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Summary of green turtle (Chelonia mydas) fieldwork conducted at French Frigate Shoals 8 through 30 June 1984

Note: This report does not include data from the work conducted concurrently at FFS by George Balazs.

Basking Counts

<u>Date</u>	<u>Island</u>	<u>Time</u>	<u>Number Basking</u>
6-8	Whale-Skate	1900	30
6-9	Whale-Skate	1415	24
6-10	Whale-Skate	1730	56
6-11	Whale-Skate	1445	46
6-13	Whale-Skate	1830	45
6-14	Whale-Skate	1800	37
6-15	Whale-Skate	1700	31 (27 female, 4 male)
6-18	Trig	1453	9
6-18	East	1730	32
6-19	East	1615	43
6-20	East	1430	49
6-21	East	1730	37
6-22	East	1730	28
6-24	East	1915	23
6-25	East	1700	24
6-26	East	1715	28
6-26	Little Gin	1318	0
6-26	Gin	1430	0
6-27	East	1700	33

For comparison, in 1983 basking counts taken at the same time of day 7 through 16 June (7 surveys) on Whale-Skate averaged 7 turtles per survey (range 3-18); on East over the period 16 through 20 June (5 surveys) the average number of basking turtles per survey was 6 (range 2-9).

Tags Applied - Basking Turtles

Forty-one adult (16 male, 25 female) and one juvenile (sex unknown) basking turtles were tagged.

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<u>Date</u>	<u>Sex</u>	<u>Tag Left</u>	<u>Tag Right</u>	<u>Island</u>
6-9	F	7968	---	Whale-Skate
6-9	M	7969	---	Whale-Skate
6-10	F	7980	---	Whale-Skate
6-10	M	7982	---	Whale-Skate
6-11	F	7984	---	Whale-Skate

Tags Applied. - Nesting Females, cont.

<u>Date</u> <u>1984</u>	<u>Island</u>	<u>Tag Left</u>	<u>Tag Right</u>	<u>straight (s) or curved (c)</u> <u>carapace measurement (cm)</u>
6-8 ✓	Whale-Skate ✓	7951	7952	
6-8 ✓	Whale-Skate ✓	7953 <i>411 C61A160</i>	--	
6-8 ✓	Whale-Skate ✓	7954	--	
6-8 ✓	Whale-Skate ✓	7955	7956	
6-8 ✓	Whale-Skate ✓	7957	--	
6-8 ✓	Whale-Skate ✓	7958	--	
6-8 ✓	Whale-Skate ✓	7959	--	
6-8 ✓	Whale-Skate ✓	7960	--	
6-9 ✓	Whale-Skate ✓	7966	-----	92.0 (c)
6-9 ✓	Whale-Skate ✓	7967	--	
6-9 ✓	Whale-Skate ✓	7965	-----	97.0 (c)
6-9 ✓	Whale-Skate ✓	7963	--	
6-9 ✓	Whale-Skate ✓	7961	--	
6-9 ✓	Whale-Skate ✓	7964	--	
6-9 ✓	Whale-Skate ✓	7972	--	
6-9 ✓	Whale-Skate ✓	7973	--	
6-9 ✓	Whale-Skate ✓	8104	--	
6-10 ✓	Whale-Skate ✓	7974	-----	101.0 (c)
6-10 ✓	Whale-Skate ✓	7975	-----	95.0 (c)
6-10 ✓	Whale-Skate ✓	7976	--	
6-10 ✓	Whale-Skate ✓	7983	--	
6-10 ✓	Whale-Skate ✓	7977 <i>10372</i>	-----	95.5 (c)
6-10 ✓	Whale-Skate ✓	8101	8110	101.0 (c)
6-10 ✓	Whale-Skate ✓	7979	--	105.5
6-10 ✓	Whale-Skate ✓	7981	--	
6-11 ✓	Whale-Skate ✓	7996	7997	
6-11 ✓	Whale-Skate ✓	7989	8000	----- 98.0 (c)
6-11 ✓	Whale-Skate ✓		8103	
6-11 ✓	Whale-Skate ✓	8127	-----	98.0 (c)
6-11 ✓	Whale-Skate ✓	8105	--	
6-11 ✓	Whale-Skate ✓	8107	8106	
6-11 ✓	Whale-Skate ✓	7998	--	
6-13 ✓	Whale-Skate ✓	--	8108	
6-13 ✓	Whale-Skate ✓	8134	--	
6-13 ✓	Whale-Skate ✓	8126 <i>500 E1 8250A</i>	--	
6-13 ✓	Whale-Skate ✓	8113	-----	99.5 (c)
6-13 ✓	Whale-Skate ✓	8109	--	
6-14 ✓	Whale-Skate ✓	--	8123	
6-14 ✓	Whale-Skate ✓	8124	--	
6-14 ✓	Whale-Skate ✓	8125	--	
6-14 ✓	Whale-Skate ✓	8128	8129	
6-15 ✓	Whale-Skate ✓	8135	8136	----- 90.5 (c)
6-15 ✓	Whale-Skate ✓	8137	--	
6-15 ✓	Whale-Skate ✓	8138	8139	
6-15 ✓	Whale-Skate ✓	8140 <i>220 07052D</i>	--	
6-15 ✓	Whale-Skate ✓	8142	--	
6-17 ✓	Tern ✓	8144	--	
6-18 ✓	East ✓	8151	--	
6-18 ✓	East ✓	8153	--	
6-18 ✓	East ✓	8156	8155	

Long-Term Tag Recoveries - Basking Turtles

23 APR 2003

<u>Date</u> <u>1984</u>	<u>Island</u>	<u>Sex</u>	<u>Tag</u> <u>Left</u>	<u>Tag</u> <u>Right</u>	<u>Date tagged-Location and Status</u>
6-9	Whale-Skate	M		2750	6/17/78 Whale-Skate, FFS - Basking
6-10	Whale-Skate	M	5988		6/29/80 Trig. FFS - Basking
6-10	Whale-Skate	M		2625	6/12/78 Whale-Skate, FFS - Basking
6-10	Whale-Skate	M	3765	3234	6/26/79 Whale-Skate, FFS - Basking
6-10	Whale-Skate	M	3018		5/2/79 Whale-Skate, FFS - Basking
6-11	Whale-Skate	M	3044		5/4/79 Whale-Skate, FFS - Basking
6-11	Whale-Skate	F		2722	6/15/78 Whale-Skate, FFS - Basking
6-11	Whale-Skate	F		5150	5/30/81 Whale-Skate, FFS - Basking
6-11	Whale-Skate	F		6171	6/17/82 Whale-Skate, FFS - Basking
6-15	Whale-Skate	M	2704	2703	6/15/78 Whale-Skate, FFS - Basking
6-20	East	M	6017		6/7/82 East, FFS - Basking
6-24	East	F	5440	5439	6/18/81 East, FFS - Nesting

Number of Adult Females Nesting

<u>Date</u> <u>1984</u>	<u>Total number</u> <u>ashore</u> <u>to nest</u>	<u>Number of new females</u> <u>first seen ashore</u> <u>to nest in 1984</u>	<u>Repeat nesters</u> <u>seen ashore</u> <u>from prev. nts.</u>	<u>Long-term</u> <u>tag recoveries</u>
<b>WHALE-SKATE</b>				
6-8	12	12	0	1
6-9	19	13	6	2
6-10	13	8	5	0
6-11	23	10	13	2
6-13	15	8	7	1
6-14	15	8	7	2
6-15	17	10	7	0
		69		
<b>EAST</b>				
6-18	20	7	13	1
6-19	28	9	19	4
6-20	39	3	36	1
6-21	41	2	39	0
6-22	26	2	24	1
6-24	20	6	14	3
6-25	22	5	17	1
6-26	13	1	12	0
6-27	11	0	11	0

For comparison, in 1983 the average number of females ashore nesting on Whale-Skate 8 through 15 June (8 nights) was one (range 0-3) per evening.

Tags Applied - Nesting Females

Tags were applied to 46 adult females ashore nesting on Whale-Skate, to 21 females nesting on East, and to one female nesting on Tern.

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Tags Applied, Basking Turtles, cont.

<u>Date</u>	<u>Sex</u>	<u>Tag Left</u>	<u>Tag Right</u>	<u>Island</u>
6-11	M	7985	---	Whale-Skate
6-11	F	7986	---	Whale-Skate
6-11	F	7987	---	Whale-Skate
6-11	M	7988	---	Whale-Skate
6-11	F	7989	---	Whale-Skate
6-11	F	7990	---	Whale-Skate
6-11	F	7991	---	Whale-Skate
6-11	M	7992	---	Whale-Skate
6-11	F	7993	---	Whale-Skate
6-11	F	7994	---	Whale-Skate
6-13	F	8111	---	Whale-Skate
6-13	M	8114	---	Whale-Skate
6-14	F	8115	---	Whale-Skate
6-14	M	8116	---	Whale-Skate
6-14	F	8117	---	Whale-Skate
6-14	F	8118	---	Whale-Skate
6-14	F	8119	---	Whale-Skate
6-14	F	8120	---	Whale-Skate
6-14	M	8121	---	Whale-Skate
6-14	F	---	8122	Whale-Skate
6-15	F	8130	---	Whale-Skate
6-15	F	8131	---	Whale-Skate
6-15	F	8132	---	Whale-Skate
6-15	M	8133	---	Whale-Skate
6-15	F	8141	---	Whale-Skate
6-16	F	8143	---	Whale-Skate
6-18	F	8145	---	Trig
6-18	M	8146	---	Trig
6-18	F	8147	---	Trig
6-18	M	8148	---	Trig
6-18	F	8149	---	Trig
6-20	M	8166	---	East
6-21	M	8172	---	East
6-21	M	8173	---	East
6-22	M	8178	---	East
6-28	?	8196	8197	Trig straight carapace length: 62.2 cm.
6-30	M	8198	---	Tern (This turtle was entangled in a net, which was tangled with a puerolator line. Turtle was cut free.)

*Waiānae -  
5/17/86  
Specified*

*ONT: NO. 324*

*6/3/86  
CAST*

Long-Term Tag Recoveries<sup>1</sup> -- Basking Turtles

Tag numbers were recovered from 12 (8 male, 4 female) adult basking turtles. Information on original tagging dates from Balazs (1983) and the revised edition of that publication (in press).

<sup>1</sup> does not include tags applied summer of 1984.

Tags Applied - Nesting Females, cont.

Date 1984	Island	Tag Left	Tag Right	straight (s) or curved (c) carapace measurement (cm)
6-19	East	--	8157	89.5 (s)
6-19	East	8158	--	88.2 (s)
6-19	East	8160	8161	88.2 (s)
6-19	East	8162	--	
6-19	East	8163	8171	
6-20	East	8167	8168	84.8 (s)
6-20	East	8169	--	
6-21	East	8174	8175	
6-21	East	8176	8177	
6-22	East	8179	--	
6-24	East	8182, 8180	8181	88.5 (s)
6-24	East	8183	8184	
6-24	East	8185	--	
6-25	East	--	8186	
6-25	East	--	8187	
6-25	East	8188	8189	91.3 (s)
6-25	East	8190	--	94.0 (s)
6-26	East	8191	8192	97.5 (s)

Long-Term Tag Recoveries<sup>1</sup> - Nesting Females

Tag numbers were recovered from 8 females nesting on Whale-Skate, and from 11 females nesting on East. Information on original tagging dates from Balazs (1983) and the revised edition of that publication (in press).

Date 1984	Island	Tag Left	Tag Right	carapace msmt (cm) st. or curved	Date tagged-Location and Status
6-8	Whale-Skate		5350		6/8/81 Whale-Skate, FFS - Basking
6-9	Whale-Skate	2818	7962*		6/20/78 Whale-Skate, FFS - Basking
6-9	Whale-Skate	5463	5464		8/18/81 Makapuu, Oahu (Kahala Hilton) released from captivity
6-11	Whale-Skate		5149		5/30/81 Whale-Skate, FFS - Basking
6-11	Whale-Skate		6171	101.5 (c)	6/17/82 Whale-Skate, FFS - Basking
6-13	Whale-Skate	3752	3752		6/9/80 Whale-Skate, FFS - Basking
6-14	Whale-Skate	5156	3187	104.5 (c)	5/3/79 East, FFS - Basking
6-14	Whale-Skate		5154	96.5 (c)	5/30/81 Whale-Skate, FFS - Basking
6-18	East	5099			6/16/81 East, FFS - Nesting
6-19	East		3601	95.5 (s)	6/29/80 East, FFS - Nesting
6-19	East	5189			5/31/81 East, FFS - Nesting
6-19	East	8164*	5428		6/14/81 East, FFS - Basking
6-19	East	8165*	5008	97.2 (s)	5/7/77 Punaluu, Hawaii - Offshore net capture and release
6-20	East		5145	95.2 (s)	6/25/77 East, FFS - Nesting
6-22	East	3595	6094	92.8 (s)	6/28/80 East, FFS - Nesting
6-24	East		5306	96.8 (s)	6/17/81 East, FFS - Nesting
6-24	East	5440			6/18/81 East, FFS - Nesting
6-24	East	2999	3002		4/27/79 Necker Island - Basking
6-25	East	3127	3128	95.2 (s)	6/17/79 East, FFS - Nesting

\*Tag applied

<sup>1</sup>does not include tags applied summer of 1984.

### Hatchlings

Green turtle hatchlings were observed on East Islands the evenings of 6-19, 20, 21, and 27. Since the mean incubation period is 64.5 days (range 54-88 days) (Balazs 1980), the egg clutches in the nests which erupted 6/19-21 must have been laid around mid-April. This represents an early commencement of nesting, which usually begins mid-May (Balazs 1980 and pers. comm.).

### Summary

The number of turtles in the breeding assemblage at French Frigate Shoals this year was markedly greater than the number present in 1983. The breeding season also appears to have commenced earlier than in previous years.

### References cited

Balazs, G.H.

1980. Synopsis of biological data on the green turtle in the Hawaiian Islands. NOAA Tech. Memo. NMFS, NOAA-TM-NMFS-SWFC-7, 141 p.

1983. Recovery records of adult green turtles observed or originally tagged at French Frigate Shoals, Northwestern Hawaiian Islands. NOAA Tech. Memo. NMFS, NOAA-TM-NMFS-SWFC-36, 42 p.