DATA ON THE HAWAIIAN GREEN TURTLE COLONY AT FRENCH FRIGATE SHOALS

collected, compiled and analyzed

by

G. H. Balazs
Hawaii Institute of Marine Biology
P.O. Box 1346
Kaneohe, Hawaii 96744

CONTENTS

	B		

Sea surface temperatures at French Frigate Shoals	9-1.	
Number of adult green turtles tagged at French Frigate Shoals	13-14	
Number of tagged adult green turtles recovered at French Frigate Shoals	15-16	
Number of nesting green turtles tagged and subsequently recovered at French Frigate Shoals 1973-1976	17	
Recovery data for adult green turtles observed or originally tagged at French Frigate Shoals	18-27	
Straight carapace length of adult green turtles	29	
Straight carapace width of adult green turtles	31	
Curved carapace length of adult green turtles	32	
Curved carapace width of adult green turtles	35	
Carapace measurement data of adult green turtles recovered at French Frigate Shoals	36-39	
Average yearly change in carapace measurements of adult green turtles recovered at French Frigate Shoals	40-41	
Summary of data for change in carapace measurements of adult green turtles	42	
Consistency of change in carapace measurements of adult green turtles	43	
Intensity of green turtle nesting on East Island	44-51	
Results of regression analysis of green turtles nesting at East Island on time within season	52-53	
Duration of contact with individual green turtles nesting on East Island	57	
Intensity of green turtle nesting on Trig and Whale- Skate Island	58	

TABLES	
INDLES	PAGE
Areas on East Island used for egg clutch deposition by multiple nesting green turtles in 1973	59
Areas on East Island used for egg clutch deposition by multiple nesting green turtles observed in 1974	60-62
Areas on East Island used for egg clutch deposition by multiple nesting green turtles observed in 1975	65-66
Area tenacity of green turtles observed renesting in 1973	67
Area tenacity of green turtles observed renesting on East Island in 1974	68-69
Area tenacity of green turtles observed renesting on East Island in 1975	70
Number of egg clutches deposited by individual green turtles nesting on East Island	71
Internesting intervals of green turtles at East Island	72
Results of six green turtle nests transplanted on East Island	73
Number of green turtles basking on East Island	74-79
Number of green turtles basking on Whale-Skate Island	82-86
Number of green turtles basking on Trig Island	87-90
Number of green turtles basking on Gin, Little Gin, Mullet, Shark and Tern Island	91-93
Results of regression analysis of green turtles basking at East Island on time within season	94-95
Internesting interval of green turtles observed basking on East Island in 1974	96
Internesting interval of green turtles not observed basking on East Island in 1974	97
Internesting interval of green turtles observed basking on East Island in 1975	98
Internesting interval of green turtles not observed basking on East Island in 1975	99

TABLES	PAGE
Summary of data on internesting intervals of basking and nonbasking green turtles on East Island	100
Summary of data on shark sampling at French Frigate Shoals	101-102
Summary of data on bony fish sampling at French Frigate Shoals, July - October 1974	103
GRAPHS	
Sea water temperatures	12
Percent frequency of straight carapace lengths of adult female green turtles	30
Percent frequency of curved carapace lengths of adult female green turtles	33
Percent frequency of curved carapace lengths of adult male green turtles	34
Regression of numbers of green turtles nesting at East Island on time within season, 1973-1976	54
Regression of percent successfully nesting green turtles on time within season, 1973-1976	55
Regression of numbers of nesting turtles newly observed on time within season, 1973-1976	56
Regression of numbers of basking green turtles on time within season, 1973-1975	80
Regression of percent female basking green turtles on time within season, 1973 and 1975	81
CHARTS	
French Frigate Shoals, Northwestern Hawaiian Islands	5

CHARTS	PAGE
Hawaiian Islands, North Pacific Ocean	6-8
Green turtle migrations in the Hawaiian Archipelago involving French Frigate Shoals	28
Sites of egg clutch deposition on East Island in 1974	64
Surface drift trajectories representing the theoretical movement of hatchling green turtles leaving French Frigate Shoals	104