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HAWAIIAN ISLANDS NATIONAL WILDLIFE REFUGE
EXPEDITION REPORT
FRENCH FRIGATE SHOALS
JUNE 1-5, 1973

PERSONNEL

David L. Olsen, Acting Wildlife Administrator
George Balazs, Marine Biologist, Hawaii Institute of Marine Biology
John Wheeler, Hawaii Institute of Marine Biology

ITINERARY

- June 1 Depart Kailua 7:00 AM for Honolulu. Via FAA DC-3 departed Honolulu Airport 8:30 AM and arrived Tern Island, French Frigate Shoals 11:30 AM. Conducted aerial census of seals and turtles on the islets. Began collecting equipment and organizing work plan.
- June 2 Continued organizing equipment and moving into new Bureau lab facility at Tern Island. Made first visit to Trig and Whale Skate Islands. Presented slide talk on the Hawaiian Islands Refuge to crew at Tern Island.
- June 3 Visited La Perouse Pinnacle and collected rock samples for the University of New Mexico. Visited East and Whale Skate Islands and spent the night at East Island.
- June 4 Returned to Tern Island during the morning. Afternoon visited Gin and Little Gin Islands and returned to East Island, again spending the night.
- June 5 Returned to Tern Island and at 2:00 PM departed via FAA DC-3 for Honolulu. Arrived Honolulu 5:00 PM and via personal vehicle arrived Kailua 6:30 PM.

GENERAL

The primary purpose of this visit was to introduce Messrs. George Balazs and John Wheeler from the Hawaii Institute of Marine Biology to the area. They learned operational procedures using the Bureau Boston whaler and

also gained an appreciation for navigating between the reefs and shoals within the atoll.

Two nights were spent on East Island in an effort to familiarize them with problems which might be encountered in working with nesting turtles. The ultimate objective of their studies was to eventually arrive at a turtle nesting population for French Frigate Shoals. After observing numerous baskers on each of the islets, and the nesting attempts at night, it was decided that the best way to collect meaningful information was to spray numbers on the backs of turtles as they attempted to dig a nest pit. Only if the animal actually laid eggs would she be tagged. A relationship could then be developed between those turtles which came up to dig false pits and those which actually laid eggs. Theoretically, by applying this information to all islets, the actual number of turtle nests could be determined.

Although most of the time was spent working with the turtle population, an aerial seal census was conducted and cursory wildlife population estimates were made on several of the islets.

WILDLIFE POPULATIONS

All of the islets except Disappearing, Shark, Round and Mullet were visited during the stay. Bird population estimates were made on Trig, East and Gin Islands and the data are shown below.

East Island

| | | |
|-------------------------|--|---------|
| Black-footed Albatross | 550 chicks | Class A |
| Laysan Albatross | 160 chicks | Class A |
| Wedgetailed Shearwaters | present in unknown numbers | |
| Red-tailed Tropicbirds | 10 adults on eggs and small chicks | |
| Red-footed Boobies | 50 adults | Class B |
| Blue-faced Boobies | 30 adults - 15 adults were on eggs while the others had young chicks | |
| Sooty Terns | 72,000 adults - approximately 50% of the birds had small chicks while the remainder were on eggs | |

Gin Islands

| | | |
|------------------------|------------|------------------------------|
| Black-footed Albatross | 160 chicks | Class A |
| Blue-faced Boobies | 56 adults | Class A (on chicks and eggs) |

Trig Island

| | | |
|--------------------|---------------|---------------------------------|
| Laysan Albatross | 40 chicks | Class A |
| Blue-faced Boobies | 45 adults | Class A |
| Sooty Terns | 12,000 adults | Class C (young chicks and eggs) |

STUDIES OF THE HAWAIIAN MONK SEAL

An aerial seal census was conducted on June 1 and more accurate ground count data were included for those islets visited during the period.

Seal Census Data

| <u>Islet</u> | <u>Number of Animals</u> |
|--------------|--------------------------|
| Disappearing | 30 |
| Sandspits | 17 |
| Gin Islands | 5 |
| Little Gin | 8 |
| Sand Spits | 4 |
| Whale Skate | 35 |
| Trig | 20 |
| Trig Spits | 7 |
| Shark | 3 |
| Round | 15 |

| <u>Islet (cont.)</u> | <u>Number of Animals (cont.)</u> |
|----------------------|----------------------------------|
| Mullet | 7 |
| East | <u>45</u> |
| TOTAL | 196 |

STUDIES OF THE GREEN SEA TURTLE

An aerial census of green sea turtles was conducted on June 1 and more accurate ground count data were included for those islands visited during the period. Data collected are shown in the following table:

Turtle Population Data

| <u>Islet</u> | <u>Baskers</u> | <u>In Water</u> |
|--------------|----------------|-----------------|
| Trig | 6 | |
| Gin | 4 | 4 |
| Little Gin | 1 | |
| Whale Skate | 11 | |
| La Perouse | | 1 |

A turtle pit count was also conducted and efforts were made to include only those pits which appeared as though they might contain eggs. This rather subjective count is shown in the following table:

Turtle Pit Count

| <u>Islet</u> | <u>Number of Animals</u> |
|-----------------|--------------------------|
| East | 36 |
| Whale Skate | 37 |
| Trig | 3 |
| East | 37 |
| Gin | 5 |

| <u>Islet (cont.)</u> | <u>Number of Animals (cont.)</u> |
|----------------------|----------------------------------|
| Little Gin | 10 |
| Tern | <u>19</u> |
| TOTAL | 147 |

A single previously tagged animal was observed at East Island and the previously recorded data on this animal are shown below:

| <u>Tag #</u> | <u>Sex</u> | <u>Location</u> | <u>Date</u> | <u>Carapace Length</u> | <u>Carapace Width</u> | <u>Plastron Length</u> | <u>Thick.</u> | <u>Round Meas.</u> | <u>Weight</u> |
|----------------|--------------|------------------------------|-------------|------------------------|-----------------------|------------------------|----------------------------|--------------------|---------------|
| 736 | F | East Is. | 6/14/68 | No measurements taken | | | | | |
| March 69 | F | ^{offshore} Trig Is. | 5/17/71 | 37.8 | 28.6 | 29.9 | 13.7 | 40 x 36- 1/2 | 270 |
| | F | Trig Is. | 5/5/72 | 37-1/4 | 29.0 | 30 | 13-1/2 | 39 x 37 | 275 |
| | F | East Is. | 6/2/73 | 37-1/4 | 29-1/2 | 30-1/2 | flippers missing Fresh! | | |