

FFS

1993-1995

G.H. BALAZS

3 OF 3

BALAZS

EXP. 39 FFS 4803/4804 → 1993

EXP. 40 FFS → 1995

22125 MAR 63
22133

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P. 55-63

ZOTA-055
GBI WH6 BLQ

Historical information for turtle 2692

National Marine Fisheries Service
 2570 Dole Street
 Honolulu Hawaii 96822-22396

Tag information--

Tag Number	Date Tagged	Tag Type	Tag Position
2692	/ /	---	LFL
5243	/ /	---	RFL
5244	/ /	---	L1

Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter			Overall			
						Interval Month	Year	Growth-rates cm/mon	Interval Month	Year	Growth-rates cm/mon	
05/29/90	Nesting	East	0	N	---	---	---	---	---	---	---	---
06/13/90	Nesting	East	0	N	---	---	---	---	---	---	---	---
06/26/90	Nesting	East	0	C	---	---	---	---	---	---	---	---
06/27/90	Nesting	East	0	N	---	---	---	---	---	---	---	---
06/28/90	Nesting	East	0	N	---	---	---	---	---	---	---	---
07/11/90	Nesting	East	0	C	---	---	---	---	1	0.1	---	---

Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter		Overall		
						Interval Month	Growth-rates cm/mon	Interval Month	Growth-rates cm/mon	
07/12/90	Nesting	East	0	N	---	---	---	1	0.1	---
07/25/90	Nesting	East	0	P	---	---	---	1	0.1	---
08/08/90	Nesting	East	0	N	---	---	---	2	0.2	---

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Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter		Overall	
						Interval Month	Growth-rates cm/mon	Interval Month	Growth-rates cm/mon
06/25/85	Near Shore	East	0	-	---	---	---	---	---
06/26/85	Near Shore	East	0	-	---	---	---	---	---
06/26/85	Nesting	East	0	N	---	---	---	---	---
06/27/85	Near Shore	East	0	-	---	---	---	---	---
06/28/85	Near Shore	East	0	-	---	---	---	---	---
05/22/88	Nesting	East	0	C	34	2.8	---	35	2.9
05/23/88	Nesting	East	0	B	---	---	---	35	2.9
05/24/88	Nesting	East	0	N	---	---	---	35	2.9
05/31/88	Nesting	East	0	B	---	---	---	35	2.9
06/01/88	Nesting	East	0	B	---	---	---	35	2.9
06/02/88	Nesting	East	0	B	---	---	---	35	2.9
06/03/88	Nesting	East	0	B	---	---	---	35	2.9
06/04/88	Nesting	East	0	B	---	---	---	35	2.9
06/05/88	Nesting	East	0	X	---	---	---	35	2.9
06/06/88	Nesting	East	0	N	---	---	---	35	2.9
06/07/88	Nesting	East	0	B	---	---	---	35	2.9

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Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter		Overall			
						Interval Month	Growth-rates cm/mon	Interval Month	Growth-rates cm/mon		
06/10/88	Nesting	East	0	B	---	---	---	35	2.9	---	---
06/11/88	Nesting	East	0	B	---	---	---	35	2.9	---	---
06/12/88	Nesting	East	0	B	---	---	---	35	2.9	---	---
06/14/88	Nesting	East	0	B	---	---	---	35	2.9	---	---
06/17/88	Nesting	East	0	B	---	---	---	36	3.0	---	---
06/18/88	Nesting	East	0	X	---	---	---	36	3.0	---	---
06/29/88	Nesting	East	0	C	---	---	---	36	3.0	---	---
05/19/91	Nesting	East	0	X	---	34	2.8	71	5.9	---	---
05/20/91	Nesting	East	0	X	---	---	---	71	5.9	---	---
05/21/91	Nesting	East	0	X	---	---	---	71	5.9	---	---
06/02/91	Nesting	East	0	N	---	---	---	71	5.9	---	---
06/14/91	Nesting	East	0	X	---	---	---	71	5.9	---	---
06/15/91	Nesting	East	0	X	---	---	---	71	5.9	---	---
06/16/91	Nesting	East	0	P	---	---	---	71	5.9	---	---
06/27/91	Nesting	East	0	P	---	---	---	72	6.0	---	---
07/09/91	Nesting	East	0	M	---	---	---	72	6.0	---	---

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Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter			Overall		
						Interval Month	Year	Growth-rates cm/mon	Interval Month	Year	Growth-rates cm/mon
07/23/91	Nesting	East	0	P	---	---	---	---	73	6.1	---

Historical information for turtle 8180

National Marine Fisheries Service
 2570 Dole Street
 Honolulu Hawaii 96822-22396

Tag information--

Tag Number	Date Tagged	Tag Type	Tag Position
8180	/ /	---	
8181	/ /	---	
8182	/ /	---	
F188	06/29/92	---	LHF

Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter		Overall	
						Interval Month	Year	Interval Month	Year
05/28/88	Nesting	East	0	N	---	---	---	---	---
06/10/88	Nesting	East	0	C	---	---	---	---	---
06/11/88	Nesting	East	0	N	---	---	---	---	---
06/24/88	Nesting	East	0	N	---	---	---	---	---
07/05/88	Nesting	East	0	X	---	---	1	0.1	---

Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter			Overall		
						Interval Month	Year	Growth-rates cm/mon	Interval Month	Year	Growth-rates cm/mon
07/06/88	Nesting	East	0	C	---	---	---	---	1	0.1	---
07/19/88	Nesting	East	0	X	---	---	---	---	1	0.1	---
08/01/88	Nesting	East	0	N	---	---	---	---	2	0.2	---
05/27/92	Nesting	East	0	X	---	45	3.8	---	47	3.9	---
06/07/92	Nesting	East	0	X	---	---	---	---	48	4.0	---
06/29/92	Nesting	East	0	P	---	---	---	---	49	4.1	---
07/09/92	Nesting	East	0	C	---	---	---	---	49	4.1	---
07/11/92	Nesting	East	0	M	---	---	---	---	49	4.1	---
07/20/92	Nesting	East	0	X	---	---	---	---	49	4.1	---
07/21/92	Nesting	East	0	M	---	---	---	---	49	4.1	---
08/01/92	Nesting	East	0	N	---	---	---	---	50	4.2	---

Historical information for turtle 10095

National Marine Fisheries Service
 2570 Dole Street
 Honolulu Hawaii 96822-22396

Tag information--

Tag Number	Date Tagged	Tag Type	Tag Position
10095	/ /	1681	R34
3590	/ /	1681	RFL
6244	/ /	1681	
8244	06/12/85	1681	L23

Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter			Overall		
						Interval Month	Year	Growth-rates cm/mon	Interval Month	Year	Growth-rates cm/mon
06/12/85	Nesting	East	0	N	---	---	---	---	---	---	---
06/12/85	Nesting	East	0	N	---	---	---	---	---	---	---
06/24/85	Nesting	East	0	C	---	---	---	---	---	---	---
06/24/85	Nesting	East	0	N	---	---	---	---	---	---	---
05/28/88	Nesting	East	0	N	---	35	2.9	---	35	2.9	---

Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter		Overall			
						Interval Month	Growth-rates cm/mon	Interval Month	Growth-rates cm/mon		
06/09/88	Nesting	East	0	C	---	---	---	35	2.9	---	---
06/10/88	Nesting	East	0	N	---	---	---	35	2.9	---	---
06/11/88	Nesting	East	0	M	---	---	---	35	2.9	---	---
06/21/88	Nesting	East	0	N	---	---	---	36	3.0	---	---
06/22/88	Nesting	East	0	N	---	---	---	36	3.0	---	---
07/03/88	Nesting	East	0	P	---	---	---	36	3.0	---	---
07/05/88	Nesting	East	0	C	---	---	---	36	3.0	---	---
07/15/88	Nesting	East	0	M	---	---	---	37	3.1	---	---
07/27/88	Nesting	East	0	C	---	---	---	37	3.1	---	---
07/28/88	Nesting	East	0	N	---	---	---	37	3.1	---	---
06/03/90	Nesting	East	0	X	---	22	1.8	59	4.9	---	---
06/04/90	Nesting	East	0	N	---	---	---	59	4.9	---	---
06/17/90	Nesting	East	0	C	---	---	---	60	5.0	---	---
06/18/90	Nesting	East	0	N	---	---	---	60	5.0	---	---
07/01/90	Nesting	East	0	N	---	---	---	60	5.0	---	---
07/14/90	Nesting	East	0	P	---	---	---	61	5.1	---	---

--Continued
Historical information--

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Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter			Overall		
						Interval Month	Year	Growth-rates cm/mon	Interval Month	Year	Growth-rates cm/mon
07/26/90	Nesting	East	0	N	---	---	---	---	61	5.1	---

Historical information for turtle 10095

National Marine Fisheries Service
 2570 Dole Street
 Honolulu Hawaii 96822-22396

Tag information--

Tag Number	Date Tagged	Tag Type	Tag Position
10095	/ /	1681	R34
3590	/ /	1681	RFL
6244	/ /	1681	
8244	06/12/85	1681	L23

Historical information--

Date	Encounter	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter			Overall		
							Interval Month	Year	Growth-rates cm/mon	Interval Month	Year	Growth-rates cm/mon
06/12/85	Nesting		East	0	N	---	---	---	---	---	---	---
06/12/85	Nesting		East	0	N	---	---	---	---	---	---	---
06/24/85	Nesting		East	0	C	---	---	---	---	---	---	---
06/24/85	Nesting		East	0	N	---	---	---	---	---	---	---
05/28/88	Nesting		East	0	N	35	2.9	---	35	2.9	---	---

Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter			Overall		
						Interval Month	Year	Growth-rates cm/mon	Interval Month	Year	Growth-rates cm/mon
06/09/88	Nesting	East	0	C	---	---	---	---	35	2.9	---
06/10/88	Nesting	East	0	N	---	---	---	---	35	2.9	---
06/11/88	Nesting	East	0	M	---	---	---	---	35	2.9	---
06/21/88	Nesting	East	0	N	---	---	---	---	36	3.0	---
06/22/88	Nesting	East	0	N	---	---	---	---	36	3.0	---
07/03/88	Nesting	East	0	P	---	---	---	---	36	3.0	---
07/05/88	Nesting	East	0	C	---	---	---	---	36	3.0	---
07/15/88	Nesting	East	0	M	---	---	---	---	37	3.1	---
07/27/88	Nesting	East	0	C	---	---	---	---	37	3.1	---
07/28/88	Nesting	East	0	N	---	---	---	---	37	3.1	---
06/03/90	Nesting	East	0	X	---	22	1.8	---	59	4.9	---
06/04/90	Nesting	East	0	N	---	---	---	---	59	4.9	---
06/17/90	Nesting	East	0	C	---	---	---	---	60	5.0	---
06/18/90	Nesting	East	0	N	---	---	---	---	60	5.0	---
07/01/90	Nesting	East	0	N	---	---	---	---	60	5.0	---
07/14/90	Nesting	East	0	P	---	---	---	---	61	5.1	---

--Continued
Historical information--

3

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Straight Length	Since Last Encounter		Overall	
						Interval Month	Growth-rates cm/mon	Interval Month	Growth-rates cm/mon
07/26/90	Nesting	East	0	N	---	---	---	61	5.1
					---	---	---	---	---

Historical Information for Turtle Tag 9528

Tag Information:

Tag Number	Date	Tag Type	Tag Position
193T	6/11/97		LHF
194T	6/11/97		RHF
9528	10/16/85	1681	LFL
9529	10/16/85	1681	RFL

Date	Type of Encounter	Location:	Tumor Rank:	Nesting Act:	Straight Carapace	Since Last Encounter			Overall		
						Interval Month	Year	Growth-Rates cm/mon	Interval Month	Year	Growth-Rates cm/mon
10/16/85	Near Shore	Molokai, Palaaau	0	-	80.0	---	---	---	---	---	---
6/11/97	Nesting	East	0	X	---	139.0	11.6	---	139.0	11.6	---
6/14/97	Nesting	East	0	N	---	---	---	---	139.0	11.6	---

Historical Information for Turtle Tag 9528

Tag Information:

<u>Tag Number</u>	<u>Date</u>	<u>Tag Type</u>	<u>Tag Position</u>
193T	6/11/97		LHF
194T	6/11/97		RHF
9528	10/16/85	I681	LFL
9529	10/16/85	I681	RFL

<u>Date</u>	<u>Type of Encounter</u>	<u>Location:</u>	<u>Tumor Rank:</u>	<u>Nesting Act:</u>	<u>Curved Carapace</u>	<u>Since Last Encounter</u>			<u>Overall</u>			
						<u>Interval</u>	<u>Year</u>	<u>Growth-Rates</u>	<u>Interval</u>	<u>Year</u>	<u>Growth-Rates</u>	
						<u>Month</u>	<u>Year</u>	<u>cm/mon</u>	<u>Month</u>	<u>Year</u>	<u>cm/mon</u>	<u>cm/yr</u>
10/16/85	Near Shore	Molokai, Palaau	0	-	86.5	---	---	---	---	---	---	---
6/11/97	Nesting	East	0	X	103.0	139.0	11.6	0.1	139.0	11.6	0.1	1.4
6/14/97	Nesting	East	0	N	103.0	---	---	---	139.0	11.6	0.1	1.4

Historical Information for Turtle Tag 6119

Tag Information:

Tag Number	Date	Tag Type	Tag Position
6117			LFL
6119		1681	LFL
6145	7/2/83	1681	LFL
6160		1681	R3
G714	6/10/96		LHF
G715	6/10/96		RHF
W830	7/25/90	1681	L34

Date	Type of Encounter	Location	Tumor Rank	Nesting Act	Straight Carapace	Since Last Encounter			Overall			
						Interval Month	Year	Growth-Rates cm/mon	Interval Month	Year	Growth-Rates cm/mon	
7/2/83	Near Shore	Laysan Island	0	-	---	---	---	---	---	---	---	---
5/27/90	Nesting	East	0	X	---	82.0	6.8	---	82.0	6.8	---	---
5/27/90	Nesting	East	0	X	---	---	---	---	82.0	6.8	---	---
5/28/90	Nesting	East	0	X	---	---	---	---	82.0	6.8	---	---
5/28/90	Nesting	East	0	X	---	---	---	---	82.0	6.8	---	---
5/29/90	Nesting	East	0	N	---	---	---	---	82.0	6.8	---	---
6/12/90	Nesting	East	0	N	---	---	---	---	83.0	6.9	---	---
6/25/90	Nesting	East	0	N	---	---	---	---	83.0	6.9	---	---
6/25/90	Nesting	East	0	N	---	---	---	---	83.0	6.9	---	---
7/8/90	Nesting	East	0	C	---	---	---	---	84.0	7.0	---	---
7/8/90	Nesting	East	0	C	---	---	---	---	84.0	7.0	---	---
7/9/90	Nesting	East	0	N	---	---	---	---	84.0	7.0	---	---
7/9/90	Nesting	East	0	N	---	---	---	---	84.0	7.0	---	---
7/23/90	Nesting	East	0	N	---	---	---	---	84.0	7.0	---	---
7/25/90	Nesting	East	0	N	---	---	---	---	84.0	7.0	---	---
7/25/90	Nesting	East	0	N	---	---	---	---	84.0	7.0	---	---
6/10/96	Nesting	East	0	C	97.3	70.0	5.8	---	155.0	12.9	---	---
6/11/96	Nesting	East	0	X	97.3	---	---	---	155.0	12.9	---	---

Date	Type of Encounter	Location:	TumorRank:	NestingAct:	Straight Carapace	Since Last Encounter					Overall		
						Interval Month	Year	cm/mon	Growth-Rates cm/yr	Interval Month	Year	cm/mon	Growth-Rates cm/yr
6/22/96	Nesting	East	0	X	97.3	---	---	---	---	155.0	12.9	---	---
6/23/96	Nesting	East	0	M	97.3	---	---	---	---	155.0	12.9	---	---
7/4/96	Nesting	East	0	M	97.3	---	---	---	---	156.0	13.0	---	---

Historical Information for Turtle Tag 6119

Tag Information:

Tag Number	Date	Tag Type	Tag Position
6117			LFL
6119		I681	LFL
6145	7/2/83	I681	LFL
6160		I681	R3
G714	6/10/96		LHF
G715	6/10/96		RHF
W830	7/25/90	I681	L34

Date	Type of Encounter	Location	Tumor Rank	Nesting Act	Curved Carapace	Since Last Encounter			Overall			
						Month	Year	Growth-Rates cm/mon	Month	Year	Growth-Rates cm/mon	
7/2/83	Near Shore	Laysan Island	0	-	---	---	---	---	---	---	---	---
5/27/90	Nesting	East	0	X	104.5	82.0	6.8	---	82.0	6.8	---	---
5/27/90	Nesting	East	0	X	104.5	---	---	---	82.0	6.8	---	---
5/28/90	Nesting	East	0	X	104.5	---	---	---	82.0	6.8	---	---
5/28/90	Nesting	East	0	X	104.5	---	---	---	82.0	6.8	---	---
5/29/90	Nesting	East	0	N	104.5	---	---	---	82.0	6.8	---	---
6/12/90	Nesting	East	0	N	104.5	---	---	---	83.0	6.9	---	---
6/25/90	Nesting	East	0	N	104.5	---	---	---	83.0	6.9	---	---
6/25/90	Nesting	East	0	N	104.5	---	---	---	83.0	6.9	---	---
7/8/90	Nesting	East	0	C	104.5	---	---	---	84.0	7.0	---	---
7/8/90	Nesting	East	0	C	104.5	---	---	---	84.0	7.0	---	---
7/9/90	Nesting	East	0	N	104.5	---	---	---	84.0	7.0	---	---
7/9/90	Nesting	East	0	N	104.5	---	---	---	84.0	7.0	---	---
7/23/90	Nesting	East	0	N	104.5	---	---	---	84.0	7.0	---	---
7/25/90	Nesting	East	0	N	104.5	---	---	---	84.0	7.0	---	---
7/25/90	Nesting	East	0	N	104.5	---	---	---	84.0	7.0	---	---
6/10/96	Nesting	East	0	C	105.3	70.0	5.8	0.0	155.0	12.9	---	---
6/11/96	Nesting	East	0	X	105.3	---	---	---	155.0	12.9	---	---

Date	Type of Encounter	Location:	Tumor Rank:	Nesting Act:	Curved Carapace	Since Last Encounter				Overall			
						Interval Month	Year	Growth-Rates cm/mon	Growth-Rates cm/yr	Interval Month	Year	Growth-Rates cm/mon	Growth-Rates cm/yr
6/22/96	Nesting	East	0	X	105.3	---	---	---	---	155.0	12.9	---	---
6/23/96	Nesting	East	0	M	105.3	---	---	---	---	155.0	12.9	---	---
7/4/96	Nesting	East	0	M	105.3	---	---	---	---	156.0	13.0	---	---

Historical Information for Turtle Tag 6188

Tag Information:

Tag Number	Date	Tag Type	Tag Position
6188	3/9/83	I681	LFL
6193	3/9/83	I681	
9309	6/20/85	I681	RFL
U183	6/12/93		LHF
U184	6/12/93		RHF

Date	Type of Encounter	Location:	Tumor Rank:	Nesting Act:	Straight Carapace	Since Last Encounter				Overall				
						Month	Year	cm/mon	cm/yr	Month	Year	cm/mon	cm/yr	
3/9/83	Stranding	Oahu, Kaneohe Bay	0	-	37.0	---	---	---	---	---	---	---	---	---
3/9/83	Near Shore	Oahu, Kaneohe Bay	0	-	37.0	---	---	---	---	---	---	---	---	---
6/18/85	Nesting	East	0	N	---	27.0	2.3	---	---	27.0	2.3	---	---	---
6/18/85	Nesting	East	0		---	---	---	---	---	27.0	2.3	---	---	---
6/19/85	Nesting	East	0	N	---	---	---	---	---	27.0	2.3	---	---	---
6/19/85	Nesting	East	0	N	---	---	---	---	---	27.0	2.3	---	---	---
6/20/85	Nesting	East	0	C	---	---	---	---	---	27.0	2.3	---	---	---
6/20/85	Nesting	East	0	N	---	---	---	---	---	27.0	2.3	---	---	---
6/20/85	Nesting	East	0	N	---	---	---	---	---	27.0	2.3	---	---	---
6/26/85	Near Shore	East, SEP	0	-	---	---	---	---	---	27.0	2.3	---	---	---
5/24/90	Nesting	East	0	X	---	58.0	4.8	---	---	86.0	7.2	---	---	---
5/25/90	Nesting	East	0	P	---	---	---	---	---	86.0	7.2	---	---	---
6/8/90	Nesting	East	0	X	---	---	---	---	---	86.0	7.2	---	---	---
6/8/90	Nesting	East	0	X	---	---	---	---	---	86.0	7.2	---	---	---
6/9/90	Nesting	East	0	N	---	---	---	---	---	87.0	7.3	---	---	---
6/9/90	Nesting	East	0	N	---	---	---	---	---	87.0	7.3	---	---	---
6/22/90	Nesting	East	0	X	---	---	---	---	---	87.0	7.3	---	---	---
6/22/90	Nesting	East	0	X	---	---	---	---	---	87.0	7.3	---	---	---
6/23/90	Nesting	East	0	P	---	---	---	---	---	87.0	7.3	---	---	---

Date	Type of Encounter	Location:	Tumor Rank:	Nesting Act:	Straight Carapace	Since Last Encounter				Overall			
						Interval Month	Year	Growth-Rates cm/mon	Growth-Rates cm/yr	Interval Month	Year	Growth-Rates cm/mon	Growth-Rates cm/yr
6/23/90	Nesting	East	0	P	---	---	---	---	---	87.0	7.3	---	---
6/24/90	Nesting	East	0	N	---	---	---	---	---	87.0	7.3	---	---
6/24/90	Nesting	East	0	N	---	---	---	---	---	87.0	7.3	---	---
7/8/90	Nesting	East	0	N	---	---	---	---	---	87.0	7.3	---	---
7/21/90	Nesting	East	0	N	---	---	---	---	---	88.0	7.3	---	---
7/21/90	Nesting	East	0	N	---	---	---	---	---	88.0	7.3	---	---
8/3/90	Nesting	East	0	N	---	---	---	---	---	88.0	7.3	---	---
8/3/90	Nesting	East	0	N	---	---	---	---	---	88.0	7.3	---	---
8/17/90	Nesting	East	0	P	---	---	---	---	---	89.0	7.4	---	---
8/17/90	Nesting	East	0	P	---	---	---	---	---	89.0	7.4	---	---
6/12/93	Nesting	East	0	C	---	---	---	2.8	33.0	123.0	10.3	---	---
6/12/93	Nesting	East	0	C	---	---	---	---	---	123.0	10.3	---	---
6/13/93	Nesting	East	0	X	---	---	---	---	---	123.0	10.3	---	---
6/15/93	Nesting	East	0	X	---	---	---	---	---	123.0	10.3	---	---
6/26/93	Nesting	East	0	X	---	---	---	---	---	123.0	10.3	---	---
6/4/97	Nesting	East	0	M	---	---	---	3.9	47.0	170.0	14.2	---	---
6/17/97	Nesting	East	0	P	---	---	---	---	---	171.0	14.3	---	---

Historical Information for Turtle Tag 9629

Tag Information:

Tag Number	Date	Tag Type	Tag Position
9629	2/19/88	1681	LFL
9630	2/19/88	1681	RFL

Date	Type of Encounter	Location:	Tumor Rank:	Nesting Act:	Straight Carapace	Since Last Encounter			Overall				
						Interval	Growth-Rates	Interval	Growth-Rates	Interval	Growth-Rates		
						Month	Year	cm/mon	cm/yr	Month	Year	cm/mon	cm/yr
2/19/88	Near Shore	Molokai, Kawela, Panahaha Fishpond	0	-	73.0	---	---	---	---	---	---	---	---

Historical Information for Turtle Tag 9629

Tag Information:

<u>Tag Number</u>	<u>Date</u>	<u>Tag Type</u>	<u>Tag Position</u>
9629	2/19/88	1681	LFL
9630	2/19/88	1681	RFL

<u>Date</u>	<u>Type of Encounter</u>	<u>Location:</u>	<u>Tumor/Rank:</u>	<u>Nesting/Act:</u>	<u>Curved Carapace</u>	<u>Since Last Encounter</u>			<u>Overall</u>			
						<u>Interval</u>	<u>Year</u>	<u>Growth-Rates</u>	<u>Interval</u>	<u>Year</u>	<u>Growth-Rates</u>	
						Month	Year	cm/mon	Month	Year	cm/mon	cm/yr
2/19/88	Near Shore	Molokai, Kawela, Panahaha Fishpond	0	-	78.0	---	---	---	---	---	---	---

Historical Information for Turtle Tag 2370

Tag Information:

Tag Number	Date	Tag Type	Tag Position
2370	1/20/78	I681	RFL
2371	1/20/78	I681	LFL
2372	1/20/78	I681	R34
F709	6/1/93		LHF
F710	6/1/93		RHF

Date	Type of Encounter	Location:	Tumor Rank:	Nesting Act:	Curved Carapace	Since Last Encounter			Overall			
						Interval Month	Year	Growth-Rates cm/mon	Interval Month	Year	Growth-Rates cm/mon	
1/20/78	Near Shore	Hawaii, Punaluu Bay	0	-	71.7	---	---	---	---	---	---	---
6/1/93	Nesting	East	0	C	84.5	184.0	15.3	0.1	184.0	15.3	0.1	0.8
6/2/93	Nesting	East	0	X	84.5	---	---	---	184.0	15.3	0.1	0.8
6/2/93	Nesting	East	0	X	84.5	---	---	---	184.0	15.3	0.1	0.8
6/17/93	Nesting	East	0	C	84.5	---	---	---	184.0	15.3	0.1	0.8
6/18/93	Nesting	East	0	N	84.5	---	---	---	184.0	15.3	0.1	0.8

Back up

Need Device

cost to

Images

Date: Fri, 4 Jan 2013 15:00:31 -1000
From: Irene NurziaHumburg - NOAA Affiliate <irene.nurziahumburg@noaa.gov>
To: "George Balazs, honlab" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Summary of findings,
pictures taken with FFS turtle cam - another long email

ok, after looking through all resources I could think of, and consolidating many duplicate copies of files, here's my tally:

span 2003-2009 (no 2007)
approx total number of images 20.000 (unless program duplicates files when sorting through presets). (no less than 15.000 I would say to be conservative)

2003 - total of 13.000 files, May to June (suspiciously high number, maybe duplication happening somewhere but I couldn't find it..)
2004 - total of 458 files, October to December
2005 - total of 1377 files, January through March
2006- total of 185 files, July through September
2008 - total of 1568 files, July through September
Note: this includes ~200 pictures taken with the thermal camera
2009 - a total of 4259 files, January through July.

There aren't photos of every day of every month listed, also, there are about 11.710 files that have a mark of 2005, but it looks like this is due to the fact that they were recovered after the so called "crash" of 2005 so these are probably unsorted duplicates (so not included in my total tally of 20.000),

All the photos that are sorted have a time and date stamp.
I separated them by year, then, they are in sub-folders for a certain day of that year for all but 2003.
in 2003, files are grouped by preset (one folder each) and then the date is in the filename. (maybe reason for much higher number)

As far as the "quality and character" that you mentioned to highlight the value of the images:
pictures range from all of the island in each direction, to monk seal flippers zoomed in, to wave action, thermal images of Tammi and turtles, the tent and campsite and all the landmarks, as well as vegetation cover, and birds nesting.

Wow. what an Archive.

Irene

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Irene Nurzia Humburg

Marine Turtle Research Specialist

Joint Institute for Marine and Atmospheric Research

Marine Turtle Research Program

Pacific Islands Fisheries Science Center

NOAA, National Marine Fisheries Service

Date: Fri, 4 Jan 2013 12:27:11 -1000
From: Irene NurziaHumburg - NOAA Affiliate <irene.nurziahumburg@noaa.gov>
To: "George Balazs, honlab" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: valuable items on Tern - long email.

George,
Reviewing our inventory, I have not found any major items of high irreplaceable value. (as we bring a lot of that from here..). However, a few things that we may want to keep in mind, especially for when people will go back in March:

The FWS crew may not know that we have some chemicals stored in the turtle closet. this includes propane tanks (small ones) for the camp stove, spray paint and insect repellent. the crew going up in March may want to take a close look at whether they are posing a spill hazard to people or wildlife. (all the things listed fit in 3 five gal buckets, the lids have been closed, and put in the metal cabinet).

The most valuable items for us to possibly think of monitoring on East of course would be the tent parts and cots. the cots are in the metal cabinet, but the tent parts are just stacked in the closet, wrapped in plastic bags. knowing the integrity of those pieces would be necessary to decide if an alternative means of housing needs to be considered.

The second most expensive thing to replace all together (that is vital for camp) would be the first aid kit, this was/is located in the FWS linen closet in its separate tub, so I have hope it did not get blown away. whether items are still usable though, is something I'd like checked, in case there was water damage since the tub is not waterproof.

lastly, to operate camp, we would need to know if the lights stored in one of the drawers are still there, and if they work... We also have a number (~200) of different size batteries to operate lights and flashlights. It'd be good to check whether their integrity is compromised (again a hazard, and also a necessity for camp operations).

Miscellaneous: there is a VHF marine radio (small, in a box, never used) in the drawers that may be worth salvaging. Also a large battery that was on the ground in the closet (the size of a car battery) that looked new, as well as a bucket left by Konrad with camera harness, repair equipment and cables (but I don't know how to estimate their importance).

Irene

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Irene Nurzia Humburg

Marine Turtle Research Specialist

Joint Institute for Marine and Atmospheric Research

Marine Turtle Research Program

Historical information for turtle A240

National Marine Fisheries Service
 2570 Dole Street
 Honolulu Hawaii 96822-22396

Tag information--

Tag Number	Date Tagged	Tag Type	Tag Position
A240	05/26/91	---	RFL
A241	05/26/91	---	LFL

Historical information--

Date	Encounter	Type of	Location	Tumor Score	Nesting Activity	Curved Length	Since Last Encounter			Overall			
							Interval Month	Year	Growth-rates cm/mon	Interval Month	Year	Growth-rates cm/mon	
05/26/91	Nesting		East	0	C	102.5	---	---	---	---	---	---	---
05/27/91	Nesting		East	0	X	102.5	---	---	---	---	---	---	---
05/28/91	Nesting		East	0	P	102.5	---	---	---	---	---	---	---
06/11/91	Nesting		East	0	P	102.5	---	---	---	---	---	---	---
06/24/91	Nesting		East	0	N	102.5	---	---	---	---	---	---	---
07/06/91	Nesting		East	0	X	102.5	---	---	---	1	0.1	0.0	0.0

--Continued

2

Historical information--

Date	Type of Encounter	Location	Tumor Score	Nesting Activity	Curved Length	Since Last Encounter		Overall			
						Interval Month	Interval Year	Growth-rates cm/mon	Growth-rates cm/yr		
07/07/91	Nesting	East	0	N	102.5	---	---	1	0.1	0.0	0.0
07/20/91	Nesting	East	0	M	102.5	---	---	1	0.1	0.0	0.0
08/01/91	Nesting	East	0	N	102.5	---	---	2	0.2	0.0	0.0

Historical Information for Turtle Tag A240

Tag Information:

<u>Tag Number</u>	<u>Date</u>	<u>Tag Type</u>	<u>Tag Position</u>
A240	5/26/91		RFL
A241	5/26/91		LFL

<u>Date</u>	<u>Type of Encounter</u>	<u>Location:</u>	<u>TumorRank:</u>	<u>NestingAct:</u>	<u>Curved Carapace Length</u>	Since Last Encounter				Overall			
						<u>Interval</u> Month	<u>Year</u>	<u>Growth-Rates</u> cm/mon	<u>Growth-Rates</u> cm/yr	<u>Interval</u> Month	<u>Year</u>	<u>Growth-Rates</u> cm/mon	<u>Growth-Rates</u> cm/yr
5/26/91	Nesting	East	0	C	102.5	0	0	---	---	0	0	---	---
5/27/91	Nesting	East	0	X	102.5	0	0	---	---	0	0	---	---
5/28/91	Nesting	East	0	P	102.5	0	0	---	---	0	0	---	---
6/11/91	Nesting	East	0	P	102.5	0	0	---	---	0	0	---	---
6/24/91	Nesting	East	0	N	102.5	0	0	---	---	0	0	---	---
7/6/91	Nesting	East	0	X	102.5	0	0	---	---	1	0.1	0.0	0.0
7/7/91	Nesting	East	0	N	102.5	0	0	---	---	1	0.1	0.0	0.0
7/20/91	Nesting	East	0	M	102.5	0	0	---	---	1	0.1	0.0	0.0
8/1/91	Nesting	East	0	N	102.5	0	0	---	---	2	0.2	0.0	0.0
6/15/93	Nesting	East		X	103.5	22	1.8	0.0	0.6	24	2	0.0	0.5
6/16/93	Nesting	East		X	103.5	0	0	---	---	24	2	0.0	0.5
6/17/93	Nesting	East		X	103.5	0	0	---	---	24	2	0.0	0.5
6/29/93	Nesting	East		P	103.5	0	0	---	---	25	2.1	0.0	0.5
6/29/93	Nesting	East		X	103.5	0	0	---	---	25	2.1	0.0	0.5

Tern Island IDs

Book #1

5/31 p. 9

T66 F961 RH N (database O) 35/248

6/1 p. 13

T76 88 LFL O (not in db?) 49/248

6/2 p. 15

T81 F977 LHF N

? LFL O (not in db) 56/248

6/3 p. 17

T88 ~~F982~~ LHF N 63/248 (in db)

F983 (in book)

6/8 p. 28 - 31

T15 (in book) T115 (in db - blank) 106/248

T119 (blank in db) 111/248

T121 (blank in db) 113/248

6/9 p. 33

T103 5970 LHN (in book) In db: 6/7 T108 5840 LHF N 93/248 (p. 28)

6/10 p. 37

T133 W983 LH O (N in db)

9691 L FLO — (blank in db, O in book)

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
 AT EAST ISLAND, FRENCH FRIGATE SHOALS
 2006

NESTED 105
 error PFF 100

DATE	TOTAL NO. TURTLES UP	NO. OF NEW TURTLES IDed (MOTOTOOL)	NUMBER OF NESTS N/P/M	YOUR INITIALS	COMMENTS (WEATHER, SPECIAL OBSERVATIONS)
6/7/06	28	28	N- (4) P-1 (1) M-1 (1)	JA PNH	- Partial Night - 3 walks - Training Walk - Huge roosting star! ≥ 95 Baskers
6/8/06	56	43	N- = (5) P- = (2) M- = (8)	(JA) PNH	- FIRST FULL TRAINING NIGHT ≥ 100 BASKERS - 1 TURTLE CRAWLING @ 1943 - 1 Turtle at below the Berm
6/09/06	58	43 27	N= = (3) P= = (3) M= = (5)	(JA) PNH	> 100 BASKERS - 3 TURTLES XBP ON 1st walk - 1 TURTLE CRAWLING @ 1948
6/10/06	57	29	N- (4) P- (4) M- (4)	JA	≥ 130 Baskers - Full Moon! - Lots of birds eaten by TIGERS this morning (≥ 5 at least)
6/11/06	40	19	N-1 (1) P- (2) M- (4)	JA	≥ 73 Baskers - Eagle Rays in surf in front of tent
6/12/06	59	25	N-1 (1) P- (5) M- (3)	JA	≥ 57 Baskers
6/13/06	60	25	N- (3) P- (4) M- (3)	JA	≥ 71 Baskers - missed @ boat 2 - turtles due to seas - winds ≥ 20 knots

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
AT EAST ISLAND, FRENCH FRIGATE SHOALS

2006

DATE	TOTAL NO. TURTLES UP	NO. OF NEW TURTLES IDed (MOTOTOOL)	NUMBER OF NESTS N/P/M	YOUR INITIALS	COMMENTS (WEATHER, SPECIAL OBSERVATIONS)
06/14/06	68	26	N = I = ① P = IIII = ⑥ M = I I ? ? I = 5	CNH	26 BASKERS RAIN ON/OFF DURING NIGHT STRONG WIND 4 TURTLES CRAWLING ON 1st WALK
06/15/06	65	25	N = IIII = 4 P = IIII = 5 M = IIII ³ = 4	CNH	21 BASKERS EGG LAYING 20FT SOUTH OF NEST! STRONG WIND!
6/16/06	58	16	N = II = 2 P = IIII = 6 M = IIII = 7	CNH	25 BASKERS 2 CRAWLING E 1st WALK STRONG WIND + RAIN SEVERAL TURTLES ON 1st WALK
6/17/06	54	24	N = ④ P = ④ M = ⑧	CNH	
6/18/06	60 59	16	N = III ③ P = IIII ④ M = III ③	J	≥ 131 Baskers Wind ≥ 20 knots Rain periodically Calipers broke! (while measuring turtle - likely previously cracked)
6/19/06	60 59	8	N = 2 P = 3 M = 10	J	≥ 134 Baskers - Rain in evening ≥ 20 Knot Wind
6/20/06	59	7	N = IIII ④ P = II ② M = IIII ⑤	J	≥ 174 Baskers - Rain & Lightening 1st Walk - 2 turtles X on 1st walk - Rain + lightening off & on all night

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
AT EAST ISLAND, FRENCH FRIGATE SHOALS
2006

DATE	TOTAL NO. TURTLES UP	NO. OF NEW TURTLES IDed (MOTOTOOL)	NUMBER OF NESTS N/P/M	YOUR INITIALS	COMMENTS (WEATHER, SPECIAL OBSERVATIONS)
6/21/06	64	4	N= =4 P= 2 M= 3	CNH	- HEAVY RAIN ON 1 ST & 2 ND WALK - STRONG WIND - > 114 BASKERS - 3 TURTLES CRAWLING ON 2 ^{PH} WALK
6/22/06	61	9	N= 4 P= 6 M= 5	CNH	- RAIN W/ LIGHTNING ON 4 TH WALK ≥ 106 BASKERS
6/23/06	59	5	N= =2 P= 5 M= =4	CNH	> 75 BASKERS OLD NEST BUG UP NOFT 3 NEW MOON
6/24/06	56	6	N - 5 P - 4 M - 3	J	≥ 135 Baskers - Intermittent winds - Lots of Marine Debris washing up
6/25/06	60	4	N - 5 P - 1 M - 9	J	≥ 123 Baskers - wind gone → fish back - sharks still going strong (5+ birds)
6/26/06	50	3	N - 6 P - 5 M - 3	J	≥ 74 Baskers - lightning all night (bring it) from N+E - Turtle 5 dug up glass ball from Gms
6/27/06	67	4	N - 2 P - 1 M - 1	J	≥ 113 Baskers - light winds, No Rain Nice flight!

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
AT EAST ISLAND, FRENCH FRIGATE SHOALS
2006

DATE	TOTAL NO. TURTLES UP	NO. OF NEW TURTLES IDed (MOTOTOOL)	NUMBER OF NESTS N/P/M	YOUR INITIALS	COMMENTS (WEATHER, SPECIAL OBSERVATIONS)
6/28/06	69	5	N I = 1 P IIII = 5 M IIIII = 8	CM	> 76 BASKERS LIGHT WIND, NO RAIN SEALS COVERING WEST SPIT FOR 5/2 OF WALKS
6/29	65	3	N III = 3 P II = 2 M IIII = 5	CMH	> 63 BASKERS 5 TURTLES CRAWLING @ 7PM WALK A RECORD 14 SEALS! NEST DUG UP W/ SCATTERED DEAD HATCHLINGS + CRUSHED EGGS W/ FORMED EMBRYOS
6/30	55	5	N IIII = 4 P IIII = 6 M IIII = 6	CMH	> 67 BASKERS FRESH NESTS DUG UP SOUTH OF SMALL AND ON WEST SPIT HEAVY RAIN ON 2300 WALK MISSED AREA FROM T1 -> T3 B/C OF SEALS ON 2100 WALK
7/1	65	4	N IIII = 5 P II = 2 M IIII = 6	CMH	> 64 BASKERS NO RAIN MISSED AT LEAST 1 TURTLE B/C OF SEAL
7/2	73	6	N = 2 P = 4 M = 7	JA	= 58 Baskers - # 324 BE B. lewini on west SPIT - Possible unexpected water with seal on SE PT
7/3	72	4	N - 4 P - 5 M - 6	JA	= 51 Baskers (14 Seals on East) Helped 278 PC on 7:50 am walk bc seals had near bird flipper winds 5-10 knts
7/4	65	7	N - 3 P - 3 M - 4	JA	= 87 Baskers New Seal Pap SE Pt. Hatchlings @ Blacks on 3:00 Walk + Light Rain

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
AT EAST ISLAND, FRENCH FRIGATE SHOALS
2006

DATE	TOTAL NO. TURTLES UP	NO. OF NEW TURTLES IDed (MOTOTOOL)	NUMBER OF NESTS N/P/M	YOUR INITIALS	COMMENTS (WEATHER, SPECIAL OBSERVATIONS)
7/5 2006	75	4	N-11 = (2) P-### = (8) M-### = (5)	CNH	>81 BASKERS 5 CRAWLING @ 7PM WALK NEST DUG UP W/ST1 HEAVY RAIN ON 2300 WALK
7/6	75	2	N-### (7) P-### (10) M-11 (2)	CNH	>105 BASKERS HATCHLINGS ON 3AM WALK 50 FT DUBS! 7 SHOOTING STARS NO RAIN! TIGER SHARK @ 6PM!
7/7	59	2	N-### (6) P-### (7) M-### (6)	CNH	>127 BASKERS 2 CRAWLING @ 7PM 1 FRESH NEST DUG UP SE OF T5 FOUND 1 LIVE HATCHLING @ 7AM, HELPED TO HD...!
7/8	5	3	N-2 P- M-2	gf	Spent 7 hrs @ 169, 206 p (CNP) 2 hrs Baskers
7/9	49	4	N-3 P-3 M-4	gf	>87 Baskers > 20 knots winds Great moon! - slow night for turtles
7/10	70	4	N-### (4) P-### (6) M-### (5)	CNH	>69 BASKERS MISSED GUNSON 1 st WALK SHT → T1 MISSED ON 2 nd WALK FULL MOON! STRONG WIND!!!
7/11	75	3	N-### (3) P-### (3) M-### (13)	CNH	>29 BASKERS 4 CRAWLING @ 7PM WALK STRONG WIND LIGHT RAIN DEAD HATCHLING SOUTH OF TENT

East Island Turtle Report 2006
US Fish and Wildlife Service/National Marine Fisheries Service
Joseph Spring
Irene Nurzia-Humburg

I. General Monitoring

The 2006 turtle season was a short season consisting of five weeks of monitoring. There were 409 nesting green sea turtles (*Chelonia mydas*) identified on East Island during the monitoring period.

Turtle Camp began on June 7, 2006 and continued until July 11, 2006. Monitoring consisted of 34 full nights of data collection and 1 partial night. June 7, 8, and 9 were training nights. June 7th was the only partial night. At 1900 every night there was a preliminary walk to map the placement of monk seals, count basking turtles, and collect copper wire and washed up fishing gear that posed an entanglement threat to life on the island. Each night ideally consisted of six turtle walks at the following times: 2100, 2300, 0100, 0300, 0500, and 0700 (sunset to sunrise). Due to the duration between walks, it is possible that some turtles that were up crawling or digging false pits were not seen. However, it is unlikely that those turtles that actually nested were not recorded as being up at some time during the 35 days of data collection.

There were 441 possible nests recorded on East Island during the season. Eggs were witnessed for 119 of these nests. Turtles were observed covering eggs (pattycaking) for 141 nests, and backfilling over 181 nests.

There were some possible nests identified as pattycaking and backfilling that did not fit the normal nesting schedule. Turtles may come up 10-14 days after a nesting attempt and nest again. In some cases, turtles were recorded coming up a few days after making a nesting attempt. This is likely due to error in activity identification, but may also have been due to misreading the mototool number. Turtles were identified digging less than five days after backfilling seven times: numbers 21 (6/16), 21 (7/1), 37 (6/22), 37 (7/5), 41 (6/8), 283 (6/19), and 238 (6/17). One turtle was identified digging one day after pattycaking: number 52 (7/7).

II. GPS

One Etrex GPS device was used for recording the latitude and longitude of possible nests (nesting, pattycaking, and backfilling). Some possible nests were not given waypoints and some activities were misidentified as possible nests and given a waypoint and later

on the same night recognized as non-nesting activity. These waypoints were given in error and do not reflect nesting attempts. They are waypoint 90 on 6/15, waypoint 190 on 6/23, waypoint 76 on 6/14, waypoint 77 on 6/14, and waypoint 127 on 6/17.

441 possible nests were recorded during the 2006 season. 445 GPS waypoints were recorded.

III. Data Notes

Data will be entered by the National Marine Fisheries Service, Honolulu Laboratory.

Internal, magnetically coded PIT tags were used for the eighth season at French Frigate Shoals, no external tags were applied. PIT tags were applied in both the left and right hind flippers. Tags were verified using a portable PIT tag scanner after the second week of turtle camp. Verified tag numbers are recorded on the turtles' respective data sheets.

Mototool numbers 1 through 407 were used during the 2006 season. There were two duplicate mototools: 330 and 330A, and 246 and 246A. Turtle number 369 was mototooled 369A in error.

There were five turtles that did not receive PIT tags in either hind flipper but should have received them in both hind flippers: numbers 81, 93, 247, 364, and 392. There four turtles that received only a left hind flipper tag, but should have received a right hind flipper tag as well: numbers 144, 260, 325, and 398. There was one turtle that received only a right hind flipper tag, but should have received a left hind flipper tag as well: number 359.

There were 11 turtles this year that received only a left hind flipper tag due to an injury to their right hind flipper: numbers 16 (missing 100%), 32 (missing 100%), 78 (missing 50%), 172 (missing 90%), 196 (severe cuts), 222 (cuts and scarring), 267 (missing 100%), 313 (missing 30%), 345 (missing 15% and scarring), 386 (missing between 30 and 40%), and 391 (missing 90%). There were five turtles that received only a right hind flipper tag because of an injury to their left hind flipper: numbers 6 (missing 60%), 126 (missing 50%), 315 (missing 30%), 353 (missing 100%), 393 (missing 30%).

IV. Tumors

There were 59 turtles identified with tumors this year, or 14.43% of the nesting population: numbers 1, 7, 11, 12, 19, 58, 66, 67, 69, 71, 72, 75, 80, 89, 94, 107, 116, 118, 132, 141, 142, 158, 166, 173, 184, 203, 206, 208, 210, 219, 227, 229, 230, 237, 245, 248, 256, 259, 264, 284, 285, 292, 301, 314, 315, 318, 320, 329, 330A, 336, 340, 348, 355, 363, 368, 377, 382, 386, 403. Turtle 403 was heard whistling while nesting and may have had an oral tumor, but was not checked for an oral tumor.

Sixteen of the 409 turtles were not checked for tumors.

- MT ?

V. Data Loggers

Five historical sand data loggers were buried on East Island to measure sub-surface temperatures during the nesting and hatching season. No historical sand data loggers were buried on Tern Island this year (in past seasons four were buried on Tern). The five sand dataloggers were buried approximately 55 cm deep during the sunset walk on 6/11/06. GPS waypoints 38 through 42 were used to identify the locations of these data loggers. ~~An additional eight dataloggers were placed directly into turtle nests during the 2006 season and were designated with GPS points. The locations of these dataloggers can be found on the 2006 East Island datalogger data sheet. The dataloggers were left in the ground at the termination of turtle camp to be retrieved at a later date.~~

In 2006, there were 22 sand and nest dataloggers collected from previous nesting seasons.

VI. Miscellaneous Notes

Fresh?

A total of 10 turtles, or 2.4% of the witnessed 2006 nesting population, were missing portions of their front flippers: numbers 27 (missing 40% LFF), 90 (missing 20 cm RFF), 106 (missing 80% RFF), 116 (missing 50% RFF), 169 (missing 50% RFF), 324 (missing 20cm LFF), 356 (missing 70% LFF), 369A (RFF torn and hanging off halfway up), 402 (missing 100% LFF), 403 (missing 5x15cm LFF).

The right front flipper of turtle 157 was smaller than its left front flipper.

There were 12 nests witnessed being dug up by turtles during the 2006 season. Listed below are the turtles and the corresponding date they were witnessed digging up nests: 5 (6/9), 56 (6/23) 64 (6/8), 84 (6/21), 105 (7/6), 197 (6/26), 208 (6/15), 266 (6/29), 282 (7/5), 298 (6/18), 178 (7/11), 91 (6/9).

One turtle was witnessed entangled in copper wire and cut free: number 382 on 7/4.

*

Turtle 218 had what looked like an old 16 mototooled on its carapace.

Resign tag?

Turtle 368 was photographed with what might be *Ozobranchus sp.* leeches on her eyes.

Turtle 77 and 325 were witnessed with leech eggs.

Fresh? *

Turtle 99 had possible compound in carapace, but it may have just been bone growth with an algal covering.

Turtle 373 had a possible propeller wound to her carapace.

Turtle 364 was emaciated and had no hind fat and a very skinny neck.

There were six "special turtles" seen this year on East Island. These turtles were previously identified by Peter Bennet and Ursula Keuper-Bennet at a Maui dive site.

They forwarded the primary pit and iconel tag numbers to us at the beginning of the season so that the turtles could be identified. They were turtles number 266 (Raphael, LHF 424E032D3D6), 246A (LHF 4136013879), 288 (Mendelbrot, LFL 359), 169 (LHF 417T), 26 (Shredder, RFL A240), 119 (Tiamat, LHF 122C). Pictures of "special turtles" are recorded in the photo log and witnessed activities in the data book.

Photo Record
East Island FFS, 2005

Date	Location	Picture #	Description
6/9/06		5-9	Home worky on turtles
6/10/06	SE Pt	8-9 2-9	#99 Damage to 2#3 Central Scute (Possibly Filled)
6/12/06	SPIT	10-11 2-11	Moth (Bad Pictures)
6/12/06	South of Pole	12	Turtle 157 (Bad Picture) -RFP 1/2 size of LFF
6/13/06	SPIT	13	#106 =80% RFP Missing
6/15/06	desert	14	#208 DIGGING UP FRESH NEST
6/15/06	s of Tombs	17	#239 EGGS BREAKING WHEN FALLING INTO NEST
6/15/06	s of = log	18	#201 CLOSE UP OF TEAR UNDER LHF
6/15/06	s of = log	19	#201 TEAR UNDER LHF
6/15/06	SPIT	20	#210 LFL TEARS
6/15/06	SPIT	22	#210 RFL TEARS
6/15/06	W SPIT	24	#213 ABRASION UNDER NECK
6/15/06	SMALL T	25	#212 LIFTED HIND TIP OF CARAPACE

Photo Record
East Island FFS, 2005

Date	Location	Picture #	Description
06/16/06	SOUTH OF T4	26	# 223 DEVIATED HIND TIP OF CARAPACE, POSSIBLE EXPLANATION HOLE ON LEFT SIDE FOR "STRANGE" SCU & CC MEASUREMENT?
06/16/06	SPIT	27	# 245 LHF DAMAGE
06/16/06	SOUTH OF T5	28	256 CLOACA (TOUR OR VERY PROLAPSED?)
06/16/06	SOUTH OF T5	29	# 256 CLOACA CLOSE UP
06/16/06	SE of TENT	31	# 258 BROKEN TIP OF CARAPACE
06/16/06	SOUTH OF T5	32	# 250 LFL "DENT"
06/17/06	SPIT	34	# 267 RHF MISSING
06/17/06	SOUTH OF TOMBS	35 36 37	# 278 "TWISTED" RHF, STUCK IN VERTICAL POSITION, STIFF
06/17/06	W SPIT	39	# 116 NEEHING BELOW BERM AND WHERE SHE CHOSE TO REST.
6/20/06	S=log(SS)	40	# 316 covered in algae
6/20/06		41	feces
6/22/06	EAST SPIT	44	# 90 RFF TIP MISSING
6/22/06	EAST SPIT	45	# 325 ABRASION UNDER NECK W/ LEECHEGGS (CRATURE UPSIDE DOWN)

Photo Record
East Island FFS, 2005

Date	Location	Picture #	Description
6/23/06	WEST SPIT	50	NEST DUG UP BY TURTLE # 56
6/24/06	North of T1	51-53	Turtle # 50
6/25/06	South of Pigeonhole log	56	Turtle 148 - Damage to Carapace
6/25/06		54-55	Damage to Carapace (Turtle #?)
6/26/05	T5	57/58	Turtle 334 Data logger 641033
6/26/05	Small T	59	8 central scutes Turtle 345
6/27/06	Parallel log	60	Turtle 158 (over log) Camera took too long
6/27/06	South of T3	61-63	Turtle 226 Damage to 3rd Central
6/29/06	S of = log	64-66	#74 has deformed, covered in carapace
6/29/06	W SPIT	67-72	#353 very shallow nest
6/29/06	S OF T4	73-82	CRUSHED EGGS W/ EMBRYO / HATCHLINGS SCATTERED AROUND PIT - PIC 77, 78, 82 ^{BEING} AFTER REASSEMBLED - PIC 76 AREA UNTOUCHED
6/30/06	EAST OF T2	83-85	#364 SKINNY TURTLE NESTING
6/30/06	N OF MTB	87	#82 (I'm taking pic from where nest is) backfilling up until the shoreline

Photo Record
East Island FFS, 2005

Date	Location	Picture #	Description
7/1/06	N of IS	88	#226 DAMAGE ON CARAPACE
7/2	Stent	Jie's Camera	#369 RFP Tom Up
	SPIT	Jie's Camera	#367 Carapace Scrape
	SWTS	Jie's Camera	#371 - Position of Eggs white
	WSPIT	Jie's Camera	#324 BP Below Beam
	T2.5	Jie's	#237 3 size tumor
7/4	G Dump	89 & 90	#86 Cracks in Carapace
	S = log	91	#238 Fat above Head Flipper S
	SPIT	92-93	#381 Pre-Mitosis! Nice Carapace!
	Tomb	95	Self Portrait w/ Hatchling
	N Pier	98 → 101	#320 Tumor Pico
7/5	WSPIT	102-103	#386 RHF (shark bite?)
7/5	NW of SMT	104+ 107+	#368 REYE pink & white spots

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Photo Record
East Island FFS, 2005

Date	Location	Picture #	Description
7/5	NW of SMT	105 106	#368 LEFT EYE
7/5	SE of blocks	109- 116	# 119 SPECIAL "GIRL"
7/5	S of SMT	117- 123	# 10 SPECIAL GIRL
7/5	NW of T4	124	# 222 SCARS ON RHF
7/5	S of TS	125- 127	# 266 SPECIAL GIRL
7/5	SW of T1	128- 130	# 42 PINKISH PATCH ON LHF
7/5	N of T2	131- 134	# 266 SPECIAL GIRL
7/6	S of Tent	135- 138	# 119 SPECIAL "GIRL"
7/6	N of T2	139- 142	# 266 SPECIAL "GIRL"
7/6	W of T4	143 → 145	# 42 HIND PART OF CARAPACE DAMAGED
7/6	S of TOMBS	146	IRENE'S HAND W/ HATCHLING! (WOULD LIKE TO HAVE THIS PIC...)
7/6	E of SMT	147 → 149	# 295 crushing her own eggs...
7/7	SPIT	150 → 153	# 10 SPECIAL "GIRL"

Photo Record
East Island FFS, 2005

Date	Location	Picture #	Description
7/7	SPIT	154-158	#264 FLAKING SKIN UNDER NECK + TUMORS
7/7	N of SMT	159+168	#393 LHF DAMAGE
7/7	N of SMT	160 → 167	#393 PINK & WHITE SPOTS ON EYES
7/7	S of TI	169 → 174	#76 SYMMETRICAL WOUNDS ON HIND FLIPPERS
7/8	WSPIT	85, 180	#11 PC below beam
7/8	N Small T W TI	175-184 0205-0206	#260 - Special turtle
7/8	TS	189-191	#321 N
7/8	NW Rev	192-202	Special Turtle #10
7/8	WSPIT	0203/0204	#84 Nesting Below Beam
7/8	TI	207-223	Special Turtle #169
7/8	Various	145	Pair of Special Turtles on Joe's Camera in Morning

Historical Information for Turtle Tag 2370

Tag Information:

Tag Number	Date	Tag Type	Tag Position
2370	1/20/78	1681	RFL
2371	1/20/78	1681	LFL
2372	1/20/78	1681	R34
F709	6/1/93		LHF
F710	6/1/93		RHF

Date	Type of Encounter	Location:	Tumor Rank:	Nesting Act:	Straight Carapace	Since Last Encounter				Overall				
						Interval Month	Year	Growth-Rates cm/mon	Growth-Rates cm/yr	Interval Month	Year	Growth-Rates cm/mon	Growth-Rates cm/yr	
1/20/78	Near Shore	Hawaii, Punaluu Bay	0	-	67.3	---	---	---	---	---	---	---	---	---
6/1/93	Nesting	East	0	C	---	184.0	15.3	---	---	184.0	15.3	---	---	---
6/2/93	Nesting	East	0	X	---	---	---	---	---	184.0	15.3	---	---	---
6/2/93	Nesting	East	0	X	---	---	---	---	---	184.0	15.3	---	---	---
6/17/93	Nesting	East	0	C	---	---	---	---	---	184.0	15.3	---	---	---
6/18/93	Nesting	East	0	N	---	---	---	---	---	184.0	15.3	---	---	---

- c. Potential to potentially use Kahana in March to supply fuel needs for summer since we will be limited to how much we can bring up for NMFS/FWS needs on Sette.
3. What is the power situation on the island currently and project through summer
 - . Is there still power to run the crane/winch?
 - i. Alternate launch/recovery of boats?
 - ii. Moorage?
 - a. Power for living/work (computer systems)?
 - 4. What is the current status of the buildings and projected status for the summer?
 - . Living space vs. working space vs. storage space
 - 5. Fresh water supply?
 - . Will we need to supply water jugs?
 - 6. Will sewage and toilets be operational?
 - . If not what are the alternatives?
 - 7. Condition of boat trailers?
 - . Likely will need to provide 2 new NMFS trailers on March Kahana
 - 8. Internet access? GB turned off. Is it expected to be restored before summer?

46
 Tern Immediate Next Steps Meeting
 Thursday, January 10, 2013 (1:00-5:00pm)
 Federal Building (300 Ala Moana Blvd), Conference Room on 3rd Floor (Rm 3-127)

Meeting Purposes: PM Segment: Identify immediate (6-9 months) decisions and steps needed to be made.

Participants (in alphabetical order): George Balazs, Ann Bell, Chad Bell, Ty Benally, Samantha Brooke, Meg Duhrschtulz, Beth Flint, Maylanie Hipolito, Stefan Kropidlowski, Charles Littman, Jessie Lopez or Chad Yoshinaga, Peter Martin, Irene Nurzia-Humburg, Christine Ogura, Nori Shoji, Doug Staller, Lee Ann Woodward.

Time	Topic	Lead	Anticipated Outcome
1:00 pm	<ul style="list-style-type: none"> • Introductions • Meeting overview and clarifying questions 	Doug	Group understands meeting purposes and expected outcomes
1:15 pm	Facilities assessment (define as: complete demo/gone, restorable, currently intact/usable)	Chad	Foundation laid for portions of next steps discussions
1:45 pm	Identify immediate decisions that need to be made.* Part of this discussion relates to understanding components to the decision-making: <ul style="list-style-type: none"> • Information points needed to make decision • Process/steps needed to reach decision • Consequences of making certain decisions • Time-frame when decisions need to be made • Decision-maker (e.g., for non-refuge activities) 	Group facilitated by Doug/Christine	
3:00 pm	Break		
3:15 pm	Continue		

4:45 pm	Wrap up and next steps	Doug	Group understands what the next steps are and their respective roles/deliverables
---------	------------------------	------	---

*Initial questions already identified in prior conversations:

- What will be the purpose of the March deployment (or if there will even be a March deployment)
- What to do with volunteer inquiries for 2013 deployments
- What facilities work will need to be done in the immediate future for what mission purpose
- Long-term operational needs of Hawaiian Islands NWR

George Questions:

- Status of East Island after the storm, as determined by aerial over flight or satellite imaging
- Potential to monitor and tag nesters during some window of time, -2 weeks to 2 months, - flexible duration, late May to late August 2013
- Potential to re-establish the Tern-to-East Island video link, and later the satellite internet link Tern-to-the-world
- Personnel safety including plans for evacuation due to medical urgency, should such a condition develop
- Briefly revisit options/alternative actions by FWS for Tern Island, set forth 20+ year ago in the EA authored by E. and R. Shallenberger

Charles Questions:

1. Status of our gear. General assessment from Chad (thanks!) but will need to figure out what might need to be replaced for the next season.
2. What is the plan for assessment of the island?
 - a. March Kahana? Is there a possibility to get a NMFS staff member up to Tern?
 - b. Summer Kahana trips? Modification to Kahana use may have implications to field camps etc. As we may be chartering as well

DAILY TOTALS
NESTING GREEN TURTLES
FRENCH FRIGATE SHOALS, 1991
1992

Island: East

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
5/1	2	2	0	RC, CD	
5/2	3	2	1	CD, REC	
5/3	3	1	1P	TC, BC	Windy 20Kts, cold, Bob forked alot
5/4	0	0	0	TC, BC	
5/5	7	5	1N, 1M	TC, BC	C4 - seen last night - 1989 - still had some paint on it.
5/6	7	2	1N, 1M	TC, BC	
5/7	9	5	2(P)	TC	wind calmed down
5/8	8	3	2N	TC	scattered showers
5/9	3	1	1P		
5/10	7	1	1P	C.D.	last walk at 1:30 A.M.
5/10	7	2	1N, 1M	C.D.	4-47 tag misapplied
5/11	13	6	2N	C.D.	11-U found on East, motored on gann in bed 0100 - 0430; 0530 till morning
5/12	7	1	1P	TC	showers heavy all night A467 A468 misapplied returned
5/13	10	5	1P	TC	showers off + on all night
5/14	15	6	1P, 1N	TC, A.W.	clear all night, full moon
5/15	24	13	1N, 2P, 1M	T.C. + A.W.	clear, Full moon
5/16	19	8	3P	A.W.	no turts after 1:30
5/17	18	7	0	A.W.	
5/18	19	9	1P, 1M	A.W.	clear + cold
5/19	25	12	1N, 4P, 2M	T.C.	
5/20	24	5	2N, 2P	T.C.	
5/21	32	10	4N ^{3M} , 4P	T.C.	Partially cloudy, w/occ showers.
5/22	26	10	5N, 1P	T.C.	
5/23	31	8	3M, 1N	A.W.	
5/24	27	5	3N, 4P, 2M	A.W.	lots of seals w/pups taking over the false pits at nite.
5/25	27	6	3M, 2P	A.W.	
5/26	21	4	1N, 2M	A.W.	tons of flyns legs everywhere
5/27	36	23	5N, 6P ^{4M}	TC	U139 still digging @ 1400 hrs!
5/28	22	8	2N, 3P, 2M	TC	transplanted one nest
5/29	25	6	1N, 5P, 2M, 1C	T.C.	1st wk at 2330

DAILY TOTALS
NESTING GREEN TURTLES
FRENCH FRIGATE SHOALS, 1989
1992

Island: East

1029

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
6/30	22	6	1P	T.C.	
5/31	15	5	1M, 1N	A.W.	
6/1	34	8	2N, 1P 5M	A.W.	
6/2	23	3	2N, 3P 1M	AW	Clear night no wind
6/3	26	4 6	4M, 2P	AW	
6/4	44	12	4N, 2P 7M	T.C.	One tumored turtle. One turtle missing RFL completely amputated
6/5	36	13	4N, 1P 3M	T.C.	partly cloudy, moon coming back lots of seals on East Beach
6/6	51	7	3N, 4P 6M	T.C.	wind 10-15 knots, intermittent showers.
6/7	46	11	4N, 1P 4M	T.C.	wind 10-15 knots, Pfy cloudy, half moon only one seal by piers most on east and west end
6-8	41	4	4N, 1P 1M	AW	Windy, cloudy, occ. showers
6-9	48	7	2N, 2P 3M	AW	Wind 15-20, Pfy. cloudy, occ. showers
6-10	42	6	2P, 3M 0N	AW	cold moon up past 3 AM
6-11	44	3	3N, 4P 2M	A.W.	
6-12	42	8	4N, 3P 3M	G.P.E	1 Tumor (U-236) occ. showers
6-13	38	6	1P, 4M	TC	almost constant showers between 2-5 AM, full moon U236 (tumored) up again, U83 dug up another nest
6-14	40	10	1N, 4P, 2M	TC	U-236 UP has 6 tumors, occ. showers, cloudy, 1st frtz of season almost nailed allatross
6-15	55	9	1P, 4M	TC	U236, U36, 2 tumored turtles showers windy 16/6
6-16	33	4	1P, 3M	A.W.	showers throughout night
6/17	55	4 6	6N, 4P, 6M	A.W.	1 tumor up, U-236, did not nest.
6/18	—	—	—	—	no turtle-walk done - Alyssa sick on East Island
6/19	60	13	4N, 1P, 7M	TC	Turtle very calm - none on NEED list 3 tumored (U36, U285, U286)
6/20	48	5	1N, 5P, 3M	TC	4 TUMORED TURTLES; TURTLES MUCH EASIER TO TAG WHEN MOON OUT NOT
6-21	57	5	5N, 2P; 5M	TC	NO COMMENTS
6/22	60	2	4N, 4P, 4M	TC	3 Tumored, showers b/w 2-5 AM
6/23	28	0	3P, 2M	AW	where are the turtles?
6/24	25	1	1P, 2M	AW	Turtle desert!
6/25	33	4	2P, 2M	AW	no comments
6/26	28	2	4N, 1P 2M	AW	
6/27	22	0	2N, 1P 2M	AW	Rained all night
6/28	31	4	4N, 4P 4M	TC	2 tumored turtles new moon clear winds 10-15 knots

DAILY TOTALS
NESTING GREEN TURTLES
FRENCH FRIGATE SHOALS, 1989 1992

Island: East

Date	# Turtles Up	# New Turtles IDed	# Nests	Invest.	Comments
6/29	36	2	3N 6P 5M	TC	0600-600 occasional showers 3-tumors - 1 laid (nest marked)
6/30	42	2	3N 2P 9M	TC	5-tumored turtles; showers all night; lightning + thunder; totally nearly dark
7/1	36	3	5N 6P 5M	TC	scattered showers occasional lightning 2 tumored turtles
7/2	33	1	ON 2P 9M	AW	2 Tumors, neither laid.
7/3	30	1	2P 3M	AW	LOTS OF FLIES
7/4	42	4	2N, 1P 2M	AW	RAINED OFF & ON HVY SHOWERS BTWN 2 AND 4AM
7-5	38	2	1N, 1P 4M	AW	2 TUMORED TURTLES, neither laid eggs
7-6	41	2	1N 6P 7M	TC	1 tumored turtle
7-7	37	2	3N 2P 8M	TC	1 tumored turtle maybe laid
7-8	34	7	4N, 3P 1M	TC	NO TUMORS!! passing showers all night. wind 20-25 K
7-9	30	4	2N 0P 3M	TC	1 Tumor. Showers after 2400 wind 15-20 kts.
7-10	27	1	1P 5M	AW	RAIN OFF & ON AFTER 2AM NOON TILL 4AM/NO TUMORS
7-11	29	1	1N, 2P, 0M	AW	CLEAR ALL NIGHT
7-12	21	0	1N, 2P, 4M	AW	
7-13	33	5	3N 2P 8M	AW	many shower of 2 AM Full moon
7/14	38	4	2N, 3P, 7M	T.C.	5 Tumored turbs, Tonya & Amy left to (lots of light showers) today boohoo
7/15	37	5	2N 3P 6M	T.C.	1 tumor turtle, nice night
7/16	43	3	2N, 6P, 2M	T.C.	0 tumors, showers in early a.m.
7/17	43	3	2N 4P 4M	TC	3 tumors, heavy rains 0000-0300
7/18	42	1	3N, 4P 10M	TC	4 tumors, Ineseda was staked
7/19	38	3	1P, 4M	A.W.	No tumors up lots of rain
7/20	33	1	4N 0P 4M	A.W.	NO comments
7/21	31	3	3N 1P 6M	A.W.	(178; 260) up both Moto-tool again
7/22	27	1	3N 3P 5M	A.W.	Thunder, lightning, 0000... clear, 20-25 kts, no rain Tumor (4-20) up.
7/23	27	2			one tumor turtle
7/24	28	7	6N 6P	B.W.	overcast, dark moon rise, 0000 no rain (Tumor 4-20), Hatch
7/25	28	2	1W 4P 5M	B.W.	overcast no rain wind 20-25 kts no moon
7/26	32	4	4N 6P 2M	B.W.	clear 10-15 knot no rain no moon
7/27	33	6	3N 4P 3M	B.W.	clear 10-15 knot no rain no moon
7/28	36	3	1N, 2P 5M	B.W.	1 tumored, 10-15 kts no moon



University of Hawaii at Manoa

John A. Burns School of Medicine
Department of Pathology
1900 East-West Road • Honolulu, Hawaii 96822

FAX TRANSMITTAL SHEET

DATE: 9/23/96

TO: George H. Balazs

FAX NO.: (808) 943-1290

FROM: Yoshitsugi Hokama

REMARKS: HAWK TURTLE STUDY FOR MARINE TOXINS

Two types of analyses for marine toxins determined for the hawk turtle tissues submitted to our laboratory.

1. Immunological assay by the solid-phase immuno-bead assay (SPIA) for detection of ciguatoxin and related polyetners.
2. Mouse toxicity for assessment of toxicity of tissue extracts.

The results obtained are as follows:

1. Immunological assay: None of the 12 tissues showed any reactivity in this assay. All samples were in the negative category.
2. Similarly pooled acetone extracts, given at a dose of 450 mg/25 gram mouse intraperitoneally showed no clinical symptoms in mice. All animals survived during the 12 hours observed.

Number of pages (including this cover sheet): 1

Faxed from: (808) 956-5506

Please call (808) 956-8682 if you have any questions regarding this transmission.



**SCIENTIFIC COMMITTEE
FOURTH REGULAR SESSION**

11-22 August 2008
Port Moresby, Papua New Guinea

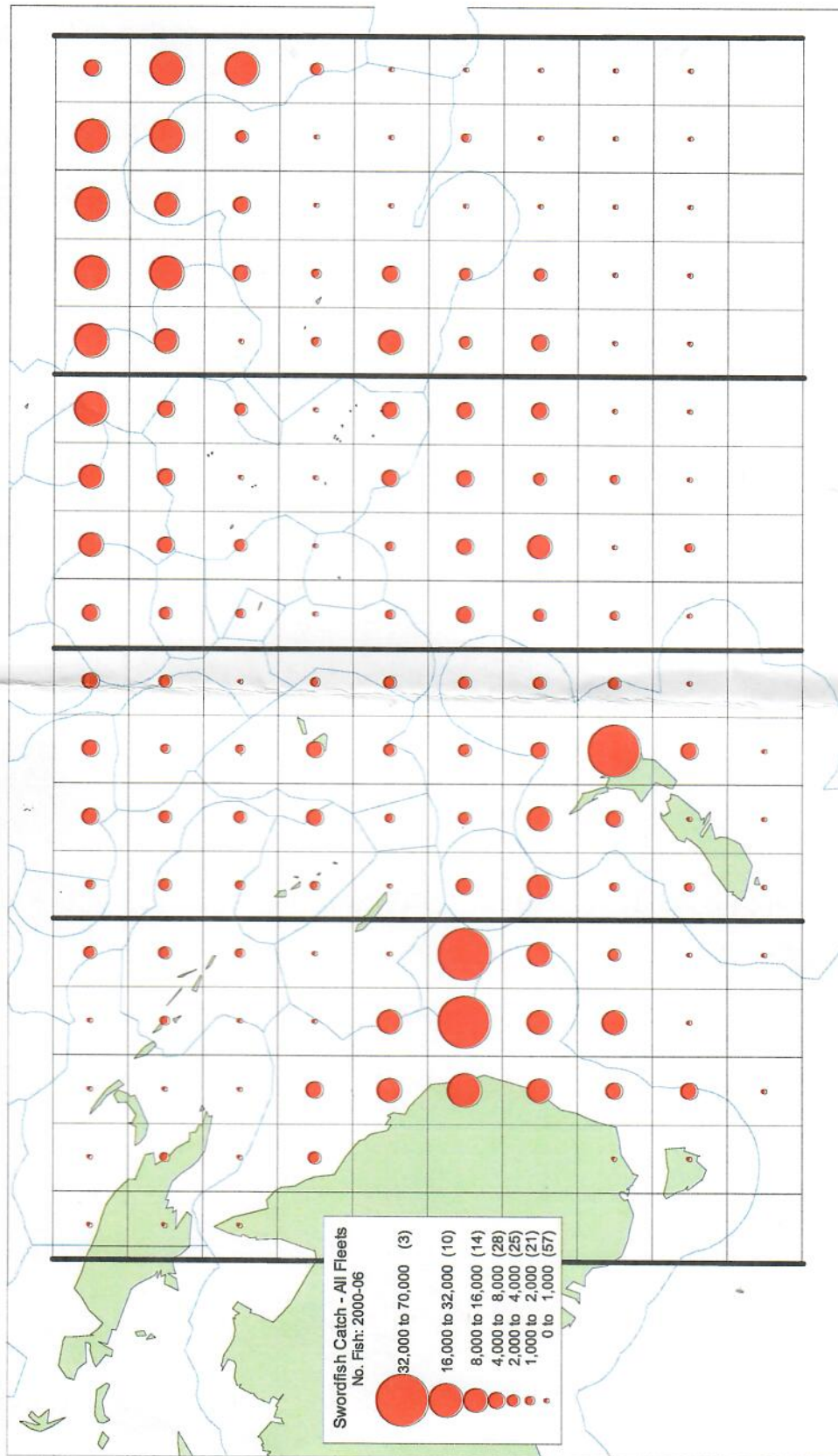
**DATA SUMMARY PERTAINING TO THE CATCH OF SWORDFISH
BY LONGLINE FLEETS
OPERATING IN THE SOUTHERN WCPO**

WCPFC-SC4-2008/SA-IP-3

Robert Campbell¹

¹CSIRO Marine and Atmospheric Research, Hobart, Australia

Map 1a. Spatial distribution of the total catch of swordfish (number of fish) taken by longline fleets in the southern WCPO: 2000 and 2006.



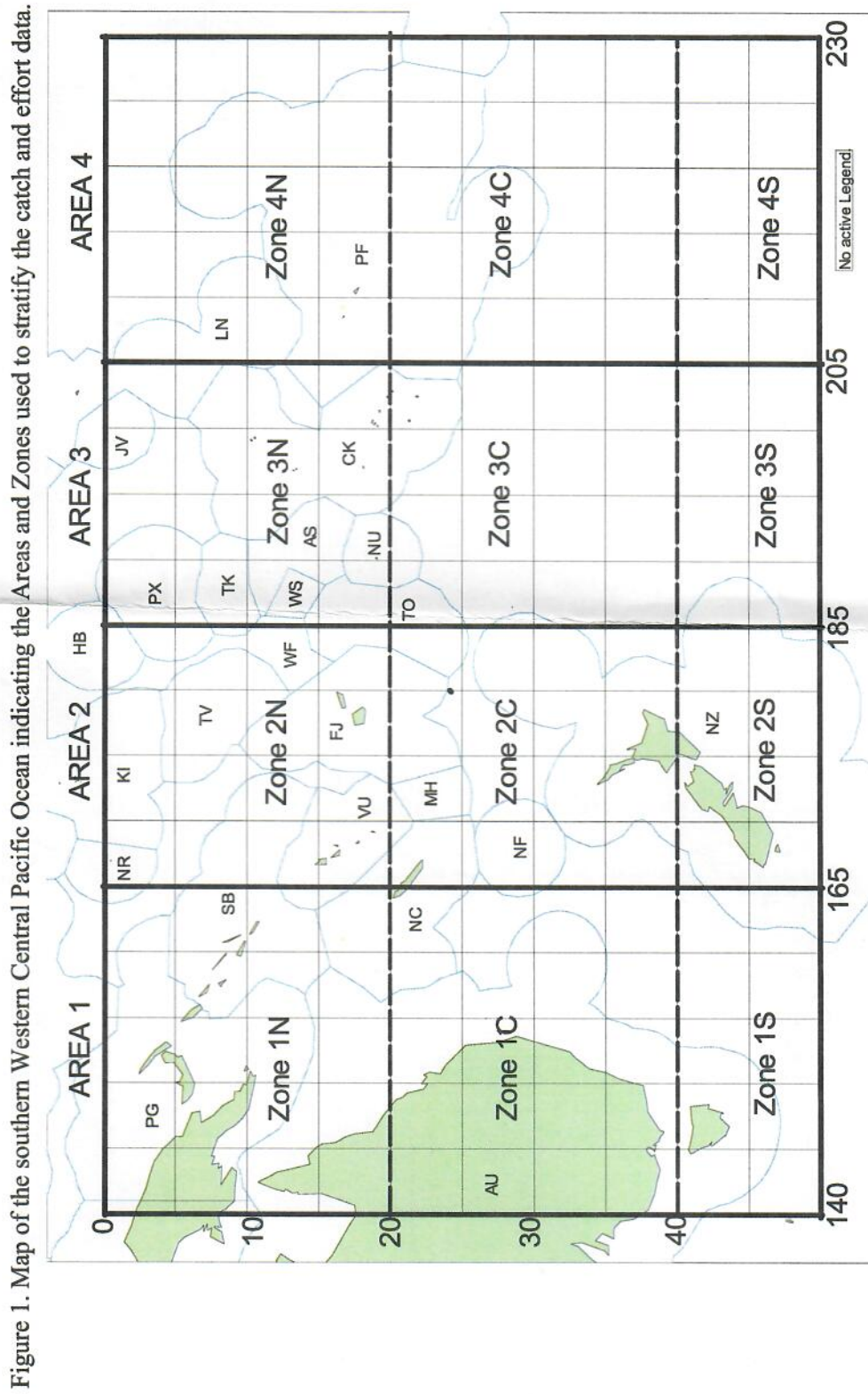
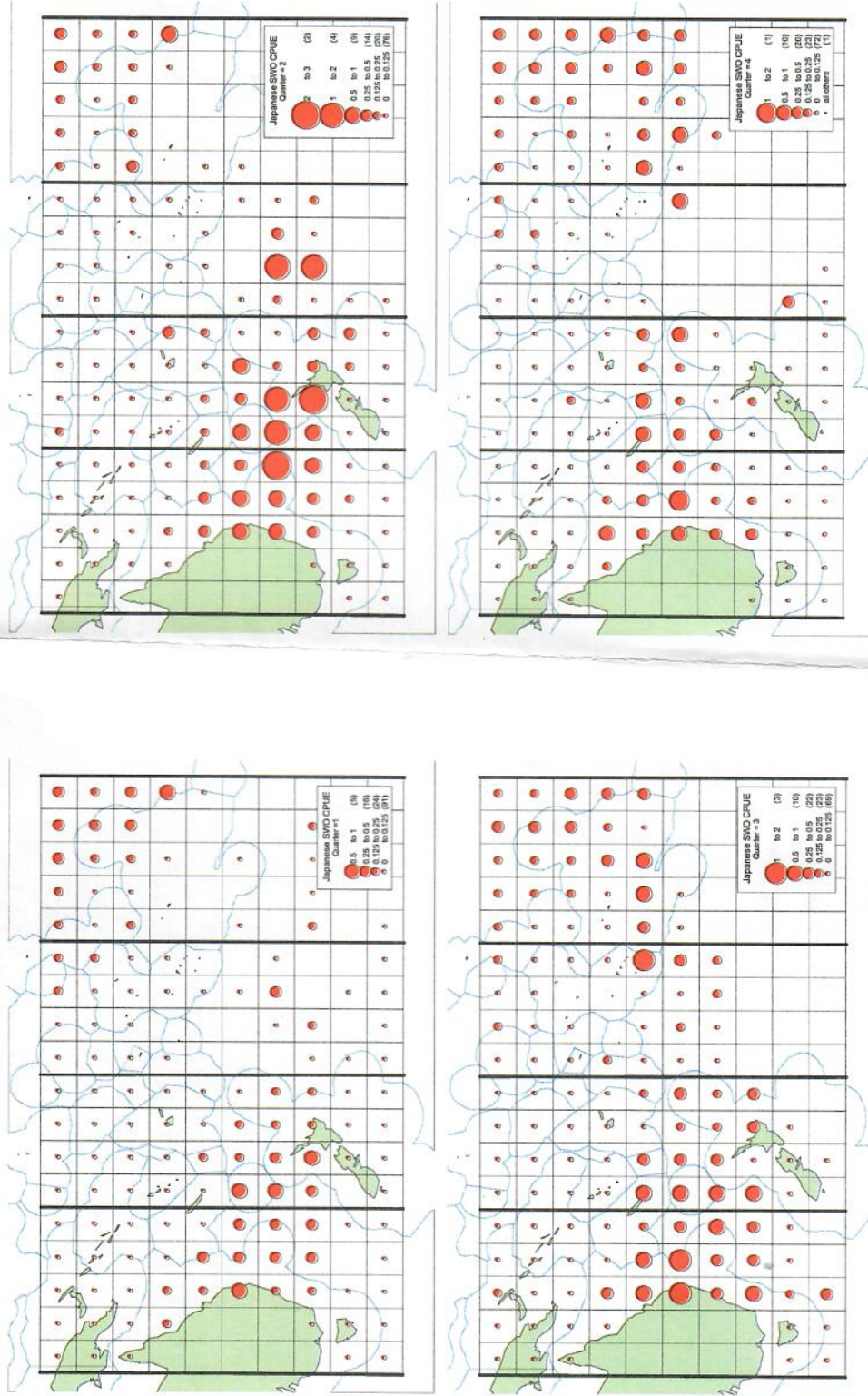
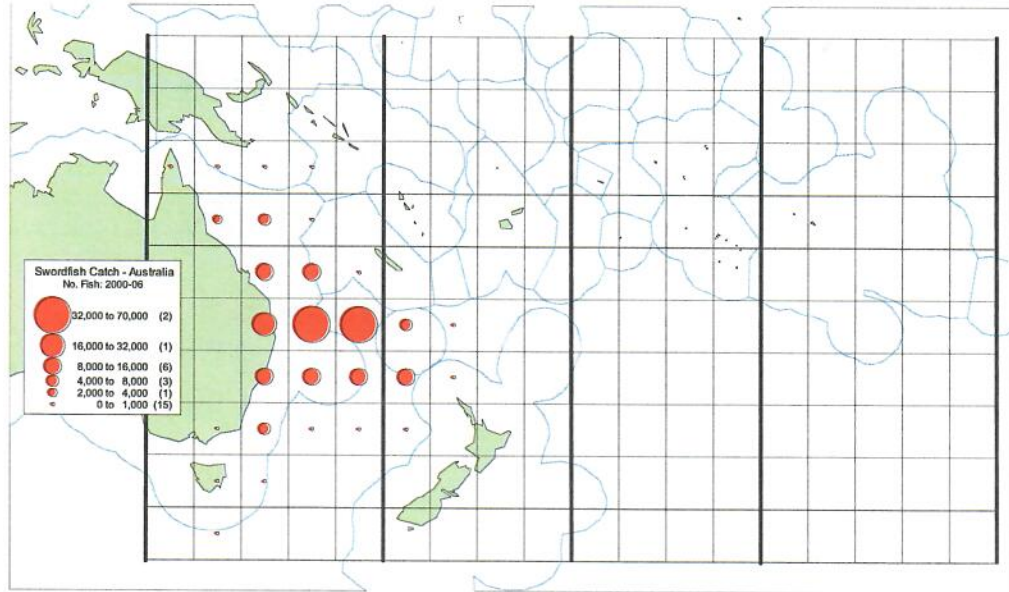


Figure 1. Map of the southern Western Central Pacific Ocean indicating the Areas and Zones used to stratify the catch and effort data.

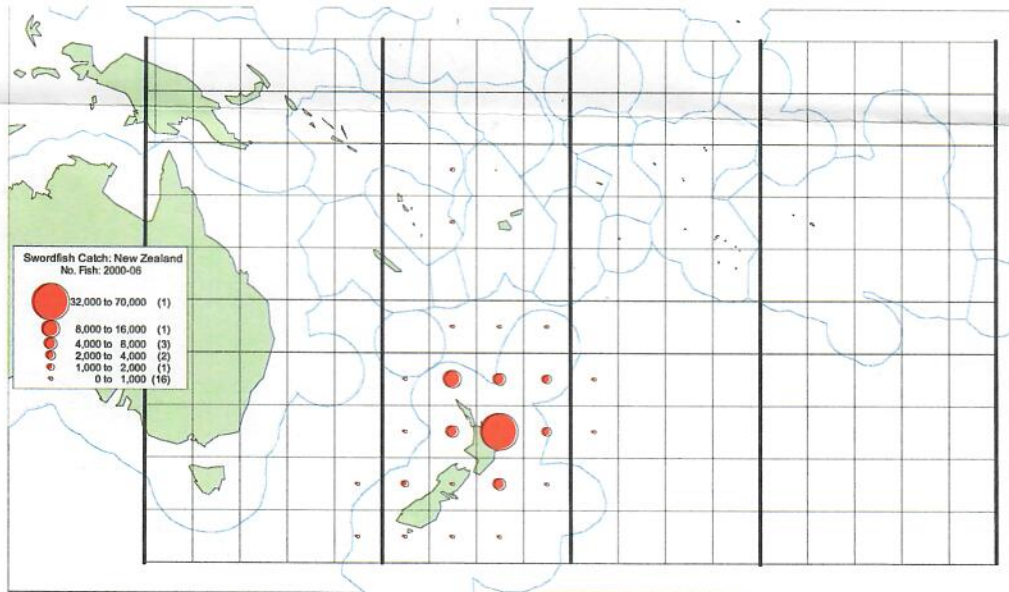
Map 3. Spatial distribution of Japanese nominal swordfish CPUE, by quarter, aggregated over the years 1971-2005.



Map 2a. Distribution of Australian swordfish catch: 2000-06.

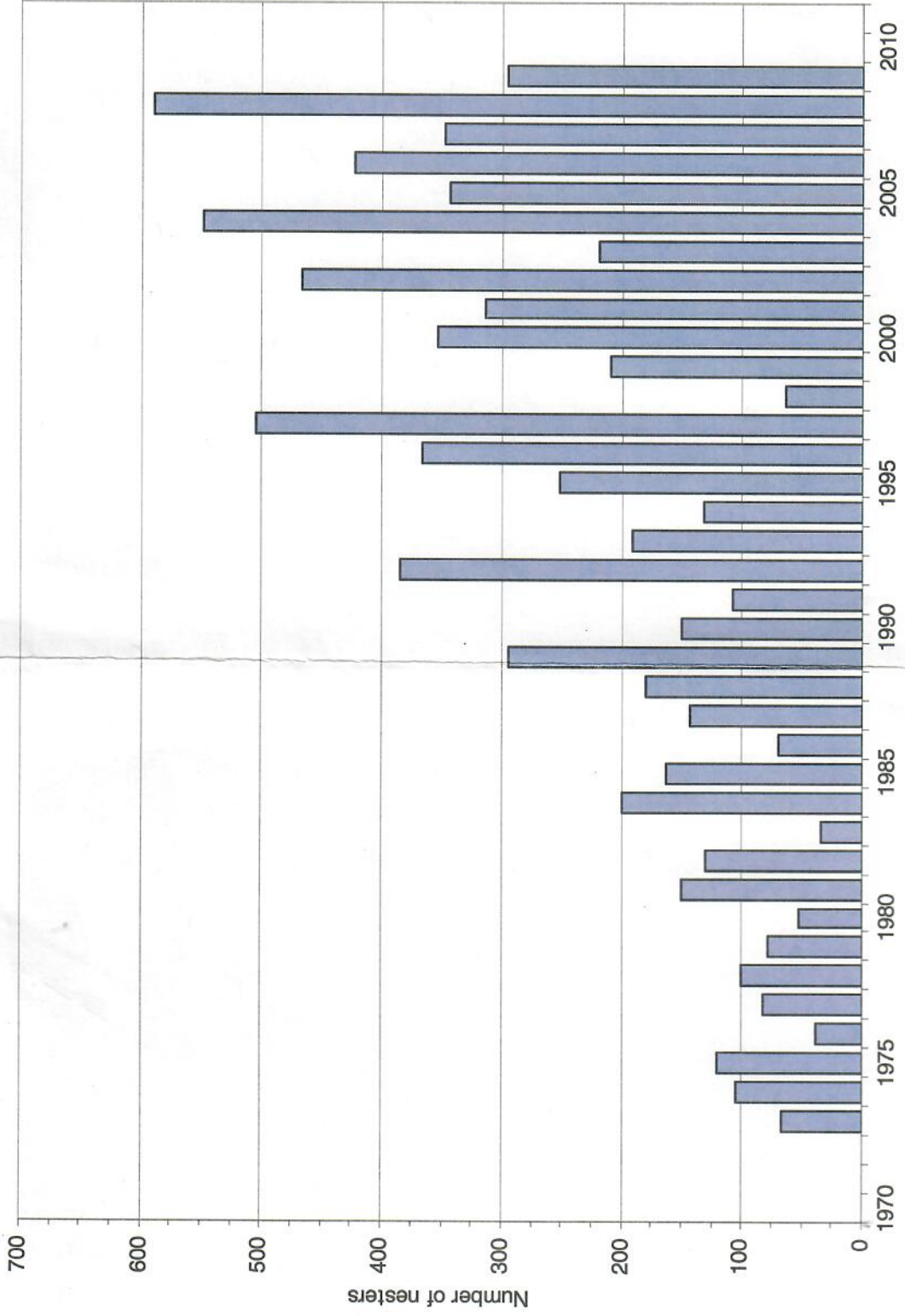


Map 2b. Distribution of New Zealand swordfish catch: 2000-06.



Green turtle nesting population at East Island, French Frigate Shoals, 1973-2009.
Shaded region indicates saturation surveys.

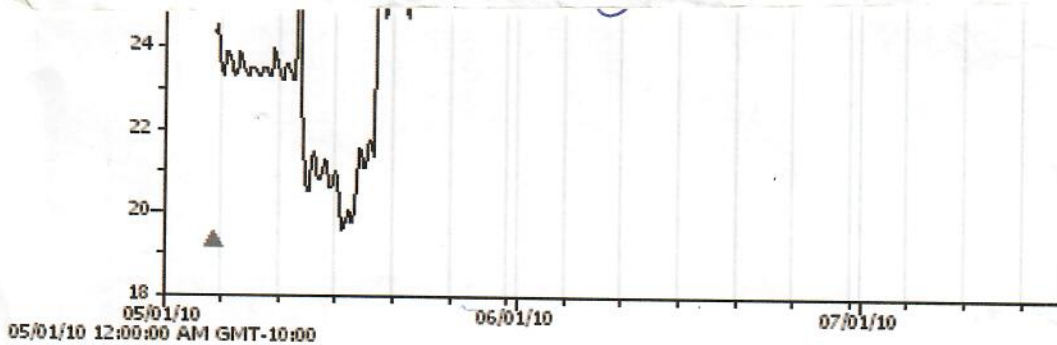
<u>Year</u>	<u>Survey nights</u>	<u>Turtles ID'd</u>	<u>Estimated nesters</u>
1973	43	66	67
1974	59	104	105
1975	30	111	120
1976	13	24	39
1977	9	44	82
1978	11	66	101
1979	13	55	77
1980	20	45	52
1981	23	127	149
1982	19	111	130
1983	17	28	35
1984	20	157	199
1985	18	131	162
1986	29	59	69
1987	26	124	143
1988	101	180	180
1989	143	294	294
1990	133	150	150
1991	119	107	107
1992	129	384	384
1993	31	181	191
1994	26	122	132
1995	31	240	252
1996	31	349	367
1997	33	481	504
1998	32	61	64
1999	31	198	209
2000	33	337	353
2001	31	295	314
2002	34	447	467
2003	41	213	219
2004	38	534	548
2005	40	336	344
2006	35	409	423
2007	33	334	348
2008	43	580	589
2009	36	270	295



Estimated green turtle nesting population at East Island, French Frigate Shoals, 1973-2009.

SN. 1262190_NMFS, BALAZS/
EAST. SAND

**L2's NEST
EXCAVATED 8/28/10**



Hi George,

Here is L2's data logger. I don't have any information on depth or anything, just that when we dug it up on 8/21 we found 45 live hatchlings and on 8/28 we found 6 more for a total of 51 live, 6 dead, 4 unhatched eggs (unfertilized??), and 67 total shells found.

Regards,

PETE

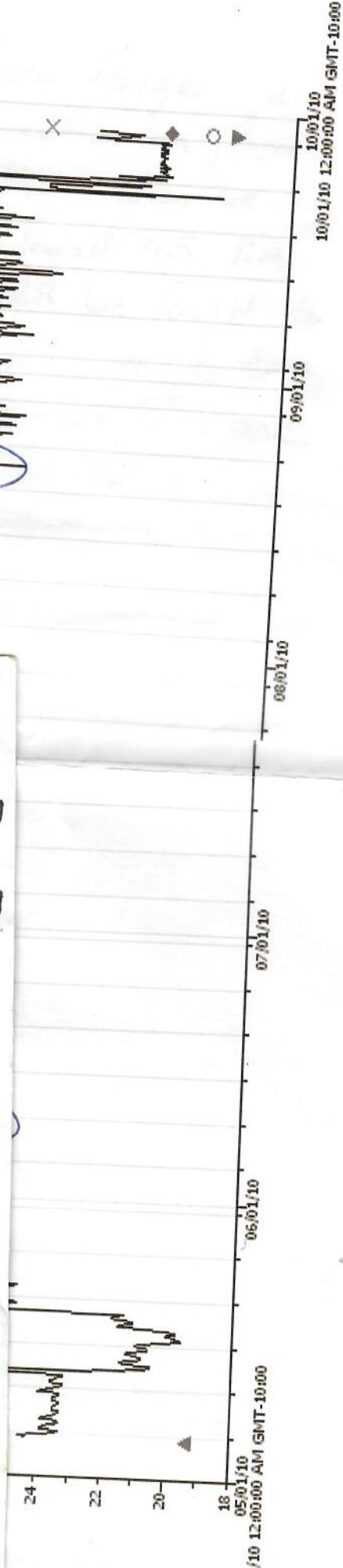
SN. 1762190 - NMFS, BALAZS

EAST - SAND

L2's Nest

EXAMINED 8/28/10

50310



DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
AT EAST ISLAND, FRENCH FRIGATE SHOALS

2010

DATE	TOTAL NO. TURTLES UP	NO. OF NEW TURTLES IDed (MOTOTOOL)	NUMBER OF NESTS N/P/M	YOUR INITIALS	COMMENTS (WEATHER, SPECIAL OBSERVATIONS)
5/21/10	18	18	N=1 P=0 M=0	TS KK	157 Baskers, 1 mom+pup pair, 1 juvie + 1 preg. female = 4 seals gps'd high tide line + markers 1st training nite (partial) retrieved sand loggers #1155711 #1155713
5/22/10	31	17	N=2 P=1 M=4	TS KK	159 Baskers 1 mom + pup pair, 2 juvie 1 preg female = 5 seals Retrieved 9 data loggers training night (2nd)
5/23/10	28	14	N=2 P=2 M=9	TS KK	141 baskers 1 mom + pup pair, 4 juvie 1 preg female, 1 adult = 8 seals Training night (3rd)
5/24/10	23	8	N=5 P=2 M=3	TS	156 Baskers incl. LZ!! Antennae fine changed out TDR @ 20:05 on 5/24/10 on SE spit took pics 5 seals incl. 1 mom/pup pair Retrieved 4 temp dataloggers in morning hours Flipped over male turtle along shore that was stranded after female had "dumped" him
5/25/10	24	11	N=0 P=4 M=54	TS	144 Baskers; 6 seals incl. mom+pup pair L2 remains basking on SE point as of sunset walk; replaced one sand datalogger; retrieved one nest logger saw 2 shooting stars that set the sky on fire!
5/26/10	23	15	N=3 P=1 M=3	TS	143 Baskers incl. L2 5 of blocks; 6 seals incl. m/pup pair Found glass ball floating!! Beautiful full moon @ sunset Life is good @ could stay out here all season @ this pace! wind died, seas calm.
5/27/10	27	12	N=3 P=3 M=65	KK	124 baskers incl. L2 5 of blocks, 6 seals incl. mom + pup pair. 1st night alone, wonderful moon + all went smooth 2 turtles right next to seal all night - did not get. deployed nest datalogger #1262 199

keep start box w/ pit tag envelopes in numerical order
thank for 10/10 pop

18 up 5 new

16 up 6 new

special girls dbl check against logged tag #1s in databook & make note
of those matches to take photos upon next sighting

schedule - ?

L2 still resting w/ friends on SE Pt.

18 up 11 new

- food
cam, bath

#88 needs tag ✓
#39 pics

18 up 8 new

L2?

7 coals (incl. 2 pregos + mom/pup)

need mozzarella tell Pete

Baskers / male female email George w/ #'s
no spec. girls

19 up 10 new up to moto #145

20 up 9 new mot # 160

need jelly (not bread)

4 Days?

46 up 10 new moto # 197

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
AT EAST ISLAND, FRENCH FRIGATE SHOALS

2010

DATE	TOTAL NO. TURTLES UP	NO. OF NEW TURTLES IDed (MOTOTOOL)	NUMBER OF NESTS N/P/M	YOUR INITIALS	COMMENTS (WEATHER, SPECIAL OBSERVATIONS)
5/28/10	23	9	N=1 P=0 M=3	KK	133 baskets, LZ E of pier 7 seals incl. mom & pup could not find pup seals but were present in area
5/29/10	21	14	N=0 P=0 M=5	KK	122 baskets 6 seals incl. mom & pup
5/30/10	23	10	N=1 P=2 M=5	TS	105 Baskers (♀ 91, ♂ 14) 7 seals (2 preps, 1 mom/pup pair) no sign of LZ baby seal born @ approx. 3:30 AM
5/31/10	18	7	N=0 P=1 M=8	TS	110 Baskers no sign of LZ 6 seals (2 m/p pairs) 7:00 AM walk LZ back! basking on W spit i
6/1/10	26	16	N=0 P=1 M=8	TS	132 Baskers (♀ 113, ♂ 19) LZ basking S shore of tent 7 seals (incl. 2 m/p pairs) overcast moon came out ~ 4:00am
6/2	24	11	N=0 P=0 M=4	TS	120 Baskers (♀ 102, ♂ 18) 7 seals (incl. 2 m/p pairs) LZ basking on S shore
6/3	33	9	N=1 P=1 M=5 4	KK	147 baskets (♀ 123, ♂ 19) 7 seals (incl. 2 m/p pair) LZ basking on S shore

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
AT EAST ISLAND, FRENCH FRIGATE SHOALS
2010

DATE	TOTAL NO. TURTLES UP	NO. OF NEW TURTLES IDed (MOTOTOOL)	NUMBER OF NESTS N/P/M	YOUR INITIALS	COMMENTS (WEATHER, SPECIAL OBSERVATIONS)
6/4	43	8	N=5 P=1 M=87	KK	154 baskers (22 ♂, 132 ♀) no L2, 8 seals incl 2 mom + pup pairs deployed datalogger # 1155733, L2 seen in morning
6/5	33	4	N=∅ P=∅ M=4	KK	138 baskers (21 ♂, 117 ♀) L2 seen swimming, 6 seals (incl. 2 mom + pup pairs one lone pup) wearer W113 got pic of 39, 106, 25.
6/6	33	4	N=∅ P=1 M=5 ³ 6	KK	153 baskers, did not see L2 8 seals (incl 2 mom + pup pairs) Saw L2 swimming in am.
6/7	57	15	N=4 P=6 M=15 14	TS	149 Baskers, L2 basking near old pier 7 seals up @ sunset walk (incl. 2 m/p pairs) took shoreline profile photos on sunset walk
6/8	45	7	N=6 P=5 M=13	TS	147 Baskers, L2 basking S shore, 7 seals up @ sunset walk (incl. 2 m/ps) no turtles remaining on 7:00 am walk extreme low tide; scattered showers during nite
6/9	40	7	N=2 P=4 M=10 ⁹	TS	162 Baskers 7 seals up @ sunset walk (incl. 2 m/ps), scattered showers moto # 49 up crawling behind tent @ 6:30 pm L2 (211) nested - Yeah! Datalogger placed in nest
6/10	36	4	N=6 P=2 M=7	TS	106 Baskers; 7 seals (2 m/ps) last night for me; such a short season! Can't believe it's over already! Slow night, not many new girls

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
 AT EAST ISLAND, FRENCH FRIGATE SHOALS
 2010

DATE	TOTAL NO. TURTLES UP	NO. OF NEW TURTLES IDed (MOTOTOOL)	NUMBER OF NESTS N/P/M	YOUR INITIALS	COMMENTS (WEATHER, SPECIAL OBSERVATIONS)
6/11	34	6	N=2 P=3 M= 6 5 ✓	KK	127 baskets, 8 seals incl. 2 mom + pup pair very windy, rainy off/on
6/12	29	3	N=0 P=1 M=5	KK	107 baskets, 8 seals incl. 2 mom + pup pair
6/13	31	2	N=2 P=4 M=4	KK	114 baskets, 6 seals incl. 2 mom + pup pair my last night :-

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
 AT EAST ISLAND, FRENCH FRIGATE SHOALS
 2010

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5/25/10	24	11	N=0 P=4 M=84	TS	144 Baskers; 6 seals incl. mom + pup pair LZ remains basking on SE point as of sunset walk; replaced one sand datalogger & retrieved one nest logger saw 2 shooting stars that set the sky on fire!
5/26/10	23	15	N=3 P=1 M=3	TS	143 Baskers incl. LZ 5 of blocks; 6 seals incl. m/pup pair Found glass ball floating!! Beautiful full moon @ sunset Life is good @ could stay out here all season @ this pace! wind died, seas calm.
5/27/10	27	12	N=3 P=3 M=65	KK	124 baskers incl LZ 5 of blocks, 6 seals incl. mom + pup pair. 1st night alone, wonderful moon + a/c went smooth :) 2 turtles right next to seal all night - did not get. deployed nest datalogger #1262199

Return to George Balazs
 NMFS, PIFSC, Marine Turtle Research
 2570 Dole Street
 Honolulu, Hawaii 96822-2396

DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
AT EAST ISLAND, FRENCH FRIGATE SHOALS
2010

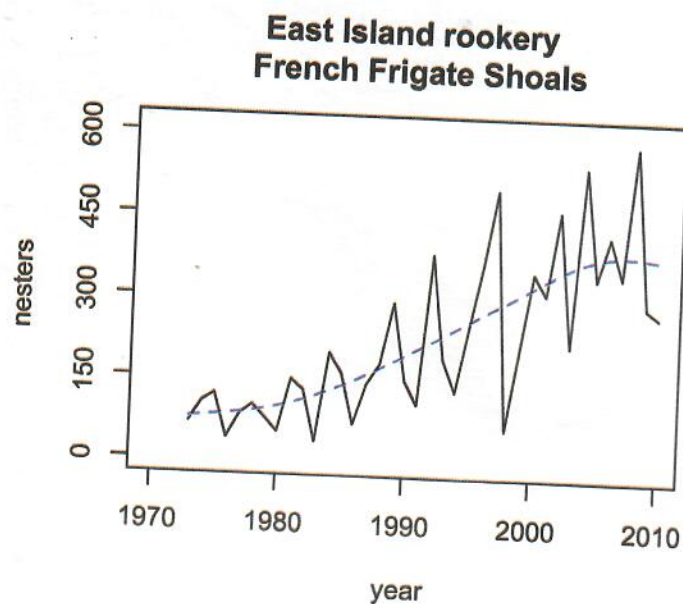
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DAILY TOTALS (PM - AM) FOR ADULT FEMALE GREEN TURTLES NESTING
AT EAST ISLAND, FRENCH FRIGATE SHOALS
2010

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 2010

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6/13	31	2	N=2 P=4 M=4	KK	114 baskets, 6 seals incl. 2 mom + pup pair my last night :-

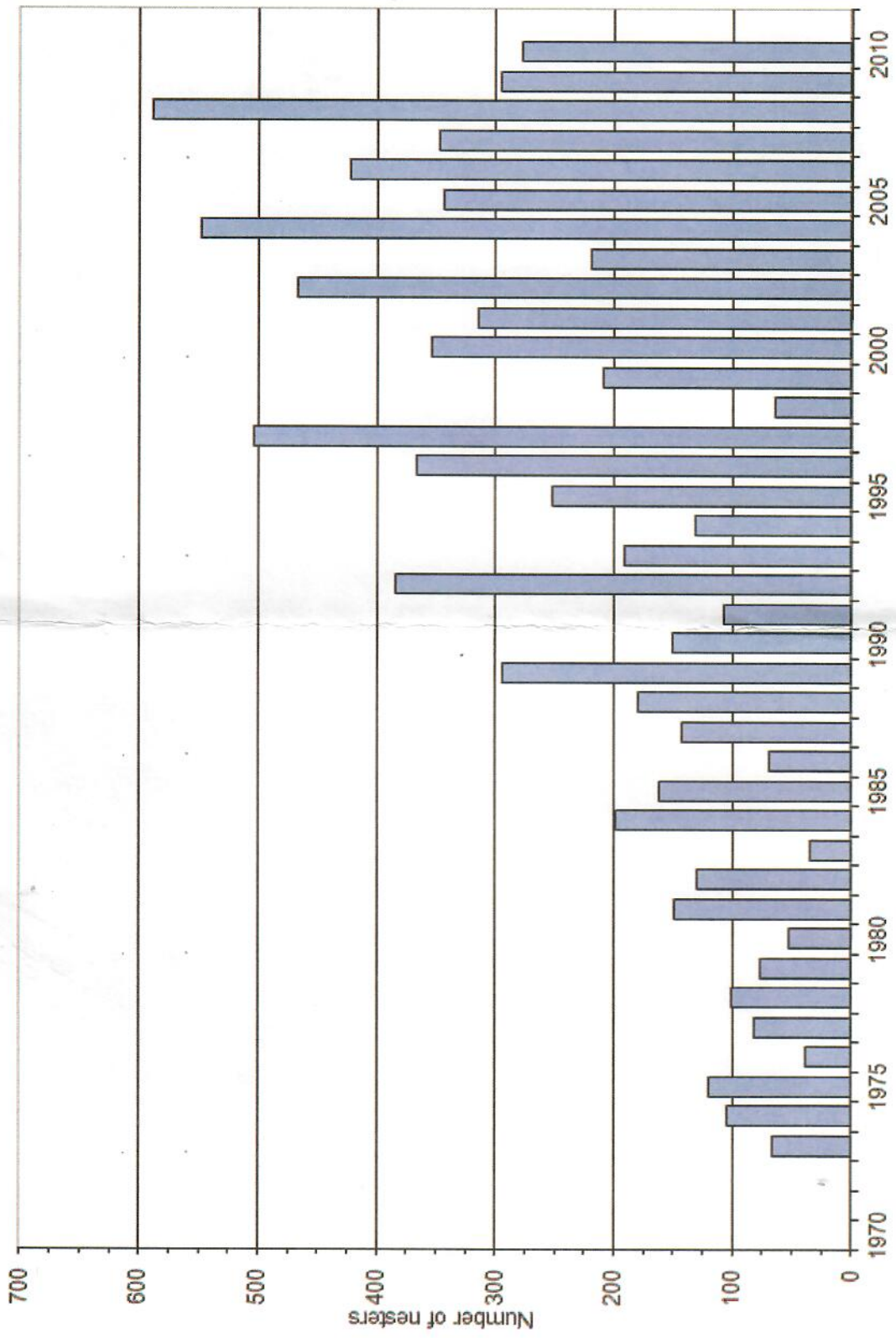


Green turtle nesting population at East Island, French Frigate Shoals, 1973-2010.
 Shaded region indicates saturation surveys.

FFS
Book

<u>Year</u>	<u>Survey nights</u>	<u>Turtles ID'd</u>	<u>Estimated nesters</u>
1973	43	66	67
1974	59	104	105
1975	30	111	120
1976	13	24	39
1977	9	44	82
1978	11	66	101
1979	13	55	77
1980	20	45	52
1981	23	127	149
1982	19	111	130
1983	17	28	35
1984	20	157	199
1985	18	131	162
1986	29	59	69
1987	26	124	143
1988	101	180	180
1989	143	294	294
1990	133	150	150
1991	119	107	107
1992	129	384	384
1993	31	181	191
1994	26	122	132
1995	31	240	252
1996	31	349	367
1997	33	481	504
1998	32	61	64
1999	31	198	209
2000	33	337	353
2001	31	295	314
2002	34	447	467
2003	41	213	219
2004	38	534	548
2005	40	336	344
2006	35	409	423
2007	33	334	348
2008	43	580	589
2009	36	270	295
2010	23	227	278

George -
 Here are the
 2010 results.
 Terry



MILESTONE REPORTING FORM

(for use in reporting on completed milestones and on milestones that are late/delayed)

1) Milestone Title: (unlimited characters) Determine number of green turtles nesting at East Island, French Frigate Shoals, during the 2010 nesting season

2) Your Contact Information (first name, last name): George Balazs, Pacific Islands Fisheries Science Center (PIFSC) and Jerry Wetherall (PIFSC)

3) Complete *either* 3a) or 3b).

3a) Actual completion date (mm/dd/yyyy): 08/16/2010

***** OR *****

3b) Revised (anticipated) completion date if milestone not completed yet (mm/dd/yyyy):

4) Complete *either* 4a) or 4b).

4a) One paragraph description of work completed. This should include (as applicable), but is not limited to:

- Activities that you undertook in working on the milestone – e.g., analyzed data, attended meetings, delivered a presentation, completed a manuscript, went on a cruise.
- Findings or implications associated with the milestone – e.g., conclusions from data analyses/hypothesis testing, decisions flowing from meetings, preliminary reports from cruises.
- Discussion of partnering or collaboration.
- Next steps, if the milestone represents a step in a longer-term project or process.

Enter text here (unlimited characters): Background Information: The number of green turtles nesting at East Island, French Frigate Shoals, in the Northwestern Hawaiian Islands has been estimated annually since 1973, hence for the past 37 breeding seasons. The estimate is based on partial-season survey of nesting activity conducted collaboratively by the PIFSC and the U.S. Fish and Wildlife Service. Survey statistics are extrapolated by the PIFSC to estimate the total number of nesting females during the survey year. Extrapolation procedures are based on statistical methods developed by the PIFSC during a series of saturation surveys conducted for five consecutive seasons from 1988-92. The estimates of nesting activity at East Island are used to provide an index of abundance for the Hawaiian green turtle population and to monitor population trends and recovery status.

Purpose of Activity: Provide a quantitative basis for monitoring the abundance of the Hawaiian green turtle population in support of the Recovery Plan for U.S. Pacific Populations of the Green Turtle.

Description of Accomplishment and Significant Results: The survey was conducted for 23 nights during the period of May 21 - June 13, 2010. Using microchip PIT tags, a total of 227 individual nesters were observed during the survey. The season's total nesting population for East Island is estimated at 278 nesters. The long-term trend of variable but generally increased annual nesting continues for the population.

Significance of Accomplishment: The results extend the time series of East Island green turtle nesting population estimates to 38 seasons, providing a sound basis for monitoring recovery.

***** OR *****

4b) One paragraph discussion of why work wasn't completed by the original due date. This should include (as applicable), but is not limited to:

- Specific reasons for the delay – e.g., funding didn't arrive in time, the ship was delayed, partners didn't complete their portions of the milestone on time, crises intervened.
- How are you going to address the problem that caused the delay, so that you can complete the milestone as quickly as possible?
- Impact of the delay – are there significant repercussions, such as a cascade of subsequent missed deadlines?

Enter text here (unlimited characters):

5) Other comments/notes: (unlimited characters)

Date: Wed, 24 Mar 2010 16:22:06 -1000
From: Pete_Leary@fws.gov
To: George H. Balazs <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: Date ~time depart, date ~time return

Hi George,
Sorry for the late reply, but here is the info.

We evacuated 6 people on 27 Feb. I don't have an exact time, but it was about 1:00 pm, and 4 of us returned on 04 Mar about 11:00 am and returned 2 on 08 Mar.

