cl = 1,000 ml
- 1 milliliter (ml) = .001 l
- 1 centiliter (cl) = .01 l
- 1 deciliter (dl) = .1 l
- 1 decaliter (dkl) = 10 l
- 1 hectoliter (hl) = 100 l
- 1 kiloliter (kl) = 1,000 l

#### WEIGHT

- 1 gram (g) = 100 cg = 1,000 mg
- 1 milligram (mg) = .001 g
- 1 centigram (cg) = .01 g
- 1 decigram (dg) = .1 g
- 1 decagram (dkg) = 10 g
- 1 hectogram (hg) = 100 g
- 1 kilogram (kg) = 1,000 g

### GRAMMAR RULES

• There are eight parts of speech:

1. **NOUN**- the name of a person, place or thing
2. **VERB**- an action word
3. **ADJECTIVE**- describes a noun or pronoun
4. **ADVERB**- describes a verb, adjective or another adverb

5. **PRONOUN**- substitutes for a noun
6. **PREPOSITION**- connects a noun to another part of the sentence
7. **CONJUNCTION**- connects words or ideas
8. **INTERJECTION**- an exclamation



Laurencia mcdermidia

Collected Kailua Bay

-Mike's house-

14<sup>th</sup> May 2009.

POINT Limestone

KAWAII

ans "it is" or "it has".  
re means "you are".

object. To "lie" is to recline.  
nce. To "effect" is to cause.

KA . . . words that belong together.

A **colon** is used prior to a list or long quotation.

A **semicolon** indicates a greater pause than that which is indicated by a comma; and is often used between groups of words separated by commas.

An **apostrophe** is used to indicate the possessive case of nouns as in *Jenny's pen*; to form a contraction as in *I've* or *they've*; and to form the plural of a letter or number as in the three *R's*, *7's* and *11's*.

An **hyphen** divides words in syllables such as compound words like *twenty-five*.

A **quotation mark** indicates the exact words someone spoke. Use with titles of songs, short stories, chapter titles, short plays, television programs, magazine articles and poems.

**Underlining** is used with the titles of books, movies, newspapers, magazines, long plays and poems.