UNIVERSITY OF HAWAIʻI SYSTEM
ʻŌNAEHANA KULANUI O HAWAIʻI

Legislative Testimony
Hōʻike Manaʻo I Mua O Ka ʻAhaʻōlelo

Testimony Presented Before the
House Committee on Higher Education and Technology
Wednesday, February 8, 2023 at 2:15 p.m.
By
Anna Wieczorek, Interim Dean
College of Tropical Agriculture and Human Resources
And
Michael Bruno, Provost
University of Hawaiʻi at Mānoa

HB 694 – RELATING TO THE UNIVERSITY OF HAWAII

Chair Perruso, Vice Chair Kapela, and Members of the House Committee on Higher Education and Technology:

Thank you for the opportunity to provide testimony on HB 694 that appropriates funds to support the aquaculture disease diagnostic laboratory at the University of Hawaiʻi's College of Tropical Agriculture and Human Resources (CTAHR), in partnership with the Hawaiʻi Department of Agriculture (HDOA).

We support the intent of this bill, however, we have concerns with the measure as written.

HDOA has a veterinary laboratory within the Division of Animal Industry (AI) that provides disease diagnostic laboratory support for livestock, poultry, and to some extent, aquacultured animals. CTAHR has built disease diagnostic laboratory capabilities for aquacultured animals but cannot provide services to the aquaculture industry with only project-supported personnel.

Based on HDOA's existing facility and HDOA and CTAHR's current capabilities for aquacultured animals, we believe the needs of the aquaculture industry would be best served by establishing an aquaculture disease diagnostic program within the existing HDOA AI Veterinary Laboratory that already provides disease diagnostic laboratory support for livestock, poultry, and to some extent, aquacultured animals. This laboratory should be administered by the HDOA, in consultation with CTAHR.

To ensure consistent, timely, and accurate testing services, we defer to HDOA whether a full-time laboratory technician (microbiologist position classification) and a full-time laboratory assistant position be created and housed in the HDOA AI Veterinary Laboratory to support the aquaculture disease diagnostic laboratory program. These technical positions would provide the skillset required to perform molecular diagnostic

testing. We also recommend that this position require proficiency in molecular diagnostics.

To ensure that the laboratory has up-to-date equipment and supplies to support the aquaculture industry, we recommend that sufficient funding be allocated to this laboratory for these purposes.

We support the intent of the bill; however, we cannot support the passage of this bill as written. And, provided that its passage does not replace or adversely impact priorities as indicated in our BOR Approved Budget. Thank you for the opportunity to provide testimony on this measure.

JOSH GREEN, M.D.
Governor

SYLVIA LUKE
Lt. Governor

SHARON HURD
Chairperson, Board of Agriculture

MORRIS M. ATTA
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 HOUSE COMMITTEE ON HIGHER EDUCATION AND TECHNOLOGY

FEBRUARY 8, 2023
2:15 PM
CONFERENCE ROOM 309

HOUSE BILL NO. 694
RELATING TO RELATING TO THE UNIVERSITY OF HAWAII

Chairperson Peruso and Members of the Committee:

Thank you for the opportunity to testify on House Bill 694. The bill establishes and appropriates funds to support the Aquaculture Disease Diagnostic Laboratory at the University of Hawaii College of Tropical Agriculture and Human Resources (UH-CTAHR), in partnership with the Hawaii Department of Agriculture. The Department supports this bill with suggested amendments because it is more advantageous to locate the proposed laboratory in the Department so the technology and staff could support all livestock sectors.

Timely and accurate diagnostic services are a requirement for all sectors of livestock development – including aquaculture. Currently, the aquaculture industry depends on Mainland laboratories to provide molecular tests, such as polymerase chain reaction (PCR). PCR tests are necessary to identify the presence or absence of specific pathogens in samples from animals and other sources. In the case of the export shrimp broodstock, these tests are required to establish specific pathogen-free status that is required by receiving countries.

The Department suggests the following amendments to the proposed bill to make it more efficient and effective:

- the request for UH-CTAHR funding be amended to the Department
- the proposed laboratory will be established at the State Veterinary Laboratory Building in the HDOA Animal Industry Division Veterinary Laboratory Services Branch
- the request for an additional two full-time equivalent (2.0 FTE) Microbiologist III (SR-20) to support the recently hired Veterinary Medical Officer III.

As such, the Department supports this measure, provided it does not impact the Department's priorities identified in the Executive Budget request. Thank you for the opportunity to testify on this measure.

UNIVERSITY of HAWAI'I® MĀNOA
Ke Kulanui o Hawai'i ma Mānoa

College of Tropical Agriculture and Human Resources
Department of Human Nutrition, Food and Animal Sciences
ctsa CENTER FOR TROPICAL AND SUBTROPICAL AQUACULTURE

February 7, 2023

TO: Representative Amy Perruso, Chair; and Representative Jeanne Kapela, Vice Chair
House Committee on Higher Education & Technology
Wednesday, February 8; 2:15 p.m.; via Videoconference

RE: SUPPORT FOR HOUSE BILL 694 RELATING TO AQUACULTURE – SUPPORT THE AQUACULTURE DISEASE DIAGNOSTIC LAB AT UH IN PARTNERSHIP WITH HDOA

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

I, Cheng S. Lee, Executive Director of the Center for Tropical and Subtropical Aquaulture (CTSA), strongly support HB 694: Support for the aquaculture diseaase diagnostic lab in UH CTAHR in partnership with HDOA. This lab provides a critical service to the local aquaculture industry that is important to island farmers -- in particular, SPF shrimp producers -- especially considering the lack of public disease diagnostic services in our remote region.

CTSA is one of five Regional Aquaculture Centers in the United States established by the U.S. Department of Agriculture. Our program mission is to integrate individual and institutional expertise and resources in support of aquaculture development in Hawaii and the U.S. Affiliated Pacific Islands. As an Industry-driven agency, we rely heavily on the input of local farmers in our annual funding priority setting process. For many years, regional stakeholders have increasingly amplified their requests for the establishment of a local, public disease diagnostic laboratory capable of conducting PCR analysis. To answer this call, CTSA worked together with the University of Hawai'i (UH) and HDOA to provide the support required to establish the lab.

The disease diagnostic partnership that has been facilitated between the HDOA, UH, and CTSA fits perfectly within our mission, and it is the pleasure and desire of our program to continue supporting the valuable research and extension services of the lab. The support for the equipment maintenance and technician positions from the State is essential for the continuous service of the lab.

Thank you for the opportunity to testify in strong support of this measure.

Sincerely,

Cheng Sheng Lee

Cheng S. Lee, Ph.D.
Executive Director, CTSA

1955 East West Road, Agricultural Science 216, Honolulu, Hawai'i 96822
Telephone: (808) 956-3794 Fax: (808) 956-4024 Email: ctsa@hawaii.edu Website: www.ctsa.org

An Equal Opportunity/Affirmative Action Institution

Hawaii
Aquaculture &
Aquaponics Association

Feb 5, 2023

Rep. Amy A. Perruso, Chair, and Rep Jeanne Kapela, Vice Chair
House Committee on Higher Education & Technology
Wednesday, February 8, 2023, 2:15 PM, Conference Room 309

Re: House Bill 694 Relating to Aquaculture

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

The Hawaii Aquaculture and Aquaponics Association (HAAA) representing aquaculture industry members, researchers, and supporters Statewide strongly supports the intent of HB 694 which appropriates funds to support the Aquaculture Disease Diagnostic Laboratory at the University of Hawaii College of Tropical Agriculture and Human Resources (CTAHR), in partnership with the Hawaii Department of Agriculture (DOA).

This Aquaculture Disease Diagnostic Laboratory is critical to the continued development and expansion of the Hawaii aquaculture industry. As such, the HAAA respectfully recommends the following clarifying amendment to Section 1, (3), lines 17-18. (*Brackets are deletions and* u*nderline is the new language).*

The proposed funds should be allocated as follows:

(3) for lab staff, equipment, and supplies to support the marine shrimp broodstock, koi, and oyster export [industries] <u>efforts and the day-to-day support for the larger aquaculture production industry</u>.

We respectfully request your support of HB 694 with our recommended clarifying amendment above. Thank you for the opportunity to submit this testimony.

Sincerely,

Ron Weidenbach
HAAA President

Hawai'i Aquaculture & Aquaponics Association

Hawai'i Cattlemen's Council

Hawai'i Farm Bureau Federation

Hawai'i Farmers' Union United

Hawai'i Food Industry Association

Hawai'i Food Manufacturers Association

Kohala Center

Land Use Research Foundation of Hawai'i

Maui Farm to School Network (Maui F2SN)

Ulupono Initiative

College of Tropical Agriculture and Human Resources - University of Hawai'i at Manoa

HOUSE COMMITTEE ON HIGHER EDUCATION & TECHNOLOGY
February 8, 2023 – 2:15 p.m. – Conference Room 309 & Via Videoconference

HB 694 – RELATING TO THE UNIVERSITY OF HAWAII – IN SUPPORT, REQUEST AMENDMENT

Aloha Chair Perruso, Vice Chair Kapela and Members of the Committee:

The Local Food Coalition **SUPPORTS** HB 694, which appropriates funds to support the Aquaculture Disease Diagnostic Laboratory at the University of Hawaii College of Tropical Agriculture and Human Resources (CTAHR), in partnership with the Hawaii Department of Agriculture.

This lab is critical to the continued development and expansion of the aquaculture industry. Currently, aquaculture samples are sent to the University of Arizona for testing, which creates delays and prevents timely industry action.

We support the Hawaii Aquaculture and Aquaponic Association's request to amend the bill to clarify that the funds may be used for the day-to-day support for the larger aquaculture production industry.

The Local Food Coalition is an organization comprised of farmers, ranchers, livestock producers, investors and other organizations working to provide Hawaii's food supply.

We respectfully request your support of HB 694 with the clarifying amendment. Thank you for the opportunity to submit testimony.

Kendall Matsuyoshi
808-544-8345
kmatsuyoshi@wik.com

The House Committee on Higher Education and Technology
February 8, 2023
Room 309, 2:15 PM

RE: **HB 694, Relating to the University of Hawaii**

Attention: Chair Amy Perruso, Vice Chair Jeanne Kapela and members of the Committee

The University of Hawaii Professional Assembly (UHPA) appreciates the opportunity to testify **supporting the intent of HB 694**, Relating to the University of Hawai‘i.

HB 694, Relating to the University of Hawai‘i, allocates funding to support the aquaculture disease diagnostic laboratory at the University of Hawai‘i College of Tropical Agriculture and Human Resources, and establishes one full-time permanent state aquaculture veterinarian position. To ensure the recruitment and retention of the position, it is essential for the FTE appropriation to have a recurring, general funded designation.

Respectfully submitted,

Christian L. Fern
Executive Director
University of Hawaii Professional Assembly

University of Hawaii
Professional Assembly
1017 Palm Drive ✦ Honolulu, Hawaii 96814-1928
Telephone: (808) 593-2157 ✦ Facsimile: (808) 593-2160
Website: www.uhpa.org

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

P.O. Box 253, Kunia, Hawai'i 96759
Phone: (808) 848-2074; Fax: (808) 848-1921
e-mail info@hfbf.org; www.hfbf.org

February 8, 2023

HEARING BEFORE THE
HOUSE COMMITTEE ON HIGHER EDUCATION & TECHNOLOGY

TESTIMONY ON HB 694
RELATING TO THE UNIVERSITY OF HAWAIʻI

Conference Room 309 & Videoconference
2:15 PM

Aloha Chair Perruso, Vice-Chair Kapela, and Members of the Committee:

I am Brian Miyamoto, Executive Director of the Hawaiʻi Farm Bureau (HFB). Organized since 1948, the HFB is comprised of 1,800 farm family members statewide and serves as Hawaiʻi's voice of agriculture to protect, advocate and advance the social, economic, and educational interests of our diverse agricultural community.

The Hawaiʻi Farm Bureau strongly supports HB 694 and respectfully requests a clarification on the bill to appropriate funds to support the aquaculture disease diagnostic laboratory at the University of Hawaii college of tropical agriculture and human resources, in partnership with HDOA.

The Legislature has acknowledged the importance of Hawaiʻi's aquaculture industry and recognizes that supporting local aquacultural production can help the State move toward greater food sustainability and economic diversification. Hawai'i's aquaculture industry continues to be one of the fastest-growing segments of Hawai'i agriculture and has become an important source of seafood and other products for local sale and export. Currently, Hawai'i imports about 63 percent of its seafood.

HB 694 is a much-needed measure to provide essential support to Hawai'i's diverse aquaculture industry and we look forward to its passage and the benefits it will bring to aquaculture production.

HFB respectfully requests that the bill be amended to make clear that allocation of the funds includes support for the broader aquaculture industry, not only to support the marine shrimp broodstock, koi, and oyster export industries.

Thank you for the opportunity to testify on this important matter.

2029 Nuuanu Ave. #1510
Honolulu, Hawai'i 96817
February 6, 2023

Representative Amy A. Perruso, Chair, and Representative Jeanne Kapela, Vice Chair
House Committee on Higher Education and Technology
State Capitol, 415 S. Beretania St.
Honolulu, Hawai'i 96813

Dear Chair Perruso, Vice Chair Kapela, and Members of the Committee,

I **strongly support HB 694, "Relating to the University of Hawaii,"** which would provide funding for the U.H. aquaculture disease diagnostic laboratory.

I have made my living in aquaculture and aquaponics in Hawai'i since the late 1970's. Since that time, aquaculture has grown into a major component of Hawaii's diversified agriculture, with sales of almost $80 million in 2021 and with much room for further growth. The U.H. diagnostic laboratory provides critical support not only for aquaculture exports as mentioned in item (3) of HB 694, but for nearly all segments of the extremely diverse aquaculture industry. I therefore respectfully urge you to support the lab's vital services by passing HB 694.

Thank you for the opportunity to testify on this important legislation, and for your support of Hawai'i's growing aquaculture industry.

Sincerely,

Frederick M. Mencher

Frederick M. Mencher

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

EcoponicX, Inc.
791 Aipo Street
Honolulu, Hi 96825

808-725-7168
www.ecoponicx.com

February 7, 2023

TO: Representative Amy Perruso, Chair; and Representative Jeanne Kapela, Vice Chair
House Committee on Higher Education & Technology
Wednesday, February 8; 2:15 p.m.; via Videoconference

RE: STRONGLY SUPPORT HOUSE BILL 694 RELATING TO AQUACULTURE – SUPPORT THE AQUACULTURE DISEASE DIAGNOSTIC LAB AT UH IN PARTNERSHIP WITH HDOA

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My name is Scott "Ame" Arakaki, and I am the CEO and Co-Founder of EcoponicX, Inc. I saw you last week when I testified in strong support of HB1268, and we strongly support **HB 694: Support for the aquaculture disease diagnostic lab in UH CTAHR in partnership with HDOA.**

Our company is developing indoor enclosed recirculating systems that promote the growth of plants and animals in a symbiotic process. Raising aquatic species of animals (fish, crustaceans, and others) and plants qualifies us as an aquaculture company, and we're one of the companies participating in the Hawai'i Aquaculture Collaborative. For our startup, I bring knowledge and experience gained from my years of studying mechanical engineering (2008-2019) and aquaculture (2011-2015) at the College of Tropical Agriculture and Human Resources (CTHAR) and working experience(s) managing the aquaculture lab at CTHAR under Dr. Spencer Malecha from 2013-2014.

In the Aquaculture Lab, we worked with a species of rainbow trout (*Oncorhynchus mykiss*), tilapia (the hybrid of *Oreochromis niloticus* and *mossambicus* developed by Dr. Clyde Tamaru), channel catfish (*Ictalurus punctatus*), giant freshwater prawns (*macrobrachium rosenbergerii*), Hawaiian slipper lobster (*Scyllarides squammosus*), whiteleg shrimp (*Penaeus vannamei*), species of micro and macroalgae, pacific clams and oysters, and many other species. Responsibilities included animal husbandry, cleaning, health assessment, equipment maintenance, etc. As lab manager, I was also responsible for identifying sick and/or infected individuals, quarantine management, and reporting to professor Malecha, who'd then coordinate a response with the Hawai'i Department of Agriculture's (HDOA) animal quarantine division. I know firsthand the importance of developing a verbose network of institutions and individuals knowledgeable in animal biology and pathology. Ensuring that the organisms produced by the local aquaculture and agriculture industry are safe for human consumption requires experts knowledgeable in the biology and pathology of those species. We

believe that forming a disease diagnostic lab at the University of Hawai'i, in partnership with the HDOA, will foster development at the college level of professional expertise available to the State. We see much potential for the State to develop a rich and diverse sustainable aquaculture industry, and this lab is a public safety requirement.

Our startup is researching and designing technologies to address the global issue of malnutrition and food security, which heavily impacts our State because of its 85-90% dependence on importation. It primarily incorporates the aquaponic relationship described by Professor Doug Sanders and the hydroponic process named "Kratkey hydroponics" by CTHAR's Professor Bernard A Kratky. It'll be able to raise plants utilizing the uptake of nutrients from a liquid solution that serves to raise aquatic animals simultaneously while minimizing electrical usage. Either directly or indirectly, animals and plants grown by our system are intended for human consumption as nutrition and/or pharmaceutic products. For example, this year we're collaborating with one of the State's oldest producers of tofu, Aloha Tofu, in researching a process utilizing their food waste streams as a source of nutrition for an insect species that can then be directly consumed or converted into a protein and lipid resource for our aquatic animal species: locally produced fish feed. This project is just one of a number in collaboration with Assistant Professor Kacie Ho of the University's Department of Human Nutrition, Food and Animal Sciences. Another is a research project, whose results will be the subject of a graduate student's published works, to raise and test the anthocyanin and polyphenol content of several microgreen plants grown by our system. Supporting the development of skills and talents in our local educational institutions is of great importance to our company.

Thank you for the opportunity to testify in strong support of this measure.

Sincerely,

Ame Arakaki
CEO and Co-Founder