CENTER FOR TROPICAL AND SUBTROPICAL AQUACULTURE

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Letter from the Director

Aloha,

2024 is off to a great start here at CTSA! We are entering the final stages of our FY23 development cycle and preparing to start the FY24 process in the next few months. As you know, the main purpose and focus of our Center is to address industry needs through innovative research and demonstration solutions; we rely on stakeholder input to gain a comprehensive understanding of what those needs are. Every Spring, we send out a detailed Priority Area survey - this cycle, we have also created a general aquaculture survey. Please take a moment and **click here to take the survey** and help let us know how we can best serve the regional industry.

As we look to the next round of projects we will fund, I have been thinking a lot about the challenges and opportunities for aquaculture development in our region. I have the 'audacity of hope,' as President Obama might say, that we can build a big, bright future for marine agriculture in our region. Our land mass is limited but we have plentiful marine water surrounding the Pacific Islands (demonstrated in the above picture from a recent CTSA project in Majuro). Our challenges are unique, and include limited capacity. Instead of relying on foreign seasonal workers, we need to invest in developing more skilled local workforces, especially in the Pacific Island region. CTSA is looking forward to working with each regional government to provide training opportunities for locals who share the goal to increase food production from our waters. We have to build site-specific technology on a strong foundation of existing technology and protocols. Partnership is our philosophy and the key to achieving our goal.

The Civil Beat article shared below in this month's AquaClip highlights some of the opportunities that can be harnessed to grow more food through aquaculture. In addition to new growth, we must create more food with the resources we already have in our hands. Reducing waste is an important part of this equation. I was recently conversing with a friend about a childhood dish that we made from the under-utilized part of the fish; our conversation dove into the problem of food waste and its inherent connection to food security. I am pleased to see that more people, including large fish processing companies, are focusing on reducing waste. We still must do more to achieve true food security. Our work together will drive this goal, and I thank you --our valued stakeholders-- for your continued partnership.

Mahalo,
Dr. Cheng-Sheng Lee
Executive Director, CTSA

Investing in the Regional Aquaculture Workforce: Overview of CTSA Sponsored Training for Palau Community College Aquaculture Technician Lei Rechelluul

As part of our continued efforts to help develop and equip the regional aquaculture workforce, the Center for Tropical and Subtropical Aquaculture recently facilitated a comprehensive and individually tailored two-month training course for Palau Community College (PCC) aquaculture technician Leilanie Rechelluul (Lei). The training was led by Mr. YD Chen of the Tungkang Aquaculture Research Center at the Fisheries

Research Institute in Taiwan, and occurred under the auspices of the CTSA funded Mangrove Crab project with additional funding support from PCC. The following article details the training Lei received and includes quotes from an interview with her upon completion of the training.

The main components of the training included 1) detailed instruction in the cultivation of macroalgae for various applications, including food and ecosystem restoration; 2) methods and practices for cultivating zooplankton (Rotifers, Artemia, Copepods), vital for supporting aquatic food chains and serving as live feed for crabs, larval fish, and shrimps in aquaculture; 3) development of high-quality artificial feeds tailored to the nutritional needs of aquatic species in aquaculture; 4) strategies and processes for successful larval production, encompassing broodstock management, spawning, larval rearing and water quality control in aquaculture; and 5) the care and management of crabs, broodstock fish, and shrimps to ensure their health and reproductive success which is crucial for consistent and high-quality offspring in aquaculture.

“Since I have prior training in microalgae culture techniques that are very similar to what the center in Taiwan is doing, I proposed to Mr. Chen that, in addition to zooplankton culture, I would like to focus on acquiring knowledge in other areas of interest.”

During her two months in Taiwan, Lei conducted multiple experiments under the guidance of her trainers, and was able to refresh her microalgae skills and learn new skills in areas that are important for aquaculture development in Palau. “My favorite training sessions were the fish breeding monitoring and checking the quality of the plankton we received from farmers. I had to work with new tools and learn new microbiology technology to complete this work.”

Lei was also excited to learn the process of preparing artificial feeds from a fish diet specialist, and participated in every step from combining ingredients to observing the final product. This training will come in handy in the future as Palau has development plans to eventually produce local aquaculture feeds. “This work was really interesting, and if we can get some basic equipment we can improvise a simple feed making process. I am excited to try this in Palau!”

In addition to learning new techniques, the training helped Lei refine protocols that were in place back home in Palau. “We thought that once an egg hatches, we need to start feeding immediately, but during the training I learned that we must instead monitor the fish very closely for 24 hours and feed as appropriate.”

Lei is also eager to implement some advice she received from an expert who used to work with rabbitfish. “He reassured me that we don’t need to have a hatchery to breed our rabbitfish, we can let them spawn naturally in the ponds. We just need to plant seaweed or sea grass for their eggs to attach to and then we can collect the babies and distribute them to farms. It is a much more cost effective method for Palau that I am excited to try.”

While the training center does not produce the same mangrove crab*Scylla serrata* that is being cultivated in Palau, Mr. Chen provided valuable insights based on his observations and extensive experience collaborating with crab technicians at his former job site to address Lei’s questions regarding mangrove crab production.

As part of the two-month experience, Lei went on field trips to visit and observe work at zooplankton farms, fish farms, a hard clam farm, and a private micro algae laboratory. “The hard clam farm has its own small lab and pond to grow microalgae. This would be good to replicate in Palau, as the farm produces their own algae and also sells it to other farmers.”

“I want to extend a special thank you to the staff of the Center in Taiwan, they really took care of me and I learned a lot. I would also like to especially thank Dr. Cheng-Sheng Lee of CTSA for helping to organize the training and Mr. YD Chen, the lead trainer in Taiwan.”

Register Now for Oceanic Institute Limu Workshop on February 29

Oceanic Institute is holding a Limu Workshop on Thursday, February 29, 2024 from 3:00 pm - 5:00 pm

Oceanic Institute and partners recently completed a study titled, "Development of an Integrated Multitrophic Aquaculture System to Restore Hawaii's Vulnerable Limu (Seaweed) Populations." The study was funded by the National Oceanic and Atmospheric Administration, Saltonstall-Kennedy Program. Project participants include Oceanic Institute, College of Natural and Computational Sciences at Hawaii Pacific University, Paepae o He`eia, and Mr. Wally Ito, resident limu expert and former Limu Hui Coordinator, Kua'āina Ulu 'Auamo (KUA). Project participants will present data from the study and explore answers to the following questions:

1) Can aquaculture effluent be used to grow limu?
2) Can limu serve as an effective biofilter to remove nutrients from aquaculture effluent?
3) Can limu be grown effectively in Hawaiian fishponds?
4) How can we grow enough limu to sell into markets and provide for outplanting into our nearshore ecosystems?

This workshop will be used as a platform to share results from our NOAA-funded study and to stimulate discussion about how we can increase local limu production to benefit our communities. Snacks and beverages will be provided.

If you are interested in attending this workshop, please RSVP to Ms. Lisa Akamine at Lisa.Akamine@hpu.edu no later than Monday, February 26. Please note seating capacity is limited so RSVP early to reserve a space.

The Nature Conservancy Survey on Nature-Positive Aquaculture

The following announcement is from the KUA Limu Hui.

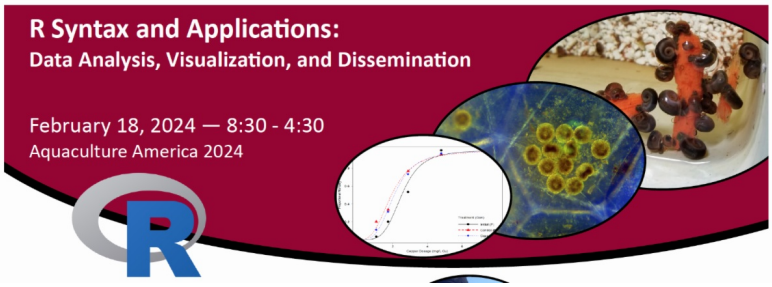
Calling all aquaculture professionals: we want to hear from you!

Aquaculture can be one of our most sustainable forms of food production – but what should the future of the industry look like? A collaborative initiative, led by The Nature Conservancy and akorn environmental, will develop practical pathways to expand restorative aquaculture nationwide as a form of nature-positive food production. As an industry, agency, Tribal, academic, NGO, or other aquaculture

expert, your input can help create a vision for a food system that serves people and the planet. Learn more about the project here, and take the survey here: "Help us help nature-positive aquaculture!" survey (https://bit.ly/sustainableaquaculture). **The survey will close Feb. 4 at 5:00 pm EST.**

If you have any questions or need assistance filling out the survey, please contact Heidi Alleway at heidi.alleway@tnc.org or Aaron Kornbluth at aaron.kornbluth@gmail.com."

Reminder: Registration Open for Continuing Education R Syntax and Applications Workshop at Aquaculture America



The U.S. Aquaculture Society (USAS) and the Fish Culture Section of the American Fisheries Society (AFS-FCS) are offering a Continuing Education R Syntax and Applications Workshop at the upcoming Aquaculture America Meeting in San Antonio (meeting dates February 18 – 21, 2024):

R Syntax and Applications: Data Analysis, Visualization, and Dissemination
Date: February 18, 2024 / Time: 8:30 am - 4:30 pm

Today's scientists, students, and data analysts have many choices in software for data management, statistical testing, and data visualization. Some of the most popular software options, such as SAS, JMP, and STATA require the user (or company) to purchase licenses for use. However, more and more freely available statistical software options are becoming available. R and RStudio provide a powerful, modular platform for data analysis, visualization, and much more. The community-driven aspects of R/RStudio allow for the creation of new packages with ever-evolving applications ranging from simple hypothesis testing to text mining and analysis to interactive apps. Introducing students and scientists to the coding syntax and basic applications of R/RStudio will provide more reproducible analyses, as well as improved collaboration and communication. Come and learn everything from basic commands and importing data, to creating visually-appealing plots and more!

Registration for the R Syntax and Applications Workshop can be completed on the World Aquaculture Society website at www.was.org (within the meeting registration). Questions? Contact Adriane Michaelis amichaelis@vims.edu

Deadline to Complete 2023 Census of Aquaculture Extended to March 1, 2024

The U.S. Department of Agriculture National Agricultural Statistics Service (NASS) has mailed the 2023 Census of Aquaculture to all producers who indicated in their 2022 Census of Agriculture that they produce and sell aquaculture products. The deadline to respond has been extended to March 1, 2024.

Farmers that did not receive a Census or lost their survey form are strongly encouraged to download, fill out the Census and mail it to Census of Aquaculture, 1201 East 10th Street, Jeffersonville, IN 47132 on or before March 1st.

An ag census special study, the Census of Aquaculture will provide comprehensive aquaculture data at the state and national levels, including production volume and methods, surface water acres and sources, and sales. Federal, state, and local governments, agribusinesses, trade associations, and producers use these data.

NASS has made survey response more convenient with their online Respondent Portal at www.agcounts.usda.gov. On the site, producers can complete their NASS surveys, view historical reports, and access other resources.

New USDA Publications Policy

This notice is to inform CTSA subawardees and any other affected parties of an important update regarding

compliance with the recently implemented USDA Departmental Regulation (DR) 1020-006. It is now a condition of all awards that published work from NIFA-funded projects must be deposited on PubAg.

Departmental Regulation (DR) 1020-006 makes all peer-reviewed, scholarly publications and digital scientific research data assets arising from unclassified scientific research, supported wholly or in part by the USDA, accessible to the public to the extent practicable. DR 1020-006 implementation began in FY 2023 (October 1, 2022) and applies to NIFA awards, contracts, and cooperative agreements.

Under this new regulation, all CTSA subawards are required to comply with the policy that mandates the reporting of all published work wholly or partially funded by CTSA on PubAg. This requirement has been integrated into the CTSA subaward reporting requirements and CTSA Publication policy.

Who does this apply to for NIFA funding:
· Awards, contracts, and cooperative agreements starting on or after October 1, 2022.
· Any awards, contracts, and cooperative agreements previously awarded which are active in FY 2023 and any fiscal years moving forward.

What types of items are covered by these requirements:
· This policy covers scholarly publications and digital scientific research data assets produced in whole or in part using NIFA funding.
· Awardees and contractors who use NIFA funding, but do not produce scholarly publications and/or digital scientific research data assets do not need to take these actions unless they generate either of those products during their funding's period of performance.

Resources on Public Access Requirement:
· https://www.nifa.usda.gov/public-access-nifa-funded-work
· How to Submit Publications to PubAg
· Frequently Asked Questions.

AquaClip: Hawaii Lawmakers Want To Make Fish Farming A Bigger Industry. But How?

The Legislature may give the embattled Agribusiness Development Corp. oversight of aquaculture, seen as a linchpin in Hawaii's evolving agricultural economy following the plantation era.

Aquaculture is already one of the most lucrative agricultural sectors in the state, having tripled in size over the past three decades to $90 million last year. If the current growth rate continues, it could be worth just shy of $600 million by 2034, according to the Department of Agriculture.

Legislators see this potential and have been meeting with industry insiders to figure out how best to support the sector's growth.

Industry leaders expounded on aquaculture's promise and pointed out bottlenecks Thursday during an informational briefing held by the Senate Water and Land and Agriculture and Environment committees. Lawmakers have conveyed their concerns over DOA not paying enough attention to the industry's exponential growth, locally and globally, saying it should be moved to the ADC, which now falls under the Department of Business, Economic Development and Tourism.

Fish, mollusk, bivalve and algae farmers face a complex web of federal and state regulations overseen by different agencies, but the DOA has led the industry's oversight in Hawaii.

Sen. Glenn Wakai, a vocal proponent of aquaculture, said the DOA has held aquaculture back by clinging onto plantation-era notions that terrestrial agriculture will somehow fulfill Hawaii's perennial food production goals by itself.

He pointed out how the DOA branch that oversees aquaculture holds just six of the department's 320 total positions.

"If the Department of Agriculture is going to be reluctant to see the value of aquaculture, then put it in someone else's area of responsibility," Wakai said in an interview. "We need to get moving. We cannot just cross our fingers."

The DOA, however, does not want to let go of aquaculture, and many fish farmers are reluctant to shift to the ADC.

The notion of moving aquaculture from DOA to ADC arose in two separate Senate bills last year, introduced by Sen. Donovan Dela Cruz and Sen. Lorraine Inouye.

At the time, former ADC Executive Director James Nakatani told lawmakers that the move was a Senate initiative, a “policy call” proposed purely to “move aquaculture forward.”

Some in the industry were lukewarm on the prospect, instead concerned about the resources that were extended to the program.

Nakatani died less than a month after testifying in front of the House committee, leaving a hole in the embattled but well-funded state corporation.

Both bills failed to pass last year but will be revived this session, which opened Wednesday.

Dela Cruz, who has long supported the ADC, still has aquaculture in his sights. At a Jan. 8 legislative briefing, he scolded the DOA for its inaction with aquaculture.

The argument is that the ADC would be better suited to promote aquaculture than the DOA, which some argue has simply become a regulatory agency.

“Why have the division if we’re not going to do anything?” Dela Cruz said at the briefing. “Maybe we should be moving aquaculture to ADC if that’s where we’re going to see movement.”

The ADC has its own problems, having been subject to a blistering audit in 2021 and losing its longtime executive director last year.

But to Ron Weidenbach, president of the Hawaii Aquaculture and Aquaponics Association, the problem is not which agency has custody of aquaculture but what resources that agency has to put toward the industry and its growth.

“You have to invest in it to make it flourish and grow but they’re not doing so,” Weidenbach said.

Weidenbach was among several who testified against the bills last year and still believes the DOA should oversee the industry.

Elevating the industry within the state would be a start, according to Jim Wyban, father of Hawaii’s shrimp broodstock industry, whose annual exports are valued at $30 million.

“A department or division, that’s to be argued by the bureaucrats,” Wyban said in an interview. “But it’s still — at this point — a poor step-child.”

Bob Endreson of Kohala Mountain Fish Co. said he feels that promotion and marketing should be separated from regulation because they naturally conflict: DOA can regulate and ADC should promote. “You can’t be a servant for two masters,” Endreson said.

The DOA has recently begun work on a memorandum of understanding among the various agencies that deal with aquaculture to make all their roles clear.

That process started “a couple of days ago,” Ag Director Sharon Hurd told lawmakers Thursday, adding that DOA would retain aquaculture specific to food production.

Source: Civil Beat // Read Full Article

This newsletter is written and prepared by the CTSA Information Specialist Meredith Brooks.
The Center for Tropical and Subtropical Aquaculture (CTSA) is one of five regional aquaculture centers in the United States established and funded by the U.S. Department of Agriculture's National Institute of Food and Agriculture (NIFA) under active grants 2020-38500-32559 and 2022-38500-38099. The regional aquaculture centers integrate individual and institutional expertise and resources in support of commercial aquaculture development. CTSA was established in 1986 and is jointly administered by the University of Hawaii and the Oceanic Institute of Hawaii Pacific University.

Center for Tropical and Subtropical Aquaculture | University of Hawaii at Manoa, 1955 East West Road, Ag. Sci. 216, Honolulu, HI 96822

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