

Other U.S. Island Possessions in the Tropical Pacific¹

Introduction

There are eight isolated and unincorporated islands and reefs under U.S. control and sovereignty in the tropical Pacific Basin. Included in this category are: Kingman Reef, Palmyra and Johnston Atolls in the northern Line Island group; Howland, Baker and Jarvis Islands in the southern Line Island group; Midway Atoll at the northwest end of the Hawaiian archipelago; and Wake Island north of the Marshall Islands. Evidence indicates that some of these islands were not inhabited prior to “Western” discovery; and today some remain uninhabited.

These islands range from less than 1 degree south latitude to nearly 29 degrees north latitude and from 162 degrees west to 167 east longitude. The climate regimes range from arid to wet and equatorial to subtropical. Wildlife resources are similarly varied, with endemic threatened and endangered wildlife species existing on several of the islands. The geographic area covered by these islands has made many of them nesting areas for seabirds and habitat for some rare mammal species such as the Hawaiian monk seal. Several of these islands are of extreme scientific interest because of their age, with origins in the Mesozoic era, and the majority are designated wildlife refuges or contain designated wildlife refuges.

Both Wake Island and Midway Island figured prominently in World War II, as did many other U.S.-affiliated Pacific islands. The Battle of Midway frequently has been called the “turning point” of World War II. Today, military installations remain on Midway, Wake, and Johnston. Johnston Atoll, an important site during the era of nuclear testing, remains a storehouse for chemical munitions and defoliants. During the storage period, some of the storage drums leaked chemicals into the ground; the U.S. Army is currently taking remedial actions to restore the island.

Howland, Jarvis, and Baker Islands

Howland, Jarvis and Baker are arid coral islands in the southern Line Island group (figure B-1). Aside from American Samoa, Jarvis Island is the only other U.S.-affiliated island in the Southern Hemisphere. These islands lie within one-half degree from the equator, in the equatorial climatic zone.

During the 19th century the United States and Britain actively exploited the significant guano deposits found on these three islands. Jarvis Island was claimed by the United States in 1857, and subsequently annexed by Britain in 1889. Jarvis, Howland, and Baker Islands were made territories of the United States in 1936, and placed under the jurisdiction of the Department of the Interior. The islands currently are uninhabited.

These atolls were used as weather stations and military outposts during the World War II years and debris from military presence during the war remains on the atolls. The U.S. Army Corps of Engineers presently is investigating whether to clean debris, drums, and discarded fuel from the islands as part of its responsibilities under the new Defense Environmental Restoration Account. Presently, all three are National Wildlife Refuges administered by the U.S. Fish and Wildlife Service.

Kingman Reef

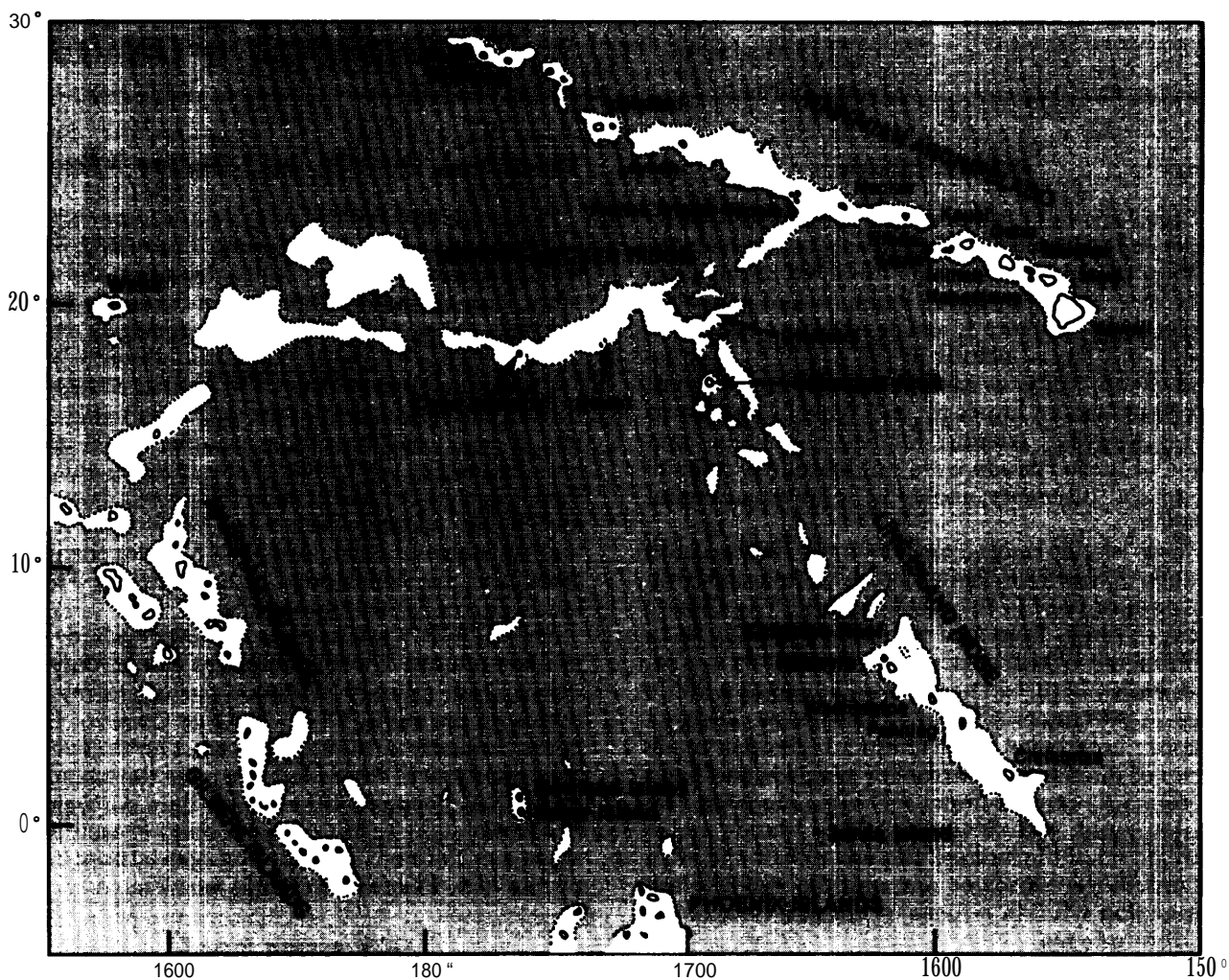
Kingman Reef is in the northern Line Islands; its land area is exposed only at low tide and is essentially a coral reef and shoal. The U.S. Navy currently has jurisdiction over Kingman Reef.

Midway Atoll

Midway Atoll is at the northwest end of the Hawaiian archipelago and consists of two main islands, Sand and Eastern, and surrounding reefs (figure B-1). There is no evidence of prehistoric human occupation at Midway prior to its discovery in the last century. Midway was claimed for the United States in 1867. Soon the atoll became important as a link in the first global communication system; later as part of a trans-Pacific flight route and as a quarantine station to control the introduction of exotic and pest species to Hawaii.

¹Condensed from “Coastal Resource Development and Management in the U.S.-Affiliated Islands,” J.E. Maragos, OTA commissioned paper, 1986.

Figure B-1.—Other U.S.-Affiliated Pacific Islands



NOTE: Names in parenthesis depict individual or chains of seamounts far below sea surface and therefore lacking living reef corals.

SOURCE: J. Maragos, "Coastal Resource Management and Development in the U.S. Pacific Islands," OTA commissioned paper, 1986

Midway was bombed by the Japanese in 1941 on the return from the Pearl Harbor raid. The successful U.S. defense of Midway during World War II was a turning point in the war and arrested the Japanese attempt for broader control of the Pacific. Presently, the Navy maintains a Naval Air Station at Midway, including airfields and a deep draft harbor.

The severe reduction of Midway's seabird population by plume and feather hunters resulted in the designation of the Leeward Hawaiian Islands, including Midway, as part of a National Wildlife Refuge. Large populations of migratory and nesting sea and shorebirds remain one of Midway's most im-

portant natural resources; at times the seabird populations approach one million birds, and over 60 species have been recorded. Fishery and coral reef resources have also been the subject of study in recent years, and for a time commercial fishing interests were allowed access to the island for refueling; however, this arrangement was terminated after a few years. Several rare or endangered species inhabit Midway including the Hawaiian monk seal, short-tailed albatross, green sea turtle, and possibly the hawksbill sea turtle.

Significant environmental issues at Midway include: 1) the high incidence of seabird mortality due to air strikes with planes and collisions with radio

antennas; z) the continued vulnerability of the monk seal to human induced disturbances; and 3) the occurrence of ciguatera fish poisoning which is believed to be linked to dredge and fill activities.

Wake Atoll

Wake is an isolated atoll island located north of the Marshall Islands and consists of three islets and a reef enclosing a shallow lagoon (figure B-1). The written historical record provides no evidence of prehistoric populations on Wake Atoll. Marshall Islanders occasionally visit Wake, have given it a Marshallese name (Enekio), and also occasionally claim it. The atoll was claimed by the United States in 1898, and annexed in 1899. Prior to the 1930s the only visitors to Wake were scientists and survivors of shipwrecks. The Navy received administrative control of Wake in 1934, and a Naval air base was established on the atoll in January 1941.

Wake Atoll was bombed at the beginning of World War II by the Japanese on their return from the Pearl Harbor raid. Shortly thereafter the Japanese invaded and took control of Wake after heavy fighting. Heavy bombardment by United States forces throughout World War II neutralized Wake's strategic importance. Considerable damage to the resource base occurred as a result of bombing and port dredge and fill activities. Seabird populations were severely decimated during World War II and an endemic bird (the Wake rail) became extinct during this period as well.

The United States reoccupied the atoll after the war and administrative authority was held by the Federal Aviation Administration until 1962. At that time, authority was transferred to the U.S. Department of the Interior which in turn assigned authority to the U.S. Air Force.

Significant coastal resources include nesting seabird populations and coral reefs. Periodic storms have shaped the geomorphology of the atoll considerably and the lagoon is very shallow, having a maximum depth of 15 feet. The green sea turtle and the hawksbill turtle occasionally may visit Wake to feed but there is no documented nesting activity. *Lepidium wahiense*, a rare plant species found on Wake, has been proposed for listing as an endangered species by the U.S. Fish and Wildlife Service. The nesting seabird populations are protected under the Air Force base regulations,

Palmyra Atoll

Palmyra is a wet atoll located in the central Pacific and is comprised of three sub lagoons and over 50 separate islets totalling some 1,800 acres (figure B-1). Palmyra was discovered by Western man in 1802 by Captain Sawle, and in 1859 it was claimed by the American Guano Company. Palmyra officially became part of the Hawaiian Kingdom in 1862, and in 1911 became privately owned. When Hawaii became a U.S. territory in 1899, Palmyra was officially included; however the island was explicitly excluded from the Hawaii Statehood Act of 1960. All land titles (except those for a few small islands at Palmyra) were transferred in 1922 to private ownership, which still continues. Although there is no direct evidence of prehistoric occupation of Palmyra, the presence of coconut palms on Palmyra and a Polynesian ceremonial platform on nearby Fanning Atoll suggest the early Polynesians may have visited Palmyra.

A seaplane base and other defense facilities were constructed on Palmyra in the late 1930s in preparation for possible war. The extent of World War II involvement was the Japanese bombing of the atoll in December of 1941. The atoll was continuously occupied by the U.S. Navy or other Federal installations after the war until 1949 and was also occupied during nuclear testing programs in 1962. The Navy attempt to regain control of Palmyra after World War II ended with a U.S. Supreme Court decision to return the atoll to the present owners.

Palmyra has some unique ecological resources due to its wet climate and equatorial location. A variety of seabirds nest there, and coconut crabs, and land crabs are common. The marine populations, though only partially sampled, seem large. The lagoon is brackish and estuarine. Construction activity has resulted in major impacts on reefs and lagoon environments, which to date have only partially recovered.

Johnston Atoll

Johnston is an open atoll in the north central Pacific Ocean approximately 800 miles southwest of Honolulu. The atoll platform and lagoon measure about 15 miles east-west and 7 miles north-south. The atoll's islands and most shallow reefs are found in its northwestern quadrant. Until the 1940s there

were only 2 islands (Johnston and Sand), but by 1964 massive dredge and fill operations had expanded Johnston Island to over 600 acres, doubled the size of Sand Island, and created two rectangular fill islands, Akau and Hikina, of approximately 20 acres each.

Johnston Atoll was formed in the late Mesozoic era, and aside from Wake is the only shallow-water atoll along the Marcus Necker submarine ridge. A barrier reef is located along the northwestern quadrant rim which in addition to the islands and shoals to the south partially protect Johnston lagoon from heavy wave action. Elsewhere the lagoon is semi- or heavily exposed, and subject to open seas.

Johnston was discovered in 1796 and claimed by Hawaii and the United States in 1858. When Hawaii became a U.S. territory in 1898, authority over Johnston clearly belonged to the United States. Early scientific expeditions indicated that only two species of plants originally grew on the islands and that the atoll had never been inhabited. Guano deposits found on the island were exploited for a short period in the 19th century. An Executive Order (No. 6935) in 1934 transferred jurisdiction over Johnston Atoll to the Department of the Navy, where it remains today.

Johnston played a central role in the U.S. atmospheric nuclear testing program. In 1963, when the

atmospheric nuclear test ban Treaty was signed, it retained the basic capability to resume key atmospheric testing on the atoll. This Safeguard "C" status was further relaxed, and Johnston has been reduced to a caretaker status. It now serves as a refueling stop for air traffic between Hawaii and Micronesia.

Johnston has served as a temporary repository for chemical defoliants and chemical munitions since the 1970s. Some of the storage drums have leaked, possibly contaminating both the ground and groundwater with dioxins. The extent of contamination has been analyzed and remedial actions have begun.²The Army is constructing an explosive-proof facility on Johnston and upon completion, plans to incinerate the stored chemical munitions.

Johnston was designated as a bird refuge in 1926 and later upgraded to a National Wildlife Refuge administered by the U.S. Fish and Wildlife Service. Johnston's principle protected resources are nesting seabirds and coral reefs, and the green sea turtle, Johnston's extreme geographic isolation and age make it of scientific interest. Recent expeditions have yielded a greater understanding of the ecology, geology, and marine environment of Johnston.

²Ramsey, C., U.S. Department of Defense, personal communication, September 1986.