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 Wetmore[21] (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Wetmore's unpublished 1923 field notes present in detail a close look at each island in the atoll.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 Island[22] (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.

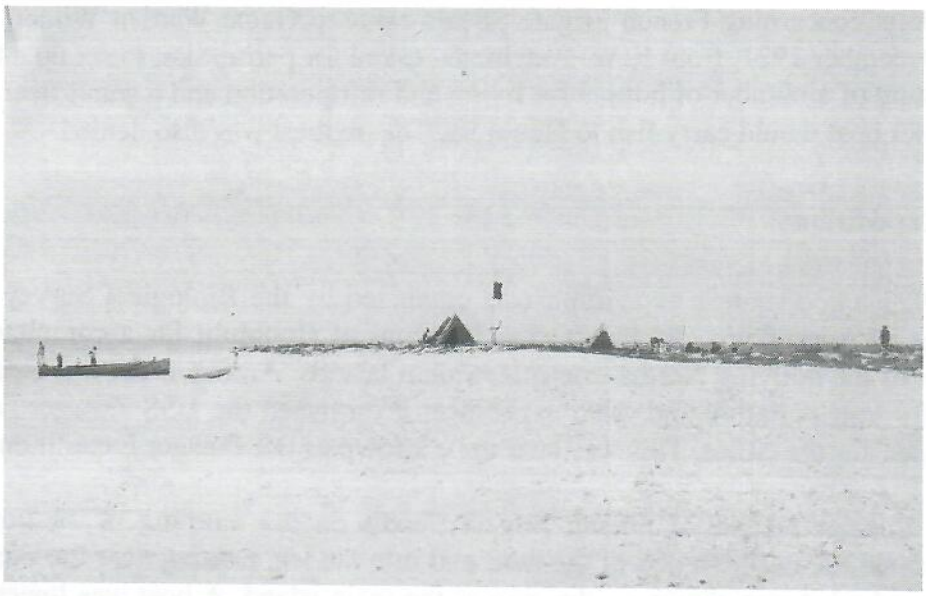

Figure 8. East Island, 22 June 1923; camp site at northwest beach. B. P. Bishop Museum photograph No. 9835 by C. Grant.

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 spit[23] 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 island[24] 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 joined[25] 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 Island[26] 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.

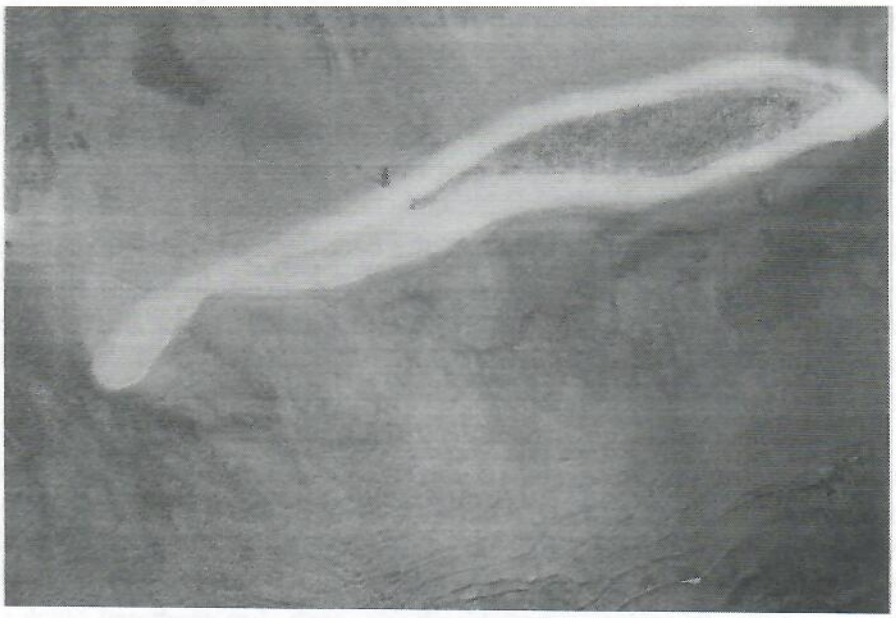

Figure 13. Tern Island, aerial view, 24 June 1932. Official US Navy photograph 80-CF-79793-1 in US National Archives.

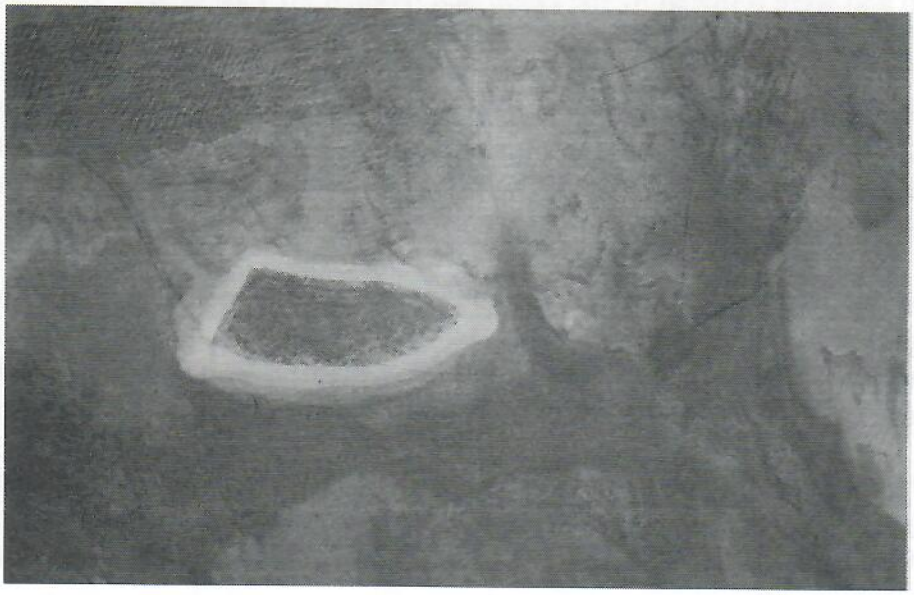

Figure 14. Trig Island, aerial view, 24 June 1932. Official US Navy photograph 80-CF-79793-5 in US National Archives.

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,

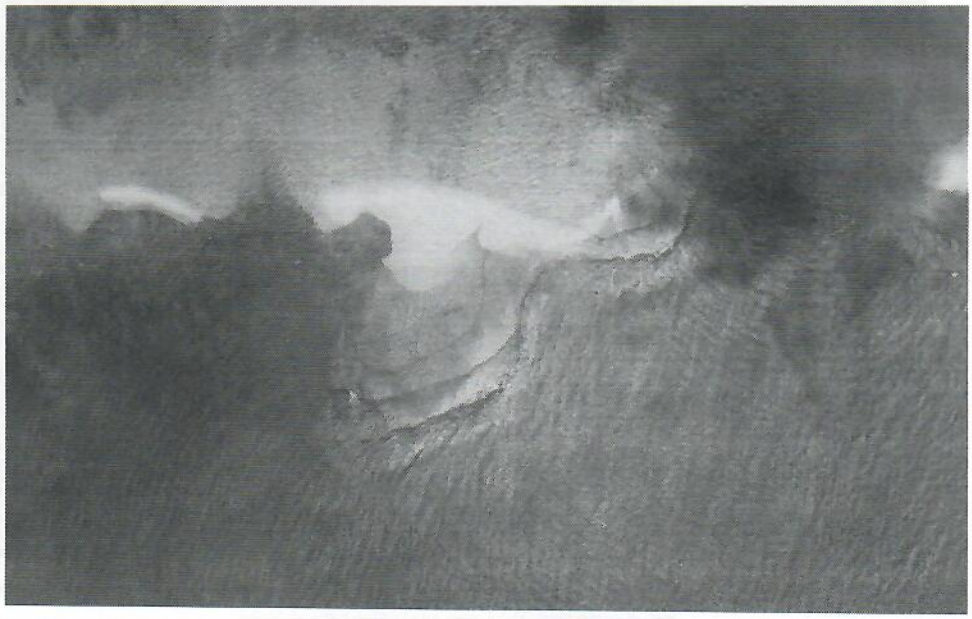

Figure 17. Aerial view of Gin Island (center) with tip of Little Gin Island on right and unnamed sandbar on left. Official US Navy photograph 80-CF-79793-3 in US National Archives.

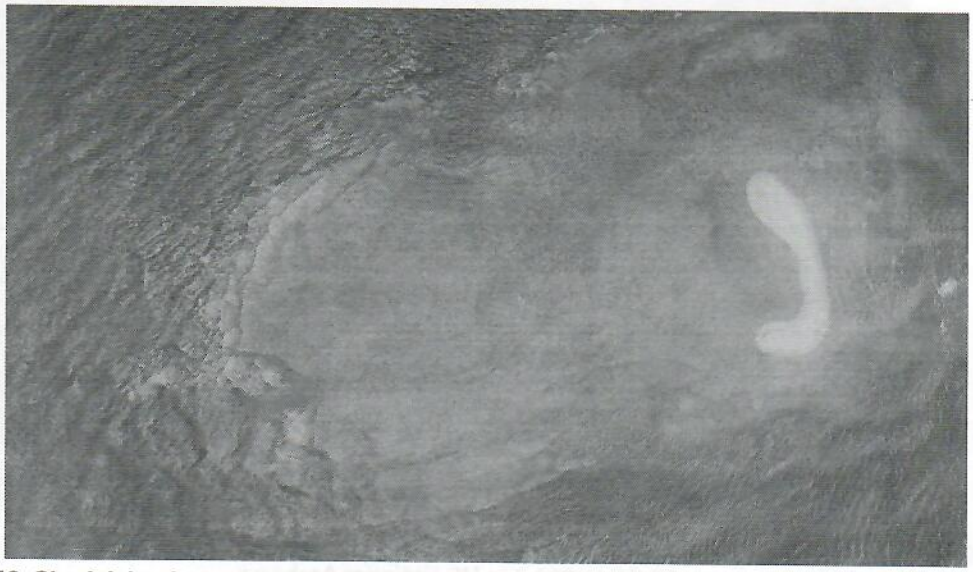

Figure 18. Shark Island, aerial view, 24 June 1923. Official US Navy photograph 80-CF-79793-7 in US National Archives.

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.

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.

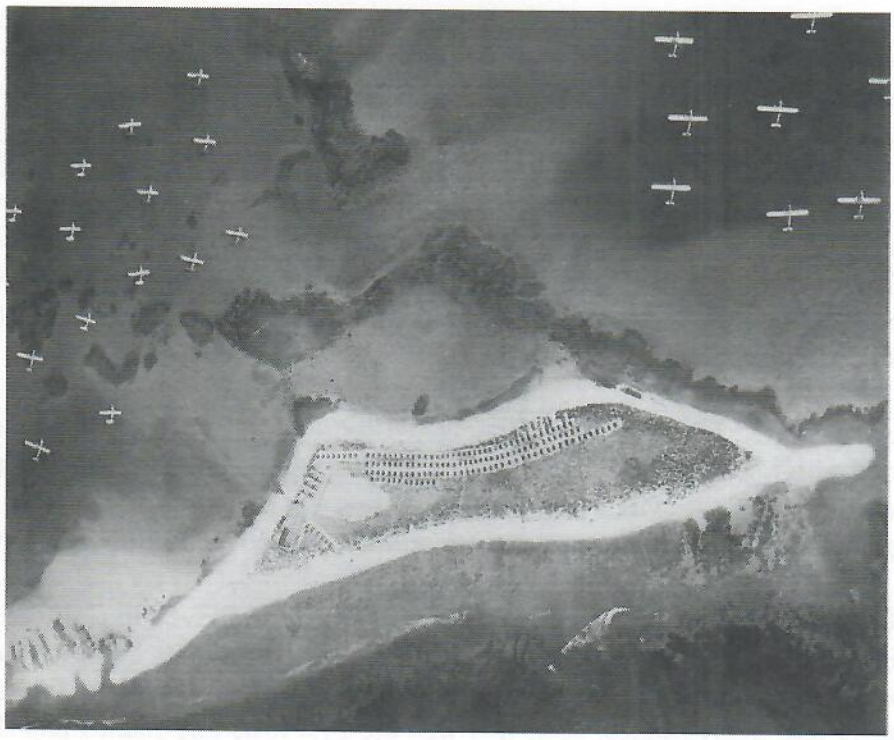

Figure 21. September 1935 Naval exercise East Island. Official US Navy photograph 80-CF-79793-10 in US National Archives.

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.

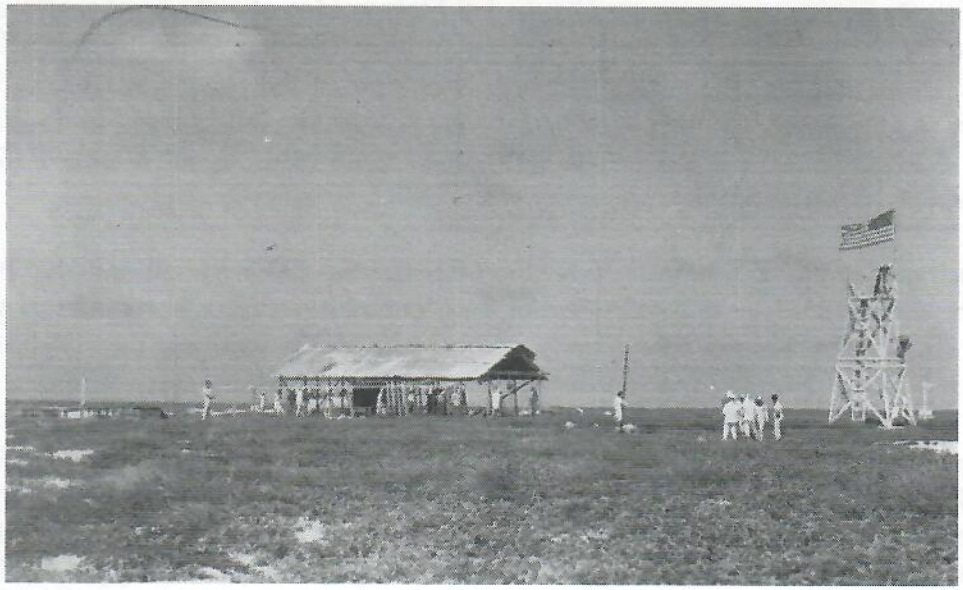

Figure 23. Cook shack and observation platform, East Island, 25 October 1936. Official US Navy photograph 80-G-410122 in US National Archives.

Figure 39. East view of East Island LORAN Station, 1948. Photograph by Forrest Clinard, Jr.

Figure 40. Ocean side of East Island LORAN Station, 1948. Photograph by Forrest Clinard, Jr.

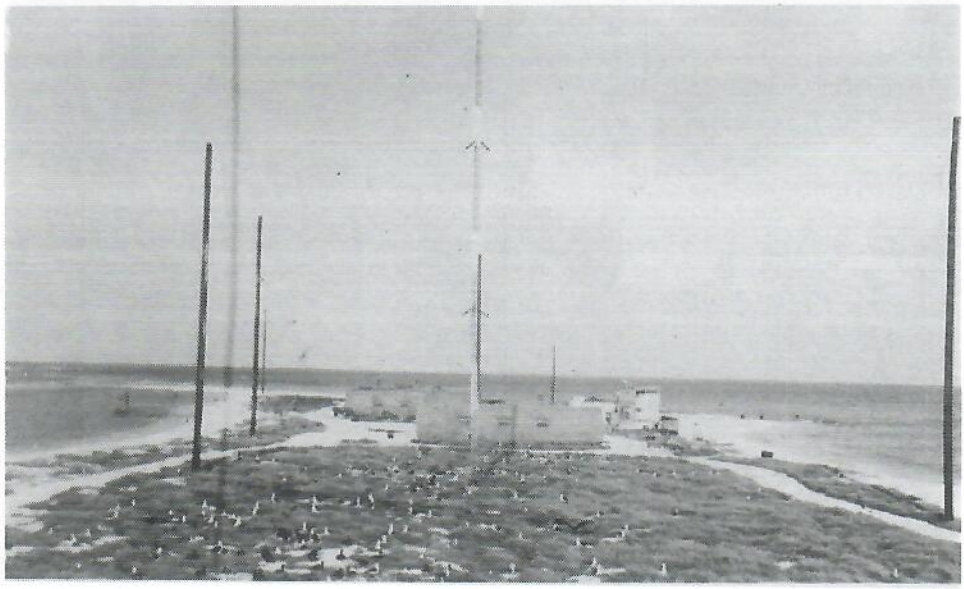

Figure 41. Laysan and Black-footed Albatross nesting on East Island LORAN Station, 1948. Photograph by Forrest Clinard, Jr.

Figure 42. Forrest Clinard, Jr., one of two US Navy aerologists stationed at East Island LORAN Station, pets one of two dogs during 1948. Photograph provided by Forrest Clinard, Jr.

What Does The Future Offer?

I asked various government officials and scientists who manage or have visited French Frigate Shoals to share their thoughts on the future of the atoll. Below are their candid responses.

Barry Stieglitz, Refuge Supervisor
Hawaiian & Pacific Islands
National Wildlife Refuge Complex

"I think climate change and sea level rise are the big game changers especially for Tern. Congratulations on the book." (Stieglitz, September 2012, pers. corresp.)

Paula L Hartzell, Manager (2010-2012)
Tern Island Field Station, French Frigate Shoals
Hawaiian Islands National Wildlife Refuge
Papahānaumokuākea Marine National Monument

"The [Tern Island] runway only looks different in that it now has grass on it in the winter. It is not really 'trashed'—but it does get puddles on it in the winter. So it is inactive because of the cost (>$10 million) to repave versus using it for habitat; it is a wildlife refuge, after all :-)! It doesn't really look any different other than the grass in winter; in summer it is dry and still looks pretty much the same. Eventually shrubs and other vegetation will grow there, but it will be many years before that happens."

"As far as my personal opinion on what will happen at FFS, I would say things would continue as they are: FWS will continue to maintain a year-round camp with long-term seabird monitoring. There's the possibly of that changing to a seasonal camp in the future, depending on funding—most of the FWS funds for the Monument go to maintenance of the airfield and contract/visitor accommodations at Midway—there's not a lot left over for biology at Laysan and Tern. The only problem with that is that the facilities at Tern would deteriorate really quickly, and the probably the best service we can offer to wildlife in the Monument is presence, keeping unauthorized people from landing—not because people aren't welcome, but because it would inevitably result in rat or mouse infestation, which would wipe out the seabird colony very quickly. FWS year-round presence probably also minimizes direct disturbance to wildlife by folks who have great intentions, but just don't know any better. (I would certainly sail there, if it weren't watched!)"

"NOAA will continue to maintain marine research operations for one to four cruises per year, depending on funding. They don't really use Tern themselves, but bring supplies, and often

coordinate efforts. NOAA will most likely also maintain seasonal camps for monitoring Hawaiian Monk Seals and Hawaiian Green Sea Turtles in perpetuity."

"The bummer thing to me personally is that funding biology is not a priority for the Pacific Island refuges. Maintaining the runway and buildings at Midway is their top priority. Not that isn't worthwhile, it does seem to me (personally) that those may be better maintained by the FFA and commercial airlines (who the runway is really maintained for, so they can fly straight to Asia using Midway as their emergency landing field) rather than FFS. It also seems to me that the National Park Service would be better qualified than FWS to maintain historic properties and run tours at Midway. I think its a shame that biology and conservation takes up less than 10% of the refuge budget. Tern Island Field Station was such a productive field station in the 1960-1980's!!! Ah, but that is my own whine..."

"Tern Island Field Station, and the Papahānaumokuākea Marine National Monument as a whole, really serves as a singular place for wildlife and learning about wildlife—because it is one of the most remote locations within the world's most remote archipelago. Tern and the other islands (and waters) in the Monument serve as a refuge for species that have been ousted from the Main Hawaiian Islands. These islands house the majority or a major portion of so many species, and critically habitat least impacted by anthropological activities. It is an honor and responsibility to protect these islands and waters both from commercial fishing, but also from accidental harm from parties with the best of intentions—like visitors who may unintentionally introduce rats, anchor in coral, or unknowningly harass breeding Hawaiian monk seals. At the same time, we absolutely need to share this amazing place with the public, through video, outreach, educational cruises, documentaries, and books like yours.... Nothing you don't already know, of course!" (Hartzell, September 2012, pers. corresp.)

Mark J. Rauzon, Author
Isles of Refuge: Wildlife and History of the Northwestern Hawaiian Islands
Laney College, Geography Department
900 Fallon St., Oakland, CA 94607
mjrauz@aol.com

"You got me thinking about the future of FFS. As I have witnessed the disappearance of Whale-Skate in my lifetime, the other islands are extremely vulnerable. Tern Island is of course least vulnerable (after La Perouse Pinnacle) so consideration must be given to managing it as an ark for the atoll. It could become time to consider abandoning the runway for planes and converting it to more seabird and perhaps land bird habitat."

"FFS was and will always be core monk seal and sea turtle habitat so keeping beaches available is critical. I think the marine station at Palmyra takes the pressure off this site as a sea change research venue, but certainly, Hawaiian process are important to monitor here. Finally, FFS is an historic WWII site, so managing Tern Island insures preserving this war legacy." (Rauzon, September 2012, pers. corresp.).

Meg Duhr-Schultz, Acting Manager (June 2012 - Present)
Tern Island Field Station, French Frigate Shoals
Hawaiian Islands National Wildlife Refuge
Papahānaumokuākea Marine National Monument

Meg (pers. Corresp. September 2012) writes: "I've read your Natural History of FFS several times by now and it has been a tremendous resource out here. I can't tell you how many times we refer back to it for important historical information on plant presence, bird distribution, military use, and everything else. I am very, very excited about your new book and I have passed on the information to all the folks I know with a connection to or interest in this place.... I recently resumed a blog/website for the field station." You can check out the Meg's blog at: **frenchfrigateshoals.org**. Figures 92 to 100 show recent and current photographs of events and wildlife on French Frigate Shoals.

Figure 92. 12 June 2012, Meg Duhr-Schultz (Refuge Manager left) accepts award plaque from Irene Nurzia-Humburg (NOAA Field Team Leader right). Plaque reads: "In Commemoration and Celebration of 40 seasons of systematic tagging and counting of green sea turtles (honu) nesting on East Island (Hikina)...." Plaque presented on behalf of George Balazs (NOAA Turtle Team Leader). Photograph provided by George Balazs.

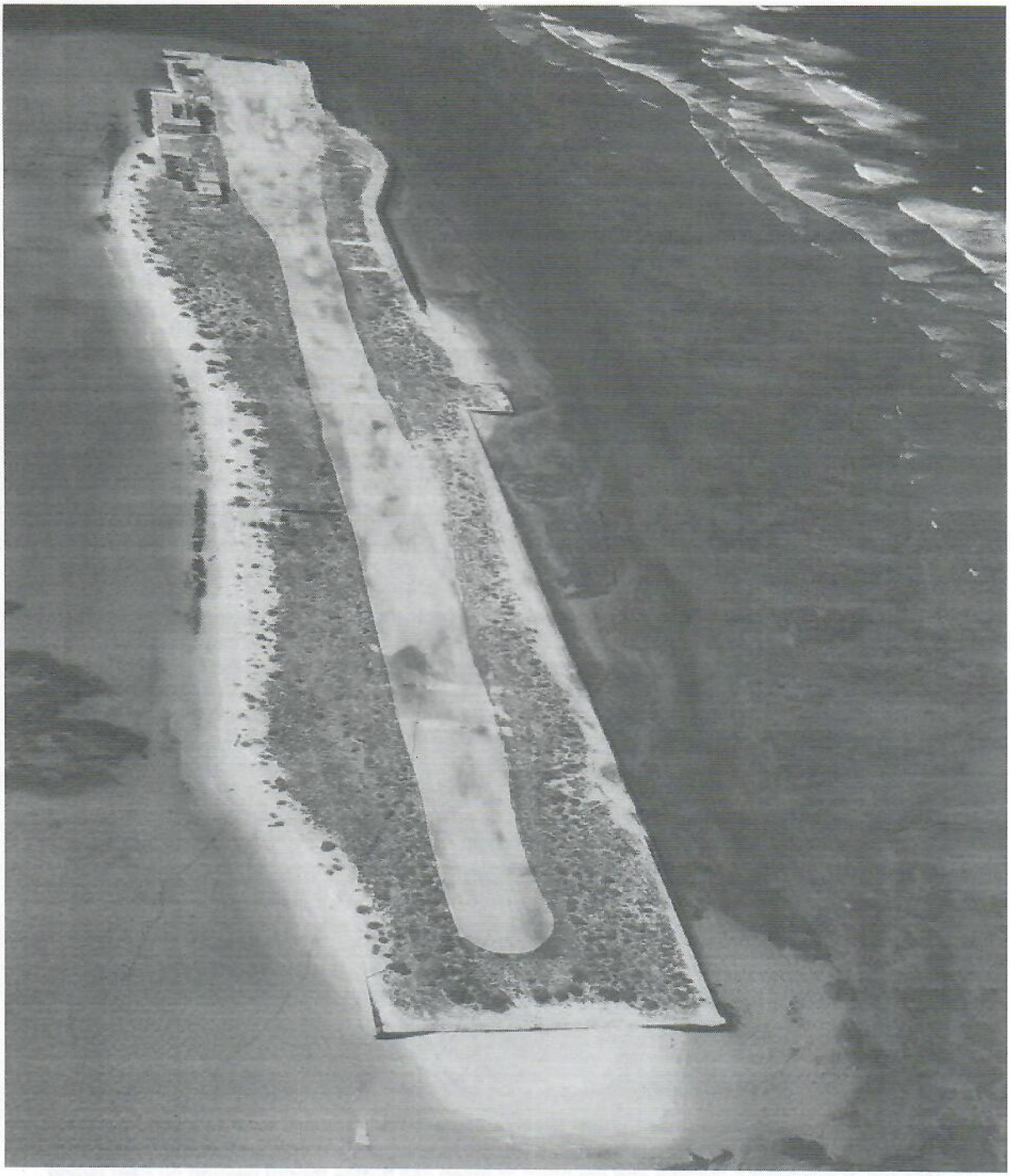

Figure 93. Tern Island 2006. The Airstrip Was Still Operational. Photograph by Morgan Gilmore.

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!

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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.

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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

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A. Binion Amerson, Jr.
October 2012

The CORAL CARRIER

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A. Binion Amerson, Jr.

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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 Papahanaumokuakea 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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