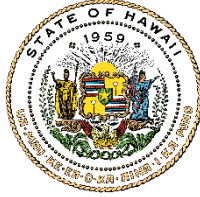


**JOSH GREEN, M.D.**  
GOVERNOR | KE KIA'ĀINA

**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 Committees on**  
**AGRICULTURE AND ENVIRONMENT**  
**and**  
**WATER AND LAND**

**Monday, January 29, 2024**  
**1:00 PM**

**State Capitol, Conference Room 229 & Videoconference**

**In consideration of**  
**SENATE BILL 2329**  
**RELATING TO AQUACULTURE**

Senate Bill 2329 proposes to appropriate funds, including for positions, equipment, and maintenance and operating costs, for mullet production for fishponds and stock enhancement. **The Department of Land and Natural Resources (Department) supports this bill and offers the following comments.**

The Department is generally supportive of measures that promote and strengthen aquaculture throughout the state, and the increase of mullet production for fishponds and stock enhancement aligns with the Department's vision. This bill appropriates funds for two full-time equivalent (2.0 FTE) aquatic biologist V positions, two full-time equivalent (2.0 FTE) aquatic biologist IV positions, three full-time equivalent (3.0 FTE) fishery technician V positions, and one full-time equivalent (1.0 FTE) fishery technician IV position. These positions would be located at the Division of Aquatic Resources' Anuenue Fisheries Research Center on O'ahu, the Wailoa Fisheries Research Station in Hilo, Hawai'i, and Wai'anae High School in Wai'anae, O'ahu. Additionally, Senate Bill 2329 appropriates funds for the purchase of shipping containers for office space and plankton production, tanks, backup generators, and hatchery equipment. These positions and operating funds will greatly enhance the Department's ability to support mullet production and other restorative aquaculture projects throughout the State.

Because of Hawai'i's isolated geographic location in the middle of the Pacific Ocean, coupled with its high dependency on food imports, the state is at a high risk of unexpected supply chain

**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

disruptions that could threaten its food supply. The State of Hawai‘i, along with many non-governmental organizations, have recognized this threat and rightly pursued ideas and policies that help promote and encourage initiatives to increase local food supply, thereby lowering our dependency on out-of-state food shipments.

When responsibly and sustainably managed, aquaculture can be an integral part of local food production and security. Aquaculture also has the potential to reduce fishing pressure on stressed fish stocks which can lead to the recovery of native fish and invertebrate species that have been overexploited in the past. Appropriating funds, including for positions, equipment, and maintenance and operating costs, for mullet production for fishponds and stock enhancement is a measure the Department supports.

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

**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  
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**TESTIMONY OF SHARON HURD  
CHAIRPERSON, BOARD OF AGRICULTURE**

**BEFORE THE SENATE COMMITTEES ON AGRICULTURE AND ENVIRONMENT  
AND WATER AND LAND**

**JANUARY 29, 2024  
1:00 PM  
CONFERENCE ROOM 229**

**SENATE BILL NO. 2329  
RELATING TO AQUACULTURE**

Chairs Gabbard and Inouye, Vice Chairs Richards and Elefante, and Members of the Committees:

Thank you for the opportunity to testify on Senate Bill 2329. The bill appropriates funds, including for positions, equipment, and maintenance and operating costs, for mullet production for fishponds and stock enhancement. The Department supports this bill.

Dependable hatchery operations are a key component to sustained aquaculture development. They provide a consistent supply of healthy juveniles for grow-out systems and foster research and development in disease, breeding, and husbandry. The initial focus on mullet with the intention to support other species 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.





Environmental Caucus of  
The Democratic Party of Hawai'i

## Agriculture & Food Security Committee

Monday, January 29, 2024, 1:00 pm

Senate Committees on Agriculture and Environment and on Water and Land

SENATE BILL 2329 – RELATING TO AQUACULTURE

Position: Strong Support

Me ke Aloha Chairs Gabbard and Inouye, Vice-Chairs Richards and Elefante, and members of the Senate Committees on Agriculture and Environment and on Water and Land:

SB2329 Appropriates funds for positions, equipment, and maintenance and operating costs, for **mullet production** for fishponds and stock enhancement.

The Agriculture & Food Security Committee strongly supports this measure, as Hawaii fishponds are receiving tremendous interest and community engagement, from youth especially, and efforts across ka pae 'āina are determined to restore fishpond culture and general marine awareness and engagement.

The mullet life cycle integrates many parts of the Hawaii nearshore environment, bringing focus to restoration of degraded zones. It plays an important role in ecosystem health and education of our youth, as well as providing a well-appreciated role in nutrition and food security.

Our committee is grateful that resources are being committed to moving ahead with current knowledge, toward further education and restoration, of both the natural environment and the embeddedness of human culture in it.

Mahalo for the opportunity to address this matter.

/s/ Charley Ice Acting Chair, Agriculture and Food Security Committee  
Environmental Caucus of the Democratic Party

**SB-2329**

Submitted on: 1/28/2024 11:31:10 AM

Testimony for AEN on 1/29/2024 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Ronald Weidenbach	Testifying for Hawaii Aquaculture and Aquaponics Association	Support	Written Testimony Only

Comments:

The Hawaii Aquaculture and Aquaponics Association (HAAA) supports the intent of SB2329 to provide a reliable source of stocking material for fishpond restoration efforts and wild stock enhancement. The bill builds on initial efforts on Oahu and utilizes State facilities at Waianae High School, on Sand Island, and in Hilo to expand the activities. Ideally pua could be made available to any aquaculture producers with appropriate facilities.

**SB-2329**

Submitted on: 1/26/2024 9:07:09 AM

Testimony for AEN on 1/29/2024 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Uilani Naipo	Individual	Support	Written Testimony Only

Comments:

Strong support for infrastructure and workforce that will restock our fishponds, and feed our people.

**SB-2329**

Submitted on: 1/27/2024 11:41:57 AM

Testimony for AEN on 1/29/2024 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Sunny Savage	Individual	Support	Written Testimony Only

Comments:

In support

**LATE**



## The Marine Science Learning Center at Wai'anae High School

85-251 Farrington Hwy, Wai'anae HI 96792

Phone: (808) 697-9400

January 28, 2024

Senator Mike Gabbard, Chair

Senator Herbert M. "Tim" Richards III, Vice Chair

Hawai'i State Senate Committee on Agriculture and Environment

Hearing: Monday, January 28, 1:00 PM

Conference Room 229 & Videoconference

Re: Senate Bill 2329 Relating to Aquaculture

Aloha Chair Gabbard, Vice Chair Richards, and Members of the Committee,

My name is Katie Kealoha, I am the coordinator of the Marine Science Learning Center at Wai'anae High School. I am writing in support of SB 2329 which would appropriate funds for mullet production for fishponds and stock enhancement.

At the Learning Center, we have utilized our on campus saltwater aquaculture facility for decades to teach students scientific concepts, entrepreneurial skills and the importance of food systems and a healthy environment from mauka to makai. Our team has worked hard to build capacity for a native fish hatchery on campus, as we feel that this would not only provide important infrastructure to support increased food security, but employment opportunities and invaluable training for our students and community.

Over the years we have been fortunate to partner with many different fishponds and other aquaculture organizations to give our students a well-rounded view of aquaculture and it's potential to improve Hawai'i's food security. It would be incredibly meaningful for our students to contribute to these efforts by learning the skills and assisting with providing pua 'ama, or mullet fingerlings to many of these partners. Our community of Wai'anae has a deep history of connection to 'anae as a resource, and to be party to restoring abundance of that resource will be a very powerful thing.

This bill forwards the work that has been done over the past couple of years to not only establish a native fish hatchery at Waianae High School, but to bring together various stakeholders to understand the requirements for this project to successfully meet its objectives. This bill provides for those key needs by ensuring that the positions and facilities required to produce, rear and distribute our native fish.

I urge the committee to support this measure not only for the benefit of our Wai'anae students and larger community but for a more sustainable Hawai'i.

Mahalo,

Katie Kealoha





**LATE**



Testimony Before The  
Senate Committee on Agriculture and Environment  
Senate Committee on Water and Land  
**IN SUPPORT OF SB2329**  
January 29, 2024, 1:00 PM, Room 229  
Via Zoom

We are Olan Leimomi Fisher and Brenda Asuncion Lima, Kua'āina Advocate and Hui Mālama Loko l'a Coordinator, respectively, testifying on behalf of [Kua'āina Ulu 'Auamo \(or KUA\)](#). KUA works to empower grassroots rural and Native Hawaiian mālama 'āina groups to celebrate their places and pass on their traditions to better Hawai'i and achieve 'āina momona — an abundant, productive ecological system that supports community well-being.

KUA employs a community-driven approach that currently supports a statewide network of 36 mālama 'āina community groups collectively referred to as E Alu Pū (moving forward together), 40 fishpond projects and practitioners called the Hui Mālama Loko l'a, and a growing group of over 60 limu (seaweed) practitioners and supporters called the Limu Hui. Participants in our networks have had long term dreams of bringing fishponds, food fish, and limu back to our shorelines and dinner tables.

**KUA supports SB2329 as an incremental step on a pathway towards 'āina momona.**

This bill would appropriate a currently uncertain sum for the Department of Land and Natural Resources' (DLNR's) Hatchery Programs to support:

- (1) Two full-time equivalent (2.0 FTE) Aquatic Biologist V positions, one at the Division of Aquatic Resources' (DAR's) Ānuenuue Fisheries Research center on O'ahu and one at Wa'ianae High School;
- (2) Two full-time equivalent (2.0 FTE) Aquatic Biologist IV positions, one at DAR's Ānuenuue Fisheries Research Center on O'ahu and one at DAR's Wailoa Fisheries Research Station in Hilo, Hawai'i;
- (3) Three full-time equivalent (3.0 FTE) Fishery Technician V positions, one at DAR's Ānuenuue Fisheries Research Center on O'ahu, one at Wai'anae High School, and one at DAR's Wailoa Fisheries Research Station in Hilo, Hawaii; and
- (4) One full-time equivalent (1.0 FTE) Fishery Technician IV position at Wai'anae High School.

Furthermore, the bill appropriates out of the state's general revenues the sum of \$4,500,000 for (1) shipping containers for office space and plankton production, (2) tanks; (3) backup generators; and (4) hatchery equipment for all facilities, as well as \$150,000 for maintenance and operating costs including feed, supplies, electricity, and water.

KUA's coordinators and network participants in all three of our networks have built 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](#) finalized in November 2020 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 the 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 SB2329.**

**Aloha 'Āina Momona no nā kau ā kau.**