

1089-A Ala Moana Blvd.  
Honolulu, Hawaii 96814  
July 1, 1969

Museum of Natural History  
Smithsonian Institution  
Washington, D. C. 20560

Dear Mr. Benion Amerson

Read an article in today's Honolulu Advertiser by columnist Bob Krauss wherein you sought information about French Frigate Shoals. This letter will outline my experience regarding the shoals.

In September of 1946 I first arrived at the shoals by plane to take charge of operations for our newly formed fishing company. The Navy had left in 1945 and thereafter two separate fishing vessels had profitably operated thereabouts.

Using a combination of fishing boats and airplanes my work in and around the shoals extended from 1946 through 1959. I have had widely varied experiences concerning the shoals and possibly the longest tenure there as a working individual. Your observations indicate your awareness of the areas bleak desolation and lack of conveniences which did create many problems. Were it not for a youthful pioneering spirit I do not feel many of us would have ventured to such a place. In retrospect the original idea seemed premature. Much knowledge was gained during the years of operation though not much profit.. It is my opinion that the supply of sea food at the shoals will come into its own eventually, particularly since the Hawaiian Island fishery (inshore) is being depleted steadily.

if I can be of service feel free to write. I do still have some photos and movies and newspaper stories and clippings about the place.

Very truly yours,

*Louis K. Agard Jr.*  
Louis K. Agard Jr.

aba

20 August 1969

Mr. Louis Agard, Jr.  
1089-A Ala Moana Blvd.  
Honolulu, Hawaii 96814

Dear Mr. Agard:

Many thanks for your letter of 1 July. My apologies for not writing earlier, but I have only recently returned here to Washington. I am delighted you responded to Bob Krauss' article about French Frigate Shoals. I had tried to contact you as well as Frank Opperman, by phone several times while in Honolulu, but never was successful.

I am enclosing a copy of the first draft of my section on the fishing industry at French Frigate Shoals during 1946-1948. So far, I've mainly gotten the information from newspaper articles and Hawaii Aeronautics Commission correspondence. I found a few references to the fishermen in the log books of the East Island Coast Guard Station. From this data and hopefully your help I can "beef up" this section considerably. Since I will not be back in Honolulu in the near future to discuss this with you, I suppose we will have to resort to letters. I will now list several questions the answers to which would be helpful to me.

Was your company Seaside Fishing Co., Hawaiian Tuna Packers, or something different? Who else were owners in your company and do you know who owned the others? Also, how many men were involved; one reference said their ages were from 18 to 67, is this true? You said you first arrived at French Frigate Shoals in September of 1946 and that prior to that time two fishing vessels had operated thereabouts since the Navy pulled most of their men away in 1945. What was the names of these vessels and what others were later involved. Did they go back and forth to Honolulu periodically or did they work solely out of Tern Island? How often did your plane come to French Frigate Shoals? Were you using Transair Hawaii (a DC 3?) or a plane of your own?

<sup>EAST</sup>  
The Coast Guard log for 5 September 1948 says "1600 LCM departed for Tern Island to meet Transair Hawaii plane and pick up mail and supplies - 2050 LCM returned;" and for 7 September "1100 Agard and party put ashore to await message from Honolulu - 1330 Agard and party departed." Did you bring mail and supplies to the Coast Guard station often? Another series of log entries reads: "21 July 1949 - 1130 Fishing boat (converted wash boat with gray hull hove into sight standing in for French Frigate Shoals... 26 July - 1425 Agard plane Lockheed Lodestar N 5601V over East enroute Tern Island..."

27 July - 0945 Received mail from Aero Fisheries. Mr. Jack Beatty, Buzz Agard, and Capt. Stanley Jabihon (USAF) on board. 1100 Visitors-departed. ... 17 August 1949 - 1020 Established radio contact with Aero Fisheries plane... 1055 Plane engine conked out... 1112 Advised COGD 14 by dispatch giving course speed and latest position of the plane... 1401 Port Allen Radio (CAA) advised that plane N5601V had landed safely at Barking Sands, Kauai." Would you comment on this incident and were there others?

Would you go into detail as to the fishing operation itself? What type fish were you after and how did you catch them? Did you fish both inshore and offshore? Was the operation seasonal? Did you take turtles? If so, do you have any recollection as to numbers taken? Did you ever have refrigeration on Tern for holding your fish? If not, how did you keep them fresh? Did you fish around any of the other Leeward Hawaiian Islands while operating from French Frigate Shoals?

Did you visit or work off any of the other islands at French Frigate Shoals besides Tern? There are some metal pipes in the water on the lagoon side of Trig and Whale-Skate Islands (the latter is now one combined island). The pipes are small (approximately 1 to 2") and are set in a line (3 in one place, 2 in another at Whale-Skate; 2 at Trig) running perpendicular to the shore line. There are also two rather large (5-6") pipe sticking out of the lagoon beach of Whale-Skate Island; both are rusted off at ground level. Also on Whale-Skate we found what looks like a fish trap. Several metal hoops covered with poultry wire (1" mesh) were found partially buried at the west end of the island. At the other end we found a long piece of poultry wire (1" mesh). Might these have been placed there by your fishing company?

You mentioned in your letter that you have photos, movies and newspaper articles about French Frigate Shoals. Would you be willing to loan them to me and would you let us duplicate them? I have seen many of the newspaper articles but may have missed some. I would of course return the loaned articles to you. Did you or any of your men keep a journal, log book, or diary while at French Frigate Shoals? This would be of interest to me also.

Photos would be very valuable, especially if they contain wildlife. Very little is known about the animal life at French Frigate Shoals during and just after World War II. I have been going to French Frigate Shoals each year since 1963 (except 1964) and have spent some six months there in all. I am currently writing a biological report about our work at French Frigate Shoals. I'm summarizing all that is known about the terrestrial animal life (birds, mammals and reptiles). In writing about man's influence on the French Frigate Shoals wildlife, I've gotten involved in writing a history of the atoll. My first draft is already quite lengthy and I've got a lot more to add. The Navy and Coast Guard have been very helpful in obtaining official logs, correspondence, and other records.

I have asked you too many questions in this letter, but I hope you have time to answer most of them in a return letter. I am enclosing a franked self-addressed envelope as well as a mailing label. The latter can be used for sending the photos and movies. Please register the package containing your photos; the frank should take care of the cost of registering it.

If you have access to a tape recorder, you may want to tape your answers instead of writing them. If so, I'll send you a mailable tape. In any case, I'll be anxious to hear from you again.

Best regards,

A. Binion Amerson, Jr.  
Research Curator  
Pacific Ocean Biological Survey Program

enclosures

1089-A Ala Moana Blvd.  
Honolulu, Hawaii 96814  
August 25, 1969

Dear Mr. A. Binion Amerson Jr.

Read with interest your letter and enclosures. Yes, I will try to fill in the general outline of events and note any significant happening.

Your first question of paragraph three, the name was Hawaiian American Fisheries in a joint venture with Seaside Fishing Co. Hawaiian American was my company and Cpperman and Haines had Seaside Fishing. The first person to visit the shoals fishing was Jake Hoopai with the boat Simba (later to become famous when it disappeared without a trace and all hands lost). The early trips of the Simba were profitable and then Hawaiian Tuna Pkrs. sent the sampan Sailfish down to work sucessfully with Trans-Air Hawaii for a few trips flying the fish back from the former fighter air strip. Our venture followed both the Simba and Sailfish trips.

To start we had chartered the small inter-island freighter "Maizie C" to carry the land equipment, nets and skiff boats to Tern Isle. A Trans-Air plane (DC-3) ferried down the crew and more equipment. Both the boat and plane rendezvoused on time to begin operations. As for the mens ages, it is true in fact one youngster was only sixteen at the time and the oldest Hawaiian man, "Steamboat" claimed to be 67. The Simba made between 4 and 8 round boat trips to the shoals. The Sailfish made one round boat trip with two plane loads thrown in between. We worked only with skiffs and outboard motors the first two and one half months, living ashore in the deserted Navy quarters and using the DC-3 aircraft to ferry in the fish loads.

A new company Trans-Air Hawaii using the DC-3 or C-47 made all the initial flights. Yes, our charter flights carried in the Coast guard mail, perishable supplies like milk and ice cream and also personnel on short leaves. These flights were more frequent, something like once a week, than the regularly scheduled ship arrivals spaced at about once in three weeks. Outside of the sought after mail new movie films were most cherished and we carried this in also on charters.

In early 1947 I ran a converted landing craft (LCM) the "Silver" from Honolulu to the shoals to resupply the station and use as a work boat. This is one of the longest open sea voyages for this type blunt nosed vessel, more than 600 miles.

The entry regarding a converted crash boat maybe the "Alika" later mentioned in the log. The entry 26 July - 1425 Lockheed Lodestar N 5601v was my own plane purchased to ferry back and forth between the shoals and Honolulu. This craft was a Navy surplus bomber modified to FAA specifications. The name of the Company at that time was Aero Fisheries and the two gentlemen named on board on arrival were shareholders. Another entry on the plane is correct when it lost one engine (starboard) due to loss of oil. This was the only incident of this kind.

As for the actual fishing, we were mostly netting in shallow in-shore reefs for uhu, palani (surgeon fish) mo'i and aholehole. This was when we first arrived or between 1946 and 1948. We did some trolling for Uluu (crevelle) with success and other small tuna types. Only after being on the atolls for awhile did we find other varieties such as akule (later becoming our chief quarry) weke and menpachi (squirrel fish). We did almost no offshore fishing during 1946 through 1948. The operation was mostly seasonal and depended on good weather conditions. Being all open to the winds and much seas fishing was difficult.

When we first arrived there seemed to be a great many turtles and we captured these for butchering and the market. Turtle meat became one of the mainstays of our diet, supplementing beef. The previously untouched turtle stock dwindled and could no longer be considered a commercial undertaking. I would guess we took about 200 turtles in the time we were there.

When we first set foot on Tern Isle there was only quonset huts and shop type buildings without refrigeration. We had shipped in equipment to rebuild the reefer box used by the Navy. It worked well and we used it regularly to hold the fish catches until a plane load was ready to be transported. Our first plane shipments were all iced fish. The ice had been shipped by the freighter "Maizie C" in insulated boxes and each plane flight into the shoals carried ice.

As for fishing around any of the other Leeward Hawaiian islands while working the shoals, no. Although in later years with my own sampan I did fish all the Leeward islands from Honolulu to Maro reef.

We did live on and work off all the islands in the French Frigate lagoon area. Setting mostly day nets and sometimes working at night. We did construct large fish traps both stationary and portable with only poor to fair success. Large fish, sharks and ulua would damage the traps and render them useless. Any strong weather creating seas would batter traps also to make them ineffective. There were other trap operations conducted there by fishermen after we left in 1960.

I am enclosing some pictures taken there when we first started and will label the backs to explain what they depict. Also there is an article which you may not have seen by a good co-pilot friend. I did keep a log of the operation mostly to determine when the fish made their runs but it has long since been lost.

I do have a cassette type recorder so if you would like for me to use it and send you some tapes on questions you ask, I will try. In reviewing the record of ships visits to French Frigate I recognize several. The Alika 19 Apr 1950 worked with us. The "Maia" 19 May 1950 was my vessel and sailed back and forth between there and Honolulu with catches. The "Joyia" worked with us also and became one of the most mysterious vessels ever. (ref. 3 Aug. 1950) Under the command of "Lusty" Miller she was found floating in the south Pacific a deserted derelict and no clues to this day as to what happened.

Other fishing boats operating there were "Osprey" 26 Jun. 1952, which shipped water and sank west of and close to the shoals. The "Taihei Maru" a frequent visitor to the area and only surviving sampan today. The "Koyo Maru" which also sank in a hurricane while operating around the shoals and all hands lost. ref. 23 Sep. 1955) These sampans were a part of a larger fleet of deep sea fishing boats all of which were somehow lost in the process of conducting operations.

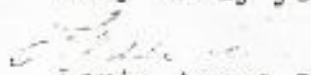
Looking over your craft, I find it interesting and presenting the story as it was. We did contact the Territories offices to use the strip on a permit basis with the understanding that we would maintain it. We also contacted the offices of the fish and game department to obtain permission to use large fixed traps in the area. During the winter of 1947 and 1948 we had men on the island (Tern) continuously to preserve the equipment and watch it against theft.

In 1959 another joint venture was started. A plane was purchased from Pacific Airmotive (formerly belonging to United Airlines) and used for ferry flights. Also a refrigerated vessel "Oceanic" was purchased to work at the shoals, hold fish for ferry flights to Honolulu.

Just as an added note, and filmed, the only woman I know of to step on the island was Irma Agard in 1947 off of a Trans-Air Hawaii plane?

I have tried to answer your questions, perhaps not fully enough, but you can write for more clarification if needed.

Very truly yours,

  
Louis Agard Jr.



# NAVAL RESEARCH LABORATORY

WASHINGTON, D.C. 20375

IN REPLY REFER TO:  
8350-378:DWS:dk  
18 September 1974

Dr. George H. Balasz  
Hawaii Institute of Marine Biology  
P.O. Box 1346  
Kaneohe, Hawaii 96744

Dear Dr. Balasz:

Thank you for your letter of September 12. I have been a turtle lover all of my life and was even more shocked than you at what we found on French Frigate Shoals in 1959. I have my personal notebook, koda-chrome slides, etc. here and accessible, and shall be glad to furnish you with any data I can supply.

As you know from my narrative report, the survey was made on July 21-22, 1959. When we landed on the various islands, their refuge status was not really obvious. The signs were small and often half knocked-down. Near one of them was a fish, split open and spread for drying atop a stick by someone obviously flaunting the rules. East Island had four large dead green turtles, none of which had been butchered, only maliciously killed. Three were dead on their backs, and one was on its belly on a nest. Thirty-three turtle haul-out trails were found.

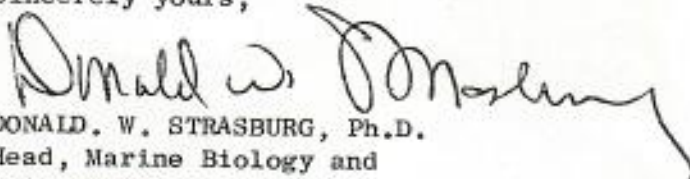
Whale and Skate Islands were connected by a sandy isthmus at the time of my visit. Twelve large turtles, mostly females, were found dead there. There was one dead turtle on Trig Island.

The U.S. Coast Guard personnel on Tern Island were very accomodating, and after becoming well acquainted they told me that the turtle slaughter was done by a fishing company (?) named Agard, which I believe was then air-freighting food fish to Honolulu from French Frigate Shoals.

A representative of the Division of Fish and Game attended my post-cruise meeting, at which time my slides were shown and the butchery described. I don't know whether anything was ever done about the case. Some of my slides were given to the NMFS collection and I have others at home. I shall have prints made of all that I can find and send them to you in a week or so. The Navy will pay for this.

I would be most interested in hearing your views on this or any other recent butchery and whether effective counter-measures are now being taken.

Sincerely yours,



DONALD W. STRASBURG, Ph.D.  
Head, Marine Biology and  
Biochemistry Branch  
Ocean Sciences Division  
Code 8350





DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

MAILING ADDRESS:

COMMANDER (p)  
ELEVENTH COAST GUARD DISTRICT  
HEARTWELL BLDG.  
19 PINE AVE.  
LONG BEACH, CALIF. 90802

1700

18 October 1974

Doctor Balazs  
Hawaii Institute of Marine Biology,  
Coconut Island, P. O. Box 1346,  
Kaneohe, HI. 96744

Dear Doctor Balazs:

Your letter of 15 October really has me reaching. Names are long since gone, but perhaps I can point you in the right direction.

I believe it was the spring of 1959 when I received orders to allow a DC-3 permission to use the Tern Island landing strip; you might check Coast Guard operational correspondence/ messages of that period at Fourteenth Coast Guard District Headquarters in Honolulu. The DC-3 had been purchased by two caucasian Americans for a \$30,000. option, and they hit on the scheme of fishing the shoals to pay for the plane. I remember one of the men telling me the plane had flown the Los Angeles - San Francisco route as a commercial carrier for nearly twenty years. The two men contracted with one Honolulu based fishing boat to fish the shoals on an extended cruise, the plane to rendezvous with them 2 or 3 times a week to remove the catch. They had a Honolulu purchaser for all the fish they could deliver. The fishing vessel was 35-50 feet, white, rigged with trawl nets. The skipper was native Hawaiian with a mixed Hawaiian and Okinawan crew. No more than 6 flights (7,000+ pounds each load) were made, the aviators most exuberant at their success, when they paid the fishing boat their first share. The boat departed the shoals, to my knowledge never again seen by the suddenly desperate aviators, end of the endeavor.

Quite a few turtles were taken during this period, and I'm sure the dead turtles found by Dr. Strasburg were those killed by crewmembers of the fishing boat for a later pickup which never took place. No private aircraft other than the DC-3 landed at Tern Island during my year there (July 1958-July 1959). There were fishery products transported on a personal basis (private sale or gifts) by both Coast Guard and Air Force aircraft. The usual load consisted of ulua, longusta(sp.), crayfish, and sea turtles. Figure the turtles removed by this method during my year at no more than

a dozen. Turtle fishing was not a common occurrence during 1959. Other than the period described above, we were visited once by CGC PLANETREE, twice by CGC KUKUI, and by one 35 foot schooner enroute Honolulu from the protectorates.

I may have some turtle photos at home. If so, I'll ~~send~~<sup>send</sup> them under separate cover with my compliments. I can recall no "V" or "U" notches on turtles while I was there. Generally speaking, the turtles' worst enemies were three dogs who loved to harass them, and the occasional one butchered for its shell and a gourmet meal for the crew. It was station policy to leave them alone when they were about their motherhood chores, nor did we ever purposely disturb their eggs.

I hope I've helped you.

Sincerely,



J. J. DIRSCHEL, Jr.  
Commander, U. S. Coast Guard  
Chief, Personnel Division  
Office, Commander, 11th CG District

At some date,  
a report should be  
written covering  
all statements here  
as needed - for  
the historical record

Need ARB FFS  
at Symposium;  
Also Caysan,  
CISI, P&H?

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### Fishing Interests

The U.S. Navy, forgetting about French Frigate's status as a federal wildlife reservation and thinking they owned Tern Island, tried to hand over the disestablished base to the Territory of Hawaii. The Territory refused, but discussion on the issue continued. In early November 1948 the Territory's Hawaiian Aeronautics Commission notified the Commandant of the 14th Naval District, Pearl Harbor, that it was "in a position to take over the airstrip and other facilities...and...make them available...to the fishing industry" (Hawaiian State Archives, FFS file #1871).

As early as June 1946 Hawaiian commercial fishermen began to use the facilities. Early fishing boats enjoyed good fishing which prompted the Hawaiian Tuna Packers, Ltd. to send a vessel to the Shoals in mid-September 1946. Both Honolulu newspapers (Beech, 1946a, 1946b, 1946c, 1946d, 1946e; Buchwach, 1946a, 1946b) carried stories on the venture. Two shipments of fish were subsequently sent from Tern to Honolulu by chartered plane.

In a joint venture two companies, the Hawaiian-American Fisheries, headed by Louis K. Agard, Jr., and the Seaside Fishing Co., run by Frank Opperman and Warren Haines, established a fishing base on Tern Island early in November 1946. They chartered a DC-3 from Trans-Air Hawaii for transporting the fish. The companies obtained permission to use the air strip from the proper Territory offices; the Hawaiian Fish and Game Department gave them permission to use large fixed traps (Agard, in litt.).

During the first three years of operation, Hawaiian-American Fisheries grossed over \$73,000 at the Shoals; profits totaled almost \$20,000. Had the company owned its plane, profits would have been greater. Thus, a new corporation, Aero Fisheries, was formed and a plane purchased by Agard and his partners. In late July 1949 one flight was completed. Mechanical difficulties grounded the plane in mid-August and the corporation did not have the reserve finances to continue the plane operation (Agard, in litt.).

Various commercial fishing vessels visited the atoll in the 1950's with varying success. In 1959 Agard started another joint venture, and even purchased a refrigerated vessel and a plane. This too was short-lived (Agard, in litt.).

In August 1948 the Pacific Oceanic Fishery Investigation (POFI), with headquarters in Honolulu, was organized by the Bureau of Commercial Fisheries of the U.S. Fish and Wildlife Service. Since 1948, POFI vessels visited French Frigate Shoals on numerous occasions (POFI, ms.).

### Other Islands

The other sand islands--Bare, Disappearing, Mullet, and Near--have no records of vegetation because of their small size and low height. Salt water washes over them regularly, precluding growth of vegetation.

No vegetation has been recorded from La Perouse Pinnacle. Wetmore (ms.) found none when he climbed the rock in 1923. Richardson (1954a: 63) found no vegetation on the cliff faces around the west end on 31 October 1953. POBSP personnel found no vegetation on the northeast face or on the entire top of the main rock in June 1969. The nearby little rock is also barren.

### → REPTILES

Two reptiles--the Green Sea Turtle and the Mourning Gecko--are known from French Frigate Shoals. Both species breed on the atoll. The gecko is an introduced species, whereas the turtle species is a resident. Possibly the Pacific Hawksbill Turtle, Eretmochelys imbricata, an uncommon species in the Hawaiian Islands, has visited the atoll, but no records exist of its occurrence.

#### GREEN SEA TURTLE

#### Chelonia mydas

#### Status

Common **resident** breeder; occurs on all islands, except those awash at high tide; nests on the six major sand islands. **Maximum recent population estimate 1,300 in August 1965.** ×

#### Observations

Sea turtles were first recorded from the sand islands of French Frigate Shoals 3 to 7 January 1859 by Lt. John M. Brooke of the USS Penimore Cooper (U.S. Nat. Archives, Old Mil. Hist., Log of USS Penimore Cooper for 1859). In May (?) of the same year **Captain N.C. Brooks** of the Gambia also found the Shoals abounding with turtles.

From 3 February to 1 May 1882, the crew of the Japanese-owned American-chartered schooner Ada, with two sampans, visited French Frigate Shoals "to get anything they could sell in the way of fish, shark, [and] turtle" (Hornell, 1934). When the Ada departed on 1 May its cargo included 47 gallons of turtle oil and 1,543 pounds of turtle shell. The Ada's log gives some indication as to how much turtle was actually taken. Prior to

During a single season!

its arrival at the Shoals, 168 turtles had been collected. Assuming a single adult turtle yields three pounds of tortoise shell (Parsons, 1962), about 346 turtles were taken by the Ada's crew. Turtles were not eliminated, however, for great numbers were present in early 1888 when the Wandering Minstrel visited the atoll (Parrell, 1928), as well as in May and June 1891 when the Kaalokai surveyed the atoll (Walker, 1909; Munro, 1941a).

The USS Rainbow's hydrographic survey of French Frigate Shoals in the late summer and fall of 1914 found turtles plentiful (U.S. Nat. Archives, Mod. Mil. Hist. Div., Rainbow corresp., R.G. 37, 1132-100666). Turtles and turtle eggs, as well as evidence of previous turtle slaughter, were found by Wetmore (ms.) during the April 1923 visit of the Tanager Expedition.

Two commercial fishing companies, the Hawaiian-American Fisheries, headed by Louis K. Agard, Jr., and the Seaside Fishing Company, established a fishing base on Tern Island in November 1946. A great many turtles were captured and taken to the Honolulu market. Turtle meat became one of the mainstays of the crew's diet, supplanting beef. However, the turtle numbers dwindled, probably more as a result of human disturbance than actual killing, and soon turtle was not taken for the commercial market. Agard (in litt.) estimates taking about 200 turtles between 1946 and 1948. Commercial fishermen again took turtle from the atoll in the spring of 1957 (POFI, 1957).  
1959

HDFG, BSWF, AND POBSP personnel have recorded turtles on almost all visits during the 1960's. All turtle observations at French Frigate Shoals are presented in Tables 4-9.

#### Annual Cycle

French Frigate Shoals' Green Sea Turtle population is the largest in the Hawaiian Islands. Turtles have been recorded year-round. The adult population is lowest in the fall, winter, and early spring. The highest population occurs in the late spring and summer and coincides with breeding. Copulation has been observed in early May; nesting usually commences in late May. Infrequent egg-laying has been noted in August and September. Hatchlings probably appear in late July and are commonly seen in August and early fall.

Hendrickson (1969: 90) suggests that French Frigate Shoals' turtle hatchling production exceeds that of all the other Hawaiian nesting sites combined.

Estimating the Green Sea Turtles' population is complicated by several factors. Adult turtles of both sexes bask on the beaches during the day, perhaps, as Hendrickson (*in litt.*) has suggested, to aid in digestion of their food.<sup>1</sup> If disturbed by humans, these baskers leave. Adult females lay their eggs only at night and may relay after about a week. Tagging has shown that there is a large daily island population turnover, with new turtles being found each day. Few turtles are seen within the lagoon. This indicates that turtles return to the sea after basking in the sun or laying eggs on the island. In 1965, 86 adult turtles were tagged by POBSP on 3 islands during August; an average of 5 turtles was tagged on each of the 17 days tagging occurred. Thus, if new turtles arrived and departed each day, this would mean roughly 150 using each of the 3 islands during the month, or a total of 450 for these 3 islands for August. But this is a minimum figure for several were lost or missed each day and from 5 to 20 were actually observed each day. Using 10 as a more realistic average, the estimate for these 3 islands then becomes 900. If we consider those using the other 2 turtle islands in the atoll, the August population could range from 650 to as many as 1,300.

"HAD  
TO  
SWALLOW"  
NOT  
ACCURATE  
GHB

The June and July breeding populations are probably higher than in August for as many as 60 turtles have been counted on a single island at one time. The total population using the atoll may be very large. Hendrickson (1969: 90) discussed the POBSP August 1965 estimates and noted that they were "highly tentative," but suggests "that one might assume twice the August number to represent the month of July and take the same increment for the early part of the season. One would then obtain a figure of between 2,600 and 5,200 turtles as the Hawaiian breeding population (1 + 2 + 1 times 650 = 1,300, and ignoring all other island nestings)." He then states "flatly that this estimate has little basis and is not to be trusted," but then notes "that it does not appear to conflict violently with any other available information."

SINGLE  
SEASON !!

BSFW personnel, assisted by POBSP personnel, inaugurated a tagging operation throughout the Northwest Hawaiian Islands; present and future retrap data will provide more information on French Frigate Shoals' turtle population. These data are being analyzed by Kridler and Sincock.

<sup>1</sup> The surrounding water, being cooler than at other breeding areas, may hinder digestion; basking in the sun would aid the digestive process.

### Ecological Distribution

Green Sea Turtles are known from Disappearing, East, Gin, Little Gin, Tern, Trig, Round, and Whale-Skate Islands. Nesting occurs on each of these islands, except Disappearing (?) and Round.

East Island: Although turtles were probably first observed at East Island in the mid-1800's, the first known record was by POPI personnel in May 1955. Since then, except for 1958 and 1960, turtles have been recorded each year (Table 4).

*walker 1891*

BSFW and POBSP personnel found the turtle population on East Island to be the highest in the atoll during the 1960's. Most likely, however, the breeding turtle population at East was eliminated, or discouraged, during the 1944 to 1952 Coast Guard tenure.

The sun-basking areas at East are the north lagoon beach, the southeast lagoon beach (Fig. 48), and the south seaward beach. The entire seaward 50-foot edge of the vegetated portion is preferred by turtles for digging their nest pits (Fig. 49). They also utilize the vegetated edge of the lagoon side. These nesting areas are subjected to much digging which destroys many seabird nests, especially those with eggs or small chicks. Species affected include Sooty Tern, Brown Noddy, Wedge-tailed Shearwater, and Blue-faced Booby.

Gin Island: Wetmore (ms.) first recorded turtles at Gin in June 1923. POPI personnel observed them there in the 1950's and BSFW and POBSP personnel found them breeding in the 1960's (Table 5).

The population is small, with from 2 to 15 basking on the beaches. Twenty-five nest pits were counted in August 1969. Turtles usually sun bask on Gin's leeward beaches. Nest pits are dug above the beach crest.

Little Gin Island: Turtles were first found at Little Gin Island by Wetmore (ms.) in June 1923. POPI personnel recorded them there in the 1950's, and BSFW and POBSP observed them there during the 1960's (Table 6).

Sixty-six nest pits were counted on Little Gin in August 1969. Turtles utilize the southwest leeward beach cove area for sun basking and the area just above the beach crest for digging their nest pits.

Tern Island: Although turtles probably utilized the original Tern Island for basking and nesting prior to the 1942 Navy construction, no such records exist. POPI personnel noted

one set of haul-out tracks on Tern's beach in July 1957. Since then, BSFW and POBSP personnel have seen a few adults, as well as several nest pits (Table 7). Nest pits are most common at the southeast lagoon edge. In June 1969 one frequently was found basking on the small sandy north beach.

Trig Island: Wetmore (ms.) noted "considerable turtle sign" in June 1923. POFI personnel found them breeding in the 1950's; BSFW and POBSP personnel frequently recorded them during the 1960's (Table 8).

At Trig, turtles sun bask primarily on the north seaward beach. Nest pits are placed above the beach crest of this same area. After June 1968 turtle nesting activity was so extensive in the western vegetated portion that by February very little vegetation remained.

Whale-Skate Island: Wetmore (ms.) found a few turtle bones on Whale-Skate Islands in June 1923. POFI personnel recorded them breeding in the 1950 s. BSFW and POBSP personnel found them to be numerous during the 1960's (Table 9).

Turtles most frequently utilize the north beach for sun basking. They prefer the sandy lagoon edge of the vegetated portion, however, for placing their nest pits.

Other Islands: Ten adult turtles were recorded basking at Disappearing Island on 9 June 1963 by POBSP personnel. An adult was seen swimming near La Perouse Pinnacle on both 6 and 13 June 1969 by POBSP personnel. POFI personnel noted a 100-pound adult at Round Island 11 April 1956 and another at Shark Island on 25 April 1957. POBSP personnel observed four adults at Shark 4 June 1969. No nest pits were seen on any of these islands.

#### Tagging and Movement

Since 1963 BSFW and POBSP personnel have tagged 288 Green Sea Turtles at French Frigate Shoals, as follows: 3 in 1964, 86 in 1965, 3 in 1966, 61 in 1967, 121 in 1968, and 13 in 1969. At least 18 turtle recaptures have been taken on the atoll. Of these, one tagged at Laysan Island was captured at East Island; another tagged at Southeast Island, Pearl and Hermes Reef, was captured at Whale-Skate Island. Two female turtles tagged at Whale-Skate Island were captured at Southeast Island, Pearl and Hermes Reef. In addition, two turtles tagged at French Frigate Shoals were taken in the main Hawaiian Islands (Hendrickson, 1969: 93). These data are being further analyzed by BSFW personnel.



Hendrickson (1969: 94) has theorized that "a double population nests at French Frigate Shoals, one group migrating eastward to feeding grounds around the inhabited islands, the other group moving westward to an equal distance for the same purpose."

Carr (1964: 51-52) found the French Frigate Shoals turtle population to be predominantly dark and high-shelled. When he visited the atoll in 1956, he noted a single light-colored, flat yearling. He was unable to determine whether this individual was a variant of the local dark stock or a visitor from some distant, genetically different, population.

#### Specimens

POBSP: USNM 161524, hatchling, collected 12 August 1966 at Tern Island by Harrington.

MOURNING GECKO

Lepidodactylus lugubris

#### Status

Common introduced breeder; occurs on East and Tern Islands.

#### Observations

It is not known when Mourning Geckos were introduced to the French Frigate Shoals. They were first recorded from the atoll by POBSP personnel, who found them prominent in and around the USCG LORAN station buildings on Tern Island during August 1965. Subsequently, POBSP personnel have observed them at both East and Tern Islands.

#### Annual Cycle

Mourning Geckos are present on the atoll year-round; nothing is known of their population fluctuation. Gravid females and partially grown young were collected in March 1968.

#### Ecological Distribution

At French Frigate Shoals, Mourning Geckos are known only from East and Tern Islands.

East Island: Mourning Geckos were first observed here by POBSP personnel during May and June 1967. They were seen again in June 1969. They frequent the ruins of the USCG LORAN station; they especially prefer the darkened interior of the two walk-in refrigerators.

11 September 1969

Mr. Louis Agard, Jr.  
1089-A Ala Moana Blvd.  
Honolulu, Hawaii 96814

Dear Mr. Agard:

Thank you very much for your informative letter of 25 August. It was exactly what I needed. The pictures were very good and I am currently having several of them copied; I will return them as soon as they return from our photo lab. I also read the news article with interest; I am returning that with this letter.

the end of

Also enclosed is a new draft of/the Tern Island Navy Station section, the Commercial Fishing section, and a new section on Pacific Oceanic Fishery Investigation. Please read this over and comment on it if you desire to do so. I have included a lot of material from your letters and the article. If you find anything wrong, or if anything should be added, let me know. Do you know any more on the Simba and the Joyita? For instance, when did they disappear and were they on a fishing trip in the FFS area at the time? You mentioned that Irma Agard visited FFS in 1947; I assumed she was your wife (see draft).

I am presently revising my entire manuscript draft and plan to send it to the U.S. Naval Institute in Annapolis, Maryland, for possible publication in book form.

Thank you again for your help and I look forward to hearing from you again.

Best regards,

A. Binion Amerson, Jr.  
Research Curator  
Pacific Ocean Biological  
Survey Program

14 October 1969

Mr. Louis Agard, Jr.  
1089-A Ala Moana Blvd.  
Honolulu, Hawaii 96814

Dear Mr. Agard:

Your letter of 6 October and the enclosed logs, correspondence, and other material concerning French Frigate Shoals arrived this morning. I am again most thankful for your contribution to my FFS history. The new material means that I will have to slightly rewrite the Commercial Fishing section, but that is fine for I hope to make the entire history as complete as possible. The typist in our office is presently almost finished with the entire manuscript; I'm working on the Literature Cited section. The entire MS should be well over 200 pages when completed.

In rechecking my early history data, I find that the first woman to visit FFS was in 1888, 3 more were there in 1891, and another in 1937.

On 22 April 1948, your log says: "Shae's barge grounded at Twin Islands." First, are you referring to Whale and Skate Islands (which are now joined)? And second, might this barge be the one that is still present about 100 yards offshore (in the lagoon) of Whale Island? It is grounded and appeared to have been driven onto the reef. I had thought this may have been a barge that belonged to the East Island C G Station; they gave it to the Navy for a fishing float and after that I don't know what happened to it.

In regard to your 16 mm films, I think it best not to send them to me here in DC. Unfortunately our field director has now left Honolulu, otherwise he could have viewed them. The only value they would have would be for the wildlife, especially birds on any of the ~~islands~~ islands. If you think there may be bird pictures in the film, I will write Mr. Eugene Kridler, the present Refuge Manager for the Hawaiian Islands Wildlife Refuge, and see if he would view the film there in Honolulu.

I am returning your material you sent me; I made copies for our files. I am also returning six of the photographs you sent me earlier; the remainder still have not come back from the photo lab.

Thanks again for all your help.

Best regards,

Binion Amerson  
Pacific Program

7 November 1969

Mr. Louis Agard, Jr.  
1089-A Ala Moana Blvd.  
Honolulu, Hawaii 96814

Dear Mr. Agard:

seven

Enclosed are the ~~##~~ remaining photographs you sent me. Thanks again for sending them to me. I don't know how many of them I'll end up using, but I'll definitely use the small one showing the group, as well as the one of the Maizie C.

●  
My history is now completed and is being reviewed by the Smithsonian Press and U. S. Navy officials. I'll also send it to Coast Guard for approval. It is some 286 pages long. I'll keep you posted on its final outcome.

Thanks again for all your help.

Best regards,

A. Binion Amerson, Jr.  
Pacific Program