FINAL
ENVIRONMENTAL STATEMENT
FOR
KAWAIHAE HARBOR FOR LIGHT-DRAFT VESSELS
HAWAII, HAWAII

Prepared by

DEPARTMENT OF THE ARMY
Pacific Ocean Division, Corps of Engineers
Building 96, Fort Armstrong
Honolulu, Hawaii 96813

25 August 1971

SUMMARY

KAWAIHAE HARBOR FOR LIGHT DRAFT VESSELS
HAWAII, HAWAII

( ) Draft (X) Final

Responsible Office: POD

1. Name of Action: (X) Administrative ( ) Legislative

2. Description of Action: Complete constructions plans and initiate construction, on receipt of funds, of a small craft harbor consisting of breakwater, revetted moles, offshore island and navigation channels. Local interests will provide necessary berthing, onshore and related facilities.

3a. Environmental Impact. The proposed harbor would alter the existing physical condition of the thirty-three acre project site from a shallow reef area to a light-draft vessel harbor complex consisting of reverted land areas, channels, and berthing areas. The complex would have a socio-economic impact in the surrounding area. It would provide a safe harbor for small craft and provide a park-like island suitable for recreational use.

b. Adverse Effects Which Cannot be Avoided. There will be a loss of about thirty-three acres of reef area which would be converted to a recreational harbor facility. A portion of the reef is live, growing coral formation. Temporary water turbidity in the immediate area during construction is expected.

4. Alternative. An alternative to the project would be to forgo any construction and utilize the existing, inadequate facilities.

5. Comments Received:

Environmental Protection Agency
Bureau of Sport Fisheries and Wildlife, USDI
US Coast Guard (14th District)
US Army, Hawaii
State of Hawaii (State-wide clearinghouse for environmental coordination)
Mayor, County of Hawaii

6. Draft Statement to CEQ _____.
Final Statement to CEQ 12 NOV 1971.

Final
Environmental Statement
for
Kawaihae Harbor for Light-Draft Vessels
Hawaii, Hawaii

1. Project Description. The Kawaihae Light-Draft Harbor, which is designed to accommodate approximately 300 small craft, would be constructed at the southern end of the revetted fill area for the existing Kawaihae Deep-Draft Harbor (plate 1). The plan of improvement provides for a berthing basin of approximately 14 acres, and a 640-foot-long, 80-foot-wide, and 8-foot-deep main access channel which would be protected by a 1,225-foot-long west breakwater with a 200-foot-long stub breakwater extending from the seaward end, a 1050-foot-long east revetted mole, a 2.5-acre offshore island structure, and a 400-foot-long wave absorber at the end of a 425-foot-long interior access mole (plate 2). An 850-foot-long, 120-foot-wide, and 12-foot-deep entrance channel, a 1.2-acre turning basin, and an 850-foot-long section of the west breakwater were constructed under a research and development program, known as Project Tugboat, which was conducted by the U.S. Army Engineer Nuclear Cratering Group. A launching ramp was constructed in 1971, within the proposed project limits.

The Kawaihae Light-Draft Harbor was authorized by the River and Harbor Act of 1965 in accordance with the recommendations of the Chief of Engineers contained in House Document No. 75, 89th Congress, 1st Session. The project document recommended construction of the harbor in the shallow reef area at the southeast end within the deep-draft harbor basin. However, in response to a request from the State of Hawaii on 19 September 1968, the light-draft harbor was relocated from within the deep-draft harbor basin to the present site outside the basin along the southern end of the revetted fill area. The State cited the need for use of the authorized site for commercial purposes, including facilities for the proposed inter-island ferry system, as the reason for relocating the harbor.

The primary objective of the post-authorization study is to establish the most suitable plan for development of a harbor at the relocated site which would accommodate the recreational boating needs of the Kawaihae tributary area. The design memorandum is being completed and will be submitted to the Chief of Engineers for review and approval in August 1971. The project has a benefit-cost ratio of 1.5.

2. Environmental Setting Without the Project. Kawaihae Bay is formed by a gradually curving coastline. The precise limits of the bay are not defined; however, the entrance between Kapunuiau Point on the south side to Kaiopae Point on the north is about 6.5 miles. The water area shoreward of a line drawn through these two points is about 13 square miles. The slopes of the Kohala Mountains extend northeastward about 7 miles to an elevation of about 5,500 feet. Mt. Hualalai, an 8,000-foot peak, lies about 16 miles south of the bay. The black lava flows are no longer visible. The extensive mountain slopes are vegetated, and at the higher

elevations the back country provides some of the best grazing land in the State. The annual rainfall near the shoreline is 9.13 inches. Rainfall increases, proceeding up the mountain slope, and is about 17.73 inches a year at Kamuela Airport. Nearshore currents are minor. When currents are evident, movement is generally in a northerly direction. Kawaihae Bay is shielded by the island mass from the prevailing trade wind swells, and the waters are ideally suited for recreational boating and swimming. The bay is exposed to storm waves approaching from the west, northwest, and southwest directions.

The existing deep-draft harbor was excavated in the shallow coral reef formation at the northeast end of the bay. The onshore facilities consist of a 605-foot-long deep-draft wharf, a 410-foot-long barge wharf, three general cargo sheds, a large bulk sugar storage shed with conveyor and dockside loading facility, pipelines and tank storage for fuels, liquid fertilizer, and molasses, a cattle loading chute and corral, a 36-acre area for storage and handling of containers, general cargo and pumice, and a dry fertilizer manufacturing plant.

A State-constructed small boat harbor about 300 feet square is located on the northeast side of the deep-draft harbor entrance. This harbor is subject to surge and shoaling. Storm waves carry sand and pieces of coral across the beach at the northwest side of the harbor into the harbor basin.

The new light-draft harbor would be constructed along the southern end of the existing deep-draft harbor revetted fill area. A coral limestone reef between 1,000 and 1,500 feet wide exists offshore of the project site. Excluding the area explosively excavated during Project Tugboat, the coral limestone reef within the project area generally consists of the following overlapping zones or ocean floor areas which were determined based on physical appearances and properties of the material within these areas:

a. Sediment zone (harbor berthing area). The 350-foot-wide reef section adjacent to the existing coral fill area is covered with 2-to-8 feet of blue-grey, fine-grained sandy silt material. Water in this zone is turbid from the suspended particles.

b. Sporadic coral growth zone (access channel area and west end of offshore island). This zone lies between 300 and 600 feet offshore of the existing fill area. It is relatively flat and covered with seaweed. Scattered, large, living coral heads rise to near sea level in this area.

c. Active coral growth zone (offshore island area). This zone lies between 600 and 1,000 feet offshore. Many divergent forms of living coral colonies exist within this area. The reef appearance varies from large, dome-shaped coral colonies to branch forms of coral growth which create a rough irregular surface.

There are several attractive pocket beaches along the coastline of the bay, south of the deep-draft harbor. One of these pocket beaches has been developed into a public beach park and another fronts an extensive resort hotel complex. Except for the pocket beaches, the shoreline of Kawaihae

Bay is rocky with numerous low cliff formations rising from the sea. A handful of homes lie north of the harbor, and a few shorefront homes along the central area of the bay. Although three surfing sites were identified by the Hawaii Surfing Survey conducted in 1968, these sites were classified as ancient Hawaiian surfing sites not surfed now. The surfing information sheet also stated that the sites offer good or average surfing conditions only 30 percent of the year.

The waters of the entire bay are relatively free from pollution. Infrequent storm water runoff from the usually dry streambeds carry silt and debris into the bay. Pollution related to deep-draft harbor operations is negligible at this time, but some minor increase in pollution from this source can be anticipated with the increased vessel traffic expected in the future.

The area immediately seaward of the Kawaihae Heiau (temple) is a favored shark spawning or breeding ground. The exact location of the underwater Heiau (Hale-o-ka-puni) is not known but is in a general area about 700 feet from the project site. On numerous occasions, schools of sharks were observed circling in the general area during the Project Tugboat activities in water depths of about 4 feet.

The tributary area of the Kawaihae Small Boat Harbor includes the North Kohala and South Kohala Judicial Districts, with a combined 1970 population of 5,700. The area is mainly agriculturally oriented, producing sugarcane, diversified "truck type" crops and cattle. Major settlements are Kawaihae, Kamuela and Hawi, with small settlements along coastal areas. Two-lane highways interconnect the major settlements with Kailua-Kona to the south, Honokaa to the east and Hilo, the County Seat, to the southeast. Daily scheduled air flights interconnect Kamuela Airport with Honolulu.

3. The Environmental Impact of the Proposed Action. Construction of the proposed harbor would alter the physical condition of the project site through conversion of about 13.2 acres of shallow reef area to protective structures and an interior access mole. In addition, about 19.8 acres of reef area would be required for the berthing areas which would be incrementally developed by local interests to meet recreational boating needs.

The changes in the physical environment of the project site would have a significant impact on the socio-economic environment of the tributary area. The harbor would increase the small-craft berthing capacity from 48 to about 300 at Kawaihae and would provide the facilities required to accommodate the growing recreational and commercial boating needs of the tributary area. In addition to increasing the berthing capacity, the proposed harbor would provide greater protection for small craft than presently afforded at the existing State-constructed facility. Landscaping by planting of grass, shrubs, and trees will be included in the harbor development plans. Local interests would improve the offshore protective structure to provide a park area which would be connected to the east breakwater by a footbridge. All improvements connected with the park development, including operation and maintenance would be made and borne by local interests. Development

and maintenance of such a park would further enhance the socio-economic impact on the environment.

There are no known historical or archaeological sites in the project area which would be endangered by the proposed improvement. Although an ancient Hawaiian temple (heiau) is located at the mouth of the intermittent Makechua Stream, approximately 700 feet east of the project site, it is presently buried under sediment carried into the area by storm runoff from the stream and is not expected to be disturbed during construction of the harbor. However, precautionary measures will be implemented through close coordination with the contractor to ensure that construction activity does not infringe on the heiau site.

Spencer Park, located approximately 1,200 feet east of the project site is one of the island of Hawaii's best beach-park areas, with facilities for camping, picnicking, and swimming. Construction of the proposed project would not alter the use patterns nor is it expected to endanger the beach and park facilities. Offshore currents are generally in a northerly direction and have been observed during the Project Tugboat construction period. The project is expected to enhance the overall area by providing an additional recreational park area. Spencer Park is presently heavily used during peak weekend and seasonal periods.

During construction, dust control measures will be implemented, and the method of dredging and spoil disposal will be controlled to minimize the effect on marine life. Details relative to construction procedures and controls will be developed during preparation of construction plans and specifications to protect the ecological values of the area.

4. Any Adverse Environmental Effects which Cannot be Avoided Should the Project be Implemented. Construction in the 33 acres of submerged reef will not adversely affect the fish population but will destroy some living coral, sea urchins, and starfish; however, the impact on the marine habitat of the bay is not considered serious. This determination is based on the results of an investigation of the effect of explosive detonations on the marine environment of the bay which was conducted under Project Tugboat. This investigation disclosed that the explosive detonations had little effect on the numerous species of fish at the small boat harbor site. Counts made of the starfish and sea urchin populations showed that although construction would be injurious to the species in the immediate project area, the overall impact would be localized and temporary. During the period of construction, an out-migration of marine life is expected in the project area due to the activity and turbidity. However, an in-migration of marine life is expected a short time subsequent to the construction.

Dredging operations will cause a temporary increase in the turbidity of the waters but will be of short duration and is not expected to adversely affect marine life. Dredging would be done by land-type equipment using a clam shell or dragline bucket. The dredged material

would be used for the construction of the revetted molos and offshore island structures.

Experience gained from the Project Tugboat detonation of high explosives in the area indicates that any turbidity due to fine material resulting from the dredging operation would settle or disperse within a week after the dredging is completed.

Some increase in pollution can be expected as a result of the use of the boat harbor. However, the State of Hawaii is required to provide all shoreside facilities, including comfort stations and appropriate waste water disposal methods and facilities. These facilities would be constructed and operated in accordance with State laws and regulations. Enforcement of these statutes by the State of Hawaii will assure that the water quality standards within the harbor and in the surrounding area would be maintained.

5. Alternatives to the Proposed Action. One alternative to the proposed plan would be to forgo construction of the proposed harbor, thereby retaining the existing reef and marine environment within the bay. However, this alternative would require small craft to continue to use the existing light-draft harbor at the entrance to the deep-draft harbor, and to the extent permitted by the State, portions of the deep-draft harbor basin. Under this condition, damage to small craft from surge and wave action at the existing facility would continue to occur. In addition, the increasing demand for small-craft berths would not be met, and the recreational boating activity in the tributary area would be restricted by the limited facility.

Another alternative is the authorizing document plan which calls for construction of the small boat harbor at the end of the deep-draft harbor basin. Like the previous alternative, this plan would retain the existing reef and marine environment outside the deep-draft harbor. However, this alternative would require commitment of the existing land and water area at the southeast end of the deep-draft harbor which would be undesirable from the standpoint of the long-term productivity of the area. Based on economic projections and development plans for the tributary area, the existing land around the deep-draft harbor would be required for expansion of berthing and shoreside facilities to meet the growing waterborne commerce needs of west Hawaii. This alternative was therefore abandoned at the request of State officials who determined that the site must be reserved to meet the anticipated deep-draft and barge harbor needs.

Three alternative harbor development plans at the proposed site were considered. Each alternative provides for an ultimate capacity of approximately 300 small craft, the projected berthing requirement for the 50-year life of the project. The alternatives differ only with respect to the method of protecting the southeast-seaward end of the harbor. The three methods shown below were determined to be comparable in their effectiveness from the engineering standpoint. The differences between the alternatives are primarily with respect to economics and the environmental impact of the protective structures, as shown on the next page.

Impact	Offshore Island	Offshore Island/Beach	Rubblemound Breakwater
Coral Reef	Requires approximately 2.5 acres along active zone	Requires approximately 3.5 acres along active zone	Requires approximately 0.75 acres along active zone
Aesthetics	With average width of 175 feet and major portion at elevation +7 feet, island would be visible from surrounding area. Rocks visible from shore would primarily be up to 400 pounds in size. Island would be aesthetically landscaped.	Dry beach along seaward side would be about 85 feet wide (average) and 650 feet long, with bare sand covering 80 percent of island. Rocks primarily up to 400 pounds would be visible from shore. Approximately 1/2 acre would be landscaped.	With a 12-foot crest wid and +7 to +12-foot crest elevation, structure wou be visible from shore. Rocks varying from [illegible] t 4 tons in size would be visible from shore. No landscaping measures wou be undertaken.
Recreational Potential (assuming access to structure is provided)	Fishing, picnicking, other land-oriented park uses; no beach-oriented activities	Fishing, limited picnicking, sunbathing, swimming, and other beach-oriented activities	Fishing
Fish and Wildlife	Water area around island would provide habitat for certain species of fish and marine life. Some bird species may be attracted to the island following establishment of landscape treatment	Beach development would not enhance marine habitat - man's encroachment into swimming area may cause marine life to seek new habitats	Voids in the breakwater would provide habitat fo certain fish and ma[illegible]ne life
Estimated Structure Cost	$440,000	$630,000	$370,000
Structure Maintenance Requirement	Minor for revetment. Landscape treatment would require water trimming, and fertilization	Minor for revetment and groin; however, maintenance of sand beach estimated at $7,000 annually	Minor for structure; no landscape maintenance required

Although the least costly, the breakwater plan was unacceptable to local interests because of the austerity of the structure, which rather than enhancing the environment, would add to the existing barren and somber atmosphere of the project area. The offshore island/beach alternative, the most expensive and recreationally attractive plan, was not selected because the additional cost of providing the recreational beach could not be justified in view of the existence of the two nearby State parks which satisfy the present recreational beach park needs of the tributary area. The offshore island plan was selected for implementation, based on economic and environmental considerations.

6. The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity. There would be no major adverse impact on current- or short-term uses of the project site, particularly since this area has been shallow reef land unsuitable for swimming and recreational boating activities. The commitment of about 33 acres of submerged reef land for the project would enhance the long-term productivity of the site through the provision of a recreational boating facility to meet the needs of the tributary area.

7. Any Irreversible and Irretrievable Commitments of Resources Which Would be Involved in the Proposed Action Should it be Implemented. Irreversible and irretrievable commitments of resources which would be involved in the implementation of the proposed project include the 13.2 acres of submerged reef land which would be filled, and the 19.8 acres which would be committed for incremental development of berthing areas. Marine life which would be buried, damaged or destroyed by the dredging operation would also be irretrievably committed as would the labor and fuel resources associated with construction of the project.

The project would also generate commitments of land, labor, and material resources by local interests who are responsible for development of adequate berths and shoreside facilities. However, the extent of such commitments has not been fully defined at this time.

8. Coordination with Others.

a. Public Participation. A public meeting was held at Kawaihae, Hawaii, on 22 October 1970 to discuss the proposed project and determine overall reaction of the general public to the proposed plan. News releases were made concerning the public meeting. Overall public support was given to the project. Opinions were mixed on the plan preferred, between the proposed plan and an alternative scheme which incorporated additional beach development along the seaward side of the offshore island.

A meeting was held between representatives of the Citizens Environmental Advisory Council (CEAC) and the Corps of Engineers to discuss impacts of several planning projects and elicit CEAC's assistance in coordination of the projects with local environmental groups.

The Kawaihae project was discussed and it was brought out that the offshore island vs. rubble-mound breakwater alternatives would be subjected to argument even by conservationists and environmentalists.

Some would object to the destruction of reef area while others would favor the aesthetic and recreational values resulting from a 2.5 acre offshore island.

Copies of the proposed plan were informally provided in May 1971 to the Kona Conservation Group (island of Hawaii) and the Conservation Council of Hawaii for their written comments. No written statements of their positions have been received.

In June 1971, the Kona Conservation Group, with representatives of the Corps of Engineers present, conducted visual inspection of the harbor area using SCUBA diving equipment. Verbal comments indicate that the group prefers a simple rubble-mound breakwater in lieu of the offshore island concept. They desire that maximum preservation of the coral reef be considered. In addition, they feel that a current study to cover a period of one year is necessary to ascertain the pattern of flow. Concern for the existing Spencer Beach was expressed. The Corps is therefore requesting funds to accomplish the detailed current studies prior to developing construction plans.

News release concerning the availability of the draft environmental statement was not made.

b. Government Agencies. A draft environmental statement was coordinated with the following governmental agencies. The views and comments of these agencies are summarized below and copies of their replies are attached.

(1) WATER QUALITY OFFICE, US EPA

Comment: The statement contains an adequate discussion of the project effects on the water quality.

Comment: The final statement should contain further discussion of controls on dredging, spoil disposal, and construction of harbor features that will minimize turbidity and subsequent sedimentation.

Response: Statement expanded to include dredging information and explanation that future development of construction details will be incorporated in the plans and specifications for construction.

(2) FISH AND WILDLIFE SERVICE USDI

Comment: With one exception the statement is adequate.

Comment: A species of grouper collected at the project site was only the second specimen collected in the State. Therefore, it would appear that your statement on rare or endangered species may not be correct and should be deleted.

Response: The statement "No rare or endangered species of botanical or zoological origin are known to exist in the project area" was deleted from the draft statement.

(3) US COAST GUARD, US DEPARTMENT OF TRANSPORTATION

Comment: Did not have any objections to implementation of the project.

(4) US ARMY, HAWAII

Comment: It does not appear that project will have any unfavorable effects within our area of jurisdiction and interest.

(5) DEPARTMENT OF TRANSPORTATION, STATE OF HAWAII

Comment: They see no objections to the environmental statement.

(6) DEPARTMENT OF HEALTH, STATE OF HAWAII

Comment: No indication is given to the site selected for final deposition of dredged material.

Response: The statement was revised to include information that material would be used to construct portions of the harbor facilities.

Comment: Provisions for receiving sewage from vessels has not been mentioned.

Response: The statement was expanded to clarify responsibility of the State to construct, operate, and maintain comfort stations and necessary disposal facilities in accordance with State laws.

Comment: More accurate terms should be used instead of ambiguous terms, such as "minimal" and "minimize."

Response: Statement revised to clarify descriptions where possible. However, quantitative effects are not available in all situations.

(7) DEPARTMENT OF LAND AND NATURAL RESOURCES, STATE OF HAWAII

Comment: The sedimentation and turbidity portions are described inadequately.

Response: The statement was expanded to provide this information based on the Project Tugboat construction experience.

Comment: The precise location of the submerged heiau has not been verified.

Response: No action necessary since the heiau is approximately 700 feet from the project area and beyond the project limits as shown on plate 2.

Comment: The statement should give full treatment to the impact on the marine habitat.

Response: The statement was expanded to cover information resulting from Project Tugboat experiences. Clearinghouse was notified that State's report on fish and wildlife at Kawaihae contains detailed information compiled during Project Tugboat operations.

(8) DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT, STATE OF HAWAII

Comment: They are in general agreement with the proposal.

Comment: Concerned that there is possible pollution that could be created by boat owners.

Response: Same as item (6), above.

Comment: They are concerned with the use-conflict between boating and recreational users of the park.

Response: No action was taken. The proposed harbor is mainly for recreational boats and a recreational park facility is therefore considered compatible assuming local interests develop, operate, and maintain the offshore island and shoreside areas in a systematic and adequate manner.

(9) ENVIRONMENTAL CENTER, UNIVERSITY OF HAWAII

Comment: Perhaps the greatest environmental impact of the proposed shallow-draft harbor as well as the proposed enlargement of the adjacent deep-draft harbor will be constituted by the indirect effects of the increased population in the region stimulated by these facilities.

Response: Although the improvements would affect the overall population factor on the leeward coast, the major effect of population growth in the area would be a result of the growth of tourism, with or without the harbor improvements. Inference that the improvement would be a stimulus to the population growth appears erroneous.

Comment: The natural ecological conditions of this reef and the conditions since Project Tugboat merit considerably more description to permit evaluation of the environmental effects of the proposed project.

Response: Additional information on the reef condition and zones were provided for their information. The reef ecology is one of a number of environmental factors which merit consideration and evaluation, each of which are considered to plan any project.

Comment: If the reef is now aesthetically attractive the loss of natural reef area would be a very important consideration.

Response: A part of the reef is aesthetically pleasing and loss of the portions which are live and growing is an important consideration. However, a total environmental effect of the project is the ultimate consideration utilized in the project formulation.

Comment: Location and means of protection of the dredging spoil should be specified and discussed in relation to environmental effects.

Response: The statement was expanded to include the information.

Comment: It is encouraging to note that beautification of the harbor area by planting is planned, but the inconsistency of the plan with the abandonment of planting announced in the impact statement on the deep-draft harbor is a source of concern.

Action: The plantings connected with the deep-draft harbor modification were not abandoned in its entirety. Coconut trees and naupaka shrubs plantings are being accomplished under the contract which was awarded in June 1971. The total beautification of the coral spoil area would have to be master planned in its entirety to complement the proposed use of the area as a terminal area for deep-draft cargo and as the proposed Ferry Terminal Complex. The State of Hawaii's total complex development should incorporate the landscaping features required for an aesthetically pleasing deep-draft harbor development.

Comment: We assume that the dredging to be performed will be by conventional methods and not by blasting as in Project Tugboat. If our assumption is correct, the effects of Project Tugboat would seem a poor basis for estimating the effects of the proposed dredging, which would be continued, with its production of silty water over a longer period. The basis for assuming that the fish population will not be adversely affected by the combination of dredging, barrier construction, and harbor use is not clear.

Response: The Federal dredging work of about 7,000 cubic yards would be accomplished by conventional methods. Project Tugboat detonations were initiated in November 1969 with calibration type detonations. Phase II detonations were conducted in April-May 1970 with final remedial work detonations set off in December 1970. The breakwater work was initiated in May 1970 and completed in September 1970. Total work period was over 13 calendar months.

The proposed construction can be completed in approximately 12 calendar months and effects to the marine life would be comparable to the Project Tugboat work, without the fish loss caused by the detonations. Initial fish count in the area was conducted in September 1969. Preliminary fish count after the Phase II detonations conducted in June 1970 indicated a marked decrease in number of fish species in the area but a marked increase in fish count and estimated total weight. Final evaluation of marine life in the area is not available.

The environmental statement was expanded to include the expected out-migration and in-migration of fish life during and after construction. In addition, experience indicates that harbors constructed in the past have provided a favorable habitat for fish life. The deeper waters, voids in the revetment structures and the quiet waters have increased fish migrations in these areas.

Comment: Nothing is said in the impact statement about the fine surf break that will be destroyed by the project.

Response: Inference that a fine surf break suitable for surfing would be destroyed cannot be substantiated. During the year period of the Project Tugboat work and during the previous construction and modification of the Kawaihae deep-draft harbor, field personnel noted that the proposed boat harbor site was not used for surfing. Reasons for this non-use are not known.

Comment: Additional alternatives that should be considered are:

(a) Construction of an interior-type harbor in the rocky shore of Kawaihae Bay near the deep-draft harbor. If littoral drift is negligible, as it appears to be, channel stability could be maintained without structures such as jetties.

(b) Construction of the harbor offshore by the use of prefabricated caissons, as off Normandy in World War II. This might result in shoreline realignment.

(c) The decision not to locate the shallow-draft harbor within the deep-draft harbor should be re-examined as to the real need for the entire area in the deep-draft harbor area for deep-draft harbor expansion. It is questioned that surf and wave action in the deep-draft harbor is serious, as implied in the impact statement. The increased demand for small-boat mooring has not been demonstrated in the statement.

Response: The total planning concept of a small boat harbor requires that the facility be navigable under moderate to heavy sea conditions, be compatible with the surrounding environment, provide a "quiet" berthing area, be economically feasible, be accessible to general traffic and provide berthing, shoreside facilities and support facilities to enhance recreational boating and commercial fishing. The proposed harbor would adequately satisfy these needs. Neither an interior type harbor nor an offshore harbor using prefabricated caissons could satisfy the total planning concept.

Commerce through Kawaihae Harbor in 1960 was about 157,000 tons and in 1970 approximately 329,000 tons. Sugar and molasses comprised about 120,000 tons in each case. This is indicative of the growth of the leeward coast of Hawaii from an agriculture oriented to a tourist oriented economy. Although the recently announced closing of a sugar plantation and mill would decrease the total commerce tonnages in the immediate future, a long-term

growth in commerce through Kawaihae Harbor appears inevitable. In addition, the inter-island ferry system interconnecting the major islands by fast, economical surface transportation is nearing reality. The system incorporates Kawaihae Harbor as a port of call on a daily basis. The deep-draft harbor area is required to institute this service.

Surge in the existing small boat basin near the deep-draft harbor entrance has been a problem to boat owners using this facility. Implication that surf and wave action in the deep-draft harbor is serious is not intended nor inferred.

Detailed evaluations covering present and projected population, berthing needs are presented in House Document No. 75, 4 February 1965. The project was authorized by the River and Harbor Act of 1965. This environmental statement is not intended to demonstrate nor present the economic details on the total projected berthing needs of the tributary area.

(10) PLANNING DEPARTMENT, COUNTY OF HAWAII

Comment: They are in general support of the proposal.

Comment: Possibility of detrimental effects on Spencer Park, concerning beach and bottom erosion and wave action in the swimming area.

Response: The project development considered the wave and erosion effects to the Spencer Park facility. Existing patterns and conditions would not be altered at the detriment of the Spencer Park facility.

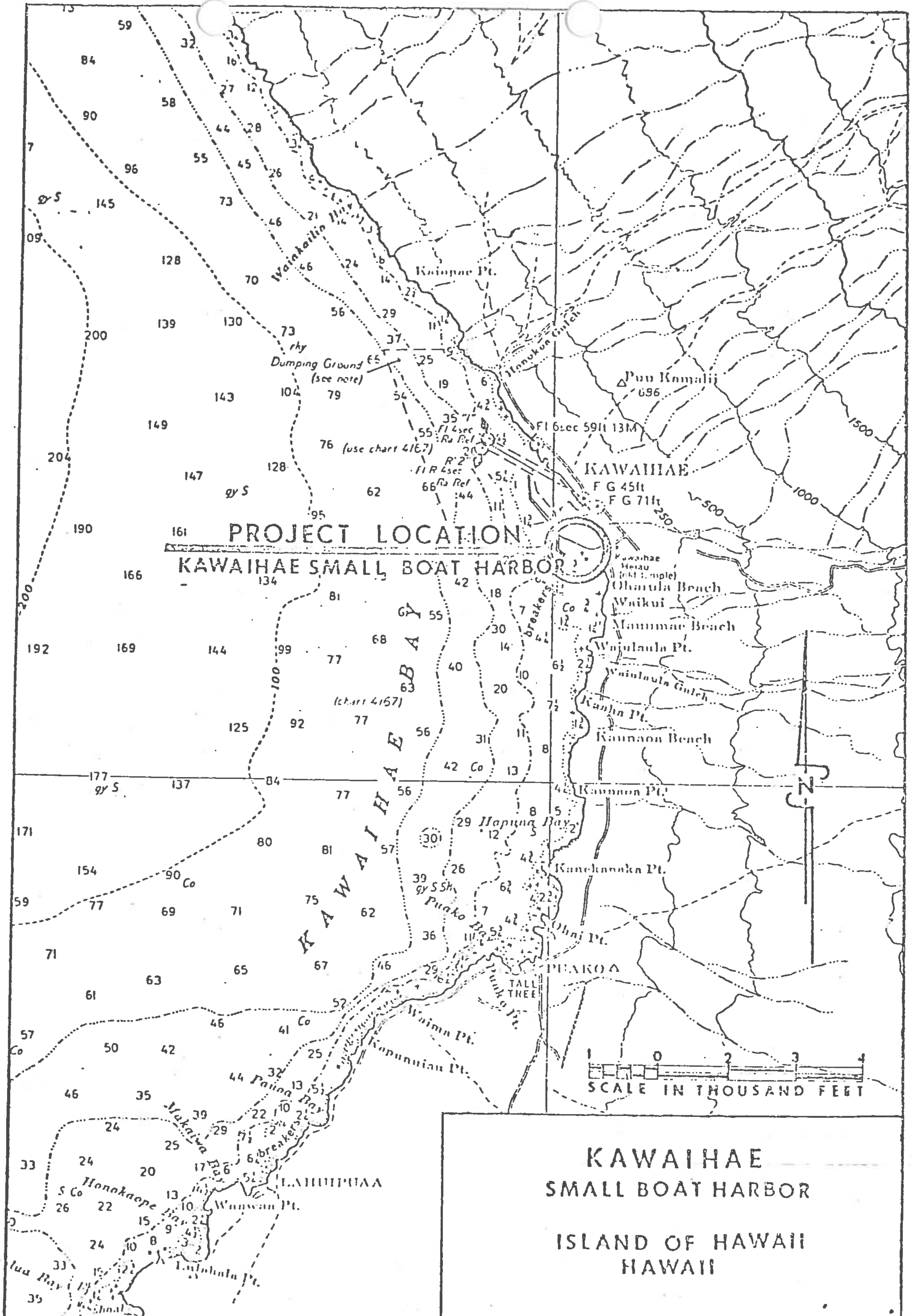
Comment: Study and evaluate the possible pollution to the beach and surrounding area.

Response: The water quality at the beach is not expected to change should the harbor project be constructed. Current observations show a northerly movement, although of low velocity. Operation of the harbor is a State responsibility where existing laws and statutes are adequate to meet pollution control standards. Additional current studies are scheduled prior to construction.

Comment: Further investigations may be warranted to determine the uniqueness and subsequent preservation of the Kawaihae coral reef.

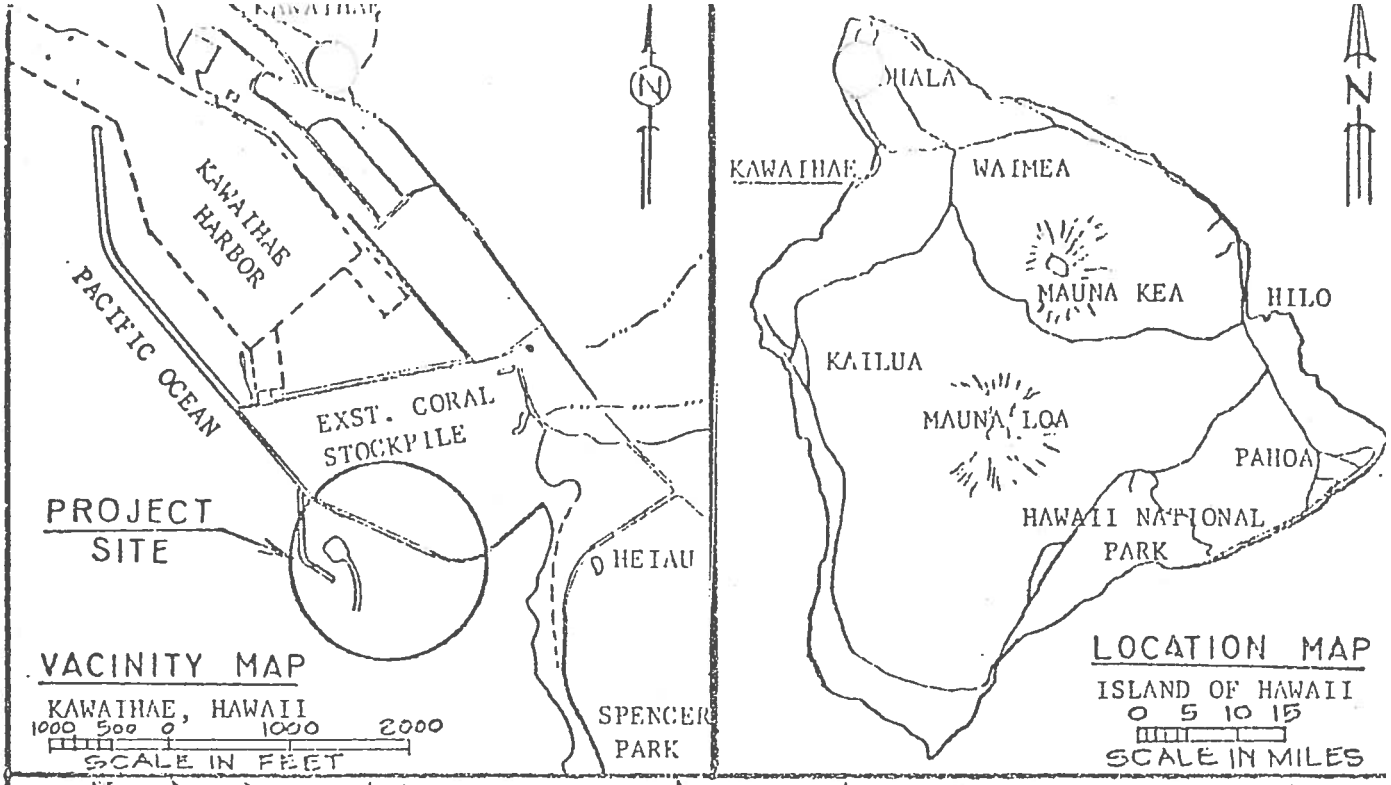
Response: Investigations show that the coral growth, although aesthetically pleasing for viewing, is not unique, with like growth in other areas of Hawaii waters. The major growth of coral in the area is in the so called "active zone" approximately 600 feet seaward of the existing rock revetment.

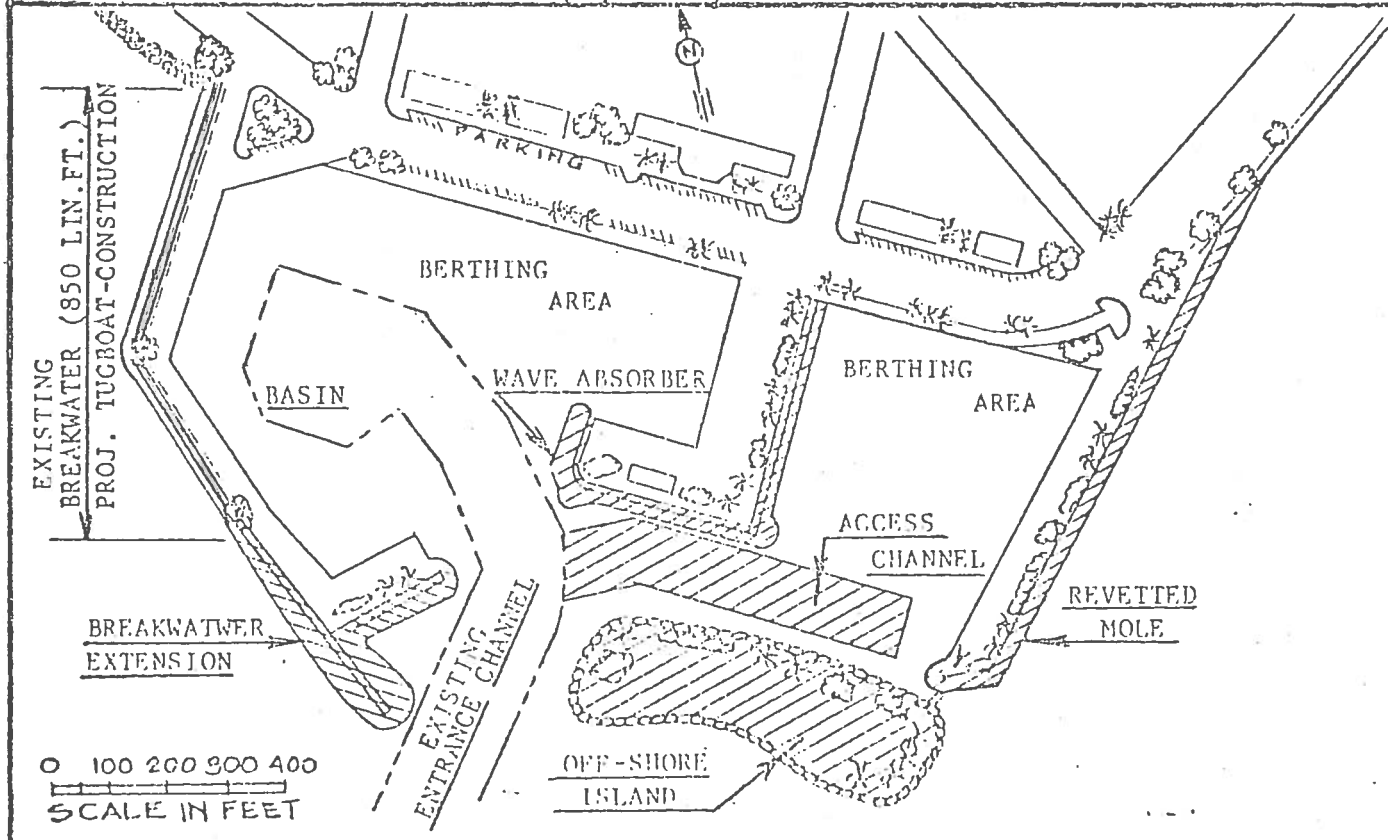
c. Citizen Groups. Comments received during informal coordination with citizen groups are discussed in subparagraph a of this section. No written comments have been received.



KAWAIHAE
SMALL BOAT HARBOR

ISLAND OF HAWAII
HAWAII





NOTE: ENTRANCE CHANNEL & BASIN DREDGED UNDER PROJ. TUGBOAT.

KAWAIHAE
SMALL BOAT HARBOR

ISLAND OF HAWAII
HAWAII

ENVIRONMENTAL PROTECTION AGENCY

Water Quality Office
PACIFIC SOUTHWEST REGION

JAN 8 1971

Division Engineer, Mid-Pacific
Corps of Engineers
U. S. Department of the Army
Building 96, Fort Armstrong
Honolulu, HI 96813

Dear Sir:

This is in reply to your letter of 2 December 1970, requesting review and comment on the draft environmental statement for Kawaihae Harbor for Light-Draft Vessels, Hawaii, Hawaii.

We find the draft environmental statement contains an adequate discussion of the project's effects upon water quality; however, we feel that the final statement should contain further discussion of controls on dredging, spoil disposal and construction of harbor features that will minimize turbidity and subsequent sedimentation.

Thank you for the opportunity to review this draft.

Sincerely,

Director, Water Quality Office

United States Department of the Interior

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

730 N. E. PACIFIC STREET
P. O. BOX 3737
PORTLAND, OREGON 97208

Reference: RBS

Your reference:
PODED-PC
December 1, 1970

January 5, 1971

District Engineer
Honolulu District, Corps of Engineers
Fort Armstrong
Honolulu, Hawaii 96813

Dear Sir:

This replies to your request for our review of your environmental statement for the Kawaihae Light Draft Harbor project, Hawaii, Hawaii. The following comments are for your consideration during review and do not constitute this Bureau's formal analysis under provisions of P.L. 91-190.

With one exception, the statement adequately portrays the probable environmental effects of this project. Paragraph 3.a.(4) states that no rare or endangered species are known to exist in the project area. Representatives of the Hawaii Division of Fish and Game noted that a species of grouper collected there was only the second specimen collected in the State. Thus far, it has apparently been identified only to Genera. Under the circumstances, it would appear that your statement may not be correct and should be deleted.

The opportunity to comment on this statement is appreciated.

Sincerely yours,

Edward S. Masuda

Acting Assistant
Regional Director

PODED-PC

25 January 1971

Mr. Edward S. Marvich
Act Assistant Regional Director
Bur of Sport Fisheries and Wildlife
P. O. Box 3737
Portland, Oregon 97208

Dear Mr. Marvich:

Thank you for your letter of 5 January 1971 concerning the environmental statement for the Kawaihae Light-Draft Harbor Project, Hawaii, Hawaii.

In accordance with your comment, the sentence referring to endangered species existing in the project area will be deleted from the environmental statement.

Your continued cooperation is appreciated.

Sincerely yours,

ROY A. SANDERS
Colonel, Corps of Engineers
District Engineer

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Address reply to:
COMMANDER (e)
Fourteenth Coast Guard District
677 Ala Moana
Honolulu, Hawaii 96813

3160
Serial cv-19161
22 DEC 1970

Colonel Roy A. Sanders
District Engineer, Corps of Engineers
Honolulu District
Department of the Army, Fort Armstrong
Honolulu, Hawaii 96813

Subject: Review of Environmental Statement - Kawaihae Light-Draft Harbor

Dear Colonel Sanders:

We have reviewed the subject Statement forwarded with your letter PODED-PC of 4 December 1970, and we do not have any objections to implementation of the proposed project.

Sincerely,

R. C. Gould

R. C. GOULD
Captain, U. S. Coast Guard
Chief of Staff
Fourteenth Coast Guard District

HCEN-FE (4 Dec 70) 1st Ind
SUBJECT: Kawaihae Light-Draft Harbor Project Environmental Statement

HQ US ARMY, HAWAII, APO San Francisco 96557 DEC 9 1970

TO:: Division Engrinner, Pacific Ocean Division, Corps of Engineers, Building 96, Fort Armstrong, Honolulu, Hawaii, APO 96813

It does not appear that the proposed project will have any unfavorable effects on environmental factors within our area of jurisdiction and interest.

FOR THE COMMANDER:

RICHARD H. WAGNER
Colonel, CE
Director of Engineering

wd incl

STATE OF
HAWAII

DEPARTMENT OF PLANNING
AND ECONOMIC DEVELOPMENT

P. O. BOX 2359 • HONOLULU, HAWAII 96804

JOHN A. BURN
Governor

SHELLEY M. MAF
Direct

EDWARD J. GREANEY, J
Deputy Direct

February 11, 1971

Colonel Roy A. Sanders
Pacific Ocean Division
U.S. Army Corps of Engineers
Building 96, Fort Armstrong
Honolulu, Hawaii 96813

Dear Colonel Sanders:

Subject: State Clearinghouse Review of Environmental Statement for Kawaihae Light-Draft Harbor, Hawaii

The environmental statement relative to the above project has been referred to the affected State and county agencies for their comments. The comments received to date are summarized below:

The Department of Public Works, County of Hawaii, is in general agreement with the proposed project to construct the Kawaihae light-draft vessels harbor.

The Planning Department, County of Hawaii, states that it is in general support of the proposal. Although the department expresses its general support, it urges that the following items be studied and evaluated:

1. Possibility of detrimental effects on Spencer Park with regard to beach and bottom sand erosion, and the wave action in the swimming area.

2. The possible pollution problem to the beach and surrounding areas by boat users.

3. Comfort stations and their waste disposal methods.

4. Further investigations may be warranted to determine the uniqueness and subsequent preservation of the Kawaihae coral reefs.

The Department of Transportation sees no objections to the environmental statement for the development of the Kawaihae light-draft harbor.

The State Department of Health comments state that:

1. No indication is given as to the site selected for final disposition of the dredge material.

2. That provision for receiving sewage from the vessels has not been mentioned.

3. That more accurate terms be used instead of ambiguous terms such as "minimal" and "minimize" to describe the effects of the harbor.

The Department of Land and Natural Resources states that:

1. The sedimentation and turbidity portions of the statement are described inadequately.

2. The precise location of the submerged heiau has not been verified by the Bishop Museum.

3. That Paragraph 1, Section B should give fuller treatment to the impact on the marine habitat.

The Department of Planning and Economic Development, Capital Improvements Program section is in general agreement with the proposed project. However, some concern is given to the possible pollution by boat users. The long-range planning section is concerned with the use-conflict between the boating and recreational users of the park.

These are the comments received as of this date. However, we expect there may be comments relative to the project from the University of Hawaii's Environmental Center. These will be forwarded later.

Sincerely,

Shelley M. Mark

Shelley M. Mark

cc: OEQC

POEED-P

23 February 1971

Dr. Shelley Mark, Director
State of Hawaii Dept. of Planning & Economic Development
P. O. Box 2359
Honolulu, Hawaii 96804

Dear Dr. Mark:

Thank you for your letter of 11 February 1971, containing comments on the draft Environmental Statement for Kawaihae Light Draft Harbor, Hawaii.

The following information and comments are provided in response to your review comments of the draft statement:

a. Department of Public Works, County of Hawaii. Wave refraction studies and current observations were made during the design stage to determine the possible effects of the proposed harbor project on the immediate and surrounding area. Due to the shallow reef in the area, storm wave patterns are refracted and approach the existing fill area and the Spencer Park frontage from southwest to west southwest. The offshore island, to be constructed of rock revetment, would not alter the wave front pattern to adversely affect the beach and bottom conditions at Spencer Park. Swimming conditions would not be affected at this park as a result of the harbor.

The water quality at the beach is not expected to change should the harbor be constructed. Current observations made during the Project Tugboat work indicates a northerly movement, although of very low velocity. Further, the operation of the harbor by local interests, if held in strict accord with State Department of Health standards and requirements, should keep the area free from pollutants. As you know, the planning, construction, operation, and maintenance of shoreside facilities, including parking areas, utilities, and comfort stations and buildings, are the sole responsibility of local interests. These facilities can be constructed to enhance the environment when constructed to meet the health standards of the area. The State Harbors

Division would develop the necessary waste disposal methods in accordance with applicable State health and water quality standards.

Core borings and visual observations of the existing reef area indicate that the coral in the area is similar to the coral reef formations found elsewhere in Hawaiian waters. Our evaluations, therefore, did not consider the preservation of coral formations for their uniqueness but rather, the effects of the coral growth on the marine biota of the area. After evaluating all factors, it was considered that sacrificing a part of the Kawaihae reef for use as a small boat harbor with appurtenant park type facilities would enhance the long term socio-economic climate of the immediate and tributary area.

b. State Department of Health. The environmental statement is being revised to include a description of the type of dredging equipment expected to be used and a description of how the dredged material would be utilized for construction of the offshore island and revetted mole structures. Specific construction details will be developed during the construction planning phase and coordinated with your department and the Federal Environmental Protection Agency.

Shoreside facilities would be developed by local interests as covered in paragraph a, above. Facilities for receiving and disposing of wastes from vessels are in this category.

The draft statement has been revised to delete the terms "minimal" and "minimize" wherever possible. However, in many instances, information on quantitative effects of the harbor are not available and the terms "minimum," "average," or "maximum" would provide an order of magnitude of the effects. If you have information on quantitative descriptions of specific harbor effects where this information is not presented, your assistance in detailing these effects is solicited.

c. State Department of Land and Natural Resources. The statement is being revised to encompass turbidity conditions expected, including settlement and dispersion of fines generated during construction. For your information, approximately 11,000 cubic yards of material are expected to be dredged from the Federal access channel.

A precise location of the helau is not considered necessary at this time since it is located approximately 700 feet from the project site and falls outside the limits of plate 2 of the environmental statement. However, during the construction planning phase, the precise location will be surveyed and the matter will be coordinated with your office.

PODED-P

23 February 1971

Dr. Shelley Mark

The statement is being revised to provide additional coverage on marine life. The report, "Project Tugboat - Fish and Wildlife Studies," compiled by your Division of Fish and Game in conjunction with the Project Tugboat research and development program, contains detailed information on marine life in the area which may be of interest to you for specific details on this matter.

d. State Department of Planning and Economic Development. Since the harbor is basically to serve the needs for recreational boating, the recreational use of the park is considered compatible with the harbor development. Careful planning and development of the shoreside facilities would provide necessary parking and comfort stations that could be used by boating interests and park users. The park could be developed by responsible local interests to enhance the environment by careful landscaping as well as provide an area to handle the overflow from Spencer Park, which is used nearly to the limit of its capacity during peak use days.

Your continued cooperation in the review of our environmental statements is appreciated.

Sincerely yours,

ROY A. SANDERS
Colonel, Corps of Engineers
District Engineer

CF: Mr. M. E. Lepine
Chief, Harbors Division
P. O. Box 397
Honolulu, Hawaii 96809

STATE OF HAWAII

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

P. O. BOX 2359 • HONOLULU, HAWAII 96804

April 22, 1971

Colonel Roy A. Sanders
U.S. Army Corps of Engineers
Building 96, Fort Armstrong
Honolulu, Hawaii 96813

Dear Colonel Sanders:

Subject: Environmental Statement for Kawaihae Harbor for Light-Draft Vessels

Attached is a copy of a letter we received from the Environmental Center, University of Hawaii, on the above subject. You already may have prepared your final statement on this project but it is submitted for your information nevertheless. The long delay on submission of this letter was due to a heavy workload during the legislative session which was just concluded.

Sincerely,

Shelley M. Mark

Attachment 1

UNIVERSITY OF HAWAII
ENVIRONMENTAL CENTER

Office of the Director

March 9, 1971

Dr. Shelley Mark, Director
Department of Planning & Economic Development
State of Hawaii
P. O. Box 2359
Honolulu, Hawaii 96804

Dear Dr. Mark:

Kawaihae Harbor for Light-Draft Vessels
Environmental Statement

This response is submitted to the Corps of Engineers' environmental statement on the Kawaihae Light-Draft Vessel Harbor, Hawaii. Items are keyed to the numbering system in the Corps statement.

3.a. Environmental impact (p. 3)

Perhaps the greatest environmental impact of the proposed shallow-draft harbor as well as the proposed enlargement of the adjacent deep-draft harbor will be constituted by the indirect effects of the increased population in the region stimulated by these facilities.

It appears that altogether 32 acres of reef will be destroyed by the combination of dredging and filling. The natural ecological conditions of this reef and the conditions since Project Tugboat merit considerably more description to permit evaluation of the environmental effects of the proposed project. If the reef is now esthetically attractive the loss of natural reef area would be a very important consideration.

Location and means of protection of the dredging spoil should be specified and discussed in relation to environmental effects.

It is encouraging to note that beautification of the harbor area by planting is planned, but the inconsistency of the plan with the abandonment of planting announced in the impact statement on the deep-draft harbor is a source of concern.

3.b. Unavoidable environmental adverse effects (p. 3)

We assume that the dredging to be performed will be by conventional methods and not by blasting as in Project Tugboat. If our assumption is correct, the effects of Project Tugboat would seem a poor basis for estimating the effects of the proposed dredging, which would be continued, with its production of silty water over a longer period. The basis for assuming that the fish population will not be adversely affected by the combination of dredging, barrier construction, and harbor use is not clear.

Nothing is said in the impact statement about the fine surf break that will be destroyed by the project.

3.c. Alternatives (p. 4):

Additional alternatives that should be considered are:

i. Construction of an interior-type harbor in the rocky shore of Kawaihae Bay near the deep-draft harbor. If littoral drift is negligible, as it appears to be, channel stability could be maintained without structures such as jetties.

ii. Construction of the harbor offshore by the use of prefabricated caissons, as off Normandy in World War II. This might result in shoreline realignment.

iii. The decision not to locate the shallow-draft harbor within the deep-draft harbor should be reexamined as to the real need for the entire area in the deep-draft harbor area for deep-draft harbor expansion. It is questioned that surf and wave action in the deep-draft harbor is serious, as implied in the impact statement. The increased demand for small-boat mooring has not been demonstrated in the statement.

This response is based on comments and questions received from Frans Gerritsen, Theodore T. Lee, J. T. O'Brien, and R. Q. Palmer of the Look Laboratory of Oceanographic Engineering and Richard W. Grigg of the Hawaii Institute of Marine Biology.

Again I must apologize for the delay in response to an impact statement. I trust that before long our Environmental Center will have the facilities and staff to handle these more promptly.

Yours very truly,

Doak C. Cox
Ad interim Director

DCC:sf

cc: Frans Gerritsen
Theodore T. Lee
J. T. O'Brien
R. Q. Palmer
Richard W. Grigg
Stuart M. Brown, Jr.
Morton Rosenberg

PODED-P

30 July 1971

Dr. Shelley M. Mark, Director
State Dept. of Planning and Economic Development
State Capitol
Honolulu, Hawaii 96813

Dear Dr. Mark:

Thank you for your letter of 22 April 1971 providing comments of the University of Hawaii's Environmental Center pertinent to the draft environmental statement for Kawaihae Harbor for light-draft vessels.

The following information and comments are provided in response to the Environmental Center's review comments of the draft statement:

a. The enlargement of the deep-draft harbor and construction of a small craft harbor may add to the economic base of the area. However, it is doubtful that the small craft harbor would significantly stimulate a population increase. The area is presently in a dynamic changing period from a previous agriculturally oriented economy to a tourist oriented economy. This change in the economic base of the area is the prime contributing factor to the population growth of the leeward area of Hawaii.

b. A description of the reef area at the project site is inclosed. Portions of the coral growth, especially in the "active zone," are aesthetically attractive when viewed under water. The major portion of the harbor, however, would be in the "sediment" and "sporadic zone." A major portion of the Project Tugboat project was carried out in these zones; however, a detailed evaluation of the coral reef life has not been made. Loss of the live coral growth, in the active zone especially, is an important facet in formulating the project plan, and has been considered along with the other equally important considerations, including the socio-economic, recreational, boating, and land use factors.

c. Dredging procedures and resulting effects have been incorporated into the final statement.

d. Planting connected with the deep-draft harbor modification has not been abandoned. This work, awarded in June 1971, contains provisions for planting coconut trees and naupaka on the slope of the added spoil resulting from the dredging work. Specific dust control measures on this new area are also included. Any detailed plantings on the new fill area will have to be master planned by the State of Hawaii to enhance and complement the permanent features for the deep-draft and ferry terminal complexes.

e. The dredging of about 7,000 cubic yards would be performed by conventional means. The total estimated construction period for the added small craft facility is about 12 months. The Project Tugboat work was initiated in November 1969 with the initial calibration tests. Phase II detonations were conducted in April-May 1970. The breakwater work was commenced in May 1970 and completed in September 1970. The final "remedial" blasts were completed in December 1970. The work was spread over a period of about 13 months.

The State of Hawaii's Fish and Game Division conducted fish count surveys in September and November 1969 and April and June 1970; in each period, prior to and subsequent to Project Tugboat detonations. The September and November counts indicated an increase in number of species, increase in number per acre, and an increase in pounds per acre. The April and June counts indicated a decrease in number of species and increases in number per acre and pounds per acre. The fish counts indicate basically that the fish life is migratory, and that the Project Tugboat detonations did not adversely affect the basic fish life in the area.

f. Under certain sea conditions there is an apparent breaking surf condition near the seaward end of the proposed facility. However, inference that the project would destroy a fine surf area suitable for surfing appears unsubstantiated. During the Project Tugboat work and prior to this, the construction and modification of the deep-draft harbor, Corps of Engineers representatives observed not one instance of surfer or surfers utilizing the area. Should you have information contrary to this, please furnish substantiating evidence.

g. The total planning concept of a small craft harbor requires that the facility be navigable under moderate to heavy sea conditions, be compatible with the surrounding environment, provide a quiet and accessible berthing area, and provide berthing, shoreside and support facilities to enhance recreational boating and commercial fishing. The proposed harbor would adequately satisfy these needs. Neither an interior (landlocked) type harbor nor an offshore harbor using prefabricated caissons would satisfy the needs.

PODED-P
Dr. Shelley Mark

30 July 1971

Topographic maps show that a 50-foot elevation would be reached approximately 500 feet from the shoreline. An economical basin with supporting shore facilities could not be constructed under this type of topographic conditions. The Honokohau Harbor facility was constructed economically since the landside facilities could be sited in a large, flat area with elevations averaging about 10 feet above sea level.

h. Commerce through Kawaihae Harbor was approximately 157,000 tons in 1960 and approximately 320,000 tons in 1970. Sugar and molasses in each year comprised about 130,000 tons of the totals. This is indicative of the growth of the leeward coast, which is in a transitional stage between the previous agriculturally oriented economy and the tourist oriented economy. Although the recently announced closing of the Kohala Sugar Company would have an effect on the commerce tonnages, a long-term growth of commerce through Kawaihae Harbor appears inevitable. In addition, the interisland ferry system which would interconnect the four major islands of the State by a fast, economical surface transportation system appears a reality. Kawaihae Harbor would be incorporated into this system as a daily port of call. The deepwater harbor is required to initiate this service.

i. Surge in the existing small boat harbor near the entrance to the deepwater harbor has been a constant problem to boat owners using this facility. Implication of surge in the deep-draft harbor at the innermost end is not intended nor implied.

j. Detail population projections and boat projections are presented in House Document No. 75, dated 4 February 1965. The project was authorized under the River and Harbor Act of 1965. The draft environmental statement is not intended to demonstrate nor present the economic evaluations and details on the justification for improvements. A copy of House Document 75, 4 February 1965, will be furnished should you desire a copy of this document.

I hope that the information presented is adequate for your evaluation. Should you have any questions or desire clarification, please feel free to call on me or Mr. Clarence Fujii, telephone 543-2089.

Thank you for your continued excellent cooperation.

Sincerely yours,

1 Incl
As stated

WILLIAM D. FALCK
Colonel, Corps of Engineers
District Engineer

At the project site, the offshore exposed coral limestone reef ranges between 1,000 and 1,500 feet wide. Excluding the area now disturbed by blasting for Project Tugboat, the coral limestone reef within the project area, in general, consists of masses of living coral growing over piles of interlocking loosely bound shrub-like branches in growth layers with cavities and pockets filled with sediments, sand and gravel sized fragments of coral limestone. The surface of the reef is uneven and marred with cavities, pinnacles and irregular shaped protuberances or "coral heads." Prior to Project Tugboat the coral reef was divided into the following four overlapping zones or ocean floor areas based on physical appearances and properties of the materials. Pre-shot borings logs defining the subsurface reef materials are shown on plates 5 and 6.

a. Sediment zone. The 350 feet wide reef section adjacent to the existing coral fill area was covered by two to eight feet of blue-gray, fine grained sandy silt materials. Water in this zone is turbid from the suspended particles.

b. Sporadic coral growth zone. The zone between 300 and 600 feet offshore of the existing fill is relatively flat and covered with seaweed. Scattered, large, living coral heads rise to near sea level in this area.

c. Active coral growth zone. Between 600 and 1,000 feet offshore, many divergent forms of living coral colonies exist. The reef appearance varies from large, dome-shaped coral colonies to branch forms of coral growth which creates a rough irregular surface.

d. Sand-filled surge channels. Between 800 and 1,500 feet offshore, the active coral growth is cut by sand-filled openings. These channels are seaward dipping grooves formed by a combination of wave erosion and sand deposition.

OFFICE OF THE MAYOR — county of hawaii, hilo, hawaii 96720

December 16, 1970

SHUNICHI KIMURA
MAYOR

Colonel Roy A. Sanders
Department of the Army
Honolulu District, Corps
of Engineers
Building 96, Fort Armstrong
Honolulu, Hawaii 96813

We are in general support of the proposal to improve the Kawaihae Harbor configurations as proposed by the Army Corps of Engineers.

Our main concerns are with any possible deleterious effects on the surroundings. We therefore urge that the following be studied and evaluated very thoroughly.

1. Possible detrimental effects on Sam Spencer Park with regard to beach and bottom sand erosion, and wave action in swimming area and in the area of the submerged heiau.

2. Possible pollution problem to the beach and surrounding area as it is realized that enforcement of laws forbidding dumping in harbor are sometimes difficult.

3. Restrooms and other facilities and their waste disposal methods.

Also, the Kawaihae area, we understand, has extensive coral reef development. Further investigations may be warranted to determine its uniqueness and any subsequent preservation of it.

We know that you are aware of the National Park Service's plans for a historic park in the vicinity and are checking with them.

Thank you for giving us the opportunity to comment on this proposal.

SHUNICHI KIMURA
Mayor

POEED-P

5 January 1971

Honorable Shunichi Kimura
Mayor of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mayor Kimura:

Thank you for your letter of 16 December 1970 on the proposed Kawaihae light-draft harbor improvement and the environmental effects of the harbor improvement.

We appreciate your concern on the effects of the harbor facility on the Sam Spencer Beach Park and the submerged heiau. Wave studies show that the wave patterns at the Sam Spencer Beach Park will not be altered by construction of the small boat harbor. The submerged heiau is in an area of minor wave action and the harbor construction would be expected to further reduce the wave activity. However, wind and tidal action will provide adequate water circulation in the vicinity of the heiau. Construction of the small boat harbor may cause a minor shift in any offshore current in the area; however, littoral currents which produce movement of sand at and near the shoreline are caused by wave and wind action. Since the wave climate and wind conditions at the park will not be changed, erosion at the beach park as a result of the harbor construction is not anticipated.

Under existing State laws, any and all dumping in harbors can be prohibited. Establishment and enforcement of harbor regulations is the responsibility of the State Harbors Division. With strict enforcement of harbor regulations there would be no pollution problem at the beach or nearby areas. In the vicinity of the harbor entrance, the prevailing drift is seaward; therefore an occasional spillage within the harbor would not be expected to interfere with beach activities.

Before the State Harbors Division can construct restrooms or other facilities, a construction permit is required from the Department of Health.

In addition, the State Harbors Division will meet standards set by the Federal Water Quality Control Administration to insure that waters at the beach park are not polluted.

In connection with Project Tugboat, the coral reef area at the harbor site was extensively examined. The reef area which will be disturbed by construction is not unique and no rare or endangered species of botanical or zoological origin were observed.

Your views and comments are appreciated and will be forwarded to the Chief of Engineers.

Sincerely yours,

ROY A. SANDERS
Colonel, Corps of Engineers
Deputy Division Engineer, Mid-Pacific
District Engineer