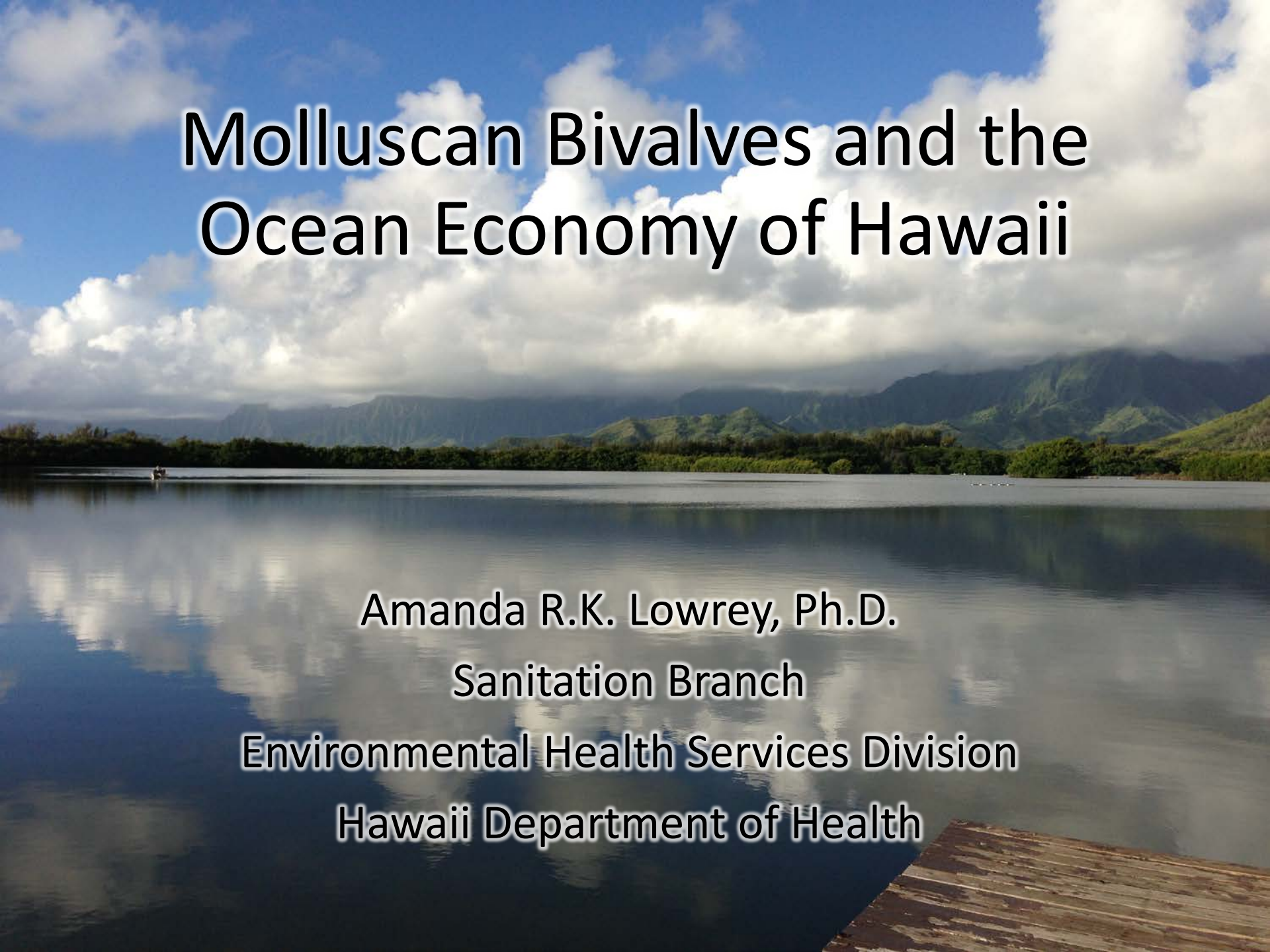

Molluscan Bivalves and the Ocean Economy of Hawaii

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Sanitation Branch
Environmental Health Services Division
Hawaii Department of Health

Look, Ma…I'm a meme!!

Management Priority #6

- Increase in viable classified shellfish growing waters
- Increase in permitted commercial shellfish operators
- Increase in number of pounds of shellfish sold to local markets/restaurants in Hawai`i
- Increase in number of pounds of shellfish exported out of Hawai`i

What counts as shellfish?

- Oysters, Clams and Mussels
  - Whole, in shell, half-shell, shucked
  - Post-harvest processed including pasteurization, high hydrostatic pressure and irradiation (PHP/HCP/HHP/UHP)
- Scallops
  - In-shell or roe attached
- Live, fresh or frozen
- Raw

Regulation Guidelines

- Hawaii Administrative Rules Title 11 (DOH)
  - Chapter 35 Shellfish Sanitation
  - Chapter 50 Food Safety Code
- Interstate Shellfish Sanitation Conference (ISSC)
  - National Shellfish Sanitation Program (NSSP) Model Ordinance (MO) updated biennially
- FDA Interstate Certified Shellfish Shippers List (ICSSL) updated daily (dynamic) and monthly

How does FDA regulate shellfish?

- Laboratory & LEO certification
- ICSSL—update list daily/monthly
- State and International Co-operative Program
  - Annual Program Evaluation Report
  - Program Element Evaluation Report
    - Growing Area Classification and Control of Harvest Element
    - Plant and Shipping Element
  - Standardization of State Shellfish Sanitation Officer
  - *Vibrio parahaemolyticus* and *vulnificus* management plans

How does DOH regulate shellfish?

- Growing, Wet Storage, Harvest and Distribution certification/FE permits
- Laboratory meat and water sample testing and certification of other labs by LEO
- Dealers
  - Interstate (Ch. 50, NSSP MO, HACCP)
  - Intrastate (Ch. 50, Ch. 35)
- Inspections/Inspectors
- Recalls and Embargoes

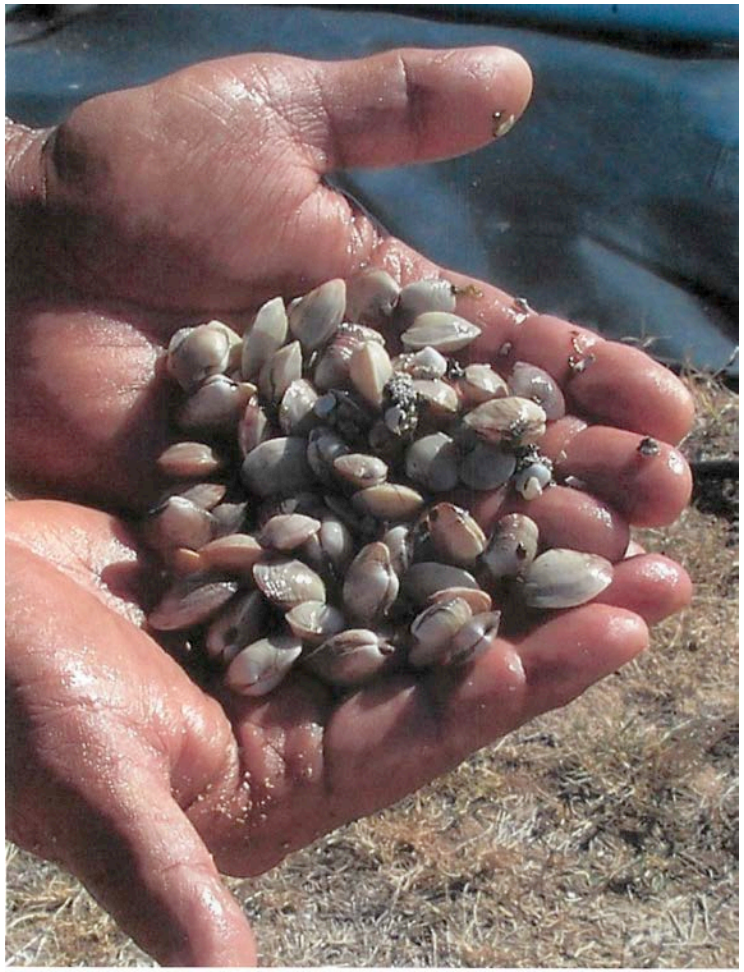
Shellfish Farming in Hawai`i

- Shellfish farms on Kauai, Oahu and Hawai`i
- Shellfish initiative headed by Dr. Maria Haws
- Dr. Bruce Anderson and Kualoa Ranch
- Certification of DOH personnel and lab
- Hatcheries on Hawai`i producing seed
- Bioremediation of Pearl Harbor using Kualoa Ranch oysters
- Hilo Bay

Sunrise Capital at Limaloa Farms

Photo courtesy of Kauai Shrimp Company

Polyculture in an artificial growing system at Kekaha



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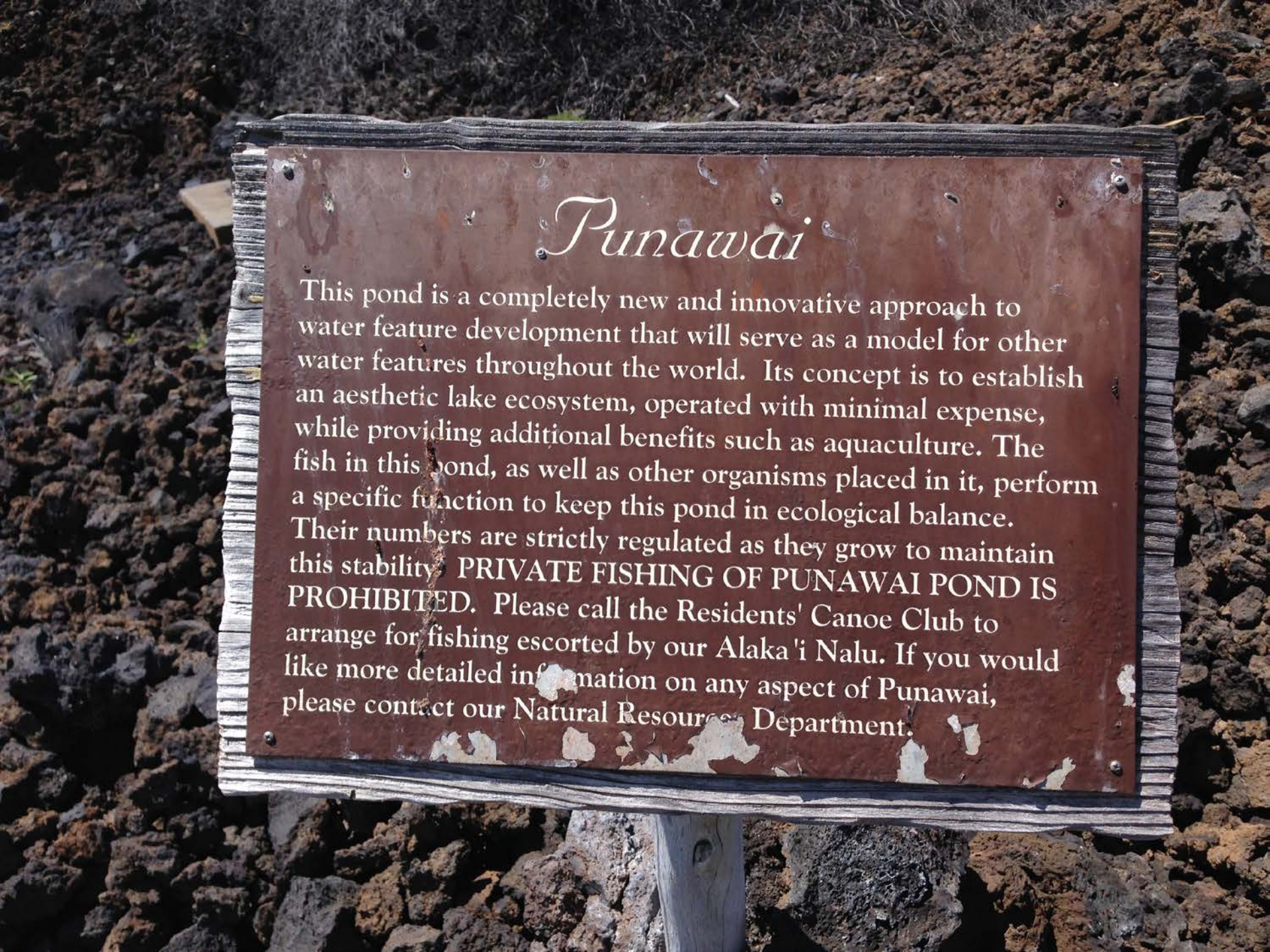
University of Hawaii at Hilo, PACRC

Lab photo by Brian Hampson, professor emeritus at California Polytechnic State University. To see more photos and learn more about the lab mentioned visit Hampson's Blogspot.

LOOK
FOR THIS

oyster harvest
only!


Punawai
This pond is a completely new and innovative approach to water feature development that will serve as a model for other water features throughout the world. Its concept is to establish an aesthetic lake ecosystem, operated with minimal expense, while providing additional benefits such as aquaculture. The fish in this pond, as well as other organisms placed in it, perform a specific function to keep this pond in ecological balance. Their numbers are strictly regulated as they grow to maintain this stability. PRIVATE FISHING OF PUNAWAI POND IS PROHIBITED. Please call the Residents' Canoe Club to arrange for fishing escorted by our Alaka'i Nalu. If you would like more detailed information on any aspect of Punawai, please contact our Natural Resources Department.

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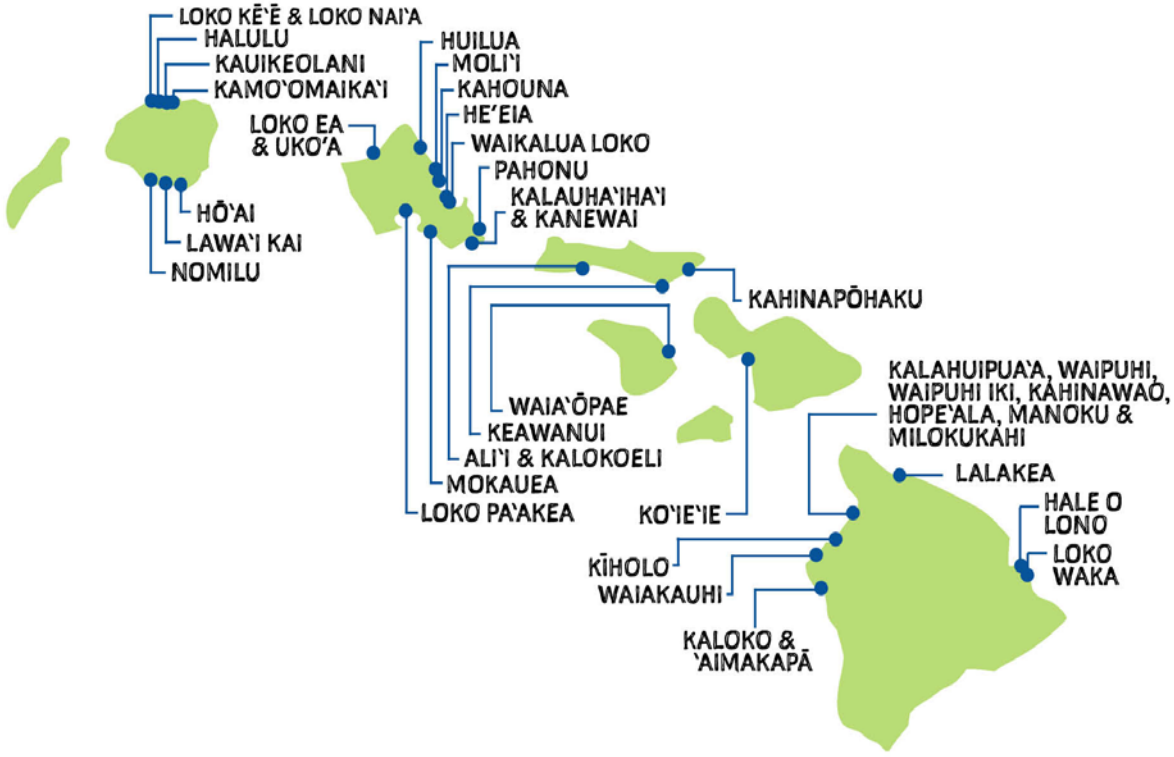
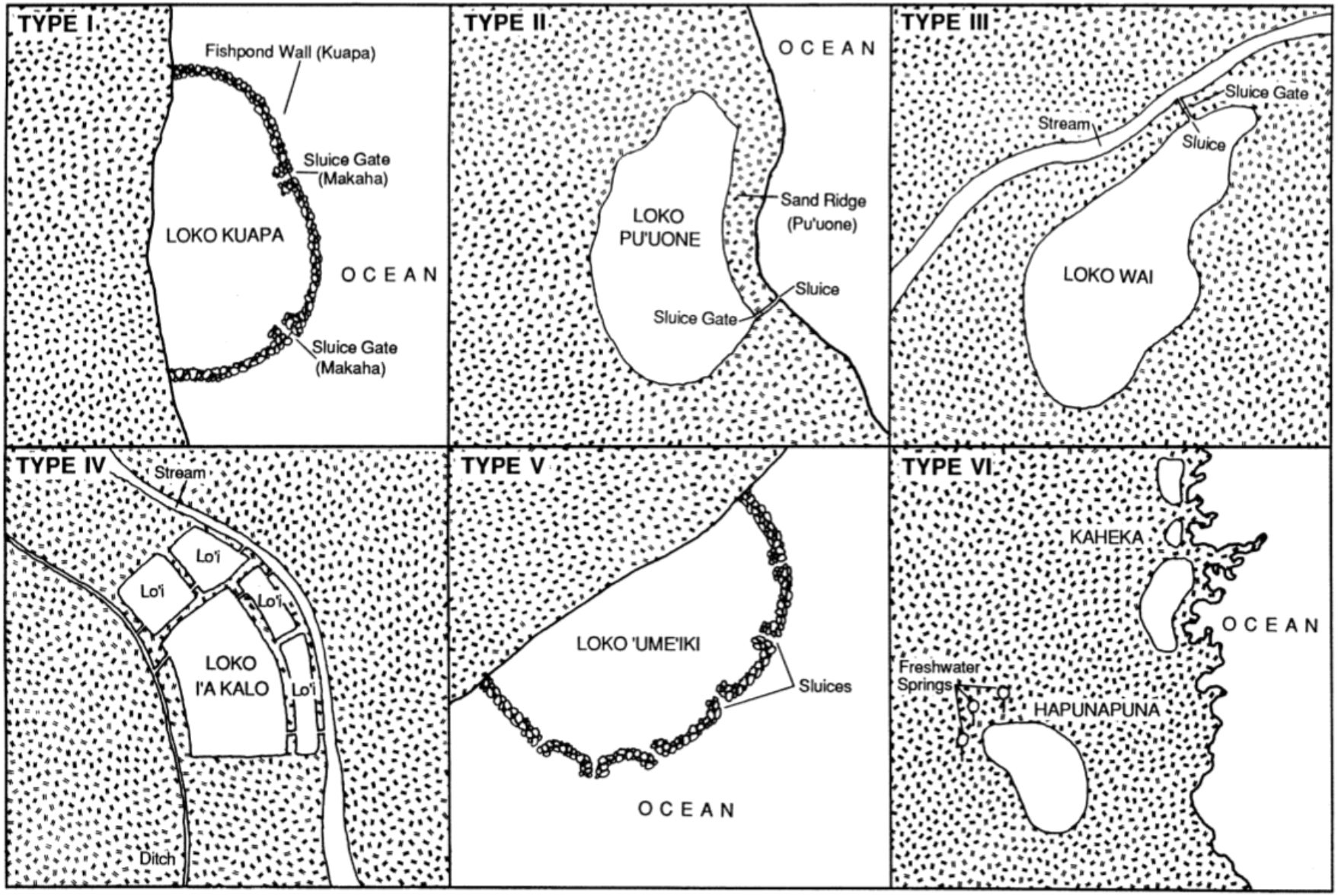
Modern Shellfish Farming in Ancient Hawaiian Fishponds

Hui Malama Loko I`a Members

- Loko i`a contribute to a healthy and robust food system of the ahupua`a
- Unique aquaculture systems that exist throughout Hawai`i
- Developed to optimize natural patterns of watersheds, nutrient cycles and fish biology
- Amongst South Pacific fishponds, Hawaiian loko i`a are unique because of the sluice gate (makaha)



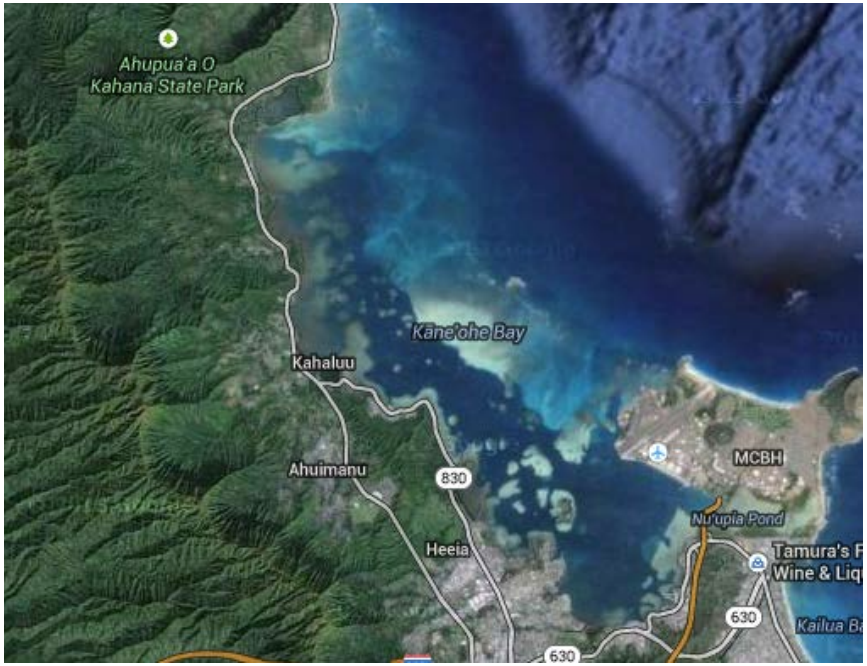


Modified from Apple and Kikuchi (1975) and Costa-Pierce (1987).

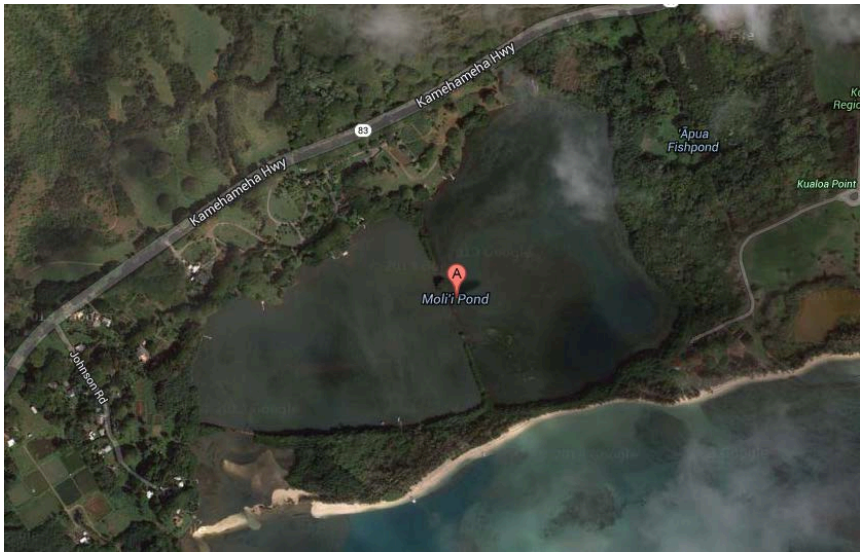
DHM Planners Inc., Bernice Pauahi Bishop Museum, Applied Research Group, Public Archaeology Section. Hawaiian Fishpond Study: Islands of Oʻahu, Molokaʻi and Hawaiʻi. Honolulu: DHM Planners, 1989.

Depuration

- Process of reducing the pathogenic organisms that may be present in shellstock by using a controlled aquatic environment as the treatment process

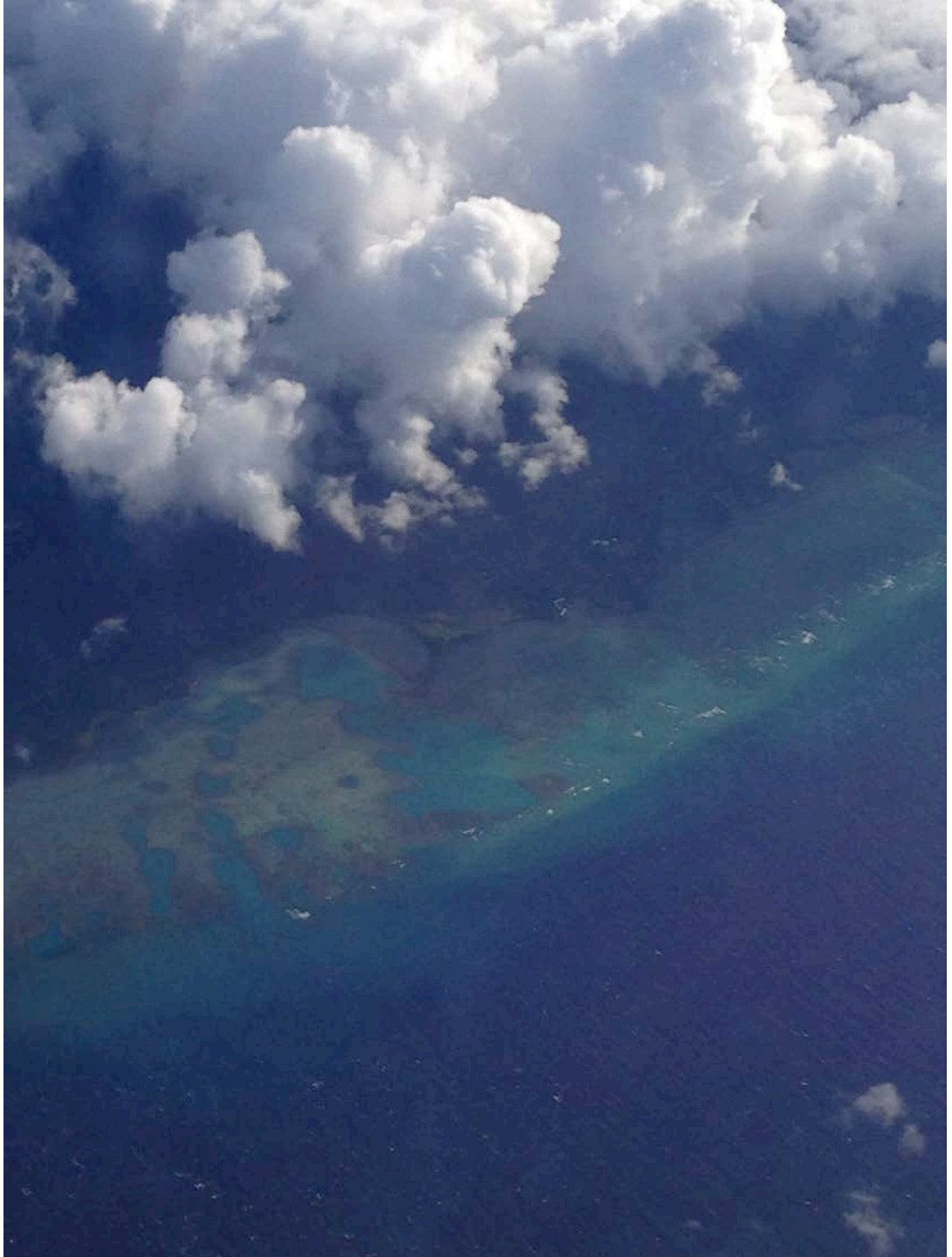


Images created with Google Maps



LIVING

Moloka`i—full of potential



Mahalo!

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