



# AQUACULTURE CRSP 22<sup>ND</sup> ANNUAL TECHNICAL REPORT

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## FOOD SAFETY AND HANDLING: INCREASING LOCAL CONSUMPTION OF AQUACULTURE PRODUCTS AND IMPROVING QUALITY

*Eleventh Work Plan, Disease, Predation Prevention, and Food Safety Research 1 (11DPPR1)  
Final Abstract*

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### ABSTRACT

Food safety and handling have become major issues for aquaculture in much of the world, including Sinaloa, Mexico, where efforts are underway to sustainably manage and improve benefits from aquaculture. Shrimp culture is the predominant form of aquaculture in the region, and preliminary work has shown that there is a need for small producers, processor employees, and seafood vendors to improve their ability to safely harvest, handle, store, and market shrimp and shrimp products. Many of these workers are women and the rural poor. Additionally, other forms of aquaculture have had their development slowed through the general lack of capacity in this area. Tilapia and other freshwater fish are major aquaculture products, but their full potential cannot be exploited unless means are found to process and transport under safe conditions beyond the immediate local market. A major effort is being made to diversify aquaculture away from shrimp to local species of bivalves in coastal areas. Constraints exist for both local and international marketing of bivalves as water quality deteriorates and standards become more rigorous. Thus, addressing bivalve sanitation issues is a focal point not only for aquaculture development, but for environmental management and public health. As the multi-sectoral working group proceeds in its investigations, new, previously unrecognized risks are being uncovered. High level of gnathosome infection in most bodies of freshwater, which coupled with the customary and growing habit of eating raw fish products is poised to become a greater health issue as this parasite can cause severe illness and death. Contaminant levels appear to be increasing in aquatic products as urban, agricultural, and industrial pollution increases unchecked. Previously undetected levels of gastrointestinal illness associated with consumption of fish and shellfish is beginning to be documented and rates appear to be high and increasing. Public perception of the safety of aquatic products appears to be diminishing. Given that much of the work focuses on sectors of society most at risk for food-borne illnesses, including the physically disabled, the challenge of finding practical means of ensuring food safety is critical to maintaining aquaculture as a source of healthy and quality food. Research is being carried out with women's oyster cultivating cooperatives, women working with impoundment tilapia culture, seafood vendors, women fishers and two groups of physically challenged, rural adults who are currently engaged in manufacturing occupations who wish to cultivate tilapia. To date, extensive literature research, field investigations, interviews, site observations, and studies have been conducted. Multidisciplinary teams including specialists from the University of Sinaloa, University of Rhode Island, University of Hawaii Hilo, NGOs such as Conservation International, CIAD, and government agencies are responsible for this research. Four workshops have been held to plan the work, define research methodologies, present preliminary results and analyze findings have been held. A draft of the case study has been produced and is now under review. It is expected that work will be completed by March 2005.