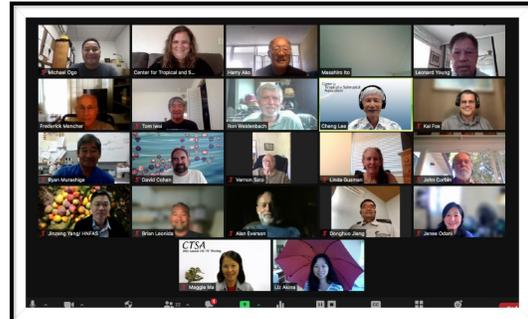


Letter from the Director

Aloha,

June is one of the busiest months of the year for CTSA; our FY21 development cycle is in full swing along with bi-annual project monitoring and reporting requirements. During the first two weeks of the month, we held our bi-annual 'project update conference calls' with PI's to discuss the progress, accomplishments and challenges of each active CTSA project. These calls coincide with reports that CTSA must prepare and submit to the USDA. I am very pleased with the progress of the 14 ongoing projects -reported in the detailed article below- and look forward to our next round of calls in November.



Also in early June, we received and processed 18 pre-proposals in response to our annual Request. The pre-proposals were discussed and ranked during the annual joint Industry Advisory Council (IAC) and Technical Committee (TC) meeting, which was held yesterday via Zoom (see picture). The meeting was completed in an efficient manner with limited technical challenges, and was attended by members based in the Western Pacific who might not normally be able to attend in person meetings on Oahu. I am very appreciative to all of our members for taking the time to attend and share their critical input on the pre-proposals. Now, my team and I will work to draft the Requests for Proposals, continuing our normal development cycle during this abnormal year.

Nothing can replace in-person interaction with our friends and colleagues, but we are grateful that Zoom and similar virtual tools can be used to overcome the common disadvantages of distance in our unique, isolated region. We look forward to the day we can once again gather together for a meeting or special occasion; until then, we are grateful to our stakeholders who have made it possible to continue our regular programming throughout the past year. Please take care and stay safe; we will overcome the pandemic soon.

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

Midyear Updates on CTSA Funded Projects: Impact Highlights

During the first two weeks of June, CTSA conducted our bi-annual project update conference calls, which coincide with progress reports due each May. The purpose of these calls is for CTSA staff and a project Industry Liaison to discuss the project progress in depth to ensure it is on track to complete its objectives and meet industry needs. The following are some highlights from ongoing CTSA projects:

Improving the commercial aquaculture feasibility for Yellow Tang (*Zebrafish flavescens*): Resolving early bottlenecks to improve culture yield

This project recently closed out its second year and started its third and final year of research to improve the feasibility of producing the high-value Yellow Tang, a keystone species of Hawaii's reefs. Year 2 of the project continued to demonstrate reliable, year-round production of viable eggs from Yellow Tang broodstock; egg production over the second year more than tripled from the year prior. This consistent egg production allowed for the repeated stocking of large-scale



runs (under a parallel project) demonstrating the reliable production of Yellow Tang juveniles, albeit still at low yield (~1%). Over the same period, researchers experienced challenges obtaining good results from trials in smaller-scale, replicated tank systems, forcing them to shift to temporally replicated 1,000 L tank trials. Therefore, they plan to further investigate the effects of prey density and rotifer enrichments in Year 3 using this approach. Although the research team has not yet been able to determine specific survival improvements to day 7 post hatch, they were able to continue to refine Yellow Tang larval rearing protocols and currently are testing 2 protocols at commercial scale. These protocols are being further refined in Year 3, to hopefully improve the overall yield from 1% to over 3%. The project is currently stocking tanks to begin the Year 3 objectives. CTSA is particularly pleased with the collaborative efforts of this project and Yellow Tang work, which is being done in partnership with the private company Biota; it serves as a great example of how collaboration between government, research, and private industry can be leveraged to advance the aquaculture industry.

Culture of a Local Marine Polychaete, *Marphysa sanguinea*, for Use as a Shrimp Maturation Feed

This two-year project, which is in its final stages, has been focused on completing its remaining objectives to improve local polychaete production. Worm growth and survival are currently being compared in three sediment types and being tested at two sediment depths. Worm growth and survival will be analyzed after the ongoing 4-month trial, and the effects of sediment type, depth, and sediment x interaction will be determined. Another trial, also nearing completion, is comparing the productivity of “multi-cohort” and “single-cohort” polychaete production systems. Three replicate tanks (“single cohort” adult tanks) were setup to receive high seawater flow to “flush” newly emerging larvae from the tanks. The effluent from each of these tanks, along with larvae, will flow to separate tanks (“single-cohort” larvae collection/growout tanks). The “single-cohort” adult tanks and the “multi-cohort” tanks were each stocked with 35 adult *M. sanguinea*. No worms were stocked in the “single-cohort” larvae collection tanks. After 4 months, the tanks will be harvested and worm number (total and usable/large), average size, and total worm biomass will be compared. A full article detailing the results of the project will be featured in a forthcoming issue of e-Notes.

Bivalve Farming in Hawai'i

This ongoing project, currently in its 7th consecutive year, is making progress in its goals to produce improved lines of tetraploid and triploid oysters and to establish broodstock lines of *D. sandvicencis* and *C. virginica*. Since November 2020, the PACRC and Hawaiian Shellfish LLC hatchery teams have continued to collaborate on producing lines of new tetraploid oysters using “fecund” and “non-fecund” triploid oyster females (crossed with diploid males). Several lines using fecund maternal triploids have been produced and two using the non-fecund triploids. For this project year, the focus is on being certain that there are a sufficient number of lines of the non-fecund tetraploids to then produce progeny for the genetic testing in year 3. In addition, work is underway on the objectives to develop at least two family lines and disease-free reserves of *C. virginica*, and to scale up production and produce two family lines of *D. sandvicencis*. *C. virginica* broodstock has been obtained from Pearl Harbor and from Washington State. Spawning has occurred with the WA stock. Researchers expect to begin spawning the Hawaii stock as soon as the PACRC “native species hatchery” is completed in July. Two family lines of *D. sandvicencis* have been established and selective breeding is in progress in an effort to achieve faster growth rates and larger size. The PACRC is still providing technical assistance and support to oyster and shellfish stakeholders when queried. More outreach will be conducted after this year of work is completed.

Aquaculture Announcements

-- USDA Announces \$4 Billion in Round II of Pandemic Assistance for Producers

The USDA has announced it will provide additional aid to agricultural producers and businesses as part of the USDA Pandemic Assistance for Producers initiative. Implementation of the assistance will continue within 60 days of the June 15 announcement to include support to timber harvesters, biofuels, dairy farmers and processors, livestock farmers and contract growers of poultry, assistance for organic cost share, and grants for PPE.

In March, USDA announced \$6 billion in available funds through Pandemic Assistance to support a number of new programs or to modify existing efforts. The following programming is planned for implementation within 60 days, which will continue to be focused on filling gaps in previous rounds of assistance and helping beginning, socially disadvantaged and small and medium sized producers that need support most, including \$700 million for Pandemic Response and Safety Grants for PPE and other protective measures to help specialty crop growers, meat packers and processors, seafood industry workers, among others and up to \$20 million for additional organic cost share assistance, including for producers who are transitioning to organic. [Click here to learn more.](#)

-- GAA Accepting Nominations for Global Aquaculture Innovation Award

The Global Aquaculture Alliance is now accepting applications for its ninth annual Global Aquaculture Innovation Award. The application deadline has been extended to July 15. [Click here for more information.](#)

Established in 2012, the competition recognizes individuals and companies finding new solutions to the key challenges facing aquaculture. Examples of aquaculture innovations include technologies that mitigate the occurrence of animal diseases or parasites, or that reduce or eliminate the use of antibiotics to treat animals; technologies that improve production efficiencies at the hatchery or farm levels while mitigating environmental impact; advances in offshore or land-based recirculation technologies; novel feed ingredients; reductions in carbon footprint through improved energy efficiency or regeneration; and social programs designed to improve living and working conditions at the farm or processing levels.

-- [Reminder: NOAA Public Comment on Programmatic EIS Closes August 5](#)

NOAA has released a [Draft Programmatic Environmental Impact Statement \(DPEIS\)](#) for a potential aquaculture management program in Federal waters of the Pacific Islands Region. NOAA is accepting comments for 90 days through August 5, 2021.

The DPEIS evaluates the potential direct, indirect, and cumulative effects of several management alternatives on the human, physical, and biological environment. This is an opportunity for the public to provide input on the environmental analysis and alternatives within the DPEIS, which NOAA will consider in any final PEIS and within any future management action by NOAA Fisheries and the Western Pacific Fishery Management Council.

-- [Reminder: Sign Up For 2022 Census of Aquaculture](#)

The 2022 Census of Agriculture is right around the corner and USDA NASS is making every effort to count all aquaculture producers in the United States. If you produce any aquaculture products and want to make sure that you are counted in the 2022 Census of Agriculture and the 2023 Census of Aquaculture, please sign up your operation using this online form: <https://www.agcounts.usda.gov/cgi-bin/counts/>. Once you have signed up, you might receive a short survey in the next two years to further categorize your operation. Most likely, you will not receive a survey until the 2022 Census of Agriculture in January or February, 2023.

AquaClip: ASC to tackle "one of biggest threats to aquaculture's reputation" with new feed standard

After years of development, the Aquaculture Stewardship Council (ASC) launched a new feed standard on Tuesday, 15 June, seeking to "tackle one of biggest threats to aquaculture's reputation."

Recognizing that "unsustainable and irresponsible practices across the aquaculture feed-supply chain risk undoing the positive impact of the farming industry," ASC's new standards requires feed mills to meet a series of "strict environmental and social requirements; source ingredients from socially responsible suppliers; and use environmentally responsible raw materials."

The standard addresses issues at both the supply chain and raw material levels, according to ASC, and its requirements on reporting of performance can enhance "the transparency of the industry, reward environmental sustainability, and assist future research into responsible feed."

A 14-month "effective period" for the standard has been enacted, giving auditors, feed manufacturers, and suppliers time to acclimate themselves with the process and prepare for certification. Once the period concludes, the standard will take effect in autumn of 2022, when feed mills become eligible for certification, ASC said.

"Farms will then have 24 months to switch to ASC compliant feed in order to continue meeting the ASC farm standards," the certifier noted.

ASC said the Netflix film "Seaspiracy" has inspired "much debate about the impact of the marine ingredients used by fish farms."

"ASC's feed standard makes clear that while certified mills must source increasing levels of environmentally sustainable ingredients, marine ingredients in fact make up a minority of feed ingredients, with around 75 percent of global aquafeed ingredients derived from agriculture – crops like soy, wheat, and rice. These have their own impacts, notably deforestation and land conversion, which are often overlooked in debates about the industry," it said.

ASC CEO Chris Ninnis said responsibly-sourced aquaculture feed is necessary for feeding the world's increasing population.

Source: Seafood Source // [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 2016-38500-25751 and 2018-38500-28886. 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
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