



NEW ZEALAND  
ARCHAEOLOGICAL  
ASSOCIATION

**NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER**



This document is made available by The New Zealand Archaeological Association under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

To view a copy of this license, visit  
<http://creativecommons.org/licenses/by-nc-sa/4.0/>.

## THE HALAWA VALLEY PROJECT

### A Preliminary Report

Patrick V. Kirch  
University of Pennsylvania

#### INTRODUCTION

Previous archaeological work on Molokai, the fifth largest island of the Hawaiian group, consists of a survey of its fishponds by Summers (1964), an investigation of sites on the western end by Bonk (1954), and a survey of religious structures or heiau by Stokes (1909). Along its northern coast are four great valleys, Waikolu, Pelekumu, Wailau and Halawa, the only indentations in otherwise precipitous cliffs which descend directly into the sea. The last of these valleys was the focus of a coordinated archaeological programme during June through August 1969, sponsored by the University of Hawaii and the B. P. Bishop Museum. The programme was initiated primarily through the efforts of Dr Roger C. Green, and fieldwork was carried out by Gilbert H. Hendren (Harvard University), Patrick V. Kirch, and Thomas Riley (University of Hawaii) under the supervision of Green and Dr Henry Lewis; assisting were K. Alexander, D. Hendren, M. Rodrigues, and S. Suyat. Financial support was provided by the National Science Foundation, the University of Hawaii, and Harvard University. The purpose here will be to indicate what sorts of archaeological research were conducted and what kinds of results have been forthcoming, preliminary to the completion of the detailed reports by Hendren, Kirch, and Riley.

Halawa Valley, oriented due east, is roughly three kilometers long and from one to one-half kilometer wide. The coastline of the valley is variegated, consisting of rocky, sandy, and lagoon-like habitats. A large stream meanders through a fertile alluvial floodplain at Halawa's mouth. The climate is semi-tropical and rainfall varies from 20 to 60 inches moving from the coast to the interior. Six 'ecological zones' or 'micro-environments' were delineated: (1) bay and ocean; (2) littoral zone; (3) alluvial floodplain; (4) inland valley slopes; (5) mountainous interior; (6) Halawa Stream.

Several features make Halawa a model location for a study of aboriginal Hawaiian settlement patterns and ecological adaptation. First, the valley is a discrete physiographic unit, isolated from other

such units. Second, it is historically known to have been the setting for a well-developed system of wet taro agriculture. Third, the valley formed a distinct political and social unit, known as an ahupua'a. The ahupua'a was traditionally self-sufficient and ran from the mountains to the sea, thus including segments of many different ecological niches.

The project was the outgrowth of several reconnaissance surveys and test excavations carried out from 1963 to 1968 by Kirch. The research programme built upon the knowledge gained from this initial fieldwork, and was basically centred around a settlement pattern - ecological approach. The project was thus designed so as to complement the data obtained by the Makaha Valley Project of the B. P. Bishop Museum (Green 1969) and the Lapakahi Project of the University of Hawaii (Newman 1968).

#### MAJOR FIELD PROGRAMMES

The first portion of the field programme, carried out by Kirch, continued his surface survey of archaeological sites throughout the entire valley begun in previous field sessions. It was realized early during the field season that complete coverage of all sites was not feasible during the time allotted; hence this programme concentrated on the delineation of major types of archaeological features and their broad patterns of distribution. The resulting data may now be compared to the detailed study of settlement, land use, and agricultural systems in a single land division (Kaio) done by Hendren and Riley. Thus far, our surface survey data has resulted in a large-scale map showing all known wet taro terraces, irrigation ditches, religious structures, and perhaps as many as one-third of the residence structures. Detailed data on these features has been coded on an edge-sort matrix-index system and is presently undergoing attribute cluster analysis.

The detailed study of the land division known as Kaio, on the southern slopes of the valley constituted a second major focus of the field programme and consisted of two parts. Hendren excavated a number of residence structures, further refining the typology of these features and adding data on the delineation of prehistoric - historic acculturation in terms of changing residence patterns. An interesting find was the discovery of two prehistoric flexed primary burials within occupation sites. Artefacts and midden were sparse, but included such items as adzes, grindstones, flakes, and a tentatively identified war-club head. It seems to be significant that no C-shaped field shelter habitations were found as in the lower Makaha Valley (Takayama and Ladd in Green 1969), and that terraced residence sites have been demonstrated to be prehistoric. The second part of the Kaio investigations, conducted by Riley, consisted of mapping and excavation of the agricultural system. Trenches were cut across wet terraces, irrigation ditches, and dry

(non-irrigated) terraces. An extremely well-developed paddy soil structure was found in the irrigated terraces. As well, Riley now considers it possible to postulate a sequence of swidden to wet agriculture, which is to some extent corroborated by evidence from coastal sites. In sum, the investigations at Kaio have provided an integrated picture of residence patterns and some indications of the development and functioning of the agricultural system within one subdivision of Halawa. This provides the basis for a series of hypotheses for future testing in other locations throughout the valley, and in other parts of the island.

We are fortunate in having a large amount of data on religious sites (heiau), collected by J. F. G. Stokes in 1909. Kirch followed up these investigations with additional mapping and test excavations at four heiau sites. An architectural sequence for these sites from platforms or terraces to terraces with stepped-facings has been postulated on the basis of this data, and should provide a framework for additional research. Further, it is thought that a number of these structures may be correlated with descent groups, or 'ohana.

Investigations by Kirch were also carried out at a series of archaeological deposits along the beach area fronting the littoral zone, bay, and coast. Excavations focused on site A1-3, where a well-developed stratigraphic sequence was known to exist. Two prehistoric beds were uncovered, along with a number of artefacts and midden samples. Noteworthy among the artefacts are two adzes of Duff type 2A. No radiocarbon dates are yet available, although considerable datable material was collected. Midden analysis indicates the effects of human-induced pressure on the prehistoric populations of mollusca, crustacea, fish, and birds. Petrographic analysis of adze-rock suggests that fine-grained olivine basalts from at least one documented adze quarry on West Molokai were being utilized. Another site, A1-4, seems to be an alluvial fan resulting from a sequence of local erosion induced by aboriginal deforestation.

In addition to the abovementioned investigations, test excavations were continued by Kirch at site A1-19, in Halawa-iki, a terraced habitation site constructed and occupied during the early historic period. The lower portions of an extensive agricultural system at Halawa-iki were also mapped, but much further investigation in this area is needed.

#### SUMMARY

The Hawaiian Islands provide a wide range of regional micro-environments, most of them exploited prehistorically by the Hawaiians.

They range from isolated and relatively dry islets like Nihoa, through various valley systems like Makaha, where some parts are dry and others wet, to land strips like those at Lapakahi where the coast is arid and the dry agricultural zone some distance inland. In this context, Halawa provides an example of an opposite extreme, a well-watered wet valley in which an irrigated agricultural system was firmly established. The field programmes of the 1969 Halawa Valley Project, briefly described above, have provided some tentative hypotheses which allow us to begin to understand adaptations in settlement pattern and economy which have structured the exploitation of this type of environment within the Hawaiian Islands.

#### REFERENCES

- Bonk, William J. 1954 "Archaeological Excavations on West Molokai", Master's Thesis, University of Hawaii.
- Green, Roger C., ed. 1969 Makaha Valley Historical Project: Interim Report No. 1, Pacific Anthropological Records, No. 4.
- Newman, T. Stell 1968 "The Archaeology of North Kohala: The Ahupua'a of Lapakahi, A Progress Report on Archaeological Research", State Parks Journal, 68-2, Division of State Parks, Hawaii.
- Stokes, John F. G. 1909 "Heiaus of Molokai", MS, B. P. Bishop Museum Library.
- Summers, C. 1964 Hawaiian Archaeology: Fishponds. B. P. Bishop Museum Special Publication, Honolulu.