

# **Evaluation Associated with Establishing a Catch Share Program in a Data Poor Fishery: A Case Study of the Puerto Rican Deep Water Snapper Fishery**

## **Les Défis Associés la Mise en Place D'un Programme de Partage des Captures Dans Une Pêcherie aux Données Limitées: Une Etude de Cas du Rouget et Mérout des Eaux Profondes Portoricain**

### **Evaluación del Programa de Cuotas de Pesca en la Pesquería de Pargos Rojo del Golfo de Méjico: Cambio de Perspectiva de los Pescadores**

WALTER KEITHLY<sup>1\*</sup>, JUAN AGAR<sup>2</sup>, FLAVIA TONIOLI<sup>3</sup>, MANUEL VALDÉS PIZZINI<sup>4</sup>, and MIGUEL ROLÓN<sup>5</sup>

<sup>1</sup>*Louisiana State University, 101 Woodin Hall, Baton Rouge, Louisiana 70803 USA. \*walterk@lsu.edu.*

<sup>2</sup>*Social Science Research Group, NOAA Social Science Research Group, Southeast Fisheries Science Center, National Marine Fisheries Service, Miami, Florida 33149 USA.*

<sup>3</sup>*Cooperative Institute, NOAA Cooperative Institute for Marine and Atmospheric Studies (CIMAS), Rosenstiel School of Marine and Atmospheric Science, University of Miami, Miami, Florida 33149 USA.*

<sup>4</sup>*University of Puerto Rico, Mayagüez, Puerto Rico 00681-9266.*

<sup>5</sup>*Caribbean Fisheries Management Council, 268 Munoz Rivera Avenue, Suite 1108, San Juan, Puerto Rico 00918-1920.*

#### **EXTENDED ABSTRACT**

The paper describes the experience of the first attempt to establish a catch share program in the U.S. Caribbean. It also examines the reasons behind fishermen's hesitancy to participate in the deep-water snapper catch share program. Our analysis shows that these programs may not be a suitable management tool for the U.S. Caribbean given high transaction costs. High decision-making costs were the main impediments for the establishment of the program. However, the process may have been a positive experience because it encouraged fishermen and managers to work together to find solutions suited for their local circumstances.

In the last few decades, catch share programs have become a promising instrument to reform fisheries management. In the continental United States alone, there are 15 catch share programs some dating back to the early nineties. Catch shares work by granting exclusive harvesting privileges to fishermen so they can land a share of the permissible quota. The security afforded by these privileges tends to eliminate, or at least mitigate, the 'race to fish' behavior which helps to protect the resource and increase profits by harvesting, processing and marketing more efficiently.

The purpose of this paper is to investigate the reasons behind fishermen's reluctance to participate in a catch share program for the Puerto Rican deep-water snapper- grouper fishery. The deep-water snapper-grouper fishery takes place off the coast of the municipalities of Rincon and Cabo Rojo, Puerto Rico. While the number of participants is not exactly known, it is believed that between 40 and 60 small-scale fishermen exploit this resource. These fishermen use hook and line gear, and to a lesser extent pots, to target a variety of reef fish species, especially silk snapper (*Lutjanus vivanus*) and queen snapper (*Etelis oculatus*). The fishing activity is primarily regulated through the use of fishing licenses, closed seasons and areas, minimum size limits, and more recently, global quotas.

Fishermen's interest in managing the deep-water snapper-grouper resource dates back to March 2008 when they asked the Caribbean Fisheries Council (Council) to establish a limited entry regime. Fishermen hoped that a limited entry regime would allow them to fish year round without worrying about reaching the quota or having to fish under dangerous conditions. They also wanted to limit recreational fishermen's landings, since many of whom sold their catch illegally. However, with the advent of NOAA's catch share policy, deep water snapper-grouper fishermen decided to investigate the potential use of catch shares instead. To this end, the Council established an advisory panel to investigate the feasibility of using a catch share program to manage this fishery.

After numerous meetings and workshops over a two year span, the advisory panel decided against adopting a catch share program because of the absence of reliable catch statistics to establish catch histories, the absence of effective monitoring regimes to control landings, and the limited compliance with regulations. Also, fishermen objected to the catch share program partly because of the new lower quota levels to be implemented as part of the 2006 reauthorization of the Magnuson Steven Act, which threatened their livelihoods and way of life.

This experience suggests that, given the serious monitoring and enforcing limitations prevalent in U.S. Caribbean fisheries, the use of the catch shares does not appear to be a promising management tool for small-scale fisheries. Nevertheless, discussions about the potential use of catch shares can foster a productive dialogue which may help design less ambitious management tools which may be more suitable for the local conditions.

**KEY WORDS:** Catch share program, management, snapper, U.S. Caribbean