

An aerial photograph of French Frigate Shoals, a small, elongated island with a sandy beach and some vegetation, surrounded by clear, shallow turquoise water. The island is the central focus of the image. The sky is a pale blue with some light clouds. The overall scene is serene and tropical.

# *The* **CORAL CARRIER**

French Frigate Shoals,  
Northwestern Hawaiian Islands: A History

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## CHAPTER 6

**WORLD WAR II****Pearl Harbor**

On the morning of 7 December 1941, the Imperial Japanese Navy launched a surprise carrier-based plane attack, 360 planes strong, on Pearl Harbor and other parts of Oahu. In all, six ships were sunk and twelve were severely damaged<sup>34</sup>. Many other ships suffered minor hits; military dead and wounded totaled 3,478. On 8 December 1941, the United States declared war on Japan and entered World War II.

The Japanese carriers had launched their fateful attack from a point some 200 miles north of Oahu. They had not used French Frigate Shoals and it is doubtful their warships had even visited the atoll. However, when Japan captured Wake Island on 23 December 1941, they came into possession of a classified publication titled "US Naval Air Pilot, Pacific Islands, 1936." This document greatly assisted Japanese strategists in planning future attacks, not only on the Hawaiian Islands, but throughout the Pacific. Of particular importance, they learned of French Frigate Shoals' excellent lagoon which could be used by seaplanes (Layton, 1953).

**Operation "K"**

The night of 3 March 1942 was not a normal night in Honolulu. Its inhabitants, still shaken by the 7 December 1941 attack, were not going about their regular ways. There was no "night life" for Honolulu was under a blackout which went into effect at sundown and lasted until 0600, as well as a curfew, which meant that no persons could be on the streets after 2100.

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34. Of the 18 ships sunk or severely damaged, seven had seen duty at French Frigate Shoals. They were the USS *Arizona*, *California*, *Nevada*, *Oglala*, *Oklahoma*, *Pennsylvania*, and *Tennessee*.



Although the sky was overcast, the moon was full, giving the sky a soft, eerie, glowing appearance. During the night, the electronic eyes of Hawaii's radar stations reported bearings and distances of planes in the area to the Air Raid Defense Center in Honolulu. Here, Army and Navy air officers were on duty to identify planes from their knowledge of flight plans. Identification, Friend or Foe (I.F.F.) equipment had not yet been installed in Hawaiian area planes (Allen, 1950; Layton, 1953).

At 0014 on the 4th, a plane suddenly appeared on the screen of the Army Radar Station on Kauai. Immediately Honolulu's Air Raid Defense Center was notified of an "Aircraft, bearing 290 true, distance 204 miles from Oahu." The Kauai Radar Station continued to send in reports on the position of the approaching unidentified plane. Soon Oahu stations picked up the intruder on their radar. The plane flew on toward Kauai and at 0043 the Air Defense Commander ordered his Initial Air Striking Group to take off; at 0048 all units at Pearl Harbor were ordered to "General Quarters" (Layton, 1953).

Shortly after 0100, radar revealed the unidentified blip to be, not one, but two planes; the two continued toward Oahu. At 0115, five Navy PBY's armed with torpedoes, took off to search for and attack the seaplane or aircraft carrier from which the planes might have been launched. At 0136, four Army P-40's left to intercept and attack the intruders if they proved to be hostile. At 0159 the Hawaiian Defense Commander ordered a full air-raid alert for all of Oahu (Layton, 1953).

Allen (1950) and Layton (1953) contradict each other as to whether or not an air raid alarm was actually sounded. In any event, most of Oahu was awakened at 0210 by the explosion of four bombs hitting an uninhabited area on the slopes of Mount Tantalus, the mountain hovering behind Honolulu. Searchlights were ordered to illuminate the two planes for the anti-aircraft batteries, but with clouds covering the entire area nothing was seen. The P-40's made no contact because of the overcast conditions, and the PBY search proved equally fruitless (Layton, 1953).

The next morning authorities combed the impact area and found little damage; a few trees were broken. Although the raiders were not seen, from the sound they made and from bomb fragments, military experts figured that the raiders were probably Japanese four-engine flying boats (*Honolulu Star Bulletin*, 4 March 1942, 1:5-6, 5 March 1942, 1:5, 6 March 1942, 1:5 and 4:1; *Honolulu Advertiser*, 4 March 1942, 1:6, 5 March 1942, 1:3, 2:1-2, 6 March 1942, 1:1; and US Navy, Classified Operations Archives, corresp., A16-3).



It was certain that the planes which made this attack were not carrier-based. A Japanese carrier would not have come so close to Honolulu just to launch two planes. They could have not been land-based planes since such planes could not have carried a bomb load of 2,000 pounds (four bombs of about 500 pounds each were dropped) and have had fuel enough to return 2,000 miles to the nearest Japanese bases at Wake, Kwajalein, or Wotje. They had to have been seaplanes. Experts further determined that the planes must have been refueled and loaded with bombs at a rendezvous point, probably French Frigate Shoals, since the planes were tracked in from the northwest (US Navy, Classified Operations Archives, corresp., A16-3).

Intelligence officers recalled a short story "Rendezvous," by Alec Hudson, (later an intelligence officer), which had appeared in the 2 and 9 August 1941 issues of the *Saturday Evening Post*. This story described the use of American submarines to refuel patrol planes and extend their normal operational range. Was this a "Rendezvous in reverse" just a coincidence (Layton, 1953)?

The question was never explicitly answered, but it was later learned from official Japanese sources that the basic deduction was correct. French Frigate Shoals had been the rendezvous point for submarines to refuel and load the planes used in the raid, called by the Japanese as Operation "K" (Figure 25).

By early 1942 the Japanese had perfected an extremely advanced plane—the Navy Type 2 Flying Boat, Model II, Kawanishi H8K1—which was subsequently codenamed "Emily" by the Americans. This plane was essential to Operation "K" and to the proposed reconnaissance of Pearl Harbor prior to the attack on Midway. It was a very impressive aircraft. It had a range of 5,250 miles without a load, a top speed of 280 m.p.h., a cruising speed of 210 m.p.h., could carry eight 500-pound bombs, and was manned by a 10-man crew (Layton, 1953; Richards and Mikesh, 1969).

Operation "K" originally called for two bombing attacks: P-Day plans called for an early morning takeoff on 1 March; Q-Day was to begin early 6 March. To delay beyond 6 March would hamper the attack since a waning moon would make night maneuvers hazardous. The critical factor, however, was the weather, for favorable conditions were necessary for such a long flight. Uncertainty on this score was reduced because the Japanese had broken the US Navy weather codes radioed daily between Midway, Johnston, and the Main Hawaiians. Fortunately, perhaps for Pearl Harbor, the Navy changed the code on 1 March and the Japanese could not foretell the weather conditions they would find over Oahu.



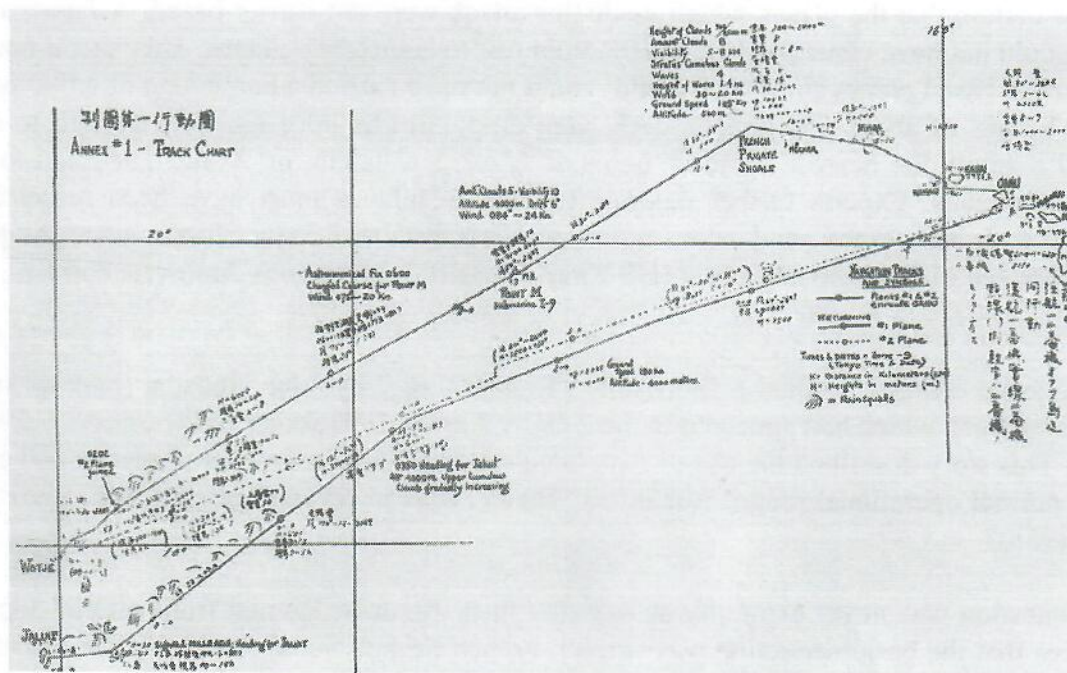


Figure 25. Track of Japanese Seaplanes in Operation "K." Reprinted from *US Naval Institute Proceedings* by permission; Copyright 1935 US Naval Institute.

Two "Emilys," the only serviceable ones available, left Yokohama, Japan, on 15 February for their base at Jaluit. On the 19th, American naval activity south of the Marshalls caused all available Japanese submarines to speed to that area. When released, the Operation "K" submarines reported they could not reach their designated areas until 0530 on 2 March. Thus, P-Day was changed to 3 March. On 2 March, Japanese weather planes flew northeast of Wake and the Marshalls in order to gather weather data. Reports from submarines which had arrived on station, indicated favorable weather at point "M," located south of Midway and at French Frigate Shoals. Nothing, however, was heard from the submarine serving as a lifeguard station 10 miles south of Oahu (Layton, 1953).

The two planes, the Y-72 and Y-73, piloted by LT Toshio Hashizume, flight commander and Japan's most outstanding flying boat pilot, and LT Tomano, left Wotje's moonlit lagoon at 0555 Honolulu time. Flying on bearings they passed over the beacon submarine, located at Point "M" (19°00' N x 174°20' W) some 700 miles southwest of French Frigate Shoals, at 1440 (Layton, 1953; Richards and Mekesh, 1969).



Upon arriving at French Frigate Shoals at 1830, the pilots sighted the refueling submarines, *I-15* and *I-19*, heading for their designated anchorages inside the reef; *I-26* remained outside the reef as a picket vessel and contingency refueler. After landing, the planes moored astern of the two submarines, now located southwest of East Island.<sup>35</sup> Fueling operations began immediately, but were hampered when fresh winds and moderate ocean swell caused each plane to part its mooring. They moored again, but kept their motors running to relieve the strain on the lines while refueling continued. Before completion the sun set, but the full moon illuminated the entire operation. After receiving approximately 3,000 gallons of fuel, each plane left its mooring and at 2138, despite a brisk wind, both took off for Oahu. LT Hashizume's plane incurred a hull puncture upon takeoff (Layton, 1953).

Ignorant of Hawaii's radar system, the planes flew over the Main Hawaiians. When the pilots sighted Oahu they saw that much of the island was covered with clouds, including their target Pearl Harbor (Layton, 1953). When over what is believed to be Pearl Harbor, Hashizume radioed orders for an emergency turn in order to circle back over the target; at 0210 he dropped his four bombs. After circling again, he flew south. LT Tomano had failed to receive the order to turn and to bomb and had continued on course. Discovering his error, he retraced his course and at 0230 dropped his four bombs. Hashizume's bombs were the ones that landed on Mount Tantalus; Tomano's bombs must have fallen harmlessly in the sea (Layton, 1953; Richards and Mikesh, 1969).

Hashizume flew his plane directly to Jaluit for repairs to the damaged hull; Tomano flew directly to Wotje (Layton, 1953). Q-Day planned for 6 March, was postponed because of the time required to repair Hashizume's plane and the time lost in the P-Day delay. It was later cancelled.<sup>36</sup>

American experts back in Honolulu thought the Japanese were trying to test the feasibility of raids over Oahu and to find out what night defenses they might meet. They thought that the success of this raid might encourage Japan to repeat it on a much larger scale involving 15 or 20 planes (a number larger than that would be difficult to service from a submarine). With a flight of this number, Americans deduced that the planes would land at the rendezvous during daylight, or at least twilight, unless a moonlit night was selected; takeoff and attack would occur during the darkest hours. French Frigate Shoals was considered the ideal place for such

35. Layton (1953) referred to this as Sand Island.

36. On the 6th of March, Hashizume flew a reconnaissance mission over Midway; he was shot down and killed. Tomano flew a similar mission over Johnston and returned safely.



a rendezvous, but experts acknowledged that the lee of Hawaii, Maui, or Kauai might also be used (US Navy, Classified Operational Archives, corresp., A16-3).

Several precautions against an attack of this nature from French Frigate Shoals were considered. Continued observation using a concealed shore post with high-frequency radio communication to Oahu was thought the best precaution. Evening twilight plane observation was considered as an alternative. But this would greatly reduce any chance of trapping the raider if the observation plane was seen by the enemy submarine which would surely be observing in the vicinity at periscope depth. Permanent stationing, or late afternoon observation by surface vessels, at French Frigate Shoals would also be detected by the enemy. Military experts hoped that observation could be accomplished without knowledge of the Japanese; thus, the United States could make a concentrated bombing attack while the planes were being serviced by the submarine. Interceptor action against a bomber flight was another offensive measure considered (US Navy, Classified Operational Archives, corresp., A16-3).

### United States Defensive Actions

The initial precautionary action undertaken by the US Navy was to lay a mine field at French Frigate Shoals. On 3 April 1941, just a month to the day after Operation "K," the USS *Parable* (DM 20) and the USS *Pruitt* (DM 22) arrived at French Frigate Shoals loaded with 85 MK VI anchored mines. They commenced laying mines at 1211 and were finished by 1231. The mine field, a quadruple line of mines, had its northwest end bearing 296° True, 13,150 yards from La Perouse Pinnacle, and its southeast end bearing 260° True, 7,600 yards from La Perouse Pinnacle. At 1316 the same day both ships departed for Pearl Harbor, arriving there on the 4th. The next day both crews again loaded 85 mines of the same type aboard their respective ships and again headed for French Frigate Shoals. At 0935 on the 8th they sighted La Perouse Pinnacle; between 1140 and 1208 another mine field was laid. This one consisted of nine quadruple lines of mines; the northwest end of this field bore 215° True, distance 7,050 yards from La Perouse, and the southeast corner bore 183° True, distance 13,850 yards from La Perouse. These two mine fields were so laid that any unsuspected vessel trying to enter the lee of the atoll would pass through one or the other in or out (US National Archives, Logs of the USS *Preble* and *Pruitt*; US Navy, Classified Operational Archives, War Diaries of the USS *Preble* and *Pruitt* for 1942, R.G. 24).

By mid-April 1942, CMDR Joseph J. Rochefort, Jr., Head of the US Navy's Combat Intelligence Unit at Pearl Harbor, felt that Japanese operations in the Pacific were building up to something, but he did not know what, when, or where. Pieces began to fall into place by late April, and, although the operation itself remained a mystery, the Central Pacific seemed to be



the locale. Rochefort sensed that Midway, the lonely westernmost United States base in that area, might be the target (Lord, 1967); others, especially those in Washington, thought the target would be Oahu, Alaska, or even the west coast of the United States.

In early May 1942, several interceptions of Japanese messages, all coded to "JN-25," pointed to a massive operation involving most of the Imperial Combined Fleet. Gradually the code name "AF" began appearing more and more. Intelligence personnel recalled that "AF" had also been mentioned in an intercepted message concerning the early March attack on Oahu; one of the messages had spoken of the seaplane passing near "AF." Rochefort concluded that "AF" was the Japanese code name for Midway. To obtain proof, Midway was instructed to radio a message, in plain English, saying their fresh-water evaporators had broken down. Around mid-May a Japanese message was intercepted which reported that "AF" was low on fresh water. On the 25th Admiral Chester W. Nimitz, USN, Commander in Chief, US Pacific Fleet, made hurried plans and began assembling ships so as to "beef up" the defenses at Midway (Lord, 1967).

With evidence now of the target, Rochefort and staff began to piece together routes various Japanese vessels would take during their attack. More important, intercepted messages provided a probable date, indicating it might be as early as the 28th of May. Some land planes were sent by barge, some by air; seaplanes were flown out, refueling along the way. On the 25th, a message giving the entire plan was picked up which revealed the attack was to be later than expected—about the 3rd to the 5th of June (Lord, 1967).

Since 13 April a US Marine detachment had been stationed at East Island, French Frigate Shoals (US Navy, Classified Operational Archives, CinPac corresp., serial 058W dated 4 April 1942). Warrant Officer Michael Pedkin was in charge of 12 enlisted men.<sup>37</sup>

Because of the location of this station and its lack of facilities for normal subsistence, two crews were provided, one to relieve the other every 30 days. Thus, on 11 May, the *Preble* left Pearl Harbor for French Frigate Shoals with Marine Gunner W. E. Hemingway, 12 enlisted men, and 6 tons of stores. They reached French Frigate Shoals at noon on the 12th; by 1909, the men and stores were offloaded and with Pedkin and his men aboard, the *Preble* was under way for Pearl Harbor. At 0120 on the 13th, the ship was ordered to reverse course and return

37. Eight of the men were Marines (1 Platoon Sergeant, 1 Sergeant, 1 Chief Cook, 2 Corporals, and 3 Privates First Class), four were Navy (1 Hospital Corpsman and 3 Radio Operators). The Navy personnel were furnished by the Fourteenth Naval District. The Marines were taken from the Third Defense Battalion, but were transferred to the Headquarters and Service Company, Marine Forces, Fourteenth Naval District (US Navy, Classified Operational Archives, corresp., S-1455-50, Ser. 00204).



to French Frigate to guard against enemy air and submarine activity. La Perouse Pinnacle was sighted at 0910.<sup>38</sup>

The next week went by uneventful as the *Preble* patrolled off French Frigate Shoals. The northern end of the patrol bore 265° True from La Perouse Pinnacle, distance 10-1/2 miles, and the southern end bore 192° True, distance 11 miles; in all the patrol line was 12 miles long.

On the afternoon of the 22nd, the *Preble* sighted one of the patrol boats bound for Midway, the *PT 142*, six miles distant and experiencing motor trouble. At 2010, the *Preble* took *PT 142* in tow and headed for French Frigate Shoals; the tow line parted twice during the night. At 0830 the next morning, still outside the anchorage, the *Preble* learned that the *PT 126*, south of the patrol area, was out of fuel. At 0900 it sighted two patrol boats. Their position was given to the *Preble* who picked up both and at 1238 commenced towing all three PT's to anchorage at French Frigate Shoals. At 1840 the tow was complete; the three patrol craft were safely at the entrance to French Frigate Shoals at the northern end of the mine field.

The *Preble* turned to a southerly course at eight knots to resume patrol on a line two to three miles to seaward of the mine field when, at 1935, the lookout reported a column of white smoke in the vicinity of the southern part of the mine field. Visibility in this direction was deteriorating because of rain squalls and approaching darkness. Information at hand indicated that patrol torpedo boats had incorrect data concerning the true location of the mine field. Furthermore, only 10 of the 11 PT boats in the area were accounted for. Three were at French Frigate Shoals and seven were at Necker. Thus at 1937, under the assumption that the 11th boat might have approached and entered the mine field from the south and exploded a mine, the *Preble* headed toward the smoke and flame at 20 knots.

At about 1945, the *Preble* sighted *YP 234* and *YP 348* between the fire and La Perouse Pinnacle, and *YP 237* seaward of the fire. These fishing vessels, assigned to the Fourteenth Naval District for use as supply ships, were immediately given the correct location of the mine field and safe course to clear it. It is probable that *YP 234* had crossed the mine field once and *YP 348* had crossed it twice without casualty. *YP 237* had not yet entered the mine field. The burning vessel was identified as *YP 277*<sup>39</sup> which had been bearing 240° True, distance about

38. At 1055, a submarine sound contact was made. It was identified as friendly (US Navy, Classified Operational Archives, War Diary USS *Preble* for 1942).

39. King (1946) erroneously lists this vessel as being sunk east of Hawaii.



10,600 yards from La Perouse Pinnacle, when it had exploded a mine. *PT 142* left its anchorage and headed inside the mine field toward the stricken vessel, then enveloped in flames.

After a search of the immediate area, *PT 142* came alongside the *Preble* and transferred the only two survivors from the stricken vessel. *PT 142* also picked up the body of a BM2C and transferred it to *YP 237*. The patrol boat returned to the scene of the disaster to search for more survivors; none were found.

The *Preble* remained in the vicinity until 2130 when it was apparent that all ships present were out of danger and that no other survivors would be found that night; she then set course for Pearl Harbor. At 2304, upon receipt of a dispatch from the Commandant, Fourteenth Naval District, the *Preble* reversed its course and returned to its patrol area at French Frigate Shoals.

The *Preble* left its patrol area at 1400 and entered the lagoon in order to transfer the two injured men to a waiting patrol seaplane. At 1548 she anchored south of East Island, the two men were transferred and mail was sent to the Commandant, Fourteenth Naval District. *PT 142* came alongside and informed the *Preble*'s captain that all PT boats present, including the previously missing *PT 122*, were being refueled by the YP's. *YP 348* and *YP 237* were then sent to Necker to fuel the seven PT boats there. The *Preble* was back on station in its patrol area at 1932.

At 0900 on 25 May the *Preble* anchored south of East Island. The seven PT boats from Necker arrived at French Frigate Shoals and the PT boat squadron commander came aboard. At 1917, *PT 128* got underway carrying the written report of the destruction of *YP 277* to *YP 234* for delivery to the Commandant, Fourteenth Naval District. By 1934 the *Preble* was under way and commenced offshore patrolling at 2115 (US Navy, Classified Operational Archives, War Diary USS *Preble*, *YP 277* Destruction Report, DM 20/A16-3).

At 1954 on the 26th, the USS *Ballard* (AVD 10), commanded by CMDR W. C. Gilbert, anchored between La Perouse Pinnacle and East Island. She immediately began refueling and restocking the 11 PT boats preparatory to accompanying them to Midway (US National Archives, Log of USS *Ballard* for 1942, R.G. 24).

The *Preble* continued to patrol off French Frigate Shoals until the morning of the 29th. At 0830 the lookout spotted the USS *Thornton* (AVD 11), LCDR W. F. Kline commanding, heading toward the atoll; at 0930 the *Preble* was relieved and promptly left for Pearl Harbor (US Navy, Classified Operational Archives, War Diary USS *Preble* for 1942).



The *Thornton* stayed on station for two hours. At 1130 it started its approach to French Frigate Shoals, lying-to off East Island at 1318. Contact was made with the Marine detachment ashore and supplies and radio equipment were delivered. By 1417, the *Thornton* was under way to her patrol station.

May 30th and 31st were spent on station by the *Thornton*. The ship was under way during the day, and anchored near East Island at night in order to conserve fuel and to prolong its time on station. Moreover, night work was almost impossible since no sounding gear was installed aboard the tender. The *Thornton* reported no enemy contacts—no vessels even sighted—during these two days (US National Archives, Modern Military History Operational Archives, Log and War Diary USS *Thornton* for 1942, R.G. 24).

American ships, thus, were in constant surveillance of French Frigate Shoals during the crucial days of late May 1942. The Japanese, on their part, were making their own plans to include French Frigate Shoals in a second Operation "K" against Pearl Harbor.

### Japanese Offensive Action

The Japanese considered the reconnaissance of Oahu to be very important in their planned attack on Midway. The second Operation "K" was to take place prior to the attack, between the latter part of May and 3 June. They thought the earlier Operation "K" had been such a success that the second was considered foolproof. Details of the second reconnaissance are given in Japanese Monograph No. 110 compiled by Captain Tatsuoka Shibuya (1952 manuscript).

The Japanese Imperial General Headquarters issued Navy Order No. 18 on 5 May 1942, calling for the invasion of Midway and strategic points in the western Aleutians; the combined Fleet was to be utilized, with the exception of a few units under repair and those operating in the Indian Ocean and Australian waters.

The operation procedures were simple: "air attack on Midway [on 7 June] by the carrier task force prior to the landing of the invasion force and immediate occupation of the island after destroying military forces and defensive installations in existence; at the same time contact and destroy any enemy fleet which might attempt an attack and distribute submarine forces between Hawaii and Midway against possible counterattacks from the Hawaiian area." The second "K" Operation was to precede these activities.

On the 19th of May, a meeting between the headquarters staffs of the 24th Japanese Air Flotilla and the Japanese Sixth Fleet was held concerning the execution of the second "K" Opera-



tion. "Under the agreement the reconnaissance was to be made on the 31st of May. If, however, conditions were unfavorable on that day, the operation was to be postponed, but if reconnaissance was not possible by 3 June, the operation was to be called off." Two Type-2 flying boats of the 24th Air Flotilla, the 13th Submarine Division (*I-121*, *I-122*, and *I-123*), and part of the Third Submarine Squadron (*I-171*, *I-174*, and *I-175*) were to participate in the operation. The Third Submarine Squadron sailed for Kwajalein Atoll, arriving there about 10 May. The 13th Submarine Division completed repairs and arrived later.

The *I-121*, *I-122*, and *I-123* were designated as refueling ships and were to wait at French Frigate Shoals to refuel the flying boats involved in the mission. The *I-171* was designated as the beacon ship and was to be stationed at 19°0' N x 174°20' W (a point some 600 miles southwest of French Frigate Shoals) to guide the two seaplanes. The *I-174* was to cruise in waters southwest of Hawaii to rescue the seaplane crews in the event they had to make an emergency landing. The *I-175* was to be in a position southwest of Oahu to report weather conditions in the Pearl Harbor area. Around 20 May all submarines participating in the operation departed Kwajalein.

Lord (1967) writing about this "K" Operation reported that "when the *I-121*—first sub to arrive—reached the Shoals on May 26 she found a U.S. seaplane tender already at anchor.... Soon the *I-122* and *I-123* also came up, and the next three days were spent peeking through periscopes, waiting patiently for the tender to go away. But she didn't and by the night of May 29 something had to be done. Tomorrow was the big day: the planes would be leaving Kwajalein during the night, planning to arrive and refuel at dusk on the 30th. As senior officer, Commander Ueno took one last look—two ships were there now—and reluctantly radioed the situation to Kwajalein. Vice Admiral Eijo Goto understood; he radioed back that the operation was postponed a day; expect planes on the 31st."

"Now it was the night of the 30th, and pretty much the same story. As Commander Ueno searched the moonlit anchorage, he couldn't see the tender, but there was no mistaking that PBV—the Americans were still there. Around midnight he again radioed Kwajalein that the place was being watched. This time the answer came from Goto's boss, Vice Admiral Nishizo Tsukahara commanding the 11th Air Fleet: the planes wouldn't be coming at all; Operation "K" was 'suspended'.<sup>40</sup>

With the cancellation of the second "K" Operation, the Japanese Combined Fleet was forced to start their attack on Midway without knowledge of the location of the US Fleet. They presumed it to be at Pearl Harbor. The submarines associated with the second "K" Operation were now given further orders. The *I-122* and *I-123* continued to patrol in the neighborhood of



French Frigate Shoals; the *I-121* was sent to Laysan; the *I-171*, *I-174*, and *I-175* were ordered to a line of deployment south of French Frigate Shoals (Shibuya, 1952 manuscript).

The American ships, however well aware of the Japanese plans, had left Pearl Harbor on the 28th and 29th. Their path took them north of the Hawaiian chain, well past the Japanese deployment lines.

### US Deployment During Battle of Midway

At 0820 on 1 June 1942, the USS *Thornton* left her anchorage and headed to her patrol station; she was alone except for the Marine detachment on East Island. At 1554 the *Thornton* was back at anchor off East Island. Just before dusk an armed security boat patrol was deployed within the anchorage area.

The 2nd of June was much the same. At 0906 the *Thornton* was under way for her station. In anticipation of possible enemy attack, the skipper ordered anti-aircraft practice at 1027; 1,200 rounds of 50 cal. ammunition were expended. The ship was back at anchor at 1335. A patrol boat was again sent out during the afternoon; at 2022 it signaled for assistance as it had run aground. Assistance was sent and the boat refloated.

At 0330 on the 3rd, another armed security boat patrol was set. The *Thornton* spent the day on station and at 1800 the armed boat patrol was secured; at 1949 the ship was darkened. At 1749 on the 4th the USS *Ballard* was sighted and at 1821 the *Thornton* was relieved of duty by the *Ballard* and promptly proceeded to Port Allen, Kauai (US National Archives, Log USS *Thornton* for 1942).

At 2130 the *Ballard* anchored off East Island. That night the USS *Clark* (DL 361) heading for Midway passed south of the Shoals. On the morning of the 5th, four PBV-5 aircraft of Flight

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40. The Japanese version is slightly different. Japanese Monograph No. 11 states that "...by 30 May [all submarines] had reached their designated stations. When the *I-123* reached French Frigate Shoals area, she discovered two American ships patrolling the area. The commander of the 24th Air Flotilla, upon receipt of the findings of *I-123*, postponed the operations to the 1st of June."

"On the evening of the 31st, it was reported that enemy patrols in the vicinity of French Frigate Shoals were very active and that American flying boats were also in action. Therefore, on the same evening the commander of the Base Air Force issued orders to cancel the operations since the successful execution of the operation now seemed hopeless." It should be borne in mind that Lord (1967) used Midway time (West Longitude date) and Japanese Monograph No. 110 used East Longitude dates.

There is, however, no official American record of a PBV being in French Frigate Shoals lagoon, or even over-flying the area, on the 30th or 31st (See USS *Thornton* Log and War Diary for 1942).



#58 landed on the lagoon and were refueled by the *Ballard*; they took off for Midway. At 1245 the *Ballard* was ordered to Midway to deliver her cargo of bombs; she arrived there the next evening.

With the *Ballard* departing French Frigate Shoals on the 5th of June, only the Marine detachment remained guarding the atoll. The *Thornton* was ordered to return to French Frigate on the morning of the 6th. She anchored at 0915 on the 6th, but very early (0343) the next morning was instructed to return to Pearl Harbor. The Battle of Midway was over.

On 6 June word of victory at Midway reached the men at French Frigate Shoals and they breathed a deep sigh of relief. The presence of the US Fleet had been a total surprise to the Japanese Naval Force, for they thought they had only Midway to deal with. Japanese losses were: four aircraft carriers, two heavy cruisers, and three destroyers sunk; three battleships, three cruisers, and a number of transports and auxiliary vessels badly damaged, 276 planes blown up or downed at sea; and countless lives lost. The American losses were: one carrier and one destroyer sunk. The US Navy base at Midway was in shambles, but the Japanese had failed to capture the atoll (Woodbury, 1946; Morison, 1949; Lord, 1967).

Although French Frigate Shoals was not a site of actual fighting, the deployment of the *Preble*, *Thornton*, and *Ballard* at French Frigate Shoals was part of the overall battle strategy. The presence of these ships had prevented the lagoon from being used as a rendezvous point by the Japanese, which in turn had prevented the Japanese from learning that the American fleet was not at Pearl Harbor. Had they learned the location of the fleet, they might have changed their minds about attacking Midway. The anchorage had also been used as a refueling station by US ships and planes. If the Japanese had captured Midway they had intended to seize French Frigate Shoals and use it as a staging area for nuisance raids on Oahu (Morison, 1949).

The Battle of Midway marked the turning point of the Pacific War and the beginning of Hawaii's change from an outpost of defense to a staging area of offense (Allen, 1950).



1941: The year of the attack on Pearl Harbor, the United States entered the war. The Coral Carrier was active in the Pacific, supporting the fleet.

1942: The Coral Carrier was involved in several major operations, including the Battle of Midway and the Battle of Iwo Jima.

1943: The Coral Carrier continued its service in the Pacific, supporting the fleet during the Battle of Okinawa and the final push into Japan.

1944: The Coral Carrier was active in the Pacific, supporting the fleet during the Battle of Iwo Jima and the Battle of Okinawa.

1945: The Coral Carrier was active in the Pacific, supporting the fleet during the final push into Japan.



## CHAPTER 7

# *TERN ISLAND*

## *NAVAL AIR FACILITY*

### Project "ME-6"

Midway was still smoldering from the Japanese attack when, back at Pearl Harbor, one of the most secret projects of the Pacific Theatre was taking shape in the office of Captain Hartung, Officer in Command of the Pacific Naval Air Bases. The US Navy was determined that Midway was to get better protection in the future (Woodbury, 1946), and an air base at French Frigate Shoals was to be the means.

The idea of building a permanent landing strip at French Frigate Shoals was considered prior to the Battle of Midway, but the decision to build was a direct result of the battle. The purpose of the airstrip was threefold. First, it would provide fueling and landing facilities for ferrying aircraft between Pearl Harbor and Midway. Fighter planes in 1942 did not have the fuel capacity for the 1,300-mile trip to Midway and the Navy needed to get large numbers of planes to Midway in case the Japanese struck again. Moreover, fighters could operate out of French Frigate Shoals to engage any enemy in the area. Second, it would serve as an emergency landing facility for either land or sea planes. Third, it would be an outpost for the defense of Pearl Harbor; radio, radar, lookouts, and planes could detect and report any enemy activity in the area (R. M. Rickets, unpublished 1945 manuscript in US Navy, Classified Operational Archives; Quaile, 1947; Anon., 1949).

Thus, Project "ME-36" (most often called "ME-6"), the Navy's code for the Naval Air Station Project at French Frigate Shoals, was born. Edward Brier, Chief Engineer of the Hawaiian Dredging Company, Honolulu, who helped construct bases on Johnston, Midway, and Palmyra, made a secret reconnaissance trip to the atoll aboard a Navy vessel on 12 June 1942 to see if construction of a land base was feasible.



The ship anchored in the lee of the atoll several miles from Tern Island, and sent Brier ashore in a small boat. Getting to the tiny island through rough water, the boat hit a coral head and was wrecked. Brier and the crew swam and walked through the shoals to dry land. Brier found the little island "covered by a few blades of tough grass and populated by tens of thousands of terns." He spent several days examining the shoals, figuring possible routes for channels and estimating dredging problems. As time passed he realized that here in such an isolated spot he was not alone. He discovered the Marine detachment standing guard at East Island. This was more secret, perhaps, than his own mission.

Brier returned to Pearl Harbor well aware of the nature of the undertaking. The French Frigate Shoals construction project, both landing field and air station buildings, had to be completed and ready for use at the earliest possible moment. Captain Hartung informed the Operating Committee that this project had Priority No. 1. Every effort should be made to make 67 percent of the project usable in three months, 83 percent usable in four months, [and] 100 percent usable in five months" (Woodbury, 1946).

Back in Washington Vice Admiral Ben Moreell, Chief of Civil Engineers, US Navy, was greatly interested in the French Frigate Shoals project, for it offered the first chance to try out the newly formed Seabees. By accident he found just the man to head up the job. According to Woodbury (1946), Ralph Bart, Assistant Secretary of the Navy, had a young friend named Van Schaick who wanted to be a Seabee officer, but the Navy doctors had turned him down—because of his size. He had been a Princeton All-American tackle! Bart asked Moreell to see what he could do for him, and Moreell, delighted with Van Schaick, assigned him to the Fifth Naval Construction Battalion. The Battalion was commissioned at Norfolk, Virginia, on 25 May 1942. The 1,014 enlisted men and 24 officers arrived at Pearl Harbor on the 21st of June; they would soon be building Naval bases throughout the Central Pacific (US Navy Classified Operational Archives corresp.).

On 12 July 1942, a tuna boat sailed from Honolulu with LCDR V. A. A. Powell, USNR, Project Officer of the Civil Engineer Corps aboard; he carried sealed orders (Beech, 1946a; Quaile, 1947). Fifth Naval Construction Battalion Records (US Navy, Classified Operational Archives corresp.) show that six enlisted men were sent to French Frigate Shoals on 13 July; perhaps they accompanied Powell. Their job was to conduct a further survey of the terrain for the upcoming construction. Powell returned to Honolulu in late July convinced that the job could be done.

In the meantime the Hawaiian Dredging Company had recalled Marty Broan from another secret project and asked him to go to French Frigate Shoals as Superintendent (Woodbury,



1946). Woodbury believed that Broan sailed from Honolulu on 15 July, at 1700, on the *Mauna Loa* (acquired on 12 July 1942 as *YHB-10*), an old interisland steamer, accompanied by LT Van Schaick and a detachment of Seabees, and by various Hawaiian dredging experts including the Captain of the dredge *C. F. Weeber*, J. Kalei Kanalulu. Records vary, however, concerning the date of sailing, both for ship and men.<sup>41</sup> In the log that he kept of this trip, Broan states that "July 20 sighted land (small piece) about 8 a.m.... They spent the day 'looking over the island' and figuring out anchorages for the various tugs and barges they had brought along. Next day they set Van Schoick [sic] and his Seabees ashore to start surveying—a euphemistic term for standing hip-deep in water with a long-legged transit instrument, trying to determine where the land ought to be. Marty and his Hawaiians made a careful check of the shoals and were delighted to find a natural channel running most of the way from the sea on the south to Tern Island. This allowed them to bring their heavy laden barge directly in on the tiny beach, where the offloading of a cat [caterpillar tractor] and a great deal of camp gear proceeded rapidly. They began setting moorings. The intention was to bring the *Mauna Loa* in from her position outside the atoll to a permanent anchorage directly up against the island. They wanted her nearby; they would have to live on her for several months" (Woodbury, 1946).

Three days later Kanalulu went back to Honolulu by tug to bring out the *C. F. Weeber*. With him Broan sent a report to Pearl saying "All hands are well except for a few colds, cuts, bruises, and sunburn. Living conditions are mostly sun, salt water, stars, sand, sharks, and bird droppings. The grub is a little crude but good. Morale is good. The work program is about two weeks ahead of schedule.... Attempts to remove birds from the island by stripping same" (Woodbury, 1946).

The men on this tiny island, isolated even more so by their radio silence orders, worked from dawn to dark for the next two weeks, hindered only by the fact that their one bulldozer had a broken main spring. They soon had erected three Quonset huts on the highest part of the island and had moved part of the crew ashore. This saved much time, for they had been commuting to and from the *Mauna Loa*, still anchored two miles at sea, before dawn and after dark every day through constantly rough water (Woodbury, 1946).

"Broan was filled with admiration for his own men but thought the Seabees a little less perfect" wrote Woodbury. "It was not the Seabees' fault. They had been jammed into service at

41. See records of the US Fifth Naval Construction Battalion and Ricketts unpublished 1945 manuscript (US Navy, Classified Operational Archives); also Quail, 1947; Anon., 1949; and the unpublished summary report 1942-1944 of the 99th Naval Construction Battalion (US Naval Construction Battalion Center Archives).



top speed when the war began. Most of them had never even seen the ocean. But they would learn."

The tug *Arthur Foss* arrived on the 8th of August with the *C. F. Weeber* in tow. Broan and his men had already blasted most of the obstructions from the channel, set the heavy moorings, and laid out the "borrow pit" from which the coral would be dug to create the island. Although Broan signalled Captain Ralsteadt, of Wake Island fame, to cut loose the unwieldy *Weeber* well out in the channel, the *Arthur Foss* continued on. It headed straight for the coral shoals and quickly ran aground, forcing Kanakulu on the *Weeber* to slip the tow rope and anchor in a hurry. The tug *Gail* pulled the *Arthur Foss* off the coral head and towed it to safe water where it anchored. Next morning skin divers found no damage had been done (Woodbury, 1946).

By Monday night, the 10th, the men had the *Weeber* anchored in position over the "borrow pit" north of the island, all ready for digging, except for one thing—they had no bucket for scooping the broken coral; this they expected the next day. The barge with the huge clamshell bucket did not arrive, however, until the end of the week<sup>42</sup> (Woodbury, 1946).

### The Coral Carrier Sets Sail

When the men started digging, they made up for lost time. With the bucket, they also received "a whole army of cats and carryalls." As the dredge *Weeber*, a veritable king among seagoing diesel digging machines, "bit up great mouthfuls of coral [four yards at a time] and dumped them at the island's edge, these leviathans plunged into the water and began spreading the stuff around. Broan found he could keep his men at work sixteen hours a day" (Woodbury, 1946).

But the work did not go without difficulties and isolation and lack of mail did little to bolster the workers' morale. Not only was mail not received, but packages sent home were returned to the island undelivered, including a broken crank-pin bearing sent in to Pearl Harbor for repair! Despite these conditions, a 12,000-foot ship channel, 200 feet wide and 20 feet deep, was dredged to Tern Island. Next a seaplane runway, 8,000 feet long and 1,000 feet wide, was cleared adjacent to the island. Coral removed from these areas was dumped on Tern Island, covering the tiny 1,800- by 450-foot original island. By November 1942, all dredging—660,000 cubic yards of coral fill—was complete, and the Seabees were left to build their little

42. This would put the arrival date around the 13th of August, which is the date Quaile (1947) gave for the start of construction by the Fifth Naval Construction Battalion, and the date on which Fifth Naval Construction Battalion records show 124 men and 3 officers were sent to French Frigate Shoals (US Navy, Classified Operational Archives corresp.).



air station as fast as they could. The island had grown into a landing field 3,100 feet long and 250 feet wide, partially rimmed with 5,000 feet of steel piling driven to an approximate depth of 15 feet; it stood 6-1/2 feet over the mean tide level (Woodbury, 1946; Quaile, 1947; Anon., 1949).<sup>43</sup>

To American naval patrol pilots that periodically flew over the atoll, the island below suddenly began to take on a familiar shape—that of an aircraft carrier<sup>44</sup> (Figures 25 and 26). Although much larger than a regular carrier, the man-made island featured a “flight deck,” with a “storage deck” along its sides. Seen from a distance, the white water breaking over the extensive reef to the east of the island, gave one the impression that the “coral carrier” was steaming to the west, with its wake arching behind.

The coral runway was still freshly packed when the first plane landed. LT C. Gordon Livingston was on a routine patrol mission northwest of Oahu one day in November 1942, and his course took him over French Frigate Shoals. As he flew over, the men below signaled they had a message, 80 words. Since radio silence was rigidly in force, and to take 80 words would be very time-consuming, Livingston decided to land. He made a couple of passes. The Seabees got the idea and quickly lowered a couple of cranes, and Livingston became the first to land.<sup>45</sup> At Christmas, he returned with gifts, but since he was flying a PBY and the sea was rough, he dropped them on the coral runway (*Honolulu Star Bulletin*, 5 October 1946, 9:1).

Since the war was still raging in the Pacific, gun pits were installed around the perimeter of the airstrip as soon as possible after construction of the island itself. The island defenses included: one complete 90 mm. battery, four three-inch cannons, and sixteen 30 cal. machine guns (Figure 27). A network of barbed wire was erected on the island's beaches, and a large mine field was installed in the entrance of the channel. The latter proved a problem, for the mines broke loose and several were found on the beach around the airstrip. Others exploded on the numerous coral heads in the reef (US Naval Construction Battalion Center 99th NCB Summary Report 1942-1944; Ricketts, 1945).<sup>46</sup>

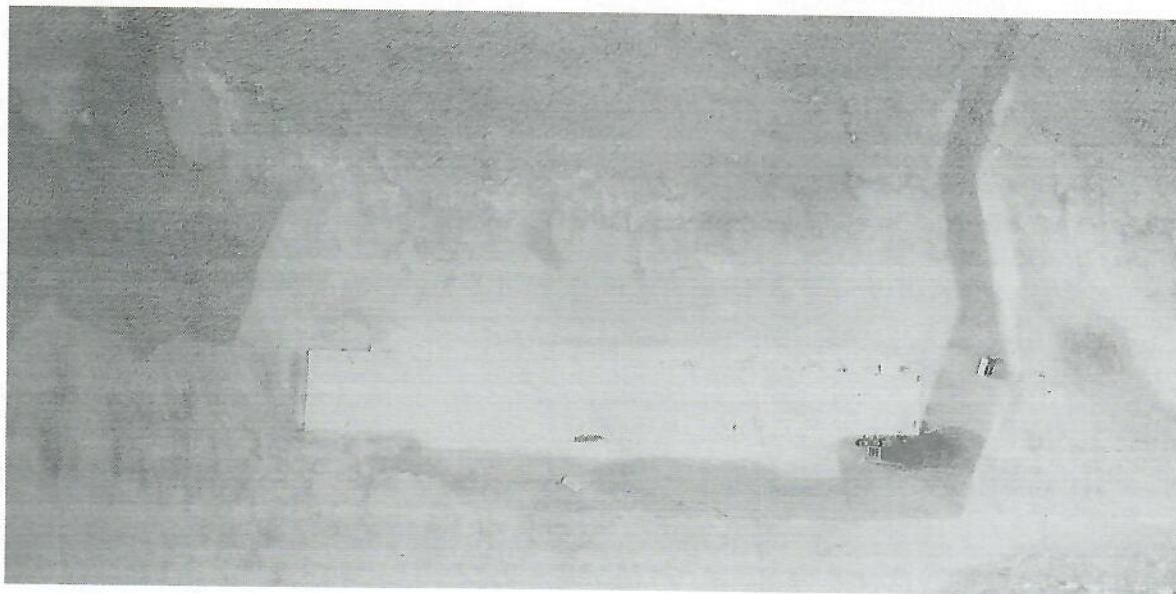
43. Military Air Station Directory, H.O. #D-270 of 1943 (then confidential), described the Tern Island Airfield, the Tern Island Seaplane Anchorage, and the East Island Seaplane Runways.

44. Quaile (1947) was the first author to refer to this man-made island as an “aircraft carrier.” One earlier author (Anon., 1949) had referred to it as a stationary “flight deck.” Amerson (1972) first referred to Tern Island, French Frigate Shoals, as the “Coral Carrier.”

45. Ricketts (unpublished 1945 manuscript, US Navy, Classified Operational Archives) gives credit to a PBY 5A, piloted by Captain Meyersburg, USMC, as the first plane to land but gives no date.



**Figure 25. Tern Island and northern portion of Shoals, circa late 1942 or early 1943. Official US Navy photograph 80-G-276662 in US National Archives.**



**Figure 26. Tern Island aerial view, circa late 1942 or early 1943. Official US Navy photograph 80-G-276663 in US National Archives.**



Construction of ground facilities also began shortly after the dredging was completed. By March 1943 the facilities at Dole,<sup>47</sup> the Navy's new code name for the air base, consisted of: one 20' x 100' building used as an office, operations center, and dry stored area; one buried 16' x 40' Quonset building for officers' quarters; two buried 16' x 40' Quonset buildings for general quarters; and one 25' x 60' recreation building (Figure 28). Most of the island's personnel, however lived and ate on the YHB-10 moored at the dock on the northwest side of the island.<sup>48</sup> Twenty steel tanks provided storage for 100,000 gallons of aviation gasoline; one buried 6,000-gallon tank contained diesel fuel. A 90-foot radar tower was installed on the north edge of the runway. Fresh water and electrical power were provided by evaporators and generators (Ricketts, 1945; US Naval Construction Battalion Center 99th NCB Summary Report 1942-1944).

Several authors (Ricketts, unpublished 1945 manuscript; Quaile, 1947; Anon., 1949) credit the RMS *Queen Mary*, with escorts and tanker, as having anchored and refueled on 10 March

46. On 23 December 1943 an unidentified mine, covered with growth, drifted ashore at Tern Island, missing by 100 yards a moored ship. A mine disposal officer promptly disarmed it (1943 War Diary, ComHawSeaFrob, US Navy, Classified Operational Archives).

47. Code name originally was Plutocrat.

48. The YHB-10 had berths for 192. During the latter half of 1943 it was moved to a position approximately midpoint along the northern shore and anchored (US Navy records: Federal Records Center, 14th Navy District, Knowles and Powell correspondence, 1943).



Figure 27. Tern Island gun emplacements 9 September 1943. Official US Navy photograph 80-G-339617 in US National Archives.

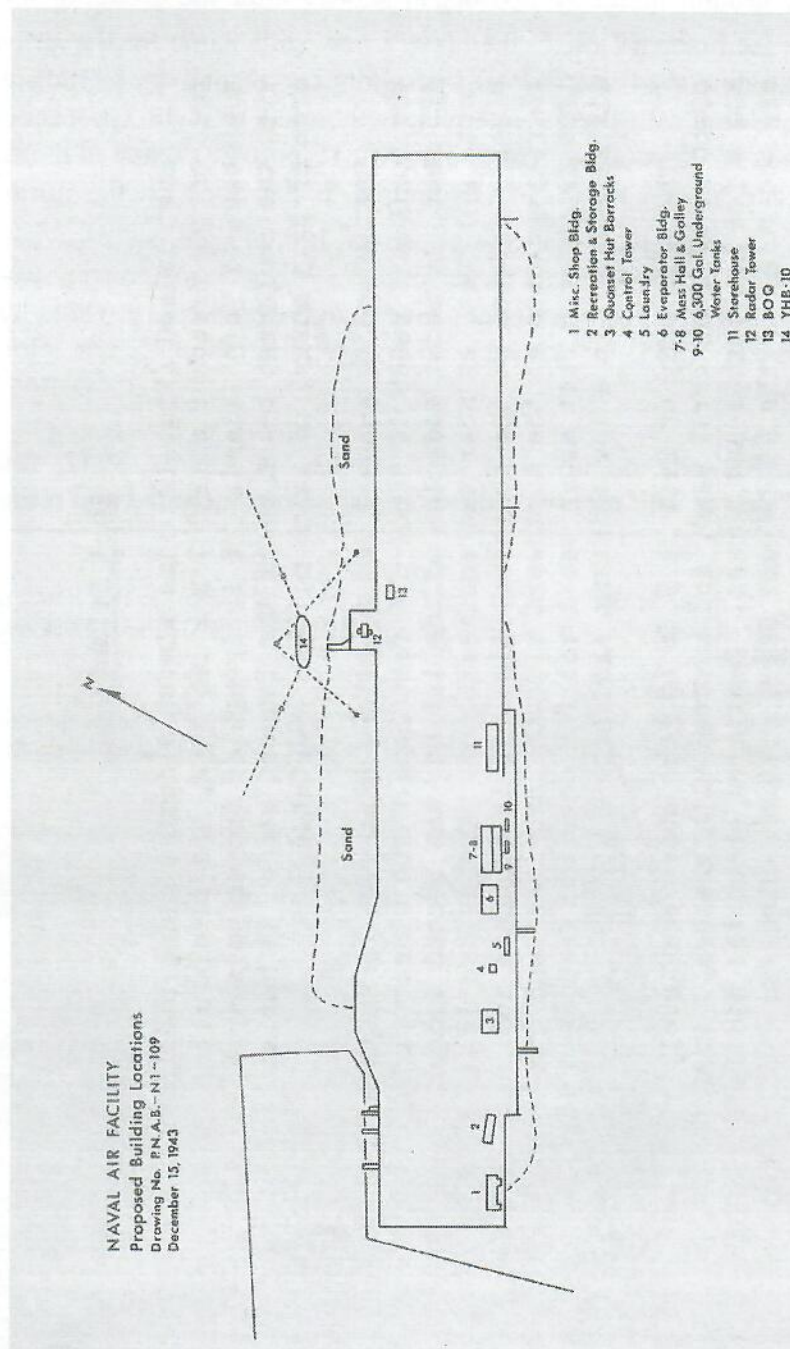


Figure 28. Tern Island Naval Air Station, 15 December 1943. Redrawn from Official US Navy blueprint map (Amerson, 1971).



1943 off the Tern Island channel entrance. Although the *Queen Mary* served as a troop ship and made several trips from New York and the United Kingdom to Australia by way of Cape Horn or the Suez Canal during the 1941 to 1943 period, no records exist showing her traveling through the Central Pacific (Behrens, 1955; Potter and Frost, 1961). Perhaps Ricketts and Quaile were referring to the *YP 349*, sometimes referred to as the "*Queen Mary*," which was a converted fishing vessel used by the 14th Naval District in the Hawaiian Islands and which frequented French Frigate Shoals.

Fifth Naval Construction Battalion records show that on 21 March 1943, the 3 officers and 123 men of Company B returned to Pearl Harbor. The total cost for the French Frigate Shoals project was nearly \$2,000,000. The original contract with Hawaiian Dredging Company was for \$1,300,000; this sum was to cover dredging and purchase of supplies. The estimated Seabee labor cost was \$500,000 for building the airfield and its installations (Beech, 1946b).

### Facility Commissioned

The new Tern Island Naval Air Facility was commissioned on 17 March 1943, on which date the first draft of men arrived with LT W. S. Tenhagen, USNR, in charge. The table of organization allowed for 118 men; the men were rotated every three months. LT A. B. Clarke, USN, was designated as Officer-in-charge, but he did not arrive until 23 March. The facility at first was a Department of the Naval Air Station, Pearl Harbor, with all personnel being furnished by the Naval Air Station. In May 1943 it was transferred to the control of the Naval Air Center, Pearl Harbor<sup>49</sup> (Ricketts, 1945; Dater *et al*, n.d.).

In November 1943, plans were initiated to add new barracks and galley facilities since the *YHB-10* was in poor condition. The underground structures on the island were in even worse condition, since they were damp even in dry weather and tended to flood during high seas.

The only structures above ground were a 9 by 12 foot officer's quarters, a recreation building, and a wooden water tank. Everything else had been placed underground so enemy submarines could not detect any activity. The early planners had failed to realize, however, that the moored *YHB-10* would attract the attention of any visiting ship. The underground structures

49. As of January 1944, the Naval Air Facility at French Frigate Shoals was designated Task Force 97.2 and operated under the Command Hawaiian Sea Frontier (Task Force 97). On 28 September 1944 this unit was designated a detached or separate command with authority to convene summary court martials, deck courts, and to administer punishments set forth in Article 24, Articles for the Government of the Navy (US Navy, Class. Oper. Archives: War Diary, January 1944; 14th Naval District correspondence 1944).



were inadequate; even the underground ammunition storage areas were wet. Final plans for new construction were approved on 15 December 1943 by CMDR V. A. A. Powell, Project Manager, and LT H. C. Strupman, Public Works Officer (US Naval Const. Bn. Center, 99th NCB Summary Report 1942-1944).

Ironically, also on the 15th of December, the USS *Sunnadin* (ATF-28), commanded by LCDR N. B. Hopkins, left Honolulu for French Frigate Shoals, accompanied by the *YT-335*, to tow the dredge and tug used in the original construction back to Honolulu. The *Sunnadin* moored at Tern Island shortly before noon on the 9th; the *YT-335*, having had bearing trouble on the second day out, was towed to its mooring alongside Pier #1. On the afternoon of the 19th, the *Sunnadin* left the atoll with the dredge *C. F. Weeber* in tow; tied astern of the *Weeber* was the *YT-335*. This strange procession arrived in Honolulu on the afternoon of the 23rd (US National Archives, Log of USS *Sunnadin* for 1943, R.G. 24).

Christmas 1943 at French Frigate Shoals was really white—from sun-bleached coral, not snow. A wartime atmosphere prevailed; beach patrols were active at night; barbed wire entanglements rimmed the long sides of the island and gun pits dotted the landscape.<sup>50</sup> There was no Christmas tree, no greenery on the island whatsoever. Christmas packages did arrive in time, however, including a fifth of martinis for Commanding Officer LCDR Theodore D. Dabagh (Dabagh, pers. comm., June 1969).

In late 1943 and early 1944, the normal tour of duty was three months; most men signed up to an extra tour for morale was high. For recreation the unit had three "Chris-Craft" boats which they used for fishing as well as for meeting incoming tugs. Shell collecting and swimming were popular with the men.

Animal life on the island included one dog, a female fox terrier, who was the sole pet of the station (Figures 28 and 29); she arrived by "jumping ship" from a visiting tug. A few Laysan Albatross, shearwaters, and White Tern, earlier inhabitants of Tern Island, had returned. Vegetation<sup>51</sup> first appeared in late December or early January. It was carefully watered and shortly produced a small, but beautiful, yellow blossom. Dabagh carefully picked the bloom and enclosed it in his next letter home; his wife Jean still had the pressed *Tribulus* in her possession in 1969 (Dabagh, per. comm., June 1969).

50. A 40 mm. anti-aircraft gun was located at each corner of the island, four 90 mm. anti-aircraft guns which could be lowered for surface craft were clumped near the north docks, and two 20 mm. guns were in place near the north center of the island.

51. Knowles, Dabagh's predecessor, had not allowed even a blade of grass to grow on the island.





**Figure 28. Tern Island Naval Air Facility personnel in front of station office early 1944; l. to r.: Yeoman Burns, unidentified, LCDR T. D. Debagh (Commanding Officer), unidentified Commando pilot, LT B. B. Silver (medical), LTJG Diven Meredith (Seabee officer) Station's pet fox terrier, and Chief Machinist E. H. Vesser. T. D. Dabagh photograph.**



**Figure 29. Tern Island Naval Air Facility personnel early 1944; far right is Chief Machinist E. H. Vesser with Station's pet fox terrier. T. D. Debagh photograph.**

By late January 1944, the condition of the *YHB-10* had grown worse because of a continual breakdown of machinery and lack of spare parts. LCDR Dabagh put in an urgent request for a higher priority on the construction of the galley and mess hall so that work could commence immediately. Construction material was shipped on the 28th of January. A special detachment (known as the ME-6 Detail) of 25 men and 1 officer, LTJG Diven Meredith, USNR, from the 99th Naval construction Battalion, arrived by air on 29 January. Construction started on the 30th. The Seabee detachment was assisted by the station personnel.

At 1130 on 23 April 1944, the USS *Sunnadin* (ATF 28), LTJG J. A. Smith commanding, returned to the Shoals and moored to the dock at Tern Island; it had towed a barge (*YC #1032*), from Honolulu with building supplies for the Seabees. It returned to Honolulu the following day with the unloaded barge (US National Archives, Log of the USS *Sunnadin* for 1944, R.G. 24).

Several changes and additions were made to the 15 September 1943 plans during early and mid-1944. By 24 September 1944, the original temporary base had been converted to a semi-permanent installation. The new facilities installed by the Seabees are detailed below:

Quantity	Size and Description
1	40' x 80' Frame Power House <sup>a</sup>
1	20' x 112' Quonset Mess Hall
1	20' x 112' Quonset Galley, Dry Stores, CPO Mess, and Officer's Mess Hall
1	20' x 50' Igloo-type Steel Ammunition Magazine (buried)
1	20' x 60' Radio Receiving and Operating Building
1	20' x 80' Radio and Radar Transmitting Building
1	20' x 30' Radio and Radar Auxiliary Power Building
1	20' x 60' Officers' Barracks
1	20' x 56' Quonset Barracks
1	16' x 40' Hospital and Library
1	16' x 24' Aviation Repair and Operating Building
1	40' x 170' Industrial Shops, complete with necessary tools and equipment
1	90' Steel Radar Tower
1	15,000-gallon Elevated Wood Water Storage Tank, with lines and pumping facilities
3	5,000-gallon Diesel Fuel Tanks and complete fuel transfer system
1	Complete Underground Power Distribution System



Quantity	Size and Description
1	1,500-foot Steel Sheet Pipe Seawall, to complete enclosure of initial development
1	Laundry
1	Garbage House
4	Triangulation Station Platforms

- a. Equipped with 150 KW capacity diesel generators with transformers and switchgear, 4,000 cu. ft. of refrigerator capacity, 12,000 gallons per day water evaporator capacity, and two 50 HP steam boilers.

In addition to constructing these new facilities, the Seabees were used to patrol the beaches for the first six weeks. Subsequently they were assigned to the station damage control party and to manning the six 30 cal. machine guns during General Quarters. Considerable maintenance work was done by the Seabees, including planning, supervision, and supply of station public works. This group of Seabees also produced a lay chaplain to continue regular church services on the base which had been started under Dabagh.

Whereas the Navy Air Facility personnel rotated every three months, the Seabees remained for about eight months; the last Seabee left on 1 October 1944. LCDR F. S. Roach, USNR, Commanding Officer of the Naval Air Facility at the time the Seabees were departing, wrote in his final report of 24 September that "LTJG Meredith and his men deserve the highest praise for the quick and thorough accomplishment of construction under the adverse conditions of recurrent shortages of material and obsolescent equipment."

During early 1944 various aircraft stopped to refuel on their way to Midway. On one occasion, a Curtis Commando carrying 30 to 40 Marines to Midway lost one of its engines. It began to lose altitude and so notified the French Frigate Naval Air Facility which sent a Grumman "Duck" to look for the crippled plane. To keep from losing altitude, everything, including a case of whiskey, was dumped into the ocean. The only things the Marines refused to jettison were their rifles. The "Duck" found the ailing Commando, which was now 200-300 feet above the water, and gave the pilot landing instructions. The pilot brought the plane in very skillfully; the "dead" engine held up until the plane was over the landing strip. The men didn't wait for steps to be in place; they jumped the 10 to 15 feet to the ground and were so happy to be safely down that many actually kissed the ground. The men remained until another plane could be sent from Oahu (Dabagh, per. comm., June 1969).

One day, two unidentified blips were seen on the radarscope. French Frigate knew that Army Air Force planes were to be in the vicinity but they were not to fly over the atoll. The blips got



closer and since the planes carried no IFF they could not be identified until within visual range. The Air Facility was on strict radio silence, but that did not prevent them from listening. Soon they heard an American voice say: "Hey, something's down there. Let's take a look." On the ground the men were at their Battle Stations, but as soon as they saw the planes they knew they were friendly. However, since the planes were not supposed to fly over the island, the 90 mm. gun crew decided to give the planes a scare and fired a volley between the two planes. As the planes sped away, the ground control heard one of the pilots say "Get the hell out of here, these guys mean business!" (Dabagh, pers. comm., June 1969).

In November of 1944, Navy personnel for the station were four officers and 123 enlisted men. Land plane capacity was 18 VF's or small VB's, with 22 (capacity 24) hardstand spaces (parking spaces protected by a semicircular dirt embankment) available. The coral runway was in use as an emergency refueling strip, and certain repairs could be obtained. The emergency seaplane capacity at East Island was six patrol planes; buoys were available but there were no anchors (US Navy Classified Operational Archives, 14th Naval District, corresp., Op 441H). As of 26 September 1945, there were five officers at Tern Island Naval Air Facility; the Officer in charge, LT R. M. Ricketts, USNR, who was a Naval Aviator, an Ensign who was also a Naval Aviator, a Chief Radio Electrician, a Chief Carpenter, and a Chief Machinist. Details as to the number of enlisted personnel are unknown.

In regard to the station, Ricketts (1945 manuscript) wrote: "Maintenance of the equipment on the island has been found to be one of the major jobs. The salty damp air has a great tendency to rust the equipment very fast. Preventative maintenance was found to be the only answer. The sea wall, although still in good condition, requires constant inspection and repair. Several parts of the wall have already bulged making it necessary to dig out the inboard side, plant tie-backs, pull the sea wall back into place, refill and roll smooth." He suggested that "tying back these sea walls when they were constructed would have saved a lot of future work." Recreational facilities were considered by Ricketts as "very limited.... Movies are shown 7 times a week. Swimming is excellent. Fishing is very good, but proper equipment hard to get for this activity. The morale of the men, however, is very good at all times."

The Tern Island station had a role as an emergency landing place. Planes en route to and from Midway and Pearl Harbor were frequently forced to land at the base because of weather fronts, fuel requirements, and mechanical troubles. Types of planes which used the base were: SBD, F4F, F6F, PBV-5A, R50, R4C, R4D, PV-1, and B-25 (US Naval Construction Battalion 99th NCB Summary Report 1942-1944).

During the war, daily reconnaissance flights operated out of French Frigate Shoals and surveyed the surrounding area for a radius of 100 miles. Radar, covering a 40-mile radius, was



monitored by station personnel. Weather data was constantly accumulated and supplied to Fleet Weather Control, Pearl Harbor (unpublished 99th NCB Summary Report, 1942-1943).

Enemy action at or near French Frigate Shoals after the Battle of Midway was very light; the station was never attacked. The War Diary of the Commander Hawaiian Sea Frontier (US Navy, Classified Operational Archives, War Diary, 14th Naval District) from October 1942 through 1945 reveals only seven instances of possible enemy ships in the area. On 9 December 1942, the station was alerted when at 1414 a search plane sighted a submarine bearing 284° at a distance of 358 miles from Oahu. The USS *W. W. Burrows* and USS *Marcasite*, en route from Midway to French Frigate Shoals and Pearl Harbor, were alerted; the submarine disappeared. A week later (16 December 1942 at 1525) a plane en route from Midway to Honolulu observed a submerged submarine at 25° N x 167° W; the French Frigate Shoals station was alerted and a search instigated, but no further sightings occurred.

During the nights of 26 and 27 January 1944, signal rockets (flares) originating from the ocean surface, approximately eight miles off Tern Island, were sighted by a lookout. An air search of the area during the day found nothing. Around 1200 on 17 June, aboard the USS *Chalcedony* (YC-16) en route Pearl Harbor from Midway, several enlisted men sighted twin periscopes at a distance of 1,500 yards for 2-3 minutes. This sighting was at a position bearing 180°, distance 75 miles, from French Frigate Shoals. Sonar gear aboard the ship was unfortunately broken at the time of sighting.

On 25 December 1944, a plane sighted an unidentified submarine on the ocean surface, course 280°, at a position approximately 75 miles northeast of French Frigate Shoals. Upon investigation, the submarine submerged and disappeared. Subsequent air search conducted by patrols from French Frigate Shoals and Oahu found no trace of the submarine.

On 7 April 1945 at 2120 a PB4Y2, on a routine bombing practice run to Necker Island from French Frigate Shoals, obtained one radar contact while going out and two separate contacts while returning, at a position bearing 098°, distance 165 miles, from Tern Island. The pilot circled and dropped to just above the water but observed nothing. All contact "pips" were described as small but positive. Long-range search planes from Oahu combed the area the following day with negative results except for one radar blip in the same area. Atmospheric disturbances were believed to have been the cause.

Ricketts (unpublished 1945 manuscript), having access to an early station log, revealed one instance (no date given) where an unidentified surface target was sighted; several shots were fired with no apparent hits. The Hawaiian Sea Frontier War Diaries do not reveal any such action by station personnel.



Figure 30 shows the Tern Island Naval Air Facility as of 24 April 1945. In May 1945, the men at French Frigate Shoals were treated to an unexpected visit. Patricia Young (Durrie Monsma, pers. corresp., January 2012) writes: "We were two R4D planeloads of Marines who were the cast, band, sets, costumes of an all-marine comedy, 'All Fouled Up' on our way to Midway. We were told it was all fogged in and we could not land and had to do so on FFS. We did our show for the men there, in a little building in which they had occasional movies. The benches were removed after the show and cots provided for us 12 girls to sleep on that night and an armed guard was posted at the door. We continued on to Midway the next day, beginning a two month tour of bases and camps in the Hawaiian chain. The whole of FFS was white, runway, buildings, jeeps - and not a blade of grass, bush or tree anywhere to be seen." This is another rare record of females visiting the US Naval Air Facility at French Frigate Shoals.

With the formal ending of the war 2 September 1945, the Navy felt it no longer needed the French Frigate Shoals Air Facility. Thus, on 7 October 1945, the station was placed in a caretaker status pending removal of materials and decommissioning decision by the Chief of Naval Operations (US Navy, Classified Operations Archives, 14th Naval District War Diary 1945). On 18 June 1946, the Secretary of the Navy sent a letter to All Ships and Stations notifying them of the disestablishment on 9 June 1946 of the US Naval Air Facility at French Frigate Shoals (US National Archives, R.G 80, Op. 24-1, jn, A4-2/NA). On that date, the last 13 men left Tern Island (Buchwach, 1946a).



Figure 30. Tern Island Naval Air Facility, aerial view, 24 April 1945. Official US Navy photograph 80-G-383150 in US National Archives.



## CHAPTER 8

***FISHING INTERESTS*****Confused Legal Affairs**

The US Navy, forgetting about French Frigate Shoals' status as a federal wildlife reservation and thinking they owned Tern Island, tried to hand over the former US Naval base to the Territory of Hawaii.

In late 1946, four months after the Tern Island Naval Air Facility was decommissioned, Rear Admiral R. F. Whitehead, Commanding Officer of US Naval Air Bases in Hawaii, announced that the Navy would like to hand over the base to the Territory of Hawaii, which the Navy thought owned the land. Benjamin Rush, Territorial Superintendent of Public Works, was not sure, however, that the Territory wanted it. Whitehead, Rush, E. V. Brock (a Department of the Interior fish expert), and two others flew to Tern Island on 1 October for an inspection. On his return, Rush commented that the island might be worthwhile for fishermen for relaying catches, but would be of little use as a territorial airfield (Beech, 1946a).

On 27 November, the *Honolulu Star Bulletin* (3:5) further reported that Rear Admiral H. B. Gardner had left the previous day by plane for a final inspection of the Tern Island facility. The article revealed that the Navy proposed that the Territory of Hawaii accept the field and carry the cost of maintenance by charging fishing and freight plane companies for the use of the island. The Navy added a requirement that the air field be operated as a public utility to permit its use by all licensed aircraft. This would, in effect, give the Navy a free emergency landing field. The Territory said it could no more afford to keep up the airport than could the Navy.

In 21 December 1946, the Department of the Navy gave Vice Admiral John L. Hall, Commandant Fourteenth Naval District, authority to turn over the French Frigate Shoals facility to the

Territory of Hawaii on a revocable basis. Hall informed him of this and of the fact that the Navy would retain responsibility for maintenance of the island's piling enclosure (*Honolulu Star Bulletin*, 21 December 1946, 1:3; 1 January 1947, 4:2; *Honolulu Advertiser*, 22 December 1946, 6:8). On 28 July 1947, the Hawaiian Aeronautics Commission voted to reject the Navy's offer on grounds that it did not have the facilities to maintain it.<sup>52</sup>

The Hawaiian Aeronautics Commission showed renewed interest in French Frigate Shoals in the spring of 1948 and planned to consider the subject at the June board meeting (*Honolulu Advertiser*, 12 May 1948, 1:2; 4 June 1948, 4:3). R. L. Campbell, Director of Aeronautics, and E. A. Bowles, Hawaiian Aeronautics Commissioner, left Honolulu on 19 July aboard the USCGC *Iroquois* for an inspection of the island; they returned on the 24th. After returning Bowles recommended that the Commission take over Tern Island but not be obligated to spend money acquiring the field (*Honolulu Star Bulletin*, 21 July 1948, 8:1; 31 July 1948, 3:3).

On 4 November 1948, Glenn T. Belcher, the new Director of Aeronautics, notified the Commandant of the 14th Naval District, Pearl Harbor, that the Territory of Hawaii was "in a position to take over the airstrip and other facilities at French Frigate Shoals and to make them available to the public and to certain Federal and Territorial agencies." He further noted that "the Territorial Board of Agriculture and Forestry has indicated that the availability of air and harbor facilities...would be a great benefit and encouragement to the fishing industry." Finally, Belcher requested that the Navy prepare the necessary papers "to effect the transfer without monetary considerations, of the subject airstrip and facilities to the Territory of Hawaii." The letter was co-signed on 8 November by Ingram. M. Stainback, Governor of Hawaii (Hawaiian State Archives, #1871).

### Commercial Fishing

As early as June 1946, commercial fishermen began to use the base facilities at Tern Island. Jake Hoopai in the *Simba* was the first to fish in the atoll's waters after the war. Early trips of the *Simba*<sup>53</sup> were profitable enough for the Hawaiian Tuna Packers, Ltd. to send the sampan

52. Prior to the creation of the Commission by the 1947 legislature, the Territory of Hawaii had temporarily accepted control of the airfield with the provision that it would be allowed to sublease the field to a commercial fishing company to use as a base from which to air-freight fish to Honolulu. This had been agreed upon by the Navy, and a local fishing company was using the strip. However, in view of the Navy's contentions that, irrespective of any lease agreements, it would still hold the Territory responsible for maintenance, the Hawaiian Aeronautics Commission decided to terminate the fishing operation (*Honolulu Advertiser*, 29 July 1947, 1:3).



*Sailfish* to French Frigate Shoals in mid-September 1946 (Louis Agard, Jr., per. corresp., August 1949). Both Honolulu newspapers (Beech, 1946a, 1946b, 1946c, 1946d, 1946e; Buchwach, 1946a, 1946b) carried stories on the venture. Two shipments of fish were sent from Tern to Honolulu by chartered plane at the cost of 10 cents per pound. The *Sailfish* brought another load. Keys Beech of the *Star* pointed out obvious drawbacks to Tern as a fishing center: there was no refrigeration and no fresh water. If these problems could be solved, Beech felt that Tern, only three hours by air from Honolulu, could be developed as a weekend fishing resort.

In a joint venture two companies—the Hawaiian-American Fisheries, headed by Louis K. Agard, Jr., and the Seaside Fishing Co., run by Frank Opperman and Warren Haines—established a fishing base on Tern Island early in November 1946. The companies contacted the proper Territory offices for permission to use the strip on the understanding that they would maintain it. The Hawaiian Fish and Game Department gave permission to use large fixed traps. Agard (pers. corresp., July-August 1969) had arrived at the Shoals by plane in October to take personal charge of setting up operations for his newly formed fishing company.

He chartered the small interisland freighter *Maizie C* to carry the land equipment, nets, and skiffs to Tern (Figure 31). A Trans-Air Hawaii DC-3 ferried the crew and additional equipment (Figure 32). The crew he hired ranged from a youngster of 16 to an old Hawaiian who claimed to be 67. For the first two and one-half months the men lived in the deserted Navy quarters at Tern. They worked the shallow inshore reefs using the skiffs with outboard motors. They netted uhu, palimi, moi, and aholehole, as well as trolled for ulua and other small tuna-type with success.<sup>54</sup>

The fish were sent back to Honolulu by Trans-Air Hawaii DC-3's; seven flights were made. In addition, the *Simba* made between four and eight round-trip runs to Honolulu and the *Sailfish* made one trip. Figures 33 through 36 show activities of the Hawaiian-American Fisheries efforts at French Frigate Shoals.

The early operations at the fishing base were described in a news article by John Pincetich in the 16 December 1946 issue of the *Honolulu Star Bulletin* (13:4-5). A local KGMB radio

53. The *Simba*, once owned as a luxury yacht by Mary Pickford and Douglas Fairbanks, later became famous when it disappeared on a run from French Frigate Shoals to the Main Hawaiians. The only trace of her was the finding of a life vest on the western beach of Oahu some months after her disappearance; all hands were lost (Agard, pers. corresp. 6 October 1969).

54. Only after being on the atoll for a while did they find other varieties of fish, such as akule (which later became their chief quarry), weke, and menpachi. Lobster were also taken.



Figure 31. Fishing crew off-loading supplied from Freighter *Maizie C* at Tern Island pier October 1946.  
Photograph by Louis Agard, Jr.



Figure 32. Trans-Air Hawaii plane with Hawaiian-American Fisheries crew at Tern Island October 1946; "Steamboat," the oldest at 67, is on the left, while the youngest, 16, is second from the right. Photograph by Louis Agard, Jr.





Figure 33. Trans-Air Hawaii DC-3 arrives at Tern Island, November 1946. Photograph provided by Louis Agard, Jr.



Figure 34. Louis Agard, Jr., head of Hawaiian-American Fisheries at left, checks loading manifest of Trans-Air Hawaii DC-3, November 1946; fish traps are on truck far left. Photograph provided by Louis Agard, Jr.



**Figure 35. Hawaiian-American Fisheries crew heavily bundled against the constant wind and cold at French Frigate Shoals during November 1946. Photograph by Louis Agard, Jr.**



**Figure 36. LTJG Fred T. Coombe, commander East Island Coast Guard LORAN Station, with Hawaiian-American Fisheries crewman, November 1946. Photograph by Louis Agard, Jr.**



announcer, Charles Crockett, had flown to the camp, spent the night, and returned the following day with his story and a plane-load of 7,000 pounds of fish. The company's planes carried 5,000 pounds of ice on each trip for preserving the fish on the homeward flight. At first ice was shipped in insulated boxes by the *Maizie C.* However, Pincetich noted that an "expansion of facilities on the bleached little island are contemplated in the near future with possible installation of water distillation equipment, an electricity generating plant, and refrigerated spaces to hold 10 tons of fish."

Equipment was shipped in to rebuild the reefer box, used previously by the Navy, to hold fish catches until a plane load was ready to be transported. In early 1947, Agard ran a converted LCM, the *Silver*, from Honolulu to the Shoals to resupply the fishing station and to use as a work boat. This was probably one of the longest open-sea voyages for this type vessel. During 1947, Irma Agard, Louis' wife, made one of the Trans-Air flights to the Shoals and became one of the few women to visit French Frigate Shoals in the 1900s.

The men lived on and worked off all the islands within the lagoon. For the most part they set day nets but sometimes they worked at night. They constructed large fish traps, both portable and stationary,<sup>55</sup> with poor to fair success. Large fish, especially shark and ulua, damaged the traps, and heavy weather, creating rough seas, battered them. A great many turtles were captured and taken to market. Turtle meat became one of the mainstays of the crew's diet, supplanting beef. However, the turtle numbers dwindled, probably from human disturbance rather than the actual killing, and soon turtle was not considered a commercial product. Agard (pers. corresp., August 1969) estimates taking 200 turtles between 1946 and 1948.

Life of the fishermen at French Frigate Shoals was described picturesquely by Ches Chesbrough, who flew to the Shoals and wrote about the visit in the *Sunday Polynesian*, a supplement of the *Honolulu Advertiser*, on 2 December 1947.

"On Tern's little, weatherbeaten, quonset-studded, strip-side shelf of coral sand lives a group of Hawaiian and Filipino fishermen and one or two haole engineers. The fishermen number around a dozen, fluctuating with the small number weekly flying to and from Honolulu 'on leave.' When the chartered...airplane...buzzes in, usually on a Sunday afternoon, they are sure to be on hand to eat their ice cream and get the two tons of airborne ice moved into the storage boxes before it melts. Many crates of fresh vegetables and cartons of other supplies for the pantry have to be unloaded, too."

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55. Remains of these stationary traps were still found on the lagoon side of both Whale-Skate and Trig Islands as late as 1969.



"Soon another visiting craft buzzes into view—this time an LCM carrying most of the personnel of the Coast Guard Radio Station on nearby East Island. Trans-Air brings in supplies and mail for them, gratis, as well."<sup>56</sup>

For a fishing operation, "a crew of about eight men board...the *Silver* and tow a dinghy loaded with nets and other gear, oars and an outboard motor through the channels leeward of the inner reef. Near a break in the shallow reef, the vessel is anchored and the crew putt-putts through to the outer reef in the small boat."

"When a good spot is found, one end of the net is held across a gap in the jagged submarine seascapes while the remaining length of the net is stretched out at less than right angles. Meanwhile, half of the crew is starting to 'beat' along the reef a short distance away with a long, leaf-fringed rope, flipping it along the surface to scare the fish toward the webbed coral. When the ends of the net are joined, theoretically there soon should be a large flock of flipping finnies filling the bilges of the dinghy. As soon as possible the catch is rushed back to the *Silver* and iced."

"It is precarious work, however, with the nightmarish, keen-edged coral and the shoving, sucking surf to contend with. Nets often get tangled and torn; fishermen lose their footing and must keep an eye open for vicious eels. Sharks and rays, while fairly common, do not worry the men as much as the more pugnacious eels."

"Inside the frosty caverns of the reefers lie thousands of ulua, papio, and other unfortunate fish like aholehole, weke, uu, and manini, petrified with below-freezing cold until just before the plane departs the next morning. Then they will be transferred like cordwood, first into the surplus army truck which is the island's only 'jitney,' then into canvas-lined compartments in the DC-3s cabin."

During the first three years of operation Hawaiian-American Fisheries grossed over \$73,400 at the Shoals; profits totaled about \$19,500. Air transportation, however, totaled some \$36,125. Had the company owned its plane, Agard surmised a savings of almost \$26,825 could have been effected. Thus, a new corporation, Aero Fisheries, was formed and a plane purchased by Agard; his partners were Jack Beatty and Stanley Jabihon. The Tern Island air-

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<sup>56</sup> These chartered flights brought in perishable Coast Guard supplies and also transported their personnel on short leaves. Next to the sought-after mail, new movies were most cherished. These flights were more frequent (perhaps once a week) than the regularly scheduled Coast Guard ship arrivals spaced once every three weeks (Agard, pers. corresp., August 1969).



strip and three buildings were rented for \$50 a month. Only one flight was completed in late July 1949, but mechanical failure grounded the company's plane in mid-August. The corporation did not have the reserve finances to continue the plane operation (Agard, pers. corresp., August-October 1969).

On 9 April 1948 the Hawaiian Tuna Packer's reefer ship *Reliable*, and three sampans, the *Orion*, *Amberjack*, and *Buccaneer*, arrived at the Shoals to fish for the abundant tuna seen in the vicinity by Agard. The sampans' crews, unfamiliar with the area, were hesitant in venturing out of sight of land; they were accustomed to the high Oahu peaks for navigation. This, as well as a lack of fresh water, supplies, and other comforts, led to a virtual sit-down strike by the crews. The *Reliable* and the three sampans returned to Honolulu on the 16th.

On 21 July 1949, an entry in the East Island Coast Guard logbook reveals that a fishing boat, described as a "converted crash boat with gray hull...", stood in for French Frigate Shoals. This was probably the sampan *Alika*; it worked with Aero Fisheries, the revised Agard company. The *Alika* again visited the atoll from 19 April to 6 May 1950. The *Naia*, another of Agard's vessels, arrived in mid-May 1950 and sailed between Tern and Honolulu for several years. Agard (pers. corresp., August 1969) recalls that later she "became one of the most mysterious vessels ever, for, under the command of 'Dusty' Miller, she was found floating in the South Pacific a deserted derelict; no clues have been found to this day as to what happened."

On 14 August 1951, the *Honolulu Star Bulletin* (19:4) reported that Walter M. Glockner, Honolulu, and Judge John D. Tereira, Kauai, had made a recent trip to French Frigate Shoals by chartered plane to investigate the establishment of a fish processing or storage industry. They had found it necessary to "buzz" the field before landing in order to clear the airstrip of great flocks of birds. Before returning they photographed the area. The article also reported that Kapiolani Miller of Honolulu, one of the few women to set foot on the island, was along on the trip. Nothing became of this venture.

The *Osprey*, a 70-foot fishing vessel, visited the atoll eight times from mid-June 1952 to late 1953; on several occasions it needed gasoline and oil. The *Osprey* later shipped water and sank west of and close to the Shoals. The Tern Island Coast Guard LORAN Station logbook for 24 May 1954 tells the story. At 0055 the station received a distress call from the *Osprey*,<sup>57</sup> located at that time approximately 20 miles northwest of the unit; a continuous radio watch was set with the Coast Guard Primary Radio Station, Honolulu. Numerous surface vessels and

57. The *Osprey*, owned and operated by Heisei Shinsato of Oahu, and its cargo were valued at \$40,000 (*Honolulu Advertiser*, 25 May 1954, 1:7-8; 27 May 1954, 1:6-8).



aircraft searched the vicinity from 1300 until 1630 when aircraft indicated the survivors' position with a floating smoke marker; the survivors could be seen from Tern Island atop distant wave crests. At 1815, the USS *Pictor* picked up the five survivors, who were estimated to be six miles northwest of the island.

Another fishing vessel, the *Kayo Maru* operated around the Shoals during September 1957. At that time it stopped at Tern Island and transferred a crewman to a Coast Guard plane for evacuation to Honolulu. On 16 February 1957, it again called at French Frigate Shoals and requested repair assistance; it returned on the 30th for medical treatment of a crewman. Agard (pers. corresp., August 1969) recalls that the *Kayo Maru* later sank in a hurricane while operating around the Shoals; all hands were lost. This sampan, as well as the others mentioned, were part of a larger fleet of deep-sea fishing boats, many of which were lost during fishing operations. The *Taihei Maru*, a frequent visitor to the Shoals from 1952 through 1954, was the only surviving sampan of this fleet in 1969.

In 1959 Agard started another joint venture, purchasing a refrigerated vessel, the *Oceanic*, to work at the Shoals and hold fish until transfer to planes. A plane was purchased from Pacific Airmotive and used for transporting fish to Honolulu.

In retrospect, Agard (pers. corresp., July 1969) writes that "the area's bleak desolation and lack of conveniences...did create many problems. Were it not for a youthful pioneering spirit, I do not feel many of us would have ventured to such a place. The original idea seemed premature. Much knowledge was gained during the years of operation though not much profit. It is my opinion that the supply of seafood at the Shoals will come into its own eventually, particularly since the inshore Hawaiian Island fishery is being depleted steadily." This depletion has not gone unnoticed by the US Government.

### **Pacific Ocean Fishery Investigation**

Commercial fishing increased not only at French Frigate Shoals but throughout the Hawaiian area after the close of World War II. Funds were subsequently appropriated by the US Congress for the Department of Interior to conduct fishery research. In August 1948, the Pacific Oceanic Fishery Investigation (POFI), with headquarters in Honolulu, was organized by the US Bureau of Commercial Fisheries.

The work of this new fishery research laboratory was concerned with oceanographic data, tuna biological studies, and the commercial potentialities of the Central Pacific. The laboratory operated four research vessels: the *Henry O'Malley* and *Hugh M. Smith*, both ex-Navy



YP's of tuna-clipper design, the *John R. Manning*, a purse seiner, and the *Charles H. Gilbert*, a specially designed vessel for live bait and long-line fishing. These vessels visited French Frigate Shoals 15 times from 1950 to 1969 while conducting oceanographic cruises among the Hawaiian Islands.

Smith and Schaefer (1949) and Eckler (1949), made preliminary surveys in January and August of 1948, respectively, on the *Oregon*, a seiner-dragger of the Pacific Exploration Company, which caught approximately 13,300 pounds of iao, or silverside, in 15 days of fishing at French Frigate Shoals. The *Hugh M. Smith* and *Henry O'Malley* baiting operations at the Shoals during 1950 and 1951 (21 work days) were not as successful as those of the *Oregon* (Ikehara, 1953). June and Reintjes (1953) reported that of 16 common bait-fish species occurring in the Hawaiian Islands, 8 have been recorded from French Frigate Shoals. Both 1953 papers concluded that, although the best baiting ground in the Central Pacific is the main Hawaiian Islands, the best area for future expansion of the commercial fishing fleet's baiting ground appears to be the Northwestern Hawaiian Islands, especially Midway, with French Frigate Shoals second.

No Bureau of Commercial Fisheries vessels visited French Frigate from 1952 to 1954. From 1955 to 1957, the *J. R. Manning* and *Hugh M. Smith* each visited the atoll twice conducting bait-fish surveys. Similar surveys, 11 in all, were carried out by the *Charles H. Gilbert* from 1959 to 1967. These surveys also showed great monthly and yearly fluctuations in the availability of bait fish.

Thus, the Bureau of Commercial Fisheries in Honolulu was in the late 1960s interested in French Frigate Shoals as a potential tuna bait-fish source should something happen to the prime Main Hawaiian coastal source.





## CHAPTER 9

# *EAST ISLAND COAST GUARD LORAN STATION*

## **East Island Radio Facilities**

In the mid-1930's, with the beginning of air travel into the Pacific, especially by the US Navy and Pan American Airways, there was a recognized need for scattered island outposts as sites for radio stations. These were needed to provide radio communications and weather data to planes and ships crossing the vast ocean. The lagoon at Midway was a major stopping point for early Pan American Clippers; consequently, this island became the first radio station in the Pacific west of Honolulu. However, because of the great distances involved and the short range of radio transmission in those days, other stations were needed.

As early as January 1940, the Chief of the US Navy Bureau of Aeronautics recommended to the Chief of Naval Operations that French Frigate Shoals should be the site of the next radio station. Radio facilities, costing \$50,000 each, were being installed on Samoa by the US Navy, on Canton by Pan American Airways, and on Johnston and Palmyra by the Civil Aeronautics Administration (CAA). Thus, in February 1940, the Secretary of the Navy recommended to the CAA that Jarvis and French Frigate Shoals should be considered as sites for radio station facilities—to cost \$25,000 each (US National Archives, Modern Military History Division, R.G. 80, NR EG 62, 39063; *Honolulu Star Bulletin*, 7 February 1940, 7:4).

The French Frigate Shoals Facility was subsequently approved by the CAA, and on 13 June 1940 the Secretary of Navy was requested to give permission to the CAA and Department of Commerce to occupy East Island. This was granted and on 22 July 1940, the Secretary requested the Judge Advocate General of the Navy to act on the CAA permit. Two days later that office informed the Chief of Naval Operations that, although East Island had been used by the Navy, it had not been placed under Navy control by an Executive Order; the island was

therefore part of the public domain and under the Department of Interior (US National Archives, Modern Military History Division, R.G. 80, H 4-6/QG, 400613).

The Secretary of Commerce wrote the Secretary of Interior on 31 August 1940 requesting permission to use East Island as a radio facility. Governor J. B. Poindexter of Hawaii was consulted and on 9 September he signed Executive Order #893 which set aside East Island, French Frigate Shoals, for use of the United States. The Department of Commerce was reminded that under Presidential Executive Order No 1019 of February 1909 French Frigate Shoals was a bird reservation (US National Archives, R.G. 48, Interior File 9-4-56).<sup>58</sup>

The US Navy was asked by the CAA for assistance in transporting the radio equipment to French Frigate Shoals. CAA requirements were (a) a barge capable of carrying 1,000 tons of equipment, (b) a vessel, with a crane capable of lifting seven tons, to tow it to French Frigate Shoals, (c) power boats in sufficient number to get the equipment from the barge to a landing spot, and (d) a vessel to transport a working party of approximately 26 men and to remain about four weeks until the completion of the station. Because of activities of higher priority, the Navy was unable to provide the necessary transportation and on 25 August 1941 requested that the French Frigate Shoals Radio Communications Station be postponed indefinitely. The men, materials, and equipment for building the station had been in Honolulu since early June; on 15 October 1941, the Department of Commerce reported that these men would be held for 60 days. If transportation could not be furnished before the end of that period, the project would be canceled. On the 29th of November, the Navy again advised the Department of Commerce of the lack of ship transportation and further recommended that the project be canceled (US National Archives, Modern Military History Division, H4-6QC, 400613-1).

Following the attack on Pearl Harbor in December 1941 and the subsequent Japanese bombing raid in early March 1942, the United States did establish a secret radio station at East Island, manned by a detachment of Marines (see pages 84-88). It is not known how long this secret station existed, but it was probably removed as soon as construction began on the US Navy Air Facility at Tern Island in August 1942.

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58. Apparently the Department of Commerce ignored Executive Order 1019.



## East Island LORAN Station Commissioned

The LORAN system, short for Long Range Navigation, was a navigational system suitable for use by surface ships and by aircraft; it provided a method of position finding within a range of 700 miles by day and 1,400 miles at night. LORAN was developed in 1941. First field tests were conducted in 1942; by early 1943 ten LORAN transmitting stations had been built in the North Atlantic (US Coast Guard, 1946).

On 16 December 1943 the Chief of Naval Operations, acting on decisions of the Combined and Joint Chiefs of Staff, directed the Coast Guard to establish and operate three LORAN Transmitting stations, as well as a monitor station, in the Hawaiian Islands. On 20 December 1943 the locations of the three transmitting stations were selected. The then confidential names and restricted designators of these LORAN units were:

- CG LORAN Radio Station French Frigate Shoals, CG Unit 204 (George or GNAW)
- CG LORAN Radio Station Niihau, CG Unit 205 (Queen or FOKI)
- CG LORAN Radio Station, Hawaii, CG Unit 206 (Jig or ETOT).

The LORAN Monitor Station was not named at this time (Kauai was later selected) but was designated CG Unit 207 (William or HELM). These units were to operate under the jurisdiction of the District Coast Guard Officer (DCGO), 14th Naval District.

Construction of these units, known collectively as Project #4, were by Coast Guard Detachment C (CG Unit 80), a newly created special construction unit functioning under Coast Guard Headquarters.

Commanded by LCDR Frank L. Busse<sup>59</sup>, the Detachment encountered some difficulties, including transportation from California, which delayed their work. But the actual construction of stations progressed in a normal manner once materiel, supplies, and equipment were placed on sites, and officers and enlisted personnel had become familiar with the operations involved. The double master station on Niihau was the first to be built (US Coast Guard, 1946).

Weather was a factor in delaying construction of the French Frigate Shoals station, but the main delay was because of a lack of buoys in the East Island area marking the various shoals

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<sup>59</sup>. Busse was replaced by LCDR Merton W. Stoffe in August 1944.

and mine fields. The USCGC *Walnut* visited the atoll during April and established a new system of aids to navigation; all hazardous shoals and mine fields were marked.

A large enclosed-type barge was towed there from Honolulu by a Navy vessel to be used for landings. In early June the *Walnut* departed Honolulu for French Frigate loaded with construction and operating personnel<sup>60</sup>, materiel, and equipment to build the East Island station. Besides using the barge, shuttle trips with LCM craft were also made between Tern Island and the station site. The bulk of the material was finally set ashore on 3 June, and the construction crew immediately went to work on the station; personnel lived aboard the ship during the first month. Camp facilities required the erection of a 5,000-gallon water storage tank and the installation of a water distillation system. These were completed by 2 July. The following day the remainder of the job was laid out, and the assembly of the main antenna was begun. Foundations for the huts were started and the steel framing for the Quonset-type buildings was assembled. By the end of July construction was 100 percent complete; the installation of the LORAN equipment was 85 percent complete. The *Walnut*, which had returned to Honolulu in early July, was again engaged in transporting men and supplies to French Frigate Shoals during the first half of August (Fed. Rec. Cent. MD, 14th CG District War Diary for 1944; US Coast Guard, 1946).

The station, when completed (Figure 38), contained: seven Quonset huts where the men slept, ate, and worked; six other smaller buildings or sheds used as weather station, distillation plant, storage, and lockers; a 96-foot dock; and a 7-pole antenna network. On 15 July LTJG John J. Rashti, USCGR, was assigned as commanding officer for the station; the crew consisted of 26 enlisted men.<sup>61</sup>

Construction of the Hawaiian stations was complete enough for testing the LORAN equipment by 22 July 1944; the system went on the air 23 July 1944. East Island, French Frigate Shoals station, was informally commissioned in August 1944 (US Coast Guard, 1946; Bragg and Cronk, unpublished manuscript, 1948).

In mid-October 1944, Coast Guard Headquarters announced (to authorized agencies only) 24-hour LORAN service of the Hawaiian stations on a limited service accuracy basis for system

60. In charge of the construction crew were LT Ralph L. Bernard and LT Marshall T. Munz.

61. Personnel allowance: 1 Lieut. (jg) or Ens., 1 gunner mate 2c, 2 seaman 1c, 2 seaman 2c, 1 radioman 1c, 1 radioman 2c, 2 radiomen 3c, 1 chief radio technician, 1 radio technician 1c, 1 radio technician 2c, 2 radio technician 3c, 4 radarmen 2c, 4 radarmen 3c, 1 motor machinists mate 1c, 1 ship cook 1c, 1 ship cook 3c, 1 pharmacist mate 1c (Fed. Rec. Cent. MD, 14th CG District correspondence, 5 February 1944).



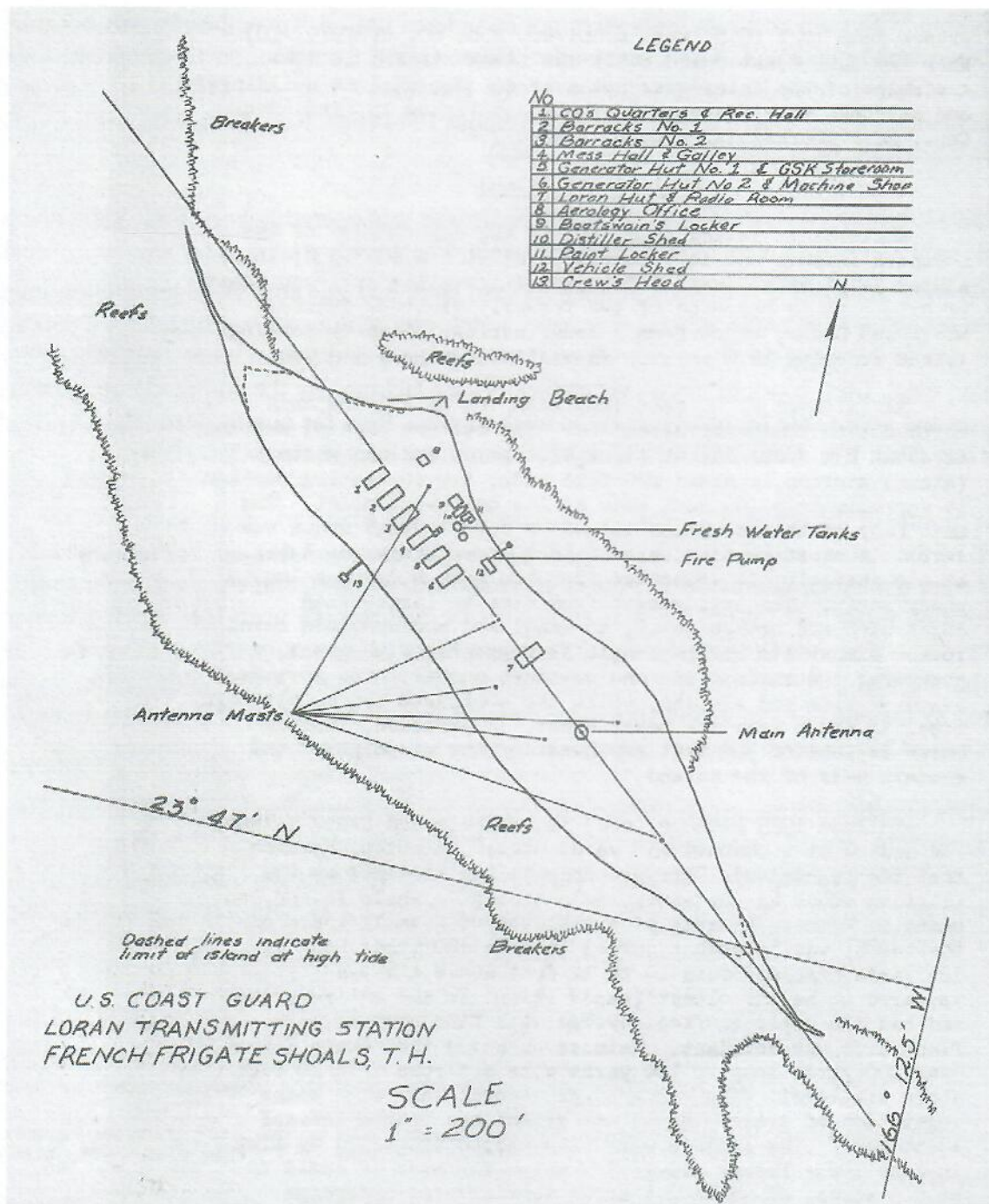


Figure 38. East Island LORAN Station, 1 November 1948. Redrawn from official US Coast Guard Data Report (Amerson, 1971).

checking.<sup>62</sup> System accuracy tests were not completed until 4 November, in part because of inexperienced personnel. The Commander, Coast Guard Construction Detachment, Pacific Area, officially turned over jurisdiction of the Hawaiian Chain of LORAN stations to the Commander, Coast Guard District, on 8 November 1944 (Fed. Rec. Cent. MD, 14th CG District War Diary 1944 and correspondence 1944).

By late-October 1944, the French Frigate Shoals unit was operating very well. The crew had been well picked and were highly competent men. The weekly routine went smoothly; weekly drills were held in fire and general quarters (air, land, and gas attack). Major station guns<sup>63</sup> were set up and gun crews trained; a security watch was on duty during the hours of darkness. The unit had a large supply of canned commissary items and frozen meat, but fresh items—butter, eggs, fruit, potatoes, green vegetables—were lacking. By the end of October arrangements had been made for obtaining these fresh supplies from the nearby Tern Island Navy Air Facility (Fed. Rec. Cent. MD, CG Unit #204 Summary Report, Sept-Oct. 1944).

The morale of the original 27 men on this small isolated island was high because of the newness of the station and the health of the men, but recreation was limited. Swimming and fishing were available; competitive contests in volleyball, softball, and checkers were started; a recreation room was set up, but magazines, books, and records were few. At first four men were allowed to visit the neighboring Tern Island Navy Facility once a week to view a movie, spend the night, and return the next day with the weekly mail. A movie projector was procured by the end of October but film did not arrive until mid-November (Fed. Rec. Cent. MD, CG Unit #204 Summary Report Sept.-Oct. 1944).

By late October the important question, however, on the men's minds was: How long before rotation? The situation was aggravated by the fact that the entire crew at Tern Island Navy Station was rotated every three months. Thus in November, Rashti recommended that his men should not be left over six months (Fed. Rec. Cent. MD, CG Unit #204, Summary Report Oct.-Dec. 1944).

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62. Voice communications were conducted on five communication frequencies: a) 2660 kc, working; b) 2670 kc, calling (general Coast Guard frequency and small boat distress); c) 2684 kc, 14th Naval District, Coast Guard working; d) 4050 kc, working and calling; and e) 5320 kc, LORAN station network. In addition to these, three other frequencies were set up for use between East and Tern Islands. They were: a) 2698 kc, Coast Guard radiophone; b) 2716 kc, Navy working and calling; and c) 3410 kc, Coast Guard radiophone (US Nat. Archives, Mod. Mil Records, R.G. 80, Centipede Box 48 (1-39), R.S. #13114, A6-2, Jacket #1).

63. There were a 50 cal. machine gun and a 20 mm. anti-aircraft gun; others included 30 cal. Springfield rifles and Colt .45 pistols.



By 1 January 1945, however, most men had been there six months and were getting tired of the isolated duty. Requisitions for fresh food and routine station supplies went unfilled. Lacking paint, screen wire, and other construction material, the station began to show effects of heavy wind and salt air. By 1 March the station had received no word concerning the requisitioned items, and most important of all, no word as to rotation of the men. Again Rashti requested action, and recommended that the men not be forced to stay more than nine months, as any further time might have a deleterious effect on a few of the weaker men. Weekly mail service, through the Tern Island Navy Facility, helped, but morale suffered when the station received only three movie films a week, many often repeats. Unfortunately, movies could not be exchanged with the Navy Station since their movie projector used 35 mm., not 16 mm. film (Fed. Rec. Cent. MD, CG Unit #204, Summary Report Jan.-Feb. 1945).

Beginning in March 1945, two men were sent to Honolulu via plane each week for medical and dental treatment; while in Honolulu they were allowed unrestricted liberty. This liberty greatly helped morale,<sup>64</sup> but still the men were disheartened that the District had not worked out a rotation plan. Many feared they would be kept on isolated duty for 18 months.

Screen wire arrived in April, paint was received in May, and soon the station began to look fairly new again. During June, news of the long-awaited rotation plan arrived; by early July all personnel, except the Commanding Officer, had been rotated with Unit #206, the LORAN Station in Hawaii. The fresh group of men had high morale and performed their duties well (Fed. Rec. Cent. MD, CG Unit #204, Summary Report, April-July 1945).

By August, the French Frigate Station had been in operation a full year. The LORAN signals provided by the three stations were of immense value to US military ships and planes in the Central Pacific. The French Frigate Station had very little trouble with transmitting equipment, and its transmission efficiency increased almost monthly. Beginning the second week of December 1944 heavy interference to the LORAN signal occurred during evening hours. This interference, of unknown man-made origin, and sine-wave in form, caused the system to blink and resulted in considerable off-air time. The interference continued at varying rates into mid-1945; the source was at first thought to be from enemy transmitters but later was found to be caused by radio waves from the west coast of North America (Fed. Rec. Cent. MD, CG Unit #204 Summary Report December 1944 - June 1945).

The Station itself had undergone little change during the first year. The only building to be added was a garage for the station vehicles. All buildings had been painted twice and pre-

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64. This allowed each man one week liberty ever 3-1/2 months.



sented a clean appearance. During August 1945 the Station completed conversion from DC to AC power, and newly developed automatic synchronizers for the LORAN signals were installed. The latter equipment greatly improved the service and proved so successful that the commanding officer recommended a reduction of radarmen assigned to the unit. The Station's two boats were in sad condition; the surfboat was in drydock being extensively repaired, and the barge sea-mule was in such poor condition as to be of no future use except as a fishing float.<sup>65</sup> In place of this barge an LCV was requested; on the 22nd of September the *Walnut* delivered an LCM to replace the surveyed barge (Fed. Rec. Cent. MD, CG Unit #204, Summary Report October 1944 - September 1945).

With the Japanese surrender in August of 1945, the men at East Island LORAN Station immediately began thinking of returning home. Many had been on isolated duty for 14 months<sup>66</sup> and had enough discharge points, but because of their vital ratings could not be discharged quickly. The Commanding Officer, LTJG Rashti<sup>67</sup>, again suggested that the station complement be reduced because of the installation of automatic LORAN synchronizers and the end of the War. By the end of October the complement was down to one officer and 22 enlisted men; by 30 November the complement was one officer and 17 enlisted men (Fed. Rec. Cent. MD, CG Unit #204, Summary Report August-November 1945).

With the reduction in status and complement of the Tern Island Naval Air Facility during October 1945, plane flights to Tern Island were reduced to only one per week. This isolated the East Island Coast Guard Station even further; mail was reduced and supplies had to be ordered well in advance to arrive when needed. Many fresh foods arrived in a spoiled condition. With the reduction in personnel, competitive recreation decreased; only fishing, reading, movies, and horseshoes remained. Morale dropped, and again there was no set tour of duty because of critical personnel shortages (Fed. Rec. Cent. MD, CG Unit #204, Summary Report October-December 1945).

During the first three months of 1946 everything went well at the East Island Station. Mail, fresh foods, movies, repair parts, and canteen supplies arrived in good condition and were generally on time each week. The Station's fresh water supply, which had earlier run low,

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65. This Coast Guard barge, which was subsequently written off as derelict, may have been the grounded barge located on the lagoon side of Whale-Skate Island in June 1969 (Smithsonian POBSP Report, June 1969).

66. One crewman had to be returned to Honolulu during September because of an acute case of nerves resulting from too long a period of isolated duty.

67. LTJG Rashti was replaced by LTJG H. T. Wilson, USCGR, during September 1945.



returned to normal with the installation of a new distillation unit (Fed. Rec. Cent. MD, CG Unit #204, January-March 1946).

On the morning of 1 April 1946 French Frigate Shoals, as well as the other Hawaiian Islands, was hit by a tidal wave caused by an earthquake in Alaska.<sup>68</sup> The morning wave completely inundated the islands in the atoll; an anticipated second crest failed to develop. None of the personnel suffered injury.<sup>69</sup> Damage to the station was comparatively light: five guywires were broken, all firefighting equipment was disabled, the crew's head, flag staff, and antenna downhaul were torn down, and a truck was damaged. The buildings suffered corrosion damage. A lack of building material hampered repair and reconstruction of the damaged portions of the station. (At Tern Island, the major damage was erosion of the beaches and further weakening of the island's seawall.) On the 3rd, the USCGC *Planetree* was en route to French Frigate Shoals with food, clothing, radio equipment, and other materials to replace those lost on the 1st. The men on East Island were still cleaning up a month later (*Honolulu Advertiser* 1 April 1946, 2:7-8; *Honolulu Star Bulletin* 3 April 1946, 5:6; Fed. Rec. Cent. MD, CG Unit #204, Summary Report, April 1946).

When the Navy Air Facility at Tern Island closed on 9 June,<sup>70</sup> the East Island LORAN Station lost its weekly delivery of supplies and mail. Instead, a Coast Guard tender serviced the island twice a month. This was sufficient to take care of station needs, but many times the ship arrived without mail or movies, a fact which greatly disappointed the isolated crew. By October the situation was straightened out and mail was coming regularly; additional mail was arriving by the Trans-Air Hawaii plane which belonged to the Hawaiian-American Fisheries. A six-month rotation system was placed into effect. A new LCM arrived in October which increased the efficiency of off-loading supplies from the biweekly ships (Fed. Rec. Cent. MD, CG Unit #204, Summary Report, June-December 1946).

On 31 January 1947, one of the power generators became inoperative; parts did not arrive until late April and it was not fixed until June. The lack of personnel replacements caused the

68. As of this date, only two other tidal waves were known in the Hawaiian Islands. One, caused by an earthquake in Japan, hit first at Midway and later in the Main Hawaiians on 2 March 1933; seas were 7 to 10 feet above normal. A smaller wave occurred 10 November 1938 (*Honolulu Star Bulletin*, 1 April 1946, 5:1-2).

69. This tidal wave killed 205 people and caused severe property damage when its two waves hit the Main Hawaiian Islands (*New York Times*, 9 April 1946, 3:6).

70. A Navy aerologist, 3rd class, reported to the East Island LORAN Station for weather observation duty after the Tern Island Facility closed. He was replaced in September 1946 by two 2nd class Navy aerologists; they remained until May 1948 (Fed. Rec. Cent. MD, CG Unit #204, Summary Report, June 1946 - February 1947; F. Clinard, per. corresp., August 1969).



station complement to be reduced to 13 men during March, April, and May<sup>71</sup>; the authorized complement was 16 (Fed. Rec. Cent. MD, CG Unit #204, Summary Report May 1946 - May 1947).

No official Station correspondence, summary reports, or logs could be found for the period 1 June 1947 to 31 July 1948. Forrest Clinard, Jr. (pers. corresp., July-August 1949), a Navy Aerologist<sup>72</sup> stationed at East Island from October 1947 to April 1948, said that during his tour the personnel numbered 11 to 13 Coast Guardsmen and two Navy Aerologists.

The station was run very loosely; personnel did little maintenance work on equipment or buildings and wore what they pleased. Each man had his own special job (e.g., radioman, LORAN operator, cook) and as long as he did his job that was all that mattered to the commanding officer, who at that time was a Warrant Officer. This left the crew with a lot of free time; they enjoyed unlimited swimming, spear fishing, and played a lot of poker. The CO was very interested in ham radio and built an elaborate set; the men could frequently get messages home via ham radio (Clinard, pers. corresp., August 1969).

Morale was fairly good as long as supplies and mail came through. The supply ships, however, were often irregular. "When a Coast Guard cutter would show up we would grab and eat a loaf of bread, as it would taste like cake after being out for so long. The supply ship would leave us eight new movies, cigarettes, and food for a two-week allotment, but while I was there they never did get back in two weeks. Christmas 1947 was a very lonely time for us" (Clinard, pers. corresp., August 1969).

The weather during the 1947-1948 winter was not very bad; there were no high winds and only one tidal wave alert which was cancelled after a few hours. One man broke his ankle and, since there were no medical facilities<sup>73</sup> on the island, he was evacuated by plane to Honolulu. The biggest excitement occurred when an old World War II mine floated ashore one morning. Orders came from Honolulu to blow it up; it left quite a hole (Clinard, pers. corresp., July-August 1969). Conditions at the East Island LORAN Station during the first half of 1948 are shown in Figures 39 through 44.

71. The all-time low had been 12 men in May 1946 (Fed. Rec. Cent. MD, CG Unit #204, Summary Report May 1946).

72. The duties of the Navy Aerologist at East Island were to take surface weather observations every hour during daylight and an upper wind sounding every six hours. Weather data were transmitted to Navy Fleet Weather Central at Pearl Harbor.

73. There had been no hospital corpsmen assigned since May 1946.



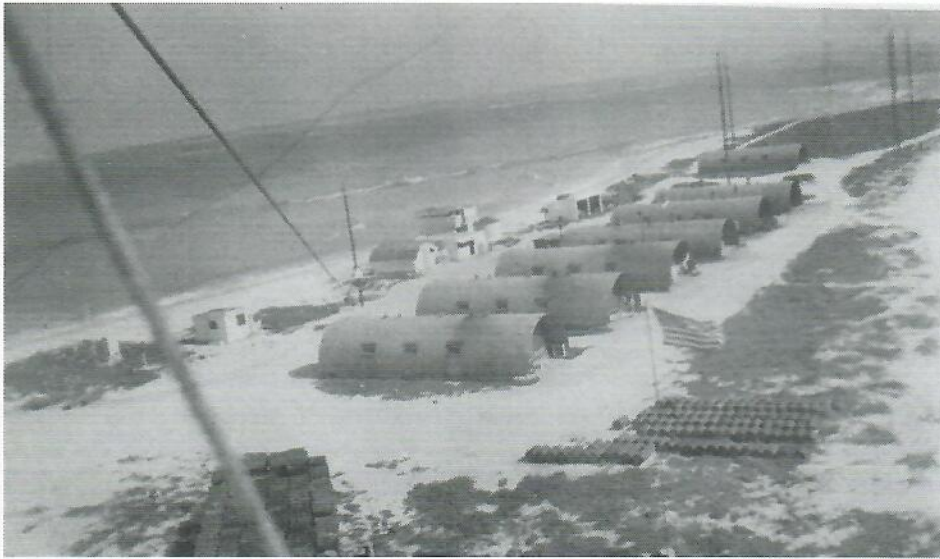


Figure 39. East view of East Island LORAN Station, 1948. Photograph by Forrest Clinard, Jr.



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

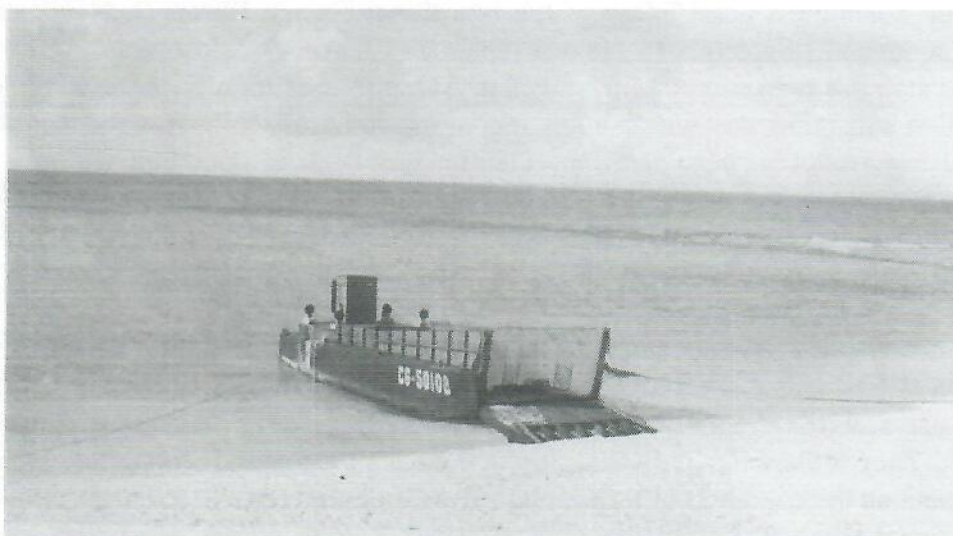


**Figure 41. Laysan and Black-footed Albatross nesting on East Island LORAN Station, 1948. Photograph by Forrest Clinard, Jr.**



**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.**





**Figure 43. LCM at northwest landing beach at East Island LORAN Station, 1948. Photograph by Forrest Clinard, Jr.**



**Figure 44. Old World War II mine that drifted onto the beach at East Island LORAN Station during 1948; when detonated, it left quite a hole. Photograph by Forrest Clinard, Jr.**

As of 1 August 1948, the authorized station complement was one officer and 14 enlisted men; the station was shy two enlisted men. After a station inspection on 2 August, the Commanding Officer, LT Paul E. Burhorst, wrote in the log "conditions improving steadily but upkeep generally poor; cleanliness good." One of the first things Ensign Walter O. Henry did after he assumed command 1 September 1948 was repair the Cleaver-Brooks thermo compression distiller—the station's only source of fresh water. At the time of his arrival the water level in the 5,000-gallon water tank was within a few feet of the outlet. By following the instruction manual and using available spare parts, the distiller was back in operation within a few days. Assembly of a new 5,000-gallon water tank, started on 18 August, was completed 30 September (Federal Records Center Maryland, FFS Log Book, August-September 1948, 62A726 Box 469; Henry, pers. comm., 1968-1969).

Henry's second action was a campaign to spruce up the station and the personnel. The total population of East Island at the time was 1 officer, 11 enlisted men, 10 chickens, 3 dogs, 1 cat, and the usual seabirds. As for the men, Henry commented that he "had never seen a more rag-tag bunch. They looked like natives, even ate and slept when and where they liked." He did not comment on the condition of the animal life. Haircuts were soon required, although neatly trimmed facial hair was permitted. After a period, a dress whites inspection was held and Henry noted that "we had a rather smart crew for this inspection." As for cleaning up the station, the men "hailed off the junk, including the impromptu lean-to that had been used for sleeping quarters, to the dump pile at the southeast end of the island and started cleaning up and painting the buildings white, both inside and out." A routine was established and standards of personal and materiel maintenance were enforced that everyone seemed to appreciate, including the District Commander (Henry, pers. corresp., February 1970).

On 10 September at 0909 the station received a priority dispatch from the 14th District advising them of the possibility of a tidal wave. Its estimated time of arrival was 1200—just a little less than three hours hence. The men made preparations to evacuate the station via the LCM; all knew of the tidal wave of 1 April 1946. As noon approached, they received no further news of the expected wave; by 1500 a message arrived cancelling the tidal wave alert (FFS Log Book, September-October 1948, FRC 62A726, Box 469).

Although the tidal wave of 10 September missed French Frigate Shoals, a storm during the 20-22 October period caused the collapse of the antenna mast. A temporary mast of A-frame construction was built but collapsed on 2 November because of building stress at the lapped joints. The next day a 1-1/4-inch pipe antenna mast was installed; this one stayed up (Fed. Rec. Cent. MD, FFS Log Book, October-November 1948, 62A726, Box 469).



East Island's weather problems, however, did not stop. On the night of 19 November the waves suddenly rose from a relative calm to a height of 12 to 20 feet. They subsided somewhat the next day, but by that night were again high and the security patrol advised the CO that the LCM was surging at its moorings. At 0420 the LCM broke its moorings. A 1/2-inch cable was quickly attached to the craft, but it also parted. Finally a wire bridle was secured to a concrete sinker ashore, but by this time the heavy seas had carried the craft 40 feet up the beach. The LCM was stranded high on the beach, stern to the sea, with a four-inch-square hole in its side from hitting the skeg of an over-turned whaleboat on the beach (Fed. Rec. Cent. MD, FFS Log Book, November 1948, 62A726, Box 469).

By 0700 the seas were so high that waves washed up the beach as far as the living quarters and LORAN building; 14th Coast Guard District headquarters was notified of the situation. At the height of the fury the heavy seas shifted the crew's toilet and washed away the catwalk leading to it. After morning colors, the crew maneuvered the Catapillar tractor blade to an advantageous position on the beach so as to form a sand anchor for mooring the LCM. In trying to remove the water that had accumulated in the LCM, the crew learned to their dismay that the heavy seas had shifted the 3-inch intake lines of the fire pump, rendering it useless for pumping out water. By dark the fire pump lines still would not function; the LCM remained stuck on the beach. Since the fire pump would not operate, water buckets were filled in case of fire. At 2000 all was secure about the station, but the men spent another anxious night listening to the heavy seas hit the westerly side of the island (Fed. Rec. Cent. MD, FFS Log Book, November 1948, 62A726, Box 469).

The crew was up early on the 21st, for the tide was at its highest point at 0600; the crew again tried in vain to refloat the LCM. The seas at last began to calm. A ramp was built with the idea of sliding the stranded LCM back into the water. At 1500, and just as the USCGC *Iroquois* hove into sight, the ramp was completed and the crew attempted to push the heavy LCM with the truck; the attempt was unsuccessful. A new approach, using a kedge anchor run out to a nearby reef, was started. The anchor, a 50-pound Danforth type, was secured to a 3-1/2-inch sisal rope. Efforts halted for the day at 1730 as boats from the *Iroquois* arrived with mail and stores. The mail brought good news to Ensign Henry; he was promoted to the rank of Lieutenant junior grade (Fed. Rec. Cent. MD, FFS Log Book, November 1948, FRC 62A726, Box 469).

With the help of a work party from the *Iroquois*, the stranded LCM was finally refloated on the morning of the 24th; repairs were completed by noon. Thanksgiving Day 1948 was spent repairing the station's outhouse and its catwalk; the men did, however, take time out for Thanksgiving Dinner (Fed. Rec. Cent. MD, FFS Log Book, November 1948, FRC 62A726, Box 469).



East Island's problems continued. On 1 December both distillation units became inoperative. The station was placed on water hours; no showers were permitted and saltwater soap was issued. One of the units was repaired the next day and they got additional water in the form of rain. The seas increased and the weather remained gloomy. The next day at 2055 the station again received an urgent dispatch alerting them for a possible tidal wave, but the alert was cancelled two hours later (Fed. Rec. Cent. MD, FFS Log Book, December 1948, FRC 62A726, Box 469). Figures 45 through 48 show conditions as of 10 December 1948.

On the 21st of December 1948 one of the men became sick and a message arrived saying that a Sea-Air Rescue (SAR) plane would arrive the next morning to transfer the man to Honolulu. It suddenly became apparent that the runway at Tern Island might be unusable because of the high seas of 20 November. The CO and work party immediately set out for Tern Island; sure enough the airstrip was strewn with coral rock and debris. The work party labored until 2100, turned to again at 0600 on the 22nd, and finished clearing the runway just in time for the SAR plane to land at 1105. The plane, with the sick man attended by a US Public Health Service doctor, was airborne at 1133 (Fed. Rec. Cent. MD, FFS Log Book, December 1948, FRC 62A726, Box 469).

The Christmas season was uneventful, but the New Year began badly. On 5 January 1949 high winds and seas caused the LCM to part her new moorings<sup>74</sup> and beach. Lines were quickly placed on the LCM and a coxswain managed to start the port engine, thus turning the vessel around stern to sea; the bow was snubbed up against the beach and moored. During the ensuing confusion, the lifting engine tore loose. The next day the seas had calmed down enough so that personnel and supplies could be transferred to the *Iroquois* by the repaired LCM.

The winds still blew and at noon on the 10th, during an extremely low tide, the LCM was left high and dry, causing the bolts to pull out of the strut on the propeller shaft. At the next high tide a moored barge broached to, not once, but twice, before it was safely moored again. On the 11th the mooring pendant, which had earlier parted on the LCM, was repaired; the LCM was finally moored back at the new buoy. High winds and heavy seas continued until the 17th (Fed. Rec. Cent. MD, FFS Log Book, January 1949, FRC 62A726, box 469-470).

The last storm of the winter came just as spring started. During the week of 5 March the weather was overcast and gloomy, with continuous rain and seas 1 to 3 feet. This, of course, coincided with a visit by the *Iroquois* to deliver supplies. The 1948-1949 winter had been, by

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74. A mooring buoy was placed in position off the landing beach by the USCGC *Basswood* on 17 December 1948 (Fed. Rec. Cent. MD, FFS Log Book, December 1948, FRC 62A726, Box 469).





**Figure 45. East Island Coast Guard LORAN Station from atop main antenna, 10 December 1948. Buildings from front to rear: LORAN equipment hut, LORAN generator hut and machine shop, station generators and storage hut, mess hall and galley, barracks and sick bay, CO's quarters, office, recreation space and amateur radio station. Official US Coast Guard photograph.**



**Figure 46. East Island Coast Guard LORAN Station, 10 December 1948. Generator hut and machine shop at left; garage, fire pump station, and water tanks at right. Official US Coast Guard photograph.**



**Figure 47. East Island Coast Guard LORAN Station, 10 December 1948. Quonset huts, front to rear: mess hall and galley, generator hut and storage, LORAN generator hut. Official US Coast Guard photograph.**



**Figure 48. East Island Coast Guard LORAN Station, 10 December 1948. Front to rear: machine shops, water tanks, fire pumping station, and garage. Official US Coast Guard photograph.**



far, the worst weather in the station's history (Fed. Rec. Cent. MD, FFS Log Book, January - February 1949, FRC 62A726, Box 469-470).

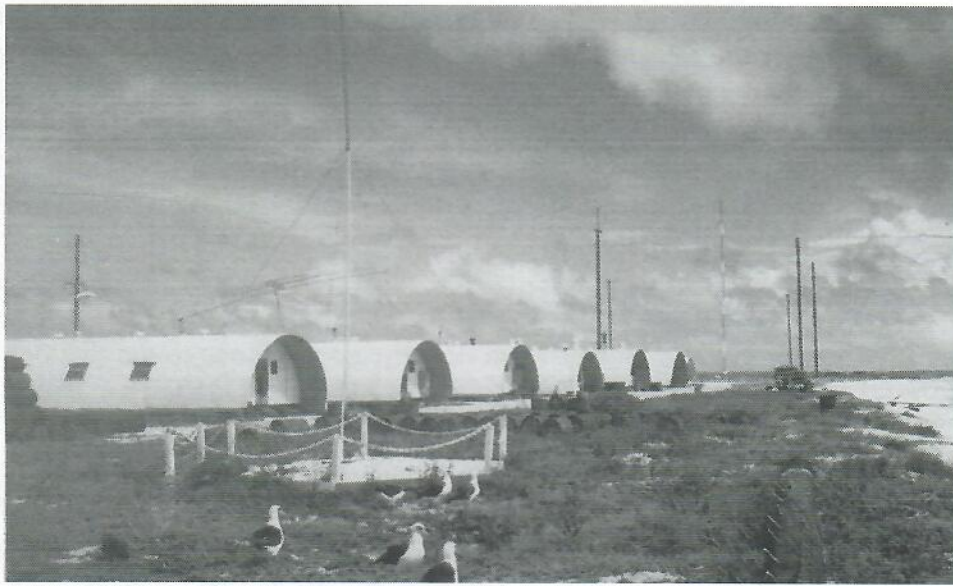
The rest of 1949 proceeded normally. During the summer someone sent a live pheasant to the station. Instead of eating the bird, the crew turned it loose on the island in hopes it would become a pet. Within a short time, however, the pheasant became sick, lost its brilliant plumage, and died of sunburn from the blazing heat. Coast Guard activities did not disturb the native sea birds. The entire east portion of the island was like a zoo to the men (Figures 49 and 50). Several hundred Laysan and Black-footed Albatross, as well as a few Wedge-tailed Shearwater and thousands of Sooty Tern, carried on their nesting and fledging activities (Henry, pers. comm. 1969-1969; Amerson 1971).

The only major equipment problem during 1949 involved a severe leak in the water tank on the 19th of August; the tank had been in operation only 11 months. On the 10th of November one of the few fires in the station's history occurred. It was caused by a leaking gasoline torch in the distillation shed; the blaze was promptly extinguished and no damage resulted. On the 29th of December the Commanding Officer, LTJG Willis, suffered abdominal injuries while playing volleyball. He was evacuated by a Navy PBY from Tern Island the next day; he returned to duty on 19 January 1950 (Fed. Rec. Cent. MD, FFS Log Book, March - December 1949, January 1950, FRC 62A726, Box 469-470).

Unlike winter 1948-1949, the winter-spring of 1950 had only one severe rainstorm and the biweekly supply ships were unhampered (Fed. Rec. Cent. MD, FFS Log Book, January - July 1950, FRC 62A726, Box 470).

Construction during early 1950 included the erection of a temporary 60-foot antenna in March. A marine railway system for hoisting a new motor surfboat from the water was installed in April with assistance provided by a work party from the USCGC *Kukui*. The railway system was not completely satisfactory, for the winch on the station vehicle had to be used in raising the boat onto the carriage. A new water tank was erected in October (Fed. Rec. Cent. MD, FFS Log Book, January - December 1950, FRC 62A726, Box 470). The station as it appeared in April 1950 is shown in Figure 51.

In August 1950 the Hawaiian Islands came under the influence of a tropical storm of hurricane force. Since this was the first Hawaiian hurricane in 45 years of records, it was designated alphabetically as "Able," or in the Hawaiian language "Hiki." "Hiki" was first detected on charts at the Honolulu Airport during the night of 13 August. Coming from southeast of Hilo, the storm was of very small diameter and less than full hurricane strength. It remained



**Figure 51. East Island Coast Guard LORAN Station, 3 April 1950; Laysan Albatross in foreground. Official US Coast Guard photograph.**

south of the Main Hawaiian Hawaiian Islands and continued westward, building up as it progressed (US Department of Commerce, 1950). On the afternoon of the 16th, the men at East Island battened down the station and prepared for possibly evacuation. At 1600 LORAN transmissions were stopped and at 1630 Willis and entire crew of 14 enlisted men departed in the motor surfboat enroute to the *PC 1145*, located approximately four miles west of the station. By 1739 all hands were aboard, the motor surfboat was in tow (Fed. Rec. Cent. MD, FFS Log Book, August 1950, FRC 62A726, Box 470; *Honolulu Advertiser*, 16 August 1950, 1:3, 2:5; *Honolulu Star Bulletin*, 17 August 1950, 6:3).

For the next five days the *PC 1145* sailed north and west of French Frigate Shoals. On the 20th the surfboat broke its towline and could not be found because of the heavy weather. It probably sank. At 0800 the following day all of the East Island crew boarded, at sea, the *Basswood*; three days were spent aboard this vessel. In the meantime, "Hiki" moved westward, passing south of French Frigate Shoals before turning north near 170° east longitude (Fed. Rec. Cent. MD, FFS Log Book, August 1950, FRC 62A726, Box 470; US Department of Commerce, 1950).



On 24 August 1950, the *Basswood* returned to French Frigate Shoals; at 1530 the men went ashore. By 1800 the station was back to its normal LORAN operation; all gear operated satisfactorily. The CO inspected the station thoroughly and found negligible damage to the equipment and buildings, with the exception of two sections of corrugated metal roofing which had been blown from one of the barracks. Food left in the freezer and chill boxes was spoiled, but the station received replacement commissary stores from the *Basswood*. By the 28th all evidence of the minor hurricane damage had disappeared. On the 8th of September the *Walnut* brought a new motor surfboat to the station as a replacement for the one lost (Fed. Rec. Cent. MD, FFS Log Book, August - September 1950, FRC 62A726, Box 470).

Seas of an estimated 40 to 50 feet in height outside the outer reefs caused another storm alert on 3 December 1950, but the seas abated and no damage was done to the Station (Fed. Rec. Cent. MD, FFS Log Book, December 1950, FRC 62A726, Box 470).

During 1951, the East Island LORAN Station continued its normal operation despite a reduction in logistics support to one supply vessel per month. Morale was good considering the isolated duty, reduced fresh food and mail service, and lack of variety in recreational activities. No major storms occurred during the year. Nonetheless, past storms and continued salt spray and normal winds caused the buildings to be in need of almost constant repair (Fed. Rec. Cent. MD, FFS Log Book, January - December 1951, FRC 61A726, Box 1312).

An Electronics Engineering Study 24 July 1951 indicated that permanent construction at East Island would cost approximately \$500,000. Discussion of whether to continue operation of the station,<sup>75</sup> and an examination of long-range plans and costs, began at high levels. A rehabilitation inspection of the station was conducted by the Commanding Officer of the USCGC *Buttonwood* on 16 and 17 August 1951. The report, dated 28 August, revealed that the Quonset huts were in only fair condition; the sanitary system was inadequate and clogged; the electrical wiring system was badly corroded; antenna guywires needed replacing; and the ground wire system was faulty. The station's vehicle was rusty and in need of repair. The station's small boat was in good shape, but the motorboat hull was in only fair condition and its engine was in need of repairs (Fed. Rec. Cent. MD, CG 14 Coresp. File A23/N19, FRC 67A2957, Box 2).

75. A letter from Coast Guard Commandant to the Commander, 14th District, as early as 6 November 1946 (based on a 1 October 1946 memo from the CG Engineering Division) suggested discarding the French Frigate Shoals LORAN Station since the electric and logistic characteristics of this location are such that it did not merit further consideration (Fed. Rec. Cent. MD, CG 1949 Correspondence files: CG-815 and CG 626, FRC 67A2057).



The outgoing Commanding Officer, LTJG Edward L. Hauff, on 1 September summarized the pros and cons of continued operation of the base: "the efficiency of French Frigate Shoals is very high, in spite of adverse morale and material conditions. The location of the station seems ideally suited to LORAN transmission, but little else can be said to the credit of the site." Hauff's replacement, LTJG Norman Ensrud, agreed (Fed. Rec. Cent. MD, FFS Correspondence 1 September 1951, FRC 67A2957, Box 2).

In October 1951, the Coast Guard Commandant informed the Commander, 14th CG District, that Headquarters had set aside \$200,000 in fiscal year 1952 for renovation of the French Frigate Shoals LORAN Transmitting Station (Fed. Rec. Cent. MD, CG Hq. Corresp., 15 November 1951, File ECU-2, FRC 67A2057, Box 2).

A field survey undertaken in December 1951 suggested to the Commander, CG District 14, that it would be better, and no more expensive, to renovate the old Navy buildings at Tern Island, instead of the run-down buildings on East Island (Fed. Rec. Cent. MD, US Coast Guard unpublished Operations Report, December 1951). Chapter 10 details the new Tern Island LORAN Station conversion, construction, and commission.

While plans were underway for the conversion, another tidal wave alert was received in early March 1952. The *Basswood*, on a regular supply stop, was present on 3 March when the station received the urgent dispatch placing it on alert. All hands turned to securing all loose gear. Another dispatch arrived at 1843 advising evacuation as soon as possible. At 1918 the LORAN and radio watch was secured<sup>76</sup> and all station personnel boarded the *Basswood*. The *Basswood* left the shallow water of the Shoals and got through the reefs before dark. It headed to sea where the ship and crew were safe. In the morning the men returned to East Island and found the LORAN transmitter operating satisfactorily. The tidal wave had caused no damage to the Station (Fed. Rec. Cent. MD, FFS Log Book, March 1952, FRC 61A726, Box 1312).

East Island personnel frequently went to Tern Island to help with installation of equipment, as well as for recreation, mail, fresh food, and supplies. As October neared, the station began preparations for disestablishment. All but items essential to keeping the station on the air were moved to Tern Island. For 10 days, 14 to 24 October, both the East Island and the Tern Island stations were in operation (Fed. Rec. Cent. MD, FFS Log Book, June - October 1951, FRC 61A726, Box 1312).

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76. The LORAN Transmitter was left on the air, controlled by automatic synchronization.



On 24 October 1952 at 2000, the East Island LORAN Station secured transmission on rate 2L1 in accordance with Comandant Coast Guard District 14 Dispatch 2503345Z, and final preparations for decommissioning and closure began. At 1200 on 3 November a decommissioning party from the *Kukui* arrived; at 1700 the station was formally decommissioned. All personnel who had not previously been transferred to the new Tern Island facility were transferred administratively to the *Kukui* (Fed. Rec. Cent. MD, FFS Log Book, October 1952, FRC 61A726, Box 13120).

### **Worst Station In The Coast Guard**

The closing of the East Island LORAN Station in 1952 brought to an end a Coast Guard era that many men would rather forget; for nearly a decade it had been one of the most isolated stations in the Coast Guard. It was considered so bad that entering Coast Guard recruits were sometimes threatened during basic training with some variation of: "If you don't shape up, we'll send you to French Frigate Shoals!" To downgrade the station further, someone along the way started a rumor that the station had been the site of a bizarre murder. The cook, so the story went, had gone stir crazy on the lonely island and killed his commanding officer with a meat cleaver, then quartered the body and hung it in the station's cooler to escape detection. The Station's Official Log Books account for all the officers; in addition three past commanding officers (Henry, Ensrud, and Hawkins, pers. comm., 1968-1969) knew of no such murder occurring at the East Island LORAN Station. Yet, the rumor persists even today in Coast Guard, as well as Navy, lore. It does make a most interesting yarn about the "Worst Station in the Coast Guard."

## CHAPTER 10

# ***TERN ISLAND COAST GUARD LORAN STATION***

## **Rehabilitation and Renovation**

After the US Navy abandoned its Tern Island Naval Air Facility, the US Coast Guard became interested in the facilities. Figures 52 to 55 show conditions of the Facilities and airstrip in 1949.

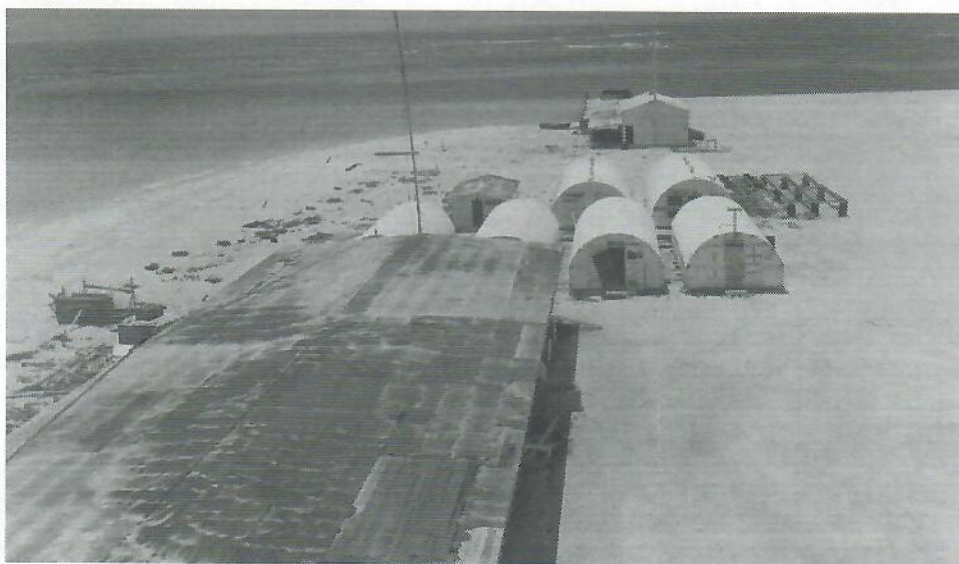
On 11 January 1952, Rear Admiral L. W. Perkins, Commander, 14th Coast Guard District, sent a letter (Fed. Rec. Cent. MD corresp., AN-2/N Serial: 011203) accompanying a Tern Island Siting Survey Report to the Coast Guard Commandant. The letter presented a reevaluation of the proposal to relocate the LORAN Station from East Island to Tern Island. The following facts and conclusions were enumerated:

1. "That relocation to Tern Island requires no new construction but only rehabilitation and renovation of structures already existing on Tern Island (and which were constructed originally with Federal funds).
2. "That rehabilitation and renovation of Tern Island is economically more advantageous than rehabilitation and renovation of East Island. In this connection, preliminary estimates indicate the probability that rehabilitation and renovation of existing buildings on Tern Island can be accomplished within limits of funds allotted by Headquarters..., and, moreover, that such funds can be obligated before 30 June 1952. The resultant station will have a reasonable life expectancy of ten years, with moderate annual maintenance, as compared to three years for the East Island station..., and all for approximately the same cost. Further, if the station were retained on East Island for an extended period construction of a permanent, concrete, basement-type combination power signal building...would ultimately be required.
3. "That Tern Island is a considerably more advantageous location than East Island from the standpoint of logistics support.

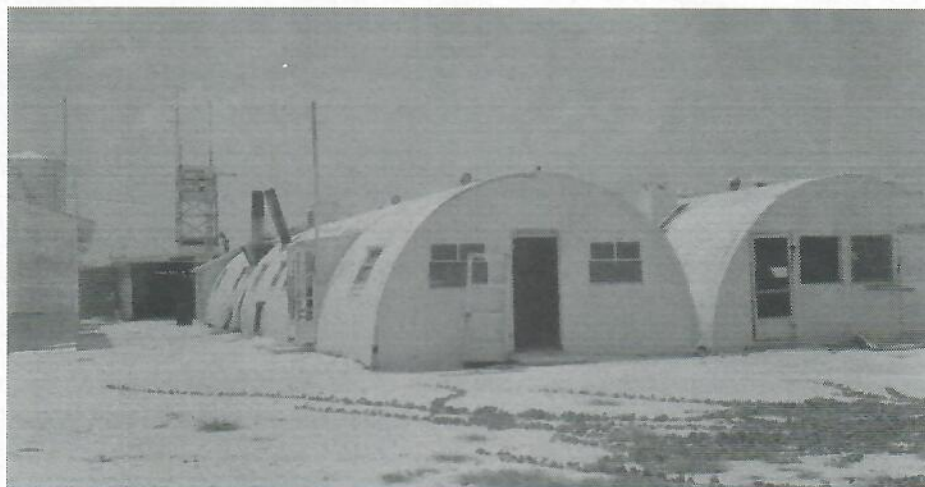




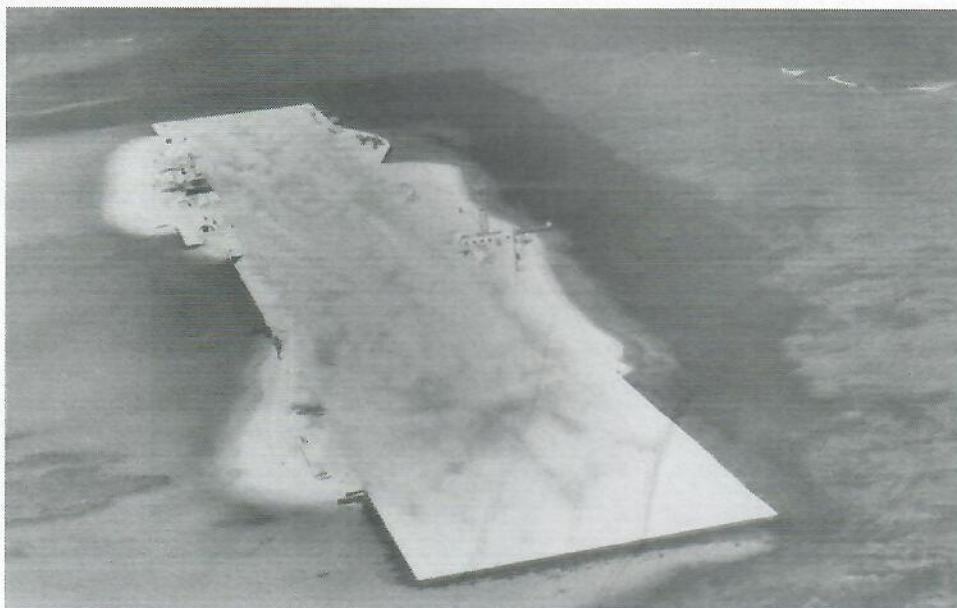
**Figure 52. Abandoned Naval Air Facilities, Tern Island, 25 April 1949. Official US Coast Guard photograph No. 813-5.**



**Figure 53. Abandoned Naval Air Facilities, Tern Island, 25 April 1949. Official US Coast Guard photograph No. 813-18.**



**Figure 54. Abandoned Naval Air Facilities, Tern Island, 25 April 1949. Official US Coast Guard photograph No. 813-5.**



**Figure 55. Aerial view of abandoned Tern Island US Naval Air Facilities, 16 August 1949. Official US Navy photograph 500017.**



4. "That electronic characteristics at Tern Island are equal to those at East Island.
5. "That Tern Island provides three or four times the usable area that East Island affords and, thus is more livable; hence a greater factor for morale.
6. "That Tern Island is 8 feet above sea level, as compared to 4 feet for East Island, and thus provides a greater margin of safety for personnel during typhoons and tidal waves.
7. "That all the foregoing advantages of the proposed relocation would more than offset the work of recharting, assuming that charting has been started for East Island."

Perkins requested that Headquarters reconsider the proposed relocation (Fed. Rec. Cent. MD, CG 14 corresp., 11 January 1952, FRC 67A2057, Box 2).

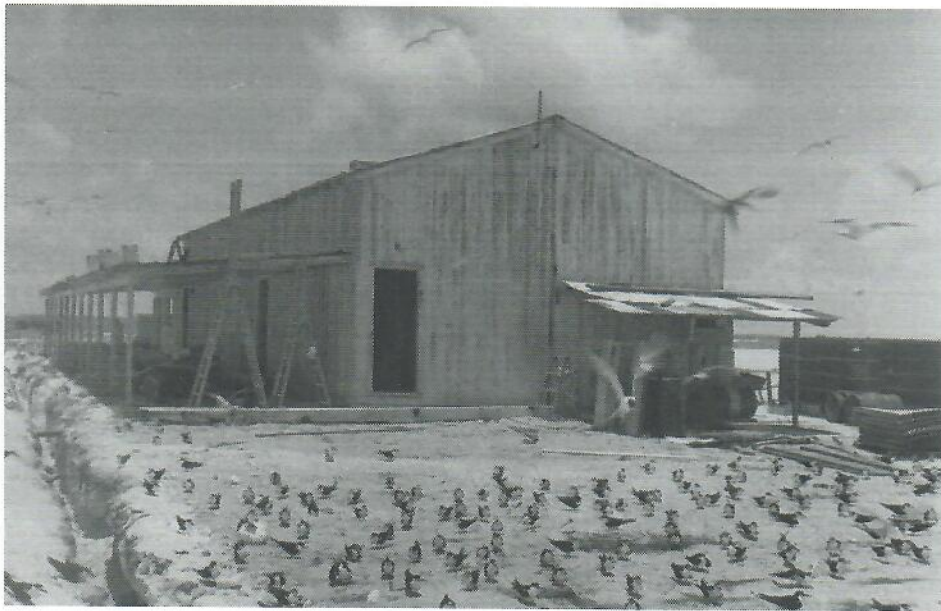
On the 17th of January 1952, Rear Admiral R. E. Wood, Chief of Staff, US Coast Guard Headquarters, sent a dispatch (172020z, January 1952) advising CG 14 of the approval to move the French Frigate Shoals LORAN Station from East Island to Tern Island, provided a firm permit for use of the property could be obtained and the cost be kept within the limits of funds already allocated (Fed. Rec. Cent. MD, CG 14 corresp., December 1952, FRC 67A2057, Box 2).

On 28 January 1952, the Hawaii Aeronautics Commission, which had control over the island since the Navy left, granted a license to the Coast Guard permitting them to use and occupy Tern Island.<sup>77</sup> This was accepted and approved by the Coast Guard Headquarters on 12 February. After obtaining legal rights to use Tern Island and upon review of the work request, the Commandant of the US Coast Guard approved on 6 March the Tern Island construction project. Final specifications for the Tern Island Station were completed in March 1952. A contract, T14cg-264, totalling \$220,906.44 was awarded to C. W. Winstedt, Ltd., of Honolulu on 24 April 1952<sup>78</sup> (Fed. Rec. Cent. MD, CG corresp., January-February 1952, CH Hq. corresp., March 1952, FRC 67A2057, Box 2).

Construction began shortly thereafter (Figures 56 to 63). The piers were in bad condition and had to be repaired. The first building to be renovated was the power and signal building and installation of equipment which was to provide the electrical power (estimated cost \$59,000) during construction and later for the transmitter and distillation units and general Station use. The barracks, containing living areas, galley and mess deck, was renovated at a cost of approximately \$85,000. Renovation of the recreation building cost \$10,000 and renovation of

77. The Department of the Interior in 1965 questioned the legality of the Coast Guard's occupation of Tern Island. A formal agreement was signed on 22 September 1966 between the US Coast Guard giving the Coast Guard permission to occupy Tern Island. In the agreement, the Coast Guard recognized that the Department of the Interior had primary jurisdiction.

78. The final project cost actually cost \$286,793.81 (CG Hq. completion report, 30 September 1953, FRC 67A2057, Box 2).



**Figure 58. Renovation of recreation building Tern Island, 5 July 1952; Sooty Terns with small chicks in foreground. Official US Coast Guard photograph.**



**Figure 59. Renovation of recreation building Tern Island, 5 July 1952; Sooty Terns nesting in right background; Quonset huts were eventually torn down. Official US Coast Guard photograph.**

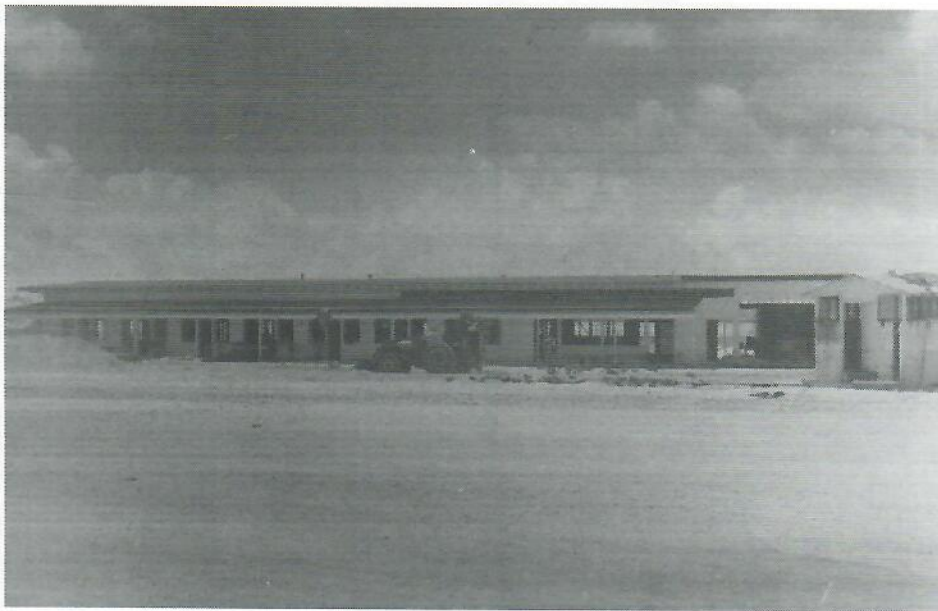




**Figure 56. Sooty Terns with small chicks nesting along the edge of Tern Island next to old Navy piers, 19 June 1952. Official US Coast Guard photograph.**



**Figure 57. Old Navy buildings on south side of Tern Island at start of Coast Guard renovation, 5 July 1952; Sooty Terns flying about and nesting around the various buildings. Official US Coast Guard photograph.**



**Figure 62. Renovation of old Navy shop building into Coast Guard barracks, 8 August 1952. Official US Coast Guard photo.**



**Figure 63. Renovated recreation building Tern Island, 8 August 1952; few Sooty Terns remain. Official US Coast Guard photograph.**



the weather and windsock tower cost \$6,000; installation of the antenna poles, ground systems, and radio equipment cost another \$10,000. In addition to the buildings, there were five tanks capable of storing 41,000 gallons of fuel oil, and another capable of storing 10,000 gallons of salt water (CG corresp., January 1952, June 1953, FRC 67A2057, Box 2).

### **Tern Island LORAN Transmitting Station Commissioned**

At 1300 on 14 October 1952, in accordance with a letter from the Commander, 14th Coast Guard District, dated 1 October 1952, Order Number 140666, CCGC District 14 dispatch 082105Z, US Coast Guard LORAN Transmitting Station Tern Island, was placed in commission and command was assumed by LTJG Thomas E. Hawkins, USCG. (The date was still inscribed in the concrete of the flagpole base in front of the barracks in 1969.) At the time of commissioning, other permanent personnel were an electronics technician chief and eight enlisted men; three men were on temporary duty (Fed. Rec. Cent. MD, FFS Log Book, October 1952, FRC 61S726, Box 1312).

At the same time and date as commissioning, and in accordance with CCGC 14 dispatch 091838Z, the Tern Island Station commenced continuous LORAN signal transmission as a single pulse Master Station on LORAN rate 2L4 in conjunction with Makahuena Point LTS, Kauai, with a temporary standard time delay reading of 5912 microseconds. The next day from 0812 to 0934 a system check of the LORAN transmissions revealed all to be in working order (Fed. Rec. Cent. MD, FFS Log Book, FRC 61A726, Box 1312).

Also on the day of commissioning the Tern Island Station received commissary stores and general supplies from the USCGC *Kukui*. For the next two weeks the Station also received excess supplies and equipment from East Island. After the Station personnel departed East Island on 3 November, the Tern Island personnel removed all usable gear (Fed. Rec. Cent. MD, FFS Log Book, October 1952, FRC 61A726, Box 1312).

The newly commissioned Station was only a little over two weeks old when, on 4 November, it received word of an impending tidal wave. The warning, received at 1015, came just as the Station was receiving supplies from the *Kukui*. At 1200, a Honolulu commercial radio broadcast was heard which indicated that a wave of about five feet had hit there; at 1258 the Station received a dispatch from CCGD 14 to evacuate the island. After conferring with the commanding officer of the *Kukui*, LTJG Hawkins decided against evacuation since he considered the crest to have already passed the island. The water level dropped approximately four feet on the north side of the island before returning to normal. At 1400, however, another commercial broadcast indicated a fourth crest had passed Midway Atoll with amplitude of 9.8 feet. At



1445 this crest hit French Frigate Shoals; it was estimated to be 15 feet high only one-fourth mile offshore but broke up on the surrounding reefs. No damage occurred to the island or the Station. At 1938 the tidal wave alert was cancelled (Fed. Rec. Cent. MD, FFS Log Book, November 1952, FRC 61A726, Box 1312).

During the last half of 1952, Coast Guard plane service to Tern Island increased; 12 planes landed during that period, compared to one during the first half, and five during the previous year. A week before Christmas 1952, the Station received supplies and a small amount of mail from the *Basswood*. Three days after Christmas their main mail arrived by air-drop; all chutes opened and all cans were retrieved (Fed. Rec. Cent. MD, FFS Log Book, December 1952, FRC 61A726, Box 1312).

At 1400 on the afternoon of 3 January 1953, the sea was extremely rough and coming from the northwest. Water was breaking over the seawall on the northwest side of the island. By 1030 the next morning the storm had abated. No damage was sustained by the Station, but the island had been hit hard. One section (30' x 30' x 5' deep) along the northwest, just east of the piers, was eroded (Figure 64); a nearby drainpipe was uncovered and moved 25 feet. Another area on the southwest was slightly eroded. Crushed coral was eroded from behind the seawall at various places to a depth of five feet. The runway was completely unusable because of strewn coral and vegetation (Figures 65 and 66). The stored empty barrels were scattered about and the stacked excess construction gear was watersoaked and moved. The crew was still cleaning up a week later. No other major storms occurred during 1953. Three tidal wave alerts, however, were received: one on 26 February at 0541, one on 23 April at 1220, and another on the afternoon of 25 November. Each of these was cancelled within a few hours (Fed. Rec. Cent. MD, FFS Log Book, January - December 1953, FRC 61A726, Box 1312).

Tragedy occurred at Tern Island during the early morning hours of 2 June 1953. At 0210 the night security watch woke the Commanding Officer notifying him that an Engineman, Second Class, could not be located. A search of his room revealed an unfinished handwritten note, saying only, "To whom it may concern." The entire crew was awakened and each was questioned; the missing man had last been seen at the Recreation Hall around 2000 by several members of the crew. A search of the entire island and surrounding water began. The missing man's shower shoes, cigarettes, and cigarette lighter were found on the wooden dock, but no trace of him could be seen in the surrounding water. The search of the island produced no further clues as to the missing man.

In re-searching the dock area a small 50-pound old-fashioned anchor, normally stowed in a nearby raft, was found missing. At 0414 the body was located in approximately 18 feet of water and about 15 feet from the end of the dock. The 50-pound anchor was tied to his left





**Figure 64. Storm waves batter northern seawall just east of Tern Island's piers, 3 January 1953. Photograph by Charles W. Price.**



**Figure 65. Rock strewn runway following storm of 3 January 1954. Photograph by Charles W. Price..**

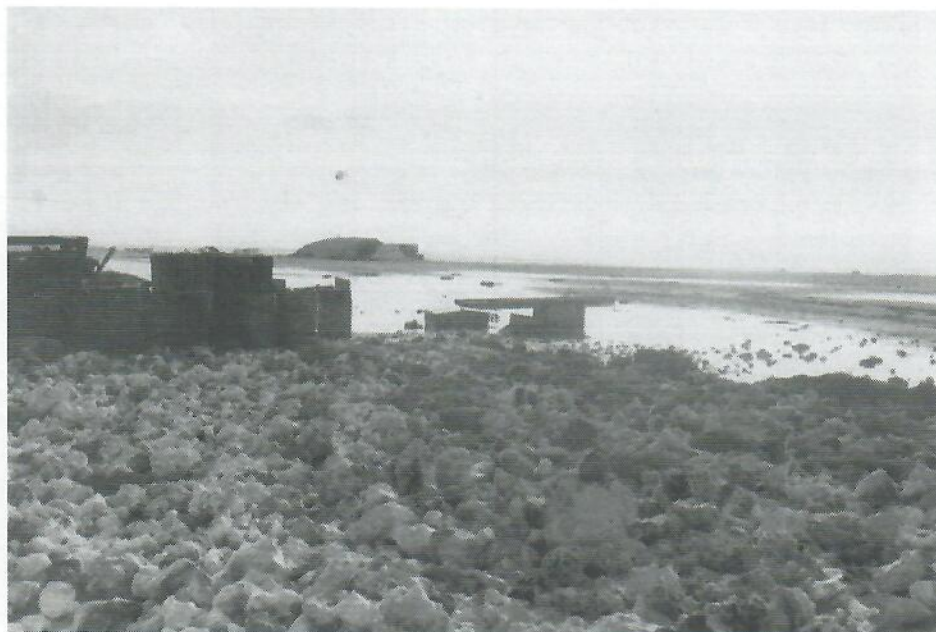


Figure 66. Rocks and water left on Tern Island's runway after storm of 3 January 1953. Photograph by Charles W. Price.

ankle by a two-foot length of line. No bruises or marks were on the body except for fresh facial cuts attributed to dragging the body during retrieval. The body was placed on ice until removal to Honolulu.

The next afternoon a Coast Guard plane arrived with an investigation officer aboard; the plane departed for Honolulu within an hour with the body. On 3 June the investigation resulted in a preliminary verbal finding of suicide. The deceased had been on Tern Island less than a week (Fed. Rec. Cent. MD, FFS Log book, June 1953, FRC 61A726, Box 1312).

The rest of 1953 passed uneventfully, with the exception of a small fire in the hot water boiler on the night of 17 June. This was apparently caused by a short in the electrical system. It was quickly extinguished and caused no damage. LTJG Thomas E. Hawkins continued as Commanding Officer until 4 October 1953; LTJG Raymond H. Wood took command on the same date (Fed. Rec. Cent. MD, FFS Log Books, June-December 1953, FRC 61A726, Box 1312).



An unexpected storm accompanied by high tides hit French Frigate Shoals in early January 1954. At almost midnight on 10 January, the Officer in Charge<sup>79</sup> was suddenly awakened by the security watch; storm waves had washed onto Tern Island, flooding the floor of the main building to a depth of six inches. The crew, except for the LORAN watch-standers, quickly rounded up emergency rations and gathered in the control tower; they feared further inundation. At dawn the storm and sea abated and the men began the job of cleaning out the flooded buildings. The runway was unusable because of erosion and scattered coral boulders and debris; over two weeks passed before the airstrip was again open for use. Other damage consisted of: (1) the loss of 2,583 gallons of fresh water because of leakage from a damaged tank, and (2) the collapsing and ravelling of several portions of the steel sheet piling bulkhead surrounding the island (especially just east of the piers) which allowed the sea to erode the coral fill (Fed. Rec. Cent. MD, FFS Log Book, January 1954, FRC 52A138, Box 189).

During the latter part of February and early March a work party from the *Kukui* made temporary repairs to the most severely damaged sections of the sheet piling bulkhead, and expanded the cleared strip on the runway. Seven different plans, ranging in cost from \$11,000 to \$1,430,000, were drawn up for improving the sheet piling bulkhead. On 4 April the Assistant Coast Guard Commandant, accompanied by the Commander, 14th Coast Guard District, inspected the island. They concluded that the cheapest plan—to permit the bulkhead to continue to deteriorate and to fill in the eroded areas—was the best. The main cost would be a new bulldozer.

The monotony of isolated Station life was broken in June and August 1954 when Brigadier General Maddox, USAF, arrived in an Air Force C-47 for a recreational visit. On the latter trip, he brought five men<sup>80</sup> of the Pacific Underwater Instruction Unit with him. They remained two days instructing the Coast Guard men in safety in and under water, diving equipment and methods, fish habits, and photographic processes (Fed. Rec. Cent. MD, FFS Log Book, June and August 1954, FRC 42A138, Box 189). An article (Eagle, 1954) about this visit later appeared in the *Hawaiian Weekly* during October; it showed a photograph of a moray eel in the cockpit of a wartime fighter plane lying in 50 feet of water.<sup>81</sup>

79. The Commanding Officer, LTJG Raymond H. Wood, was on temporary duty in Honolulu.

80. They were Captain Keifer Tucker, USAF; Jack Eagle, a spear fisherman; Wally Young, an underwater RKO studio photographer; Dan Wallace, a Warner-Pathe News photographer; and Peter Wilson, Hawaiian Tuna Packers fishery research technician.

81. It is assumed this photograph was taken at French Frigate Shoals, but no record exists of a sunken plane except for a sea-plane sinking in 1936 in 80 feet of water off East Island (US National Archives, Log of USS *Wright*, October 1936, R.G. 24).



During the first 10 months of 1954, the Tern Island Station was visited by 27 planes, compared to only 14 (plus 10 air drops) in all of 1953. Conversely, 11 Coast Guard supply ships visited Tern Island in 1953, while only 7 visited there during the first 10 months of 1954 (Fed. Rec. Cent. MD, FFS Log Book, January - December 1953, FRC 52A726, Box 1312; FFS Log Book, January - October 1954, FRC 52A138, Box 189)<sup>82</sup>.

The Station was similarly supplied in 1955; 11 supply ships arrived and 28 planes landed with mail. On 17 March, while the USCGC *Chautauqua* was at Tern Island, the Station received a tidal wave alert. Twelve enlisted men were evacuated to the ship at 1715, leaving the Commanding Officer, LTJG Marvin W. Hallock, and three enlisted men to man the Station. The alert was short-lived and at 2045 the Station crew returned (FFS Log Book, January - December 1955, FRC 57A541, Box 161).

The rest of 1955 passed uneventfully. During the first week in December 1955 a work crew from the *Kukui* installed a new antenna as well as new generators at the Tern Island Station. The work was completed by the afternoon of 7 December (Fed. Rec. Cent. MD, FFS Log Book, December 1955, FRC 57A541, Box 161).

January 1956 passed quickly. The men had the Station in top condition by 22 February, the date of the annual Western Area Inspection. Other visitors by Coast Guard plane stopped briefly at the Station in mid-March. On 3 April Vice Admiral Alfred C. Richmond, Commandant of the Coast Guard, and party, including Congressman J. Vaughn Gary of Virginia, spent two hours on the island. The summer monotony was broken on the morning of 22 July when a submarine was sighted two miles northwest of Tern Island; it proved to be a US vessel and continued eastward (Fed. Rec. Cent. MD, FFS Log Book, January - July 1956, FRC 58A602, Box 101; *Nav Aid News*, 4 May 1956).

The *Kukui* arrived Tern Island on 3 October 1956. In addition to bringing logistic supplies, the ship brought materials and provided labor for construction projects. One project was to renovate six 5,000-gallon tanks<sup>83</sup>, left from earlier Navy days, to increase the fuel oil storage capacity of the Station from 16,000 to 46,000 gallons. This would permit fueling of the Station annually instead of thrice yearly. The other project was the establishment of a radio beacon<sup>84</sup>. The equipment was placed in a renovated portion of the Recreation Building. A 75-foot pole antenna and accompanying radial ground system were installed. The *Kukui* departed Tern

82. The French Frigate Shoals Log Books for November and December 1954 could not be found.

83. Estimated cost of the tank renovation was \$1,500.

84. Estimated cost of installing the radio beacon was \$14,795.



Island on 11 October leaving final installations to the Station crew (Fed. Rec. Cent. MD, FFS Log Book, August - December 1955, FRC 58A602, Box 101).

At 1100 on 1 April 1957 the radio beacon was commissioned and placed in operation; at 1730 transmission was interrupted because of the parting of the antenna halyard. The halyard was rerigged and at 1930 normal operations were resumed. The halyard parted a second time at 2000 interrupting transmission; at 2050 the halyard was rerigged again and normal operations started. No further antenna problems occurred that day (Fed. Rec. Cent. MD, FFS Log Book, April 1957, FRC 60A48, Box 56)<sup>85</sup>.

The Stations' "April Fool's Day" problems continued the next day for its small boat was discovered missing from its buoy after sunup. An investigation revealed the mooring shackle had come loose; the boat was never found.<sup>86</sup>

On 30 June 1957, Tern Island's LORAN A rate 2L4 was redesignated 2L6; the Station still operated in conjunction with the Kauai LORAN Station (Fed. Rec. Cent. MD, FFS Log Book, June 1957, FRC 60A58, Box 56).

In early August 1957 the *Seadrift*, a sailing vessel owned by Lyman H. Farwell of California, docked at French Frigate Shoals. Among the 10 crew members<sup>87</sup> were three women, a rarity at this remote outpost (FFS scrapbook).

Bad weather, with heavy rain and high winds, passed just south of French Frigate Shoals during the early morning hours of 4 September 1957. At 0410 the radio communications went dead; at 0430 the radio beacon went off the air; and at 0620 the LORAN signal stopped. Investigation revealed the communication failure was related to the antenna falling. The radio beacon quit because of water in a coupling unit, and the LORAN stopped because of water in the transmitter. A minimal amount of structural damage occurred; water and wet sand entered the Station ammunition magazine but no damage resulted. By 1306 the Station was back on normal operations (Fed. Rec. Cent. MD, FFS Log Book, September 1958, FRC 59A1622, Box 114).

85. The radio beacon was again inoperative for two hours on 15 April because of antenna difficulties.

86. On 20 February this same boat had sunk while tied to its mooring.

87. The crew members of the *Seadrift*, which was 85 feet long and drew 10 feet of water, were Lyman and Kay Farwell, Lonnie and Carmelite Vincent, Andy and Dorothy Kirk, Barry Goldwater (do not know if this was the senator), Bill Evans, "Nills" Nilsen, and Dr. George Coons.



At 1543 on 6 January 1958, LORAN A rate 2L7 with LORSTA, Johnston Island, was declared operational. The French Frigate Shoals Station was now considered to be a double-pulse operation since it also operated on LORAN A rate 2L6 in conjunction with LORSTA, Kauai (Fed. Rec. Cent. MD, FFS Log Book, January 1958, FRC 60A396, Box 126).

Although the Station's personnel complement was set at one officer and 14 enlisted men, during January the Station was shy one enlisted man. By May, and continuing through mid-June, the crew was down to one officer and 11 enlisted men. The Station's complement was normal during the rest of the year (Fed. Rec. Cent. MD, FFS Log Book, January - December 1958, FRC 60A396, Box 126).

Beside being supplied by eight Coast Guard vessels, French Frigate Shoals was visited by various other vessels during 1958. One of these was the HMAS *Melbourne*, an Australian aircraft carrier, which anchored at the sea buoy on the morning of 9 June 1958. Four of the ship's officers came ashore during the ship's 11-hour visit (Fed. Rec. Cent. MD, FFS Log Book, January - December 1958, FRC 60A396, Box 126).

Beginning in mid-1958 various military and civilian personnel<sup>88</sup> were assigned temporary duty at French Frigate Shoals in connection with the Atomic Energy Commission's (Task Group 7.1, JTF-7, Los Alamos, NM) atomic tests in the Pacific. A US Air Force C-47 removed all personnel and their gear connected with this operation on 19 August (Fed. Rec. Cent. MD, FFS Log Book, June - August 1958, FRC 60A386, Box 126).

On 18 August the *Kukui* arrived to refuel the Station and deliver supplies and equipment, including a new one-ton Dodge Pickup Truck. The ship sent a maintenance and repair crew ashore to work on several construction projects. They placed new metal bands around the wooden salt water tank, converted the Station's fresh water flushing system to salt water, installed a hot water heater in the washroom, and placed storm shutters on all windows. The *Kukui* departed on the afternoon of the 20th, with all work projects completed (Fed. Rec. Cent. MD, FFS Log Book, August 1958, FRC 60A396, Box 126).

Several inspections of the Station were made during August, September, and October 1958. On 29 September Rear Admiral J. A. Hirshfield, Assistant Commandant of the US Coast Guard, and a party of five conducted a material inspection. On 28 October the Western Area Inspection team visited the Station and on 31 October a visiting team conducted an inspection

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88. Personnel included members of the US Army Signal Corps and civilians from the Sandia Corporation, Albuquerque, New Mexico.



of the defective seawall (Fed. Rec. Cent. MD, FFS Log Book, August - December 1958, FRC 60A396, Box 126).

Subsequently \$80,000 was set aside by the Coast Guard for repairs on the seawall. Material and equipment were transported to Tern Island by the *Kukui* on 6 February; on the same day a work crew, consisting of two civilians and five enlisted men arrived by plane. Work started on the northwest corner of the seawall. On the 13th the weight and vibration of the equipment caused the old piling to collapse. The new piling, which was being placed just outside of the old, was then placed 25 feet in from the edge along this section. The piling near the piers was judged in good condition. New piling was, however, installed just east of the piers. The repairs on the portions that had failed were completed by late March but were considered to be a temporary (5-10 years) expedient insofar as the protection of the island as a whole was concerned. The piling along the west end of the runway was judged in extremely bad condition; that along the east end was badly corroded. However, funds were not available to repair all of the seawall (Fed. Rec. Cent. MD, FFS Log Book, January - March 1959, FRC 61A275, Box 111; CG 14 Engineering Report, 2 March 1959).

During mid-March 1959, Naval air and surface operations were held in the area. In conjunction with this the USS *O'Bannon* (DE 450) visited the atoll on the 19th and 20th. Another Navy vessel, the USS *John S. McCain* (DL 3), visited the Shoals on 7 and 8 May on a photographic mission. During the last week in August a US Marine plane arrived in connection with a Marine Corps exercise.

The yacht *Koalua*, en route to Honolulu from Yokohama, moored at Tern Island 10-12 June; on board were a Mrs. Truman and her son. The 13th proved a sad day for the Station's crew; the 0915 entry in the Log reads: "Dog 'Mamie' departed station en route to the place where all good dogs go, ETA unknown" (Fed. Rec. Cent. MD, FFS Log Book, March - June 1959, FRC 61A275, Box 111).

The weather during the spring and summer of 1959 was normal and without any bad storms until 4 August. At 1010 on the 5th, a message was received warning of hurricane "Dot" and directing the unit to secure the Station and evacuate all personnel. Fortunately a Coast Guard plane was already on the island and the crew, after securing the LORAN and radio beacon equipment at 1222, was evacuated at 1231. The plane landed at Barber's Point, Oahu, and the men were driven to Coast Guard Base, Sand Island. On the 9th, after "Dot" passed over, LT David A. Sumi, the CO, and eight crew members returned to find no storm damage. At 1238 the LORAN and radio beacon were back in normal operation. The remaining six crewmen



returned by plane on the 10th (Fed. Rec. Cent. MD, FFS Log Book, August 1959, FRC 61A275, Box 111).

On the morning of 5 October, the USCGC *Planetree* anchored to offload monthly supplies. During the course of the next few days, the *Planetree* ran aground and began taking on water. Local efforts to repair and refloat the ship were of no avail. On the 9th the US Navy flew in a salvage officer and a master diver with equipment to assist the *Planetree*. The USS *Lipan* (ATF 85) also arrived to give assistance. The same evening the *Basswood* arrived and the *Planetree* was successfully refloated and repaired that night. At 0830 on the 10th, with the *Lipan* acting as escort, the *Planetree* departed for Pearl Harbor (FFS Log Book, October 1959, FRC 61A275, Box 111).

The New Year had just begun when on 11 January 1960, a US Marine plane (R4D) had to make an emergency landing at French Frigate Shoals with one of its two engines feathered. The 21 persons aboard were unhurt. Repairs were made and the plane was able to depart the next day.

In early 1960 the US Weather Bureau made plans for establishing a weather reporting station on Tern Island. Although this unit was never built, two Weather Bureau men arrived on 11 May to install an anemometer. On the 22nd several Coast Guard personnel arrived by plane to conduct a hydrographic survey of the Tern Island channel. At 1439 the plane was ordered to remain for possible evacuation of the Station because of an impending tidal wave. The Station crew began preparing the unit for inundation. At 0207 on the 23rd, Commanding Officer LTJG David A. Sumi decided to ride out the wave. At 0513 the highest water (approximately four feet) was recorded and the sea soon returned to normal. No Station damage was incurred<sup>89</sup> (Fed. Rec. Cent. MD, FFS Log Book, May 1969, FRC 62A352).

From 21 to 25 August 1960, the MSTs *Haiti Victory* and MSTs *Dalton Victory* anchored five miles south of Tern Island. Two helicopters from each ship visited the Station daily (Fed. Rec. Cent. MD, FFS Log Book, August 1960, FRC 62A352). They were most likely surveying the Station for possible use by the Pacific Missile Range (PMR). A decision to place a Pacific Missile Range team on French Frigate for tracking satellites and missiles apparently was made about this time.

The *Kukui* visited the atoll 11-30 September for maintenance and repair work on the Station. Two officers and 25 to 30 men stayed on Tern Island during this operation. The *Kukui's* crew

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89. Another brief tidal wave alert occurred on 25 May.



installed day beacons in the channel leading to Tern, remodeled a portion of the barracks to provide additional living space for six men, renewed the Station's fuel system piping on the south side of the runway, and filled and graded the runway and striped the centerline to permit its use by larger planes (Fed. Rec. Cent. MD, FFS Log Book, September 1960, FRC 62A342; CG 14 *Kukui* report 24 October 1960).

On the morning of 3 December 1960, the USS *Skagit* (AKA 105) anchored three miles from Tern and commenced landing equipment, supplies, and 18 civilians for the Pacific Missile Range Facility. The ship departed at 1830. On 5 December a Navy plane arrived with 15 additional PMR personnel (Fed. Rec. Cent. MD, FFS Log Book, December 1960, FRC 62A352).

During the night of 11 December a storm deposited debris and rocks up to two feet in diameter on the island runway which had to be closed for a few hours for clean-up operations. A break in the seawall occurred on 20 December; a 100-gallon boiler placed in the opening washed away on the night of the 22nd (Fed. Rec. Cent. MD, FFS Log Book, December 1960, FRC 62A352).

The *Navy Times* annually offered a prize for the best rhymed log for New Year's Day. LTJG E. B. Holtzman, the commanding officer, submitted the following entry for 1 January 1961:

"Here we are on this half-awash piece of ground,  
Aiding the travelers for miles around,  
By pulsing radio signals into the skies,  
To find the way with electronic eyes.  
Eighteen Coast Guard men we are,  
Sent out for a year here in the sea,  
Acting out our various official roles  
On this, French Frigate Shoals.  
In this, the wave lapped night,  
Generator one gives us power and light.  
Only one man stirs in his night's vigils,  
To keep accurate the guiding signals.  
Now stirs the crew with the morning light,  
Not many though, for remember last night.  
First, now, is prepared the weather report,  
A thrice daily scheduled export.  
This will be holiday routine,  
With preparations of our own cuisine.  
Unlike other places, we say,  
The cook here can have a holiday."

With the opening of the PMR Facility on Tern Island, plane service in 1961 almost tripled over that of 1960: 109 planes and 13 helicopters landed in 1961 compared with 44 planes and 11 helicopters in 1960. During 1962, landings increased to 125 planes and 25 helicopters. Most of these were Navy and Coast Guard operated; a few Air Force planes were involved (Fed. Rec. Cent. MD, FFS Log Books, 1960-1962, FC 62A352, 64A319, Box 12 and 80, 65A593, Box 173).

William M. Mathes (2010 pers. corresp.) writes:

"I was stationed on French Frigate Shoals (Tern Island) from November 1960 through November 1961. During this time Pacific Missile Range personnel came to the island and tried to film the first Russian in space.

"Many air to ground pickups of data from the island and many visitors during this time made life interesting.

"Actually this tour of duty was an experience I've never forgotten. Great crew and great times fishing, shooting, playing volleyball and just messing around doing stupid stunts like paragliding over the reefs in a rubber raft, flying ten foot box kites, killing sharks and visiting small islands within the shoal area by boat.

"Ninety cent cartons of cigarettes along with ten cent beer with no limits on the drinking. The average cans of beer per man per month was somewhere between 300 and 500 cans give or take a few. Great fish to eat all cooked by the Hawaiian mess cook who really knew how to cook fish.

"Great duty but while there I don't think I really appreciated the uniqueness and privilege of being stationed in such a pristine and beautiful part of the world, French Frigate Shoals."

On 3 and 4 March 1961, the *Planetree* off-loaded LORAN Station supplies and on 6 March the USS *Devil County* (an LST), arrived with supplies for the PMR Facility. The latter did not depart until 4 April. Meanwhile, the new LORAN equipment was installed and on 14 March the LORAN "C" monitoring system, a much more powerful system than the concurrently operating LORAN "A," was placed in operation on rate SH4. On 3 March, a Navy plane brought a pleasant surprise to the all-male isolation Station. The surprise was a Miss Janice Shinner who stayed for three hours (Fed. Rec. Cent. MD, FFS Log Book, March - April, 1961, FRC 64A319, Box 12).

PMR material arrived on a barge towed by the tug *Malia* on 9 April; the tug *Malama* and tow brought supplies on 23-25 April; the *Mohala* came 15-16 July and again 15-16 September. The *Kukui* delivered 50,000 gallons of fuel oil to the LORAN Station on 17-18 July. Other ships visiting included the USCGC *Bering Straits*, USS *Saint Clair County*, the USS *Floyd County*, and USS *Long View* (Fed. Rec. Cent. MD, FFS Log Books, April - December 1961, FRC 64A319, Box 12).



The PMR complement averaged five men including a mess cook. They shipped in trailers for quarters and set up the tracking station on the southeast corner of the island (Figure 67). This station tracked man-made earth satellites, especially those of the "Discoverer" series. Employees of Lockheed, Bendix, and International Telephone and Telegraph periodically visited the Station. Also assisting in tracking were several members of the Army Satellite Observation Program. On 14 November four members of the Army and Air Force arrived for a three to four month stay to participate in the East Pacific Survey Project which was to obtain accurate geodetic readings (Fed. Rec. Cent. MD, FFS Log Book for 1961, FRC 64A319, Box 12; 14 CG memorandum 24 July 1961).

Activities of other agencies continued to overshadow the Tern Island LORAN Station during 1962. In late March a survey party, composed of Navy, Coast Guard, Atomic Energy Commission, and Holmes and Narver construction personnel, visited Tern Island to determine if the Station could accommodate more electronic equipment and approximately 21 more men to help coordinate forthcoming atomic testing. Although this increase in Station compliment was a heavy burden on the Coast Guard Station, future material benefits would be great (Fed. Rec. Cent. MD, FFS Log Books, January - April 1962, FRC 64a319, Box 80; CG 14 Operations Memorandum, 30 March 1962).

Thus, operations on all levels increased. The USS *Churchill County*, an LST with helicopters, operated in the area from January to April; the USS *Stone County* (LST), operated from May to August. On 14 April the *Mohala* arrived with a barge load of equipment, a C-123 brought 25 Holmes and Narver construction workers, and 17 additional men arrived by the 19th. By late April, LT B. S. Randolph, the Commanding Officer, estimated that 87 people were using the Coast Guard facilities. Problems developed because of the increased demand for electricity and water, and for cooking, bath, and berthing facilities. Information as to exactly what was going on was slow to reach the island; "grin and bear it" was all the men could do at times (Fed. Rec. Cent. MD, FFS Log Books, April - May 1962, FRC 64A319, Box 80; CG 14 office memorandum, 18 April 1962).

During this period the LORAN Station continued to be supplied by the *Kukui* and *Ironwood*. A new LORAN antenna was installed, with LORAN "A," rates 2L4 and 2L6, utilizing it after 22 May (Fed. Rec. Cent. MD, FFS Log Books, January - July 1962, FRC 64A319, Box 80).

On 20 August, 2 and 27 September, and 6 November 1962, the *Mohala* brought supplies and aviation gasoline. The aviation gasoline was needed by the Air Force's expanded C-47 flights, now operating twice weekly from Honolulu. Flights between Johnston Atoll and French Frigate Shoals occurred periodically. All flights were controlled by Coast Guard District 14.





Figure 67. Tern Island, Pacific Missile Range Facility left foreground, 13 December 1961. Official US Coast Guard photograph 12-13-61-5.

Two specially built house trailers, each air-conditioned, arrived on 20 August and were installed on concrete pads at the southeast end of the island. A roof, serving as a water catchment system, was erected between the trailers. A 10,000-gallon neoprene water tank was installed nearby and a second one was installed near the Coast Guard water tanks. Another trailer, containing two 60 KW diesel generators and electrical switching gear, was installed near the first trailers. Installation of a 50,000-gallon neoprene fuel tank doubled the Station's fuel capacity<sup>90</sup>. By 19 September an Air Force weather station, located west of the recreation building, was in operation. The island now supported 45 people, 70 structures, and 9 moving vehicles. With the completion of the AEC's atomic tests at Johnston Atoll, test operation personnel left French Frigate Shoals in late 1962<sup>91</sup> (Fed. Rec. Cent. MD, FFS Log Books, August

90. On 21-22 December 1962, the *Kukui* delivered 52,465 gallons of fuel to the Station.

91. The halt in atomic testing was followed by the 5 August 1963 treaty banning nuclear tests above ground and under water which was signed by the United States, Russia, and Great Britain.



- December, 1962, FRC 64A319, Box 80 and FRC 65A593, Box 173; USCG 14th District memorandum, 18 August 1962, 5 September 1962, and 19 September 1962).

On 24 January 1963 five military men and equipment of Aerial Survey Team #8 arrived by helicopter from the USS *Outagamie* (LST). They remained on the island until 17 February. Two men of this team returned on 8 March for a week. From 14 to 27 June a nine-man maintenance and repair crew from Coast Guard Base Sand Island, Oahu, were engaged in various work on the Station (Fed. Rec. Cent. MD, FFS Log Book, January - June 1963, FRC 65A593, Box 173).

From January to July, Air Force flights continued bringing PMR cargo and personnel. On 6 August the trend reversed—the *Mohala* began removing PMR equipment. Additional PMR equipment was removed by the *Mohala* on 14 and 22 August, and on the afternoon of the 27th<sup>92</sup> the last of the PMR personnel departed French Frigate Shoals (Fed. Rec. Cent. MD, FFS Log Book, January - August 1963, FRC 65A593, Box 173).<sup>93</sup>

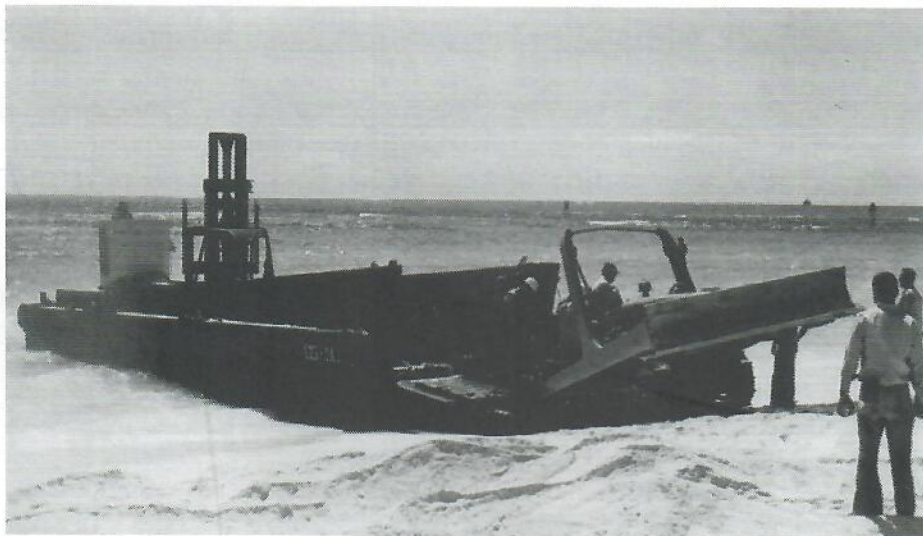
The LORAN Station's one officer and 24 enlisted men must have felt not only alone but deprived of good fortune; the visitors had used the atoll since December 1960 and during that time the Station had received no tidal wave alerts. Six days following the departure of the PMR a brief tidal wave alert was ordered, and on 12 and 19 October other alerts were called but subsequently cancelled (Fed. Rec. Cent. MD, FFS Log Books, August - December 1963, FRC 65A593, Box 173).

An inspection team headed by Rear Admiral C. C. Knapp visited the Station on 20 January 1964. A month later another inspection team arrived to go over details of the forthcoming Station rehabilitation. On 10 March the *Basswood* anchored, bringing heavy construction equipment and cargo and leaving an LCM (Figure 68) for use at the Station (Fed. Rec. Cent. MD, FFS Log Book, January - March 1964, FRC 66A761, Box 13).

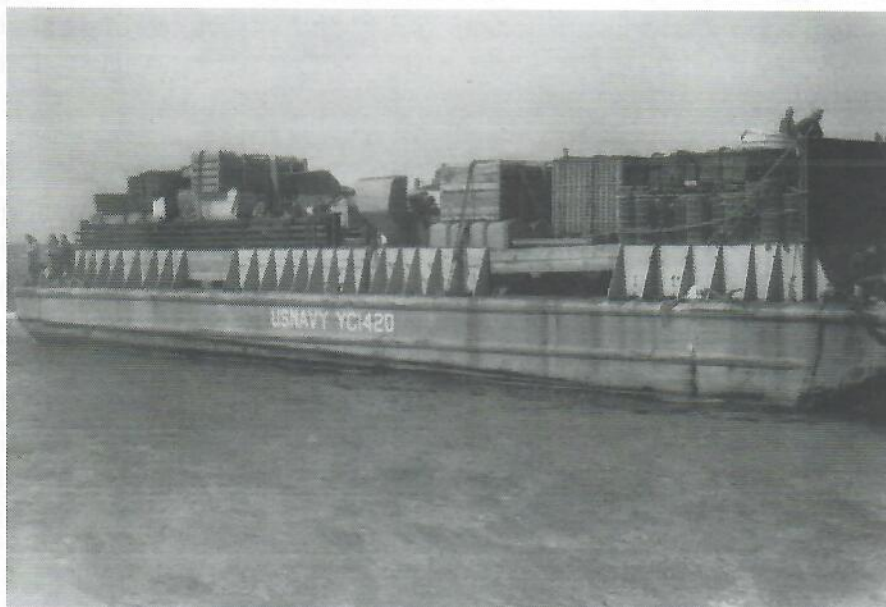
A Coast Guard plane arrived on 2 April with eight construction men, and on the 6th the *Ironwood* arrived with 10 maintenance and repair personnel and a barge of construction supplies (Figure 69). On the 8th the first cement was poured for the foundation of the new LORAN building. The building's cement-block sides rose steadily during May, and in June the roof

92. The *Honolulu Advertiser* of 14 September 1963 (A4:6) erroneously listed the departure date of the last PMR man as 22 August.

93. Apparently the French Frigate Shoals PMR facility was shifted to Johnston Atoll. During mid- and late 1963 a new PMR facility was built at Johnston (Bauer, 1963).



**Figure 68. LCM unloading heavy equipment and cargo Tern Island LORAN Station, 10 March 1964. Photograph by Hoogland.**



**Figure 69. Barge loaded with construction material at Tern Island, 6 April 1964, Photograph by Hoogland.**



was installed (Figure 70). Repairs to the recreation building and barracks were also begun during April. The *Chautauqua* arrived on 28 May with supplies, and the *Kukui* and *Basswood* arrived during June with additional cargo and new furniture for the barracks. New piling was placed seaward of the old seawall along the east and west ends of the runway (Fed. Rec. Cent. MD, FFS Log Books, April - June 1964, FRC 66A761, Box 13).

As soon as the new LORAN building was completed, the old one as well as the old water tank tower, was torn down. The two trailers used by the PMR were moved to a position just east of the barracks; these air-conditioned units were to be the new quarters for the commanding officer, chiefs, and first class enlisted men. Construction and repairs were completed and the construction men departed by 6 August (Fed. Rec. Cent. MD, FFS Log Books, May - August 1964, FRC 66A761, Box 13).

The weather during the period of construction had been generally good; on only two occasions had weather created problems. A tidal wave alert was received on 27 March. The crewman watching the water level at the dock reported a 3-foot rise but no damage occurred. On 18 May adverse weather had prevented offloading of supplies from the USCGC *Mataagorda*. On 1 November someone noticed that the Station's 14-foot aluminum skiff was missing from the beach by the recreation building; it had last been seen on the afternoon of 30 October. A search proved futile; it apparently had washed away (Fed. Rec. Cent. MD, FFS Log Books, March - November 1964, FRC 66A761, Box 13).

On 7 November the unused construction material was inventoried and moved to a central location. On the 11th the *Kukui* arrived and sent a work party ashore. On 8 December the *Ironwood* picked up the cement mixer. On 14 December the newly rehabilitated Station was inspected by Rear Admiral T. J. Fabik and party (Fed. Rec. Cent. MD, FFS Long Books, November - December 1994, FRC 66A761, Box 13).

The New Year started with another inspection on 11 January. Another brief tidal wave alert came on 3 February (Fed. Rec. Cent. MD, FFS Log Books, January - February 1965, FRC 67A281, Box 38).

Bob Krauss, a feature writer for the *Honolulu Advertiser*, flew to the Station on 18 February to do a story about a mysterious cat that had suddenly appeared on Tern Island. The Coast Guardsmen had been seeing ghostly shapes at night which turned out to be a huge yellow male cat. US Fish and Wildlife Service personnel became concerned because of the island's bird life. The cat slipped in the barracks late at night and stole food from the galley for several months before being caught and tamed by LTJG George E. Archer, Jr. Archer kept the cat in

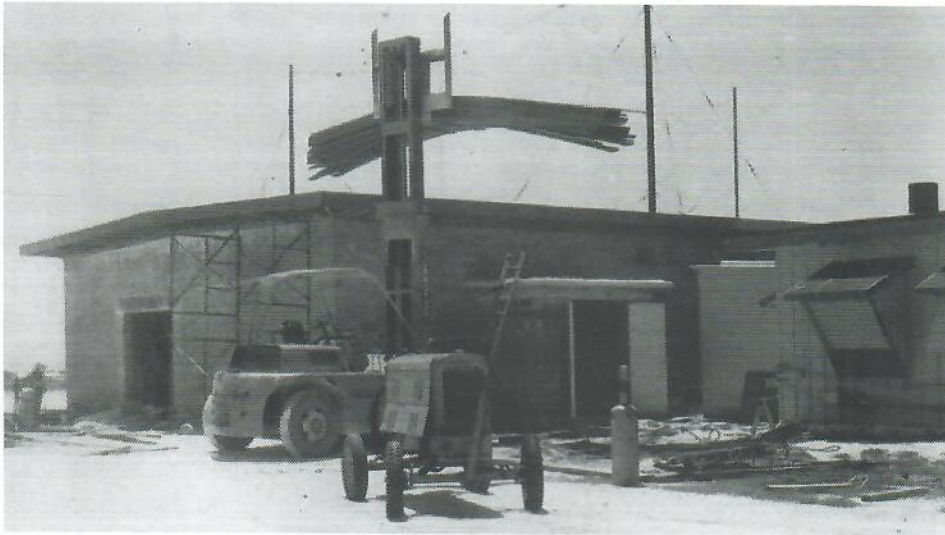


Figure 70. Finishing touches being added to LORAN building, Tern Island, May 1964. Photograph by Hoogland.

his trailer but it did not live long in captivity (Krauss, 1965). To this day, no one knows exactly how the cat got on Tern Island; some thought it was left by the Navy or by commercial fishermen; others speculated it may have jumped ship. Cats, however, were known to have been on the island in prior years. They were recorded by Fish and Wildlife personnel in 1956.

During June the Station's ham radio station, KH6ABH, was moved from the southwest corner to a room in the recreation building. A new antenna was raised. In July and August "Joes," the Station's bar, was rebuilt. It was renamed "Joes, the Playboy Club of the Pacific" because of the *Playboy* centerspreads decorating the walls. The new addition was constructed of cement block, and sported panelled walls, louvered windows, a tiled floor, and a corner fireplace.<sup>94</sup> The rest of 1965 passed by uneventfully. The *Kukui* refueled the Station in late August. During October the *Ironwood* inspected buoys and the *Buttonwood* delivered cargo (Fed. Rec. Cent. MD, FFS Log Books, June - December 1965, FRC 67A1281, Box 38).

<sup>94</sup>. During the winter season it does, at times, get cool from the winds and rain.





Figure 70. Finishing touches being added to LORAN building, Tern Island, May 1964. Photograph by Hoogland.

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94. During the winter season it does, at times, get cool from the winds and rain.

The year 1966 was normal with few exceptions. Plane service was usually weekly. The *Kukui* offloaded fuel and cargo in February, and the *Buttonwood* paid a visit on 21-22 March. On 8 May two men from the ketch *Via Jera* visited the Station; they left on 6 June after almost "wearing their welcome out." Also in June the *Buttonwood* delivered a new Jeep and the following month the *Planetree* brought two new saltwater evaporators (Fed. Rec. Cent. MD, FFS Log Book, January - July 1966, FRC 68A3985, Box 44).

The *Ironwood* anchored on 12 September with fuel and cargo. On the night of the 13th a visiting seaman (T. J. Flatley), deciding that the runway was a race track, drove one of the Station's Jeeps off the west end of the runway into the sea. Fortunately someone saw the speeding vehicle "zoom" past the recreation building. The man was pulled from the water with no injuries, but the Jeep, recovered the next morning, was in foul shape.

On the afternoon of 9 November one of the fiberglass guywires supporting the 129-foot LORAN "A" tower broke. A special plane arrived the next day to repair the damage and all the guywires were replaced by the morning of the 11th (Fed. Rec. Cent. MD, FFS Log Books, August - December 1966, FRC 68A3985, Box 44).

On 12 January 1967 Jim Ownby, of radio station KANDI, arrived on the weekly plane flight to interview some of the men. The *Kukui*, *Basswood*, USCGC *Mallow*, and *Ironwood* paid routine visits to the Shoals. Christmas 1967 was special; a Coast Guard plane arrived at the Station disguised as "Rudolph the Red-Nosed Reindeer" with Miss Santa Claus—SPAR Yeoman Wanda Parr—aboard (Figure 71).

On 15 February 1968 a rare fire broke out in the radio beacon rendering it inoperative. A plane arrived the following day with an electronics technician to assist in repairing the unit. From 8 to 14 August the Station's LORAN "C" unit was on the blink (Fed. Rec. Cent. MD, FFS Log Books, January - December 1968, uncataloged).

Ships bringing supplies in 1968 included the *Blackhaw*, the *Ironwood*, the *Planetree*, and the *Kukui*. Coast Guard planes usually made weekly mail and supply flights. During the latter half of the year negotiations between the Coast Guard and the Federal Aviation Administration (FAA) began for a new plane service. The Coast Guard Station at Barber's Point was phasing out the HUI6E's<sup>95</sup> which had been carrying mail and supplies to French Frigate Shoals. By utilizing the FAA planes, personnel and cargo could fly from Honolulu International Airport

95. The only planes the Coast Guard had after the HUI6E's were phased out were C-130 planes. They were too big for normal safe routine landings at French Frigate. The DC-3's fit the runway very nicely.



instead of Barber's Point, thus saving many miles of travelling. The first plane of the new FAA service began on 12 December. The last Coast Guard plane to make the French Frigate run did so on 23 January 1969 (Fed. Rec. Cent. MD, FFS Log Books, January - December 1968, January 1969 uncataloged).

The island's routine during most of 1969 was normal. The island routine was broken 20 to 24 February, however, when a National Broadcasting Company television crew arrived to film some of the atoll's wildlife (see Chapter 11). LTJG Henry J. Kofron, arrived on 1 April to take command of the Station (Amerson (1971). June brought additional visitors. From 27 to 29 October, the USS *Longbeach*, a missile recovery ship operated near the atoll. The two Air Force helicopters on the ship paid the Tern Island Station a visit and took the crew for a ride over the various islands of the atoll. The year 1969 would have ended quietly had it not been for a violent December storm.

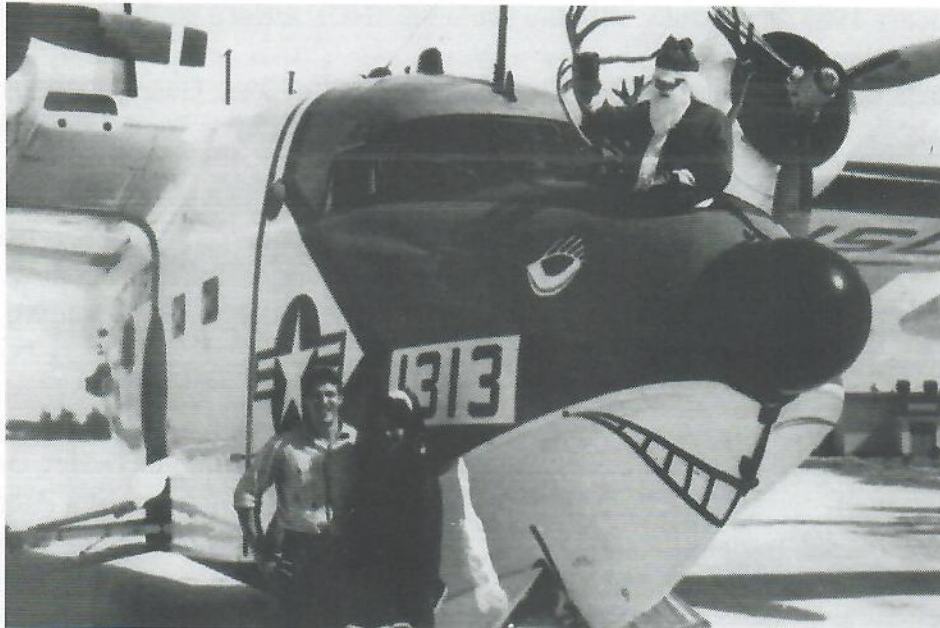


Figure 71. US Coast Guard plane, disguised as "Rudolph the Red-Nosed Reindeer," with Miss Santa Claus, SPAR Wanda Parr, Christmas 1967. Official US Coast Guard photograph.

The 1st of December 1969 began as any other day. Seaman Jack Dale had the "mid-watch" while most of the crew was asleep in the barracks. Neither Dale nor the rest of the crew knew of the violent storm some 1,500 miles to the northwest. French Frigate's weather had been good and the seas normal.

While making his rounds in the predawn darkness, Dale discovered puddles of water on the normally dry runway. Suddenly a wave washed right onto the 8-foot-high island. Dale was startled. Thinking it just a one-time occurrence, however, he casually walked into the LORAN building and briefly chatted with the radio operator. Making his way to the barracks messhall, Dale noticed that the patio was flooded. Suddenly another big wave hit. At 0545, after consulting the cook, Dale decided to awaken Kofron, the CO. When told of water in the barracks, Kofron's first thoughts were that there had been heavy rain or that a freak wave had broken across the island. As he heard the surf pounding against the reef and as more waves crashed across the island, he quickly changed his mind (Cramer, 1969; Krauss, 1969; Kofron, pers. corresp., January 1970; Amerson, 1971).

As soon as Dale wakened him, Kofron gave instructions for the power to the barracks to be secured and for all hands to be awakened. After seeing the severity of the situation, Kofron went to the LORAN building, which was still dry. He hurriedly sent a priority message to the 14th Coast Guard District saying the Station's barracks were flooding. It was now 0630.

The awakened crew began securing the Station. Chief Electronics Technician Pete Hughes went to the LORAN building as quickly as possible. He knew that the water must not reach the power generators, floor trenches containing power cables, or the electronic equipment. Using rags and sand bags he and other men tried to keep water from running under the doors. But the waves kept coming and sparks began flying from the wet generators and cables. At 0650 Kofron had the radioman send another message to Honolulu informing headquarters that power and LORAN were being secured. Ten minutes later a wave smashed open the generator room doors and all four generators were soaked (Cramer, 1969; Krauss, 1969).

About 0800, thinking the worst was over, LT Kofron, Chief Boatswain's Mate Wheeler, EN1 Richard Davenport, and Seaman Dale drove toward the east end of the island in the truck to survey the damage. As they neared the end of the runway, a large wave broke across the island. Fortunately Wheeler saw it coming and turned the truck into the wave. The truck was carried backward some 50 feet before stopping (Kofron, per. corresp., January 1970).



Another anxious moment came when the two fiberglass boats were almost washed away. They were saved by the quick action of several men who chased them down the beach (Cramer, 1969).

By 1000 the entire crew and the three dogs had sought refuge on the roof of the LORAN Building, which was of cement block construction and the highest and safest structure on the island. During lulls in wave action, the men climbed down to get food, fresh water, and personal possessions.

Some of the crew thought the surf was breaking on the island itself; Kofron (pers. corresp., January 1970), however, thought differently. The wind and sea during the night had been from the north, flooding the northern portion of the lagoon and raising the lagoon level nearly to the top of the seawall. As the surf and tide increased, not all of the surf's force was broken on the outer reef, but continued across the lagoon, broke against the seawall, and continued across the island. Sheets of water 6 inches to 1 foot were washing across the island at regular wave intervals. Flooding occurred because water was not running off the higher south shore fast enough. Water tended to stand in the lower places, such as the barracks area.

Around 1300 a Coast Guard plane, which had been dispersed from Barber's Point after the Station lost its long range communications, arrived on the scene. District 14 Coast Guard officials and members of the Honolulu press were aboard the C-130. Although ground-to-air communications were difficult, the stranded men managed to tell those aboard the plane that they were unhurt, in no immediate danger, and well supplied with canned goods and water. Survival equipment, including rafts and food, were air dropped anyway (Altonn, 1969; McKee, 1969).

By 1500 the high water subsided and the men climbed down from their stranded position. They located some dry charcoal and had a hamburger cookout on the barbeque grill at Joe's. This was their first hot meal since the night before.

A quick survey of the island's damage showed that the seawall was crushed in various places, soil was badly eroded along the north shore and around the base of the 129-foot LORAN tower, and the vegetation, especially on the north side, was washed away. Huge coral boulders and other debris were scattered on the runway from one end to the other, rendering it useless to fixed-wing aircraft. The carpenter's shop and Quonset hut storage building were demolished. The double doors of the engine room, located on the north side of the LORAN Building, were smashed; the equipment inside, especially the power generators and switch board, was wet and useless. The electronic equipment in the rest of the building was dry, and usable had power been available. The wooden barracks was in shambles; doors, windows, and some



walls were destroyed. Furniture was broken and wet. One of the trailers was off its base. Many of the men's personal belongings were water damaged or washed away.

The men began preparing for another high tide at 2300. Additional food (including beer) and blankets were taken to the roof of the LORAN building. At dusk the men again climbed on the roof and spent a cold, windy night. The Station, however, received no additional high wave action. At midnight some of the men climbed down and slept on the floor of the LORAN building.

At dawn on 2 December, the men were awakened by a helicopter from the New Zealand frigate HMS *Walkout*. The *Walkout*, the USS *Sunnyvale*, and the USCGC *Mellon* had been alerted and sent to the area shortly after the second message was received in Honolulu. The *Waikato*'s helicopter evacuated the 19 Coast Guardsmen, their remaining personal effect, and the three dogs. The *Waikato* headed toward Midway.

Arriving at Midway at 1000 on the 4th, some of the Station's personnel stated that sea sickness aboard the ship was worse than their ordeal on the island. The sea was still very rough from the storm. At 1330 the men departed Midway aboard a MAC flight to Honolulu. The three dogs had to be left behind<sup>96</sup> because of Hawaii's rabies regulations. Arriving in Honolulu, the men were billeted at Fort DeRussey for the weekend (*Honolulu Star Bulletin* 3 December 1969; Kofron, pers. corresp., January 1970).

Meanwhile, the Honolulu based *Mellon* arrived at French Frigate on the morning of the 3rd and its helicopter landed a three-man repair crew on Tern Island. The crew made stopgap repairs to the buildings and washed the salt water covered equipment with fresh water to prevent further corrosion. The *Mellon* departed on the afternoon of the 3rd. Another Honolulu based ship, the USCGC *Planetree* arrived on the 5th with a full repair crew aboard. The USS *Union* (LKA 106) arrived on the 9th to assist offloading heavy equipment from the *Planetree* (*Honolulu Star Bulletin* 3 December 1969; US Coast Guard, Headquarters files).

After four days of much-deserved liberty, the Tern Island Station complement left Honolulu aboard the USCGC *Buttonwood*, arriving at French Frigate on the 12th. The men began the long, hard, messy job of cleaning up (Kofron, pers. corresp., January 1970).

The original estimate of damage to the facility, made from the air on 2 December, was \$500,000 (McKee, 1969). A later estimate placed the damage at approximately \$142,000. In

96. The three dogs were later returned to French Frigate Shoals from Midway by the USCGC *Buttonwood*.



late December the *Kukui* brought from Honolulu a field construction force, equipment for repairing the runway and buildings, and new furniture for the barracks. The runway was again operational on 15 January 1970 and the Station was back to normal shortly thereafter (Kofron, pers. corresp., January 1970; Linnon, pers. corresp., February 1970; US Coast Guard Headquarters files).

Kofron (per. comm., May 2011) wrote: "During the year, I was absent for two weeks. One week was for a LORAN commanding officers conference in Honolulu (most of us thought it was a disguised sanity check). The other week consumed some of the special 30 days leave earned by isolated duty personnel in addition to the normal military 30 days leave. Although it cut into my banked leave to cash out for graduate school, it was worth it. Imagine the effectiveness of this line spoken by a tanned and single young Coastie: 'You're the first woman I've spoken with in almost a year.'"

He further reminisced: "As I recall, all station personnel were allowed to take leave of up to two weeks after six months on Tern Island. Most married members availed themselves of the opportunity. But many of the single guys figured that with the time and costs of air travel back to the 48 states they were better off banking the leave or taking one week in Honolulu while living in military housing."

"BMC Line was the XO for the first part of my tour and filled in during my absence during the first week.... BMC Ira Macon, who relieved him, would have assumed command duties the other week."

LTJG Kofron continued as commanding officer until April 1970 when he turned over the LORAN Station to LT H. F. (Kelly) Hirsh, III. Hirsh led the Unit until March 1971. LTJG Durham (Durrie) J. Monsma led the Station until LTJG Mark A. O'Hara took over in April 1972.

The *Buttonwood* continued servicing aids to navigation and LORAN stations through the 1970s. On 30 July 1979 French Frigate Shoals LORAN Station was decommissioned and the *Buttonwood* was on scene to carry the last load of supplies back to Hawaii. With French Frigate Shoal's decommissioning and the advent of biweekly C-130 logistics flights to Kure Island, *Buttonwood's* responsibilities in the Pacific were reduced measurably and in 1981 she was reassigned to Galveston, Texas (<http://www.uscg.mil/history/webcutters/Buttonwood1942.asp>; Noble, 2008).



# 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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