

United States Department of the Interior
National Park Service

For NPS use only

National Register of Historic Places
Inventory—Nomination Form

received 11 13 1983
date entered

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic HOKUKANO-UALAPUE NATIONAL HISTORIC LANDMARK

and or common See Continuation Sheet

2. Location

street & number North and south of State Highway 45 not for publication

city, town Ualapue X vicinity of Island of Molokai

state Hawaii code 15 county Maui code 009

3. Classification

Category	Ownership	Status	Present Use
<input checked="" type="checkbox"/> district	<input type="checkbox"/> public	<input type="checkbox"/> occupied	<input type="checkbox"/> agriculture <input type="checkbox"/> museum
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input checked="" type="checkbox"/> unoccupied	<input type="checkbox"/> commercial <input type="checkbox"/> park
<input type="checkbox"/> structure(s)	<input checked="" type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational <input type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment <input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government <input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial <input type="checkbox"/> transportation
		<input type="checkbox"/> no	<input type="checkbox"/> military <input type="checkbox"/> other:

4. Owner of Property

name See Continuation Sheet

street & number

city, town vicinity of state

5. Location of Legal Description

courthouse, registry of deeds, etc. Bureau of Conveyances

street & number Department of Land & Natural Resources, State of Hawaii

city, town Kalanimoku Building, Honolulu state Hawaii 96809

6. Representation in Existing Surveys

title See Continuation Sheet has this property been determined eligible? yes no
(NHL 1963)

date 1974 federal state county local

depository for survey records Department of Land & Natural Resources, Historic Sites Section

city, town Honolulu state Hawaii

7. Description

Condition		Check one	Check one	
<input type="checkbox"/> excellent	<input checked="" type="checkbox"/> deteriorated	<input checked="" type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site	NPS Inspection Visit Sept. 1987
<input checked="" type="checkbox"/> good	<input type="checkbox"/> ruins	<input checked="" type="checkbox"/> altered	<input type="checkbox"/> moved	
<input checked="" type="checkbox"/> fair	<input type="checkbox"/> unexposed		date	

See Condition of Individual Sites (below)

Describe the present and original (if known) physical appearance

LOCATION

The Island of Molokai, encompassing only 261 square miles, is centrally located in the Hawaiian archipelago. The heiau and fishponds comprising the Hokukano-Ualapue discontinuous NHL district are on the southeast, or leeward side of the Island in the District of Kona (Maps A and B). Ualapue Fishpond is just west of the village of Ualapue makai State Highway 45. Keawanui Pond is located approximately one and one-half miles further west. Kukui Heiau is midway between the two fishponds, mauka State Highway 45. Pu'u 'Olelo Heiau and Kaluakapi'ioho Heiau are located west of Manawai Gulch in the ahupua'a (ancient land holding unit) of East Ohia and Manawai respectively. Kahokukano and Pakui Heiau are mauka on a high ridge that separates Manawai Gulch and Kahananui Gulch. These first eight (8) sites are found on Map A. Iliiliopae Heiau is located approximately two miles east of Ualapue, and about one-half mile north of State Highway 45 in Mapulehu Gulch (Map B).

Kukui Heiau, Iliiliopae Heiau, Keawanui Pond and Ualapue Pond are easily accessible, except that access to the latter site is across private land and landowner permission is required. The upland heiau, Pu'u 'Olelo, Kaluakapi'ioho, Kalauonakukui, Kahokukano and Pakui, are difficult to locate and to reach because of steep terrain and dense vegetation.

ENVIRONMENT

The Island of Molokai is characterized by striking ecological and topographic contrasts. The Island was formed by lava flows from two shield volcanoes which overlap in the central region. West Molokai, in the rain shadow of the Island's mountain crest, is arid and desertic. East Molokai, especially the windward portions, are well watered with permanent streams. The uneven distribution of water resources was a major factor influencing prehistoric settlement patterns (Kirch 1985:123) as testified by the earlier settlement of the windward versus the leeward coasts on all the islands. The northern coast lacks a fringe reef and has an incessant pounding surf. It is also cut by great amphitheatre-headed valleys and permanent water. In contrast, the leeward or southern coast is characterized by broad reef flats, well suited to the development of fishponds for which Molokai is famous, and numerous narrow V-shaped gullies and valleys with only intermittent streamflow. The Hokukano-Ualapue NHL components are located in this latter environment.

The foothills of southeast Molokai are moderately steep but the coastal terrain essentially is flat. Rainfall averages about 30 in. per year, and occurs principally during the Kona storm season between October and January (Price 1973:54). The permeable volcanic soils with basaltic rock are less

8. Significance

Period	Areas of Significance—Check and justify below					
<input checked="" type="checkbox"/> prehistoric	<input checked="" type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input checked="" type="checkbox"/> religion		
<input checked="" type="checkbox"/> 1400-1499	<input checked="" type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science		
<input checked="" type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture		
<input checked="" type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/		
<input checked="" type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian		
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater		
<input type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input checked="" type="checkbox"/> politics/government	<input type="checkbox"/> transportation		
		<input type="checkbox"/> invention		<input checked="" type="checkbox"/> other (specify)		
				<u>Aquaculture</u>		

Specific dates See below Builder/Architect See below

Statement of Significance (in one paragraph)

Hokukano-Ualapue NHL is significant under National Register criteria A, B, C and D. In size, quality, setting, historic association and information potential, it is one of the most important archeological site complexes in the Hawaiian Islands. The temple platforms and fishponds comprising the Landmark are testimony not only to the architectural and engineering achievements of the ancient Hawaiians, but also to the impressive religious and political power and economic control that had evolved on Molokai between A.D. 1500 and A.D. 1778, the time of western contact.

The ancient District of Kona, southeast Molokai, contains more heiau and fishponds than any other comparable area in Hawaii. Many of these structures, especially those in the NHL complex, are associated with legends, rulers, and events that played an important role in Hawaiian culture and are of special significance to contemporary Hawaiians of native descent. For example, one of the temple platforms, Iliiliopae, is especially sacred and may be both the oldest religious center on Molokai as well as the largest structure of its type in the Islands. Traditions indicate that it was functionally readapted several times and continued in use into the early post-contact period. Similarly, Keawanui is not only the largest surviving fishpond on Molokai but also probably the oldest. According to tradition, it was constructed about A.D. 1500 and, like Ualapue about which less is known, operated continuously until after NHL designation in 1962.

HISTORIC BACKGROUND

Molokai may have been independent until the late 16th century (Hommon 1976:139); however, by the 18th century it was coveted for its rich lands, especially its irrigated taro patches and walled fishponds (Kamakau 1961:132). Through inter-island marriage and intra-island usurpation, southeast Molokai became a focal point of island political development. By 1750 Molokai had been absorbed into an inter-island pattern of cyclical conquest. First Oahu conquered Molokai, followed by conquests and reconquests launched by Kahekili of Maui and Kamehameha I from Hawaii Island. During these periods of intra- and inter-island development, chiefdoms expanded but they were generally short lived and were followed within a generation or two by collapse and retrenchment. Changes in leadership frequently occurred through usurpation of a paramount chief by a junior collateral relative who successfully enlisted the aid of other chiefs. Following these periods of internecine conflict, fishponds and irrigation fields that had been devastated were repaired; new temples and fishponds were constructed; and old temples were rebuilt and reconsecrated.

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NAME (continued)

The Hokukano-Ualapue National Historic Landmark consists of nine discontinuous properties:

<u>Property</u>	<u>Ahupua'a</u>	<u>Statewide Inventory Number</u>
Kukui Heiau	East Ohia	50-60-04-322-169
Pu'u 'Olelo Heiau	Manawai	50-60-04-322-174
Kaluakapi'ioho Heiau	Manawai	50-60-04-322-175
Kahokukano Heiau	Manawai/ Kahananui	50-60-04-322-177
Pakui Heiau	Manawai/ Kahananui	50-60-04-322-178
Kalauonakukui Heiau	Ualapue	50-60-04-322-181
Iliiliopae Heiau	Mapulehu	50-60-04-322-200
Keawanui Fishpond	Keawanui	50-60-04-322-163
Ualapue Fishpond	Ualapue	50-60-04-322-185

Alternative or local names, and spelling variations for the different properties are summarized in Summers 1971. Information on Keawanui Fishpond is derived from a typescript by Dorothy Barrere (1971). All site names were also checked in Pukui *et al.* (1974), however, this source appears to have followed Summers (1971) exclusively.

<u>Site</u>	<u>Alternative Name/Spelling</u>
Kaluakapi'ioho Heiau	Kapiioho Kamuko'a
Iliiliopae Heiau	'Ili'iliopae 'Ili'iliopoe 'Ili'iliopoi Mapulehu
Keawanui Fishpond	Mikimiki Hinaiu Pond

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OWNER OF PROPERTY (continued)

<u>Site</u>	<u>Owner</u>	<u>Tax Map Key</u>
Kukui Heiau	Irene Bishaw 2462 Komo Mai Drive Pearl City, Hawaii 96782	5-6-04:16
Pu'u 'Olelo Heiau	Mrs. Pearl Petro Box 125 Kaunakakai, Molokai Hawaii 96748	5-6-06:13
Kaluakapi'ioho Heiau	Mrs. Pearl Petro Box 125 Kaunakakai, Molokai Hawaii 96748	5-6-06:13
Kahokukano Heiau	Mrs. Pearl Petro Box 125 Kaunakakai, Molokai Hawaii 96748	5-6-06:13
Pakui Heiau	Mrs. Pearl Petro Box 125 Kaunakakai, Molokai Hawaii 96748	5-6-06:13
Kalauonakukui Heiau	State of Hawaii Dept. Land & Natural Resources 1151 Punchbowl Street Honolulu, Hawaii 96813	5-6-06:15
Iliiliopae Heiau	Mrs. Pearl Petro Box 125 Kaunakakai, Molokai Hawaii 96748	5-7-05:2
Keawanui Fishpond	Bishop Estate Kawaiahao Plaza, Suite 200 567 South King Street Honolulu, Hawaii 96813	5-6-06:8

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Ualapue Fishpond

State of Hawaii 5-6-01:1
Dept. Lands & Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813

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REPRESENTATION IN EXISTING SURVEYS (continued)

The individual properties comprising the Hokukano-Ualapue National Historic Landmark had the following earlier designations:

<u>Name</u>	<u>Previous Site Numbers</u>	
	(Summers 1971)	(Bishop Museum 1974)
Kukui Heiau	Site 169	50-MO-A13-12
Pu'u 'Olelo Heiau	Site 174	50-MO-A12-6
Kaluakapi'ioho Heiau	Site 175	50-MO-A12-3
Kahokukano Heiau	Site 177	50-MO-A12-1
Pakui Heiau	Site 178	50-MO-A12-2
Kalauonakukui Heiau	Site 181	50-MO-A12-12
Iliiliopae Heiau	Site 200	50-MO-A10-1
Keawanui Fishpond	Site 163	50-MO-A13-1
Ualapue Fishpond	Site 185	50-MO-A12-16

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rich in organic content than alluvial soils in the windward valleys (Lau 1973:42); nevertheless, the region supported prehistoric Hawaiian staple crops such as sweet potatoes (Ipomoea batatas), dry non-irrigated taro (Colocasia esculenta) as well as some irrigated taro, gourds (Lagenaria siceraria), and others (Handy and Handy 1972:212).

The Island's leeward vegetation pattern is characteristic of Zone A, lands under 1000 ft. elevation, that support open mixed xerophytic plants and thorn scrub (Ripperton and Hosaka 1955). Vegetational growth is dense around the various NHL components and consists of native as well as introduced species. Forms include: kukui (Aleurites molucca), kiawe (Prosopis pallida), kou (Cordia subcordata), klu (Acacia sp.), koa haole (Leucaena leucocephala), ti (Cordyline terminalis), banyan (Ficus sp.), Christmas berry (Schinus terebinthifolius), pili grass (Heteropogon contortus), and other unidentified shrubs and trees. The principal vegetation around fishponds is mangrove (Rhizophora mangle), hau (Hibiscus tiliaceus) and bulrushes (Scirpus sp.).

SITE DESCRIPTIONS

The individual site descriptions that follow were extrapolated by Summers (1971) from the unpublished field notes and site sketches of J. F. G. Stokes (n.d.a-f) whose 1909 fieldwork remains the primary source of information about the sites comprising the Hokukano-Ualapue NHL complex. Summers (1964; 1971) also researched other historic documentary sources such as Cobb (1902), Kamakau (1961), and Thrum (1907, 1909a and 1909b), however, the quality and amount of data presented on each site is not consistent.

Kukui Heiau, Site 50-60-04-322-169 (Photographs 15 and 16)

Stokes (n.d.a:2) provides only a brief description of this site:

Located in East 'Ohi'a on the low ground adjoining the Government road [present State Highway 45] this heiau ... is a collection of enclosures and low platforms of irregular shape. Though pointed out as an agricultural heiau site, there was nothing in the construction or location of the place to warrant such identification. The length ... was 170 ft. and the width 120 ft, and the general direction north and south [Figure 1].

The Heiau has been considerably damaged as a result of urban expansion (see below: Condition of the Sites); thus, although the outlines of the structure are still visible, we know little of its interior layout or features. Based on Stokes' statement above, the original structure encompassed approximately 20,400 sq. ft., covering slightly under 1/2 an acre.

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Pu'u 'Olelo Heiau, Site 50-60-04-322-174 (Photographs 13 and 14)

The Heiau is located on rising ground in the middle of the Manawai Valley west of the stream. Stokes (n.d.a:3) described Pu'u 'Olelo as follows:

The main feature is a platform facing the sea on the south. The ground inclines to the north, and there an extension of the main platform is enclosed on the west, north and east by a small section of heavy wall. There are numerous pits or excavations in the pavement of the platform and the presence of which it is difficult to explain. They are not quite regular in size. Nor is their order of arrangement regular; they are accurately plotted on the plan [Figure 2]. East of the main platform is an enclosed pavement, open on the south. The enclosing walls are small. The two structures are joined by a causeway of loose stones, now much disturbed, at their nearest southern corners built almost entirely of water-worn stones.

The main feature platform, based on Stokes' plan map (Figure 2), measures 100 x 74 ft. The enclosed pavement or courtyard to the east of the main platform measures 34 x 60 ft. The overall dimensions of the temple complex are 145 x 74 ft. (or 10,730 sq. ft. which is slightly under 1/4 acre). Pavement and wall heights are noted on Figure 2.

Kaluakapi'ioho Heiau, Site 560-04-322-175 (Photographs 8 - 12)

This temple platform is located on the west bank of Manawai stream at the boundary of the Manawai and Kahananui land divisions (ahupua'a). Its elevation is approximately 275 ft. According to Stokes (n.d.a:3,4), the structure presents:

A combination of platform and walls somewhat suggestive of Pu'u 'Olelo Heiau (Site 174), from which it is about 600 ft. distant [Stokes made a plan map of Pu'u 'Olelo but not of Kaluakapi'ioho].

The most striking feature is the retaining wall of the eastern end. The surface of the valley declines in general to the south. The stream bed of Manawai is on the east side of the valley, adjoining the ridge. Between this and the western ridge is a stretch of valley bottom about 500 ft. wide. It might have been expected that the builder would have chosen suitable ground about 200 ft. to the west. The reason for the actual selection will perhaps be found in the desire to build

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something large and impressive and this effect was obtained [Photographs 10 and 11].

At the southeast corner, the retaining wall was originally 36 ft. high and at the northeast corner, 26 ft. On the south side, the least height [southwest corner] is 8 ft.

It might be mentioned that the upper part of the eastern retaining wall was almost vertical originally for from 6 to 9 ft., but below this level the slope was one horizontal to two vertical.

At the western end of the southern face, the stones are piled up loosely, not carefully laid as in other parts of the heiau. They seemed, however, to have been piled up in crescentic form. The large boulders forming the horns of the crescent were probably placed by Nature.

On the north, a terrace [54 x 24 ft.] adjoins the main platform, and is itself bounded on the west, north and east by walls (3 to 5 ft. wide). The pavement of the terrace, which is a foot higher than that of the main platform, is composed of small stones, in which there is much soil.

On the main platform [measuring 96 x 33 ft.], however, the present pavement is composed of the same large water-worn stones as are in the retaining walls. It was probably finished off with smaller stones originally, and these, as usual, sifted down out of sight among the larger stones. At about the middle of the western half of this pavement is a fireplace which measures inside 1.8 x 1.5 ft. and is 1.4 ft. deep. It is curbed with four thin stones, 5 in. wide, which are placed on edge.

The overall size of the temple complex, based on Stokes' information above, is 4,464 square ft., or approximately 1/10th of an acre.

Kahokukano Heiau, Site 50-60-04-322-177 (Photographs 1, 2, 6 and 7)

This temple platform is located on the ridge which is the boundary line of the Manawai and Kahananui land units, at an elevation of approximately 325 ft. Stokes (n.d.a:5) described this structure in detail:

A structure of four terraces following down the ridge [Figure 3; Photographs 6 and 7]. The two upper terraces are protected

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by walls on the west, north and east, and the latter wall continues along the third terrace. All the other sides are open.

The lines of this heiau are very difficult to follow because of the condition of the west, south and part of the east retaining walls. The stones for the most part seem to have been loosely piled and not laid, but I would not care to make such a statement unless an extended investigation were made. The heiau has been part of a cattle range for many years, and the animals may be responsible for the present condition.

As well as can be judged, the entrance was on the east, up the incline between the third and fourth terraces. Access to the second terrace from the third, was probably obtained by using the top of the broad wall to the east, or possibly over the large rock used in the retaining wall between the two terraces. The tops of the walls were also probably used to pass from the second to the first terrace.

The pavements of the terraces are mostly of large stones, many of them water-worn. In some portions the earth is found, particularly towards the northern borders of the floors, where grading was probably done.

The size of this temple complex, based on the scale provided in Figure 3, is 16,800 sq. ft., or slightly under 1/2 an acre.

Pakui Heiau, Site 50-60-04-322-178 (Photographs 1 - 5)

This temple platform is also located on the ridge that forms the boundary between Manawai and Kahananui, but at an elevation of about 700 ft. Stokes (n.d.a:4) stated:

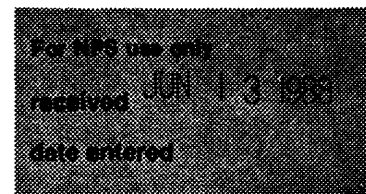
The base of this structure might be described as an earthen terrace faced with [7 to 8 ft.] retaining walls of stone. The ridge which the terrace spans declines to the south. The plan and cross-section are complete enough to require no special description [see Figure 4].

The structure appears to be basically a single rectangular platform with internally demarcated activity areas and low interior platforms. Following Stokes' map, the heiau measures on the order of 185 x 85 ft. (ca. 15,725 sq. ft.), or about 1/3 an acre.

According to Thrum (1909a:40), an early recorder of religious structures in the Hawaiian Islands, Pakui was of the luakini class, a late period temple

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dedicated to the war god, Ku, whose rituals of propitiation included human sacrifice. He also noted its pu'uohonua characteristics which suggested its use at some point in time as a sacred place of refuge and asylum for those fleeing punishment for taboo violations or in a time of war. Thrum did not describe the features he felt classified the structure as a pu'uohonua (which usually has a prominent walled in precinct), nor is this classification readily apparent from an study of Stokes plan map (Figure 4). Kelly, following Thrum, includes Pakui in her "Annotated List of Pu'uohonua in the Hawaiian Islands" (1986a). Kamakau (1961:22), an early contact period source, stated it was a pu'ukaua, or fortress.

Both Thrum and Kamakau are probably correct, for Kelly (1986b:137) provides the following insightful discussion:

The term for a "place of refuge" was pu'uohonua, literally, pu'u, hill, honua, earth. The Hawaiian historian, S. M. Kamakau ... defined a pu'uohonua as a place to go "to escape and be saved from being taken prisoner or from being put to death." It may be that the word pu'uohonua was originally derived from a hill-type fortress. Such refuges are found throughout Polynesia. One attempt to explain its derivation comes from a story about the inhabitants of the island of Moloka'i. Upon being attacked by invaders from Maui, the defending population repaired to a hill from the top of which they rolled stones down on their attackers, thus saving themselves. And, the story goes, the hill became known as a pu'uohonua.

Kalauonakukui Heiau, Site 50-60-04-322-181

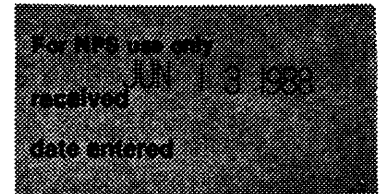
There is little information on this structure. The NPS 1962 registration form for the site describes it only as a "small platform heiau." Stokes (n.d.) did not list it, and Thrum (1909a:40) described it as a husbandry class temple (presumably dedicated to Lono, the god of agriculture and prosperity) measuring 100 x 80 feet, with walls 6 ft. high. Summers (1971:119) gives the measurements as 125 x 85 ft. (less than one-quarter of an acre), and notes that as of 1962 the walls on the south and west were still standing. There is no plan map or photograph available of this site.

Iliiliopae Heiau, Site 50-60-04-322-200 (Photographs 17 - 25)

Iliiliopae is a massive platform type heiau built of water-worn stones, with continuous terraces on all sides. This temple platform is the largest, most famous, and reputedly the oldest on the Island of Molokai (Summers 1971:132). In 1909, Stokes (n.d.a:8) described it as follows:

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The pavement of the main platform has suffered very greatly from vandals, and the many pits present in its surface are said to be the result of this work.

Regarding the condition of the structure when he studied it, Stokes (n.d.a:8) included this footnote observation on the heiau made by W. T. Brigham in 1865, nearly 45 years earlier:

... [it is] apparently intact. I remember a number of rectangular holes in the floor face with flat stone lining very neatly made, and I was told they were sockets for "Akua Kahiko," ancient gods, and as the native who told me had been a priest in the temple service, I believe he knew.

Stokes' description continues:

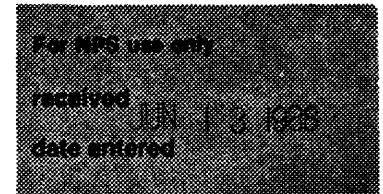
There were no features left in the main platform which I could be sure were part of the original plan. The general surface, however, seemed to have been remarkably level; I found that the western end was only one foot lower than the eastern in a distance of 286 feet. The middle was 1.5 feet higher. The western end is 11 feet above ground and the eastern 22 feet. Being built across the end of the ridge, the ground dipped at each end of the heiau, where there was a stream bed.

In addition to the main platform there were three terraces at the eastern end at various heights ... The faces of these terraces were well built. The lowest and the highest led to another terrace with a face of loosely heaped stones on the south of the platform. There may possibly have been steps at the southeast corner of the middle terrace; at its northern end it leads to the west where by means of a single step access is obtained to the continuation of the upper terrace. The western terrace seemed to be merely for strengthening the main wall.

There was no convenient access from the terrace to the main platform. The terrace along the southern face of the latter was 6 feet below the platform pavement, while the height of the retaining wall on the north averaged 4 feet. However, there was a break in this retaining wall, near the northeast corner, and the entrance may have been there. A small heap of stones near the eastern end, 30 feet to the south, was described as the site of the lele (altar).

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Stokes obtained information on the function of the terraces at the eastern end of the heiau from Ohulenui, a 94 year old native, who told him that wooden idols representing Kukailimoku (Kamehameha I's war image), Lono, Kalia and Uli (goddess of sorcery) were worshipped there. These functional areas are identified in Figure 5, a composite of Stokes' 1909 records on Iliiliopae and observations made by Kenneth P. Emory, Bernice P. Bishop Museum, in 1952.

Based on Stokes' and Emory's figures, the Heiau measures 286 x 87 ft. (24,882 sq. ft., or a little over one-half an acre).

Keawanui Fishpond, Site 50-60-04-322-163 (Photographs 29 and 30)

This shoreline pond was classified by Apple and Kikuchi (1975:107) as a Type Ia-1 loko kuapa (walled pond) whose distinguishing feature is that it is built at the natural curvature of the shoreline utilizing an islet as part of the arc of the seawall. All Type Ia fishpond variations were constructed and owned under the aegis of a paramount chief who used them to raise 'ama 'ama (mullet; Mugil cephalus) and awa (milkfish; Chanos chanos) and sometimes other species. They were built on apron reefs where fresh or brackish springs were found (the yellow-green algae favored by these species thrived best in brackish water). Produce from the pond was reserved for the use of the paramount chief, his ali'i retainers and priests, and for ritual sacrifices at the temples.

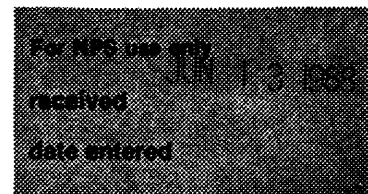
Keawanui, the largest extant fishpond on Molokai, may have encompassed an original area of 73 acres, however, through siltation and vegetational growth it has now been reduced to an area of approximately 51 acres. The seawall is of multiple stacked construction. It measures 2,000 ft. in length and averages 6 to 7 ft. in width. In 1937 Keawanui had only one makaha (sluice gate); two additional makaha were added sometime after that date (Summers 1971:108). In the approximate center of the wall is a section at least 227 ft. long that has been rebuilt and reinforced with cement. Basalt and coral have been stacked up on both sides of the reinforcement to simulate the original construction technique. Presently the seawall does not join the shore. The breach from shore to existing wall is about 65 ft. long (Hawaii Statewide Inventory Form, Site 163) and was probably caused by the tsunami of 1960 as well as later tidal waves.

Ualapue Fishpond, Site 50-60-04-322-185 (Photographs 27 and 28)

Ualapue is a Type Ia loko kuapa, whose seawall is the main enclosing feature between two points of land (Apple and Kikuchi 1975:86). The seawall of this pond is constructed of coral and basalt fill. It measures about 1575 ft. in length, from eight to 19 ft. wide and is four ft. high. The structure contains two sluice gates.

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Originally the pond encompassed at least 22 acres, however, extensive siltation plus the growth and invasion of bullrushes and mangrove into the pond have reduced its depth and overall area to 15 acres or less. In 1976, a portion of the landward side of the pond was further impacted through emplacement of artificial fill for construction of a private residence.

Although the date of its construction is unknown, Ualapue Pond appears to have been in continuous use until the tsunami of 1960 damaged the wall and destroyed the two makaha. Summers (1971:123) tells us that historically Ualapue was one of the ponds that was noted for the fatness of its mullet and was one of the best fishponds on Molokai because there were several fresh water springs in the pond which seemed to benefit the raising of mullet and clams.

CONDITION OF THE SITES

Both the heiau and the fishponds have sustained impacts. The heiau in the Landmark complex exhibit some degree of slump (natural erosion over time) and are overgrown with vegetation which disrupts walls, platform surfaces and interior archeological features. Vegetational growth accelerated in the last decade when disease forced a cattle eradication program on Molokai. This environmental change is vividly evident in a comparison of the historic photographs of the heiau taken by J.F.G. Stokes in 1909 with those taken in the 1970s and during the 1987 Inspection Visit.

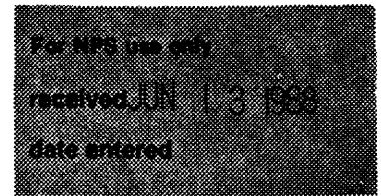
Cattle also caused surficial damage to these structures. In Stokes' 1909 photographs the land surface surrounding the heiau appears overgrazed and he speculated that cattle had caused surface disruptions to the Kahokukano temple platform (n.d.a:5). In later decades cattle fences were constructed across the Kahokukano and Pakui temple platforms; and pigs as well as cattle were penned at Kukui Heiau.

As early as 1909 Stokes noted potential vandalism/looting at Pu'u 'Olelo (n.d.a:3), which exhibited an unusual number of pits on its temple platform (Figure 2), and at Iliiliopae (n.d.a:8). At the latter site, surface features that had been evident several decades earlier were no longer identifiable.

At the time of NHL dedication, both Keawanui and Ualapue Fishponds were still operational, however, their operation and maintenance ceased in about the mid-1960s. Both fishponds have sustained further impacts as a result of historic alterations and the cumulative natural events that contribute to fishpond deterioration generally: siltation, mangrove infestation, and breached and/or deteriorated seawalls and sluice gates usually caused by tsunamis and sea storms.

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Ponds are settling basins for sediments carried down from over 4000 ft to the ocean by runoff; thus, with lack of maintenance they fill with terrigenous sediments plus off shore sand that moves in with storm and tidal action. In both cases, pond quality has been adulterated by mangrove growth which inhibits photosynthesis and the production of algae upon which various marine species feed.

Condition by Site

Kukui Heiau. This temple platform retains very little integrity. While the structural outlines are still visible, pigs and cattle were formerly penned at the site; it was also used as a garden plot; and much of the building stone has been removed for use in modern projects such as walled garden plots, property walls/fences, and nearby road and house foundation construction. Vegetational growth completely envelops the heiau (Photograph 3).

Pu'u Olelo Heiau. The condition of this site appears to be very good except for vegetational growth (Photographs 13 and 14) and the unusual number of pits (see Figure 2) on the platform surface. Pits for various ceremonial uses are a common feature of heiau platforms but such a large number suggests vandalism or attempted looting as discussed above.

Kaluakapi'ioho Heiau. Photograph 8 shows this temple platform as it appeared in 1909. Photograph 9 illustrates the vegetational growth that had occurred by 1987. A degree of slump is also visible in a comparison of the two photos. Photographs 11 and 12 illustrate the vegetational and structural changes that have occurred to the massive south wall of the temple platform between 1909 and 1987. Some damage to the north terrace may have resulted from cattle grazing.

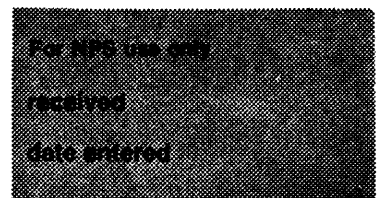
Kahokukano Heiau and Pakui Heiau. Both sites are impacted by vegetational growth and each has a barbed wire cattle fence constructed across its main temple platform (Photographs 5 and 6).

Kalauonakukui Heiau. This site has not been visited in some years; however, because it is located inland away from developmental impacts occurring along Highway 45 and the coast, it is believed to be in reasonably good condition. Expected impacts, therefore, would consist of slump, vegetational growth, and perhaps historic cattle grazing.

Iliiliopae Heiau. This structure is still in good condition despite adverse impacts from vegetation growth and its location between two channels of Mapulehu Stream which threaten to erode its base. Photograph 17 shows the platform as it appeared in 1909 when overgrazing by sheep and cattle curtailed vegetational growth. Photograph 18 also illustrates the excellent condition of the multiple terrace construction of the south end of the east wall as it

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appeared in 1909. Photograph 19, taken from the same angle, illustrates the increase in vegetational growth that had occurred by 1974. And finally, an 1987 NHL Inspection Visit photograph (20) shows the same area completely obstructed by vegetational growth and recently fallen trees that may have further impacted wall and terrace construction details. Photographs 22, 23, 24 and 25 illustrate disruptive vegetational growth atop the main temple platform and within pit features on the platform.

Keawanui Fishpond is heavily silted in and its landward perimeter overgrown with mangrove. The seawall has been breached along the southernly end of the pond and the makaha (of concrete historic construction) are in disrepair. The massive seawall was concrete filled several decades ago because the original building stone was eroding away (Photographs 29 and 30).

Ualapue Fishpond (Photographs 27 and 28). Siltation and mangrove growth continue unchecked at this pond also. The makaha (2) are now in total disrepair and there appears to be at least one break in the seawall. In 1976, a section of the landward portion of the fishpond along the coastal highway was adversely impacted through the placement of unauthorized fill upon which a private home was constructed.

Department of Interior NHL Dedication Plaque

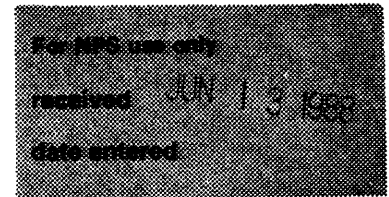
While it is in good condition, the dedication plaque for Hokukano-Ualapue is not publically accessible. It is located adjacent to Ualapue Fishpond but one must pass through private property to view the plaque and to approach the fishpond. The plaque is all but buried in shrubbery. This location is not suitable and the plaque should be moved.

NON-CONTRIBUTING PROPERTIES

The modern Hawaiian ranch style house constructed in 1976 on artificial fill introduced into Ualapue Fishpond is a non-contributing property.

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ILLUSTRATIONS

Photographs

- 1 View north. Kahokukano and Pakui Heiau on high ridge (right); Kapioho Heiau in gulch (left). Photo by J. F. G. Stokes, 1909. Bernice P. Bishop Museum Negative 989.
- 2 View north. Closeup: Kahokukano Heiau (foreground) and Pakui Heiau (background). Photo by J. F. G. Stokes, 1909. Bernice P. Bishop Museum Negative 1111.
- 3 View north. Pakui Heiau. Photo by J. F. G. Stokes, 1909. Bernice P. Bishop Museum Negative 1112.
- 4 View east. Pakui Heiau. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 5 View west. Pakui Heiau. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 6 View east. Kahokukano Heiau, fourth terrace. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 7 View west. Kahokukano Heiau, south retaining wall of third terrace. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 8 Aerial view (to west) of Kaluakapi'ioho Heiau taken from Kahokukano Heiau. Photo by J. F. G. Stokes, 1909. Bernice P. Bishop Museum Negative 1108.
- 9 Aerial view (to west) of Kaluakapi'ioho Heiau taken from Kahokukano Heiau. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 10 View west. Kaluakapi'ioho Heiau, east wall. Photo by J. F. G. Stokes, 1909. Bernice P. Bishop Museum Negative 988.
- 11 View north. Kaluakapi'ioho Heiau, south wall. Photo by J. F. G. Stokes, 1909. Bernice P. Bishop Museum Negative 987.
- 12 View north. Kaluakapi'ioho Heiau, south wall. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.

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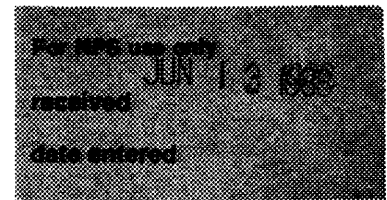
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- 13 View east. Pu'u 'Olelo Heiau. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 14 View west. Pu'u 'Olelo Heiau. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 15 View south. Kukui Heiau, east wall. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 16 View west. Kukui Heiau, interior. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 17 Aerial view (to west). Iliiliopae Heiau. Photo by J. F. G. Stokes, 1909. Bernice P. Bishop Museum Negative 1124.
- 18 View west. Iliiliopae Heiau, south end of east wall illustrating multiple terrace construction. Photo by J. F. G. Stokes, 1909. Bernice P. Bishop Museum Negative 1130.
- 19 View west. Iliiliopae Heiau, south end of east wall illustrating multiple terrace construction. Photo by Bernice P. Bishop Museum Inventory Team, 1974.
- 20 View west. Iliiliopae Heiau, south end of east wall, recently fallen trees. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 21 View west. Iliiliopae Heiau, south end of east wall. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 22 View east. Iliiliopae Heiau, main platform surface with filled pit and recent disturbance. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 23 View east. Iliiliopae Heiau, banyan tree on main platform. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 24 View north. Iliiliopae Heiau, ferns growing in pit feature. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 25 View west. Iliiliopae Heiau, ti plant growing in pit feature. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 26 View south from Pakui Heiau. Kahokukano Heiau in foreground; Ualapue Fishpond in background. Photo by J. F. G. Stokes, 1909. Bernice P. Bishop Museum Negative 1113.

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- 27 View south. Ualapue Fishpond. Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.
- 28 View east. Ualapue Fishpond, seawall. Photo by Bernice P. Bishop Museum Inventory team, 1974.
- 29 View southwest from Pakui Heiau. Keawanui Fishpond. Photo by Bernice P. Bishop Museum Inventory Team, 1974.
- 30 View east. Keawanui Fishpond, seawall and makaha (sluice gate). Photo by Earl Neller, Office of Hawaiian Affairs, September 23, 1987.

Figures

- 1 Kukui Heiau (Plan by Stokes, 1909).
- 2 Pu'u 'Olelo Heiau (Plan by Stokes, 1909).
- 3 Kahokukano Heiau (Plan by Stokes, 1909)
- 4 Pakui Heiau (Plan by Stokes, 1909)
- 5 Ilililiopae Heiau (Plan by Stokes, 1909)
- 6 Keawanui Fishpond (Plan by Evans, 1937).
- 7 Ualapue Fishpond (Plan by Evans, 1937).
- 8 A Hale o Lono, depicted by Bishop Museum artist Paul Lockwood (Ii 1959:57).
- 9 A luakini heiau, depicted by Bishop Museum artist Paul Lockwood (Ii 1959:34).
- 10 Kaneaki Heiau, Makaha Valley (Ladd 1973:frontispiece).

Tables

- 1 Hokukano-Ualapue NHL Architectural Summary

Maps

- A USGS Kamalo, Hawaii 7.5 Quadrangle (1968)
- B USGS Halawa, Hawaii 7.5 Quadrangle (1968)

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Fishponds and great temple platforms became twin symbols of chiefly power. The builder of the first fishpond in Hawaii is traditionally reputed to be Ku'ula-kai, who lived in an undated period of heroes and gods (Kikuchi 1976:295). Since these structures became commonplace in legendary literature attributed to the 14th through the 19th centuries, it is conjectured that they were developed sometime prior to A.D. 1400. An estimated date of A.D. 1200 to A.D. 1400 seems reasonable in view of socio-political and concomitant religious changes that were taking place by that time.

Oral tradition tells us that Hawaiian religion was significantly altered by the arrival of a powerful priest, Pa'ao, from Kahiki (Tahiti) perhaps about the 12th century (Kirch 1985:259). Pa'ao brought with him the concept of human sacrifice and constructed the first luakini class heiau which functioned as a state level temple dedicated to the war god, Ku, who in one of his guises was Ku'ula, the fish god.

Oral tradition further attributes the construction of great heiau and fishponds to the menehune, a race of mythical, supernatural, and often mischievous dwarfs who were credited with creating such large scale public works in a single night. According to one legend, the stones used in the construction of Iliiliopae were carried by the menehune over the mountains of East Molokai from the beach at Wailau Valley, nearly ten miles distant. Each worker was allegedly paid one shrimp (opae) apiece for his labor, hence the name ili'ili (small stones) opae (shrimp), or "shrimp pebbles" (Thrum 1909b:50).

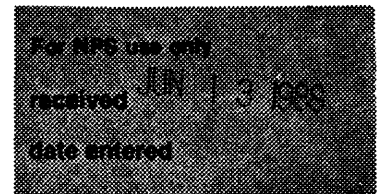
HISTORIC SIGNIFICANCE

Historic research on the Kona District has been hampered by the lack of contact period documentation that focusses on the area. The writers of primary ethnographic sources such as Kamakau (1961), Malo (1951), and Ii (1959) served kings from the Island of Hawaii, and while their writings remain invaluable accounts of the history and lifeways of the Hawaiian people in the late prehistoric period, they said little about Molokai, a land famed for its sorcerers and associated with the goddess Hina who presided over the sea and the medicinal arts.

Geneological data for the Island of Molokai are also sparse; however, most of the sites in the Hokukano-Ualapue NHL complex have associations with prominent individuals or events that were significant in the political evolution of Molokai and Hawaiian Culture. For example, Iliiliopae and Pakui Heiau have historic figures and legends associated with not only Molokai but Maui and Lanai as well. Future research with published and unpublished sources will expand considerably the information below which, unless specifically cited, is derived from Summers (1971) who relied almost exclusively on earlier

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historical sources such as Thrum (1907; 1909a and 1909b); Kamakau (1961) and Stokes (n.d.a-f). It should be noted these sources provide no information on historic figures or events associated with Kukui Heiau, Kalauonakukui Heiau, and Ualapue Fishpond, although probably (by reason of proximity in adjoining ahupua'a) periodically they fell under jurisdiction of the same paramount (district) chief.

Kaluakapi'ioho Heiau

There are two versions for the origin of the temple name. In one account Kapiioho is said to have been an important kahuna kilokilo (seer) who was buried at Pakui Heiau on the ridge overlooking Kaluakapi'ioho Heiau (Stokes n.d.a:3,4).

According to another tradition (and the one favored by Pukui et al. 1974), a king of Oahu called Kapiioho was defeated and killed at the famous battle of Kawela, eight miles west of Kaluakapi'ioho Heiau. Survivors fled to their canoes, but the body of Kapiioho was probably taken and offered in sacrifice at some Molokai temple. Most likely it was Kaluakapi'ioho; however, prior to the sacrifice of an important invading chief, the Heiau would have had another name.

The temple is also believed to have been associated with Kumuko'a, an important chief of the district where the heiau is located. He was a contemporary of Kapiioho of Oahu and probably helped contribute to the latter's defeat (Stokes n.d.a:3,4).

Kahokukano Heiau

Stokes (n.d.a:5) states:

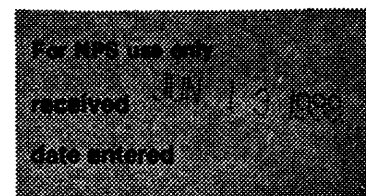
Connected with the heiau were the names of Kaohela, a famous warrior and athlete, and Kumuko'a, a Molokai chief, son of Keaweikekahialii of Hawaii and his Molokai wife Kanealae.

Thrum (1909b:53) believed this temple to be a fish heiau at which sacrifices were offered:

Mauka of it is a pond that used to be used for fish for a quartet of chiefs, Kumekoa [Kumuko'a], Halai, Mulehu and Kalaniahiikapaa, who lived at the heiau with one, Kaohela, a famous runner, as their guard and protector. In a battle with a force from Hawaii, Kaohela was killed. The invading chief from Hawaii then sought to kill the resident ali'i but they fled to refuge in nearby Kaluaaha and hid.

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Pakui Heiau

Thrum (1909) listed Pakui as being a heiau of pu'uhonua character, although by the late prehistoric period it appears to have functioned for a time as a luakini or war temple that was destroyed during the time of Kamehameha I. Thrum also stated the heiau was built and occupied by the chief, Pakui, although according to Summers (1971:119) the original heiau probably dates prior to his time.

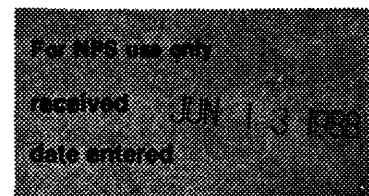
Kamakau (1961:22) called Pakui a pu'ukaua (fortress) and relates a 16th century tradition about Kiha-a-Pi'ilani (later an important paramount chief of Maui), who in trying to escape from the reigning Maui paramount chief, Lono-a-Pi-ilani, fled in secret to the fortress of Pakui on Molokai. When troops besieged the site, Kiha fled Pakui by leaping into and hiding in a Kukui tree, later seeking refuge on the Island of Lanai.

Iliiliopae Heiau

Iliiliopae is Molokai's largest and most important heiau, about which there are many traditions. The construction of the temple platform is attributed to a paramount chief, Ku-pa, whose lands encompassed the ahupua'ha of Mapulehu and Kaluaaha. Allegedly the original heiau covered almost three times the present area and was of a different type; possibly a walled temple. Thrum's informants (1909b:49-52) stated:

... it was enormous and was the stronghold for a numerous and powerful college of Kahunas [defined by Pukui and Elbert (1986) as priests, sorcerers, magicians, wizards, ministers, or experts in any profession], in which young men were trained and afterward sent out to work in other heiaus ... In the time of Kaalauoha, the reigning chief, the heiau was rebuilt out of the stones gathered from the old one, and as best I could gather represented a different type of school or worship, and that is the temple as it now stands.

The two legends that Summers references (1971:132; and Appendix D) to account for the construction, destruction, and subsequent rebuilding of this heiau are confusing. In one version, based on the missionary account of A. O. Forbes, who was stationed at Kaluaaha, Molokai from 1858 to 1868, Kupa was the builder of Iliiliopae. This chief had the children of his priest, Kamalo, put to death for alleged kapu (ancient system of taboos) violations against his sacred person. In retaliation, Kamalo obtained revenge through the assistance of the shark god, Kauhuhu, who caused a torrential downpour that ravaged Mapulehu Valley, destroying much of the original temple along with Kupa and all his people (who were washed out to sea and eaten by sharks) save Kamalo and his remaining family who were safe within their sacred enclosure.

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In a later version by Stokes (n.d.a:8-9), obtained from the 94 year old informant, Ohulenui, the heiau originally had been much larger, 920 feet long, and stretched across what is now the main Mapulehu stream. The stream formerly ran more to the west. In this version, the heiau was built in the time of Kaalauohua, who during his rule, sacrificed the ten sons of a man in his district. The priests who did the killing were Opiopio and Aiai. Vengeance was wrought through intercession of the shark god, Kauhuhu, who sent a flood to the valley. The flood not only destroyed the heiau, but also washed Kaalauohua, Opiopio, Aiai and all the other priests out to sea where they were eaten by sharks. The heiau was then rebuilt by the natives in the time of a king called Aikanaka, out of the stones of the original heiau.

Ohulenui, as well as Forbes' informants, would have been contemporaries, however, there are differences in the rendition of the legend. It is unclear whether we are dealing with one or two separate legends, or whether generations have been collapsed and events and/or associated personages blurred with the passage of time. Both versions have common components: a chief who is perceived to act dishonorably, death/sacrifice, vengeance/retailiation, intercession of the shark god, a flood, destruction of the temple, a change in political leadership and an implied change in temple function.

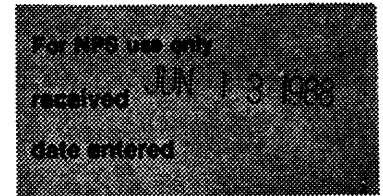
This ritual continuity of theme/components suggests in fact that the legend may have functioned as a revalidation myth for changing religious and political regimes. Over time, Iliiliopae had changing religious functions. If legend is correct it was initially a functional temple as well as religious center for priestly training, a precinct three times its size today. It was rebuilt at least once and underwent an unspecified functional change. The fact that Kaalauohua eventually sacrificed humans at the temple site suggests it became an early luakini temple. By the early historic period, according to Ohulenui, it was dedicted principally to Lono, the god of agriculture and general prosperity, but with special areas demarcated for seasonal worship of other major as well as minor deities. Ohulenui specifically mentions a former wooden idol representing Kukailimoku, the personal war image (Ku) of Kamehameha I. This suggests that Kamehameha I may have claimed the temple in the conquest of Molokai, using it for luakini sacrificial rituals that were also performed following a successful campaign.

Keawanui Fishpond

According to the original theme study for Hawaii's National Historic Landmarks (USDI 1963:107), Keawanui was built about A.D. 1575 by a ruling chief, Lohelohe, however, no source is cited for this information. The Hawaii Statewide Inventory Form for the property further states that it is possibly the oldest fishpond on Molokai, that it was built around A.D. 1500, and that it operated continuously until at least the early 1960s.

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The pond lies off the land division of Ka'amola, but belongs to the ahupua'a of Keawanui. According to Land Commission Award testimony following the Great Mahele of 1848-54 (In Summers 1971:108) and (Barrere 1971):

... the pond of Keawanui belonged to Ka'mola in the time of Pohano. Hekilikaakaa was the konohiki [land manager]. Kaaooaa stole the food [taro]. He was a man of Ka'amola. The food was hidden in the harbor of Keawanui. The konohiki of Keawanui sought the food and found it. The name of the thief was told to him and a trial was held and the pond was taken for Keawanui. It was taken from the time of Kihapiilani [16th century] to this time. It was never returned to Ka'amola.

When Kamehameha I conquered Maui and Molokai, the latter island became the land of Kaheihimalie (later called Hoapili-wahine) and her daughter Kekauluohi, or Auhea. In 1837, Kamehameha III gave the island to his favorite ali'i companions to divide among themselves. A Maui chief, Paulo Hinau, became owner of the ahupua'a of Keawanui and the fishpond. Hinau died in 1868 and willed Keawanui to Lot Kamehameha, then Kamehameha V. When the king died in 1872 his lands went to his half-sister Ruth Ke'elikolani, daughter of M. Kekuana'oa, Lot's father. Ruth's estate passed to her cousin, Bernice Pauahi Bishop in 1883, and to Pauahi's estate in 1884 (Barrere 1971).

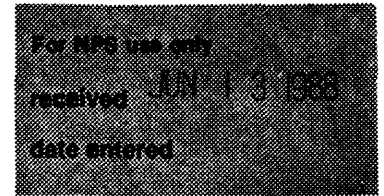
SACRED AND RELIGIOUS SIGNIFICANCE

Ancient places of worship are especially sacred to people of native Hawaiian descent. They are built on the places of the people of old and are imbued with the Polynesian concepts of mana (supernatural and divine power) and kapu, dual organizing principles of Hawaiian religion and social life. Mana was a gift of the gods passed down from father to children in inherited fashion. Everyone had some mana but chiefs had more of it. Mana was important in kinship, especially ali'i marriages. The offspring of certain marital preferences produced more mana than others, i.e., full sibling matings. Thus, mana was why a paramount chief had a geneologist who could, at appropriate functions, recite his links back through the generations to the gods who gave his ancestors the original mana. There was no civil code of laws. Kapu, an elaborate system of religious taboos, served to protect and reinforce the sacred mana. Coral offerings in temples, and even fragments worked into heiau construction and fishpond walls, symbolized the sanctity of these structures and their relationship in the case of the larger class of heiau, through the chief who owned or constructed them, with the geneological ancestors and ultimately, the gods.

The concepts of mana and kapu must have been an integral part of the social and ritual lives of the first Hawaiians, but the precise nature of those beliefs and the manner of their expression is now lost. Probably the earliest

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shrines were simple, constructed by families and small communities and dedicated to the gods of peace, health, fertility and a good harvest of the products of the land and the sea. From the time of the arrival of the legendary Pa'ao, however, Hawaiian religion changed dramatically over time, particularly as the power of the chiefs and priests grew along with substantial population increases. With increased population growth and social organizational complexity, religion, the legitimizing sanction of directed social and political change, evolved becoming integrated with government at the state level as well as at the local and personal level. Larger increasingly complex temples were constructed for public ceremonies dedicating major events. Sometimes the ceremonies lasted for days. Between these events, the temple might be maintained by a kahu (keeper of the heiau) or simply left untended.

In general, men of high rank, the ali'i, worshipped the four major gods in public or temple ceremonies: Lono (peace, agriculture, fertility, etc.), Kane (the creator and ancestral dieties) and Kanaloa (the ocean, healing and general well-being), and Ku (war). Only the ali'i class was responsible for state level observances for the well-being of the entire population.

Commoners worshipped individual family gods at private family shrines as well as observances of the four major gods at the direction of the high priests. Women, because they were considered periodically unclean, were not allowed to participate in temple ceremonies; however, they worshipped the major gods as well as their own distinct and separate gods.

A number of gods and spirits were also associated with fishponds. The primary fishing shrine at which rituals and offerings were dedicated to attract fish to the pond and to insure procreation was the ko'a at which the fish god must be propitiated otherwise the fish might not appear. Simple upright stones (pokaku ku'ula) also functioned as shrines that required proper care and offerings in order to keep fish in a pond.

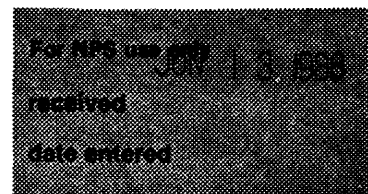
The ancient Hawaiians also believed that walled fishponds of the loko kuapa (Type I) form were inhabited by mo'o (water spirits) who were also akua (gods) and kia'i (guardians) and relied upon them to protect the ponds from ritual and physical pollution in order to assure an abundance of fish. Ritual pollution included the violation of kapu (i.e., women could not fish nor be involved in the work of the pond), neglect of ritual obligations associated with the pond, poaching, and so on. Pollution of the pond by sewage, rubbish or offal also violated the religious sanctions guarding an area.

ARCHITECTURAL SIGNIFICANCE

Architecturally heiau are large structures containing houses and platforms, or altars, composed of one or more terraces or enclosures, or both, and upon

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which ceremonies took place. Prior to European contact in 1778 and the breaking of the kapu in 1819, there were thousands of functional shrines and temples, all of which were heiau, in Hawaii. Native Hawaiians distinguished many heiau types, each with its particular function and used by particular segments of society; thus, the term is broad, covering many types and subtypes which range in size from single upright stones that were worshipped (pohaku a Kane), up to the massive and complex state level luakini (heiau po'okanaka), where human sacrifices were offered by a ruling paramount chief or king for success in war. In discussing the proliferation of heiau ground plans, Buck (1957:514-515) states:

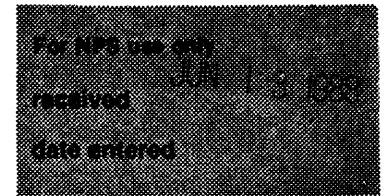
...new heiaus were built frequently enough to create a profession of temple architects whose services were called upon when a chief wished to build a new temple. The professional architect was termed a kahuna kuhikuhi pu'uone because he showed (kuhikuhi) his proposed plan to the chief by drawing it or moulding it in sand (pu'uone). Professional pride impelled him to plan something different than the work of others, though in his professional education he studied the history and form of existing historical heiaus. When a temple was built for a specific purpose and success followed its construction, the architect naturally attributed the success to the form of the heiau. In planning a new heiau, the architect was able to cite the form of a temple which had been successful and to advise incorporating some part of its plan in the proposed new construction. It is no wonder, then, that variations in ground plans continued to multiply. Only the reconditioning and alteration of old temples prevented them from being more numerous than they are.

Further information is available from first hand traditional sources such as Ii (1959) and Malo (1951), as well as work by earlier researchers who recorded and studied these structures (Stokes n.d.a-f; Thrum 1907, 1909a and 1909b; Bennett 1931; McAllister 1933; and others); however, there are frustrating gaps in our knowledge of traditional types and seeming contradictions in the available sources. Traditional writers such as Malo and Kamakau functionally classified heiau in a general twofold division, the political and religious type at which human sacrifices occurred, called luakini or po'okanaka, and the husbandry or economic type of heiau. Later, Bennett (1930;1931) attempted to classify Hawaiian heiau according to architectural features (i.e., shape of heiau, platforms, enclosures, number of terraces, etc.) but this did not result in a usable scheme that also allows for interpretation of functional type.

A heiau can refer to any place of worship, but Valeri (1985:173) and Pukui and Elbert (1986:64) see the term as derived from the word "hai" which means to

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sacrifice; therefore the temple is defined by function rather than form and can refer to any place where sacrifices are made.

Valeri (1985:183) further believes the Hawaiians had two heiau classification systems that have not been clearly distinguished and that have therefore resulted in some confusion. One system was based on function with two major classes: ho'ouluulu or temples for fertility, growth, and production, and kaua, temples of war. Cross-cutting this was an architectural typology that included the classes: ko'a, (fishing shrines and temples also dedicated to Ku, who in one of his guises was the war god), pohaku a Kane (upright stones that were shrines dedicated to Kane), unu and waihau (which appear to be agricultural heiau dedicated to Lono and Kane), and luakini (war temples dedicated to Ku). In this scheme the functional classification could be combined with the architectural to produce a combined array of subtypes.

Domestic temples, the hale mua, or simply mua, refers to the men's house within a group of habitations occupied on a kin basis. It is a place where guests are received and business is transacted. The hale mua contains an altar for offerings and god images (Valeri 1985:173-74).

Pohaku o Kane, essentially shrines that were often associated with domestic temples or a fishing temple, were the locus of expiatory rites. These erect stones with a kuahu (altar) were usually located at points of transition, boundary passes and cliffs. Barkcloth wrapped offerings were made by passersby (Valeri 1985:174-75).

Koa (coral) are heiau associated with Ku'ula, the god of fishing. It may be only a simple altar of coral or rock cairn with coral, or it can also be a true temple with platforms or small courtyards (Kamakau 1961:201; 1964:33). These are usually built close to the sea, or along streams, taro patches and ponds. Koa can also be built on little islands inhabited by seabirds which are used by the bird catcher.

Some Lono temples or ko'a belonged to the lesser nobility or even commoners, but Valeri (1985:185) states: "the king owns the most important temples of these types in each district. Only mua shrines are permitted to everyone and thus this unmarked temple is the only one that all commoners may build".

In general, the larger heiau were constructed by prominent persons such as the chief of an ahupua'a; they may include walled enclosures, stepped terraces, and combinations thereof. The most complex and largest of all temples the luakini, could be constructed and dedicated only by a paramount chief (ali'i ai moku, or ali'i nui). The dedication of such a temple by another chief was considered as an act of rebellion against the ruling polity. Although these heiau were dedicated primarily to Ku, Lono was not entirely absent from these state temples and agricultural or even rituals to the various fish and sea

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gods might also be performed there (Valeri 1985:184-85). The reason being that successful conquest and victory make possible peaceful activities, i.e., fertility, prosperity, etc. such that Lono, Kane, or fishing rituals may also be conducted at the designated luakini temple during the monthly ritual cycle or at the appropriate point in the annual ritual season.

Luakini temples did not function as local temples that served the one local community in which they were located, but usually a district. Frequently they were built in elevated locations selected to impress; locations that along with the immensity of the structure, would convey a sense of power and awe. The information summarized in Table I substantiates that on the basis of size, structural complexity and location, all the heiau in the Hokuano-Ualapue NHL complex could have functioned as luakini at some point in the late prehistoric period. The structures range in size from ca. 4,464 sq. ft. (Kaluakapi'ioho) to about 24,882 sq. ft. (Iliiliopae). The size of Kaluakapi'ioho is in fact not small when one considers the volume of fill and the immensity of its east wall (Photographs 8 and 10). In some cases, traditional sources and/or oral histories confirm the pre-contact function of the structures. For example, the fact that an important Oahu chief was sacrificed at Kaluakapi'ioho leaves little doubt that it functioned at that time as a luakini. In others, such as Kukui Heiau and Kalaunokukui Heiau, designation as an agricultural or Lono temples is suspect on size alone. Depending on the time period of their initial construction, and subsequent rebuilding cycles, all the heiau in the group may have functioned as Lono temples or as fish heiau seasonally or during one political regime but not the next. Future archival research and excavation may make it possible to subtype these structures as proposed by Valeri.

One important means for distinguishing between these types of structures, in the absence of traditional information, is through study of the interior layout of the platform or enclosures, the locations and types of carved wooden god images displayed; and the particular construction materials used which had sacred implications and varied with the type of temple and rituals being observed. Because much of this material is perishable (i.e., wooden images, wood structures atop the platform, roofing thatch etc.), and platform surfaces become disrupted over time due to vegetational growth or vandalism, information may have to be partially reconstructed through sources such as John Papa Ii (1959), who served in the court of Kamehameha II. Some indication of the differences between these two temple types can be perceived in Figures 8 and 9 which are simplistic renditions based on Ii's descriptions, and Figure 10, a reconstruction of Kaneaki Heiau (Ladd 1973). For example, the principal features of a luakini included an 'anu'u' tower where priests received inspiration, a semi-circular arrangement of wooden images surrounding the lele or offering platform, thatched houses (on individual platforms) with special functions i.e., drum house, oven house, and the house of mu, the body catcher who provided victims for sacrifice, etc. (Ii 1959:35-48).

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Another distinguishing feature commonly found on luakini temple platforms and noted by Stokes (n.d.a:3,8) at Pu'u 'Olelo and Iliiliopae is pits. Buck (1957:525) has summarized what little is known about these enigmatic features:

The refuse pit (lua-kini or lua-pa'u) was another feature of the heiau and it was used for the disposal of decayed offerings when the offering stands were needed in another temple ceremony. Emerson, in a note to Malo's text (1951:178), states that the name lua-kini was derived from lua (hole) and kini (400,000) and that the pit gave its name to the luakini type of temple. Malo (1951:162) says that the pit was within the oracle tower, but it is evident that it was not confined to that site. Bennett (1931:44), in describing the Kauai temple remains, states that the pits were located either inside or outside the temple structure. Those found were usually round and 5 to 15 feet in diameter all were carefully made and most of them were lined with stones. The pits McAllister (1933:14) saw on Oahu were small, shallow, rectangular depressions artificially faced with stone. He also noted rough round pits which he suspected of have been made by curio hunters.

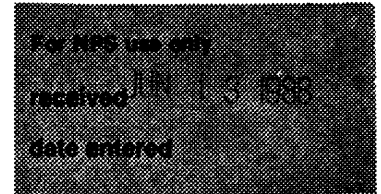
Tradition hints that Iliiliopae may be not only the largest but the oldest heiau on southeast Molokai. It is tempting to speculate that Kukui Heiau, the second largest heiau in the NHL complex and one that is also located at lower elevation closer to the coast, may also be an older structure whose initial stage may have been built before population expanded and the inland higher elevated temples were constructed. According to Kamakau (1961), the large state level heiau were constructed on the sites formerly built on by the people of old. Studies by Ladd (1969, 1970, 1972 and 1986) have further verified that these temples were constructed in a series of stages. Each rebuilding episode may commemorate a significant event, such as an expanding chiefdom, in the reign of a particular chief or king. The stylistic changes embodied in these structures, therefore, not only document evolutionary changes in social organization and the evolution of religion, but potentially may be stylistically identifiable with prominent persons.

ENGINEERING SIGNIFICANCE

The invention of fishponds was a unique achievement of the ancient Hawaiians for nowhere else in Polynesia was true aquaculture developed. The beginning date for the construction of the first fishponds in Hawaii is unknown although it is believed to be sometime after A.D. 1200, a time period during which other socio-political and religious changes, manifested in large scale constructions such as the luakini heiau, were also taking place.

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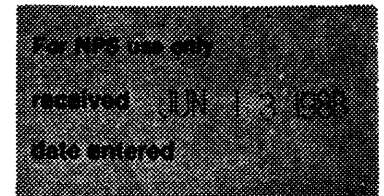
Aquacultural technology allowed the ancient Hawaiians to move beyond mere harvesting of fish and other marine products (i.e., crustaceans, shellfish, and seaweed) to intensive fish production and husbandry. Kikuchi (1973) reported a total of 449 ponds that were constructed prior to A.D. 1830. They were built on all the major islands but were most extensive on Kauai, Oahu and Molokai where broad shallow reef flats or natural embayments provided an environment in which ponds could be constructed easily in sweeping semicircular arcs out from the shoreline. Certain inland ponds, especially lava basins along the the shoreline, were also modified with walls (kuapa, or pa), sluices ('auwai) and sluice gates (makaha) to convert them into operational fishponds. The distinctive feature of the ponds was the sluice gates. The makaha was stationary with no moveable parts. This was the technological innovation, probably an adaptation from an earlier form used in irrigation agriculture, that enabled the prehistoric Hawaiians to progress from tide-dependent fishtraps to artificial fishponds that could be controlled at all times of the tide (Apple and Kikuchi 1975:6).

Ponds (loko) varied in form, construction, and methods of operation. They were divided into two major categories: shore and inland ponds. Apple and Kikuchi (1975:7) further subdivided these categories:

- Type I Loko kapa whose main characteristic is a seawall as its artificial enclosing feature and which usually contains one or more sluice gates. Both Keawanui and Ualapue are examples of this type of fishpond.
- Type II Loko pu'uone, an isolated shore pond usually formed by a barrier beach building a single elongated sand ridge parallel to the coast.
- Type III Loko wai, a freshwater fishpond located inland from the shore.
- Type IV Loko i'a kalo, another inland fishpond which utilized an irrigated taro plot (fish were grown in the waters flowing among the earth mounds planted with taro corms.
- Type V Loko 'ume 'iki is similar in shape and construction to Type I, however, it is a fishtrap characterized by numerous stone flanked lanes which led fish into netting areas with the ebb and flow of the tide. This is the only known form that may have a prototype elsewhere in Polynesia. It is also the only pond where women were permitted to net.

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The first three types were royal fishponds owned exclusively by the ruling chiefs and managed by a caretaker, or (kia'i loko), or in some cases by a lesser chief, the konoiki, who served as a managerial overseer of both the pond and the adjacent ahupua'a agricultural lands. The last two types of ponds, while technically owned by the ruling chiefs, were the domain of families, hence commoners had some access to them but at the chief's discretion.

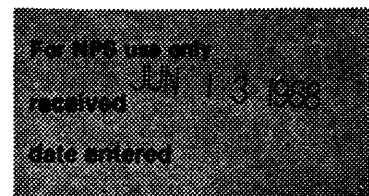
The most important of the shore ponds was the loko kuapa (Type I) which consisted of an arc-shaped wall extending out from the shore onto a reef flat and back again; these ranged in area from one acre to over 500 acres. The mortarless walls were constructed of basalt cobbles, blocks and coral (the latter was probably included as a sacred offering). These were usually at least 6 or 8 ft. thick and projected 2 or 3 ft. above the highest tide level. Clearly only a high chief could command the labor necessary to construct such monumental structures. For example, the widest and most massive reported by Kikuchi (1975:17) had a 750 ft. seawall, was 6.5 ft. high, and measured 35 to 40 ft. wide at its base. The structure contained an estimated 150,000 cu. ft. of stacked rocks. The longest seawall recorded by Kikuchi was 6,300 ft. Some loko kuapa had secondary walls within the pond to form pua (fry ponds). Other engineering aspects of the Hawaiian seawalls were also of merit. The interstices in the mortarless masonry walls made them permeable and served to reduce stress from tidal, wave and current energy. The construction of seaward versus interior pond wall flanks was equally sophisticated. Seaward flanks were inclined slopes which further permitted the seawall to withstand wave energy and to absorb, per square inch, more energy than a more vertical batter (Apple and Kikuchi 1975:20).

Seawalls were gapped in one or more places with makaha which permitted the flow of seawater. Gates were blocked with slatted wooden panels that allowed fry to enter from the sea, but kept the larger, mature fish from escaping. Sluices (water channels or ditches usually lined with stone) ranged in length from several feet to several miles. The placement of sluices and gates ('auwai o ka makaha) appears to have been "according to prevailing water-related energy patterns so as to provide flow into and draining out of the pond to effectively reduce silting and inhibit stagnation. Nutrients also entered ponds through the sluice gates" (Apple and Kikuchi 1975:23). Mature fish, ready for harvest, congregate on the pond side of the sluice gate during the incoming tide, and on the sea side of the makaha during an outgoing tide. The commonest method of harvesting was the use of scoop nets on the pond side of the makaha on the incoming tide.

Associated with most Type I and Type II fishponds was a guard house or hale kia'i situated close to the makaha. Rather than a residence, this structure was a shelter for the caretaker while he was on poaching patrol. Ponds with several makaha also had several guard houses. Other structures included

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fishing shrines and net houses. None of these associated structures has been recorded for Keawanui and Ualapue Fishponds although surely they must have existed at one time. This is probably due principally to lack of intensive survey in the vicinity of the ponds, as well as historic alterations to the surrounding landscape.

POLITICAL SIGNIFICANCE

The evolution of luakini temples and fishponds into symbols of a paramount chief's status and power is politically significant in the development of complex society, the consolidation of chiefdoms, and what may have been an incipient state level of socio-political organization in Hawaii in the late prehistoric period. Heiau size and overall pond size clearly indicate that the labor force involved in the construction and upkeep of the ponds and in the building/refurbishing of temples must have been considerable. Only an individual of very high status could command such a labor force.

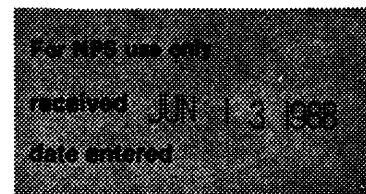
Fishponds, in particular, became symbols of the chiefly right to conspicuous consumption and to ownership of the land as well as coastal marine resources. Selected fishponds, especially the loko kuapa type, played an important symbiotic role in the development of the Hawaiian chiefdoms and the royal court (Kikuchi 1976:298). A paramount chief's court, which might number several hundreds of persons, consisted of relatives, servants, specialists, priests, warriors, entertainers and hangers-on. The court was mobile in the sense there was no single permanent seat of government; thus, a chief's fishponds and intensively irrigated agricultural plots provided a constant supply of food for the court in residence, and for religious offerings at temples as well, without unduly burdening commoners by reducing their own food supplies. Periodic court moves also served to insure that local district chiefs did not remain isolated or unsupervised long enough to gather support for a revolt.

Administration of a paramount chief's fishponds and irrigated fields was vested in a well defined bureaucracy of lesser chiefs. A priest-architect was consulted and advised the paramount on all construction or alteration projects relating to his ponds and taro fields. The konohiki, or land and water manager, acted as a resident superintendent of the paramount chief's ahupua'a, a pie-shaped section of land that extended from an apex inland out into the sea. He also commanded the local labor force for building and repair projects. In addition, each loko kuapa had one or more caretakers, or kia'i'loko, who lived with their families at the pond site, cleaning and patrolling it, and when instructed, harvesting the selectively bred species of fish reserved only for chiefly or religious use.

Similarly, the luakini heiau was the evolutionary and symbolic end product of an increasingly complex and politically interwoven religious world view. They

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were the focus of great public events. Their rituals, the longest and the most arduous of temple ceremonies, were undertaken only by the highest ranking ali'i priests.

A paramount chief's temples were central to the annual four month long (October to February, the wet season) makahiki festival dedicated to Lono (Malo 1951:141-152). At the end of this cycle, the paramount would decide, based on complex social and economic factors, whether or not his political course of action for the coming year was to be peace or war. If the latter, a luakini temple to Ku was either built, or reactivated through a rebuilding cycle, and dedicated to the event.

Homon (1976:168-171) further theorizes the makahiki cycle had evolved as an important administrative arm in the functional integration of an emergent state level political unit. The ali'a nui would initiate this important religious cycle from the location he had chosen as a temporary residence and seat of government. An important function in the culmination of the festival was the ritual procession of priests throughout the chief's ahuapua'a or district and the collection of tribute and taxes by which he could maintain his court and display his power through sacrifices of produce and material goods.

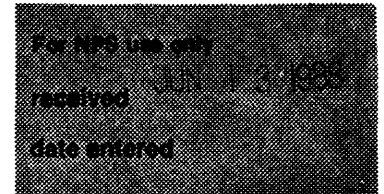
ARCHEOLOGICAL SIGNIFICANCE

Archeologically Molokai is still poorly understood. The Hokukano-Ualapue complex, however, is geographically bracketed between two recent archeological project areas that have produced important chronological data: Halawa Valley east of the NHL on the windward eastern coast of the Island, and Kawela to the west on the leeward south central coast of Molokai. These are also zones of pronounced environmental contrast. Historically, Halawa Valley was famous for its extensive taro fields. Kawela was agriculturally marginal, although its coast supported extensive fishponds (Kirch 1985:27, 280-281). Excavations undertaken at the Halawa Dune Site (MO-A1-3) in 1969-70 revealed that initial settlement of the windard side of Molokai had occurred by A.D. 650. Later excavations at Kawela confirmed that the arid leeward zone was not occupied until about two centuries prior to European contact.

The sites comprising the Hokukano-Ualapue NHL are located in an intermediate environmental zone between Halawa and Kawela, -- within the proposed 25 square mile Southeast Molokai Archeological District (Hawaii Register of Historic Places 1974:2). The area is known to possess a quantity, quality, and concentration of features not seen elsewhere on Molokai. Over 600 structures and features so far have been recorded within one mile of the coast and probably many more would be revealed with intensive survey. These structures and features include: village sites, 27 fishponds, 36 heiau, sacred places (rocks, cave, bellstone etc.), hundreds of agricultural features, and trails.

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The seven temple platforms that are incorporated in the NHL discontinuous district are the most massive and structurally complex heiau in the proposed Southeast Molokai Archeological District. It is probable that most functioned as luakini in the late prehistoric period. They also command spectacular views of the southeast coast of Molokai with its fishponds as well as the neighboring Islands of Maui, Lanai and Kahoolawe. Southeast Molokai contains the largest concentration of fishponds in the Islands (1974:17). By the 1970s, 17 of the ponds had been destroyed due to natural agencies or by developers, however, 10 were still considered intact including Keawanui and Ualapue.

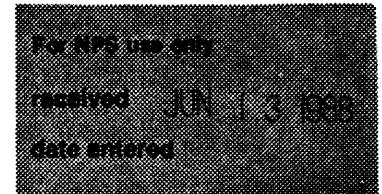
Clearly the area that encompasses the NHL sites once supported a dense population under the aegis of important high chiefs who could command the necessary labor force to construct and/or rebuild the twin edifices of chiefly power: fishponds and massive heiau. Although an initial settlement date for the ahuapua'a containing these properties is unknown, the land divisions immediately east of Kawela may have been more favorable environmentally. If so, settlement may have occurred one to two hundred years earlier than at Kawela, perhaps by A.D. 1300-1400.

Both fishponds and heiau have information potential with respect to chronology and classification as well as for analyses of settlement pattern and social organization. A few fishponds are known to have associated stratified and dateable archeological deposits, but there is no indication that any survey has been undertaken to locate potential sites in the immediate vicinity of Keawanui and Ualapue Fishponds. Excavation, or testing and stabilization of heiau, on the other hand, has broader research implications. They can provide datable material (charcoal from hearths associated with building sequences and basaltic glass artifacts) that is useful in the development and interpretation of local chronological sequences.

Heiau, especially the luakini type, were, for the most part, independent of the immediate local community. Fishponds were also the property of a high chief who used their produce to support his court when in residence and for sacrificial propitiation of the gods at his temples. At the same time, these dual chiefly structures were articulated in a regional or district settlement pattern. The evolutionary development of such structures with respect to political land divisions, the tribute network and the greater settlement pattern, however, has been a neglected area of research and one that is critical to interpreting the processes that led to the consolidation of chiefdoms and an emergent state order in the Hawaiian Islands. Changing political and religious functions over time also can be addressed through study and interpretation of the architectural building sequences contained with heiau.

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Because chiefs were sometimes interred in heiau, these structures have the potential to provide information on social stratification. According to Kirch (1985:241-42), sacrificial victims (which included rival chiefs and ali'i captured in battle) were also interred in luakini platforms, a practice confirmed by Ladd (1969; 1970). This suggests important status differences in the burial treatment of commoners or criminals, defeated chiefs and resident chiefs.

INTEGRITY

With the exception of Kukui Heiau, and the intrusive modern house at Ualapue Fishpond, the scenic integrity of the Hokukano-Ualapue National Historic Landmark is high.

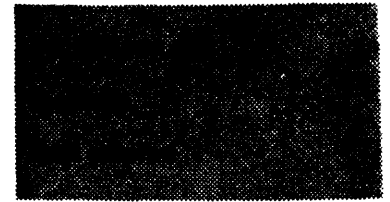
The integrity of the individual components comprising the NHL complex has been impacted to varying degrees; nevertheless, the structural outlines, walls, platforms and terraces are, with the exception of Kukui Heiau, still in good condition. Building sequences are also believed to intact; thus, the archeological information potential of these structures is excellent. Although the platform surfaces and other interior features of the heiau have suffered impacts, additional information for the reconstruction of interior features/functions and construction materials of different types of heiau is available in existing archives, ethnohistoric sources and oral histories.

Based on the in-depth discussion of impacts to the various components of the Landmark provided in Item 7 above, individual site integrity is estimated as follows:

<u>Sites</u>	<u>Estimated Integrity</u>
Kukui Heiau	Less than 50%
Pu'u 'Olelo Heiau	75-80%
Kaluakapi'ioho Heiau	75-80%
Kahokukano Heiau	75-80%
Pakui Heiau	75-80%
Kalauonakukui Heiau	Expected to be 75-80%
Iliiliopae Heiau	75-80%
Keawanui Fishpond	65-75%
Ualapue Fishpond	65-75%

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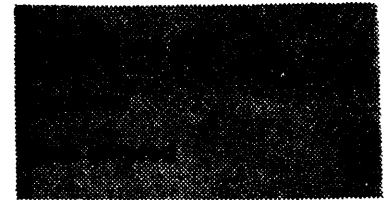
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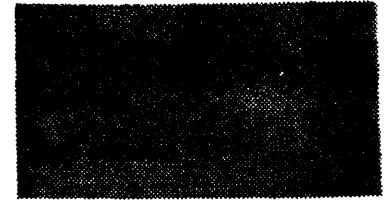
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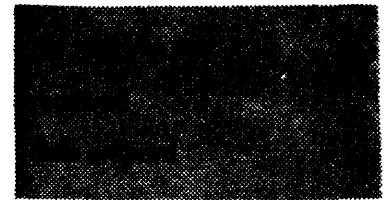
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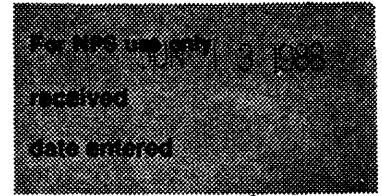
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GEOGRAPHICAL DATA

Map A: Quadrangle name: USGS Kamalo, Hawaii 7.5' (1968)

Quadrangle scale: 1:24000

Kukui Heiau

Acreege of nominated property: - 1/2 acre

UTM References: A: Zone 04 Easting 724125 Northing 2330300

Pu'u 'Olelo Heiau

Acreege of nominated property: - 1/4 acre

UTM References: A: Zone 04 Easting 724190 Northing 2331110

Kaluakapi'ioho Heiau

Acreege of nominated property: ca. 1/10 acre

UTM References: A: Zone 04 Easting 724045 Northing 2331440

Pakui Heiau

Acreege of nominated property: ca. 1/3 acre

UTM References: A: Zone 04 Easting 724200 Northing 2331540

Kahokukano Heiau

Acreege of nominated property: - 1/2 acre

UTM References: A: Zone 04 Easting 724210 Northing 2331300

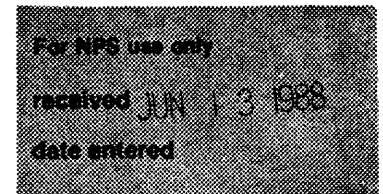
Kalauonokukui Heiau

Acreege of nominated property: - 1/4 acre

UTM References: A: Zone 04 Easting 724450 Northing 2331290

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Ualapue Fishpond

Acreeage of nominated property: 25 acres

UTM References: A: Zone 04 Easting 724860 Northing 2330630
B: Zone 04 Easting 725035 Northing 2330820
C: Zone 04 Easting 725380 Northing 2330645
D: Zone 04 Easting 724940 Northing 2330450

Keawanui Fishpond

Acreeage of nominated property: 70 acres

UTM References: A: Zone 04 Easting 722765 Northing 2330350
B: Zone 04 Easting 722985 Northing 2330425
C: Zone 04 Easting 723275 Northing 2330260
D: Zone 04 Easting 723375 Northing 2329880
E: Zone 04 Easting 723020 Northing 2329630

Map B

Quadrangle name: USGS Halawa, Hawaii 7.5' (1968)

Quadrangle scale: 1:24000

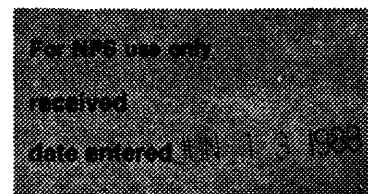
Iliiliopae Heiau

Acreeage of nominated property: 1/2 + acre

UTM References: A: Zone 04 Easting 727490 Northing 2332400

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VERBAL BOUNDARY DESCRIPTION AND JUSTIFICATION

The 1962 registration form for the Hokukano-Ualapue National Historic Landmark contained two major errors: (1) in the listing, location and naming of the individual components comprising the Landmark, and (2) in the boundary estimates established for the component sites. For example, the heiau of Hokukano were described as being located linearly between the Kahananui and Manawai land divisions; however, Kalauonakukui Heiau is not in this alignment but east of Kahananui Gulch in the land division of Ualapue. On the other hand, Pu'u 'Olelo, an impressive heiau, is located within this linear alignment of temples but was omitted. This may be because Pu'u 'Olelo was also omitted from the USGS map (Map A) and the other temples were not. The earlier registration form also stated there were 10 to 12 fishponds associated with the NHL complex, however, only Keawanui and Ualapue were named. This is clearly an error for most of the fishponds in the vicinity of Keawanui and Ualapue have either been destroyed or contain less integrity.

The original boundary estimates for the Hokukano-Ualapue Discontiguous NHL District (taken from the U.S. Department of the Interior, Survey of Historic Sites and Buildings, 1962:82-84) further overestimated the size of the properties:

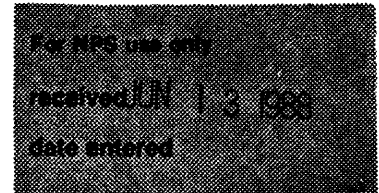
- The five heiau of Hokukano (Kukui, Kaluakapi'ioho, Kahokukano, Pakui, and Kalauonakukui) were grouped contiguously in a 50 acre land parcel. Pu'u 'Olelo is also located within this parcel.
- Iliiliopae Heiau was estimated at 8 acres.
- Keawanui Fishpond allegedly covered 73 acres.
- The size of Ualapue Fishpond as listed in NPS file documents varies from 15 to 25 acres.

These acreage estimates are not supportable. For example, grouping the heiau of Hokukano together within a contiguous 50 acre parcel is not realistic. Large luakini temples did not function as local temples that served a particular community, but rather as state temples that served a district or a kingdom. They also appear to have been used sporadically; thus, it is possible that not all the heiau were in contemporaneous use or constructed and rebuilt under the same political aegis.

There is no clear indication that the ali'i priests or peripatetic paramount chiefs and their mobile courts actually resided at the temple sites. Nevertheless, there probably were adjacent ancillary structures/features such as huts, house platforms, pens, etc. that were used for religious preparations and paraphernalia, or for temporary storage of the great quantities of

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material goods (i.e., pigs, fowl, fish, and agricultural produce) that were used in connection with the ceremonial cycle, or sacrificed in addition to human sacrifices.

Aside from the plan maps of Stokes [1909], there has been no archeological testing or excavation conducted at any of the heiau, at any nearby archeological sites, or at the fishponds. Therefore, no other conclusively demonstrated contiguous or contributing properties can be established at this time and the boundary must be based on known structural dimensions alone.

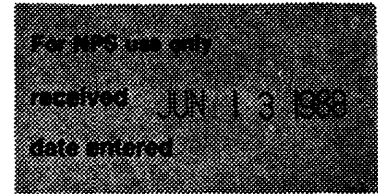
The following boundaries, therefore, are proposed for the six heiau of Hokukano and Iliiliopae Heiau:

<u>Site</u>	<u>Square Feet</u>	<u>Acreage</u>
Kukui Heiau	20,400	- 1/2 acre
Pu'u 'Olelo	10,730	- 1/4 acre
Kaluakapi'ioho Heiau	4,464	ca. 1/10 acre
Kahokukano Heiau	16,800	- 1/2 acre
Pakui Heiau	15,725	ca. 1/3 acre
Kalaunokukui Heiau	9,600 to 10,625	- 1/4 acre
Iliiliopae Heiau	24,882	1/2 acre +

A legal survey of Keawanui Fishpond in 1972 (R. M. Towill Corporation, Honolulu) verified pond size to be 51.346 acres, however, the data points for the survey are unknown. Moreover, vegetational creep and sand migration may account for some reduction of the original pond size especially on the landward portions of the pond where the remains of archeological sites and features (i.e., shrines, caretakers huts, etc. known to be associated with pond operation) are expected to occur as surface and/or buried deposits. We therefore estimate this Landmark component to encompass approximately 70 acres. Because the scale of the 1937 plan map (Figure 6) inaccurately depicts the size of Keawanui Pond, this estimate was calculated from the scale of the USGS Kamalo 7.5' Quadrangle (Map A) using a National Register of Historic Places acreage estimator: beginning at the northwest corner (Point A), proceed northeast 800 feet to Point B, then southeast 1100 feet to Point C, then south 1200 feet to Point D, then southwest 1400 feet to Point E, and finally 2200 feet northwest to the beginning.

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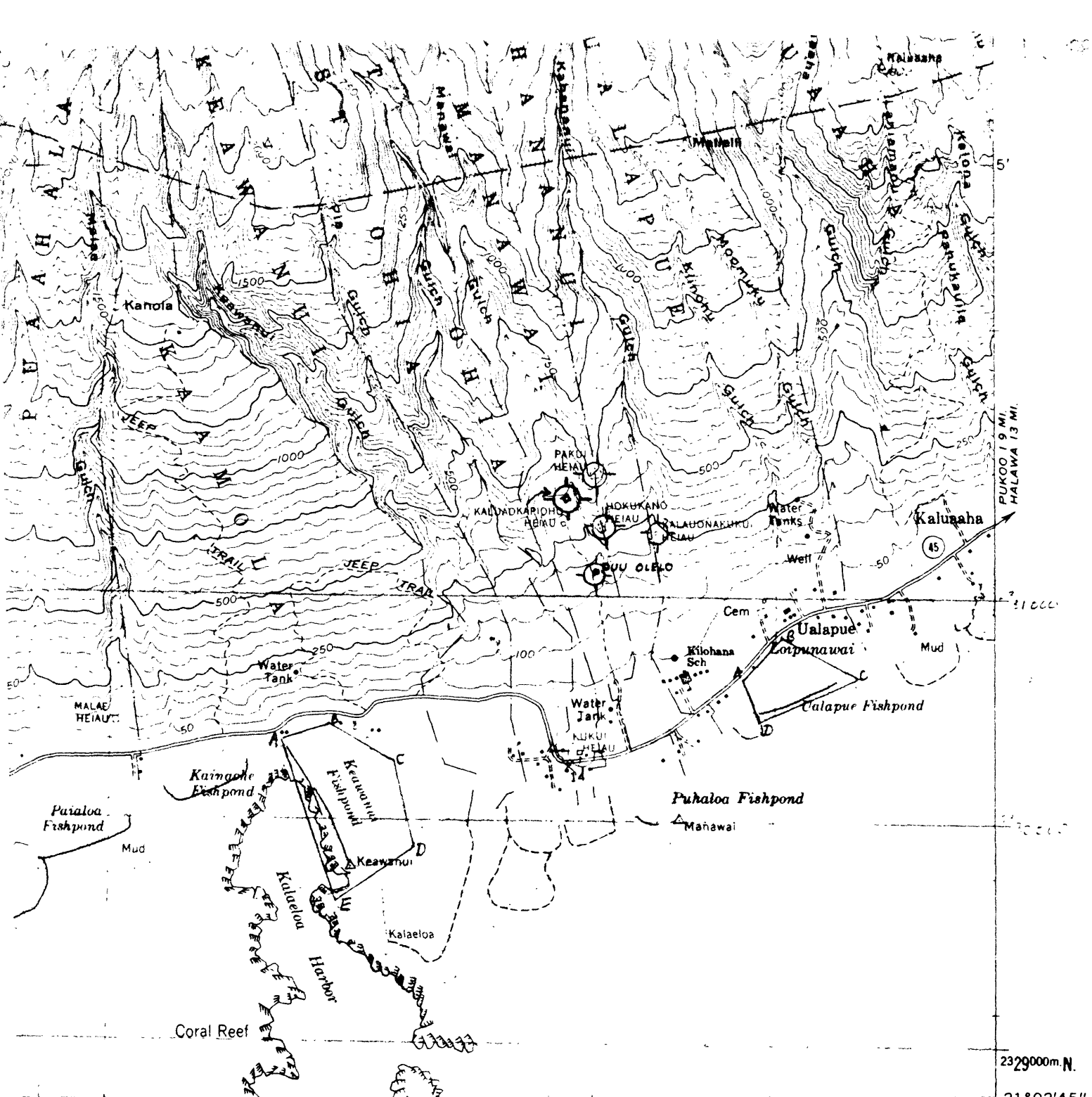
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Ualapue Fishpond probably comprised 25 acres originally, however, introduction of fill for house construction on its landward side, plus vegetational creep and sand migration have reduced its present size to no more than 15 acres. Nevertheless, intact or partially intact archeological features associated with prehistoric pond operation may still exist along what would have been the original pond perimeter; therefore, this Landmark component is estimated to encompass 25 acres, again calculated with the USGS scale and a National Register of Historic Places acreage estimator. Beginning at the northwest corner (Point A), proceed northeast 1050 feet to Point B, then southeast 1250 feet to Point C, then southwest 1350 feet to Point D, and finally northwest 750 feet to the beginning.

Should future archeological investigations verify the presense of additional contributing properties associated with either the heiau or the fishponds in the Hokukano-Ualapue complex, the existing property boundaries must be reassessed and the National Historic Landmark documentation revised.



52'

2329000m N.

21°02'45"

INTERIOR- GEOLOGICAL SURVEY WASHINGTON D C -1970
725000m E.

156°49'30"

ROAD CLASSIFICATION

- Medium-duty ——— Light-duty ———
- Unimproved dirt - - - - -

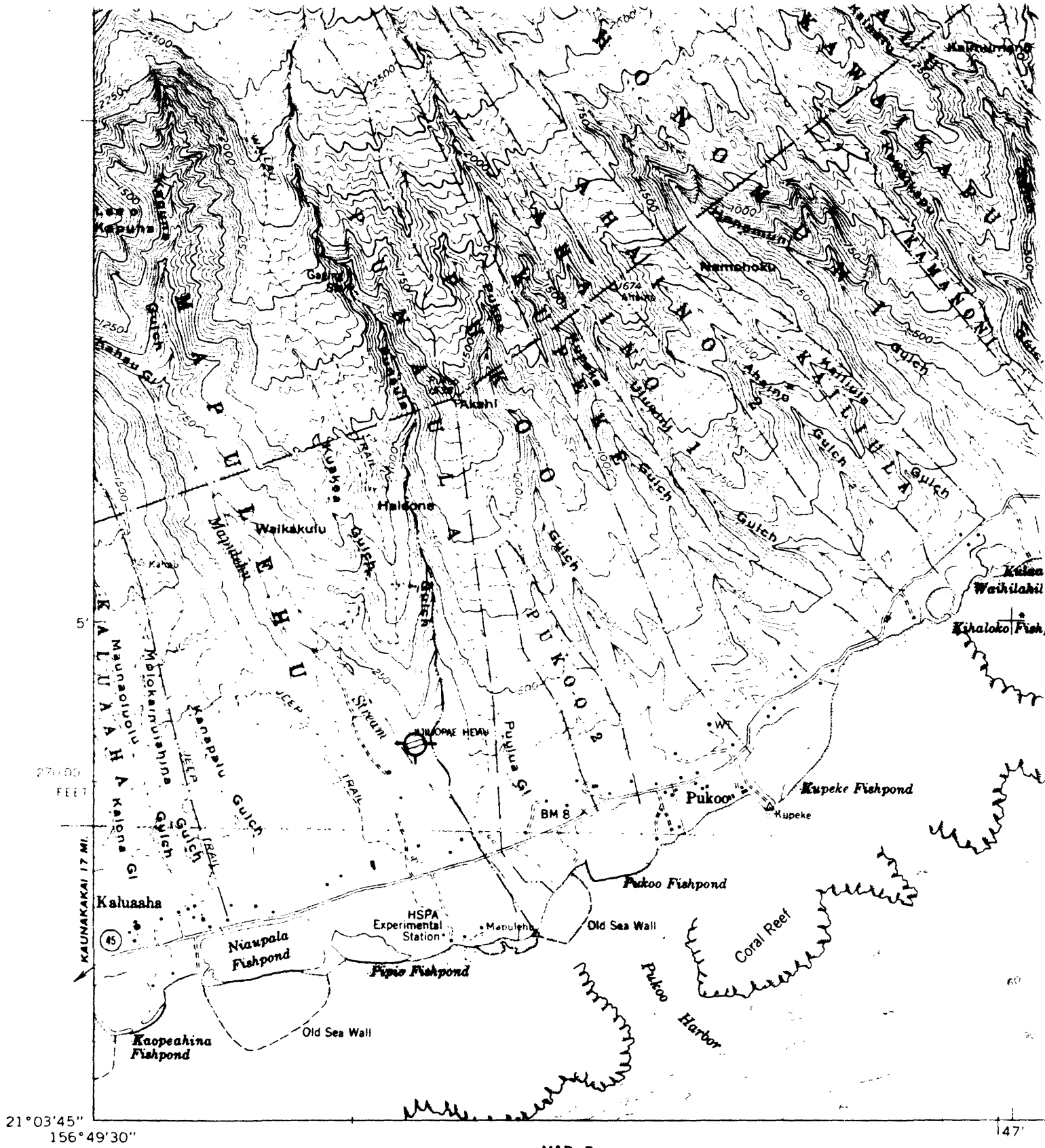


MAP A

HOKUKANO-UALAPUE NATIONAL HISTORIC LANDMARK

USGS Kamalo, Hawaii 7.5' (1968)

UTM COORDINATES: See Attached Page



21° 03' 45" N
156° 49' 30" W

MAP B

Mapped, edited, and published
 Control by USGS, USC&GS, and H
 Topography by photogrammetric me
 taken 1950. Field checked 1952
 Selected hydrographic data compile
 Charts 4121 (1966) and 4130 (196
 This information is not intended for
 Polyconic projection. Old Hawaiian datum
 10,000-foot grid based on Hawaii coordinate system, zone 2
 1000-meter Universal Transverse Mercator grid ticks,
 zone 4, shown in blue

HOKUKANO-UALAPUE NATIONAL HISTORIC LANDMARK

USGS Halawa, Hawaii 7.5' (1968)

UTM COORDINATES: See Attached Page

MAGNETIC NORTH
 APPROXIMATE MEAN
 DECLINATION, 1968

UTM COORDINATES: HOKUKANO-UALAPUE NATIONAL HISTORIC LANDMARK

Map A: Quadrangle name: USGS Kamalo, Hawaii 7.5' (1968)

Quadrangle scale: 1:24000

Kukui Heiau

Acreage of nominated property: - 1/2 acre

UTM References: A: Zone 04 Easting 724125 Northing 2330300

Pu'u 'Olelo Heiau

Acreage of nominated property: - 1/4 acre

UTM References: A: Zone 04 Easting 724190 Northing 2331110

Kaluakapi'ioho Heiau

Acreage of nominated property: ca. 1/10 acre

UTM References: A: Zone 04 Easting 724045 Northing 2331440

Pakui Heiau

Acreage of nominated property: ca. 1/3 acre

UTM References: A: Zone 04 Easting 724200 Northing 2331540

Kahokukano Heiau

Acreage of nominated property: - 1/2 acre

UTM References: A: Zone 04 Easting 724210 Northing 2331300

Kalauonokukui Heiau

Acreage of nominated property: - 1/4 acre

UTM References: A: Zone 04 Easting 724450 Northing 2331290

Ualapue Fishpond

Acreage of nominated property: 25 acres

UTM References:	A:	Zone 04	Easting	724860	Northing	2330630
	B:	Zone 04	Easting	725035	Northing	2330820
	C:	Zone 04	Easting	725380	Northing	2330645
	D:	Zone 04	Easting	724940	Northing	2330450

Keawanui Fishpond

Acreage of nominated property: 70 acres

UTM References:	A:	Zone 04	Easting	722765	Northing	2330350
	B:	Zone 04	Easting	722985	Northing	2330425
	C:	Zone 04	Easting	723275	Northing	2330260
	D:	Zone 04	Easting	723375	Northing	2329880
	E:	Zone 04	Easting	723020	Northing	2329630

Map B

Quadrangle name: USGS Halawa, Hawaii 7.5' (1968)

Quadrangle scale: 1:24000

Iliiliopae Heiau

Acreage of nominated property: 1/2 + acre

UTM References:	A:	Zone 04	Easting	727490	Northing	2332400
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NHL BOUNDARY

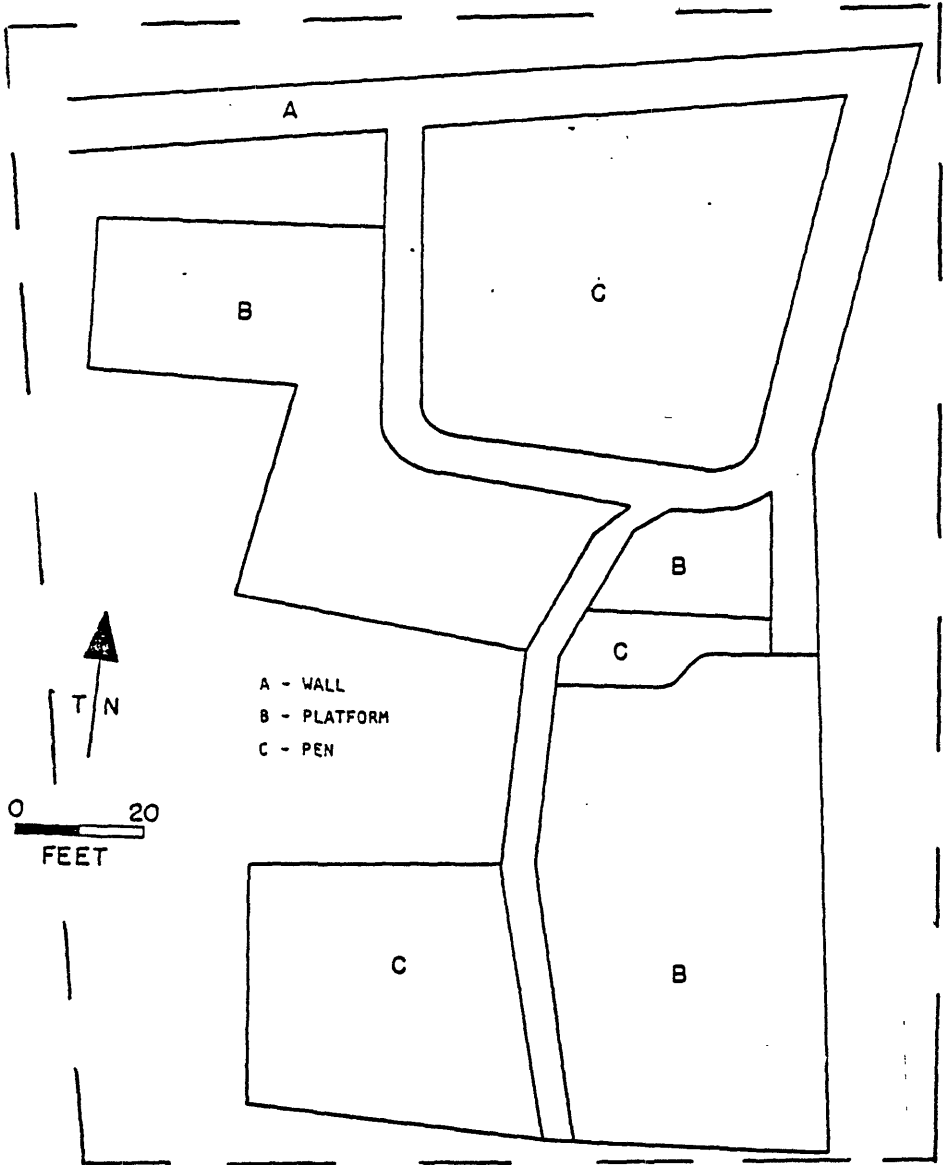


Figure 1: Plan of Kukui Heiau (Plan by Stokes, 1909)

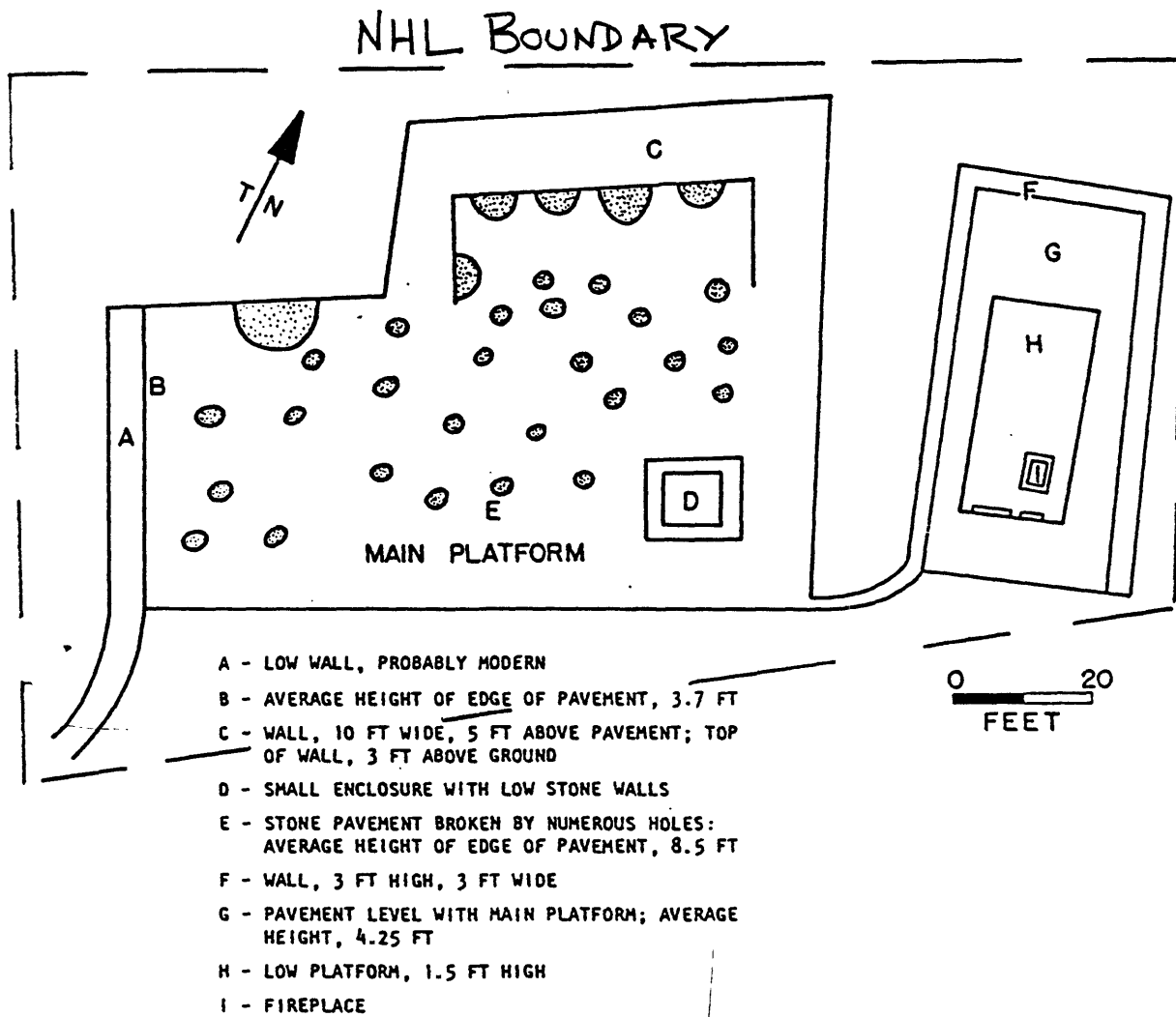


Figure 2: Plan of Pu'u 'Olelo Heiau (Plan by Stokes, 1909)

NHL BOUNDARY

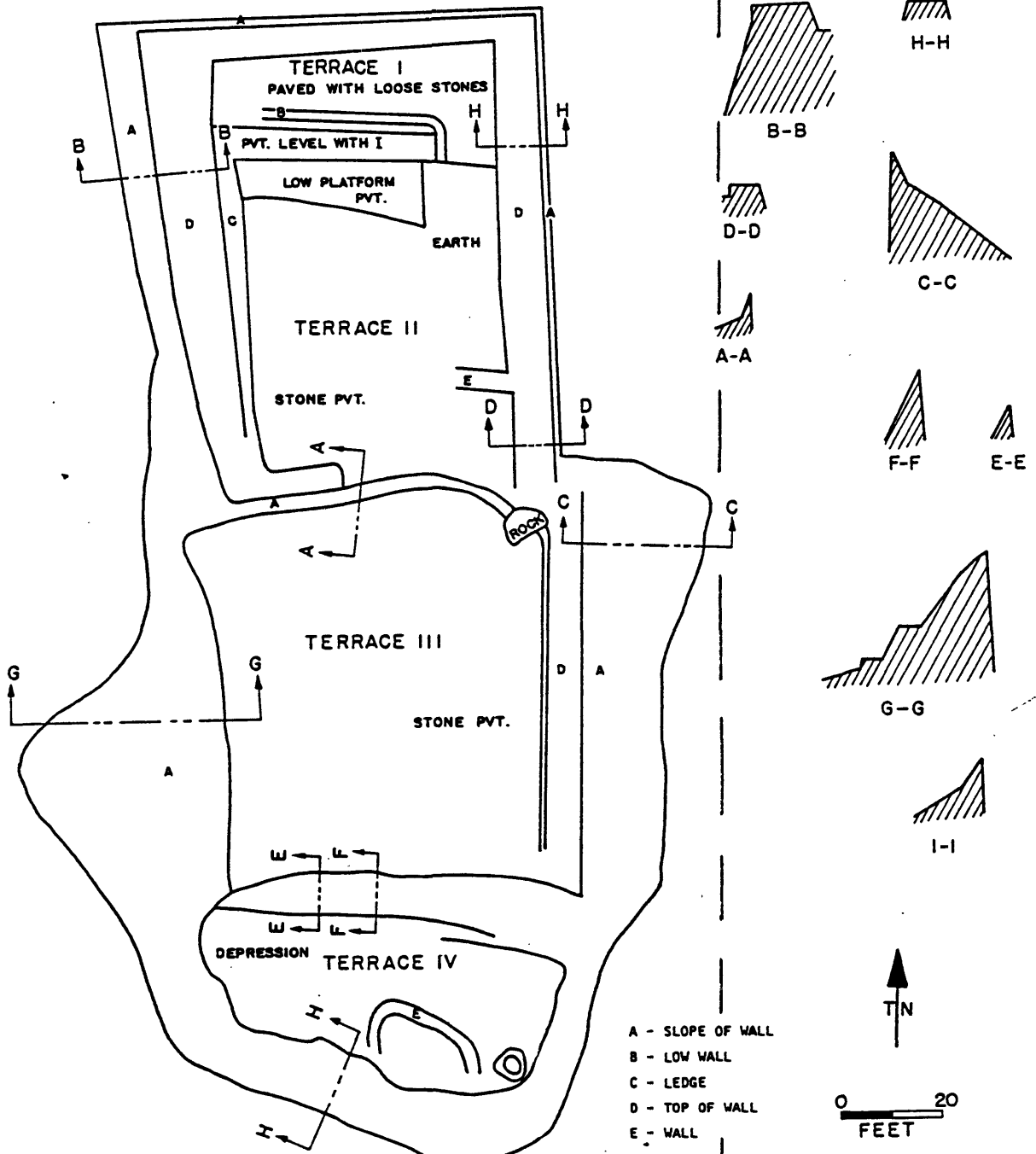
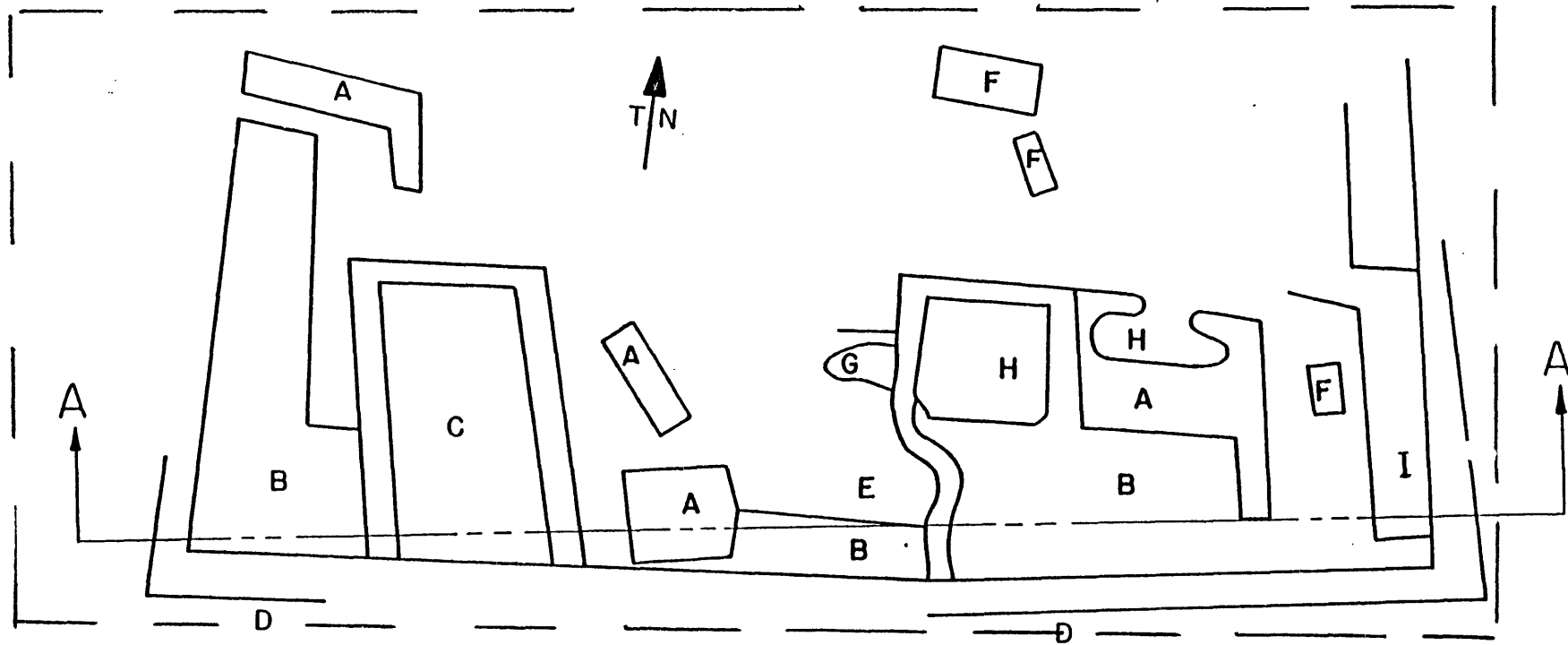
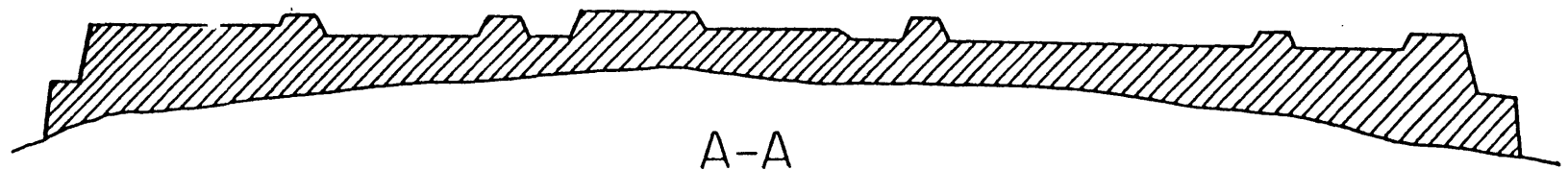


Figure 3: Plan and Cross Sections of Kahokukano Heiau (Plan by Stokes, 1909)

NHL BOUNDARY



0 20
FEET



A-A

- | | |
|--|-----------------------|
| A - PLATFORM | E - FILLED GROUND |
| B - STONE PAVEMENT | F - LOW PLATFORM |
| C - ENCLOSED PLATFORM PAVED WITH STONE | G - GRASS |
| D - RETAINING WALL, 7-8 FT HIGH | H - GRASSED ENCLOSURE |
| | I - WALL |

Figure 4: Plan and Cross Section of Pakui Heiau (Plan by Stokes, 1909)

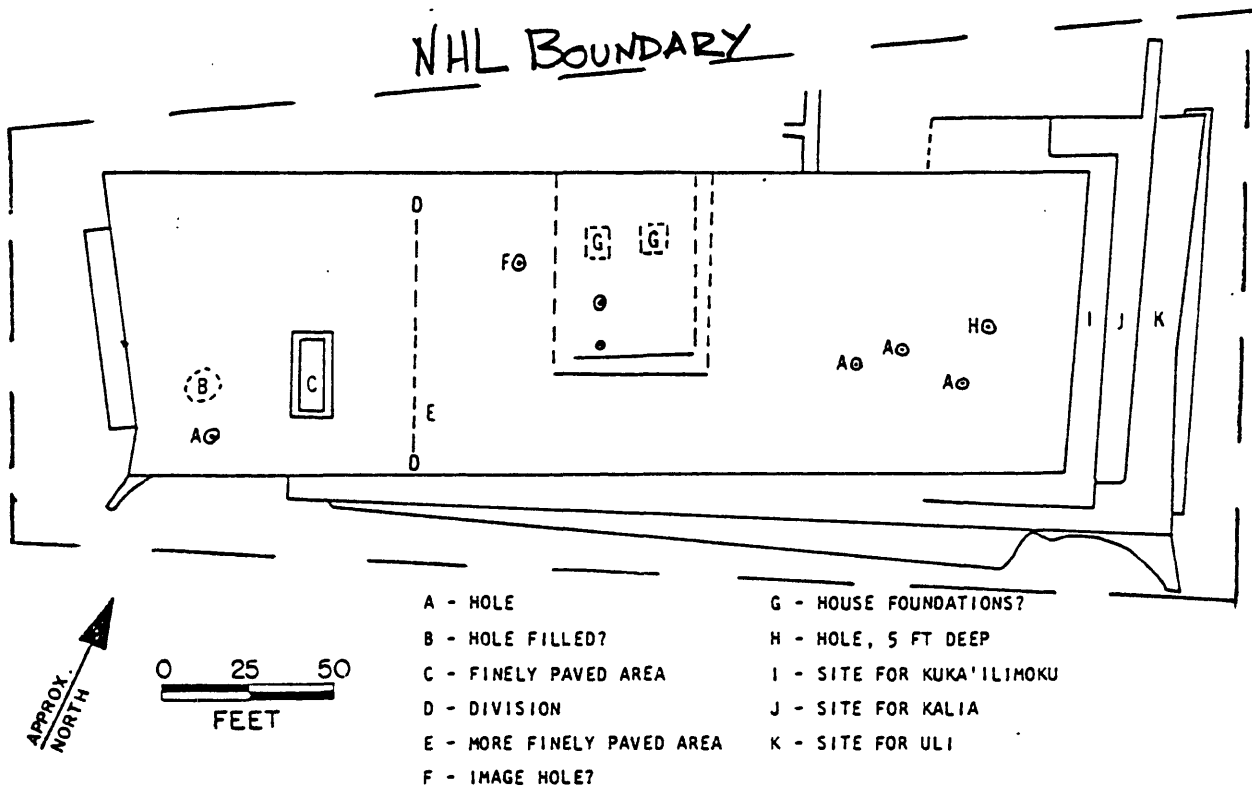


Figure 5: Plan of Ililiopae Heiau (Plan adapted from Stokes, 1909, and Emory, 1952)

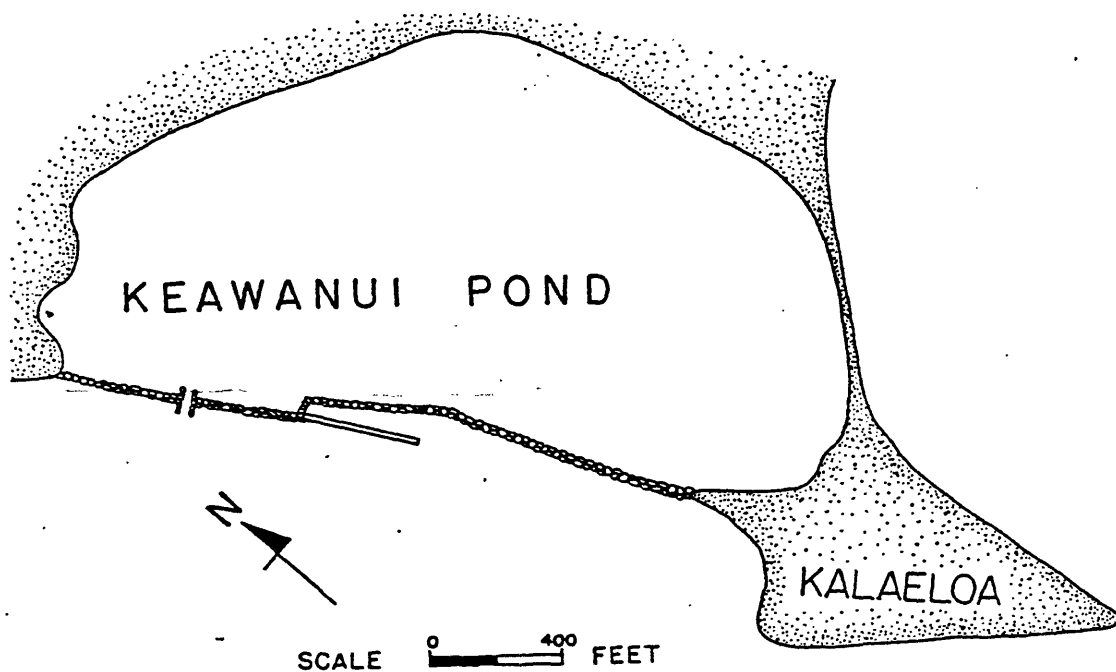


Figure 6: Plan of Keawanui Pond (Plan by Evans 1937)

Note: Boundaries are plotted on Map A because the above scale appears inaccurate and cannot be reconciled with the scale of the USGS Kamalo, Hawaii 7.5' Quadrangle.

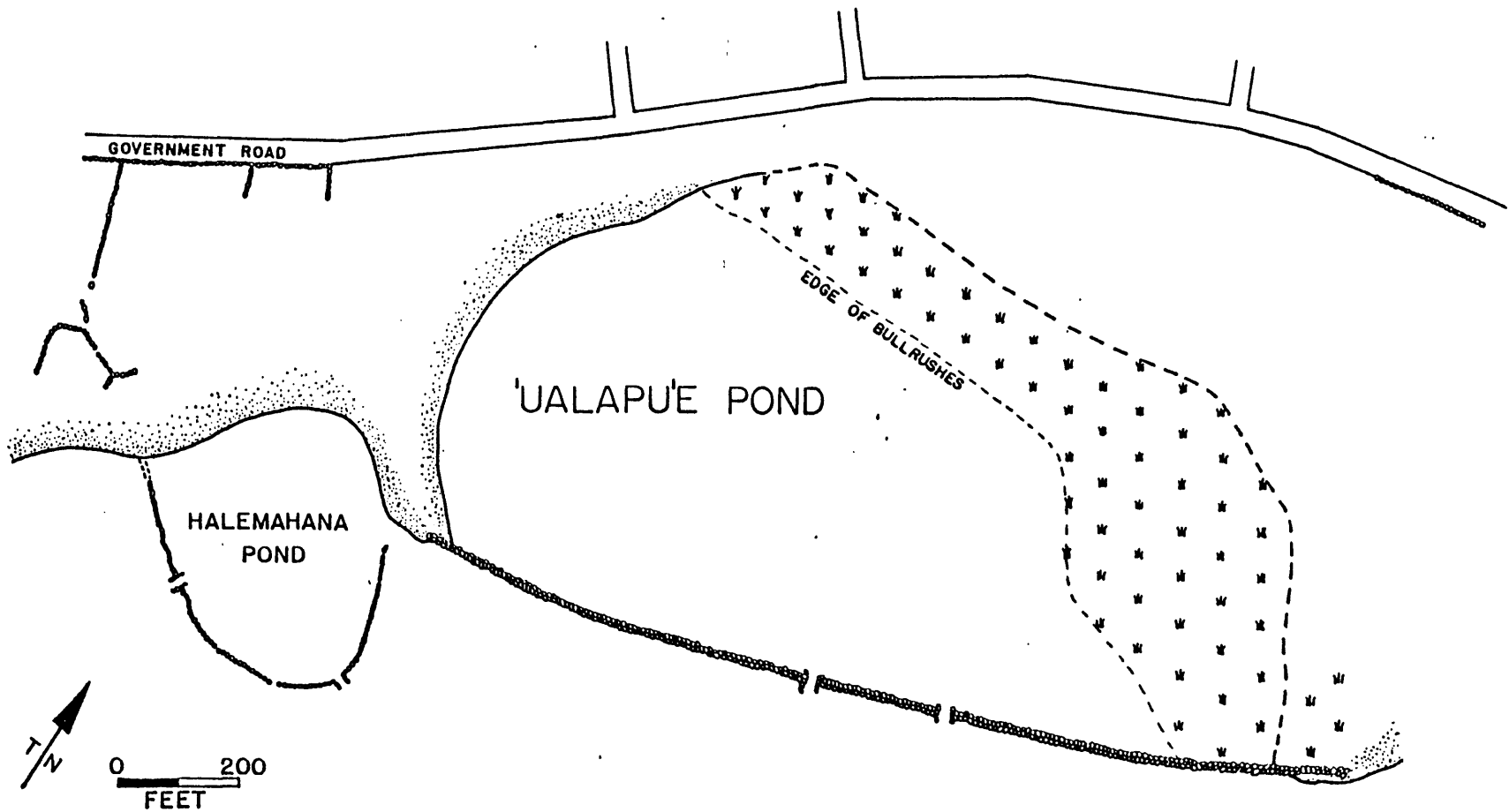


Figure 7: Plan of Ualapue Fishpond (Plan by Evans 1937)

Note: Boundaries are plotted on Map A because the above scale appears inaccurate and cannot be reconciled with the scale of the USGS Kamalo, Hawaii 7.5' Quadrangle.

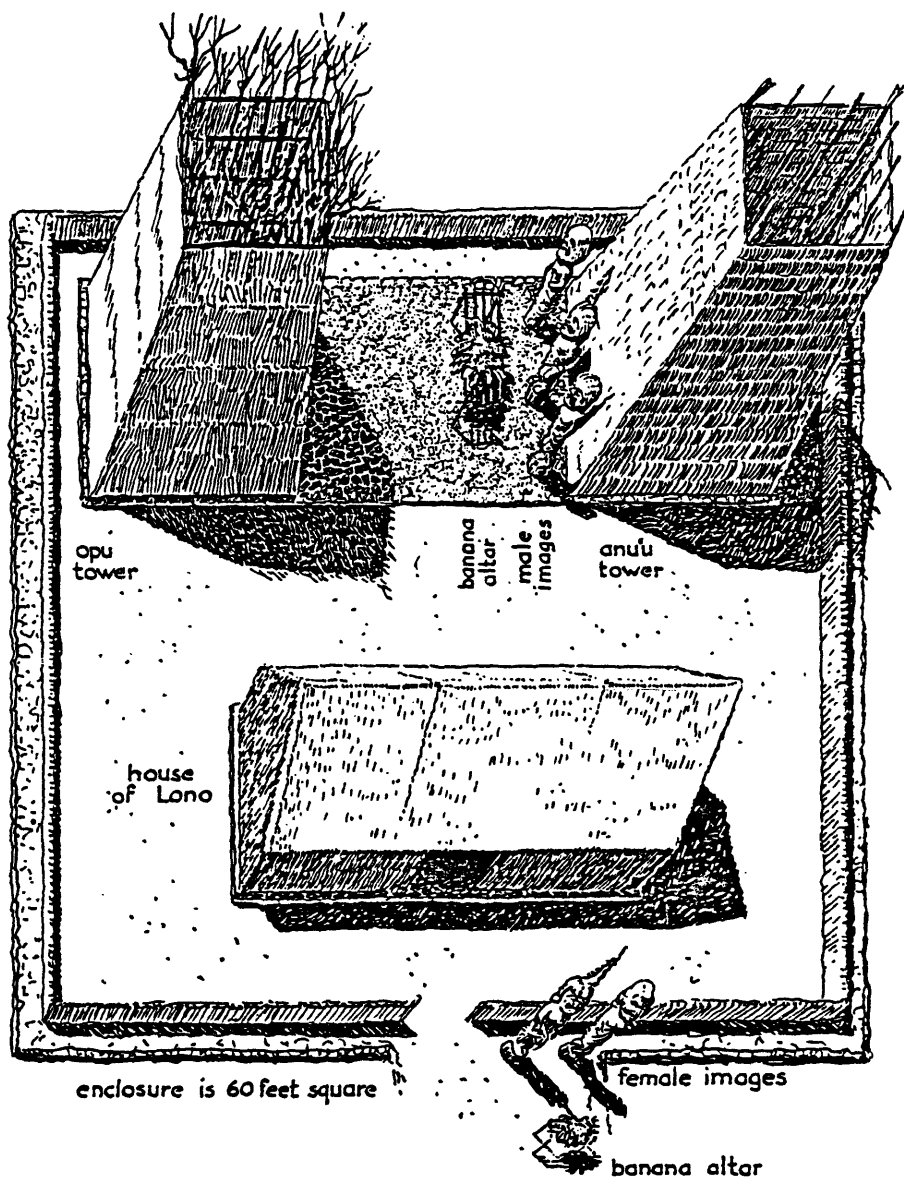


Figure 8: A Hale o Lono, depicted by Bishop Museum artist Paul Lockwood (Ii 1959:57)

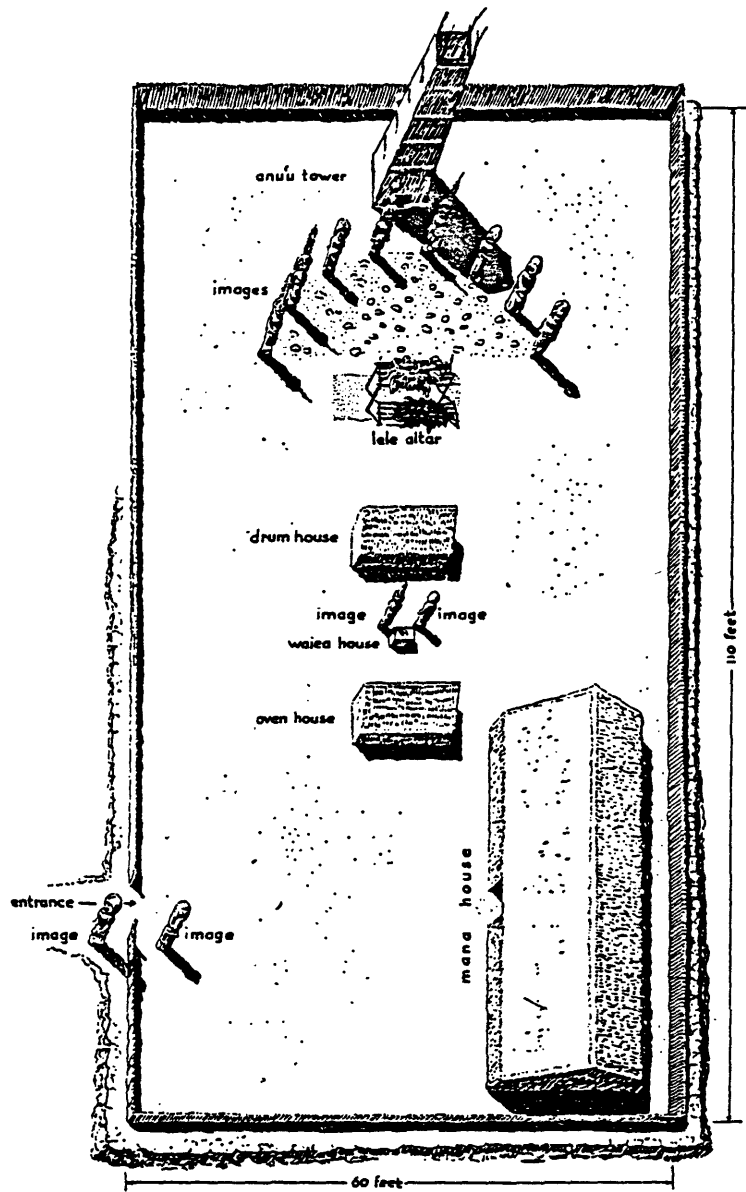


Figure 9: A luakini heiau, depicted by Bishop Museum artist, Paul Lockwood (Ii 1959:34)

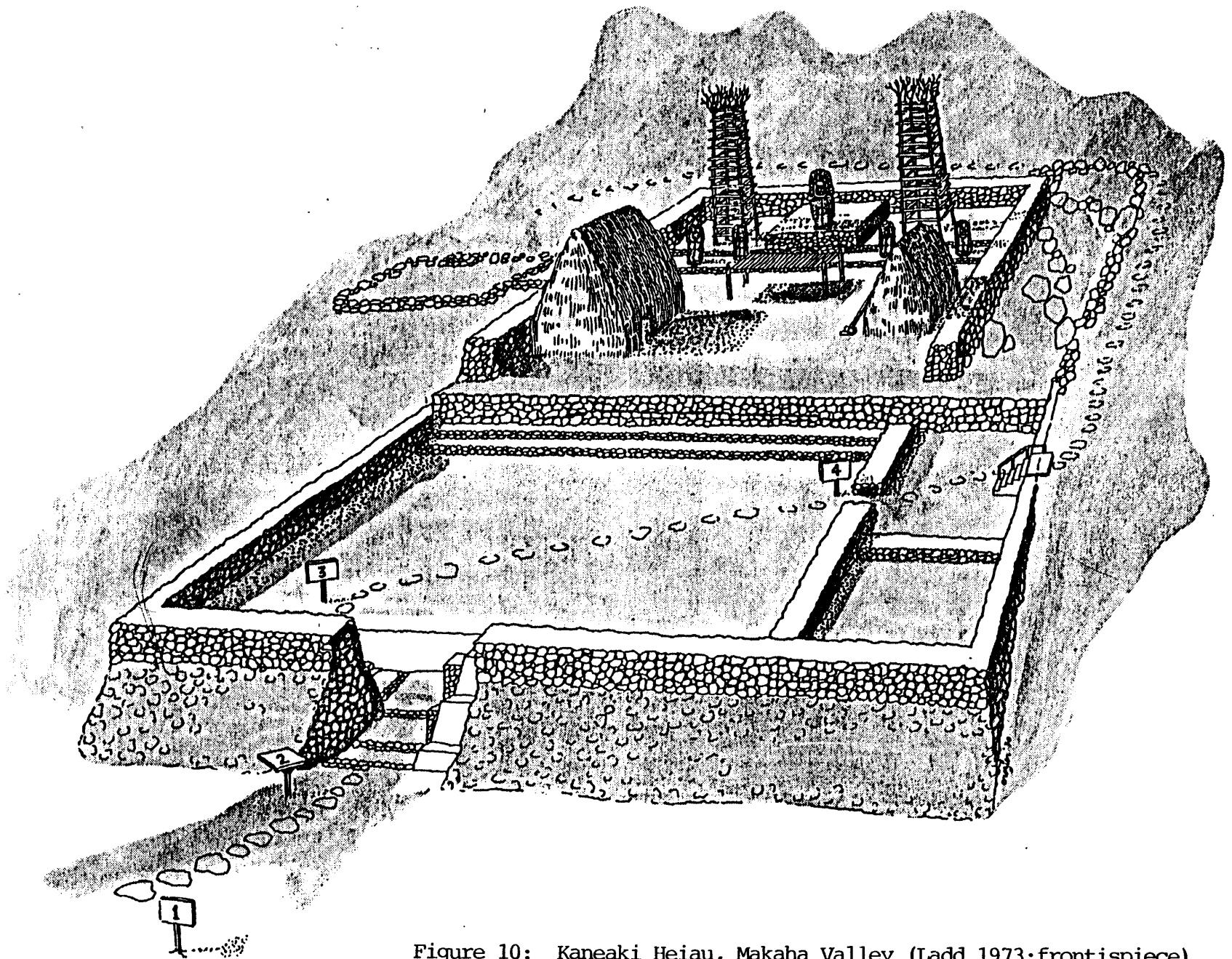


Figure 10: Kaneaki Heiau, Makaha Valley (Ladd 1973:frontispiece)

Table I Hokukano-Ualapue NHL Architectural Summary

Site	Size/Square Feet	Structural Features	Functional Type
Kukui Heiau	170 x 120 ft. (20,400 sq ft.)	Collection of enclosures and low platforms (Figure 1).	Stokes (n.d.a:2) disputes that it is an agricultural temple. Size suggests <u>luakini</u> .
Pu'o'Olelo Heiau	145 x 74 ft. (10,730 sq. ft)	Rectangular platform built walled enclosure (Figure 2).	Size and location suggests <u>luakini</u> .
Kaluakapi'Ioho Heiau	Terrace: 54 x 24 ft. Platform: 96 x 33 ft (4,464 sq. ft.)	Rectangular platform built on slope with massive retaining wall. One terrace 1 ft. higher than platform.	Probably a <u>luakini</u> because Oahu chief Kapioho allegedly was sacrificed here by Kumuko'a. (Stokes n.d.a:3,4).
Kahokukano Heiau	200 x 80 ft. (16,800 sq. ft.)	Rectangular structure with terraces; upper two walled on west; no walls on east (Figure 3).	Probably a <u>luakini</u> . Thrum (1909b:53) says four chiefs associated with the temple including paramount chief Kumuko'a who sacrificed Oahu chief Kapioho.
Pakui Heiau	185 x 85 ft. (15,725 sq. ft.)	Rectangular platform with internal activity areas and low platforms (Figure 4).	At various times a <u>luakini</u> , place of refuge, and/or a fortress (Thrum 1909a:40; Kazakau 1961:22). Associated with Chief Pakui and Kiha-a-Piilani of Maui.
Kalaunokukui Heiau	Var: 120 x 80 ft. (Thrum 1909a:40) 125 x 85 ft. (Summers 1971:119) (9,600 to 10,625 sq ft.)	Referenced as a walled heiau (Thrum 1909a:40) NPS 1962 registration form refers to it as a "small platform heiau."	Thrum (1909a:40) suggested this was an agricultural temple.
Iliiliopae Heiau	286 x 87 ft. (24,882 sq. ft.)	Massive rectangular platform with three step terraces. (Figure 5).	Construction attributed to Kupa, with later rebuilding by Kaalaohua. Functioned alternately as a center for priestly training, a Lono temple, and a <u>luakini</u> . (Thrum 1906b:49-52; Stokes n.d.a:8-9).