



*Regional e-Notes ~ Volume 11, Issue 6 ~ June 2019*

## Letter from the Director

Aloha!

Following up on last month's message about utilizing aquaculture to decrease pressure on wild fish populations -- including marine aquarium species in need of conservation -- I am happy to report that our ongoing projects are making good headway on this issue.

At the Oceanic Institute finfish hatchery, CTSA-funded research is helping to both establish and increase production of valuable marine finfish, including popular aquarium species such as yellow tang and coral grouper. The research group recently donated over a hundred coral grouper juveniles to aquariums across the country. Thirty of the fish are at the local Waikiki Aquarium, where they will become an important part of the aquarium's aquaculture and educational outreach display.



Highlights and progress updates from these projects and others are included in this month's issue of e-Notes. During this time of year, CTSA conducts our bi-annual project monitoring conference calls to ensure that our projects remain on track to complete objectives. These calls are a valuable part of our project monitoring, as they allow us to go beyond written reports and engage in lively discussions that often uncover important details. I am grateful to our industry and technical representatives for serving as project liaisons and participating in these important calls.

I am also grateful to our representatives for their participation in this week's annual Industry Advisory Council and Technical Committee meeting. The meeting was held to discuss the pre-proposals CTSA received in response to our FY19 request. As I have expressed...[Read More](#)

## Midyear Updates on CTSA Funded Projects: Impact Highlights

CTSA is in the process of conducting our bi-annual project update conference calls, which coincide with progress reports due at the end of May each year. 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 or recently completed CTSA projects:



***Disease prevalence survey of wild mud crab populations in the US-affiliated Pacific***

## **Islands**

This recently completed project collected mud crab tissue samples from Guam, Palau, Kosrae, and Pohnpei, and assayed them for genetic variability with novel microsatellite markers, developed as part of the study. Samples were also assayed for three diseases: WSV, TSV, and MCRV. The results found significant genetic differentiation, representing the first such finding with microsatellite markers in *Scylla* sp. Disease testing suggests that mud crab populations in the USAPI are not significant vectors for WSSV and TSV. However, a small, but significant, portion of mud crabs do carry MCRV and care should be taken not to introduce this pathogen to crab farms or to transfer this pathogens in regions unaffected by the disease. The novel microsatellite markers developed in this study provide tools to farmers, researchers, and... [Read More](#)

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

This ongoing project is working to increase production of Yellow Tang at the Oceanic Institute. The work completed to date has revealed valuable insights into Yellow Tang F1 stock maturation and egg production. It was not expected that fish would be spawning at this young age and it is a very positive sign that egg production and egg quality will improve rapidly with time. The research group expects that spawning will improve into the summer and early fall (as historically that is when they see larger spawns) and will therefore initiate hatchery trials once they obtain sufficient numbers of viable eggs. It is important to note that Yellow Tang juveniles currently being produced under a separately funded project are now being widely distributed to the aquarium trade; it is expected that the results from this project will greatly enhance that production project, further increasing the impacts of this work, as they will immediately... [Read More](#)

## ***Aquaculture Workshop at Oceanic Institute for Students of Waianae High School's Aquaculture Program***

The primary purpose of this two-year project is to conduct an in-depth annual aquaculture workshop with students from Waianae HS. The PI first worked together with educators at Waianae HS to develop and finalize a workshop curriculum, activities schedule, and workbook content. They then conducted a three-day aquaculture workshop March 27-29, 2019, at the Oceanic Institute of Hawai'i Pacific University. Twenty-two students and 5 teachers/chaperones attended the workshop, which featured activities involving finfish, shrimp, live larval feed organisms, microalgae, environmental DNA (eDNA), an aquaculture business game, college mini-fair, and career lunch mingle. These activities increased the participants' knowledge and skills in the various subjects presented. It also provided the participants... [Read More](#)

## **AquaClip: Palau unveils newly improved mariculture center**

The North Pacific island nation of Palau unveiled what it is calling the largest giant clam seed production center in the world on 12 April.

The newly renovated mariculture center, expanded through a USD 6.6 million (EUR 5.9 million) grant from the Japanese government, can now produce an estimated one million seedlings a year.

Renovations of the facility began in 2016, and the new center includes a marine resource library, more office space for staff and technicians, two research labs, a gift shop, and a seedling facility that will increase production from 200,000 seedlings before the modernization.

Palau Natural Resources, Environment, and Tourism Minister Umiich Sengebau said the giant clam represents a "keystone species for domestic food security and artisanal livelihoods for Palauans."

"This new PMDC will play a vital role in supporting both of these aspects of our lives, promoting livelihood, diversification, and strengthening our ability to provide fresh, sustainably grown local specialties to our residents and visiting populations," Sengebau said.

Sengebau said the center will take the pressure off wild fisheries and is another source of

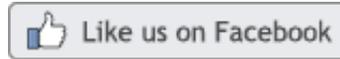
livelihood for a small country such as Palau. He said the new facility will also assist some locals farmers make more money from giant clams that exported for the aquarium trade and help support to restock the wild population of the slow-growing clams in the country.

Farming giant clams can be a slow process and theft has been the main challenge faced by the farmers in Palau.

Palau's Bureau of Marine Resources (BMR) Director Leon Remengesau said the current seedlings are expected to grow to up to three centimeters in length and will be ready for distribution by September 2019.

Source: [SeafoodSource](#) / [Read Full Article](#)

[www.ctsa.org](http://www.ctsa.org)



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 grants 2012-38500-19566, 2014-38500-22241, and 2016-38500-25751. 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 Oceanic Institute of Hawaii Pacific University and the University of Hawaii.

Center for Tropical and Subtropical Aquaculture, 41-  
202 Kalaniana'ole Highway, Waimanalo, HI 96795

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