

<http://www.globalsecurity.org/military/facility/kahoolawe.htm>

Kaho`olawe

Kaho`olawe [*To be carried away*, in Hawaiian] Island has been used to train military personnel for air and sea attacks, as well as for marine landings over a period extending from 1941 to 1990. Since 1941 the island has been used for combat training and as a bombing target [both live and inert firing] by US military forces and its allies. Since the 1970's the target area has been limited to the central 1/3 of the island. There is evidence that prior to the 1970's the entire island was used as a target. Almost every type of ordnance item used by the US military during this period may have been dropped or fired on Kaho`olawe. No records have been located which indicate that chemical, biological, or nuclear weapons were used on Kaho`olawe. In addition, there are no records that indicate that depleted uranium based ordnance was used on Kaho`olawe Island. Ordnance includes both practice (inert) and service (live) items.

Using innovative and technology-based solutions to restore the environment, the \$280 million UXO clearance of the Hawaiian island of Kaho`olawe is the largest project ever attempted by the DOD. 11,000 acres of the island's 29,000 are currently under contract. Kaho`olawe was used for fifty years as a joint services target range with all conventional munitions from small arms to the largest air delivered ordnance being found. The island has significant historic properties, cultural significance, and natural resource challenges that are addressed in the cleanup. An active partnership of the Navy, the State of Hawaii and the contractor has established this project as the benchmark for the UXO industry.

UXO clearance operations will include collection and segregation of materials into three primary categories: UXO and ordnance-related explosives (UXO/OE), UXO-related remnants, and target materials. The contract for the clearance of unexploded ordnance on the Island of Kaho`olawe was awarded on July 29, 1997 by the Commander, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii. The estimated cost of the contract is \$280 million. This represents the largest single UXO clearance and environmental restoration operation in the United States. The clearance and restoration efforts are to be performed on this remote island comprising 11,655 hectares (28,800 acres). The clearing of the unexploded ordnance from the surface of the island has been an on-going effort. In 1979 it was reported that Marine explosive ordnance Disposal personnel had cleared more than 10,000 items of explosive ordnance from the western end of the island. EOD personnel reportedly estimated that the area was 80% surface cleaned.

Bombs found on Kaho`olawe Island range from 2 lbs to 3,000 lbs. There are various types of bombs – from general purpose to fuel-air-explosion to fire bombs (napalm). The fuzing incorporated in these bombs also varies. Typical fuzing systems used include: impact, cocked striker, piezo electric, all ways acting, time delay, and variable time (radar) fuzes. Projectiles found on Kaho`olawe range from aircraft launched 20mm to shipboard-fired 16-inch projectiles. Explosive weights range from .017 lbs in the 20mm to 150 lbs in the 16-inch. White phosphorous projectiles have also been found on island. Fuzing systems include: impact (cocked-striker), mechanical time, powder train time, piezo electric, and all-ways acting fuzes.

The 28,000-acre island of Kaho`olawe forms a triangle in the Hawaiian island chain with Maui and Lana`i. Kaho`olawe Island is located 151.3 km (94 miles) southeast of Oahu and 9.7 km (6 miles) southwest of Maui. The Kaho`olawe Island Reserve includes the island and waters extending seaward 3.2 km (2 nautical miles) from the shoreline. Kaho`olawe Island is remote and uninhabited, without permanent facilities or utilities, and includes only few dirt roads and foot trails. Temporary facilities to support a limited number of people exist at Honokanai`a on the southwestern end. Limited facilities also exist near Lua Kealialalo (LZ Seagull) and at Hakioawa at the northeastern end. Kaho`olawe Island is a single volcanic dome composed of thin-bedded pahoehoe and `a`a basalt with a few thin local beds of fire fountain debris and several cinder cones (Stearns, 1940). The largest and most prominent cone, Pu`u Moa`ulaiki, is located on the northwestern slope of the volcanic dome's summit.

The introduction of ungulates (hooved animals) beginning in the late eighteenth-century has resulted in the rapid denuding of the island's vegetation, substantial environmental degradation, and massive soil erosion down to the hard saprolitic hardpan resulting from subsequent winds and rain. In addition, military activities, such as bombing, road cutting, and burning, contributed to the level of soil erosion. The island surface on the plateau (from about 700 feet elevation to the summit) is mainly deeply eroded basalt and void of vegetation. The soil on the leeward side of the summit has a mantle of windblown material. The perimeter has mainly shallow soil and rock outcrops.

Kaho`olawe is of great significance to native Hawaiians and others who, in addition to acknowledging its importance in yielding data regarding Hawaiian cultural heritage, consider it of significance as a symbol of cultural survival and regeneration. It is considered by some to be a wahi pana -- a sacred place -- to be used for education, awareness, and experience in Hawaiian culture, as a place to carry on traditional customs and practices, and as a pu`uhonua -- a place of refuge and spiritual regeneration. Temples, or large heiau, and shrines are found on Kaho`olawe. Traditional accounts indicate that Kaho`olawe was closely associated with several deities, including Kanaloa, the god of the ocean, the deep sea, and of navigation and carving. Kaho`olawe is thought to have been an ahupua`a of Maui and to have been divided into smaller sections called `ili which were occupied and worked.

The island was designated the Kaho`olawe Archaeological District and listed on the National Register of Historic Places in 1982. The Kaho`olawe Archaeological District contains 544 historic properties. Hawaiian historic properties include places of Hawaiian occupation and use older than fifty years, which includes prehistoric and early historic properties (including historic properties that have been adopted in modern times for contemporary use). Of the 544 sites recorded during the island-wide survey, most are of the prehistoric or early historic age and are associated with Hawaiian settlement of the island. A majority of these are habitation sites. Other major categories include habitation features, shrines and heiau, lithic quarries and workshops, and petroglyphs. These properties are all evaluated as significant under the National Register of Historic Places guidelines, and combined, comprise the Kaho`olawe Archaeological District.

The Navy improved the Base Camp at Honokanai`a (Base Camp) in 1986 to support implementation of the provisions of the 1980 Consent Decree (*Aluli v. Brown*). Additional improvements to Base Camp were completed during the UXO Model Clearance Project (Model Project), which was conducted from September, 1995 through January 1996. The additional improvements included electrical system upgrade, potable water system improvements, gray water facility upgrades, and sanitation facilities construction.

There are currently nine helipads in varying degrees of usability interspersed throughout the island. Two are located in Base Camp, one at LZ Seagull, two at Hakioawa, one at LZ Eagle (near Pu`u Kahua), one at LZ 1 (near Lua Makika), one at LZ 3 (west of Kanapou), and one at LZ4 (near Kealialuna). The landing surfaces are constructed of either pierced steel panels or Marston Mats.

There are no existing on-island pier facilities to safely transport personnel or cargo from transport vessels to the island. The absence of a pier restricts heavy cargo transport to vessels with shallow water or beaching capabilities. Ocean access is limited to beach landing craft. Currently, Honokanai`a is the only area authorized for beach landing (when tide and surf conditions warrant).

In May of 1941, Kaho`olawe Ranch signed a sublease for a portion of the island with the US Navy for \$1.00 a year up to 1952 when the Ranch's lease expired. Seven months later, on the day following the Japanese attack on Pearl Harbor (December 8, 1941), the Territory of Hawaii was placed under martial law. The military took over the entire island, and ranching operations ended.

Ship-to-shore bombardment of the island commenced in 1941 and intensified starting on October 21, 1943, when the USS *Pennsylvania* conducted rehearsals for the Gilbert Islands invasion. In preparation for additional landings across the Pacific, the Navy ran ship-to-shore fire control training operations at Kaho`olawe. From 1942-1943, American submarine commanders tested torpedoes by firing them at the shoreline cliffs at Kanapou. Additional torpedoes were test fired from 1943 to the 1960's.

Under Executive Order 10436 (signed on February 20, 1953), President Dwight D. Eisenhower reserved the island for the use of the United States for naval purposes, except for 23.3 acres on the southern end previously reserved for lighthouse purposes. The Order directed the Navy to eradicate, or reduce to less than 200, all cloven-hooved animals; to allow the Territory of Hawaii to initiate soil and reforestation studies; and, when the island was no longer needed for naval purposes and without cost to the Territory of Hawaii, to render the island reasonably safe for human habitation.

During the Korean War era, weapons usage shifted from naval projectiles to air-dropped, general purpose bombs. Targets and mock airfields were built on-island for practice air attacks and strafing runs. The Statehood Admission Act of 1959 recognized the Territory of Hawaii as the 50th state of the United States.

Operation Sailor Hat was an underwater and surface high-explosive test program conducted in 1965 by the US Navy Bureau of Ships (BuShips) under the sponsorship of the Defense Atomic Support Agency (DASA).

This program consisted of two series of underwater explosions, three surface explosions at San Clemente Island, California, and three surface explosions at Kaho'olawe Island, respectively. The three 500-ton Trinitrotoluene (TNT) charges were constructed on the beach above the water line on the southwest coast of Kaho'olawe. The crater resulting from the first detonation was subsequently backfilled and is no longer visible. The second and third detonations were conducted at the same site; the result is the present "Sailor's Hat" crater. Sailor's Hat crater has formed an aquatic ecosystem which has become habitat for two endemic species of shrimp: *Halocaridina rubra* and *Metabataeus lohena*.

By 1967, Kaho'olawe was a testing and training range for the air war over Vietnam. The need for protection from North Vietnamese surface-to-air missiles led to the construction of surface-to-air targets and target airfields on the island. The entire island was used as a weapons range with no restrictions on target locations.

By the late 1960's, additional portions of the island were equipped with various types of targets for both ships and aircraft. However, the accidental dropping of bombs on Maui, coupled with numerous complaints of noise from the live fire activities, led the Navy to re-evaluate the on-island target placements. This led to the designation of the Naval Gun Fire Range on the northern slope and the relocation of the practice air fields and aerial bombardment targets to the central southern third of the island. The dividing lines between these areas were the troop safety lines which demarcate the impact area, leaving the target zone to include the central one third of the island. These targets varied in size from six foot rock pyramids to mock airfields covering acres.

Studies in 1972 and 1976 identified a number of alternatives to Kaho'olawe including Kaula Island off Ni'ihau, Pacific Missile Range Facility, Barking Sands on Kauai, the Army's Schofield Barracks Range complex, Makua Valley impact area on Oahu and the Army's Pohakuloa training area on Hawaii. In 1976, all such alternatives were rejected with the conclusion being that the US Navy had no suitable alternative to the use of Kaho'olawe as a target site.

In 1976, the members of the Protect Kaho'olawe 'Ohana (PKO) filed suit in Federal District Court, Aluli et al. v. Brown (civil suit no. 76-0380), seeking to enjoin the Navy's bombing activities on Kaho'olawe. In 1977, the Federal District Court ordered a partial summary judgment in favor of the Aluli et al., and the Navy was required to conduct an environmental impact statement and supply an inventory of, and protect, the historic sites on the island.

In 1980, a settlement Consent Decree and Order was reached in the Aluli et al. v. Brown civil suit. Under the Consent Decree and Order, the Navy agreed to survey and protect historic and cultural sites on the island, clear surface ordnance from 10,000 acres, continue soil conservation and revegetation programs, eradicate the goats from the island, limit ordnance impact training to the central third of the island, and allow monthly PKO accesses to the island. Through those monthly accesses, the PKO has regularly visited the island for religious and cultural purposes, as well as revegetation and conservation programs.

On March 18, 1981, the entire island was listed on the National Register for Historical Places and designated the Kaho'olawe Archaeological District. The Kaho'olawe Archaeological District contains 544 recorded archaeological/historical sites and over 2,000 features, as well as previously unrecorded features associated with traditional and historic Hawaiian land use, ranching, and military activities.

At the request of then representative/senate candidate Patricia Saiki, President Bush, two weeks before the 1990 election, directed the Secretary of Defense to immediately cease use of Kaho'olawe as a weapons range. During the same time period, Senator Akaka, competing with Mrs. Saiki for the senate seat, introduced legislation to create a Kaho'olawe conveyance commission. This proposal became part of the 1991 Defense Appropriations Act [PL 101-511, Sec. 8118]. Section 8118 established the Kaho'olawe Island Conveyance Commission to recommend terms and conditions for the conveyance of Kaho'olawe from federal jurisdiction to the State of Hawaii. The law prohibited the use of the island for weapons delivery training until after the final Kaho'olawe Island Conveyance Commission report was delivered to Congress. The Commission submitted its final report with findings and recommendations to Congress in March 1993, and dissolved six months later in September 1993. During the same period, the Navy in consultation with the State Historic Preservation Office, the Protect Kaho'olawe 'Ohana, and the County of Maui met and developed a Cultural Resources Management Plan for the Kaho'olawe Archaeological District. That document was finalized in January 1995.

Pres. William J. Clinton signed a fiscal year 1993 appropriations act that conveyed title of the island back to the state and entered into a memorandum of understanding with the state regarding cleanup and control of the land.

In 1993, Senator Daniel K. Inouye of Hawaii sponsored Title X of the Fiscal Year 1994 Department of Defense Appropriation Act (PL 103-139, 107 Stat. 1418. 1479-1484). Title X authorized conveyance of Kaho'olawe and its surrounding waters to the State of Hawaii. It also provided for the clearance or removal of unexploded ordnance and environmental restoration of the island, to provide meaningful safe use of the island for appropriate cultural, historical, archaeological, and educational purposes, as determined by the State of Hawaii.

In May of 1993, the Navy completed the eradication of feral goats from the island allowing grasses to return to the island's surface. While the grass holds soil and prevents further erosion, its return make the task of finding and removing unexploded ordnance all the more difficult. Kiawe or mesquite, a tree not native to Hawaii, was introduced to Kahoolowe during attempts starting in the 1920's to use the island for sheep and cattle ranching.

The removal of unexploded ordnance from Kahoolawe is an exceptionally high cost undertaking due to the island's remote location and absence of any docking facilities or infrastructure. Access was possible only by helicopter landing on specific sites previously cleared of unexploded ordnance. The Navy spent \$460 million to remove ordnance from more than 20,000 acres.

The state of Hawaii accepted responsibility for access to Kaho'olawe and thanked the Navy for cleaning up the island at a ceremony 12 November 2003, at the Queen Iolani palace in downtown Honolulu. Rear Adm. Barry McCullough, commander, Navy Region Hawaii and commander, Naval Surface Group Middle Pacific, was on hand as a Navy representative at the ceremony. Hawaii had title to Kaho'olawe since May 1994. The Navy retained the right to control access to the island during cleanup. The right to access control expired on Veterans' Day. The cleanup had taken the Navy nearly a decade. In that time, workers have removed ordnance from more than 20,000 acres of land of the 26,000 accessible acres on the island. The only evidence of "military presence" allowed to remain on Kaho'olawe was that which the state allowed. For example, spotting towers and concrete protective towers remain on the island, as does an old Seabee camp. A 9.5-mile cross-island road known as as K-1 will also remain.







