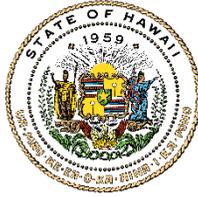


JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



**STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA**

P.O. BOX 621
HONOLULU, HAWAII 96809

**Testimony of
DAWN N. S. CHANG
Chairperson**

**Before the Senate Committee on
WATER AND LAND**

**Monday, February 12, 2024
1:00 PM**

State Capitol, Conference Room 229 & Videoconference

**In consideration of
SENATE BILL 2296
RELATING TO FISHPONDS**

Senate Bill 2296 proposes to appropriate funds to the Department of Land and Natural Resources (Department) to restore and restock fishponds by procuring fingerlings and limu and establishing one full-time equivalent (1.0 FTE) Aquaculture Coordinator Biologist VI position. **The Department supports this bill, provided that its passage does not replace or adversely impact priorities indicated in the Executive FY 2025 Supplemental Budget Request.**

Loko i'a, Hawaiian fishponds, are unique aquaculture systems throughout Hawai'i and are important components of the ahupua'a (traditional land stewardship framework) that contribute to a healthy, sustainable, and robust food system. Fishpond aquaculture can provide a sustainable source of local-grown fish for Hawai'i residents. Production of fingerlings for grow-out can take pressure off nearshore fish stocks which can be a conservation tool for managing fisheries. At a broader level, fishponds can increase local food production, improve food security, perpetuate local and traditional practices, and provide employment opportunities for Hawai'i residents.

Healthy fishponds also have a tremendous ecological benefit. They capture sediment that would otherwise enter the ocean and harm coral reefs. They provide nutrients and freshwater that increase the productivity of the nearshore marine environment. They also serve as important nursery grounds for numerous aquatic species, including important fishery species. Additionally, fishpond practitioners have a practice of releasing the healthiest adult fish to serve as brood stock, providing the next generation of fish for the reef as well as the pond.

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

RYAN K.P. KANAKA'OLE
FIRST DEPUTY

DEAN D. UYENO
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES
ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

The Legislature has given the Department the authority and mandate to establish aquatic life propagating stations and to distribute aquatic life for the purpose of increasing the food supply of the State.¹ In 2022, the Legislature appropriated \$300,000 to the Department for fingerling production to restock fishponds. Through consultations with fishpond communities, it was learned that fishpond practitioners preferred to be taught how to produce and raise fingerlings rather than have the Department do it for them. This idea also turned out to be the most cost-effective use of the funds because the Department does not have the existing facilities and staff required to produce fingerlings. As a result, the Department used the appropriated funds to support capacity building and training in pua (juvenile mullet) production at Wai‘anae High School.

The Department continues to consult with fishpond communities to identify additional ways we can support fishponds through fingerling production. An appropriation of \$500,000 for Fiscal Year 24-25 will enable the Department to support other fishpond communities in capacity building to produce fingerlings and limu for restoration and restocking of fishponds. It would also enable the Department to establish an aquaculture coordinator position within the Department to oversee the expansion of our aquaculture program.

Mahalo for the opportunity to provide testimony in support of this measure.

¹ Section 187A-2, Hawaii Revised Statutes, states that the Department shall:

(2) Establish and maintain aquatic life propagating station or stations; and
(5) Distribute, free of charge, as the department deems to be in the public interest, aquatic life, for the purpose of increasing the food supply of the State; provided that when, in the discretion of the department, the public interest shall not be materially interfered with by so doing, the department may propagate and furnish aquatic life to private parties, upon such reasonable terms, conditions, and prices determined by the department.

JOSH GREEN, M.D.
Governor

SYLVIA LUKE
Lt. Governor



SHARON HURD
Chairperson, Board of Agriculture

DEXTER KISHIDA
Deputy to the Chairperson

State of Hawai'i
DEPARTMENT OF AGRICULTURE
KA 'OIHANA MAHI'AI
1428 South King Street
Honolulu, Hawai'i 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

TESTIMONY OF SHARON HURD
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE SENATE COMMITTEE ON WATER AND LAND

FEBRUARY 12, 2024
1:00 PM
CONFERENCE ROOM 229

SENATE BILL NO. 2296
RELATING TO FISHPONDS

Chair Inouye, Vice Chair Elefante, and Members of the Committee:

Thank you for the opportunity to testify on Senate Bill 2296. The bill appropriates funds to the Department of Land and Natural Resources to restore and restock fishponds by procuring fingerlings and limu and establishing one full-time equivalent (1.0 FTE) Aquaculture Coordinator Biologist VI position. The Department supports this bill.

Focusing on restoring and restocking fishponds would provide a positive signal to fishpond practitioners that the State supports their efforts and provides a consistent supply of healthy fingerlings and limu for grow-out systems. It will also foster research and development in disease, breeding, and husbandry. The initiative fits well with the Department's plan to expand the aquaculture industry.

As such, the Department supports this measure. Thank you for the opportunity to testify on this measure.





Testimony Before The
Senate Committee on Water and Land (WTL)
IN SUPPORT OF SB2296
February 12, 2024, 1:00 PM, Room 229 & Via Zoom

We are Olan Leimomi Fisher and Brenda Asuncion Lima, Kua'āina Advocate and Hui Mālama Loko I'a Coordinator, respectively, testifying on behalf of [Kua'āina Ulu 'Auamo \(or KUA\)](#). "Kua'āina Ulu 'Auamo" stands for "grassroots growing through shared responsibility," and our acronym "KUA" means "backbone." **Our mission is to connect and empower communities to improve their quality of life through the collective care for their biocultural (natural and cultural) heritage, serving as a "backbone organization" that supports creative and community-driven solutions to problems stemming from environmental degradation.** Hawai'i's biocultural resources continue to be negatively impacted by political, economic, and social changes, and the increasing dangers of climate change make fostering and empowering resilient communities acutely critical.

Currently KUA supports three major networks of: (1) almost 40 mālama 'āina (caring for our 'āina or "that which feeds") community groups collectively referred to as E Alu Pū (moving forward together); (2) over 60 loko i'a (fishpond aquaculture systems unique to Hawai'i) and wai 'ōpae (anchialine pool systems) sites in varying stages of restoration and development, with numerous caretakers, stakeholders, and volunteers known as the Hui Mālama Loko I'a ("caretakers of fishponds"); and (3) the Limu Hui made up of over 50 loea (traditional experts) and practitioners in all things "limu" or locally-grown "seaweed." Our shared vision is to once again experience what our kūpuna (ancestors) referred to as **'āina momona** – abundant and healthy ecological systems that sustain our community resilience and well-being.

KUA supports SB2296 as an incremental step on a pathway towards 'āina momona. This bill would appropriate funds to support the Department of Land and Natural Resources' Division of Aquatic Resources (DLNR-DAR) to restore and restock fishponds with procurement of fingerlings and limu, and establish one full-time Aquaculture Coordinator Biologist VI position. We also appreciate your committee's recent passing of a similar but more comprehensive measure, SB2329.

KUA's coordinators and network participants in all three of our networks continue to build stronger connections to DLNR-DAR and the aquaculture community, knowing very well that to reach a vision of greater food self-sufficiency we need to transform our culture, values, and institutions **together**. Supporting a DLNR role in producing fingerlings and limu for restorative aquaculture would directly address one of the recommendations in the 1993 Report of the Governor's Task Force on Moloka'i Fishpond Restoration. This report was published nearly 30 years ago, but many of its findings are still relevant and indeed, important to fishponds on most other islands in Hawai'i, not only those on Moloka'i. A [Loko I'a Needs Assessment](#) (last updated in August 2021) reiterated the continued interest in contemporary aquaculture technology to support fishpond revitalization. We acknowledge the existing resources and technical capacity within DLNR-DAR's existing hatchery program and encourage this proposed further support to

build towards that vision of 'āina momona - increasing Hawaiian fish for Hawaiian waters and food system infrastructure.

Importantly, the 1993 report recommended that “the State of Hawai‘i...actively support and help fund the development of a hatchery to provide seedstock for fishponds and stock enhancement of the reefs.” Many practitioners envision a future when loko i‘a can be stocked again from natural populations of prized species such as ‘anae, but since those fisheries are depleted in many areas across Hawai‘i, hatchery-raised fingerlings are an important component of the restoration efforts for loko i‘a and their surrounding waters. In our conversations with our Hui Mālama Loko I‘a, practitioners from 24 loko i‘a on 5 different islands have indicated this opinion in the past several years. Looking beyond the boundaries of the fishpond walls, **loko i‘a themselves are key assets to restocking the wild fishery by serving as enhanced nursery areas for the baby fish.**

As we look to the future, our communities are raising the kupa‘āina who want to have jobs focused on mālama ‘āina. The recent increased capacity of the DOCARE Academy enrollment is one example, and greater aquacultural capacity and economy are also possible pathways for our young people to flourish. **We appreciate creative and collaborative approaches that build the capacity and skills of the next generation with intention, and in a way that benefits ongoing community efforts at loko i‘a as a catalyst for ecosystem regeneration.**

The communities we work with are committed to ensuring the long-term health of our biocultural resources that they have cared for and depended on for generations since time immemorial. **We believe our environment, the foundation of our very existence, is about long-term investment and a vision of ‘āina momona.** To get there it requires taking the steps necessary for greater self-sufficiency, development of a pipeline of new and more innovative career pathways, mindsets, relationships, and resources for mālama ‘āina efforts. Passing this bill out of your committee is a start on a pathway toward reaching this vision.

Mahalo for this opportunity to submit testimony in strong support. **Please pass SB2296.**

Aloha ‘Āina Momona no nā kau ā kau.

SB-2296

Submitted on: 2/10/2024 11:29:43 AM

Testimony for WTL on 2/12/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Ted Bohlen	Testifying for Hawaii Reef and Ocean Coalition	Support	Written Testimony Only

Comments:

Support



Food+ Policy Internship 2024

food@purplemaia.org

DATE: February 11th 2024

Subject: Testimony in Support of **SB 2296** - DLNR; Fishponds; Restocking; Restoration; Expenditure Ceiling; Appropriation (\$)

Aloha Chair Lorraine Inouye, Vice Chair Brandon Elefante, and the Senate Committee on Water and Land

I am writing to express my strong support for **SB 2296**, a crucial piece of legislation that addresses the conservation and restoration of fishponds in the state. I believe that this bill aligns with the principles of sustainable resource management and cultural empowerment, as highlighted in the article "Island Empowerment as Global Endowment: Understanding Hawaiian Adaptive Cultural Resource Management" by Cornwell (2020), published in the Journal for Undergraduate Ethnography.

Cornwell's article underscores the significance of adaptive cultural resource management, particularly within the context of Hawaii's unique island environment. The study emphasizes the interconnectedness between the Hawaiian people and their natural resources, showcasing the importance of cultural practices in sustainable resource utilization. In this light, the preservation and revitalization of fishponds play a vital role in maintaining the delicate balance between human activities and the environment.

SB 2296's focus on fishponds, restocking, and restoration is in harmony with the adaptive cultural resource management approach highlighted by Cornwell. By allocating funds for these initiatives, the bill demonstrates a commitment to preserving and enhancing the cultural and ecological integrity of Hawaii's fishponds. Furthermore, the establishment of an expenditure ceiling ensures responsible financial management, preventing excessive spending while still allowing for impactful conservation efforts.

The Food+ Policy internship develops student advocates who learn work skills while increasing civic engagement to become emerging leaders. We focus on good food systems policy because we see the importance and potential of the food system in combating climate change and increasing the health, equity, and resiliency of Hawai'i communities.

In 2023, the cohort of interns are undergraduate and graduate students from throughout the UH System. They are a mix of traditional and nontraditional students, including parents and veterans, who have backgrounds in education, farming, public health, nutrition, and Hawaiian culture.



Food+ Policy Internship 2024

food@purplemaia.org

I urge the committee to carefully consider the insights provided by Cornwell's research as they deliberate on the merits of **SB 2296**. The bill not only aligns with the principles of adaptive cultural resource management but also reflects a forward-thinking approach to environmental conservation. Supporting **SB 2296** is a step towards fostering sustainable practices and preserving the unique cultural heritage of Hawaii for future generations.

Thank you for your attention to this matter, and I sincerely hope that you will consider the valuable perspectives presented in Cornwell's article when evaluating the significance of **SB 2296**.

Mahalo Nui,

Joseph Ramos
Hawaii Food+ Policy Team
#fixourfoodsystem

The Food+ Policy internship develops student advocates who learn work skills while increasing civic engagement to become emerging leaders. We focus on good food systems policy because we see the importance and potential of the food system in combating climate change and increasing the health, equity, and resiliency of Hawai'i communities.

In 2023, the cohort of interns are undergraduate and graduate students from throughout the UH System. They are a mix of traditional and nontraditional students, including parents and veterans, who have backgrounds in education, farming, public health, nutrition, and Hawaiian culture.

Aloha Chair, Vice Chair, and members of the committee,

Hulu Mamo Hawaiian Civic Club stands in support of SB2296.

Hulu Mamo Hawaiian Civic Club believes that hawaiian fishponds, known as loko i‘a, are a traditional form of mariculture that is designed to enhance and protect nutrient-rich estuary habitat to cultivate abundant algae and recruit smaller fish through a weir-type gate openings in the rock walls, and keep most large carnivorous fish out. Loko i‘a played an important role in food production of traditional Hawaii and has the ability to provide a healthy source of protein for the population of Hawaii today.

Loko i‘a also play an important ecological function in watersheds and resource management by capturing sediment that would otherwise enter the ocean and smother reefs, helping to protect our ocean resources and reefs, contributing to thriving nearshore fisheries. A healthy loko i‘a also provides an increase in fish that is able to be harvested from within a loko i‘a, reducing the fishing pressures on the nearby surrounding nearshore fish stocks.

Hulu Mamo Hawaiian Civic Club and the Association of Hawaiian Civic Clubs support the intent of this bill and hopes that you will pass it, in order to improve the environment, the food security of Hawaii, as well as the wellbeing of Native Hawaiians, as is indicated by the attached resolution, which was passed by the Association of Hawaiian Civic Clubs on October 21, 2023 at their annual convention in Kālia, Waikīkī, O‘ahu.

Mahalo nui loa for your time and consideration.

Keoni Shizuma
President, Hulu Mamo Hawaiian Civic Club

ASSOCIATION OF HAWAIIAN CIVIC CLUBS

A RESOLUTION

NO. 2023 - 42

URGING THE DEPARTMENT OF LAND AND NATURAL RESOURCES AND ITS DIVISION OF AQUATIC RESOURCES TO SUPPORT THE RESTOCKING OF HAWAIIAN FISHPONDS IN ORDER TO REBUILD AND REPLENISH NEARSHORE FISH POPULATIONS

WHEREAS, Hawai'i's marine ecosystems are not as healthy as they once were, caused by things like climate change, unsustainable harvest practices, and land development, as certain reports showing that populations of Hawai'i's fish species have declined by as much as 90% since the early 1900s, and an estimated 88% of all food is imported to Hawai'i; and

WHEREAS, Hawaiian Fishponds, known as loko i'a, are traditional form of mariculture, designed to enhance and protect nutrient-rich estuary habitat to cultivate abundant algae and recruit smaller fish through a weir-type gate openings in the rock walls, and keep most large carnivorous fish out; and

WHEREAS, loko i'a played an important role in the food production of traditional Hawai'i, with close to 400 flourishing loko i'a prior to 1900, sustaining communities in numerous ways including through sustainable local seafood, limu, shellfish, and fertilizer, at one time producing an average of 400-600 pounds of fish per acre per year, yielding over 2 million pounds of fish annually throughout Hawai'i, according to the Loko I'a Needs Assessment (2021); and

WHEREAS, loko i'a have an ecologically important role in watersheds and resource management by capturing sediment that would otherwise enter the ocean and smother reefs, helping to protect our ocean resources and reefs, contributing to thriving nearshore fisheries; and

WHEREAS, loko i'a attract baby fish and provide a safer environment for them to grow, increasing their chances of survival and ability to reproduce; and

WHEREAS, a healthy loko i'a provides an increase in fish that is able to be harvested from within a loko i'a, reducing the fishing pressures on the nearby surrounding nearshore fish stocks; and

WHEREAS, a loko i'a can act as amplifying factors in nearshore environments, not just growing food within, but contributing to the fish populations outside the physical borders of the loko i'a for the benefit of the ecosystem and public fisheries; and

WHEREAS, fishing is part of Hawai'i's heritage and seafood is a primary food source, with local fisheries providing an estimated 45 million pounds annually, according to the State of the Plate report (2018); and

WHEREAS, the marine science learning center at Wai'anae High School currently has a functioning aquaculture facility with a saltwater well that has been the central focus of the science curriculum delivered to students enrolled in the class for more than twenty-five years and has a long history of engaging students in hands-on, work-based learning through work in an aquaculture facility, and is uniquely positioned to facilitate transmission of the skill sets necessary to produce sizable amounts of mullet fingerlings to supply fishponds and take mullet through their life cycle to future generations; and

WHEREAS, Ānuenuē Fisheries Research Center and nursery infrastructure at the Wailoa facility previously produced pua mullet and pua moi in the past; and

WHEREAS, thriving nearshore fisheries with abundant fish populations would provide residents with another avenue to source fish to feed their families, decreasing our need for imported seafood and contributing to Hawai'i's Aloha+ goal of 20-30% of food consumed is grown locally.

NOW, THEREFORE, BE IT RESOLVED, by the Association of Hawaiian Civic Clubs at its 64th Annual Convention in Kālia, Waikīkī, O'ahu, in the malama of 'Ikuā and the rising of 'Olekūkolu, this 21st day of October 2023, urging the Department of Land and Natural Resources and its Division of Aquatic Resources to support the restocking of Hawaiian fishponds in order to rebuild and replenish nearshore fish populations; and

BE IT FURTHER RESOLVED, that this Association calls upon the Department of Land and Natural Resources and its Division of Aquatic Resources to:

- Utilize the Ānuenuē Fisheries Research Center and nursery infrastructure to produce pua mullet and pua moi again, for restocking fishponds and replenishing nearshore fisheries
- Continue to support educational and capacity-building efforts related to native fish production at the marine science learning center at Wai'anae High School; and

BE IT FURTHER RESOLVED, that a certified copy of this resolution be transmitted to Department of Land and Natural Resources Division of Aquatic Resources, as well as the Governor of the State of Hawai'i, President of the State Senate, Speaker of the State House of Representatives, Chair of the State Senate subject matter committee on Hawaiian Affairs, Chair of the State House subject matter committee on Hawaiian Affairs, Chair of the Board of Trustees of the Office of Hawaiian Affairs, and all County Mayors.



The undersigned hereby certifies that the foregoing Resolution was duly adopted in the malama of 'Ikuā and the rising of 'Olekūkolu, on the 21st day of October 2023, at the 64th Annual Convention of the Association of Hawaiian Civic Clubs in Kālia, Waikīkī.

DreanaLee Kalili

DreanaLee Kalili, President

SB-2296

Submitted on: 2/7/2024 1:54:05 PM

Testimony for WTL on 2/12/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Uilani Naipo	Individual	Support	Written Testimony Only

Comments:

I am in **STRONG** support of this measure!

- Ui'ilani Naipo

Testimony Before The
Senate Committee on Water and Land (WTL)
IN SUPPORT OF SB2296
February 12, 2024, 1:00 PM, Room 229 & Via Zoom

I am Amanda Millin from Mānoa representing myself as a loko i'a practitioner. I have worked as a program manager at both Mālama Loko Ea (a loko i'a in Haleiwa) and Mālama Pu'uloa (a loko i'a in 'Ewa.) Currently, I help mālama Huilua loko i'a in Kahana Bay and Pāhonu loko i'a in Waimānalo, while being an active member in the Cross-Pacific Indigenous Aquaculture Collaborative. I also am co-founder and director of Pacific Hashulap—an organization that connects seafarers and fishpond practitioners from across the Pacific.

Along with many of my colleagues and fellow loko i'a practitioners, I support SB2296 as an incremental step on a pathway towards 'āina momona. This bill would appropriate funds to support the Department of Land and Natural Resources' Division of Aquatic Resources (DLNR-DAR) to restore and restock fishponds with procurement of fingerlings and limu, and establish one full-time Aquaculture Coordinator Biologist VI position. I also appreciate your committee's recent passing of a similar but more comprehensive measure, SB2329.

Supporting a DLNR role in producing fingerlings and limu for restorative aquaculture would directly address one of the recommendations in the 1993 Report of the Governor's Task Force on Moloka'i Fishpond Restoration. This report was published nearly 30 years ago, but many of its findings are still relevant and indeed, important to fishponds on most other islands in Hawai'i, not only those on Moloka'i. A [Loko i'a Needs Assessment](#) (last updated in August 2021) reiterated the continued interest in contemporary aquaculture technology to support fishpond revitalization. I acknowledge the existing resources and technical capacity within DLNR-DAR's existing hatchery program and encourage this proposed further support to build towards that vision of 'āina momona - increasing Hawaiian fish for Hawaiian waters and food system infrastructure.

Importantly, the 1993 report recommended that “the State of Hawai'i...actively support and help fund the development of a hatchery to provide seedstock for fishponds and stock enhancement of the reefs.” Many practitioners, including myself, envision a future when loko i'a can be stocked again from natural populations of prized species such as 'anae, but since those fisheries are depleted in many areas across Hawai'i, hatchery-raised fingerlings are an important component of the restoration efforts for loko i'a and their surrounding waters. In our conversations with our Hui Mālama Loko i'a, practitioners from 24 loko i'a on 5 different islands have indicated this opinion in the past several years. Looking beyond the boundaries of the fishpond walls, **loko i'a themselves are key assets to restocking the wild fishery by serving as enhanced nursery areas for the baby fish.**

As we look to the future, our communities are raising the kupa'āina who want to have jobs focused on mālama 'āina. The recent increased capacity of the DOCARE Academy enrollment is one example, and greater aquacultural capacity and economy are also possible pathways for our young people to flourish. **I appreciate creative and collaborative approaches that build the capacity and skills of the next generation with intention, and in a way that benefits ongoing community efforts at loko i'a as a catalyst for ecosystem regeneration.**

The communities I work with and am a part of are committed to ensuring the long-term health of our biocultural resources that they have cared for and depended on for generations since time immemorial. **I believe our environment, the foundation of our very existence, is about long-term investment and a vision of ‘āina momona.** To get there it requires taking the steps necessary for greater self-sufficiency, development of a pipeline of new and more innovative career pathways, mindsets, relationships, and resources for mālama ‘āina efforts. Passing this bill out of your committee is a start on a pathway toward reaching this vision.

Mahalo for this opportunity to submit testimony in strong support. **Please pass SB2296.**

Aloha ‘Āina Momona no nā kau ā kau.

SB-2296

Submitted on: 2/9/2024 7:57:33 AM

Testimony for WTL on 2/12/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Clemens Mayer	Individual	Support	Written Testimony Only

Comments:

Aloha,

My name is Clemens Mayer, from Kaimuki.

I strongly urge for SB2296 to be passed.

Mahalo a nui

SB-2296

Submitted on: 2/10/2024 11:05:58 AM

Testimony for WTL on 2/12/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Regina Gregory	Individual	Support	Written Testimony Only

Comments:

support, provided this includes local community involvement and an emphasis on limu