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Regional e-Notes ~ December 2012

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Letter from the Director

Aloha,

This month's issue of e-notes features two articles on the recently-completed "CNMI Finfish Development" project. The first article highlights the 2-week workshop conducted as part of the project, and includes links to a FREE marine finfish hatchery manual and accompanying training video. The second article is a project summary provided by the P.I.

My team and I would like to wish you and your family Happy Holidays. We look forward to sharing many more exciting project outputs and initiatives with you in 2013!

Mahalo,
Cheng-Sheng Lee

In This Issue

Letter from the Director

New! Finfish Hatchery Training Manual and Video

Marine Finfish Development in the CNMI

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CTSA-Sponsored "Marine Finfish Hatchery Training" Workshop Wrap-up: FREE Manual and Video Now Available On CTSA.org

By Meredith Brooks

In August 2012, the Center for Tropical and Subtropical Aquaculture sponsored a marine finfish hatchery training workshop at the Oceanic Institute. Seven individuals from the CNMI, Marshall Islands, Palau and Hawaii participated in the two-week workshop, which provided practical training in core broodstock, live feeds production and hatchery technologies. Workshop participants were directly involved in all aspects of a moi hatchery production cycle including broodstock care, egg collection, live feed production, hatchery systems commissioning, larval rearing and water quality analyses.

"I am thrilled that my aquaculture technician and I are able to participate in this workshop," stated Michael Ogo, Aquaculture Coordinator for Northern Marianas College CREES program and project participant. "From collecting eggs to first-feeding of the larvae, this is a great opportunity for us to learn the essential steps to establish a marine finfish hatchery."

The workshop was an objective of the CTSA-funded project "Marine Finfish Development in the Northern Marianas Islands." The overall purpose of the project was to provide marine finfish



Michael Ogo administers first feeding for moi larvae during the

aquaculture training to the Northern Marianas Islands (NMI) community to help address food security and poverty reduction in the face of socioeconomic change in the region. However, thanks to careful management of project funds, aquaculture technicians from other Pacific Islands were also able to participate in the workshop.

CTSA-sponsored finfish hatchery training workshop.

In addition to conducting hands-on training in the workshop, the project work group also refined and updated the original moi hatchery manual published by CTSA in 1998. This revised 119 page manual was available in draft-form during the workshop, and was finalized after the training sessions. It is now available for free on the CTSA websites: [click here to download](#).

As an added value to the workshop and manual, CTSA has created a twelve-minute training highlights video using footage and images taken during the workshop. The video is meant to provide visual aids for those interested in establishing a marine finfish hatchery, and should be used in conjunction with the manual. [Click here to view the video](#).



Marine Finfish Development in the Northern Mariana Islands: Project Summary

By Chad Callan, Ph.D.
Oceanic Institute

The Commonwealth of the Northern Mariana Islands (CNMI) includes a three-hundred mile archipelago of 14 islands populated by just fewer than 70,000 people. In political union with the United States, CNMI has been working to forge closer links with the U.S., including recent adoption of US Federal minimum wage and immigration regulations. A drastic economic downturn associated with

Federal minimum wage and immigration regulations. A drastic economic downturn associated with declines in tourism and pullout of the garment making industry has led to economic recession. This has created a need for greater diversification of the CNMI economy. Aquaculture has been identified as one of four key areas with good prospects of economic diversification.



Rota Island, CNMI

This project assembled teams from the Oceanic Institute (OI) in Hawaii and the Northern Marianas College (NMC) in Saipan to help identify marine finfish culture opportunities and provide training and mentorship. The transfer of core hatchery technologies to the island communities of the CNMI will continue to expand the emerging aquaculture industry now based mainly on shrimp and Tilapia. Marine finfish is currently ranked highest of the undeveloped commodities with high demand and growing feasibility in the region.

The project first focused on working with CNMI stakeholders to identify the most appropriate local species for initial culture development. A list of the top ten

most desirable species included Rabbitfish, Milkfish, Mullet, Snappers, Unicorn fish, Grouper, Tuna, Parrotfish, Goatfish and Trevally. However, by nearly unanimous vote, Rabbitfish, (*Siganus argenteus*) was determined to be the most desired species to develop in culture. The reasons for this were 1) the fish has a (local) high market value 2) the fish is an herbivore, reducing its diet (production) costs 3) culture methods have been determined for similar species within the Genus 4) the fish can tolerate a wide variety of environmental conditions and is suited to both on-shore and off-shore grow-out. Therefore, the conclusion of the well-attended meeting was that rabbitfish is the species that will first be targeted for hatchery production in CNMI.

The stakeholder meeting was followed by the intensive, 2-week, hands-on training workshop at OI, detailed in the previous article. As the OI training workshop primarily utilized moi as a model marine finfish species for training purposes, we have refined and updated the original moi hatchery manual published by CTSA in 1998. This revised manual was available in draft-form during the OI training workshop, and was finalized after the training sessions, including priority recommendations and feedback incorporated from workshop participants. It is now available in its final form on CTSA's website.

It is envisaged that the results of this effort will turn into a multi-year project focused on building local capacity in the Pacific Island community through continuing transfer of these technologies. Although there is strong support for high-value species such as snapper and amberjack, current complications in ocean law (affecting deployment of necessary off-shore infrastructure) make these a lower priority for now. Therefore we recommended the CNMI farmers first focus on developing fingerling supplies for species more appropriate for land-based growout such as locally popular *Siganus* and *Mugil* species, while offshore regulations can be further refined.

Successful completion of this project has helped lay the groundwork for developing a range of candidate marine fish species for commercial farming in the CNMI. The continued development of a marine finfish aquaculture industry will help secure a local supply of high quality food for island inhabitants, reducing pressure on already stressed nearshore fisheries, and providing new economic opportunities that are both environmentally and socially beneficial to island communities.

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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