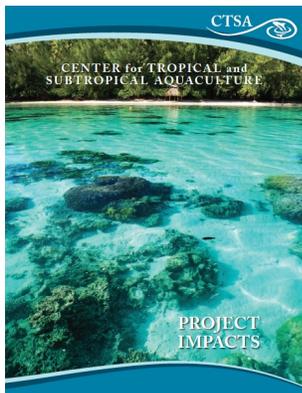




Letter from the Director

Aloha,

This is a special issue of e-notes for our organization. We have been working for several months on developing a showpiece publication to highlight our project impacts from the time of our program inception to now (27 years). We are happy to unveil the publication in this issue!



I would like to take this opportunity to thank all of the Principle Investigators and project work groups who are responsible for creating the positive research outputs and impacts you will read about. Without their innovative project ideas and follow through, CTSA would not be where it is today.

On that note, we hope that you will continue to present us with your ideas to enhance the development of the regional aquaculture industry. We encourage you to participate in our FY13 development process, and suggest that you start by reviewing the "Request for Pre-Proposals" released last month (a reminder is included in this issue of e-notes).

Mahalo,

Cheng-Sheng Lee

Executive Director, CTSA

****NEW** CTSA "Project Impacts" Publication**

The Center for Tropical and Subtropical Aquaculture (CTSA) has released its "Project Impacts" publication, which highlights the outputs and impacts of CTSA projects from 1986-2013. This colorful 24-page booklet is the first-of-its kind publication for the Center. It was developed in an effort to showcase the positive effects that CTSA-supported work has had on aquaculture in the Pacific region. [Click here to download the pdf from CTSA's website.](#)

The publication starts with a letter from the Board of Directors and background information on the Regional Aquaculture Center (RAC) program and CTSA. For readers who are not familiar with aquaculture (such as legislators, media, and the general public), the first few pages contain valuable background information on the global industry. In addition, a comprehensive infographic (pictured here) showcases how aquaculture can help to increase food security worldwide.

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Aquaculture... A path to global food security
Food security requires consistent availability of sufficient, safe, nutritious food to maintain a healthy and active life.

Increased harvesting pressure impacts wild seafood stocks worldwide*

- 57% of the monitored marine fish stocks are fully exploited (at, or near, optimal yield, with limited potential for expansion)
- 29.9% are overexploited (at above sustainable levels, with no expansion potential and higher risk of depletion)
- 12.7% are non-fully exploited (under low fishing pressure with potential for increase)

Most of the top ten species consumed worldwide are fully exploited

FACTS & FIGURES

- Nearly half of the seafood consumed worldwide is from aquaculture.
- The U.S. imports about 80% of its seafood, and nearly half of these imports are products of aquaculture in other countries.
- In 2011, the global value of freshwater and marine aquaculture production was about \$130 billion. However, U.S. aquaculture only had a value of around \$1.5 billion, just under 600,000 tons**.
- Average agricultural products, edible fisheries imports — valued at \$16.6 billion in 2011** — make up the largest contribution to the U.S. trade deficit.
- Only 5% of the seafood eaten in the United States comes from domestic U.S. aquaculture.
- In 2010, the U.S. seafood trade deficit surpassed the \$16 billion mark for the first time, reaching \$17.2 billion in 2011.

For centuries, Pacific Islanders and other coastal residents have depended on fish as their main dietary protein source. Globally, fish provides more than 3 billion people with almost 20% of their average per-capita intake of animal protein, and 4.3 billion people with 15% of their protein.

But the security of fish as a dietary staple is in jeopardy. When we consider the effects of overfishing on our oceans, the fact that total production from capture fisheries has reached maximum yield worldwide (approximately 94.6 million tons in 2011), and the rapid rate at which Earth's population is growing, it is easy to see how seafood may become scarce — or unaffordable to all but the very wealthy — if we don't find a solution to over-exploitation.

Globally, aquaculture has grown to help meet burgeoning demand for edible seafood as capture fisheries' output has leveled off. Aquaculture in the Pacific Region can help islanders restore a sustainable food supply and cut down on the need to import food. It can also help vitalize rural communities and provide tools and resources to create economic growth. **Food security, self-reliance, and economic gain are completely within reach, with aquaculture as a means to attain them.**

Aquaculture... Feeds our people, supports our economy, & can help save our oceans.

*Food and Agriculture Organization of the United Nations, State of World Fisheries and Aquaculture 2012
**Food and Agriculture Organization of the United Nations/Global Fisheries & Aquaculture Statistics 2012

The core content of this publication can be found in the "CTSA supports..." pages, where different research, demonstration, and extension efforts are categorized and summarized. From "Conservation of Wild Seafood Stocks" to "Capacity Building in the Western Pacific," and everything in between, the range of work that CTSA has funded over its first 27 years is on full display. Due to the fact that CTSA has supported over 200 projects since its inception, the majority of impacts are summarized and not broken down into specific project reports. However, several "Project Highlights" throughout the publication showcase unique projects that have catalyzed significant and/or immediate changes in the local industry.

We hope that you will enjoy reading this publication, and encourage you to share it with interested parties. As always, we welcome your comments and suggestions.

Please Note: To ensure that you are viewing the publication as intended (spread format, with the pages side-by-side), we suggest that you first save it to your computer as a PDF and then open with Adobe Reader or similar software. If you do not have Adobe Reader and/or your computer opens PDFs with Preview by default, click on the "View" tab and select "Two page."

Reminder: CTSA FY2013 Request for Pre-Proposals



The Center for Tropical and Subtropical Aquaculture (CTSA) requests pre-proposals for applied research and extension that addresses problems and opportunities in the regional aquaculture industry ([click here to view the full request](#)). In a region-wide survey, CTSA stakeholders identified strategic areas and species as the top aquaculture development priorities. Pre-proposals that target these strategic areas and priority species will receive highest preference. However, pre-proposals that do not fall under specific priority areas but address CTSA's mission will be considered in our development process. Our focus is on funding projects that will have immediate, positive impacts on the regional aquaculture industry.

CTSA's mission is to support aquaculture research, development, demonstration, and extension education in order to enhance viable and profitable aquaculture in the United States. CTSA is funded by an annual grant from the U.S. Department of Agriculture's National

United States. CTSA is funded by an annual grant from the U.S. Department of Agriculture's National Institute of Food and Agriculture (NIFA). The CTSA region includes the following areas: American Samoa, Guam, Hawaii, the Commonwealth of the Northern Mariana Islands, the Republic of the Marshall Islands, the Federated States of Micronesia, and Palau. CTSA strongly encourages collaboration between institutions and agencies in the region, as well as shared funding of large priority projects. Cultivating strong regional partnerships will catalyze the greatest changes in our industry.

CTSA will conduct a Pre-Proposal Webinar on **Tuesday, June 4**. Anyone planning to submit a pre-proposal is strongly urged to participate. Topics to be discussed include FY13 strategic areas and priorities, pre-proposal guidelines, CTSA's development process, and industry stakeholder expectations. CTSA will also answer questions from webinar participants. To register, please email mbrooks@ctsa.org.

AquaAnnouncements

Small Business Innovative Research (SBIR) Grant Writing Workshop

Register now to learn the ins and outs of writing an SBIR grant proposal. The cost is \$25 (free for HTDC & INNOVATE Hawaii clients). The workshop will be held on Wednesday, June 5, 2013 from 9am-12pm at the Manoa Innovation Center. For more information and/or to register, please email [sblr@htdc.org](mailto:sbir@htdc.org). You must register by June 3, 2013.

'Farm Assessment' Manuscript Published in Aquaculture Economics Journal

The CTSA project highlighted in the April issue of e-notes recently published a manuscript in the Aquaculture Economics & Management Journal. [Click here](#) to download the manuscript. The abstract is below:

Assessing Hawaii's Aquaculture Farm and Industry Performance

This investigation uses farm-level data from the U.S. Census of Agriculture to evaluate the economic performance of the aquaculture industry in Hawaii. We first examine the entire aqua- culture industry by assessing its profitability, efficiency, and input cost structure over time and across economic farm sizes; we then proceed to analyze the farms at the individual subsector levels of crustacean, Chinese catfish, other foodfish, and ornamental farms. The results reveal a wide variation in performance across farms, even within the same subsectors. In 2007, 57.6% of the aquafarms generated a profit; however 39.4% of the farms were found unable to cover their vari- able cash expenses. The presence of significant economies of scales were detected in performance with full-time operations being found more profitable and efficient than part-time operations. Finally, Hawaii's labor cost share for aquaculture enterprises is about 3.5 times greater than that found on the continental United States.

2012 U.S. Seafood Trade Deficit - What Can Pecans Say About Aquaculture?

The following article by Joseph J. Meyers of the New Jersey Department of Agriculture was distributed via Aquacontacts and may be of interest to aquaculture producers:

Each spring brings the start of a new hatchery season in US aquaculture. The spring also brings the release of trade data by the US Census Bureau, so once again we take a look at the seafood trade deficit (where imports exceed the exports) and how these figures compare to other trade categories. This year, not only do we take a look at the seafood trade deficit, but also describe an example of how the global food market has greatly changed another U.S.-grown product, which could indicate a potential impact on domestic aquaculture production.

[Click here to read the full article.](#)

Senior Advisor to U.S. Sec. of Agriculture Releases Op-ed Piece on Importance of

Aquaculture Development

Max Holtzman, a senior advisor to the U.S. Secretary of Agriculture, recently released an op-ed to provide a USDA perspective on the importance of aquaculture development in the United States and new interagency efforts to address some challenges to stimulate growth.

Aquaculture is Agriculture, Exports and Jobs

The United States imports nearly 90% of the seafood we consume, over half of which is produced through aquaculture (farm raised seafood products). While the unparalleled success of our terrestrial growers, ranchers and producers facilitated U.S. exports which resulted in an estimated U.S. agricultural trade surplus of over \$32 billion for FY 2012, there was a trade deficit approaching \$1 billion for seafood products in 2011. Why is this important? We know empirically that every \$1 billion in agricultural exports supports approximately 7,800 jobs here at home. President Obama directed this Administration to double its exports by 2015 and we are well on our way to doing that. Aquaculture has the potential to effectively contribute to increasing U.S. exports over the next decade, providing new jobs and economic opportunities for those in rural America.

[Click here to read the full op-ed.](#)

Pacific Islands Spotlight: Farming Moi in the RMI

Majuro fish-farming project makes progress

By Giff Johnson, Marianas Variety, May 15, 2013

MAJURO - The first meal of Marshall Islands-made fish food was a big success, if you ask the Pacific Threadfin that gulped it down enthusiastically earlier this week in the latest development of a fish-farming pilot project in Majuro.

The fish, known as "moi" in Hawaii, are being raised by the Rongelap Atoll Local Government, or RALGov, in the first stage of a major fish-farming project in Majuro.

"Development of a locally sourced and produced feed is key to the success of this project," said Rongelap Mayor James Matayoshi. "This was a major step forward."

A key component of the fish feed produced was local fishmeal from the Pan Pacific Foods tuna-processing plant in Majuro, said Dr. Warren Dominy, recently retired director of Aquatic Feed and Nutrition Department at the Oceanic Institute in Hawaii. "We are fortunate to have fish byproducts that are readily available in Marshall Islands and what could be better than recycling it into feed to raise our own fish to improve food security, sustainability and create jobs for local people," Dominy said.

Ryan Murashige, president and CEO of Hukilau Foods in Hawaii and Vice President of Hawaii Moi and Fish Company, is involved in the Majuro fish-farming project. An expert in both moi hatchery and grow-out operations, Murashige explained that the feed was well accepted by the fish but at this stage is a preliminary diet for the fish being grown in sea cages in Majuro's lagoon.

If the pilot project works, the long-term aim is to grow Pacific Threadfin in Majuro for export to the Hawaii market, where the fish is in high demand.

"The Aquatic Feed and Nutrition Department at the Oceanic Institute is analyzing the feed to make sure that we are meeting all the nutrient requirements of the fish," he said. "Once we see the analysis we will fine-tune it to reduce cost, maximize health and growth."

[Click here to read the full article.](#)



AquaClip: West Hawaii to Gain Two SeaGrant Positions

By Carolyn Lucas-Zenk, *West Hawaii Today*, May 14, 2013
clucas-zenk@westhawaii.com

Unique partnerships have resulted in West Hawaii getting two full-time University of Hawaii Sea Grant Program extension specialists by this summer.

The new jobs are important in helping improve the public's understanding and stewardship of coastal and marine resources, as well as empowering communities, volunteers, organizations, agencies and policymakers to make well-informed decisions, participate and collaborate. The positions replace the one that ended when former Sea Grant extension specialist Sara Peck retired in August 2011, said Darren Okimoto, Sea Grant extension leader.

When Sea Grant announced shortly after Peck's retirement that it couldn't supply the necessary funds to keep the position or its Kailua-Kona office going, numerous residents offered their help and lobbied the program to find a way. The initiative also got the attention and support of Rep. Cindy Evans, D-North Kona, Kohala, who was determined to find a partner to help undertake the funding needs. She was the one who brought Sea Grant together with the Pacific Aquaculture and Coastal Resources Center at the University of Hawaii at Hilo, Okimoto said.

[Click here to read the full article.](#)

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 2007-38500-18471, 2008-38500-19435, and 2010-38500-20948. 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 and the University of Hawaii.

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