



UNIVERSITY OF PUERTO RICO SEA GRANT PROGRAM

Research and Information Needs for Innovative Marine and Coastal Studies in the Caribbean

Aquaculture Focus Group – La Casa del Chef, Ponce
December 9, 2010

Introduction

The University of Puerto Rico Sea Grant College Program (UPRSG) is performing a regional assessment to determine critical research and information needs for innovative marine and coastal studies in the Caribbean. Therefore, surveying the regional community of users of marine and coastal resources is essential to an effective assessment of research needs. Based on the current needs for sustainable resource use of fisheries, we find that environmentally-friendly practices of aquaculture are important issues that should be addressed in the Caribbean. With this in mind, we carried out a discussion session with stakeholders and experts to share their insights on novel research and to identify the type of information that is needed to better current aquaculture methods. The obstacles that are frequently encountered in the development and/or process of aquaculture practices were also discussed.

Funding and Support

The NOAA award no. NA08OAR4170748 provided funding for this activity. Dr. Manuel Valdes-Pizzini (Associate Director-UPRSG), Dr. Kurt Grove (Research Coordinator), and Jasmine Seda (Project Assistant) coordinated this activity.

Dates and Venue

The focus group was held at La Casa del Chef in Ponce, Puerto Rico on Thursday, December 9, 2010 from 1:00 - 4:00 pm. Eight participants representing public and private sectors attended the activity.

Goals

The main objectives of the focus group were the following:

1. Assess research needs for environmentally-friendly practices of aquaculture on a short- and long-term scale.
2. Identify obstacles that may be hindering or delaying the development of research and strategies for aquaculture practices in Puerto Rico.

Critical Areas of Research

The following is a list of the recommended types of research for aquaculture practices in the Caribbean made by the participants in the focus groups:

- Identify and optimize local coastal areas for offshore aquaculture (marine spatial planning) that should be pre-designated using information –from the Puerto Rico Department of Natural and Environmental Resources.
- Determine oceanographic requisites for installations and environmental characteristics particular for aquaculture practices around the island.
- Inventory of all the species for aquaculture based on experience or need and stress more research on these species.
- Research should be conducted on the parasites and diseases affecting commercially important species.
- Impacts of marine aquaculture on benthic habitats and how to mitigate the effects.
- Assess why aquaculture projects have been rejected and what research is needed to address the issues.
- Studies on the socio-economic impacts of aquaculture species on local communities.
- Studies that evaluate the viability of aquaculture methods, especially on an economic level.
- Identify/prioritize important molluscan species (conch, oysters, clams, etc.) since these filter and clean coastal waters, shellfish mariculture is environmentally friendly.
- Development of an information network/portal to share critical data/information among stakeholders.
- Studies that are designed to compare fish farming in protected (e.g., mangroves) and unprotected (e.g., shelf) areas.
- Studies that investigate ways to combine development and mitigation.
- Determine if lionfish is able to affect native fish populations needed for restocking. Can rearing native fish for restocking help mitigate lionfish impacts?
- Determine reproduction and domestication of mariculture species, which requires a local hatchery and is essential for aquaculture endeavors.
- Identify and increase seafood safety regulations that would make locally farmed fish more profitable.
- Efforts that focus on restocking the bonefish population in Puerto Rico since it has been depleted and no longer is considered an attraction to tourists.
- Development of an aquaculture strategic plan.
- Development of sustainable feeds for aquaculture (e.g., rearing algae to feed conch).
- Develop strategies to re-seed/restock areas that have been fished out and clean areas that suffer from poor water quality.
- Assessments on the aquaculture techniques used by local communities and fishermen.
- Efforts improve fishing management by rearing and protecting reproductive stocks in cages.
- Practices that bring about environmental rehabilitation - rearing of certain species can help promote the rehabilitation of areas with other important species
- Develop indices, standards and parameters that define what methods are considered sustainable and environmentally-friendly for mariculture (e.g., key indicators, organisms, community that are used to determine standards for practices)
- Efforts for domestication of new species - provides an opportunity to branch out in other areas, but must be maintained by restocking continuously.

Obstacles frequently encountered in aquaculture practices:

- Industry helps define research needs. Without an active industry, we are limited in our understanding of problems that research could help resolve.
- The absence of a list for culturing native species.
- The large amount of effort/funds needed to obtain permits is one of the biggest obstacles.
- Not identifying past errors in aquaculture projects that were unsuccessful and using that information to improve future projects.
- Resistance from some stakeholders towards designating potential areas for aquaculture (mostly due to personal interests).
- Lack of communication between stakeholders about the latest projects.

Final Overview

In general, most participants were extremely displeased with the process of obtaining permits to practice aquaculture from federal agencies. Interagency communication and collaboration was recommended to improve the process of evaluation and approval of aquaculture projects. Re-evaluation of past projects that were unsuccessful was also suggested to identify the problems that were encountered. Emphasis was also made to establish specific parameters, indices and standards for sustainable, environmentally-friendly aquaculture practices.