

ABSTRACT

An Analysis of the Belize Coral Reef Finfish Fishery

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An effort was made to assess the state of exploitation of the Belize coral reef fishery as a whole. In order to achieve this, baseline data on fishing activities, fishermen practices and the fishermen's attitude towards management were recorded. In addition, information on catch, effort, catch composition, spawning, and length frequency was collected and analyzed.

The results of the baseline survey suggest that fishing in Belize is a profitable venture. More importantly, the fishermen realize the need to manage the fishery.

The Munro and Thompson (1983) surplus production model was fitted to the catch and effort data. The resulting plot showed no decrease in catch per unit of effort (CPUE) with increases in effort. The annual yield per area was estimated at 0.318mt/km². This is less than the yields which have been estimated for the Caribbean. Catch was comprised primarily of the valuable snappers and groupers. These families were caught largely with

handlines and spears. These results indicate that the fishery is lightly to moderately exploited.

Length data were collected for the Nassau grouper (Epinephelus striatus), Yellowtail snapper (Ocyurus chrysurus), Grey snapper (Lutjanus griseus) and Blue-striped grunt (Haemulon sciurus). Annual cohorts could only be discerned from the samples of Yellowtail snapper. The Beverton and Holt Z equation and the length converted catch curve were applied to the data set and the resulting estimates of Z were comparable to lower than estimates taken from Puerto Rico.

Precautionary management measures are suggested for the sustainable development of the fishery. Recommended measures are: 1) the implementation of a monitoring system, 2) the initiation of a campaign aimed at educating fishermen entering the fishery on the importance of managing the fishery. It is also advised that methods aimed at controlling fishing effort, especially effort directed at aggregates be planned for.

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