

Shellfish Harvest and Safety in Puerto Rico

First Meeting and Workshop

September 9-11, 2009

*Held at Interamerican University of Puerto Rico,
San German Campus*



Overview

The purpose of this meeting was to introduce the current situation concerning the market of locally harvested shellfish to local government officials and shellfish harvesters and vendors. The meeting agenda was divided in three days. During the first day, representatives for all stakeholder groups were present for a total of 107 attendees. During day two, we held a meeting with the shellfish harvesters and vendors, and during day three we held a meeting with representatives from different regulatory agencies.

Day one

During the first day of the workshop shellfish harvesters and vendors and representatives from government agencies met together in order to present the basic problem to all in the same manner. Among the attendees were 9 shellfish harvesters and vendors and 64 government officials including educators, police; representatives from: academia, agricultural extension services, Department of Environmental Health, Department of Natural Resources, Environmental Quality Board, local government, local US EPA and US FDA offices, and Puerto Rico Department of Health.

We planned to conduct an interactive activity after the day's presentations for which we had prepared questions targeted to each stakeholder group. The goal of such activity was to interact with the group and get a sense of the problem and ways to solve it from their point of view and according their experiences and expertise. More time than anticipated was spent on Q & A sessions after each presentation. Due to this fact, we did not have enough time to conduct this activity, but its goal was exceeded during the high participation that took place during the Q&A sessions.



Following is an overview of the first day's agenda:

Session	Presentation title	Speaker	
Introduction to the topic	Fecal contamination: socio-cultural, economic and environmental factors	Karina Ballester	NCSU, Post Doc
	Watershed protection as strategy to control contamination	Carl Axel Soderberg	US EPA, Region II Director
	Bivalve Biology and their relation to public health; Human enteric pathogens and toxins transmitted by bivalves	Jay F. Levine	NCSU, Project PI
Current situation in Puerto Rico	Outbreaks related to enteric pathogens in Puerto Rico and the US	Encijar Hassan-Rios	PR Health Department
	Protection strategies: Management of sewage treatment plans	Carlos Villafaña	US EPA
	Shellfish in the Southwestern mangroves of Puerto Rico as indicators of marine environments	Heidi Hertler	IUPR, CECIA
	The enteric pathogens in bivalves in Puerto Rico project	Karina Ballester	NCSU, Post Doc
	Preliminary data of the enteric pathogens in bivalves in Puerto Rico project	Graciela I. Ramirez	IUPR, CECIA
Regulation as a public health protection barrier	Regulations that currently apply to the bivalve market in the US: NSSP/HACCP	David Wiggins	US FDA, NSSP
	Bivalve management programs; how are they established?, scientific basis, monitoring	Patti Fowler	NC, Shellfish Sanitation program

Day one

The speakers and participants had great rapport during the sessions. Workshop participants seemed to have grown concerned about the issue and many expressed their desire to help with our plans of establishing a shellfish sanitation program in the island. In the same manner, speakers expressed awareness of the complexity of the issue and their plan to protect public health and the environment and the shellfish market; which is a lifestyle for the shellfish vendors, fishermen and their families.



Day two

During the second day of the workshop, project leaders (Jay Levine, Graciela Ramirez, Karina Ballester, Heidi Hertler, Patti Fowler and David Wiggins) met with fishermen and vendors during an informal and interactive meeting. Every person involved in the market of local shellfish was identified, and personally introduced to the project and invited to this workshop by students working on the project. In addition, Dr. Ramirez held a short meeting with them to speak about the project and the importance of their attendance at the workshop. Eleven shellfish harvesters and vendors presented at the meeting. They represent 70% of the local shellfish market. Those that were not present live far away from the venue (although compensation for transportation was offered), had other commitments (medical appointments), or do not have a good relationship with the vendor association (two).

During three hours in the morning, we had an informal discussion about their feedback from the material that was presented to them the previous day. Initially the attendees were defensive and, as an example, brought up issues with regulations that have restricted the seasons for harvesting conch and how, to their belief, this has affected the market and their livelihood. We also discussed the NSSP and area classifications and the reasons for establishing these classifications along with their respective restrictions.

We briefly discussed the concept of aquaculture and demonstrated different ways in which oysters and clams are farmed in other parts of the world. It was also mentioned that the same species of oyster harvested in Puerto Rico is farmed in Cuba and Brazil. After we introduced this concept and illustrated how much growing potential their market has, the attendees became enthused and more open to our ideas. We offered to provide technical expertise on aquaculture of oysters and to provide guidance on the allocation of funds for the development of small businesses in rural communities.

After a very fruitful discussion, the attendees had lunch and later we proceeded to CECIA's laboratory to demonstrate the techniques used in the water, sediment and oyster samples. The vendors and fishermen were all very attentive and asked questions about the procedures. Towards the end of the day we met and discussed their final concerns and future plans. We reiterated our intent to help them develop the market in a safe manner and promised to conduct future meetings in which we would provide technical information and assistance.



Day three

During the third day of the workshop, we held a meeting with a selected group of government officials. That day's meeting had a total of 20 attendees. The group was kept small in order to be able to accommodate visits to the field sites. Among those present were representatives from local DNR, University of Puerto Rico, and Department of Environmental Health. Personnel from the Authority for Aqueducts and Sewage were registered, but were unable to attend the meeting.

A brief overview of the current situation was given for the benefit of those who were not present during the meeting on September 9. During the meeting it was reported that attempts have been made to regulate the market of local shellfish, but that local government has shown opposition to having the set rules for food establishments enforced on shellfish vendors due to the effect this may have on local tourism and subsequently on the local economy. It was also mentioned that the shellfish market in the northeast part of the island is mainly composed of imported shellfish and that these are checked for appropriate storage and tagging. After the discussions we headed off to the field.

The group visited Parguera and Boquerón Bay. During the visit, we demonstrated the natural habitats where the mangrove oyster and the flat tree oyster grow and discussed the microbiological testing done in the project and the measurement of water parameters. During the visit, we were able to point out some point sources of fecal contamination; such as two water treatment plants and a marina, and to initiate discussion about what can be done to resolve the issue.

Although we would have preferred to have more diverse agency representation; the goals for the meeting of exposing the issue, raising awareness and initiating discussion about possible solutions and expected pitfalls, were met. As a result of this meeting we were able to develop a network of individuals interested and able to help develop a shellfish sanitation program in the island.



Furure activities

Developing an interagency task force. Meetings every three months.

- Mayors, area senators, regulatory agency representatives (permanent representatives for all project meetings, preferably personnel located in southwest region)
- Developing a shell recycling program
- Obtaining permits/location for depuration, nursery and aquaculture
- Presenting shoreline survey, laboratory methods and NSSP Guide to the Control of Molluscan Shellfish.

Meetings with harvesters and vendors every three months

- Educational activity
- One day shellfish safety course with certification (endorsed by Health Department to be displayed at establishment)
- Demonstration on survival of oyster/clam after refrigeration.
- Aquaculture
- Depuration
- Safe harvesting areas
- Market development

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