

The
CORAL CARRIER

French Frigate Shoals,
Northwestern Hawaiian Islands: A History



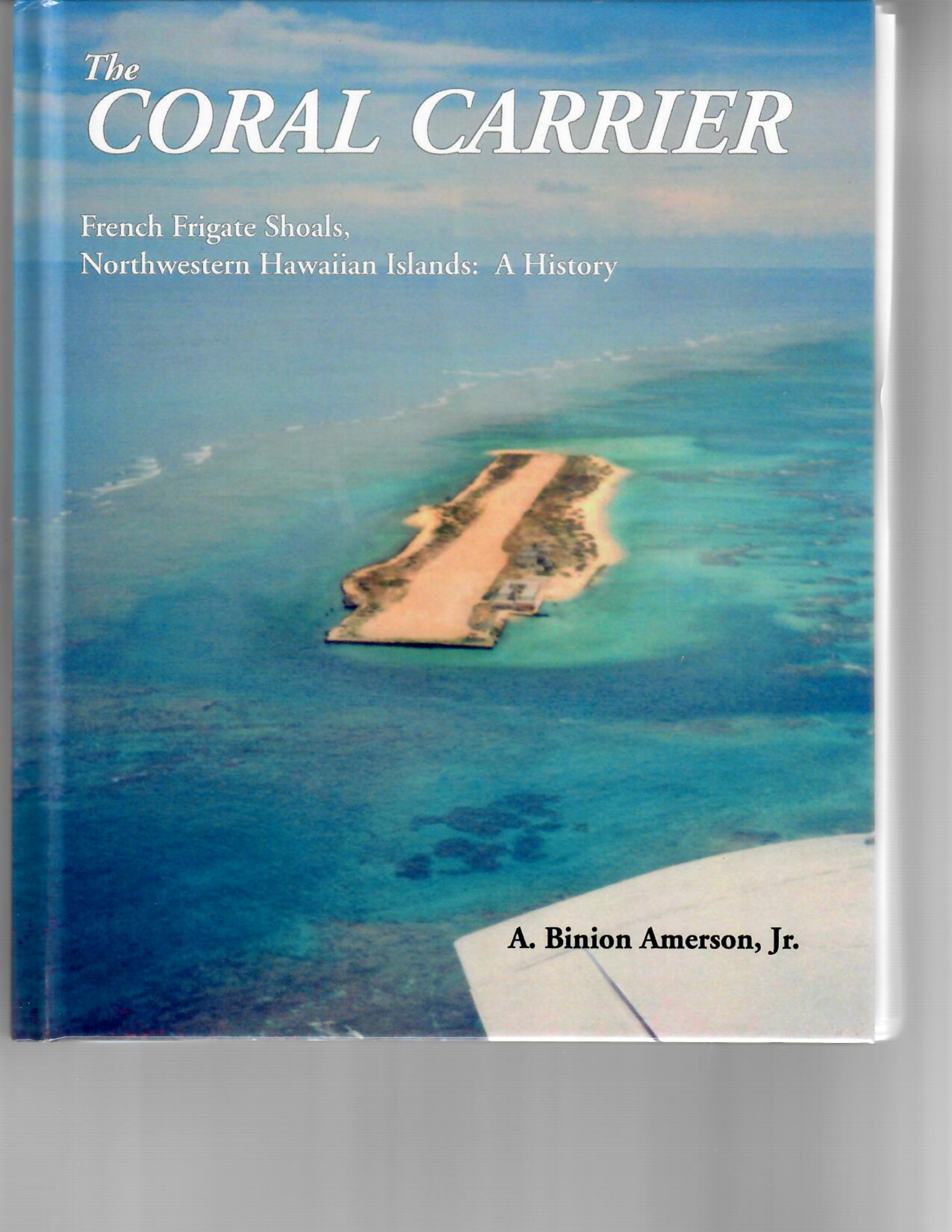
A. Binion Amerson, Jr.

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For GEORGE'S FRIEND

Enjoy!



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French Frigate Shoals, Northwestern Hawaiian Islands: A History

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PREFACE

In the late 1930s and early 1940s, the Central Pacific was an almost empty place. Other than the main Hawaiian Islands, the vast sea was dotted by a scant handful of tiny atolls and desolate sandy islands. Fighting a war in a landscape devoid of actual land was the challenge of the century.

That challenge fell to the men of the US Navy, US Marine, and US Coast Guard. French Frigate Shoals is such an isolated spot in the Northwestern Hawaiian Islands and over the years has been:

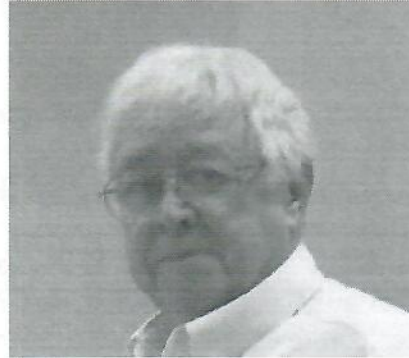
- An almost tragic discovery in 1786 by Jean François de Galaup Comte de la Pérouse.
- The scene of many shipwrecks, 1823 - 1907.
- The site for scientific exploration:
 - Tanager Expedition, 1923.
 - Pacific Ocean Biological Survey Program Expedition, 1963 - 1969.
- The location of numerous military maneuvers:
 - Japanese and American, 1924 - 1942.
- Instrumental in helping win the Battle of Midway by having a secret US Marine detachment on East Island and US warships on station offshore. Thus, preventing the Japanese intended use of French Frigate Shoals as a rendezvous point which in turn prevented them from learning the whereabouts of the American fleet which was already at Midway.
- The site of a US Naval Air Station, whose man-made island and airfield resembles that of an aircraft carrier:
 - Tern Island, 1943 - 1945. Helped win the war in the Pacific by enabling land-based planes from Pearl Harbor to land and refuel going to and from Midway.
- The site of not one, but two US Coast Guard LORAN Stations:
 - East Island, 1943 - 1952.
 - Tern Island, 1952 - 1979.
- A Pacific Missile Range Facility for tracking satellites and missiles.
- A valuable fishing area for Hawaiians.

Today, the atoll is part of the Hawaiian Islands National Wildlife Refuge, the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, and the Papahānaumokuākea Marine National Monument. A permanent field station on Tern Island, established in 1980, allows for various land and marine research projects. The waters and islands in and around the reefs are the home for thousands of marine fishes, invertebrates, seabirds, seals, and sea turtles.

The chronicle of events and details presented here should fill a void in the current history of Hawaii. The CORAL CARRIER sails on!

ABOUT THE AUTHOR

A. Binion Amerson, Jr. is a retired ecologist, environmental consultant, and science/technical writer who lives in Farmers Branch, Texas. Binion worked for seven years as a Research Curator for the Smithsonian Institution, Washington, D.C. For ten years he worked as a Senior Ecologist for Environment Consultants, Inc. based in Dallas. After that, he worked for another ten years as a technical writer for various high-tech computer companies in Dallas.



Binion Amerson, Dallas, TX 2011

Since retiring, Binion has been very active in garden clubs in the Dallas area. Binion is President of the Dallas Council of Garden Clubs, 4th Lt. Director (Newsletter Editor) for the Texas Garden Clubs District X, and Newsletter Editor for the American Hemerocallis Society Region 6 (Texas and New Mexico). He is past President of Brookhaven Garden Club, the Dallas North Garden Forum, TNT Judges Study Club, and Designers With Flair Study Club. He is a member of and former officer in the Dallas Flower Show Judges Founders Group. He is an American Hemerocallis Society Garden and Exhibition Judge and a National Garden Club Accredited Flower Show Judge. Binion's named daylilies may be found in the Farmers Branch Public Daylily Garden, an official AHS Daylily Display Garden.

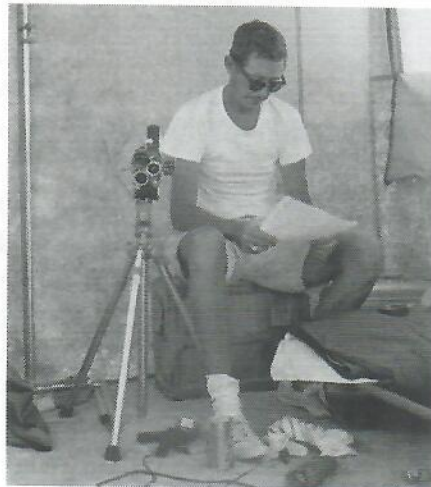
Born (2 January 1936) and raised in Macon, Georgia, Arthur Binion Amerson, Jr. holds an undergraduate degree from Mercer University (Macon, Georgia) in Biology in 1958. He earned a Master's Degree in Systematics and Ecology from the University of Kansas (Lawrence, Kansas) in 1973. He completed his PhD studies at the University of Kansas but never completed his dissertation because of all his professional fieldwork.

In the mid-1980s, environmental work became scarce. So, Binion turned to writing and editing for high-tech computer companies in the Dallas area. He became active in the Society for Technical Communication and served on the STC Board of Directors from 1993 to 1996. He

was also very active in STC's Lone Star Community where he served as President and in other capacities. In May 2006, the "Binion Amerson Leadership Award" was established in his honor. This award is now presented annually to an outstanding member of the STC Lone Star Community.

A seabird specimen collected by Binion Amerson on 18 February 1963 at Sand Island, Midway Atoll in the Northwestern Hawaiian Islands was recently named and described as a new bird species, *Puffinus bryani* (Pyle, Welch, and Fleischer, 2011). Binion collected this specimen while working (1962-1970) with the Smithsonian Institution's Pacific Ocean Biological Survey Program (POBSP).

Binion's work in the Pacific is significant in that his field research over 20 years resulted in the publication of numerous scientific papers on the ecology and natural history of various islands throughout the Pacific and other areas of the United States, Canada, and Central and South America. In addition to this new bird species, Binion's medically important arthropod studies resulted in scientists naming two new species in his honor. They are *Ixodes amersoni* (Kohls 1966), a new tick species from Phoenix Island, and *Blankardia amersoni* (Brennan 1965), a new chigger from the Northwestern Hawaiian Islands. For his work in daylilies, *Hemerocallis* 'Binion Amerson', was named in his honor by Mrs. Royal Ferris (1996).



**Binion Amerson, East Island, French Frigate Shoals, June 1967,
Preparing to Photograph Seabirds.**

At 76 years of age, Binion Amerson is an avid bird watcher and gardener and loves the outdoors. He is a Life Member of the American Ornithological Union. He is a member of the Writers' Guild of Texas and the Farmers Branch Writers Group. Binion is author/editor of more than 300 published scientific and technical articles, reports, manuals, monographs, and books.

ACKNOWLEDGEMENTS

The original draft manuscript of this book—titled “French Frigate Shoals, Northwestern Hawaiian Islands: A History”—sat in a box in my garage from spring 1970 until spring of 2011. Upon urging by friends and an upcoming reunion in fall 2011 of the US Coast Guard men who were stationed on the Atoll, I searched for and found the original typed draft and all the original black and white photographs. I entered all the text and photographs into a FrameMaker document. I added new material and formatted all the chapters into the present book. Thus, I have acknowledgements for the old 1970 version and the new 2012 version.

February 1970

Acknowledgement is first and foremost made to the US Coast Guard and US Navy for full cooperation and assistance in gathering information for this history.

It is difficult to give adequate acknowledgement to all the individuals who helped gather historical data. Those who deserve special acknowledgement include: Louis Agard, Jr., Honolulu, Hawaii; Dean C. Allard and Kathy Lloyd, Classified Operational Archives, Naval History Division, Washington, DC; E. H. Bryan, Jr., Pacific Science Information Center, Bernice P. Bishop Museum, Honolulu, Hawaii; Jean Dabagh, Hawaii State Archives, Honolulu, Hawaii; C. W. Hymes, Federal Records Center, Suitland, Maryland; Bob Krauss, Honolulu Advertiser, Honolulu, Hawaii; LCDR John L. Linnon, 14th Coast Guard District Office, Honolulu, Hawaii; I. Perlman, Federal Records Center, US National Archives, Washington, DC; Harry Schwartz, Modern Military History Division, US National Archives, Washington, DC; Mrs. C. W. Thomas, Records and Directory, US Coast Guard Headquarters, Washington, DC; Leslie W. Walker, Command Historian, Naval Facilities, Engineering Command, US Naval Construction Battalion Center, Port Hueneme, California; and Alexander Wetmore, Smithsonian Institution, Washington, DC.

Special thanks are extended to the many past commanding officers and enlisted men of the French Frigate Shoals Coast Guard LORAN Station who have contributed information, especially Walter O. Henry, CMDR Norman P. Ensrud, CMDR Thomas E. Hawkins (ret.), LTCD Robert T. Getman, SWO-4 Charles W. Price, CHRELE W-3 Gustav R. Froehlich, Jr. (ret.), Forrest Clinard, Jr., and Theodore D. Dabagh, past commanding officer of the Tern Island Naval Facility.

I would also like to thank Eugene Kridler, Refuge Manager, Hawaiian Islands National Wildlife Refuge, Honolulu, Hawaii, and Michio Takata, Director, Hawaiian Division of Fish and Game, for allowing me to visit French Frigate Shoals and for providing me with unpublished field notes and preliminary reports of US Fish and Wildlife trips to the atoll.

Acknowledgement is made to E. P. Dutton and Co. Inc., for permission to quote from "Builders for Battle: How the Pacific Naval Bases were Constructed" by David O. Woodbury (Copyright, 1946, by David O. Woodbury).

I am deeply indebted to the following Pacific Ocean Biological Survey Program personnel who have contributed to this manuscript: Anne Keenan Poulson who carefully drafted the maps, Helen H. Quinn who typed all early draft copies, and Mae H. Esterline who edited the early manuscript. Finally, I wish to thank Philip S. Humphrey for allowing me to write this complete history as part of a biological study of the terrestrial animal and plant life of French Frigate Shoals.

I wish to thank Dean C. Allard; Jane P. Church, POBSP; Roger B Clapp, POBSP; Rear Admiral E. M. Weller, USN (ret.), Director of US Naval History; CMDR Norman P. Ensrud, USCGC; LTCM Walter O. R. Henry, USCG (ret.); LTJG Henry Kofron, USGC; LTCM John L. Linton, USCG; CMDR Berry L. Meaux, USCG, Chief, USCG Public Information Office; and Philip C. Shelton, POBSP, for critically reading the early manuscript.

October 2012

I would like to thank the following: all the members of the US Coast Guard men who served at the French Frigate Shoals LORAN Station, my many garden club friends, and the Farmers Branch Writers Group (especially Jeanne Ann Macejko) who urged me to revive and publish this complete history of French Frigate Shoals. Thanks go to Alan Haines who proofread the entire revised manuscript, to Allen Tucholski who re-scanned and allowed me to use his original 1971 aerial photograph of Tern Island used for the front cover, and to Jeanne Ann Macejko who designed the cover and dust-cover jacket from photographs and material I had assembled. For recent information and photographs, I thank George Balazs, Paula Hartzell, Meg Duhr-Schultz, Morgan Gilmore, Sarah Youngren, and Abram Fleishman. I also thank Jeff Cox and Andy Finrock for guidance so as to get the first printing completed. I also thank Carol Faldet of Johnson Printing Service, Addison, TX, whose company printed the book.

A. Binion Amerson, Jr.
October 2012

CHAPTER 1

*EARLY VISITORS***A French Discovery**

The recorded discovery of French Frigate Shoals was a dramatic one. On the night of 5 November 1786 the French explorer Jean François de Galaup Comte de la Pérouse was aboard his frigate, the *Broussole*, accompanied by the *Astrolabe*, sailing westward from Monterey to Macao on a tranquil sea (La Pérouse, 1799). He and his fellow Frenchmen were excited for the previous day they had discovered Necker Island; they had spent the morning of the 5th plotting its position and taking soundings in hope of finding additional land nearby. No land was to be found; thus, they directed their search to the west, sounding out the extent of an underwater bank in that direction. At 10 miles, using a line of 150 fathoms, they found no bottom.

The weather during the day of the 5th had been squally, with intermittent rain and sunshine, causing la Pérouse to place men continually on watch from the masthead. By sunset, the weather cleared and the sea was calm in every direction; la Pérouse sailed westward. Many birds were seen in flights of several hundreds moving in various directions. This suggested that land might be found in any direction. Although the sky was clear, the wind from the east, and the moon nearly full (enabling him to view Necker 12-miles distant), la Pérouse ordered all the studding sails taken in, thus reducing the speed of the two frigates to 3 or 4 knots. November 6th had just begun (0130 hours), when men on both ships sighted breakers at a distance of only two cables (2/10 mile) directly ahead. La Pérouse (1799) noted "from the smoothness of the sea that made scarcely any noise, and some foam only, at distant intervals, was perceptible." Both vessels were immediately brought about and headed south-southeast. During this maneuver, the nearest distance from the breakers could not, la Pérouse thought, "...be more than a cable's length." After turning, the water beneath the *Broussole* was only 9 fathoms, soon it was 10, 12, and in 15 minutes no bottom could be reached with 60 fathoms of line out. The danger had passed.



Figure 1. French explorer Jean François de Galaup Comte de la Pérouse (1741-1788) discovered French Frigate Shoals in 1786. Original engraving by Thomas Woolnorth, National Library of Australia, pic-an963551.

Both ships sailed south-southeast until daybreak; the weather continued to be fine and clear and no additional breakers were seen. At daybreak, both ships reversed course, and at 0800 breakers were sighted, north-northwest. Soon “a small island or cleft rock fifty toises [100 yards] at most in diameter, and about twenty or twenty-five [40 or 50 yards] in height” (La Pérouse, 1799) was sighted. Many years later, this rock was to be named La Perouse Pinnacle, after its discoverer.

La Pérouse examined only the southeastern half of the atoll, as shown by his original 1786 map (Figure 2) published in Paris in 1797 (French Hydrographic Office, Map No. 556). He considered the rock to be at the extreme northwest end of the reef; his navigator, M. Dogelet, fixed the position at $23^{\circ}45'$ North x $168^{\circ}10'$ West. This Longitude was based on Paris, not Greenwich, zero Longitude, thus, after subtracting $2^{\circ}20'14''$, the corrected Longitude is $165^{\circ}49'46''$ West.

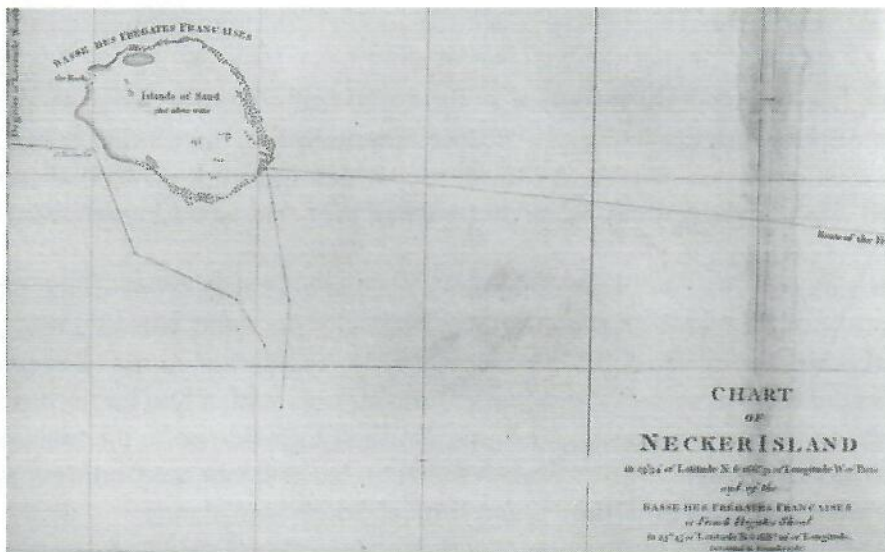


Figure 2. First map of French Frigate Shoals, published 1797 in Paris (French Hydrographic Office, Map No. 556).

Between the rock and the breakers to the southeast, la Pérouse saw three sand-banks no more than four feet high and separated by green water less than one fathom deep; rocks surrounded these islands like “a circle of diamonds surrounds a medallion, and defended it from the fury of the sea” (La Pérouse, 1799). Both ships sailed less than a league from the east, west, and south parts of the shoals. The northern portion of the shoals was not visited as it was so far distant that it remained undetected. La Pérouse estimated the distance from the southeast tip (near the point where he almost ran aground) to the rock islet to be four leagues, and the distance back to Necker to be 23 leagues; the eastern point was four leagues nearer Necker.

La Pérouse named his new discovery *Basse des Frégates Françaises* or Shoal of the French Frigates, because it nearly proved the termination of his voyage. Several variations of the name have been used over the years. In a letter dated 20 June 1924 and addressed to James McCormick, secretary US Geographic Board, Washington DC, the Hawaiian Advisory Committee of the US Geographic Board recommended that the name French Frigate Shoal, not French Frigates Shoal or French Frigate Shoals, be adopted (US National Archives, Mod. Mil. His. Div., Record Group 37, 1132-295344). On 1 October 1924, however, the US Board of Geographic Names changed its collective mind and adopted French Frigate Shoals.

Location

French Frigate Shoals, located in the Central Pacific at Latitude 23°46' North, Longitude 166°16' West, lies almost at the midpoint of the 1,600-mile-long Hawaiian Island Chain (Figure 3). The atoll was once an exposed volcanic mountain top, but all that is left now are two small exposed volcanic remnants and a coral reef which has built up around them. This partially exposed, 18-mile-long double-crescent-shaped reef encloses 12 sandy islands.

The sandy islands are small and low; some are awash at high tide. None of the islands attain a height of more than 15 feet except La Perouse Pinnacle, the main volcanic rock, which soars 122 feet in the air. As reported by Amerson (1971), vegetation on the larger of the sandy islands consists of low-growing grasses, vines, and shrubs, with a few larger bushes occurring here and there; no vegetation grows on islands awash at high tide or on the two volcanic rocks. Thus, the islands of French Frigate Shoals are remote, desolate, and uninviting to humans. They are not what one normally thinks of as typical South Sea islands.

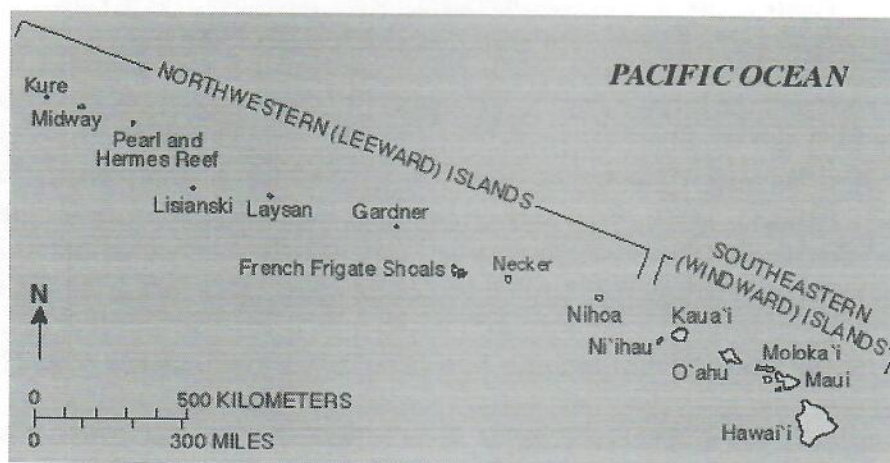


Figure 3. Map of The Hawaiian Islands (US Geological Society).

First Visitors

The first visitors to French Frigate Shoals were probably the various wild animals that even today are the main inhabitants of the atoll. French Frigate is the breeding ground for thousands of sea birds, as well as for green sea turtles, and Hawaiian Monk Seals. Waters surrounding the atoll, and within its crystal-clear lagoon, abound with many kinds of fish and lobster.

The earliest people to visit French Frigate Shoals may have come in canoes or outriggers from the nearby Hawaiian Islands of Necker and Nihoa (some 80 to 183 miles to the east) to fish and hunt birds. Artifacts found on these two islands reveal a culture, called the Necker culture by Emory (1928), whose people were probably forced out of the main Hawaiian group. Emory regards the Necker culture as a pure sample of the culture prevailing in Hawaii before the 13th century. The Hawaiian culture was derived from that of southeast Polynesia, probably Tahiti, whose inhabitants are known to have visited the Hawaiian area between 1100 and 1399 AD. The historic Hawaiian culture (post 13th century) is thought to have displaced or modified the Necker culture on Nihoa. Nothing is found, however, in historic Hawaiian lore concerning early visits to French Frigate Shoals from Necker and Nihoa (Beckwith, 1970; Tabrah, 1987; Tava and Keale, 1989; and Rauzon, 2001).

The ancient name given to French Frigate Shoals by the early Hawaiians was, however, Kānemiloha'i (http://en.wikipedia.org/wiki/Northwestern_Hawaiian_Islands).

Taking into consideration the large body of recorded historical tradition treating in detail events from the 13th century onward, Emory believes the silence regarding these islands to the west of Nihoa is an indication that they were not known or were forgotten during the ensuing years. It is hard, however, to believe that these far-western islands were not utilized as seasonal camping grounds on fishing or bird-hunting trips by post 13th century Hawaiians.

Following Magellan's crossing of the Pacific in the 1520's, the Spanish and Portuguese did considerable exploration in the Pacific. The Hawaiian Islands were probably sighted, and may have been visited by Spanish who plied regularly back and forth between America and the Philippines in the 16th and 17th centuries. Pacific maps from as early as 1569 showed islands in the approximate position of the Hawaiian Islands. Discovery of the Hawaiian Islands was attributed by Burney (1803) to a little-known Spanish explorer, Juan Gaetano, who was pilot on the Ruy Lopez de Villalobos expedition of 1542-45. Later writers (e.g., Stokes, 1939; Williamson, 1948; and Buck, 1953) however, believed that it was not until January 1778 that an Englishman, Captain James Cook, discovered the Sandwich Islands. News of his discovery spread quickly through the world, and it was not long thereafter that many other Europeans were visiting what we now know as the Hawaiian Islands.

CHAPTER 2

HAWAIIAN EXPLOITATION**Late 1700's and 1800's**

During the late 1700's, European and American traders called at the larger Hawaiian islands to obtain cargoes and provisions and to let their crews relax. After 1791, whalers ranged the area in search of the sperm whale. By 1800, sealers were also stopping in the Hawaiian Islands. It is possible, although no records exist, that some of these ships visited French Frigate Shoals. Rauzon (2001) speculated that Captain James Cook and the Hawaiians knew of the islands in 1778 as Cook referred to "low uninhabited islands" just west of the main Hawaiian Islands (Beaglehole, 1967:279, F 604).

The first known map delineating French Frigate Shoals was the French Hydrographic Office map of 1799. Between 1815 and 1835, the number of sealers in the Hawaiian area decreased while the traders increased. The latter were especially interested in obtaining sandalwood, seal, and tortoise shell. By 1825, Honolulu had become the most important port in the entire Pacific (Strauss, 1964).

On the night of 11 February 1823—while sailing west through the Northwestern Hawaiian Islands with another Nantucket whaling ship, *Martha*—the *Two Brothers* found herself in a storm. The two ships became separated and Captain George Pollard, Jr. of the *Two Brothers* was unclear as to his ship's position. Soon, the *Two Brothers* grounded and sank on a reef near what is now known as Shark Island, French Frigate Shoals. Captain Pollard did not want to abandon ship but his crew pleaded with him and they clung to small boats through the night. The small boats became separated in the darkness. The next morning, they were rescued by the crew of the *Martha* which was safely anchored near the rock. The *Martha* took the crew back to Oahu, Hawaii (Philbrick, 2000; NOAA, 2011). This was the first recorded shipwreck at French Frigate Shoals.

degrees of success. The American Navy was, subsequently, charged with law enforcement vis-à-vis American interests in the Central Pacific. The American commercial agents and consuls fulfilled the day-to-day administrative and consular functions. Between 1820 and 1840, the mediocre quality of American government representatives, combined with infrequent naval visits, materially damaged America's position in the Pacific (Strauss, 1964).

On 14 May 1836, after a long Senate and House struggle, President Andrew Jackson signed a bill authorizing an American exploring expedition in the Pacific. Various problems concerning both equipment and recruitment developed. After considerable preparation and under pressure from Congress, six ships comprising the United States Exploring Expedition put to sea on 18 August 1838 under command of LT Charles Wilkes. Their course had been carefully charted according to detailed instructions from the Navy Department. Their chief purpose was to explore and survey the South Pacific Ocean in the interests of American commerce and whaling; a secondary purpose was the acquisition of scientific knowledge. They were to visit Samoa, the Societies, Fiji, and Hawaii, as well as the Antarctic and the northwest coast of America and Japan (Strauss, 1964). After surveying most of the islands in the South Pacific the Expedition headed north, stopping at Kure Atoll, and arriving in Honolulu in September 1840. After spending six months in Hawaii, they headed for the northwest coast of the United States. They returned to Honolulu in late 1841. Leaving there on 27 November 1841, the brigs *Porpoise* and *Oregon* sighted French Frigate Shoals on 3 December, but were unable to land because of bad weather. This was the Expedition's last visit to Hawaii (Wilkes, 1844).

Although many considered the Exploring Expedition to be a limited success, Wilkes believed that it had achieved its objectives. It showed that America was interested in the Pacific, as many islands were successfully explored for the first time and much scientific and hydrographic data were collected. The activities of this expedition led many geographers to label the entire Central Pacific area as "American Polynesia" (Left, 1940).

A new interest in exploring islands developed in the 1850's. Because of unscientific farm practices in the United States much of the land along the eastern seacoast became sterile; a demand for guano, a rich nitrogenous fertilizer composed chiefly of sea bird excrement, rose sharply. Guano was found in commercial quantities where sea bird rookeries existed along the coast of Peru and on certain Pacific islands. After US citizens were expelled from one guano island, the Guano Act of August 18, 1856, was passed by the United States Congress. The act reads in part:

“Whenever any citizen of the United States discovers any deposit of guano on any island, rock, or key, not within the lawful jurisdiction of any other Government, and takes possession thereof... such island...may, at the discretion of the President, be considered as appertaining to the United States.”

The Act provided that a discoverer must notify the Department of State of the island's description and must file a bond to deliver guano only to American citizens. The rights of the discoverer would be protected by use of military force if necessary (Leff, 1940). Ships began searching the smaller Pacific islands for guano.

United States Possession

LT John M. Brooke, US Navy, knew of this Guano Act when he left San Francisco as commander of the US Schooner *Fenimore Cooper* in early October 1858. He was more interested in the ship's objective, which was to sound out a route from San Francisco, via Hawaii, to Japan for a possible underwater telegraphic cable. The ship's arrival in Honolulu on 19 November 1858 was heralded by all the newspapers (*Polynesian*, 20 November 1858, 2:4) as an important step in obtaining knowledge of the ocean.

After calibrating their survey and sounding instruments, the crew of the *Fenimore Cooper* sailed from Honolulu at 1100 on 29 December 1858. They headed northwest to survey and chart some of the islands reported lying in that direction. They sighted Nihoa on the 31st and Necker on New Year's Day 1859. Arriving at French Frigate Shoals on the morning of the 3rd, they took soundings until late afternoon when they anchored. The next morning, after shifting anchorage, a small boat was lowered; it headed for a sandspit. It returned at 1130 with turtles, a seal skin, birds, eggs, and turtle shell. This is perhaps the first recorded landing by man at French Frigate Shoals.

Anchorage was shifted at 1240. At 1539, the boat was again lowered and headed for the volcanic rock. It returned at 1635 with shell, birds, eggs, and a sample of guano. Before night, the ship shifted anchorage again. The next day, the small boat visited another sandspit twice, each time returning with turtles and seal skins. The ship's crew, meanwhile, engaged in catching sharks. Eleven were caught, the longest being 11 feet in length. The ship remained in the area taking soundings on the 6th. At 1010 on the 7th, it left French Frigate Shoals for Honolulu via Gardner Pinnacles and Laysan Island.

This trip is significant in that, for the first time, these northwest Hawaiian Islands were correctly charted. More importantly, however, LT Brooke had taken formal possession of French Frigate Shoals for the United States on 4 January 1859 (US National Archives, Old Mil. Hist., Log of the US Schooner *Fenimore Cooper* for 1859)¹. Brooke states the claim in a letter (Haw. State Archives, 1919, 69, B79) of 7 February 1859 to Isaac Toucey, US Secretary of the Navy, in which he says “on these unoccupied and unclaimed shoals...we discovered a deposit of guano of good quality. In consequence of which I took formal possession of them in the name of the United States; erecting a cross, bearing the following notice printed on a white ground, upon the highest point of the islet: ‘Taken possession on the 4th of January 1859 by Lieutenant Commanding John M Brooke, U.S. Schooner *Fenimore Cooper*, in accordance with Act of Congress passed August 18th, 1856.’” He filed a claim 7 February before the US Consul at Honolulu to exploit the guano deposits under the above mentioned Act. This claim was later disputed by other guano investors.

No description was published immediately after the *Fenimore Cooper* visit, although Honolulu newspapers reported Brooke’s return, his finding “an extensive deposit of guano,” and his taking “formal possession of the island” (*Polynesian*, 12 Feb. 1859, 3:2). Brooke’s letter to Secretary Toucey described the atoll as “consisting of an islet [later known as La Perouse Pinnacle], sand banks above water, and a reef...” He further stated that “it appears from a chart in my possession that la Pérouse saw only the southern part of the reef and he inferred that the islet, which is larger than he supposed, was on the northwest extremity. We found the reef and sand banks extending nearly eight miles to the northwest of the islet. That portion of the reef on which the sea breaks curves from its northwest extremity to the south, sheltering the islet from the prevailing N.E. winds. There is good anchorage near the islet but open to westerly winds; the depth varying from 4 to 10 fathoms, bottom of broken shells and coral. The latitude, although apparently confirmed by Stanikowitch, places the islet nearly 20’ east of its true position.”

The first complete map of French Frigate Shoals (Figure 4) appeared in 1867 (H.O. Map No. 2) and was made under the direction of LT Brooke. The “Brooke Map” (US National Archives, Cartography, R.G. 37, 272.23) shows double, irregular, crescent-shaped reefs at each end and separated about five miles of lagoon in the center. The northwest-southeast-oriented atoll, with the north tip pointed west and the south tip pointed southwestward, measured about 12 miles from tip to tip, 25 miles around the outer reef, and 18 miles around the inner

1. A summary report by Hydrographic Office (US Navy, 1925) implies that the *Fenimore Cooper* visited the atoll in 1867. The earlier 1859 date is the correct one; the 1867 date is the publishing date for the “Brooke Map” made in 1859.

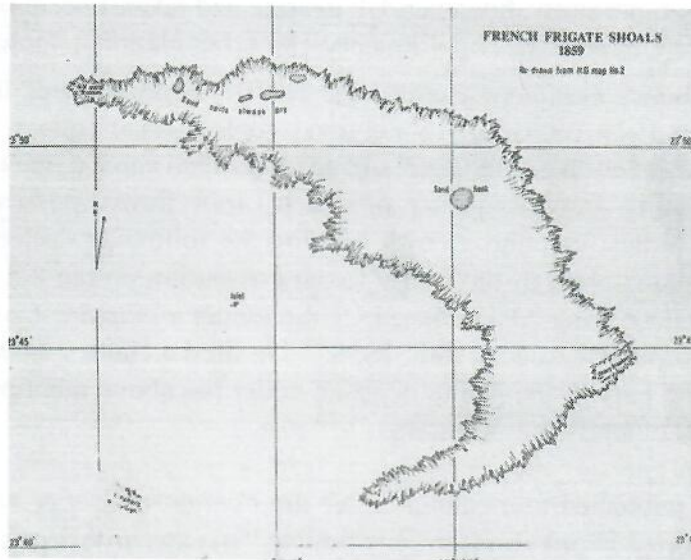


Figure 4. Map of French Frigate Shoals, drawn 1859, printed 1867 (H. O. Map No. 2).

reef. Five dry sandspits showed inside the northern half of the enclosed lagoon. An islet 120 feet high and an adjoining rock were located half-way between the two tips of the reef. No names were assigned to the islands. The only difference between the original Brooke Map and the H.O. Map Number 2 is the addition on the H.O. Map of a notation taken from a later map of Captain N.C. Brooks of the USS *Gambia*, concerning the submerged portion of the lagoon.

Brooke gives considerable detail on the rock islet, and even refers to a sketch by Mr. Kern which accompanied his letter to the Secretary of the Navy. This sketch (Figure 5), now located in the US National Archives (Record Group 37), was so much better than a written description that it is on the current US Coast and Geodetic Survey chart of the atoll (No. 4171). Brooke (letter 1859) described the islet as being “of volcanic rock, capped with guano; that on the surface forms white crust several inches thick overlying a deposit of a dark brown color. It is difficult from the irregular form of the islet to determine the amount of the deposit; but LT Thorburn, who made the examination, estimated it at not less than 25,000 tons. There is nothing of a vegetative character on the islet. Specimens of guano were produced from a depth of three or four feet and with others from the surface have been forward to the [Navy] Department.” No mention of birds was made; however, nearly 200 “hair seals” were counted on a

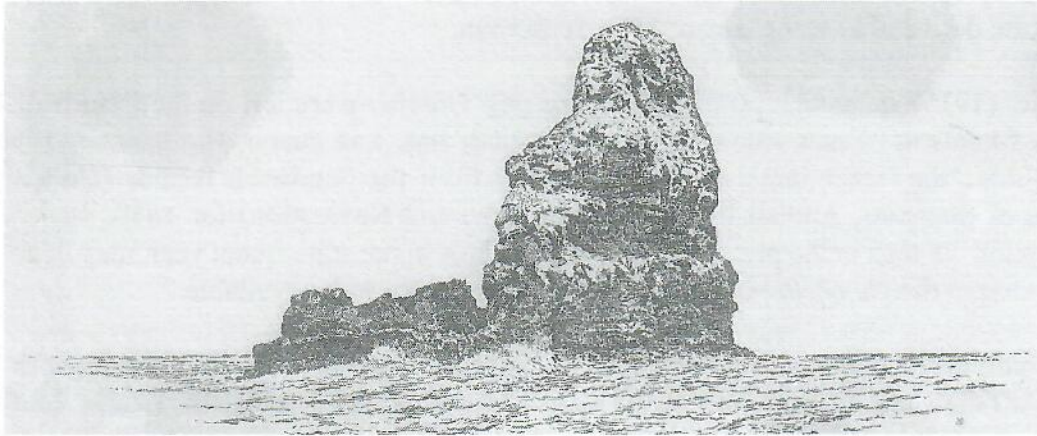


Figure 5. La Perouse Pinnacle bearing Northeasterly. Sketch by Mr. Kern, 1857 (US Nat. Archives, RG 37).

sand bank near the islet; many turtles were also mentioned. Brooke speculated that a cargo of oil might be readily procured from the seals.

Guano and Shipwrecks

Brooke's discovery of guano at French Frigate Shoals produced a flurry of excitement in Honolulu and elsewhere among guano investors. The *Polynesian* of 5 March 1859 (2:3) noted that the bark *Gambia*, owned by B.F. Snow, Honolulu, sailed that day for French Frigate Shoals "fully fitted and equipped to go...there and occupy and work those deposits of guano. The guano on French Frigate Reef is said to be even richer than that of Jarvis Island."² On the 24th, the *Pacific Commercial Advertiser* reported (1859, 2:1) that the American clipper ship *Modern Times*, commanded by Captain Overton, had been chartered to load guano at French Frigate Shoals; it sailed on the 23rd.

On 11 April 1859, the *Modern Times* returned to Honolulu after a 7-day trip from French Frigate Shoals. Captain Overton reported that "by scraping close, three or four hundred tons of guano might be obtained...." (*Pacific Commercial Advertiser*, 14 April 1859, 2:4). The *Polynesian* of 16 April 1859 (2:6) reported the arrival of the *Gambia* at Honolulu on the 14th

2. The March 12 issue of the *Polynesian* (4:1), however, lists the *Gambia* as departing on the 9th.

with 249 tons of guano from French Frigate Shoals. The *Daily Mercury* of 28 June 1859 (1:3) noted that the two ships reported a small amount of guano there, the cost of removal of which would exceed the marketable value. The two cargoes they had brought back were sold in Honolulu, deliverable alongside, at \$5 to \$6 per ton.

Elschner (1915) states that 20 men from the ship *Gambia* were left on the islands of French Frigate Shoals to collect seal skins, fish oil, shark fins, and guano. Hutchinson (1950) suggested that "the rather large import [of guano] from the Sandwich Islands (United States, Bureau of Statistics, Annual Report in Commerce and Navigation) for 1859, namely 1,671 tons against 75 tons in the previous year and 650 tons in the subsequent year, may be the result of the visit of the *Gembria* [*Gambia*]. No analyses appear to be available."

Other individuals disputed Brooke's right to dig guano saying he should be acting as a United States official, not as a private individual. These included Samuel H. Beatty, Lambert F. Beatty, and George O. Baker. The latter, in a letter (US Nat. Archives, Guano Files) dated 7 June 1858 to Lewis Cass, Secretary of State, enclosed a document claiming French Frigate Shoals for himself and the two Beatty's. He further revealed that the two Beatty's had discovered a guano deposit at French Frigate Shoals on 10 March 1859 and resided there after that date. The *Pacific Commercial Advertiser* of 31 March 1859 (2:3) noted that a Mr. Beatty was aboard the *Kamehameha IV* which had just returned from French Frigate Shoals. The Hawaiian schooner was in the neighborhood of French Frigate Shoals on or about 1859 sealing and guano hunting (*Atlas and Daily Bee*, 17 May 1859, 4:3-4). The *Pacific Commercial Advertiser* of 31 March 1859 (2:1) reported that the *Kamehameha IV* had sailed to French Frigate Shoals (no date given) in order to take possession of it. The owner possessed, by power of attorney from the under officers and crew of the *Fenimore Cooper*, all rights of the latter to their earlier guano claim at French Frigate Shoals. The article noted that this claim was probably as good as that of Brooke's and there would probably be some difficulty arising out of conflicting claims.

On the 10th of March 1859, just one day after the *Fenimore Cooper* sailed for Japan, the American whaling ship *South Seaman*, commanded by Captain Thomas H. Horton of Fairhaven, Massachusetts, sailed from Honolulu for the Sea of Okhotsk. Three days later, the *South Seaman* wrecked at French Frigate Shoals. She was described as "a splendid ship of 497 tons; built at Mattapoisett in 1856, by Loring, Meigs and Co., owned by Edmund Allen, Esq., of Fairhaven...."³

3. The *South Seaman* cost \$64,000 to build and was insured for \$53,151.50 (*Atlas and Daily Bee*, 17 May 1859, 4:3-4; *Boston Daily Journal*, 14 May 1859, 2:3; *Pacific Commercial Advertiser*, 31 March 1859, 2:3).

Captain Norton told of the ship's wreck in a letter to the editor printed in the 31 March 1858 *Pacific Commercial Advertiser* (2:3). The ship struck the east end of the shoal at 5 a.m., at which time the captain thought his ship was "forty miles west of Basse Island." As soon as the ship hit, the crew cut the foremast. The ship "beat up on the coral reef till she lay in six feet [of] water. In about two hours after striking she bilged." As the masts went, the sea demolished the bow and two quarter-deck boats. "The sea was so heavy, breaking over the ship, that it was very dangerous to leave her." However, the entire crew and five boats were saved as well as "two barrels water, about four barrels bread, ...some two or three boxes of fresh meat, chronometers, charts, quadrants and papers." The crew manned the five boats and since the seas were "so rugged [they]...were obliged to leave to prevent being swamped." They steered for Guam, but after two hours were spotted by the schooner *Kamehameha IV* which had seen the wreck at daylight. Because of the large number of men (at least 40) on the *South Seaman*, the *Kamehameha IV* had to leave some 30 on one of the islands before returning to Honolulu. The ship arrived in Honolulu on the 27th of March, bringing 12 of the *South Seaman's* crew; it took 12 days for the voyage.

The *South Seaman* had on board provisions and stores valued at about \$12,000, besides anchors and chains valued at around \$5,000. The hull as she lay on French Frigate Shoals, sold at auction in Honolulu on 29 March 1859 to Rawlings and Company for \$995. The American consul chartered the *Kamehameha IV* for \$850 to bring the remainder of the *South Seaman's* crew to Honolulu; she sailed on the 30th (*Pacific Commercial Advertiser*, 31 March 1859, 2:1, 3). Because of headwind and calms, the *Kamehameha IV* was 10 days in sailing to the shoals. They found the party on the island in good health, and doing well in saving articles from the wreck as well as killing seals. The sealing season, however, was about over. The schooner was filled with articles saved from the wreck and some 40 barrels of seal oil. The schooner also brought back a number of turtles to be sold at auction. As for guano deposits, the crew reported that "considerable quantity of the article can be procured there" (*Pacific Commercial Advertiser*, 28 April 1859, 2:2).

The wreck of the *South Seaman* rekindled the earlier accusation that LT Brooke's ship was fitted out to search for guano islands. The *Pacific Commercial Advertiser* of 14 April 1859 (2:4) ran an article entitled "Guano Islands and Naval Officers," which accused LT Brooke of giving the newspapers the story of the guano on French Frigate Shoals instead of the more important news of the atoll's incorrect location on currently available charts. It advanced the suggestion that the *South Seaman* was lost because LT Brooke did not publish the erroneous position until the day he left the Hawaiian Islands.⁴ The *Polynesian*, a rival newspaper, defended the naval officer in an article, "Naval Officers and Hawaiian Critics," on 16 April 1859 (2:3). It pointed out "that, for [the] seven and twenty years that we have been acquainted

with the said shoal, hundreds of whaleships have yearly left these islands, bound westward on their cruises, and, so far as we are aware, not one has miscarried on that reef, although its real position was never known any better than the day before the sailing of the *Fenimore Cooper*." The *Advertiser* (21 April 1859, 2:4), in turn, pointed out that it heard "that a vessel got on the reef within seven or eight years past..." and that Captain Pierce, of the *Emerald* informed them "that about the year 1828, two ships went on the reef, one of which got off..."⁵ The article did acknowledge that its earlier remarks against LT Brooke had been unnecessarily severe, inasmuch as his stay in Honolulu had been partly on account of his poor health, and it had since learned that Brooke, himself, had not landed and actually observed guano but had taken the report of guano from statements of those who landed.

Captain N.C. Brooks, commander of the whaling bark *Gambia*, again visited French Frigate Shoals in late April or early May 1859 (Brooks, 1860). He left Honolulu on 26 April, arrived off Necker on 29 April, visited French Frigate Shoals (actual date unknown), and subsequently visited most of the other islands in the northwestern chain; the ship returned to Honolulu in early August. While at French Frigate Shoals, the *Gambia* sailed completely around the atoll, anchoring several times on the lee side of the atoll and inside the reef (Figure 6). Brooks noted that the shoals abounded in seals, turtles, fish, and fowl; he made no mention of obtaining guano.

Brooks (186) described the reef as "crescent shaped [and] about 45 miles in circumference. One point of the crescent is to the N.W. and the other bears S.S.E. The shoal is protected on the N.E. and S.E. by a reef on which the surf breaks heavily. The guano rock is about 180 feet long and 40 feet wide at the base, and rises very abruptly to the height of 125 feet, forming a ridge, at each end of which there is a space of about 12 square feet. This rock is situated in about the centre of the shoal, and can be seen at a distance of some 8 miles, and closely resembles a full-rigged brig. These shoals open to the west. There is no danger outside of the line of breakers. There is good anchorage inside in from 6 to 14 fathoms water. The largest sand spit of the group bears about N.E. by E. from the rock, about 4 miles distant. Inside of this spit there is a good harbor where a vessel of any draft of water may enter and lay in safety from the sea with good anchorage. Water may be obtained on the largest of these spits at about 8 feet below the surface. It is very brackish and strongly impregnated with lime." Brooks gave the

4. LT Brooke did make known the erroneous position as early as 7 February 1859, two days after returning to Honolulu, in his letter to Secretary Toucey (see page 11).

5. No records have been found to confirm these reports of shipwrecks at French Frigate Shoals around the year 1828.

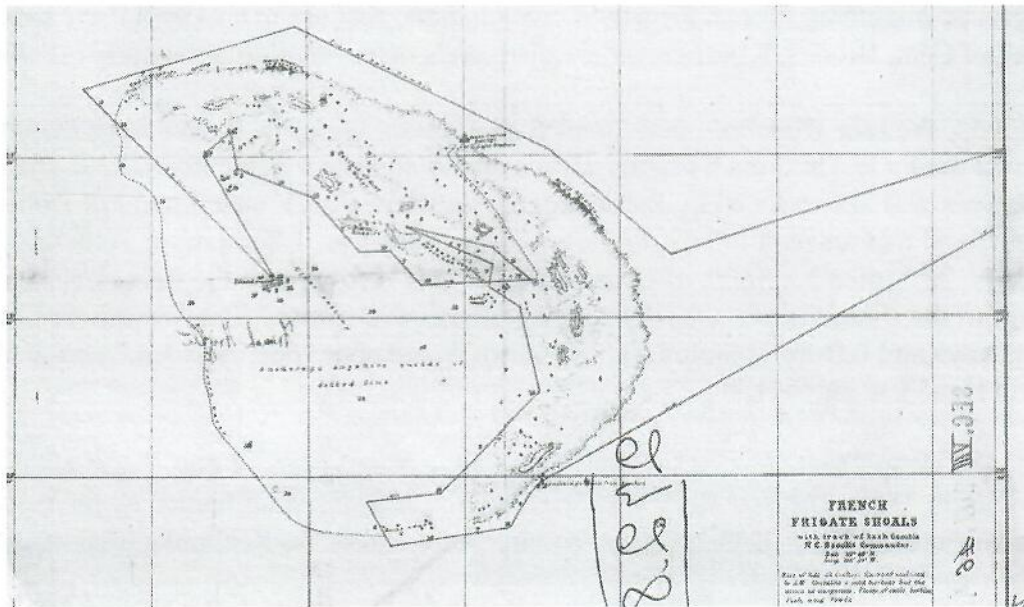


Figure 6. French Frigate Shoals map by N. C. Brooks showing track of *Gambia* and wreck of *South Seaman*, late April or early May 1859. US National Archives photograph, Sec VIII, Box 46, Index 633, No. 2.

position of the principal rock as $28^{\circ}46'$ North x $166^{\circ}14'$ West,⁶ and noted that this position differed from that given by LT Brooke of the *Fenimore Cooper*. He landed on 16 small islands or sandspits, and noted that Brooke found only six, some of which were "laid down incorrectly." A reproduction of the 'Brooks Map' is shown in Figure 6; the original is located in the Cartographic Division, US National Archives, Washington, DC (R. G. 37, 272.8). This map also gives the position of the wreckage of the *South Seaman*.

The *South Seaman* was the second of many ships to wreck at French Frigate Shoals, some because of lack of adequate charts, others because of inaccurate positions, foul weather, et cetera. As pointed out earlier, one reason for navigation error was the discrepancy between the maps of Brooke and Brooks. E. R. Knorr, or Klnoor (US National Archives, Old Mil. Rec. Div, R.G. 37, 272.7), noted a difference of 11' in the longitudinal positions given by Captain Brooks of the *Gambia* and LT Brooke of the *Fenimore Cooper*. Brooke's positions for three

6. Brooks (1860) latitude position of 28° must be a typographical error for his map shows it to be 23° .

island groups (including French Frigate Shoals) and one reef are in a mean 11' arc west of the positions of Capt. Brooks. Knorr considered Brooke's determination to be more reliable.

A third ship, the brig *Wanderer*, commanded by Captain Gregory, bound from Honolulu for Japan, was totally lost at French Frigate Shoals on the night of 1 September 1859. The crew of the *Wanderer* was also rescued by the schooner *Kamehameha IV* which had left Honolulu on 27 August and had reached French Frigate Shoals at 0600 on 1 September. According to the *Polynesian*, 24 September 1859, after anchoring at 1600 the crew of the *Kamehameha* "found the party [of the *Wanderer*] on the islet all well and in good spirits." The *Kamehameha* took on the castaways and left for Honolulu on the 4th of September "deeply laden," and arrived off Diamond Head late on the 17th.

In 1861, the sloop *Travis* visited French Frigate Shoals and found a dog, presumably left by the *Gambia* in 1859. The dog story was featured in a KGMB radio broadcast by Victor Eckland on 16 January 1944 (Dabagh, pers. comm., June 1969). As Eckland's imaginative story goes, the *Gambia's* dog went ashore with the crew.

"He was a wooley fellow...and was the first ashore. From one end of the little island to the other he raced, poking about here and there exploring each little bush and shrub for hidden treasures so dear to the heart of every dog. So busy was he in pursuit of these pleasures, that he failed to notice that the men were preparing to leave the island and go back to the ship. Just how the men forgot about him, is a question that has never been answered. But, by the time the dog discovered what happened, his friends were out of earshot and his barking attracted no attention.

"He sat on his haunches and wistfully watched as the sails were squared and the *Gambia* moved slowly out over the horizon leaving him alone on his sandy island. As the ship faded from view and the sunset grew dark, a great loneliness came upon him. He burrowed into the sand, put his head between his paws and mournfully dropped off into a troubled slumber.

"When morning came, the dog awoke...hungry, and terrible thirsty. He roved about looking for water, but on French Frigate there is no water. Instinctively, he began to dig in the soft sand. It was hot work as the sun rose higher and beat down on his thick coat. But he was soon rewarded as his paws felt cool water. Only a few more strokes now and he could lap some of it with his parched tongue. But the water was brackish...not quite as salty as the sea water, but it wasn't what he expected and it didn't quench his thirst.

"There wasn't much to eat during the first few days. It is true that there were many sea birds nesting there, but he wasn't a hunting dog and he was too clumsy in his approach. They always got away from him.

“He was beginning to become desperate. He must have food. He made another lunge at a bird nesting on the sand. His great paws came down with a thud on the place where the bird had been just a second before. There was a cracking sound. He looked down, found his paw covered with a gooey mess. He licked it tasted good. He ate what was left on the ground too. He had discovered...eggs.

“From then on, he got along better. It was no trick to smash an egg, and there were plenty of them on the island. They fed his hunger, and supplied a little moisture. He learned to lick the dew from the leaves of the shrubs, and to lap up rain water before it completely disappeared in the sand. And thus he lived for two whole years...the king of the island, the lone monarch of all he surveyed.

“Then one day a ship appeared off the island. A boat was lowered and a boat crew came ashore. The dog was there to meet them, his tail nearly wagging itself off with joy. Hardly had the boat touched sand than he gave a mighty leap and landed in the bow. The men tried to persuade him to get out with them, but the dog stood his ground. However, when they all left him, he decided to follow them and not let them get to far out of his sight. He was determined not to be left behind again.

“All during their stay, he was at their heels, and when they returned to the boat, the dog was the first aboard. And, when the sloop *Travis* weighed anchor and sailed for Honolulu, she had a new member of the crew...the four-footed, ex-king of French Frigate Shoals.”

Six years later French Frigate Shoals was again the site of a shipwreck. On 14 April 1867, the bark *Daniel Wood* ran aground (*The Friend*, May 1867, 37:1-3; Balazs, 1979; Rauzon, 2001, 55). The following 16 days proved to be quite an ordeal for the crew; fortunately there was no loss of life.

As recounted in *The Friend*, the *Daniel Wood*, commanded by Captain J. Richmond, of New Bedford, had left Honolulu on 10 April on a northward cruise; she had just completed a whaling trip to the west. “On 13 April, Captain Richmond plotted his 1500 position as latitude 23°10', longitude 164°20'. According to the chart in his possession, probably British Admiralty Map 2464, sheet 6, corrected to 1863, the shoal on which the vessel later struck was at the time “west by half north, distant 85 miles. The course of the vessel was given northwest, which would have made, with the variation, a course of northwest by north, and if no currents had interfered, and the position of the shoal been correctly laid down, the vessel would have gone forty-five miles to the windward of all danger. On Saturday night the weather was beautiful, with a clear atmosphere, and a full moon, and the bark, under all sail, was steadily pursuing her course with a fine favorable breeze.”

At 0100 Sunday morning, the 14th, Captain Richmond, who was below, heard the officer of the deck shout to the helmsman, “Hard up the Helm! The captain immediately sprang up on deck and ordered the vessel to be put about, but before this could be accomplished she struck heavily on the reef, and pounding her way over the first or outer rocks, went on to the inner ones. Here the breakers were reached, about half a mile from the place where she first struck

heavily on the reef, and the vessel heeled over to the blows of the breakers.... The crew all went into the boats with the exception of the captain, second officers, Cooper, and three seamen, who remained on board as long as safety would admit; [they]...got about a hundred gallons of [fresh] water into their boat before leaving.” At daylight, they pulled for the only land in sight, a bleak looking rock. Fifteen miles from the ship they reached a “small sand bank, barren, with the exception of here and there a tuft of grass.”

“On Monday morning [the 15th] they again boarded the ship [which broke up by noon], through a heavy sea, and the captain was washed overboard, but fortunately regained the deck. On this occasion they secured six casks of water and a lot of bread and meat. It occupied them a whole day and a good part of the night to tow the casks of water to the sand bank through tortuous channels, and on getting there the men were given each a pint of fresh water. On broaching two of the casks they were found to contain salt water, and they were the first of the six that were landed. Imagine the feeling of these shipwrecked mariners when the thought arose that they were on a lone barren isle, without fresh water!”

“The captain decided at once to proceed to Honolulu for assistance. Taking a favorite large whaleboat, named the *Ann E Wilson*, he put on her, what the sailors call a ‘sister gunwale,’ and declared his intention to start for Honolulu. As an instance of Yankee enterprise and determination of character, under difficult circumstances, it is well to mention that the only tools the captain and his men had to operate with in making their boat seaworthy for the long and perilous voyage of nearly five hundred miles...was a saw, a hammer and a chisel. The nails with which to fasten their work they had to draw from the fastenings of the other boats.”

At 1500 on Tuesday, the 16th, the boat being ready, the captain, second mate, and six men embarked “with a necessarily limited stock of water and bread....” They left twenty seven of their shipmates on the sandbank.

“For the first four days after leaving the shoal, the *Ann E Wilson* encountered strong winds from the north and north-northeast, but made very good headway in the desired direction, sometimes pulling and sometimes sailing when the wind gave a slant. For prudential reasons all hands in the boat were put on an allowance of one pint of water and one biscuit a day. Thus they struggled on, until Sunday morning, April 23rd [should be the 20th], when they made the Island of Niihau. Landing there, they were most hospitably and kindly received by the proprietors of the Island, Captain Sinclair and family....” They left Niihau at 0600 on Monday morning, the 21st, and continued on their course for Honolulu without landing at Kauai. “During the night they spoke [with] the *Monticello*, Captain Phillips, who gave them the course to steer, their compass having been disarranged. On Tuesday night they spoke [with] the *Massa-*

chusetts, Captain Williams, who hove his ship to and insisted upon their coming on board and taking refreshments. They landed at the Wharf in Honolulu on Wednesday morning [April 24th] at 3 o'clock, after an open boat voyage of eight days during tempestuous weather and on starvation rations."

As soon as General Smith, the American Consul in Honolulu, learned of the shipwreck and the 27 stranded crewmen, preparations were made to get the US Steamship *Lackawanna* ready for sea. The ship, under Captain William Reynolds, USN, sailed at 1300 on 25 April. The *Lackawanna* found the crew of the *Daniel Wood* on 29 April on a sandbank east of La Perouse Pinnacle probably on what is known today as East Island. The men had found two fry pots on the island, presumably from the wreck of the *South Seaman*. Before leaving, the rescuers planted a flag-staff and left some pigs. They noted that a flagstaff was also on the rock islet (letter from Captain William Reynolds to T.A. Jenkins, USN, Chief of Bureau of Navigation, Washington, DC, US National Archives, Hydrographic Office, Corresp., R.G. 37, 272.7).

In the above letter, Captain Reynolds describes French Frigate Shoals as "crescent shaped, with its bow to the eastward, and its horns to the westward, enclosing a large lagoon-like basin of shoal water. The horns are about 16' apart bearing N.W. of W. of S.E. by S. from each other; nearly midway between them is a rocky islet, of small area, perhaps 200 feet high;...a number of sand banks, just awash and others 15 to 20 feet high, are scattered about the reef; a belt of green water...[lies] from horn to horn bulging out a little to the westward...."

He confirms the *Fenimore Cooper's* 1859 position of the southeast extreme (longitude 166°09' W), the northwest extreme (longitude 166°26' W), the south edge of the breakers (latitude 23°38' N), and the north edge of the breakers (latitude 23°52' N). He also pointed out that "on the charts furnished this ship, British Admiralty 2464, sheet 6, corrected to 1863, this shoal as laid down about 34' to far to the eastward. Its north extreme is 6' to the south of the *Fenimore Cooper's* survey, and its south extreme 6' to the north. Findlay's sailing directions are so much out as to the Longitude of the shoal, and gives 23°45' as the Latitude, which is about Lat. of the center of the reef."

The wreck of the *Daniel Wood* again pointed to the need for an accurate published map of French Frigate Shoals. It is ironic that the "Brooke Map" made in 1859 was not published by the US Hydrographic Office until 1867, after four known vessels had wrecked there.

On 20 May 1867 the schooner *Malolo*, under Captain Bent, sailed from Honolulu for French Frigate Shoals in search of the wreck of the *Daniel Wood*. The *Malolo* returned to Honolulu on 22 June without finding a trace of the wrecked whaleship; the crew must have landed for

they brought back fresh turtle eggs (*Pacific Commercial Advertiser*, 25 May 1867, 2:1; 29 June 1867, 2:1-2, 3:5).

The *Kamehameha V*, commanded by Captain E. Wood, paid a visit to French Frigate Shoals on 4 July while on a cruise to the west of Honolulu (*The Friend*, October 1872, 81; Rauzon, 2001, 55). They “saw there two large hogs⁷ on a sand spit, a quarter mile in circumference. They have been there since April 1867. There is no fresh water...and very little vegetation. As soon as the boat landed, the hogs took to the water and swam to some rocks just awash, and they seemed perfectly at home in the water.”

With the publication in 1867 of US Naval Hydrographic Office Maps 2, 3, and 4 showing the entire Northwestern Hawaiian Islands in detail, other countries became interested in the area. The Japanese, a country dependent on fishing, soon began to fish the area.

The Japanese-owned American-chartered schooner *Ada*, working out of Yokohama, Japan, visited French Frigate Shoals in 1882 (Hornell, 1934). The *Ada*, “a small vessel of fore and aft rig, between forty and fifty tons register, of smart model and neatly rigged for quick maneuvering...,” was chartered by three men during the off-season for sea-otter hunting north of Japan. The three—John Carroll, Harry Hardy, and George Mansbridge—agreed to “fit out the schooner *Ada* for an expedition to the North Pacific uninhabited islands, to get anything they could sell in the way of fish, shark, turtle and beach-la-mar [*bêche-de-mer*]; Mansbridge to take his diving appliance to search for pearl-shell or any wreckage under water. The crew consisted of Hardy as Master, Mansbridge as mate, ...Golders [who replaced Carroll on the trip] as second mate, 3 Bonin Islanders, and 12 Japanese.” This was the first and only Japanese ship known to poach at French Frigate Shoals.

The *Ada* sailed on 10 December 1881, reached the Bonin Islands on the morning of the 16th, and left the next day heading east in fine, clear weather. On the 30th, she sighted Kure Atoll, the western-most atoll in the Hawaiian chain.

On 3 February 1882, the poachers arrived at French Frigate Shoals, having taken on turtle, *bêche-de-mer*, and albatross-down along the way. At French Frigate Shoals they anchored “inside the reef—a very long reef—with an island and bushes growing on it.” Starting on 6 February, the *Ada*’s log reveals that they began “to work in the proper way; two sampans for sharking, 4 fishermen in each sampan; Mansbridge and Golders and sometimes Hardy with the cooks, one fisherman and cabin boy helped to cut up the shark meat and dry it; in bad

7. Left there by the *Daniel Wood* in April 1867.

weather all would help to tap oil, string shark fins and tails and strip turtle shell and gather albatross down, no one idle.”

On 5 April the *Ada* left for Gardner Pinnacles and Maro Reef. Returning to French Frigate Shoals on the 27th they decided to pack up, take all on board, return to Midway, and prepare for the homeward voyage. On 1 May, they left French Frigate Shoals with a cargo consisting of:

Sharks fins	11,435 pounds
Shark oil	709 gallons
Shark flesh	38,610 pounds
Turtle oil	47 gallons
Turtle shell	1,543 pounds
Dried <i>bêche-de-mer</i>	4,001 pounds
Birds' down	213 pounds

It is not known how much of each of these was actually taken at French Frigate Shoals, but the log gives some indication. Prior to arriving at French Frigate Shoals, 168 turtles, 655 *bêche-de-mer*, and 102 pounds of birds' down had been collected; how much was obtained between 5 and 27 April when the schooner visited Gardner Pinnacles and Maro Reef is not known. It is probably safe to say that 111 pounds of birds' down were taken from French Frigate Shoals, since birds do not occur in large quantities at Gardner Pinnacles and none exist at Maro Reef. Parsons (1962) implies that approximately three pounds of tortoise shell can be obtained from a single adult turtle. Using this as an average, perhaps some 346 turtles were taken by the *Ada*'s crew at French Frigate Shoals. The shark fins, oil, and flesh probably all came from French Frigate Shoals, since at Laysan on the 26th of January, before arriving at French Frigate Shoals, a notation in the log reveals they had “tried shark catching for the first time, but [it was] a failure.”

The *Ada* returned to Yokohama, Japan on 16 June. The turtle was sent to England, and the rest of the cargo was shipped to Hong Kong, China. After all was settled Hardy, Carroll, Mansbridge, and the schooner each received 1,356 Mexican dollars.

During the fall of 1886 the fishing schooner *General Seigel*, while on a sharking expedition in the Northwestern Hawaiian Islands, stopped at French Frigate Shoals. The ship's captain, Adolph Jorgensen, later revealed (Farrell, 1928) that “the sea was alive with sharks and many turtles could be seen on the islets.... We had plenty of fish, turtles, eggs, and flesh of seals.”

In early 1888, the 467-ton schooner *Wandering Minstrel*, ten days out of Honolulu, visited French Frigate Shoals. While at the Shoals Captain F. D. Walker, his wife (the first woman known to set foot on the atoll), and their three sons cruised about in the ship's launch. They saw great numbers of sea birds, fish, and turtles but few sharks, and those that they saw were no more than six or seven feet long. For a week the ship lay at anchor; the weather was good. Then the sea and sky became threatening and the ship departed for Midway and its destruction. Walker, his wife, sons, and part his crew spent 14 months at Midway before being rescued (Farrell, 1928).

The schooner *Kaalokai*, commanded by Captain F. D. Walker, visited the atoll between 30 May and 5 June 1891 while on one of the first biological surveys of the Northwestern Hawaiian Islands; it was the first such survey to the atoll (Walker, 1909). Walker described the atoll as containing 13 sand islets and a rock 122 feet high. He further pointed out that some of the sand islets were profusely covered with scrub; the soil was composed of sand, broken coral, and guano of little or no value. He referred to one island as Turtle Island, because of the presence of large numbers of turtles. At a point "N.E. by E. 1/2 E. by compass, from the islet," he found a channel with 15 feet of water at low tide, which opened into a lagoon. He described this lagoon as "a fine harbor, well sheltered by the reefs from the eastward; and from the westward, northward and southward by islets. A small vessel could heave down and repair here at any time, by having an anchor out and wraps to the shore."

Aboard the *Kaalokai* were two naturalists, Henry Palmer and his assistant George C. Munro, who had been sent by Walter Rothschild to collect birds on the trip. Rothschild (1893-1900) soon published his now famous "Avifauna of Laysan," which revealed the bird life of French Frigate Shoals for the first time. Munro (1941a, 1941b, 1944) later published his notes on the atoll's wildlife. Between them, Rothschild and Munro reported 17 species of birds occurring on French Frigate Shoals, giving biological notes on most of them.

Describing one of the low sandbanks, Rothschild (1893-1900) wrote, "this bank is literally covered with birds, chiefly two species of Tern. Most of their young are nearly ready to fly, some even flying." The Sooty Tern (*Sterna fuscata*) "lays one egg and deposits it anywhere on the sand; their young are of a dark brown colour with spots...." The central rock islet was "perfectly impossible to land on, but...covered with sea birds...." Upon "firing a rifle, among the birds that got up... [were] a pair of another species of Terns...." This was the first sighting of the Blue-gray Noddy (*Procelsterna cerulea*) in Hawaii. On another islet, Munro (1941b) "saw red-footed booby sitting on its well finished nest...on the sand above the beach were a number of half fledged young black-footed albatrosses." Although shark and turtle were seen, no mention of seal is made by either author.

During late spring or summer of 1894 the yacht *Ebon*, commanded by John Cameron, anchored at French Frigate Shoals. This was Cameron's second visit for he had been aboard the *Wandering Minstrel* six years earlier. After the wreck of the *Wandering Minstrel* on Midway, Cameron and several others had departed in a small boat and eventually landed in the Marshall Islands; there he married a chief's daughter. In the spring of 1893, with his wife, daughter, friend's child, servant, and crew, he sailed down the Northwestern Hawaiian Islands to the Line Islands and back to the Hawaiian chain. On this second leg of the trip he revisited French Frigate Shoals (Farrell, 1928).

The *Ebon's* crew pitched a tent on one of the islets and set about catching shark. Numerous turtles provided sufficient shark bait as well as providing the men with food. Shark fishing was excellent. On one of the outlying islets a shark ventured close to shore; a hook was quickly baited and cast into the water. It snapped up instantly and an eight-foot fellow was pulled in. With him came hundreds others, so close to the water's edge that their thrashing tails stirred up the sand. More hooks were baited, but the sharks were in such a frenzy that hooks were not needed. The men began catching them by their tails and hauled them, stern-first, upon the sand. Before they were exhausted they had caught 146 sharks, from 8 to 14 feet long (Farrell, 1928).

The presence of guano on Laysan and Lisianski attracted the attention of the North Pacific Phosphate and Fertilizer Company. On 29 March 1890 these two islands were leased by the company for 20 years from the Hawaiian Kingdom. Active digging began in 1892 and continued until 1904. During this time numerous vessels visited the islands to take away the guano and supply the diggers. Some of these vessels may have stopped at French Frigate Shoals.

The North Pacific Phosphate and Fertilizer Company was interested in islands surrounding Laysan and Lisianski. A letter from J. P. Hackfeld, secretary of the company, dated 6 January 1894 to James A King, Minister of the Interior of the new Republic of Hawaii, requested that King order the lease by public auction of French Frigate Shoals, Kure, Midway, and Pearl and Hermes Reef. Hackfeld proposed that the lease be for a term of 25 years and that the purchaser should have exclusive right to the guano, phosphate, fertilizers, and other material. He further proposed that the lowest acceptable bid for such a lease be set at 50 cents for each ton (2,240 pounds) of material to be removed from the islands; the amount would be paid into the Hawaiian Treasury.

The islands, including French Frigate Shoals, were leased on 15 February 1894 for a period of 25 years to the North Pacific Phosphate and Fertilizer Company.⁸ This company was also granted exclusive rights to the guano deposits provided they would be worked within five

years; otherwise, the rights would revert to the Hawaiian government. Since the Pacific Guano and Fertilizer Company never worked French Frigate Shoals, their rights presumably reverted in 1899; their lease, however, remained valid.

Hawaiian Control

As early as 1857 the Hawaiian Kingdom, under King Kamehameha IV, sent Captain John Paty in the schooner *Manu-o-ka-wai* on a 50-day voyage of discovery through the Northwestern Hawaiian Islands. He did not visit French Frigate Shoals, but landed and annexed Laysan and Lisianski to the Hawaiian Kingdom.

The Hawaiian Kingdom continued until 1893. After a revolution led by an American group, Queen Lili'uokalani was deposed and on 17 January 1894 a Provisional Government was formed with Sanford B. Dole as president. This provisional Government was followed by the formation of the Republic of Hawaii on 4 July 1894, with Sanford B. Dole still president. When the Hawaiian government learned in 1894 of England's secret plan to annex Necker Island as part of a cable linkage between Canada and Australia, Necker was quickly annexed by the Republic (King, 1965).

In order to obtain clear titles to the northwestern islands for the Republic, President Dole on 9 July 1895 appointed James A. King, Minister of the Interior, Republic of Hawaii, as Special Commissioner to take possession of French Frigate Shoals. At 1815 on that same date, James King sailed from Honolulu on the Revenue Cutter *Lehua*, commanded by Captain Berry, in pursuance of President Dole's commission. King (Hawaiian State Archives), in a subsequent letter to Dole on 22 July, noted that the *Lehua* sighted the rock islet of French Frigate Shoals "at 5:30 A.M. of the 13th...came to anchor at 9 A.M. in 11 fathoms of water, about a cable length from shore. We landed on the islet which we found to be precipitous with an inaccessible summit. Two of the party attempted to climb the rock but were unsuccessful. At 10 A.M. we landed upon the small rock about 30 yards from the Islet, unfurled the Hawaiian Flag read the Proclamation...and took possession.... [We]... returned on board and got under way for Sand Island in Latitude 23°52' N, Longitude 166°12'45" W [probably Tern Island] and at 1:30 P.M. anchored about two miles from the Island. At 2:30 P.M. we landed and took possession of all the Islands, Rocks and Shoals known as the French Frigate Shoal. We here read the Proclamation planted the Hawaiian Flag and left also a copper cylinder secured to the base of the Flag Staff." The cylinder contained the Proclamation, as well as a copy of the *Hawaiian*

8. This company changed its name to the Pacific Guano and Fertilizer Company on 3 April 1894.

Star, the *San Francisco Weekly Examiner*, the *Argonaut*, and the *London Illustrated News*. King described "Sand Island" as formed of coral sand and shells, about 800 yards long, 100 yards wide, and about 10 feet above sea level. He noted that "birds and fish, especially Sharks, were exceedingly numerous." At 1700 on the same day, the 13th, the *Lehua* left French Frigate Shoals; she arrived in Honolulu at 1800 on 18 July "after a pleasant trip with fine weather."

Frank S. Dodge, Assistant Surveyor, Hawaiian Government Survey, was on this trip with King. In a letter (US National Archives, Old Military Records Div., R.G 37, 391:33) dated 13 August 1895 to Commander Charles D. Sigsbee, US Hydrographic Office, Dodge estimated the central bare rock at French Frigate Shoals to be about 30 x 100 yards in extent and about 100 feet high, with the summit inaccessible because of overhanging cliffs. Dodge's letter also gave the dimensions of the sand island, located 6 miles to the northwest of the rock islet (again indicating Tern Island), as 100 x 200 yards long and 8 or 10 feet above sea level; the length given by Dodge is considerably less than that given by King. Dodge, as well as King, mentioned that Professor William T. Brigham, of the Bernice P. Bishop Museum, Honolulu, was on the trip; Brigham photographed the various islands visited, as well as made collections for the Bishop Museum.

In early 1896 French Frigate Shoals was again the scene of a shipwreck. At 0330 on 22 February 1896, the sealing schooner *Mattie E. Dyer*⁹, commanded by Captain Mockler, wrecked at the shoals. This was the fourth trip of the schooner to the sealing grounds¹⁰ and at the time of the wreck the captain thought the vessel to be some 80 miles to the west of the shoals. The lookout heard surf breaking and notified the captain who was on deck when the vessel struck the reef; in less than 10 minutes the ship was full of water and had keeled over on her side. Three boats full of fresh water and food were smashed in the surf; four boats were saved, but all fresh water was lost and only two dozen tins of assorted pie fruits were salvaged. The ship had wrecked near the island visited by King in 1895; the presence of the flag staff he left directed the 23 crewmen to the largest of the 14 islands. The men spent six hours on the island digging for water, but no suitable drinking water was found. Captain Mockler gave the orders to leave for Niihau. Three of the boats had nautical instruments, while the fourth had nothing

9. The *Mattie E. Dyer* was a 103-ton vessel valued at \$15,000. It was built by a Captain Dyer, a large eastern ship owner. Captain Mockler bought the vessel in 1889 and brought it to the Pacific (*Hawaiian Gazette*, 3 March 1896, 3:1-3).

10. The sealing grounds probably refer to the Pribilof Islands for their arrival date was not to have been until 10 March. Some sealing vessels did, however, poach seals in the Northwestern Hawaiian Islands.

and was taken in tow by one of the others; the tins of fruit were divided equally (*Pacific Commercial Advertiser*, 2 March 1896, 1:5-6, 2:1-2; and *Hawaiian Gazette*, 3 March 1896, 3:1-3).

Six or eight hours were spent in an effort to get through the surf; all the men were drenched by the spray and most stayed wet until they reached Niihau. Two of the boats, led by Captain Mockler and Mate Walker, arrived four days and four hours later (the 26th) at almost the same place on the beach at Niihau. The men were housed by a Mr. Moore and the Niihau natives. The third boat, led by P. E. Peterson, the ship's hunter, arrived three days later (the 29th) only 12 miles from where the first two boats landed. The interisland steamer *Ke Au Hou*, commanded by Captain Thompson, was alerted on Kauai and immediately proceeded to Niihau. Picking up the captain and mate¹¹, the steamer searched all afternoon; the next day (the 30th) the missing boat was sighted. The men were in poor condition; all were sunburned and their bodies were swollen from exposure. All the 23 crewmen survived and were taken to Honolulu where the American Consul placed them in the Sailor's Home. This was Captain Mockler's fourth shipwreck with never a man lost.

11. Captain Thompson and Mate Walker were old schoolmates and had not seen each other for years.

CHAPTER 3

UNITED STATES CONTROL

United States Territory

As early as 1875 the Hawaiian Kingdom obtained from the United States Congress a reciprocity treaty. This treaty created more favorable conditions between the United States and Hawaii, including the entry of Hawaiian sugar into the United States duty free. This treaty was renewed in 1887 with a provision added giving the United States the use of Pearl Harbor as a naval station and coaling base.

Although a group of Americans overthrew the native monarchy in 1893 with the idea of making Hawaii a United States territory, President Cleveland did not approve of the methods employed, and annexation was delayed until the strategic importance of the islands was demonstrated in the Spanish American War. Under President McKinley, the Republic of Hawaii was annexed by the United States by a joint resolution of the US Congress on 7 July 1898. Two years later, on 30 April 1900, Hawaii officially became a territory of the United States. When Hawaii became a territory, French Frigate Shoals was automatically included.¹²

The US Navy, as well as other US Government agencies, became interested in the Northwestern Hawaiian Islands in 1889 and 1899. A letter from the Navy Department to the Consulate General in Honolulu on 27 December 1898 asked for information relative to the ownership and value of the small islands northwest of the main Hawaiian Islands. In the letter of reply from William Haywood, Consul General of the United States, Honolulu, to Commodore R. B. Bradford, Chief of Bureau of Equipment, US Navy Department, dated 16 January 1899 (US

12. The City and County of Honolulu hold jurisdiction over French Frigate Shoals by virtue of Section 1717 of Chapter 118 in the Revised Laws of Hawaii dated 1925 (see also Morris, 1934). The atoll also became part of the State of Hawaii when the Territory of Hawaii was admitted as the 50th State in the Union on 21 August 1959 (Percy, 1959; US Dept. of State, 1965a).

National Archives, Old Military Records Division, R.G. 37, 2112.39), Haywood stated that all islands to the northwest, as far as Kure, except Midway, belonged to the Hawaiian government. His letter described each island; for the description of French Frigate Shoals, he quoted King (1895). He added that "Captain King thought it would be an easy matter to make a coaling station there."

On 9 May 1899, the US Secretary of the Treasury notified the Secretary of State that French Frigate Shoals was not legally bonded by any company or individual. The memorandum (US National Archives, R.G. 48) further notes two guano claims: (1) that of LCDR John M. Brooke, USS *Fenimore Cooper*, who landed, discovered a guano deposit, took symbolic possession 4 January 1859, and made a declaration to obtain benefit of the 1856 Act of Congress before US Consul Prater at Honolulu on 17 February 1859; and (2) that of George O. Blake (should have been Baker) of New York who laid claim to this deposit 10 June 1859.

On 27 December 1899 W. D. Alexander, Surveyor General, Hawaiian Government Survey, sent a note (US National Archives, Old Military Records Division, R.G. 37, 4113.25) to the Superintendent of the US Coast and Geodetic Survey enclosing a copy of a report on the islands made by Captain F. D. Walker. The report for French Frigate Shoals, dated 20 December 1899, gives Walker's 1891 description. It mentions that these shoals are sometimes visited by Japanese schooners for the collection of shark fins, oil, and turtle shell; it also suggests that the shoals are only visitable between April and September.

From March to August 1902, the US Fish Commission Steamer *Albatross* was engaged in deep-sea explorations among the Hawaiian islands. During May these investigations extended as far west as Laysan. On the return voyage, Commander Chauncey Thomas, USN, Captain of the *Albatross*, anchored at French Frigate Shoals at 1400 on 28 May 1902 in 8 fathoms of water in the lee of the northern end of the atoll; the surf was rough so he did not land. He was able to view a nearby beach and saw numerous birds and turtles on it. At 0630 on 29 May, the *Albatross* left her anchorage, and by 1600 was well clear of French Frigate Shoals (US National Archives, *Albatross* Report, 10 December 1902, R.G. 22, page 70).

In a letter, dated 5 July 1902, to the US Hydrographic Office, Thomas suggested that the anchorage information for French Frigate Shoals in H. O. Publication #114 should be changed (US National Archives, Old Military Records Division, R.G. 37, 133.15). He wrote: "the limits of anchorage should be stated to be to the westward of the reef between the two horns of the crescent, preferably near the northern one as affording better shelter from the prevailing trade winds."

Charles H. Gilbert, naturalist in charge of the *Albatross* expedition, assigned Walter K. Fisher and John O. Snyder to make detailed observations of the bird life on the islands visited. Fisher (1906) published a detailed account of the trip in his "Birds of Laysan and the Leeward Islands, Hawaiian Group." Although unable to go ashore, the ornithologists observed 12 species of birds flying about the ship and over the four sand islands and lava rock of French Frigate Shoals. Of the birds, Fisher wrote that they "were plentiful, especially around the tall rock. Early in the morning terns fairly swarmed over the largest sand islet. We saw here for the first time a graceful little tern¹³, ...which was later captured on Necker Island. It was undoubtedly nesting on the tall rock."

On 16 June 1903 a new French ship *Connetable de Richmond* sailed from Hong Kong for a nitrate port in Chile; getting nothing but light winds for many days, progress was slow and provisions soon ran short (*Paradise of the Pacific*, 8 November 1903, pp 8-9). On 4 September, Captain Rault sighted and signaled the *City of Peking*; he was able to procure a boat load of supplies. Subsequently a Swedish steamer and a Japanese steamer were seen; the former refused to comply with the Captain's request for supplies and the latter failed to answer signals. Then the Frenchman changed his course and headed for Honolulu.

In the dark morning of 10 October 1903, the lookout, spotting the great rock at French Frigate Shoals, reported a full-rigged sailing ship without lights off the port bow. As the day began to dawn, the real danger was discovered, and before their course could be altered the ship struck hard on a submerged reef. After working for some time in a futile effort to get her off, the Captain and all 23 hands took to the sea in three boats—each sailing in a different direction. Fortunately each found calm seas.

The boat containing Captain Rault and seven others reached Niihau; from there they found a ship going to Honolulu, and they arrived at that port on the morning of the 21st. They went at once for assistance to Mr. Albert Raas, the French Consul, who provided them with accommodations and took immediate measures for finding the two boats containing the other 16 men. He chartered the steamer *Lehua*, of Wilder's Steamship Co., to make a search for the two missing boats; the *Lehua* had been to French Frigate Shoals in 1895 so it knew the waters well.

On the evening of 21 October, with Captain Rault aboard, the *Lehua* left Honolulu on her search mission. The following morning a telegraphed message arrived from Kailua, on the Kona coast of Hawaii some 300 miles southeastward of Niihau, saying that one of the two

13. This tern, the Blue-gray Noddy (*Procelsterna cerulea*) was later described by Fisher (1903) as a new species.

boats, with eight men, had arrived there; the steamer *Iwalini* brought these eight to Honolulu on the 23rd. Captain Rault returned to Honolulu on the 24th where he entered Queen's Hospital suffering greatly from the effects of exposure.

On the 25th the *Lehua* left again on her search. The night before, the USS *Iroquois* started searching between Kauai and Niihau. On the 27th the search vessels learned by telegraph that the remaining boat and crew had been found on Niihau by the steamer *Mikahala* while on a regular scheduled run. The sailors were brought to Honolulu on the 28th; all search vessels were recalled to port. That same day the steamer *Alameda* took 22 of the *Connetable de Richmond's* crew to San Francisco. One was too ill for the journey and Captain Rault remained behind to settle the business of the wrecked ship.

The steamer *Kauai* had also been sent to the scene of the *Connetable de Richmond's* wreck. It arrived at French Frigate Shoals to find the derelict capsized and submerged except for a portion of the bow (Lydgate, 1914).

Bird Poachers

The preservation of wildlife, especially birds, in the Northwestern Hawaiian Islands was recognized as important in the early 1900's. With the beginning of guano exploitation of Laysan and Lisianski in 1892, birds on the islands were either killed outright or injured and left to die and their eggs and young taken or destroyed. The native flora was also largely destroyed.

Japanese feather hunters in 1902 visited Midway Atoll, 660 miles to the northwest of French Frigate Shoals, destroying thousands of birds in collecting feathers for the millinery trade. Japanese feather poachers again visited the Northwestern Hawaiian Islands in 1904 and 1905; this time they landed at Lisianski and killed some 300,000 albatross. W. A. Bryan's 1905 account of the Japanese feather hunting raids, as well as pressure from Hawaiian and Mainland conservationists (Dutcher, 1904, 1905a, 1905b, 1907) caused great concern in Washington.

Although guano digging ceased in 1904, the Pacific Guano and Fertilizer Company's manager, Max Schlemmer, continued to live on Laysan. Schlemmer, as of May 1904, had a license and an agent's commission from his company, with power to act in accordance with the company's contract and lease of Laysan and Lisianski with the Hawaiian Government; this contract was to expire in 99 years. About 1903 Schlemmer introduced rabbits to Laysan; these, along with other introductions, would devour all vegetation, except for a few tobacco plants, and would cause the extinction of three species or subspecies of indigenous birds.

On 25 March 1904 Max Schlemmer applied to Land Commissioner Pratt to lease Laysan, Lisianski, and French Frigate Shoals.¹⁴ When Pratt failed to reply, Schlemmer wrote the Governor of Hawaii the following letter which is on file at the Hawaiian State Archives.

Honolulu, H. T.
April 14, 1904

Hon. George R. Carter,
Governor of Hawaii;
Dear Sir:-

At the twenty-fifty day of March I sent in an application to Land Commissioner Pratt for three Islands; and as I didn't received any reply as yet and [will] be leaving at the end of April for Laysan Island, I thought it would be my duty to write these few lines to you; in order for you to let me know whether I could have the islands (as a good American Citizen) or whether you [would] rather have Japanese Pirates to kill and demolish everything that is on them. Hoping to receive an answer to this.

I remain,
Yours respectively.
(signed) Max Schlemmer
Good American Citizen

The Governor answered Schlemmer on 15 April saying he had "referred the matter to the Land Commissioner for a report."

Undoubtedly Schlemmer went to Laysan, for the Governor heard nothing from him until mid-December 1904. On the 17th he wrote the Governor a letter in which he again proposed that he be granted a lease of Laysan, Lisianski, and French Frigate Shoals for 99 years on the following conditions:

1. He would plant no less than 1,000 coconut trees each year for 10 years;
2. He would protect the birds, but wanted the privilege of killing the numbers stated in his letter of 25 March; the skins would be turned over to the Territorial Government for sale subject to a royalty of 10 percent of the net profit—the balance to be paid to Schlemmer;
3. He would pay a royalty of 50 cents per ton on all guano taken from the islands;
4. He would maintain residence on Laysan leaving somebody there to aid shipwrecked sailors when he left the island;
5. He would maintain a schooner of not less that 50 tons which would be at the service of the Territory to bring shipwrecked people to Honolulu at a reasonable price to be agreed upon;

14. This application was not located in the Hawaiian Archives or the US National Archives. Dutcher (1905), however, published excerpts from the letter.

6. That no rent would be exacted during the first 10 years, and for the balance he would pay \$50 per annum in advance; and
7. He would employ laborers with families if possible, giving preference to Polynesians.

If this proposition was found to be legally not possible, he suggested the governor submit it to the President of the United States in order to secure a special Act of Congress in his behalf (Hawaiian State Archives).

Governor Carter was concerned with Schlemmer's proposal to kill birds for profit and involve the Territorial government; his letter to Schlemmer of 23 December so indicated (Dutcher, 1905b). Schlemmer apparently misunderstood the governor's concern and offered to find a market for the birds himself (Schlemmer letter 24 December 1904, Hawaiian State Archives).

Early in 1905 the Hawaiian Audubon Society notified William Dutcher, President of the National Association of Audubon Societies, Inc., telling him of Schlemmer's endeavors to secure a lease that would permit him to exploit birds on a number of Central Pacific Islands for millinery and other purposes. Dutcher (1905b), in turn wrote to Secretary of the Interior. Dutcher's letter states the problem succinctly enough to justify quoting it.

February 20, 1905

The Honorable The Secretary of the Interior
Washington, DC

Sir:- The National Association of Audubon Societies (incorporated) has been informed by its representative at Honolulu, H. I., that efforts are now being made by private interests to exploit the colonies of Albatrosses and other sea-birds which breed in large numbers upon Necker (sic) and adjacent islands lying towards the western extremity of the Hawaiian Group. The killing of these beautiful and beneficial sea-birds is to be done in the interests of foreign millinery trade; and as an inducement to secure a license from the Territorial government for this purpose, the latter is offered a percentage of the receipts from the sale of skins. The parties in interest claim that the Territorial government will receive several thousand dollars yearly as its share in the nefarious business, although, so far as we have heard, no estimates of the length of time the business will probably continue has been offered. The plea is also made that only the annual increase of the birds will be slaughtered.

We submit that the killing of these graceful scavengers of the sea at any time, for the purpose indicated, indefensible; that to slaughter them (which must be done during the breeding season) with young in the nest necessarily let to starve, is utterly barbarous; that the foreign millinery trade in bird skins should not be encouraged by any cooperation, especially official cooperation, in the possessions of the United States; that the method suggested for raising territorial revenue is unworthy of the American people; that he suggested of limiting the slaughter to the annual increase is merely an evasion, impossible, and unworthy of consideration, and that the entire annihilation of these breeding colonies of birds would unquestionably follow the action proposed, within three or four years. We submit, also, that all investigations into the broad subject of economic ornithology—the relation of birds in general to human existence—are in favor of protecting the birds, and we therefore feel justified in the belief that a wise public policy will not only discourage the proposed slaughter but, if possible, devise plans and methods of preservation.

In case a contract has been considered along the above lines, it is earnestly desired, on the part of the directors of the National Association, that the matter be held in abeyance until the subject can be taken up personally with your Department and a more detailed protest can be filed.

We do not know whether, under Territorial conditions, any of these small Islands could be protected by being proclaimed bird reservations, as has been done in the case of Pelican Island, Florida, and Breton, and other Islands near the mouth of the Mississippi river, Louisiana; but we earnestly ask your advice and cooperation, to the end that early action of definite and conclusive character, if possible, may be taken to preserve these birds.

Very respectfully yours,

(Signed) William Dutcher
President

E. A. Hitchcock, Secretary of the Interior, referred the complaint to the Governor of Hawaii. In late March, the Governor sent Hitchcock a report stating that he had not granted Schlemmer the lease under the conditions he had requested.

On the 3rd of February 1909, President Theodore Roosevelt signed Executive Order Number 1019 setting aside French Frigate Shoals and all other Northwestern Hawaiian Islands, except Midway, as a preserve and breeding ground for native birds. This preserve, to be known as the Hawaiian Island Reservation, was to be under the Department of Agriculture.¹⁵

Early in 1910, the US Revenue Cutter *Thetis* was sent to investigate and apprehend plumage hunters in the newly-formed Reservation. In a report to the Secretary of Treasury on 2 February 1910 (US National Archives, R.G. 26), W. V. E. Jacobs, Captain of the *Thetis*, told of apprehending 23 Japanese poachers and seizing an estimated 259,000 bird wings and other plumage items on Laysan and Lisianski. However, no sign of human activity was seen on French Frigate Shoals when the *Thetis* visited there on 28 January.

At the request of the Acting Secretary of Agriculture, the *Thetis* visited these islands again in August and early September but found that no birds had been molested (US National Archives, R.G. 26).

In December 1912, the *Thetis* sailed again for the Northwestern Hawaiian Islands. On this trip were Governor W. F. Frear of the Territory of Hawaii, A. C. Lindsay, Territorial Attorney General, and D. T. Fullway, entomologist with the US Department of Agriculture. Accompanying them was a US Biological Survey team made up of Commodore G. R. Salisbury, USN, George Willett, ornithologist, William S. Wallace, Leland Stanford University, and Alfred M. Bailey, naturalist. When the *Thetis* stopped at French Frigate Shoals on 19 December, the sur-

15. In 1940, the Preserve was transferred to the Department of Interior.

vey team went ashore; they noted four species of birds during their several hours among the sand islands (Bailey, 1956). Willett wrote a full report for the US Biological Survey; unfortunately, it has been lost through the years. The landing party found three sandspits and two grassy islets at French Frigate, the largest was "covered with grass and low bushes [and] is the resort of a large number of birds" (US National Archives, R.G. 26; R.G. 37, 1132 77040). This islet is undoubtedly the present day East Island, judging by the description and of its position as northeast by east 1/2 east from the rock.

The first hydrographic survey outside the reef of French Frigate Shoals was conducted from the USS *Rainbow*, commanded by LCDR F. J. Horne, during August and November 1914. The original survey map (Figure 7) is filed in the Cartographic Division of the US National Archives, Washington, DC (Record Group 37). The map, first printed in June 1915, is considered to be the first modern map of French Frigate Shoals.

The *Rainbow* sighted French Frigate Shoals shortly after noon on 25 August 1914; at 1420 she anchored 0.6 miles east of the islet (Log of the USS *Rainbow* 1914, US National Archives, R.G. 37). On the 26th parties landed on a sandspit, called by them "East,"¹⁶ to establish a campsite for taking tidal observations and for setting up a triangulation station; 10 mariners remained at this camp during most of the survey. On 9 September, the *Thetis* made a brief stop, bringing six bags of mail for the *Rainbow* (*Thetis* report for 1914, US National Archives, R.G. 26); the crew of the *Thetis* did not go ashore. The *Rainbow*'s survey continued until 30 September when she got underway for Honolulu, arriving 3 October. After obtaining additional supplies the *Rainbow* left Honolulu on the 8th, arriving back at French Frigate Shoals on the 10th. She continued to take soundings on the leeward side of the atoll. William Kerr, surgeon on the *Rainbow*, collected insects.¹⁷ On the 26th an entry in the *Rainbow*'s log notes that a native fishing launch was sighted at 1344. On the morning of 4 November all camp equipment was brought aboard and by 0723 the *Rainbow* was underway for Honolulu; she arrived there the morning of the 7th, her survey mission complete.

A letter (US National Archives, Modern Military History Division, R.G. 37, 1132-100666) dated 9 December 1914 from LCDR Horne to the Commanding Officers of the Hydrographic Office summarizes the *Rainbow*'s survey of French Frigate Shoals. It gives further information on the 12 sandspits: "East-west [the Log refers to this as just East], Bob, Cud, Dim, Rat,

16. In 1895, one island at French Frigate Shoals was referred to as Lehua Island, but it is not known which island was involved (*Pacific Commercial Adviser*, 19 July 1895, 8:2). This name, as far as is known was never used again.

17. Swezey (1915, 1920) reported two moths collected by Kerr from French Frigate Shoals; one was a new species.

Nun, Low, and Tom are more or less permanent though their shorelines are continually shifting; but Ark, Mod, Ink, and Pup are changing from day to day." The name "Hub" was given to the rock islet. These names, the first to be given to all the islands, were used as base stations in the triangulation survey, but were not listed on the ensuing map. The letter also states that "the larger sand spits have a growth of coarse grass and an edible root similar to a yam [probably the root of *Tribulus*, which is sometimes tuberous in appearance]. Brackish water may be found by digging a well in the sand. Turtles, birds, and fish are plentiful."

The *Thetis*, commanded by Jos. H. Brown, inspected the Hawaiian Bird Reservation in March and April 1915. W. H. Munter, the ship's First Lieutenant, subsequently filed a report on the trip (Munter, 1915). A landing was made on the largest islet at French Frigate Shoals on 20 March. This islet was covered with grass, vines, and low-growing plants and "supported a numerous bird population." Eight bird species were observed. Before leaving the islet on the 21st, the party captured a 200-pound turtle on the beach, as well as some fish. No signs of bird molestation were found. Later on Laysan, however, they discovered that feather hunters had been on the island within the last two-and-a-half months; from 150,000 to 200,000 birds, mainly albatross, were found dead.

In early December 1915, the Secretary of Agriculture requested the Secretary of Treasury again to send the *Thetis* on an inspection cruise of the Hawaiian Bird Reservation (US National Archives, R.G. 26). The *Thetis* made such a trip from 24 January to 13 February 1916. Both Captain J. H. Brown, USCG, and LT W. H. Munter, USCG, of the *Thetis*, filed a report of the trip (US Archives, R.G. 26). French Frigate Shoals was visited on 28 January; at 0930 the ship anchored off the main islet. In going ashore, the party took soundings at the lagoon entrance south of the islet. The least depth found was three fathoms. Inside the lagoon they found an area with sand bottom, 6 to 10 fathoms deep, which could provide protected anchorage for a vessel the size of the *Thetis*. Ten species of birds were recorded. Munter noted "a great many more albatross... were nesting this season than last year. No doubt this is primarily due to the fact that the birds had not been disturbed by man, whereas last season a Survey party was on the island a part of the time. There were no indications of anyone having landed on this island since the last visit by the *Thetis*." The ship left the shoals at 1600.

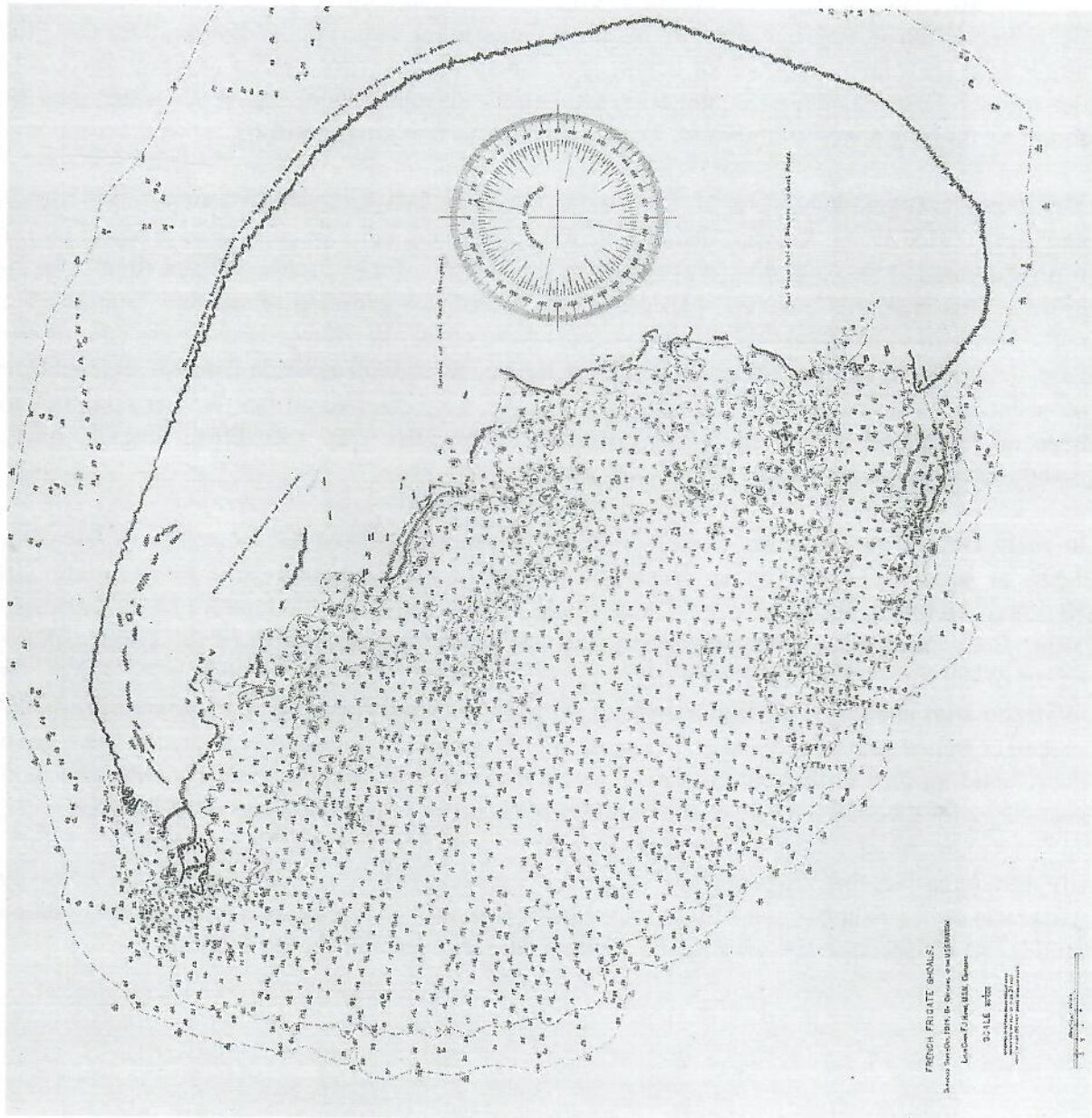


Figure 7. Original 1914 survey map of French Frigate Shoals surveyed by the officers of the USS *Rainbow* (US Nat. Archives, RG 37).

CHAPTER 4

POST WORLD WAR I

More Shipwrecks

The headlines of the *Honolulu Star Bulletin* on 30 October 1917 read “Hawaiian Party Rescues Shipwrecked Crew; Reaches Isolated Shoal As Schooner, Afire, Pounds to Pieces.” This heading told the story in a nutshell; the article that followed told in detail the near-tragic events that took place at French Frigate Shoals on 25-26 October 1917.

At 2100 on a full moonlit night, the *Churchill*,¹⁷ a four-masted copra schooner bound from Nukualafa, Tonga Island, to Seattle, Washington, with 800 tons of copra, struck a large reef at French Frigate Shoals. The vessel seemed to come off after striking, but then went on the reef again where it pounded heavily all night. About midnight Captain Charles Granzow sent the only boat (the others had been smashed), with Chief Officer Henry Anderson, four seamen, the Captain’s sons, Carl 7 and Loftus 15, with stores and instructions to head for the rock which was visible some five miles away. They were to land, leave the stores and the two boys, and return for the Captain and the other four crew members. When they did not return by morning, Captain Granzow climbed into the rigging; the boat and its seven occupants were nowhere visible.

The same night the sampan *Makiawa*, on a fishing trip to Laysan, also found itself among the dangerous breakers off French Frigate Shoals. The sampan had to pick a perilous course through the shoals into deep water. The sampan sighted the *Churchill* 15 miles distant, but could not tell the condition of the vessel at that distance.

17. The *Churchill* was owned by Charles Nelson and Company of San Francisco and was valued at between \$75,000 and \$125,000.

When the *Makiawa* came within hailing distance, the schooner ran up the American flag. The Captain reported that the vessel was filling with water and going to pieces and asked that the sampan hurry to his rescue. The *Makiawa* anchored 200 yards to the leeward of the schooner. Three trips were made by the ship's boat to take off Captain Granzow and the four crewmen, as well as instruments and some of the men's personal effects. As the sampan moved away to begin search for the missing boat, the schooner suddenly seemed to catch fire, probably from spontaneous combustion, and was burning as the party left.

In their search for the small boat, the *Makiawa* visited every sandspit in the extensive shoal area but found no evidence of the boat or the men. On the chance that the boat had been carried downwind, the sampan cruised westward. At 1440, one of the crew gave the cry "Small boat ahead!" and they saw tossing about in the rough water, the ship's boat with seven aboard, rowing feebly upwind. The sampan came alongside and took the men, as well as the small boat, aboard with great difficulty in the rough sea.

The men reported that they had attempted to land on the rock during the night and found it impossible. They thought they saw land to the west and started in that direction but were overtaken by a rain squall and carried downwind; at daybreak the rock was 10 miles away. They had been trying ever since to row back and were exhausted. They had been hampered by sharks, including tiger sharks, surrounding the boat. These had become so bold that they had to beat them off with the oars. The seven year old nearly lost his arm when a shark snapped at his arm hanging over the rail.

With all the *Churchill's* crew safely aboard, the *Makiawa* took a course for Honolulu, but their problems were not yet over. In the 64-foot sampan the 19 persons were badly crowded and were continually wet. The seas were rough and a strong northeast wind carried the vessel 90 miles south of its course; the crew worked night and day. After four days of straight running, the *Makiawa* finally arrived at Honolulu's "Fisherman's Wharf."

LT F. E. Ferris, H. L. Tucker¹⁸, and seven others, aboard the motor vessel *J. A. Cummins*, left Honolulu on 2 November 1917 to salvage whatever possible from the wreck of the *Churchill*. Sighting the shoals at 0800 on the 6th, the ship passed the southwest tip at 1015, and at 1315 anchor was dropped in 10 fathoms near the scene of the wreck, of which no sign was visible. The ship soon moved within 300 yards of a sandspit and anchored in a small bight southwest of the island. Upon going ashore the crew found scattered remains of the *Churchill*. The ship was completely broken up, undoubtedly as the result of the severe storm. At least 12 bags of

18. LT Ferris and Tucker were in the fishing party aboard the *Makiawa* which had rescued the crew of the *Churchill*.

wet and sand-covered copra were salvaged. Because of strong winds, the ship stayed in the lee of the island. At 0700 on the 9th, with the wind calm, the *J. A. Cummins* left French Frigate Shoals. It returned to Honolulu on the 14th. While at the shoals many birds were seen, but only two species were named (Tucker, 1917).

In August and September 1918 the USS *Hermes*, commanded by LT J. T. Diggs, USN, sailed on an inspection cruise to the Northwestern Hawaiian Islands (US Nat. Archives, R.G. 45). At 1530 on 4 September La Perouse Pinnacle was sighted; anchor was dropped at 1745, some 500 feet off a sandy island, probably East Island. This island, about six feet high, was covered with patches of grass. Eight to ten thousand Wedge-tailed Shearwaters¹⁹ were nesting on single eggs in burrows under the grass. Another species, probably Bulwer's Petrel or Christmas Shearwater²⁰, had nests under rubble and boards which contained black woolly young. A 200-pound turtle was captured on the beach. Three islands about five miles to the southeast were visited and a landing was made on the largest. Here a colony of approximately 500 "Hawaiian Terns" (probably Brown Noddies), with many eggs and young, and a number of dead "curlews with long legs" were observed. At 1140 on the 5th, the *Hermes* left for Gardner Pinnacles.

Maa (1962) states that on 24 September 1919 D. T. Fullaway collected a Hippoboscidae fly *Olfersia aenescens*, from French Frigate Shoals. Nothing is known as to how Fullaway got to the Shoals; perhaps he was along with Game Warden Wilder on one of his unrecorded visits.

After the Hawaiian Islands Reservations came into existence in February 1909 giving protection to animal life on the uninhabited northwestern islands, very few people visited French Frigate Shoals except those with official permission. Illegal landings, especially by fishermen, did occur, however, as was revealed in a letter from the Intelligence Officer, 14th Naval District, to the Navy Commandant, dated 19 August 1919 (US National Archives). The letter told of interviews with various people such as Henry E. Walker, a former sea captain and owner of several Japanese sampans, who said there was no doubt in his mind that the Japanese sampan fishermen from Hawaii frequently landed on French Frigate Shoals. Another individual, Eben P. Law, of the Oahu Shipping Company, revealed that in early 1918 he saw several large Japanese sampans in the neighborhood of French Frigate Shoals and Necker Island. G. P. Wilder, US Game Warden for Hawaii, however, had made inspection trips in 1918 and 1919 to the

19. Diggs believed these to be Sooty Tern, but from his description of their nests they could only be Wedge-tailed Shearwater.

20. Diggs called these curlews.

Northwestern Hawaiian Islands, including French Frigate Shoals, but he had no first-hand information on illegal landings.

Letters began to arrive at the offices of various public officials concerning permits to set up fishing stations on the various Northwestern Islands (US Nat. Archives, RG 48, corresp.). On 10 October 1917, A. L. Castle, Chairman of the Food Commission, received a letter from A. F. Cooke, President of the Hawaiian Fisheries, Ltd., asking permission for establishing and maintaining a fishing station at French Frigate Shoals or Necker. The letter revealed that this American company was acting as an agent for 40 or more Japanese sampans and fishing boats, and operated their fish market under the approval and inspection of the Honolulu government. Cooke's letter went unanswered, or was passed to other officials. On 6 February 1919, E. W. Nelson, Chief of the Bureau of Biological Survey, Washington, wrote to Game Warden Wilder telling him of Cooke's request. In a letter from Wilder to Nelson on 8 March 1920 it is learned that Wilder had, in October 1919, refused to let fishing companies use French Frigate Shoals, but had now changed his mind and was recommending it.

Other requests did not receive approval. In a letter to Franklin K. Lane, Secretary of Interior, 22 June 1918, J. H. Futerer of the Alexander Young Hotel, Honolulu, asked permission to establish a fishing cannery on French Frigate Shoals. Since "'Food production' is a very essential item at the present time [and] the writer would put forth every effort to get this proposition started at the earliest possible moment" (US National Archives, R.G. 48). In acknowledging his letter, S. G. Hopkins, Assistant Secretary of the Interior, wrote Futerer 12 July 1918 telling him of an earlier *Thetis* visit which found "a great many birds on the rock; some of them seeming to be nesting. The largest number were a species of white tern...though a few man-o-war birds were seen." Hopkins sent a copy of Futerer's letter on to the Secretary of Agriculture; the Chief of the Bureau of Biologically Survey answered Futerer's letter on 18 July. Explaining that if a fishing camp or other industry were built on any of the Hawaiian Island Reservation, it would jeopardize the existence of the birds and make the Reservation more subject to interference by outsiders. For these reasons, and because of World War I, the United States preferred not to have anyone located on the islands.

On 15 January 1919, J. K. Kalanianole of the Hawaiian House of Representatives wrote F. K. Lane, Secretary of Interior, asking about fishing rights at French Frigate Shoals. Assistant Secretary Hopkins again answered the letter and told Kalanianole about the existence of the bird refuge and suggested that he write to the Secretary of Agriculture. The request was denied.

Other requests concerning French Frigate Shoals came to Game Warden Wilder. One letter, dated 14 December 1921, from F. W. Watchman, asked for permission to set up a fishing station consisting of a number of houses for living and refrigeration and a small fleet of boats; a faster 60-foot boat would carry fish to Honolulu. This request was also denied.

Tanager Expedition

Early in 1923 a cooperative expedition was organized by the Biological Survey of the US Department of Agriculture and the Bishop Museum of Honolulu for a complete scientific exploration of the outlying Northwestern Hawaiian Islands. Arrangement was made with the US Navy for transportation and other assistance; it furnished the USS *Tanager*, a 1,000-ton mine sweeper, for the cruise. This was later to be known as the Tanager Expedition.

When the *Tanager* arrived at French Frigate Shoals on the morning of 22 June 1923, it steamed around the northern end of the atoll and into the lee, passing near the rock and continuing toward what was shown on the map as the main island. A boat was lowered and the field party went ashore at 1100. The scientific party consisted of Alexander Wetmore²¹ (the field director), H. S. Palmer, Edwin H. Bryan, Jr., Edward L. Caum, Erling Christophersen, C. S. Judd, David L. Thaanum, Chapman Grant, Bill Anderson, Eric L. Schlemmer, and George Higgs.

Wetmore's unpublished 1923 field notes present in detail a close look at each island in the atoll.

"We went over to....[the main island] and I was greatly disappointed to find it much smaller than is indicated on the charts. It is elongated, slightly curving in shape and according to an accurate map made by Judd [is] 1,890 feet long by 400 feet wide at the widest part. On the chart it is shown as over a mile long. The island has been much longer but has been cut away by storm." The party camped on this island, which they named East Island²² (Figures 8 and 9).

East Island "rises from 8 to 10 feet above sea level and supports seven species of plants. Vegetation is not continuous over the surface, but grows in mats with little gaps between. The

21. Alexander Wetmore later became Secretary of the Smithsonian. He retired in 1952 but remained at the Smithsonian as Honorary Research Associate; he died in 1978. He provided much first-hand information to the author of this book about his experiences at French Frigate Shoals.

22. Some in the party called this King Island.

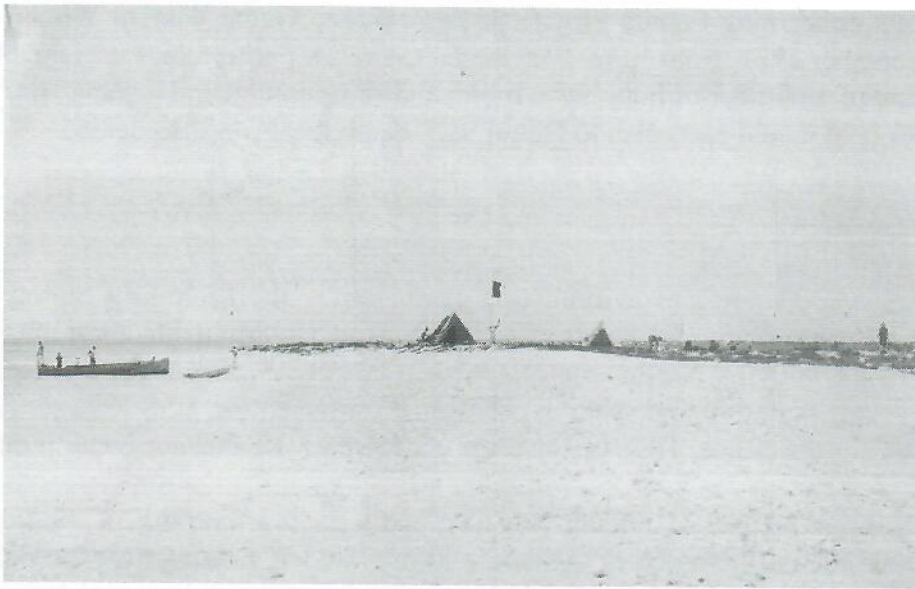


Figure 8. East Island, 22 June 1923; camp site at northwest beach. B. P. Bishop Museum photograph No. 9835 by C. Grant.

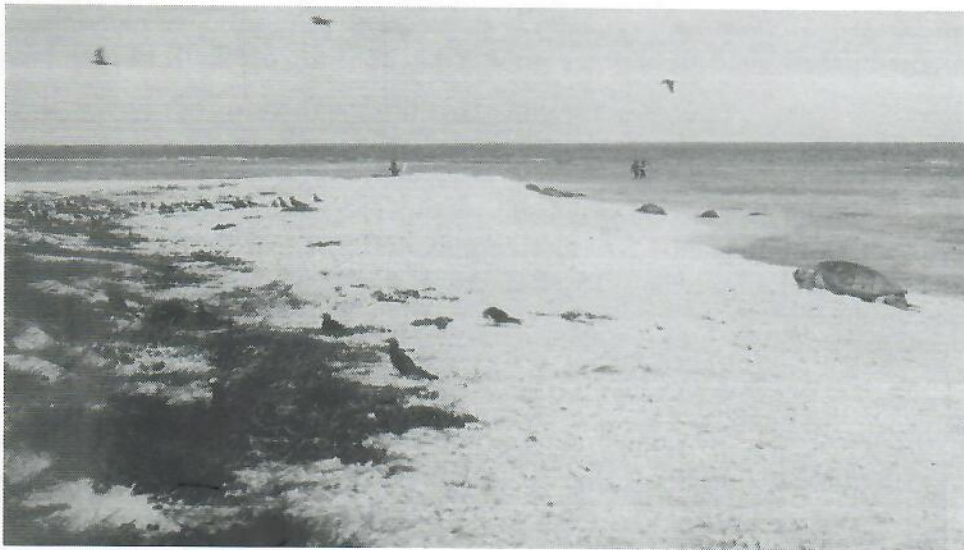


Figure 9. East Island, 22 June 1923; Tanager Expedition personnel collecting marine items off east point; Brown Noddies at left, green sea turtles on beach. B. P. Bishop Museum photograph No. 9811 by E. H. Bryan, Jr.

beach is narrow and rather steep. The surface of the land is coarse coral sand with many fragments of large shells. It is filled with shearwater holes....” In all, Wetmore recorded 14 bird species from the island.

As far as evidence of previous visits by man, Wetmore wrote “at one point there is remains of an old tripod of timbers and below it a three-inch iron pipe driven in the sand with a boxing of wood around it. Not far away are two portions of masonry of large fire-bricks held together in two blocks three feet square by 6 feet long. The bricks are old style flat bricks and the masonry is apparently ancient. The two masses now lie on the beach. The use of these is problematical.”

From East Island the field party “visited a small sand spit a short distance [to the] east...but found it an elongate island 60 yards long by 10 yards wide, merely a ridge of sand rising 5 feet above the water and evidently swept [by wave action]. We continued from here northeast nearly to the end of the reef and turned back and ran across to another sand spit²³ 100 yards long by 30 or 40 feet wide. This was also bare of vegetation being simply a ridge of coarse shell and coral. A short distance beyond was a circular island²⁴ 100 yards in diameter rising 8 to 10 feet above the sea. The higher portion was covered with plants of four species. There was the boom from the mast of an old schooner here and evidence of a camp years ago.” Four bird species were recorded. “There are many coral heads just awash in the lagoon here and shoal patches all through [the area]. On the average the water here ran from 4 to 6 fathoms.”

On the 24th the field party visited two sand islands in the eastern part of the lagoon. “The first and most northern of these was a curving sand spit, 1/3 of a mile long and from five to 150 feet wide.” This sand spit was named Gin Island “from fond memories recalled by an empty Gordon gin bottle that we found cast up by the waves. At the widest point there was a small area 19 feet above sea level and here were a few scattered plants. There was no other vegetation on the island. From this wider point a long curving spit ran out to the north. The beach was of coarse shell and corals. Very few shells were found.” Turtles, as well as one nesting bird species, were recorded.

“Little Gin Island, which lay about 400 yards south, was approximately 300 yards long by 100 yards wide in its main part and 10 feet high at the highest point. A slight depression at the summit 50 yards across was grown [over] with... [three] plant [species] and was occupied by a

23. Later named Mullet Island.

24. Later named Round Island.

colony of birds. Toward the north a long and narrow sandbar extended for 25 yards. At one end of the island we found a nest of turtle eggs with developing embryos." Wetmore recorded four species of birds (Figure 10).

On the 24th, the camp on East Island was broken and the field party travelled "through the lagoon to Round Island and then on to two small islands to the westward. We examined these in passing and then turned down to the largest of the western islands. The lagoon on the average in this western part ran from 3 to 5 fathoms, but was broken by many coral reefs and heads over which there was often 6 or 8 feet of water and which in some cases nearly awash. The water was calm with only a slight ripple on its surface."

At the western island we had some difficulty in getting through a small offshore reef and finally went aground on sandy bottom at the northern end of the island." They named this Tern Island, because of the numerous nesting Sooty Terns (Figure 11). "Camp was located on a stretch of fine coral sand adjoining the vegetation on the southern end of the island.... The island is about 600 yards long by 150 yards wide. The eastern half is a long curving sandspit, from 6 to 8 feet above the sea, which is swept in time of storm. The western half which is the site of the bird colonies is from 10 to 12 feet above the sea and has a soil of fine coral sand on which grows grass, *Boerhavia*, *Portulaca* and *Tribulus*." Six bird species were recorded by Wetmore. Of these six, "the Sooty Tern occupy the entire eastern [portion] of this section and the shearwater are found in an area of loose soil near the center. The noddies nest at the west end and on the borders of the Sooty Tern colony."

The presence of man was also noted on Tern Island by Wetmore. "At one end of the island we discovered a cache in which a hammer, saw, nails, ships compass and other similar articles were wrapped in a sail and thrust under a log. Nearby were stakes and other refuse from a camp evidently of Japanese. Apparently the... [crew] of some wrecked sampan had lived here for a time and had been taken off perhaps 18 months ago. The time that had elapsed since the camp had been abandoned was indicated by the condition of the canvas, etc."

On the afternoon of 25 June the *Tanager* scientists "visited a little sand spit a mile and a half toward the northwest, the most distant land in this direction. The island, which we called Shark Island, was of curving form, narrow, [and] 200 yards long by 15 yards wide at the widest point. It supports no vegetation and the only birds on it were a few noddies and Hawaiian terns resting here for an hour or so and a Frigatebird or two."

On the 26th the field party visited several islands east of Tern Island. "Our first call was at an island, 2 miles east of camp, called Trig Island (Figure 12). This island was 225 yards long by



Figure 10. Little Gin Island, June 1923; flora and fauna. B. P. Bishop Museum photograph No. 9861 by E. L. Caum.



Figure 11. Tern Island, June 1923; its name came from the thousands of nesting Sooty Terns. B. P. Bishop Museum photograph No. 9828 by H. S. Palmer.



Figure 12. Trig Island, 26 June 1923; Tanager Expedition personnel surveying; Alexander Wetmore expedition leader on right; La Perouse Pinnacle in background. B. P. Bishop Museum photograph No. 9816 by E. H. Bryan, Jr.

125 yards wide and was nearly circular in form. It rose 8 to 19 feet above the water and had the summit covered with a fair growth of grass, *Portulaca* and *Boerhavia*. On the western end...I found from 1,000 to 1,500 dead Sooty Tern, all young birds still unable to fly. The carcasses were old, apparently those of last year's birds. They lay in little piles in slight hollows at extreme high water mark as though they had been washed in here by a heavy storm. I believed that Tern Island had been swept on its low eastern end by a heavy gale and the young tern from the colony drowned and washed ashore here." Wetmore recorded six bird species and saw signs of turtle on the beach.

"From this point we continued east and north to two small islands near the outer reef. These two were separated by a channel 150 yards wide but are probably joined²⁵ at times by the shifting sands as the water was not deep."

25. Aerial photographs taken by Kenyon and Rice in December 1957 show a low sandy connection between these two islands. The sand steadily increased and by 1963 the sand connection was no longer discernible; vegetation covered the entire area making one island.

“The first of these, named Whale Island, was 200 yards long by 100 yards wide and rose 8 to 10 feet above sea level. Its surface was of coarse coral with scant vegetation of grass, *Portulaca*, *Boerhavia* and *Tribulus*. Humus was slight and plants low and scattered. Remains of a number of large turtles lay scattered about...” Wetmore recorded nine bird species.

“I crossed to the next island called Whale Island²⁶ in the skiff. It proved to be somewhat curved in form 400 yards long by 125 yards wide and rose 10 to 12 feet above the sea. It appeared to be the oldest island in the entire group and had the upper surface covered with fine gray soil. Plant life was more abundant here and consisted of *Chenopodium*, *Portulaca*, *Tribulus*, grass and *Boerhavia*. In general conditions suggested those found on King [East] Island but there was less sand mixed with soil. Some flat blocks of coral rock had been built into a fireplace about which were turtle bones. On the highest portion...I found remains of a shed apparently of Japanese construction. It had fallen over and was evidently ten or twelve years old if not more.” Wetmore found nine bird species on Whale Island.

On the 27th, the party visited the “rock called La Perouse Rock... [which] is about 150 feet high by 150 yards long. A smaller rock 75 by 25 feet [and] 15 feet high lies 75 yards west of it. There are rock shelves on both north and south sides of the main islet. We landed...on the south side with difficulty. The rock was volcanic coriaceous in nature, black in color. In places it was encrusted with mineral matter, yellowish or whitish in color washed down from the guano above that at times formed small stalactites. Sloping shelves gave access to the lower portion but the top was inaccessible because of the loose nature of the rock. The island can be scaled on the western end but we busied ourselves with collecting and did not attempt it. The rock rises in two rounded points with a saddle between. It is only about 150 feet wide at the widest point. The summit is white with the excrement of birds.” Twelve bird species were noted by Wetmore.

As the scientists left French Frigate Shoals on the 28th, the *Tanager* steamed around the southeast portion of the atoll. As they passed the southeast tip an island was sighted which was named “Disappearing Island...as it alternately appeared and disappeared amid walls of rain. It was apparently a bare sand spit 300 yards long with no indication of vegetation.”

The scientific collections made by the Tanager Expedition were extensive and added a wealth of information on the ecology of the Northwestern Hawaiian Islands. A popular account of the field work was published in 1925 in the *National Geographic* magazine by Alexander Wetmore. The same year, Fowler and Ball published a paper on the insects of Hawaii, Johnston,

26. So named because the skeleton of a small whale was cast up on the beach.

and Wake as a result of the trip. Christophersen and Caum published on the vascular plants of the Northwestern Hawaiians in 1931.

CHAPTER 5

*MILITARY INTERESTS***US Navy Visits**

In late April 1924 the USS *Pelican*, commanded by LT Doile Greenwell, with Federal Game Warden Gerritt Wilder aboard, left Pearl Harbor for an inspection trip of the Northwestern Hawaiian Islands (US National Archives, USS *Pelican* log for 1924, R.G. 24, LLL5). French Frigate Shoals was visited on 8 May between 0430 and 1838. During that time one of the ship's two seaplanes was put overboard. The plane made a photographic reconnaissance while small boats also surveyed the area.

On 16 May 1924 John Rodgers, Commanding Officer, US Naval Air Station, Pearl Harbor, sent the Commander, 14th Naval District, a report of the annual inspection of the Midway Naval Reservation and the US Bird Reservation (US National Archives, Modern Military History, R.G. 37, 1132-291707). The report stated that French Frigate Shoals was "suitable for operation of seaplanes, but not land planes. The best point at which to land and beach seaplanes [is on the] North side of the Main islet [East Island?]." It noted that French Frigate Shoals is the only island except Midway "having a protected harbor within the reef which can be entered by ships of light draft. It is believed that this harbor is protected from the sea in all weather... [and] also has an extensive shelf in the prevailing lee of the reef which can be used as an anchorage and drill ground for the fleet."

The report concluded, "French Frigate Shoals is suitable for a drill ground in peace, and may be useful as an anchorage or a fueling station for seaplanes. It constitutes a danger, in that it would make an excellent site for an enemy rendezvous and fueling station."

On 4 and 5 March 1928 Dr. Victor Pietschmann, Curator of Fishes, Museum of Natural History, Vienna, Austria, paid a scientific visit to French Frigate Shoals. He was on a five week

cruise up the Northwestern Hawaiian Chain aboard the fishing schooner *Lanikai*, commanded by Captain William G. Anderson. Pietschmann collected 11 fish species (Pietschmann, 1938), 14 mollusc species (Schilder, 1933), and 5 polychaete species (Holly, 1935) from the lagoon off Tern and East Islands.

The US Coast and Geodetic Survey conducted another complete hydrographic and topographic survey of French Frigate Shoals in 1928; the current charts Nos. 2922, 4171, 4172 were drawn from the combined 1914 and 1928 survey data. The US Coast and Geodetic Survey Steamer *Guide*, commanded by LCDR Thomas J. Maher, arrived at French Frigate Shoals shortly after 1900 on 11 May 1928 (Log of the USC&HSS *Guide* for 1928, US National Archives, R.G. 27). At 1540 the next day a whaleboat carried LCDR Maher, four other officers, 16 men, and supplies to East Island to set up Astronomic and Gravity Stations. The supplies consisted of: 3 tents, 4 cots, food for 1 week, and 50 gallons of water. On the 15th a triangulation signal was built atop La Perouse Pinnacle.²⁵ On 19 May the *Guide* left French Frigate Shoals for Honolulu.

On the 21st of June, the command of the *Guide* was transferred to LT K. T. Adams. The *Guide* returned to French Frigate Shoals on 5 July and remained there until the 23rd. Two additional 1928 visits were made by the *Guide*, one from 3 to 21 August and the other from 8 to 29 September. A total of 69 days were spent at French Frigate Shoals during the 1928 survey.

After completion of the *Guide's* survey, LT Adams filed a Special Report on French Frigate Shoals dated October 1928 to the US Coast and Geodetic Survey, Washington, DC (US Coast and Geodetic Survey Archives, K. T. Adams file). In this report he discusses topography, hydrography, anchorages, approach to the shoals, formation, magnetics, currents, triangulation, and weather. On the subject of topography he noted that besides La Perouse Pinnacle, the high, rugged islet, there were eight other islets or groups of islets which were more or less permanent but whose outline was constantly changing, as well as spots of sand which would appear above high water, at various places and times, only to disappear. The hydrographic aims of the survey were "first, to develop an anchorage and a complete survey of the approaches thereto; second, to attempt to develop an anchorage completely protected from all weather; third, to survey the area surrounding the shoals to prove the absence of other dangers and to supplement the deepsea work done in the open ocean area."

To accomplish the first hydrographic objective, the *Guide* had made a complete survey inside the crescent of the shoals, supplemented by smallboat work near the shoal areas. The

25. This signal, or portion of it, could still be seen in June 1968, 40 years later (Amerson, 1969).

approach to the anchorage at East Island was closely surveyed; particular care was taken in surveying west of both crescent horns.

Accomplishment of the second objective was difficult, for a considerable area inside the shoals had to be surveyed using small boats; no one could tell in advance where an anchorage or anchorage entrance could be found. The area inside the shoals was so foul that Adams stated "it is my opinion that no anchorage should be recommended here for vessels who are not willing to pick their own way through the shoals." He added that "by building enough beacons a route could be laid out... which could be said to be safe. As it now remains, any route is so narrow and tortuous...it would be folly to attempt an entrance by courses."

The third objective was accomplished with ease. The outer reef was completely surveyed to the 1,000-fathom mark, except in the eastern and northwestern areas where depths of 250 to 400 fathoms extended beyond local limits.

The *Guide* gave positions of 25 survey stations used in the triangulation survey. Survey markers were placed at 16 of these survey stations and descriptions of each made (US National Archives, Modern Military History Division, R.G. 37, QH78/4 1-18 #305598). The names used for the various islands were the same as those adopted in 1923 by the *Tanager* Expedition.

The original field charts made by the *Guide* can be found in the US Coast and Geodetic Survey vaults located in the Department of Commerce, Washington DC. Three main charts exist:

1. Chart Number 4367a, of Little Gin and Disappearing Islands, surveyed by V. M. Gibbons, 11 September 1928, scale: 1:20,000.
2. Chart Number 4367b, of La Perouse Pinnacle, East, Round, Gin, and Bare Islands, surveyed by F. B. Guinn, 11, 12, 19 July and 6 August 1928, scale: 1:10,000.
3. Chart Number 4367c, of Whale, Trig, Tern, and Shark Islands, surveyed by V. M. Gibbons, 29, 30 August 1928, scale: 1:20,000.

While the *Guide* was conducting its survey of French Frigate Shoals, correspondence took place concerning publication of the final chart. On 8 June 1928—prior to the *Guide*'s first return to Honolulu—J. H. Peters, Officer in Charge, US Coast and Geodetic Survey, Honolulu Field Station, wrote a letter to the Commandant, US Naval Station, Pearl Harbor, in which he pointed out "that French Frigate Shoals might be an important point in case a war between this nation and some power to the westward which would require troop movements in that direc-

tion. Preliminary descriptions indicate a long area suitable for anchorage of large vessels and which would be protected from prevailing winds as well as many smaller vessels such as submarines or destroyers and which would be protected from all winds. There appears to be sufficient land area for the construction of a landing field and any amount of shallow quiet water for the use of "seaplanes." Peters noted that, since the atoll was of so little commercial value and of such great military potential, it would be wise for the Navy Department to request the Commerce Department to keep the results of the survey confidential.

From a subsequent letter from R. S. Patton, Acting Director, US Coast and Geodetic Survey, to the Hydrographer, US Hydrographic Office, dated 14 July 1928 (US National Archives, Modern Military History Division, GH 78/41-18 (95026), the Secretary of the Navy requested the Secretary of Commerce to treat the chart of French Frigate Shoals as confidential. Patton pointed out that no chart had yet been constructed and that a large-scale chart would not be published without first consulting the Navy Hydrographic Office. The French Frigate Shoals survey was, however, "being performed for the purpose of safeguarding trans-Pacific commerce... [and] navigation."

In late April 1930 the US Coast and Geodetic Survey Steamer *Pioneer*, commanded by O. W. Swainson, left Honolulu to take sounding and place buoys at Brooks Shoal, just west of French Frigate Shoals (US National Archives, Log of the USC&GCC *Pioneer* for 1930, R.G. 27). On the morning of 1 May 1930, the *Pioneer* sighted La Perouse Pinnacle; at 1013 she anchored two miles east of La Perouse. For the next five days, the *Pioneer* worked French Frigate Shoals and anchored there at night. Landing parties examined the islands for the survey markers left by the 1928 survey; they recovered four markers and noted that one was lost.

In the early part of 1931, the USS Coast Guard Cutter *Itasca*, commanded by J. Pine, visited French Frigate Shoals while on an inspection trip to the Bird Refuge (US National Archives, R.G. 26). On 9 February the *Itasca* anchored northwest of La Perouse Pinnacle at 1435; two boats were sent to examine East Island. The boats were unable to land until dark, and at 2005 returned to the ship. The next morning the ship shifted its anchorage and moved to within one mile southwest of East Island. Three boats were sent ashore to observe conditions; at 1740 all boats returned, having found no indications of recent landings on the islands nor of any birds being disturbed. The *Itasca* left French Frigate Shoals late on the 10th.

At 1822 on 22 June the USS *Quail* (AM15), commanded by LT John J. Patterson, anchored at French Frigate Shoals on an aerial reconnaissance mission. Shortly after noon on the 23rd, the ship's seaplane was launched in the calm waters near East Island. At 1255 the plane took off to photograph the islands within the sprawling atoll; the plane was hoisted back aboard at 1604. The next day it was up again, and on the 25th the ship departed for Pearl Harbor. The resulting photographs (Figures 13 to 19) were the second set of aerial photographs to be taken of the shoals (US Nat. Archives, RG 24, Log of USS *Quail* for 1932).

The June photographic mission paved the way for a coordinated plane-ship exercise by the US Navy in August 1932. This exercise was to produce one of the first long-distance flights by US Navy planes in the Central Pacific. It began on the morning of 15 August when the *Quail* and the USS *Oglala* (CM4), commanded by CMDR W. T. Mallison, left Pearl Harbor for French Frigate Shoals. Both anchored at the Shoals on the morning of the 17th.

Early the next morning, three planes of VP Squadron 1 and three planes of VP Squadron 4 left Pearl Harbor for the 540-mile flight to French Frigate Shoals. They passed over the USS *Gamble* (DM 15) just west of Oahu, the island of Kauai, the USS *Montgomery* (DM 17) at its Plane Guard Station south of Nihoa Island, the USS *Breese* (DM18) 25 miles south of Necker, and the *Oglala* on station 25 miles east of the Shoals; each ship produced black smoke as the planes neared so that it could be easily sighted. The planes arrived at French Frigate Shoals about 1300 and were refueled by the *Quail* and moored off East Island. The *Oglala* returned by 1648.

On the morning of the 19th, the *Breese*, commanded by LCDR Seabury Cook, arrived and lay to at 0745. A recreation party left the ship by small boat and probably visited one or more of the islands in the atoll. At 1705, shortly after picking up the ship's boat, the *Breese* returned to its Plane Guard Station south of Necker.

At 0600 on the 20th, the aviation personnel left the *Oglala* and returned to their planes; the *Oglala* departed for Pearl Harbor at 0626. Thirty-three minutes later the six planes took off from the lagoon and headed east. They passed over the *Breese* at 0809 and the *Montgomery*, still at Nihoa, at 1008. They all arrived safely at Pearl Harbor later in the morning.

The *Quail* left French Frigate Shoals at 1216 on the 20th and arrived back at Pearl Harbor on the afternoon of the 22nd. The other ships involved in this exercise had already returned (US National Archives, Logs of USS *Quail*, *Oglala*, *Breese*, *Gamble*, and *Montgomery* for 1932, R.G. 24).

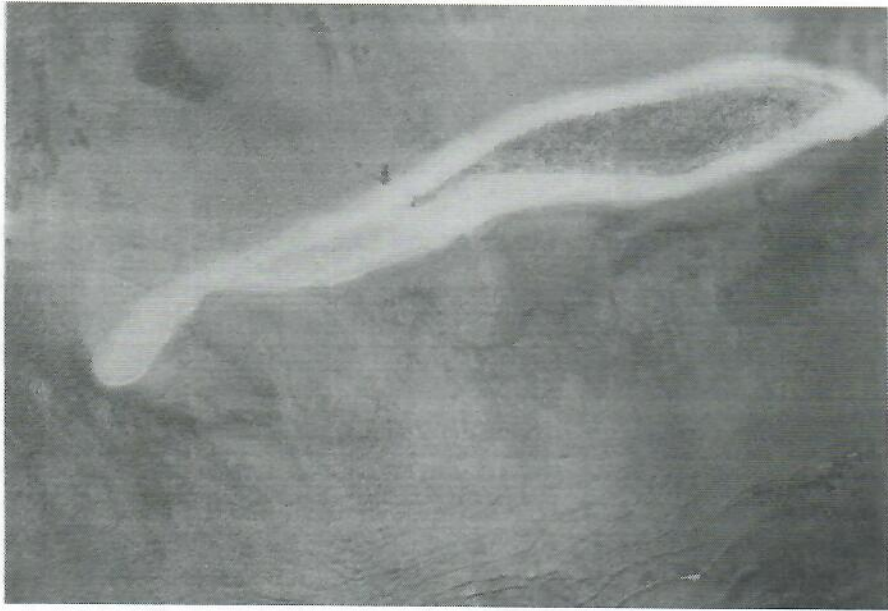


Figure 13. Tern Island, aerial view, 24 June 1932. Official US Navy photograph 80-CF-79793-1 in US National Archives.

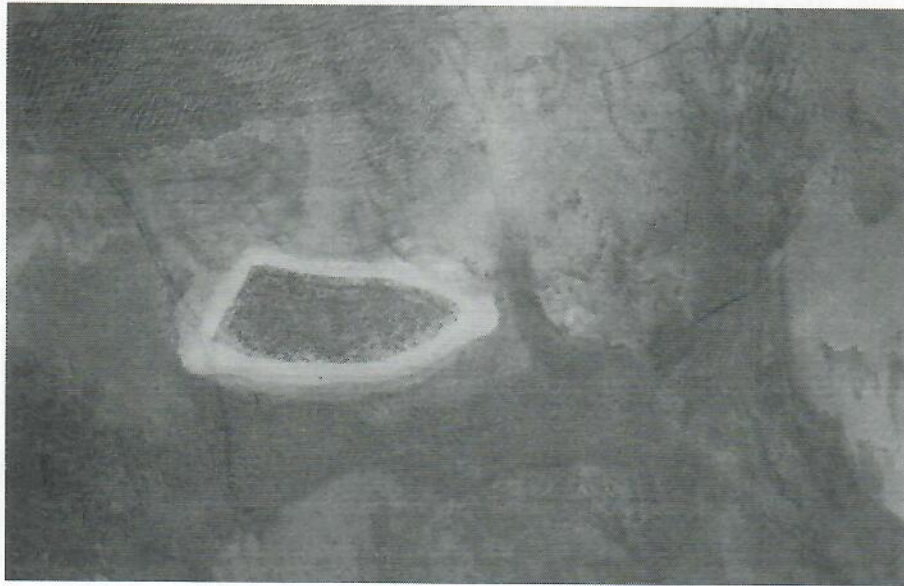


Figure 14. Trig Island, aerial view, 24 June 1932. Official US Navy photograph 80-CF-79793-5 in US National Archives.



Figure 15. Skate and Whale Islands, aerial view, 24 June 1932. Official US Navy Photograph 80-CF-79793-6 in US National Archives.

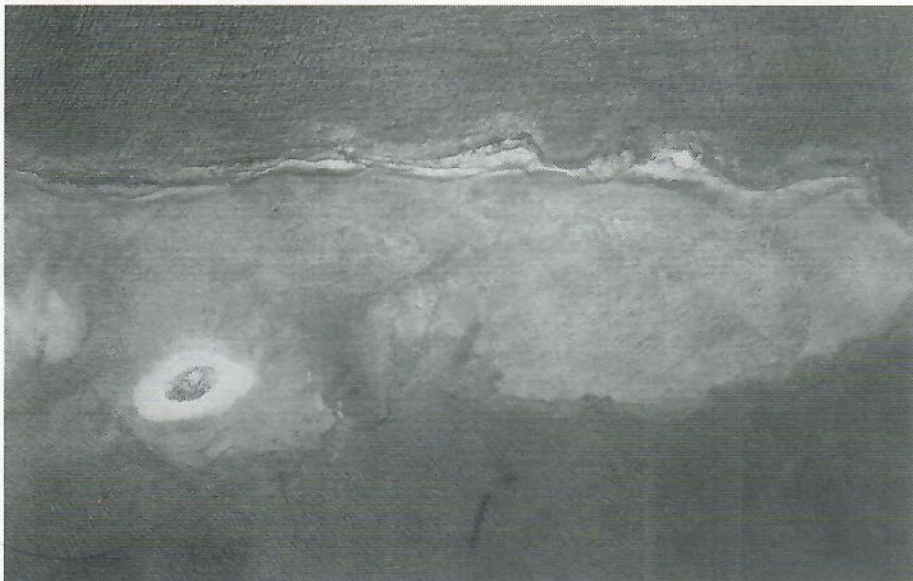


Figure 16. Round Island with vegetation, aerial view, 24 June 1932. Official US Navy photograph 80-CF-79793-2 in US National Archives,

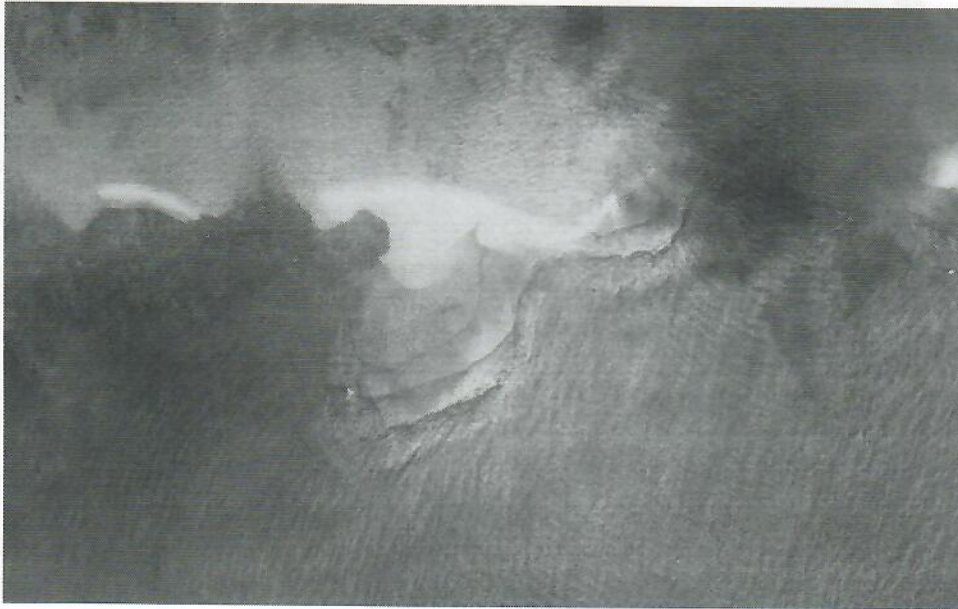


Figure 17. Aerial view of Gin Island (center) with tip of Little Gin Island on right and unnamed sandbar on left. Official US Navy photograph 80-CF-79793-3 in US National Archives.

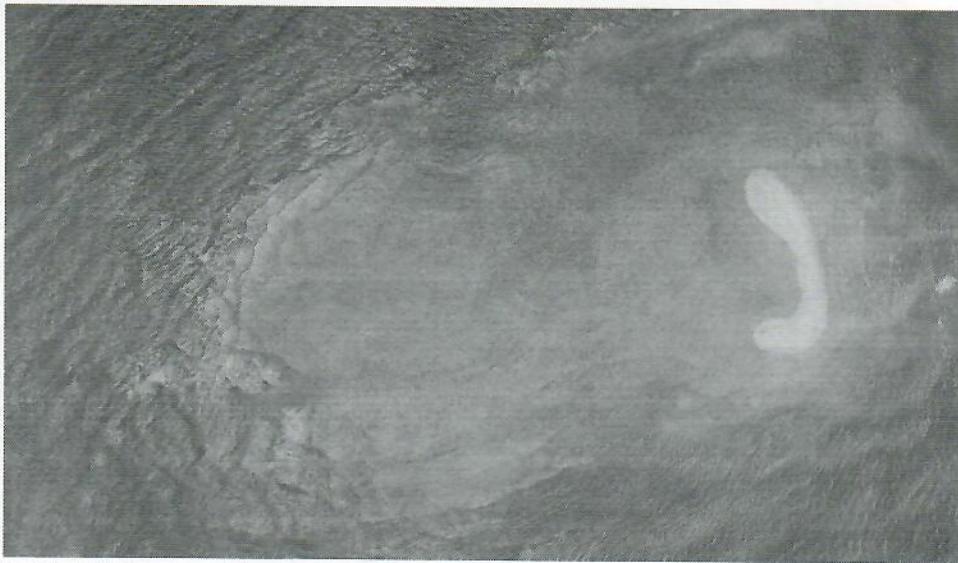


Figure 18. Shark Island, aerial view, 24 June 1923. Official US Navy photograph 80-CF-79793-7 in US National Archives.



Figure 19. Disappearing Island, aerial view, 24 June 1923. Official US Navy photograph 80-CF-79793-4 in US National Archives.

In April 1933 a larger naval air maneuver took place. Battle Force Operation Plan No. 3-33 of 8 April 1933 involved seven ships and 30 seaplanes from Pearl Harbor Naval Station (Figure 20).

The USS *Avocet* (AM 19), LCDR F. S. Conner commanding, left Pearl Harbor on 15 April and proceeded northwest (US National Archives, Log of the USS *Avocet* for 1933, Modern Military History Division, R.G. 24). It sighted La Perouse Pinnacle at 0650 on the 17th; by 0925 it had anchored just south of East Island. On arrival the crew probably set up seaplane moorings in the lagoon. On the 19th the *Avocet* headed southeast to its assigned Plane Guard Station. Leaving Pearl Harbor the same day as the *Avocet*, the *Oglala* arrived at French Frigate Shoals at 0747 on the 19th (US National Archives, Log of the USS *Oglala*, Modern Military History Division, R.G. 24).

On the same day the USS *Ramsey* (DM 124), commanded by LCDR S. H. Gambril, reached the vicinity of Necker, its assigned Plane Guard Station, and the *Gamble*, LCDR J. M. Miller commanding, and the *Quail* reached Nihoa and their stations. The *Pelican* (AM 27), commanded by LT R. S. Salvin, and the *Montgomery* were at Johnston Atoll (US National



Figure 20. Air maneuvers at East Island 28 April 1933; seaplanes are from the Pearl Harbor Naval Air Station. Official US Navy photograph 80-G-464784 in US National Archives.

Archives, Logs of the USS *Ramsey*, *Gamble*, *Quail*, *Montgomery*, and *Pelican* for 1933, Modern Military History Division, R.G. 24).

Back at Pearl Harbor, 30 seaplanes were being made ready for a journey that would take them to French Frigate Shoals, 540 miles to the northwest, and thence to Johnston Atoll, 460 miles southwest; they would return by the same route (US National Archives, Modern Military History Division, R.G. 24, QU 78/41-18, 305598). At 0700 on 19 April seaplanes began departing Pearl Harbor. At Nihoa, a conspicuous landmark itself, the *Quail* began pouring forth heavy black smoke as a navigational aid to the approaching aircraft. At 0924 the ship sighted the first planes; by 0930 all 30 passed over the ship and the smoke was stopped. The same procedure occurred as the planes neared and passed over the *Gamble*, the *Ramsey*, and the *Avocet*. The planes began arriving at French Frigate Shoals at 1244, having encountered no problems.

After arriving, each plane tied up to a mooring—a spherical kapok-padded steel buoy held in place with a 500-pound anchor and a 75-pound shot of chain—in the middle of a 12-fathom wire hawser. The anchorage area, located just north and northeast of East Island, was well protected, even though at times the wind reached 35 knots and veered from northeast to southeast. The pilots lived in tents set up on East Island.

Soon after the planes passed overhead, the *Quail* and *Gamble* headed south toward Johnston Atoll. The *Avocet* and *Ramsey* both headed for French Frigate Shoals, anchoring, respectively, at 1659 and 1857 on the 19th.

On the 21st all 30 planes made a 3-1/2 hour flight from French Frigate Shoals, beyond and around Gardner Pinnacles, a distance of 60 miles. The *Avocet* and *Ramsey* again were used as Plane Guard Stations on the maneuver. Among exercises the planes conducted was a coordinated simulated high bombing attack on the *Ramsey*.

At 0700 on the 22nd the planes began departing French Frigate Shoals; they flew over Plane Guard Stations manned by the *Avocet*, *Ramsey*, *Gamble*, *Quail*, and *Montgomery*, and began arriving at Johnston Atoll at 1223.

On the 25th of April the planes left Johnston Atoll beginning at 0700 to return to French Frigate Shoals, passing over the five ships on Guard Station. The first plane arrived at 1338. The *Ramsey* returned to French Frigate Shoals at 1248 on the 25th, the *Avocet* and the *Quail* on the 26th, and the *Pelican* arrived at 1715 on the 27th. The *Gamble* steamed for Nihoa and the *Montgomery* returned to Pearl Harbor.

On the 26th, the plane squadrons completed exercises at French Frigate Shoals on division tactics, rough-water landings, and takeoffs. By the evening of the 28th all assignments were finished. At 0700 on 29 April the planes began their final takeoff from the lagoon and headed southeast. All ships were at their Plane Guard Stations. The *Quail*, which had left French Frigate Shoals late on the 27th, was east of Nihoa. The *Gamble* was already at Nihoa, but having trouble. She had lost an anchor when a heavy swell had broken her anchor chain on the 28th; she was to lose another on the 29th. The *Ramsey*, having left French Frigate Shoals shortly after 1200 on the 28th, was at Necker. The *Oglala* left French Frigate at 0825, shortly after the last of the planes departed. All 30 planes arrived safely back at Pearl Harbor by 1537.

The *Pelican* and *Avocet* had remained at French Frigate Shoals. During the morning of the 29th they recovered all the seaplane moorings and removed camping equipment from East Island; they left for Pearl Harbor shortly after 1200. All ships returned by 2 May, thus com-

pleting a most successful mobile-base operation. It was to be a forerunner of many such operations in the years to come.

On 18 June 1934 the USS Coast Guard Cutter *Itasca*, commanded by J. S. Baylis, sailed from Honolulu to inspect islands northwest of the main Hawaiian Islands. At 1130 on 20 June she sighted La Perouse Pinnacle. Seeing no other ships in the vicinity she soon set a course for the further islands. On the return trip, La Perouse Pinnacle was sighted at 1045 on the 27th; the ship took various courses in the vicinity of the atoll. At 1304 the *Shinyo Maru*, X-79, of Honolulu, was observed engaged in fishing off the reef. The *Itasca* left French Frigate Shoals at 1354 (US National Archives, R.G. 26).

US Navy Annual Fleet Problem Exercises

The 1933 Naval air maneuvers at French Frigate Shoals were probably remembered by some Navy personnel at Pearl Harbor two years later when secret plans for Fleet Problem Sixteen were drawn up. The object of this operation, as had been the case since the inception of the Annual Fleet Problem in 1923, was to advance the training of the entire US Fleet. Conditions of war were to be simulated as nearly as practicable under peace-time training. The White Fleet, of which there was a Northern Force headed by Vice Admiral Hepburn, and a Western Force headed by Rear Admiral Hart, was to embark from the West Coast as an expeditionary force and advance to Midway Atoll (presumed enemy held) and seize as well as consolidate their hold on the island. The enemy forces represented by the Black Fleet, an almost all-submarine force commanded by Rear Admiral Cold, was to oppose the White Fleet (US National Archives, R.G. 80, A 16-3-5-xvi).

The White Fleet left California on 29 April 1935 with the Northern Force going to Midway via the Aleutian Islands and the Western Force going by way of Pearl Harbor. Phase Three, the maneuvers involving French Frigate Shoals, began with the Western Force leaving Pearl Harbor on 3 May.²⁶ On the morning of the 5th, three ships—the USS *Lark* (AMA 21) commanded by LT N. A. Chapin, the USS *Swan* (AM 34) commanded by LT W. D. Hoover, and the *Pelican*, commanded by LT F. L. Baker—left Pearl Harbor as a group. They sighted La Perouse Pinnacle at 0808 on the 7th and were all anchored by 1100. The next afternoon, the *Breese*, commanded by LCDR P. L. Meadows, passed within sight of La Perouse on her way to Midway from Pearl Harbor. At 0724 on the 9th the USS *Chester* (CA 27), commanded by Captain J. Wilcox, Jr., anchored near the other three vessels; it had left Pearl Harbor on the

26. There were five separate phases, each a different problem.

afternoon of the 7th (US National Archives, Logs of USS *Lark*, *Swan*, *Pelican*, *Breese*, and *Chester* for 1935, R.G. 24).

On the morning of 9 May 1935, the crews of the 48 patrol planes awaited their departure from the Pearl Harbor Naval Air Station. At 0635 they began leaving; three failed to take off because of mechanical failure. Thus, 45 planes of six different types commenced landing on the lagoon of French Frigate Shoals at approximately 1225 local time; by 1600 all had landed safely. During the afternoon, the *Chester* departed.

All planes were refueled on the 10th. As planned, the 45 planes started leaving French Frigate Shoals at 0525 on the 11th; they were to arrive at noon on Midway just ahead of the ships with their landing forces. The first plane squadron arrived and simulated an attack on Midway at 1150, followed by the other squadrons. Two mock air attacks, each made in four waves, occurred during the next 80 minutes. The planes landed in the lagoon as the Marines stormed ashore from the ships which had arrived at exactly noon. Twelve of the planes actually carried 500-pound, water-filled bombs.

On the morning of the 11th a fuel ship, the USS *Brazos* (AO 4) commanded by CMDR G. B. Keester, left Dutch Harbor, Alaska; her destination was French Frigate Shoals. The USS *Seagull* (AM 30), commanded by LT R. S. Bertschy, and USS *Widgeon* (ARS 1), commanded by LT H. J. Martin, left Pearl Harbor within minutes of each other on the afternoon of the 14th; they too were headed for French Frigate Shoals. The *Seagull* anchored between La Perouse Pinnacle and East Island mid-morning of the 18th; the *Widgeon* arrived early the next day. At 2209 on the 20th, the *Brazos* anchored. After refueling the two ships departed for Pearl Harbor late the next morning (US National Archives, Logs of USS *Brazos*, *Seagull*, and *Widgeon* for 1935, R.G. 24).

The *Widgeon* departed French Frigate Shoals at 1406 on the 23th for Pearl Harbor. At 1435, planes started arriving from Midway; by 2000, 28 planes had been secured for the night. The *Lark* anchored nearby that evening and began fueling the planes early the next morning. The planes began leaving at 0520; the last one left at 0852. All arrived safely at Pearl Harbor.

Although Fleet Problem Sixteen was not over until the ships arrived in California on 10 June, French Frigate Shoals' role was completed by 28 May. The Shoals had provided the needed lagoon landing area for the mass flight to and from Midway; this was the first such long-distance flight by that many planes. Also this was the first time any planes had flown that distance with bombs attached to their wings. The experience gained in this operation was of great benefit to naval aviation. Two serious air accidents occurred, however, and seven persons

were killed; this seriously disorganized Problem Sixteen and caused Navy officials to be more safety conscious during future planning (US National Archives, R.G. 80, A16-3-5-XVI; US Navy 1935; Grimes, ms).

During September 1935, another naval exercise (Figure 21) was held at French Frigate Shoals. On 14 September, the *Pelican* and *Swan* left Pearl Harbor, arriving at French Frigate Shoals on the 17th. They anchored shortly after 0900. Between 1300 and 1415 that same day, two VP squadrons (8F and 10F) of six planes landed. For the next 10 days the planes conducted training exercises in the vicinity of the Shoals. Between 0625 and 0635 on 27 September both VP squadrons departed French Frigate Shoals for Pearl Harbor; all arrived safely. Shortly after 0800 on the 27th the *Pelican* and *Swan* returned to their base at Pearl Harbor.



Figure 21. September 1935 Naval exercise East Island. Official US Navy photograph 80-CF-79793-10 in US National Archives.

On 4 November 1935 the *Avocet*, LT R. E. Jaspersen commanding, and the *Pelican*, LT Felix L. Baker commanding, departed Pearl Harbor for still another advance base operation at French Frigate Shoals. The two ships anchored at French Frigate Shoals early on the afternoon of the 6th. Supplies for a camp were off-loaded onto East Island and a "tent city" was established. A wooden cook shed was constructed (US National Archives, Logs of USS *Avocet* and *Pelican* for 1935, R.G. 24).

On the afternoon of the 8th, the *Pelican* departed for an assigned Plane Guard Station at Necker Island. On the 9th the USS *Wright* (AV 1), commanded by Captain A. C. Read, anchored off East Island. By 1635 the following VP squadrons had arrived: 8F (6 planes), 4F (12 planes), 10F (6 planes), 1F (11 planes), and 6F (6 planes). They began their maneuvers, which included much night flying and gunnery practice, the next day. That afternoon the *Swan* anchored. As a test for clearing coral rock, underwater blasting experiments were conducted during the next two days by a detachment from the *Wright*; a 30 foot x 30 foot coral pinnacle, originally 13 feet under water, was leveled to a depth of 24 feet (US National Archives, Logs of USS *Swan* and *Wright* for 1935, R.G. 24).

On the 12th six planes left French Frigate Shoals for Johnston Atoll. The *Pelican* was there to assist them. All left Johnston the next morning to return to French Frigate Shoals. The *Avocet* was positioned at Guard Station to assist them. On the morning of the 14th, VP squadrons 10F and 6F had departed for Pearl Harbor. There were two casualties; one plane of VP squadron 4F (#10) was forced down on the 14th while on maneuvers and was towed back by the *Swan* to the Shoals where repairs were made. Another plane smashed a hull on the side of a ship and had to be beached for repairs.

The *Honolulu Advertiser* reported portions of this maneuver on the 11th (1:6), 14th (5:3), and 18th (1:4) of November. It was the first newspaper account of the advanced base activities of the Navy's Pearl Harbor VP seaplane squadrons.

While searching for the missing plane "Star of Australia" in December 1935, the USS Coast Guard Cutter *Itasca* again visited French Frigate Shoals. At 1545 on the 9th, the ship anchored off La Perouse Pinnacle and a landing party investigated East Island and vicinity; no sign of the missing plane or its crew was found. At 1816 the *Itasca* weighed anchor and proceeded toward Kauai (US National Archives, R.G. 26).

The USS Coast Guard Patrol Boat *Reliance*, Boatswain B. L. Bassham commanding, investigated the "bird life and other activities on the remote and seldom-visited islands of the Hawaiian Group" during March 1936 (US National Archives, R.G. 26). A. D. Trempe, co-operator

for the Biological Survey of the Department of Agriculture, was on the trip. The *Reliance* arrived at French Frigate Shoals on the 4th and anchored three-fourths of a mile south of La Perouse Pinnacle. The next morning the ship shifted its anchorage closer to East Island. At 0810 a shore party consisting of Bassham, Trempe, and four of the ship's crew, left in the ship's small boat to investigate bird life on East Island. They noted eight bird species. They discovered a shed which had been erected by the US Navy, apparently for fleet maneuvers, the previous year. They noted that "the small palm trees planted... are not very healthy, some having already died." The shore party returned to the ship at 1000 and at 0645 on the 6th the *Reliance* weighed anchor and headed northwest.

The *Avocet* anchored at French Frigate Shoals for one and a half hours during the late afternoon of 1 April 1936 while on its way to join three other Navy ships conducting a survey of Pearl and Hermes Reef (US National Archives, Log of the USS *Avocet* for 1936, R.G. 24).

Another training exercise involving several seaplane patrol squadrons from the Pearl Harbor Naval Air Facility and US Navy ships occurred at French Frigate Shoals during October and November 1936. At 0842 on 25 October the *Wright* anchored at French Frigate Shoals with men and equipment to establish a base camp (Figure 22) on East Island. The cook shack built in 1935 was still standing (Figure 23). Radio and visual communication systems were carried ashore. Mooring berths for seaplanes were set in the lagoon north and east of East Island (US National Archives, Log of the USS *Wright* for 1936, R.G. 24).

The *Wright* found the *Argus*, a civilian auxiliary cutter owned by J. R. Hunt of Honolulu, at the Shoals. LCDR Ballatyne of the *Wright* paid a boarding call, but made no mention in the *Wright's* log of the reason the *Argus* was there. Presumably it carried a fishing party.

On the morning of 26 October, Patrol Squadrons 1, 4, 8, and 10 took off from Pearl Harbor arriving at French Frigate Shoals between 1203 and 1252; all 40²⁷ planes were moored to their berths by 1326. During the next seven days the squadrons conducted numerous flying exercises, including much night flying. On the night of 30 October, two additional planes of Squadron 10 arrived from Pearl Harbor.

On the morning of 3 November, Squadron 10 left French Frigate Shoals and flew 604 miles northwest to Pearl and Hermes Reef. The next day it flew to Johnston Atoll. On the morning of the 5th, Squadron 1 circled over the *Tanager*, LT P. C. Wirtz commanding, as she steamed toward French Frigate Shoals.

27. The planes arriving numbered 11 from Squadron 1, 12 from Squadron 4, 8 from Squadron 8, and 9 from Squadron 10.



Figure 22. East Island camp facilities 25 October 1936; Wedge-tailed Shearwater burrows in foreground sand. Official US Navy photograph 80-G-410123 in US National Archives.

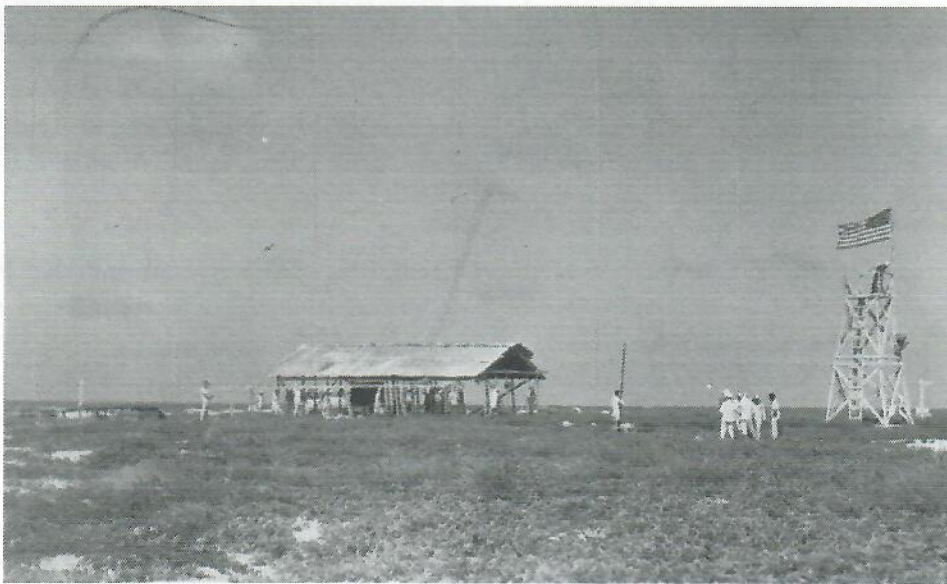


Figure 23. Cook shack and observation platform, East Island, 25 October 1936. Official US Navy photograph 80-G-410122 in US National Archives.

The *Tanager* arrived on the morning of 6 November; the *Wright* was present but left for Pearl Harbor at 1605. All planes had departed except Squadron 8. One of its planes (#7) had sunk on 27 October while moored in the lagoon; it was in 80 feet of water off East Island. Diving parties from the *Wright* and the *Avocet*, which arrived on the morning of the 7th, tried unsuccessfully to salvage the plane. Salvage operations were discontinued on the 9th after the *Avocet's* hoisting cable broke. The following morning Patrol Squadron 8, less 8-P-7, departed for Pearl Harbor. They were followed by the *Avocet* and the *Tanager* (US National Archives, Logs of USS *Avocet*, *Tanager*, and *Wright* for 1936, R.G. 24).

On 9 December 1936, the *Avocet* again left Pearl Harbor for French Frigate Shoals to try once more to salvage the sunken seaplane. It anchored during the afternoon of the 11th and immediately commenced salvage operations. A week passed and still the plane remained 80 feet deep. On the morning of the 19th all hope for recovering the plane was abandoned; the *Avocet* departed shortly thereafter for Pearl Harbor.

On 18 December 1936 the C. Templeton Crocker Expedition, aboard the yacht *Zaca*, stopped at French Frigate Shoals. Crocker, William Coultas, and Tashio Asaeda were returning to Honolulu from Laysan where they had been collecting plant and animal specimens for the Whitney Memorial Hall at the American Museum of Natural History (Bryan, 1942). They collected algae at French Frigate Shoals (Taylor, 1964).

French Frigate Shoals was again used by the US Fleet in May of 1937 for Fleet Problem Eighteen. The Problem started with the White Fleet holding Midway, French Frigate Shoals, and Lahaina, Maui, and the Black Fleet having bases west of the Hawaiian Islands. The Black Fleet was to attempt to establish an advance base at Lahaina, but in order to do this it would have to destroy the White forces at Midway and French Frigate Shoals (US National Archives, R.G. 80, A16-3xviii).

Early on the morning of 29 April 1937, the USS *Gannet* (AVP 8), commanded by LT I. E. Hobbs, of the White Fleet, left Pearl Harbor for French Frigate Shoals to establish an advance base for seaplane operations. The *Gannet* anchored inside the reef near East Island on 1 May. Starting at 1200, and continuing for the next seven hours, the ship's crew offloaded 15 tons of supplies onto East Island, which was to be the main base camp during the operation, and laid moorings in the lagoon for the seaplanes. On the 2nd, 21 men and 3 officers were transferred to East Island. At noon on the 2nd, the USS *Neches* (AO 5), commanded by CMDR L. D. McCormick, anchored near the *Gannet*. Its boats were sent to the temporary seaplane base on East Island with rations for 160 men and kerosine and gasoline for fueling planes. It also provided an aviation detail of 72 men of various ratings. During the early afternoon two plane

squadrons, VP 4F and VP 10F, arrived, fueled, and moored (US National Archives, Logs of the USS *Gannet* and *Neches* for 1937).

When Fleet Problem Eighteen began at 0600 on 4 May, Squadron 4F was already on a search mission. On the morning of that day, two White Fleet submarines, the USS *S-18*, commanded by LT R. G. Vage, and the USS *S-21*, commanded by LT E. K. Walker, arrived at French Frigate Shoals. That afternoon both proceeded to their assigned patrol area just off the atoll. The *Gannet* left on the morning of the 4th for Kauai. Shortly after 1300 Squadron 10 commenced taking off for Johnston Atoll. At 1320 plane 10-P-9 damaged its left pontoon on takeoff and had to be beached on East Island; no injuries occurred. From 1830 to 1925 three planes of Squadron F4F returned and landed. Upon landing, plane 4-P-11 grounded on a coral head off East Island; the coral tore several holes in the plane's hull.

On the morning of the 5th, the Black Fleet force which had just "captured" Midway joined the main Black Fleet headed for Maui. At 0305 on the 6th the French Frigate Force²⁸ left the main Black Fleet and headed for French Frigate Shoals. This force sighted three White planes at 0844. At the same time the USS *Lexington* began launching 88 of its planes to "bomb" East Island. At 0922, two periscopes of White submarines *S-18* and *S-21* were sighted; the carrier-based planes divebombed the two subs. Before the subs were declared out of action by the umpires at 0936 they had torpedoed the two carriers, damaging the *Langley* 65 percent and the *Lexington* 45 percent. At 0945 the Black Fleet Frigate force had surrounded the atoll. The USS *Whitney* was southwest of Disappearing Island when it started simulating disembarking marines (US National Archives, Logs of USS *Langley*, *Lexington*, *Northampton*, *Whitney*, *S-18*, and *S-21*, R.G. 24).

Meanwhile, the crew of the *Neches*, still anchored in the lagoon, had sighted the main enemy force at 0925. At 1300 the White Fleet umpire judged the *Neches* out of action; thus the Black Fleet had successfully "taken" French Frigate Shoals. Because of its "damage," the *Langley* had anchored at 1031. The Black Fleet transports offloaded planes of Squadron VP6; these were fueled by the *Langley*. The Black Fleet's French Frigate task force proceeded to rejoin the Black Main Body. At 1716 the *Langley* departed her anchorage, and at 1815 she, as well as her two plane guard destroyers *Zane* and *Sicard*, were declared out of action. She returned to French Frigate Shoals at 1849. This "destruction" of the carrier put the Black Fleet's French Frigate planes out of service.

28. The Black Fleet French Frigate force consisted of Cruiser Division Four with the USS *Northampton* (CA 26) as the flagship, the aircraft carriers USS *Langley* and USS *Lexington*, four transports, and nine destroyers.

Being judged out of action, the *S-18* and *S-21* departed the atoll at 1340 on the 6th and returned to Pearl Harbor. On the morning of the 7th the *Whitney*, commanded by CMDR J. H. S. Dessey, anchored; she found the *Langley*, *Neches*, and 19 seaplanes moored in the lagoon. Three of the planes were damaged in actuality: 4-P-11 was grounded on a reef, 6-P-2 was damaged, and 10-P-9 had a damaged pontoon. At 2256, the *Neches* departed for Pearl Harbor, arriving on the 10th.

On the morning of 8 May, the 16 planes departed for Pearl Harbor, and at noon the *Whitney* departed for Maui. On the morning of the 9th, the *Pelican* (AVP 6)²⁹, commanded by LT A. P. Storrs, and the *Swan*, commanded by LT H. F. MacComsey, arrived to salvage the three planes. At 1255 the *Langley*'s launches commenced floating plane 4-P-11 off the reef; at 1640 it was hoisted aboard the *Pelican*. The *Swan*, in the meantime, had recovered pane 10-P-9. At 1730 the *Swan* and *Pelican* left for Pearl Harbor. At 0540 on the 10th, plane 6-P-2 was hoisted aboard the *Langley*, and in less than an hour it, too, departed for Pearl Harbor. Thus ended French Frigate Shoal's part in Fleet Problem Eighteen.

The Black Fleet, however, had continued on and successfully landed troops at Lahaina, Maui; the Problem was terminated on 9 May. This Fleet Problem provided valuable data on aircraft anti-submarine activities, as well as important experiences in carrier tactics (Grimes, ms.).

The *Honolulu Star Bulletin* of 1 October 1937 (9:3-4) reported that a month's cruise in a ketch was made to French Frigate Shoals during September 1937 by Captain Robert Neilson of Kauai, his wife, and Mortimer Spence, an amateur underwater scientist. Mrs. Neilson was the first woman to visit the Shoals since 1894. Mr. Spencer took a diving suit and explored the reefs; he found most of them dead. He was unable to get many specimens of shell and coral. Quantities of fish and gigantic turtles, however, were caught by the visitors. They spent considerable time in exploring every islet in the atoll. They found little vegetation on the islands; the principal life on them was birds. These sea birds squawked and protested the visitors' landing on the islands and stood their ground when approached.

Another US Navy exercise was held at French Frigate Shoals in late October and early November 1937 (Figure 24). On the morning of 22 October the USS *Langley*, commanded by Captain A. H. Douglas, and the USS *Pelican*, commanded by LT C. H. B. Morrison, departed Pearl Harbor, singly, for French Frigate Shoals. The *Langley* anchored at 0826 on the 24th, followed by the *Pelican* at 1737. Within minutes the *Pelican*'s crew began unloading equipment for an advance base on East Island.

29. Classification AM 27 changed to AVP 6 in March 1937.

The next morning additional gear was offloaded and the crew commenced planting seaplane moorings. The moorings and base camp, dubbed "Camp Whiting" for Captain K. Whiting, USN, who was aboard the *Langley*, were completed by noon. Six boats were assigned to the base camp. At 1400 planes were sighted; they began landing at 1418 and had moored by 1633. In all, 33 planes landed: Patrol Squadron 8 (9 planes), Patrol Squadron 1 (12 planes), and Patrol Squadron 4 (12 planes). That night all planes were illuminated with a 36" searchlight from the *Pelican* at 30 minute intervals.

On the morning of the 26th, a dock-building party left the *Pelican* for East Island. At 0845, 10 planes of Patrol Squadron 4 departed for Pearl and Hermes Reef. At 1410, 12 planes of Patrol Squadron 8 arrived from Pearl and Hermes Reef. Patrol Squadron 1 conducted night-flying exercises from 1747 to 1922.

The next night at 2100 a storm hit French Frigate Shoals, and at 2230 plane 8-P-9 broke loose from its mooring and drifted on the reef. The bad weather subsided shortly after midnight.

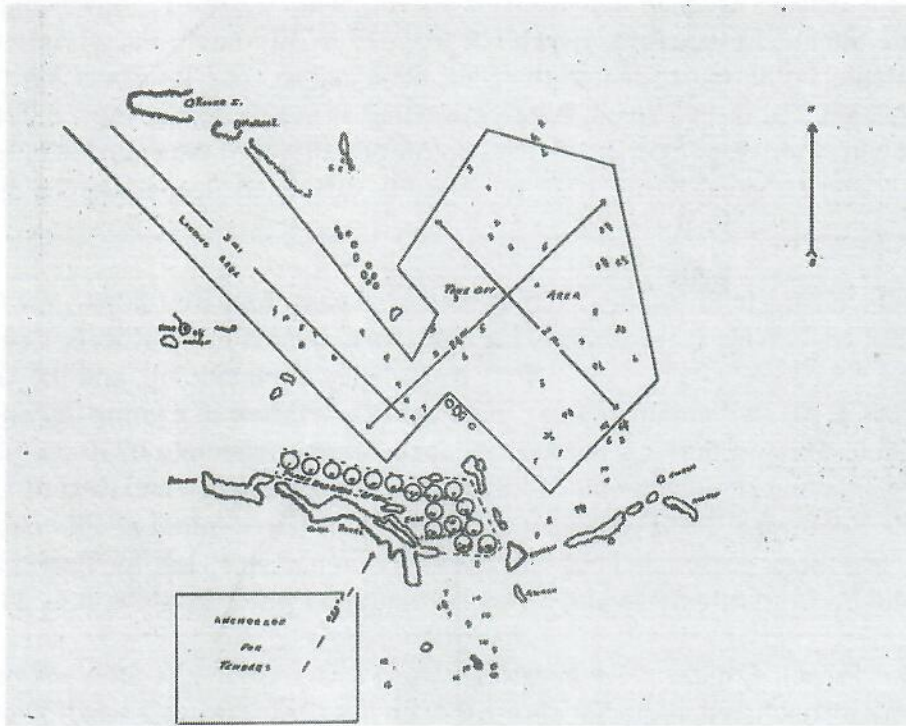


Figure 25. Map of East Island seaplane anchorage, 1 October 1937. Official US Navy photograph 80-CF-79793-12 in US National Archives.

On the morning of the 29th, the *Pelican* started salvage operations on plane 8-P-9. Because of a broken 5/8-inch cable, the operation ceased at 1453. It was finally refloated the next afternoon at 1430 and hoisted aboard. By 1717 the *Pelican* was underway for Pearl Harbor. On the afternoon of the 19th Patrol Squadron 4 returned from Pearl and Hermes Reef. All planes of Squadrons 4 and 8 were refueled by the *Langley* on the 30th.

On the morning of the 31st a crewman on the *Langley* fell off the ship's boom ladder; he swam safely to the main gangway. The next day, however, the *Langley* recovered the body of an Aviation Chief Machinist's Mate. The circumstances of his death are unknown. This is the first known recorded military death for French Frigate Shoals. At 1434 the *Langley* left for Pearl Harbor (US National Archives, Log of the USS *Langley* for 1937).

The USS *Swan*, LT H. F. MacConsey commanding, arrived from Pearl and Hermes around 1200 on 2 November and at 1537 began recovering the aircraft moorings. It departed for Pearl Harbor on the morning of the 3rd (US National Archives, Log of the USS *Swan* for 1937, R.G. 24).

Fleet Problem Nineteen, which took place from 15 March to 30 April 1938, was in part held at French Frigate Shoals. In Part Five, which ran from 25 to 30 March, the mission of the Red Hawaiian Defense Force was to harass the Blue Fleet and to deny the Hawaiian Area to the Blue until the main Red Fleet arrived. Blue's mission was to establish advanced fleet bases by seizing atolls within striking distance of Oahu before the arrival of the main Red Fleet. French Frigate Shoals and Lahaina, Maui, were modified as advanced fleet bases for the Problem (Grimes, ms.).

To prepare French Frigate Shoals for such an advanced base, four Red ships—the USS *Pruitt* (DM 22) LCDR H. T. Wray commanding, the USS *Tracy* (DM19) LCDR R. B. Crichton commanding, the USS *Sicord* (DM 21) LCDR P. R. Coloney commanding, and the USS *Preble* (DM 20) LCDR T. M. Dell commanding—departed Pearl Harbor in a group during the morning of 21 March. They sighted La Perouse Pinnacle at approximately 0730 on the 22nd. At 0930 they began laying simulated mine fields leaving two channels—one west of La Perouse, the other to the southwest. Each vessel set 85 Mark VI anchored mines at 100-yard intervals. Mine-laying operations ceased at 1114 and the ships immediately left for Pearl Harbor (US National Archives, Logs of USS *Pruitt*, *Sicord*, *Tracy*, and *Preble* for 1938, R.G. 24).

The main Red French Frigate Fleet began leaving Pearl Harbor just after midnight on 21 March. The *Avocet* anchored at the Shoals at 1000 on the 23rd. Two-and-a-half hours later the first plane of Squadron 8 landed; by 1350 all 11 planes safely moored. From 1410 to 1920 the

planes were refueled by the *Avocet*. The ship provided berthing for the plane crews, as well as illuminated each plane every 20 minutes throughout the night (US National Archives, Log of the USS *Avocet* for 1938, R.G. 24).

On the morning of the 24th, three submarines—the USS *Nautilus*, *Dolphin*, and *Narwhal*—anchored at the atoll. The *Dolphin* and *Narwhal*, however, left within an hour. The *Nautilus*, LCDR A. O. R. Bergesen commanding, refueled the *Avocet* by noon and anchored near East Island. On the morning of the 25th, five additional submarines—USS *S-25*, *S-26*, *S-27*, *S-28*, and *S-29*—arrived. By noon each was at its assigned offshore patrol station. The *Nautilus* went out on patrol at 1000. Squadron 8 flew patrol from noon until late afternoon; the *Avocet* then refueled the planes. The *Nautilus* returned and anchored at 1805; the other submarines stayed at their patrol stations (US National Archives, Logs of USS *Avocet*, *Nautilus*, *S-25*, *S-26*, *S-27*, *S-28*, and *S-29* for 1938).

On the 26th the planes remained at their mooring because of high winds, but the submarines remained on patrol. Submarine patrols, as well as aerial patrols took place on the 27th and 28th.

On the morning of the 28th, the Blue French Frigate force³⁰ was steaming toward the atoll. The force's guide was the USS *Arizona* (BB 39), commanded by Captain A. W. Brown, while the force's commander, Admiral C. C. Bloch, was on the USS *Pennsylvania* (BB 38), commanded by W. C. Barker. At 0615 the *Arizona* placed its anti-aircraft guns in "Condition I" meaning to alert for an attack by planes. At 0855, seven Red planes based at French Frigate Shoals were sighted. These planes attacked the USS *Ranger* (CV-4) at an altitude of 3,000 feet, the planes passing over the entire Blue force to "bomb" the carrier. Because of their approach, all planes were adjudged "destroyed" while the *Ranger* remained "undamaged." As a result of the "destruction" of these planes,³¹ Red forces at French Frigate received no further information of the approaching Blue French Frigate force until the following morning (US National Archives, Logs of the USS *Arizona* and *Pennsylvania* for 1938, R.G. 24; Grimes, ms.).

On "D Day," 29 March 1938, the *Arizona* and *Pennsylvania* both catapulted three seaplanes for gunnery observation and anti-submarine protection shortly after 0700, while the *Ranger*

30. This force included: USS *Arizona*, *California*, *Dobbins*, *Houston*, *Indianapolis*, *Nevada*, *Northampton*, *Oklahoma*, *Pensacola*, *Pennsylvania*, *Ranger*, *Relief*, and *Tennessee*, and all but two ships of Destroyer Divisions 3, 4, and 19.

31. With Patrol Squadron 8 "out of action," they departed for Pearl Harbor the afternoon of 28 March. The *Avocet* also left the Shoals at 1707 and headed to Oahu.

launched 33 carrier planes. The Red submarines sighted these a few minutes later and all made quick dives. The ensuing "battle" lasted until shortly after noon. The *Arizona's* Task Group "bombed" Shark and Tern Islands, while the *Northampton's* Task Group "bombed" La Perouse Pinnacle and Disappearing Island. The *Ranger's* planes carried out reconnaissance, anti-submarine patrol, bombardment spotting, and "bombing" of shore batteries.

After completion of Blue's successful attack on French Frigate Shoals, all its ships proceeded eastward to join the Air Striking Force (USS *Saratoga*) in attacking Oahu. Of the Red's forces, the *S-27*, *S-28*, *S-29*, and *Nautilus* were declared "out of action" by noon on the 29th and almost immediately departed for Pearl Harbor. The *S-25* and *S-26* remained at their patrol stations until the afternoon of the 30th when they were notified to halt the exercise and to proceed to Pearl Harbor.

On the afternoon of 30 March the Problem was terminated. The air tactics used by the Red French Frigate Force in this Problem pointed out that when a low cloud ceiling prevails a patrol plane group has no alternative but to turn away from a heavily guarded ship convoy. This raised the question of the efficacy of such patrols against surface vessels. Part Five was very rewarding in illustrating the possibilities of successful air attacks on shore objectives through the use of carriers. The air operation of the *Saratoga*, which had successfully attacked Oahu while 100 miles away, employed tactics which ironically the Japanese used some three years later in attacking Pearl Harbor (Grimes, ms.).

Two US Navy ships, both returning from the Wake-Midway area, briefly visited French Frigate Shoals during mid-March 1940. The USS *Pensacola* (CA 24), Captain Norman Scott commanding, anchored at 0937 on the 12th and proceeded with a gunnery drill using the ship's 5" and 8" batteries. The ship provided its own target gear and did not use the island. At 0430 on the 13th, the *Wright* hove into sight and anchored. At 1030 two motor launches returned to the ship with nine seaplane moorings. By noon both ships were underway for Pearl Harbor (US National Archives, Logs of the USS *Pensacola* and *Wright* for 1940).

French Frigate Shoals was also involved in a portion of Fleet Problem Twenty-One which was conducted 1 April to 17 May 1940. Part Six, which ran from 19 to 35 April, assumed that Maroon and Purple, two powerful maritime nations were at war. Maroon was the eastern Pacific power, with a strong outlying base at Guam. The Purple Fleet had been ordered to take and secure advance bases at French Frigate Shoals, Johnston Atoll, and Lahaina in order to further their operations against the Maroon Fleet in the eastern Pacific. Maroon's mission was to prevent the establishment of such bases (Grimes, ms.).

On the morning of 13 April 1940 the *Avocet*, a Maroon minesweeper commanded by LT Joseph M. Carson, departed Pearl Harbor to set up the advance operation at French Frigate Shoals. After anchoring on the 15th, plane moorings were installed in the lagoon and a minefield was laid on the open side of the Shoals. At 1124 on the 17th, nine planes of VP Squadron 24 began arriving from Pearl Harbor. They were refueled by the *Avocet* and were safely moored by 1430 (US National Archives, Log of USS *Avocet* for 1940).

At dawn on the 19th, all planes of VP 24 took to the air on a patrol mission and scouted a large area around the atoll. They returned by 1828 with positions of Purple's Main Body and its French Frigate Force.³² The submarine *Narwhal*, LCDR N. S. Ives commanding, arrived at the Shoals at dawn and patrolled off La Perouse all day. Meanwhile, the *Wright*, CMDR W. K. Harrill commanding, arrived, refueled the *Avocet*, and at 2149 departed for the Main Hawaiian Islands (US National Archives, Logs of USS *Avocet*, *Narwhal*, and *Wright* for 1940, R.G. 24; Grimes, ms.).

At dawn on the 20th, Maroon's French Frigate VP 24 planes were sent up to attack the approaching Purple ships; they were partially successful but were themselves declared "out of action." At 1030 the planes left for Pearl Harbor and the *Avocet* recovered its plane moorings from the lagoon. At 1324 the *Avocet* sighted 10 carrier-based planes (from the *Lexington*) which attacked; the ship returned the fire. At almost the same time the Purple forces simulated a bombardment of the Maroon base. The Maroon tender *Avocet* was subsequently "sunk;" it departed for Pearl Harbor at 1707.

Meanwhile, the *Narwhal* had made a quick dive upon sighting the approaching ships and planes. It engaged various Purple vessels with simulated torpedo attacks. The USS *Blue* (DD 387), LCDR C. O. Camp commanding, was declared "out of action" at 1740; it promptly departed. At 0040 on the 21st the USS *Childs* (AV 14), LCDR H. F. Fick commanding, and the USS *Williamson* (AVP 15), LCDR H. E. Regan commanding, were both declared "sunk" by the *Narwhal*'s torpedoes. These seaplane tenders had anchored at the Shoals on the afternoon of the 20th and had placed plane moorings in the lagoon. These moorings had to be retrieved on the 21st; both ships, as well as the *Narwhal*, departed French Frigate Shoals at noon and returned to Pearl Harbor (US National Archives, Logs of USS *Childs*, *Narwhal*, and *Williamson* for 1940, R.G. 24).

32. Purple's raiding forces consisted of two battleships, one cruiser (*Lexington*), three heavy cruisers, two light cruisers, and 14 destroyers (Grimes, ms.).

Part Six of Fleet Problem Twenty-One had provided useful information and experience to naval aviators. It showed that aerial scouting, when carried out without detection, was a most effective use of patrol planes in time of war. Air operations in this Problem when compared with those of the early 1930s, clearly indicate the enormous strides made in naval aviation (Grimes, ms.).

Japanese Advances in the Central Pacific

After World War I, Japan gained control of Micronesia through a mandate from the League of Nations. She stressed colonization by Japanese citizens and economic and political development of the area, largely by and for Japan. Military considerations began to predominate by 1935 and certain islands were fortified. The same year, Japan withdrew from the League of Nations (US Department of State, 1965b).

Trans-Pacific flights, which had begun in 1928 when Kingsford-Smith and party flew from San Francisco to Sydney, also became a reality in 1935 when Pan American Airways requested and was granted the use of Midway Atoll as a landing area. The US Secretary of the Navy ruled that it would not affect the Washington Naval Treaty of 1921, an agreement between the United States, Great Britain, France, Italy, and Japan which forbade naval bases or fortifications on their Pacific possessions.³³ During November 1935, a Pan American "Clipper" flew from San Francisco to the Orient stopping at Hawaii, Midway, Wake, Guam, and the Philippines (Leff, 1940; Bryan 1942; Bailey, 1956).

In November 1936, the Department of State announced that over two million dollars would be spent for seaplane bases at Midway and Wake; this was not to have any military significance and would not affect the Washington Naval Treaty, which was to expire anyway in late December as a result of renunciation by Japan. Japanese officials, however, contended that these seaplane bases would advance United States striking power into Asian waters (Leff, 1940).

With Japan attacking China in 1937 and Japan's increased military activity in the Marshall and Gilbert Islands, tension mounted in the Pacific. Thus, efforts were begun in 1939 and 1940 by the United States to prepare its island possessions as bases for attack or defense. In February 1941, President Roosevelt issued Executive Order No. 8682, which set aside such islands as Midway, Wake, Johnston, and Palmyra as naval defensive areas (Bailey, 1956).

33. Except Hawaii and the main Japanese Islands.

Despite the building of these bases, especially Midway, whose Naval Air Station was commissioned 1 August 1941, French Frigate Shoals was not entirely forgotten. By 1940 it was considered so important to the United States that only Hydrographic Chart No. 2 made from the 1859 survey, was for general issue to the public. The original US Coast and Geodetic Survey 1928 charts and H.O. Chart No 2925, published in March 1935 from the 1928 survey and reprinted in January 1938, were classified as confidential (US National Archives, Modern Military History Division, R.G. 37, QH 78/41-18, 95026).

Throughout the late 1930's and 1940 and 1941, events in Europe, as well as in the Pacific, caused increasing uneasiness in Hawaii. In 1940, hundreds of millions of dollars were appropriated by Congress to make Hawaii ready for possible war. In 1941 the entire US Pacific Fleet was based permanently in Hawaii. Because of the tense world situation, even the annual Fleet Problem scheduled for 1941 was cancelled (Grimes, ms.; Allen, 1950).

A History of French Frigate Shoals



Home for seabirds, seals and turtles



Sailing vessel shipwrecks, 1823-1907



Tanager Expedition - 1923



East Island military activities,
1924-1942



Original Tern Island, 1923



East Island USCG LORAN Station
1943-1952



Tern Island Naval Air Station
1943-1945



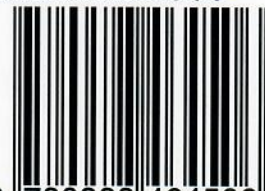
POBSP Expedition, 1963-1969



Tern Island USCG LORAN Station,
Tern Island 1952-1979

Today, the atoll is part of the Hawaiian Islands National Wildlife Refuge, Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, and Papahānaumokuākea Marine National Monument. Although the airfield is in shambles because of recent storms, a permanent field station on Tern Island allows for various land and marine research projects. The waters and islands in and around the reefs are the home for thousands of marine fishes, invertebrates, seabirds, seals, and sea turtles. The Coral Carrier sails on...

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