

# AQUACULTURE AND FISHERIES

## Culture Technology

RPI uses the world's leading tested technologies for the cultivation of marine and freshwater prawns. We also have experience in the culture of other tropical, subtropical, and temperate climate crustaceans, molluscs, and finfish.



Specializing in the culture of marine shrimp, RPI's Aquaculture Division is recognized internationally. We have conducted projects in over a dozen countries, providing a wide range of technical services, including all aspects of project planning, development and execution.

## Resource Management

The development of coastal aquaculture has placed additional strains on already sensitive coastal ecosystems. This is particularly evident in the development of marine shrimp aquaculture, where in several locations the impacts to the coastal ecosystem have been dramatic. In several instances, RPI has been called upon to assess such impacts, and to propose standards and criteria which must be implemented to halt further deterioration without jeopardizing the survival of the shrimp culture industry.

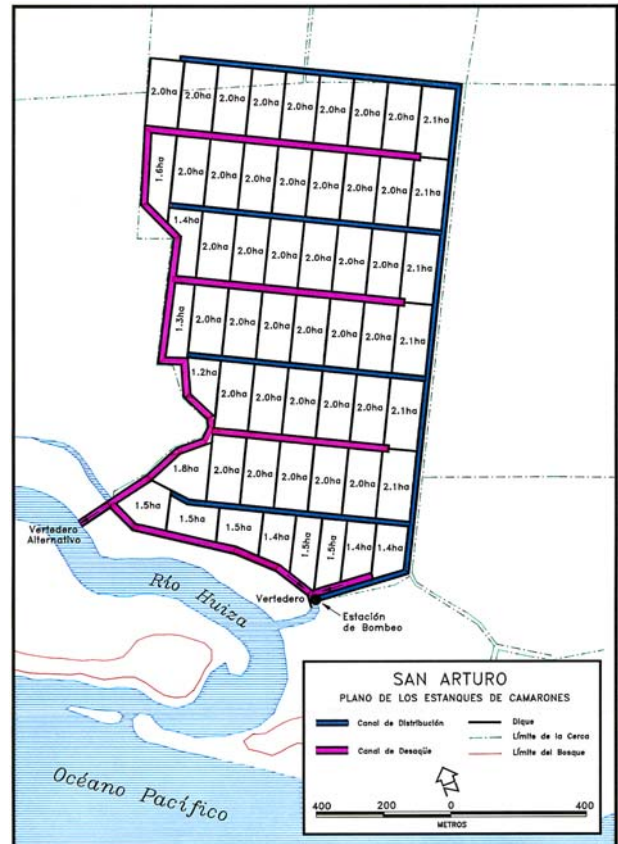
## Site Selection

In the process of locating suitable sites for aquaculture facilities, RPI has surveyed tens of thousands of hectares of coastal habitats.

## Feasibility Studies

RPI is frequently called upon, by both private industry and government agencies, to determine the technical and economic

feasibility of a project. In addition to technical assessments, our reports include detailed economic and financial information, presented in the required format of the banking institution in the host country. RPI produces the technical design of an entire project, including the facility layout for both hatcheries and grow-out ponds, as well as materials and equipment lists.



## Project Operations

We operate both hatcheries and grow-out facilities for clients. This requires the dispatching of experts to live and work on-site, with technical and specialty support provided by our home office.

## Training

In addition to actively training local technicians during project operations, RPI conducts specialty short courses, instructing technicians and managers alike in all aspects of shrimp and prawn culture.



## AQUACULTURE AND FISHERIES (cont.)

### Technical Assistance in the Development of a Shrimp Culture Industry in El Salvador.

Under a USAID contract, RPI provided management and technical support to FUSADES (Fundación Salvadoreña para el Desarrollo Económico y Social) in the development of a shrimp culture industry in the country. This project involved the design, construction, and operation of shrimp farms, a shrimp hatchery, technical management of shrimp farms, studies of postlarval and gravid female shrimp availability, introduction of better management practices, as well as training and technology transfer.

### Assessment of Environmental Considerations and Procedures for the Issuance, Renewal, or Transfer of Shrimp Mariculture Concessions in Ecuador.

RPI conducted this project for the Inter-American Development Bank (IDB) and the Government of Ecuador to assess the existing process of shrimp mariculture concessions. The project included a review of the legal system and laws; institutional capacity; existing environmental parameters; line agency responsibilities; and overall process. Project objectives included recommendations to the government of Ecuador for a viable alternative streamlined process and for the establishment of water quality and environmental guidelines for the industry environmental standards, parameters, and norms that should be considered. The "carrying capacity" of the various estuaries were considered in recommending these parameters. The report was presented in both Spanish and English.

### Strategic Fisheries and Aquaculture Development Plan for Guadeloupe.

Under contract to L' Institut Regional de Pêche et de Marine (IRPM) in a project funded through the European Union, RPI formulated a strategic plan for fisheries and aquaculture development in Guadeloupe. Work included a site visit to collect pertinent information and data, conduct interviews and meetings to determine present status of the fisheries and aquaculture sectors. The strategic plan identified a 5-goal objective:

1. Identification and development of underutilized fisheries stock without impacting traditional fisheries;

2. Development and implementation of a system for stock assessment;
3. Development and implementation of an improved fishery management system;
4. Development and expansion of aquaculture program; and
5. A mandate to maintain, conserve, and protect coastal, inshore, and nearshore environments. The report was presented in both French and English.

### Assessment of the Shrimp Farming Potential by Cooperatives in El Salvador.

Under a contract to Arizona State University and the Central Bank (BCR) of El Salvador (funded by USAID), RPI conducted this project to assess the shrimp culture potential for reform sector cooperatives in El Salvador. The project included a series of detailed site surveys (including water and soil quality studies, nearshore coastal processes, and topographic studies) to determine the cooperatives that had the most suitable sites for shrimp farming. Following this determination, detailed feasibility studies on the three most appropriate sites were conducted. These included financial and economics studies and addressed the sociopolitical issues involved in the cooperative's ability to undertake the project. The report was presented in both Spanish and English.

### Site Selection Surveys, Detailed Feasibility Studies to Assess Site Suitability, Determine Commercial Viability, and Prepare Technical Designs for Marine and Freshwater Shrimp Culture.

Since 1983, RPI staff has performed site evaluation surveys on over 100,000 hectares of land and have prepared +30 feasibility studies in the Americas, the Caribbean, Africa, Southeast Asia, the Middle East and Southern Europe to determine suitability for shrimp culture. Feasibility studies include site visitation, study of nearshore coastal processes, associated estuarine dynamics, sedimentation issues, soil and water analysis, topographic work, preliminary design, and economic and financial parameters. These studies have been conducted in the United States, Venezuela, Colombia, Guyana, Aruba, Guadeloupe, the Bahamas, Puerto Rico, Mexico, Guatemala, El Salvador, Costa Rica, Panama, Saudi Arabia, Indonesia, Malaysia, Nigeria, and Greece.