Project Kāhea Loko

"The Call of the Pond"

A Teacher's Guide to Hawaiian Fishponds
Grades 4 - 12

Produced by

The Pacific American Foundation
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Funding provided by the
U.S. Department of Education, Native Hawaiian Education Act
Grant No. S297A000013

The contents of this Teacher’s Guide were developed under a grant from the Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and readers should not assume endorsement by the Federal Government.

Partial support for this project was obtained from the State of Hawai‘i Department of Agriculture Aquaculture Development Program (ADP) as part of the Aquaculture Extension Project with the University of Hawai‘i Sea Grant Extension Service, Contracts No. 48499 and 49855.

Additional funding provided by a grant from the National Oceanic and Atmospheric Administration, project #A/AS-1, which is sponsored by the University of Hawai‘i Sea Grant College Program, SOEST, under Institutional Grant No. NA16RG2254 from NOAA Office of Sea Grant, Department of Commerce. The views expressed herein are those of the author(s) and do not necessarily reflect the views of NOAA or any of its subagencies. UNIHI-SEAGRANT-CR-02-01.

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Acknowledgements

Many people contributed to Project Kāhea Loko from the earliest stages of conceptualization through the field-testing and implementation. The project team extends a heartfelt mahalo to David Cooper, President of Pacific American Foundation, for his guidance and aloha throughout the project; to Colleen Murakami, Environmental Education Specialist of the Hawai‘i Department of Education (DOE), for her overall guidance and assistance with the curriculum development, video production and workshops for teachers; and to Puanani Wilhelm, Administrator of the DOE Hawaiian Studies and Language Programs Section, for assistance with the curriculum framework.

Mahalo nui loa to Sandi Zikcus, Dr. Robert J. “Joe” Moye and Kanani Aton for their assistance with conceptualizing the initial curriculum framework and helping to draft some of the early activities; to Zennie Sawyer and Tania Will for their exceptional work during the field test process; to Penny Martin for facilitating workshops and being the shining light on the project’s video; and to all of the teachers, consultants, and resource people who contributed their mana‘o to the development and implementation of Project Kāhea Loko.

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Project Kāhea Loko

Introduction

"Let that which is unknown become known."

John Papa li (1959)

Let us not allow the broken walls of the loko i'a (fishponds) to separate us from that which was known and practiced in the past. The foundations of the walls are still evident, as are the wisdom and knowledge of our kūpuna. The reflections of the sun, moon, and stars upon our waters are as old as time. Let these be beacons of light to guide our haumāna (students) to these ponds of knowledge. Let us help them rebuild the walls of these living resources where they can gather, as did the pua i'a (fish fry), to grow and be nurtured. With education and inspiration, the legacy of our ancestors can be preserved and passed on to future generations, a mau a mau, (forever and ever).

Christine Tamaru (2001)

Project Overview

Kāhea Loko is “the call of the pond.” From the ocean currents surging through the stone-walled channels to the excited cries of haumāna (students) discovering fishpond life, the loko i'a (fishpond) calls to us in many ways. From the broad perspective of the ahupua'a (major land division), the loko i'a helps us to appreciate the connection between land and sea and to experience the rhythm of tides and seasons. From an intimate perspective, the pond leads us to discover how the tiniest life forms fit into the web of pond life.

The loko i'a calls to us to honor the values, traditions, and achievements of Hawaiian kūpuna (ancestors) so that we may incorporate these into our own lives. These kūpuna had the highest regard for the loko i'a believing in the interrelationship of all things: sky and earth; ocean and land; land and human; human and gods. “The Hawaiian and all other natural forms of his world were the beneficiaries of this primal cadence and flowed with the rhythm of the universe” (Kanahele, 1997). The Hawaiians’ intimate knowledge of life cycles, seasonal rhythms, and tides and currents was the foundation for the remarkable engineering feats they achieved in the construction of loko i'a.

Hawaiian kūpuna revered the mauli (life force) of the fishpond. This humility and respect for all things, living and nonliving, helped them to be pono or in balance with nature. Values such as mahalo, aloha, and mālama had multiple meanings for these kūpuna, and these values were deeply imbedded into the culture, language, and lifestyle.

It is our kuleana (responsibility) as teachers to enlighten our students — using these values within contextual frameworks such as the loko i'a so that our haumāna can connect with and nurture that life force inside themselves and in their environment. The overall goal of Project Kāhea Loko is mālama i ka 'āina (to care for the land) — to help our students understand why it is so important to conserve cultural and natural resources and to discover how we can restore and care for our historic fishponds.
To achieve that goal, Project Kāhea Loko developed a complete set of field-tested curricula for Grades 4 - 12 designed to meet selected academic and performance standards set by the Hawai‘i Department of Education (DOE). The project seeks to incorporate Hawaiian fishponds (loko i‘a) as learning tools into the mainstream educational system for Hawai‘i’s school children. Working in concert with other fishpond projects, teachers, pond operators, historians, Hawaiian language and cultural experts, the Kāhea Loko team has collected and organized fishpond-related cultural, historic, and scientific data into culturally appropriate curriculum units for use in Hawai‘i’s schools. Project Kāhea Loko is a three-year project funded by the U.S. Department of Education and administered by the Pacific American Foundation.

Organization of Teacher’s Guide

Each unit begins with an introduction that includes background information on the content covered for Grades 4 - 12. A conceptual framework for each grade level cluster, 4 - 5, 6 - 8, and 9 - 12, separates the activities within each unit. These frameworks include the social studies and science standard benchmarks that form the basis of the materials, the focus questions for each instructional activity, key concepts and a summary of activities to assess student achievement. The frameworks are followed by culminating activities that challenge students to apply what they have learned in the units. Sample rubrics to assess student achievement are also provided. These rubrics will be most effective if students are involved in the decision-making on the criteria that will ultimately be used to assess their work, and if students view the criteria as a challenge to strive for their best work. See the Appendices for more information on creating rubrics with students and using portfolios for assessment of students’ work.

Unit 1 The Physical Setting

Hawai‘i DOE Social Studies Standards

- World in Spatial Terms
- Places and Regions
- History: Change, Continuity, Causality

Hawai‘i DOE Science Standard

- Using Unifying Concepts and Themes

Unit Overview

The instructional activities in Unit 1 help students to discover different types of fishponds and fishtraps and to understand how these structures were built to take advantage of different physical features within an ahupua‘a. A Pacific island perspective is introduced in Grades 6 - 8 as students delve into questions about the extensive development of fishponds in Hawai‘i compared to other island areas.
Unit 2 Life in a Fishpond

Hawaii DOE Science Standards
- Cycle of Matter and Energy Flow
- Organisms and Development: Interdependence
- Scientific Inquiry
- Earth in the Solar System
- Mālama I Ka ʻĀina: Conservation of Resources

Unit Overview
Unit 2 introduces students to the diversity of plants and animals that live in a fishpond. Activities help students investigate interdependence among species, how lōkahi (balance) is maintained in the pond, and how marine organisms respond to seasonal and tidal changes.

Unit 3 Early Hawaiian Fishponds

Hawaii DOE Social Studies Standards
- Cultural Systems
- Historical Empathy
- Historical Inquiry
- History: Change, Continuity, Causality

Hawaii DOE Science Standard
- Mālama I Ka ʻĀina: Sustainability

Unit Overview
The activities in Unit 3 help students to explore how fishing evolved in Hawai‘i from catching to growing fish, the ingenuity involved in fishpond engineering, and what traditional practices and moʻolelo (legends) can teach us about values that are important in Hawaiian culture.

Unit 4 Fishponds Today

Hawaii DOE Science Standards
- Habits of Mind
- Mālama I Ka ʻĀina: Sustainability
- Scientific Inquiry

Hawaii DOE Social Studies Standard
- Citizenship/Participation

Unit Overview
Unit 4 challenges students to assess how fishponds and their uses have changed in Hawai‘i, and to debate issues related to fishpond restoration today. The unit includes field studies at a fishpond and culminating activities that build on content addressed in the first three units.
Appendices

The Appendices include a Glossary that defines all of the vocabulary listed for each activity, a set of pond life cards featuring the plants and animals that live in fishponds, a list of suggested field trip sites and resource people to assist with field trips, and a list of suggested resources for further study of fishponds and fishtraps. There is also a section on rubrics and portfolios for assessing students' work.

Field Trip Notes

The concepts presented in this guide will come alive for students when they visit a fishpond and apply what they have been investigating in the classroom. Suggestions for organizing the field trip are included in Unit 4. Unit 1 in Grades 9 - 12 also includes a field study. If high school classes are unable to participate in two field trips, field activities from Units 1 and 4 could be combined. Data sheets for a fishpond exploration are included in these units. The pond life cards in the Appendices are also a useful resource for field studies.

Website and Video Resources

For more information about Project Kāhe Loko, visit the Pacific American Foundation Website at www.thepaf.org. The Website provides students and teachers with photographs and information about fishponds around the state. Ultimately, the goal is to provide a link to facilitate the sharing of culminating projects with other schools. In this way, students throughout the state will contribute to a growing body of knowledge about fishponds in Hawai'i.

Project Kāhe Loko has produced a video, “Kāhe Loko: The Call of the Pond” to introduce students to loko i'a in Hawai'i. The video features students learning from Hawaiian kūpuna and fishpond managers about different types of ponds, how the loko i'a function, and what is being done to mālama (care for) fishponds today. Copies of the video can be obtained from the Pacific American Foundation (www.thepaf.org) or from the Hawai'i Department of Education Teleschool Office (808) 837-8004.

Kāhe loko—the call of the pond—beckons to you and your haumāna (students) to join us in a discovery of loko i'a.