Management of St. Thomas Grouper Fishery

Manejo de la St. Thomas Mero Pesquería

Gestion de la Pêche St. Thomas Grouper

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ABSTRACT

St. Thomas Grouper landings have been nearly constant since the 1980s seldom deviating more than one standard deviation from the mean. St. Thomas fishermen report that following the protection of the Hind Bank MCD in 1999, they are catching more and larger fish. In 2010, the Caribbean Fishery Management Council set an allowable catch limit of 51,999 lbs based on recent average landings. In 2013, the CFMC announced that the ACL had been exceeded and that the fishery would be closed in December of 2013. Fishermen asked whether this quota was appropriate to the fishery and necessary to protect the resource? The St. Thomas Fishermen's Association commissioned a resource evaluation. Based on the results, the STFA proposes that quotas be set annually based on a census of the spawning aggregation. This approach was presented at the August 2013 CFMC meeting. An evaluation of this approach is presented.

KEY WORDS: Grouper, Virgin Islands, management, fishery

INTRODUCTION

In its 2005 response to the Sustainable Fishery Act, the Caribbean Fishery Management Council (CFMC) listed grouper as species "undergoing overfishing". A 2013 SEDAR effort is being undertaken in an attempt to arrive at any management recommendations, thus the Council's determination that Virgin Islands groupers were undergoing overfishing was basically an attempt to adopt a precautionary approach to the species' management, including the development of thresholds and targets.

In the 2010 Amendment of Council management plans (CFMC 2010), an overfishing limit (OFL) was determined to be 60,998 lbs for the St. Thomas/St. John district. Because groupers were considered to be undergoing overfishing the OFL was reduced by 15% and the Allowable Catch Limit (ACL) was determined to be 51,849 lbs.

In its 2013 report to the Congress, the Status of Stock Report (NOAA 2013), NMFS removed Virgin Islands groupers from the list of species undergoing overfishing. At a one day meeting in July of 2013, the CFMC voted to change the precautionary "buffer" to 10% from 15% thus raising the ACL to 57,513 lbs in St. Thomas.

The Virgin Islands employs four main fishery methods (Figure 1):

i) Traps (fish and lobster trap),
ii) Line fishing(mostly hand line with some trolling and minimal longline),
iii) Net,
iv) Diving

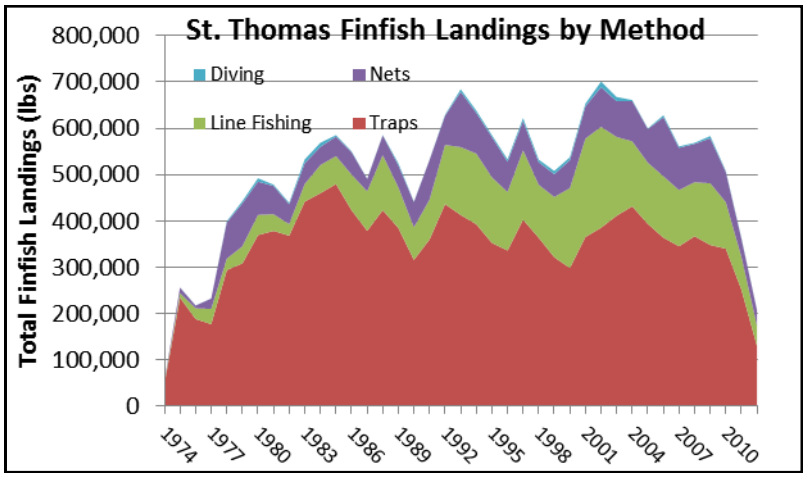


Figure 1. Landings by fishing method for St. Thomas/St. John.

Fishermen have been self-reporting their landings on St. Thomas since 1974 and have submitted catch reports from about 240,000 fishing trips over the period. In 1996, fishermen began to report "family" groups so that reported grouper landings are available from that point onward.

In addition, The Territorial Division of Fish and Wildlife has been port sampling since 1979, and there are approximately 5,000 records of port sampled catches which have been used in the present analysis to indicate the "species" make up for the various fishing methods. (Figure 2). Grouper Landings were calculated by taking the reported landings for each fishing method and multiplying it by the % of the landings which were grouper in the port sampling data.

As can be seen from Figure 3 the reported "grouper" landings are in close agreement with the calculated values. This figure also illustrates that grouper landings in St. Thomas have been relatively constant since 1980, seldom varying more than one standard deviation from the average. Thus, the "Overfishing Limit" OFL used by the CFMC as the basis for their management reflects a stable fishery. However, when a precautionary buffer is imposed to establish an allowable catch limit, landings have only twice been below that (adjusted) level in 32 years. It would appear, that the precautionary ACL butter is not only unnecessary, it establishes a situation where the CFMC are constantly being forced to close a stable fishery which does not require closure. This has been proven when the CFMC announced that the St. Thomas grouper fishery would be closed in December of 2013 because the ACL had been exceeded.

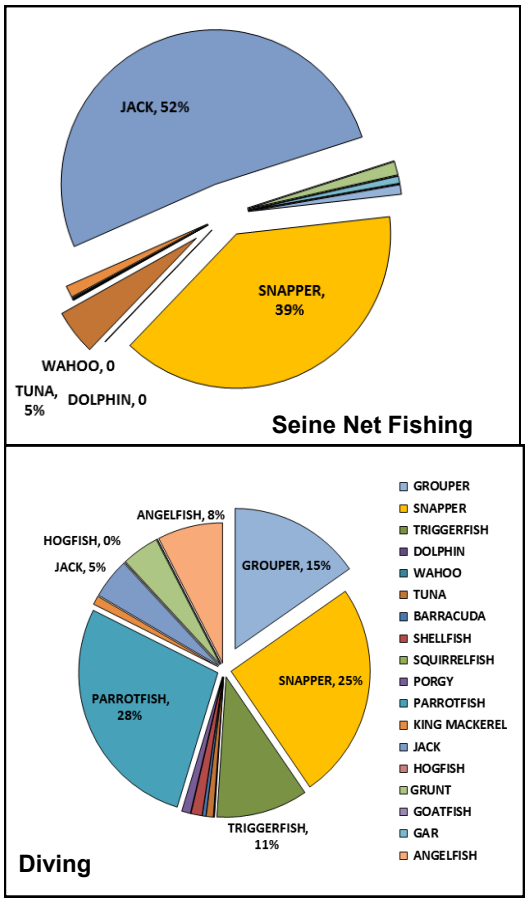
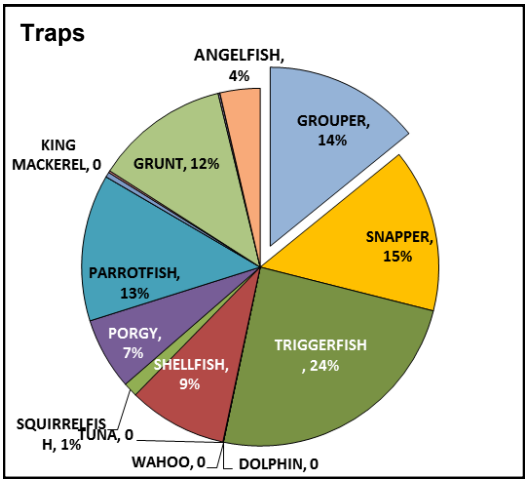
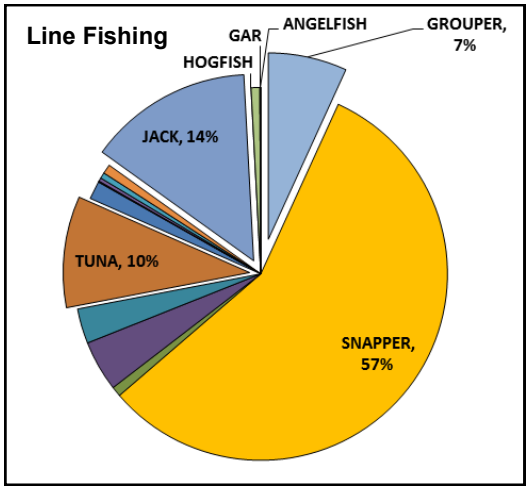


Figure 2. "Species" make up of St. Thomas fisheries by method.





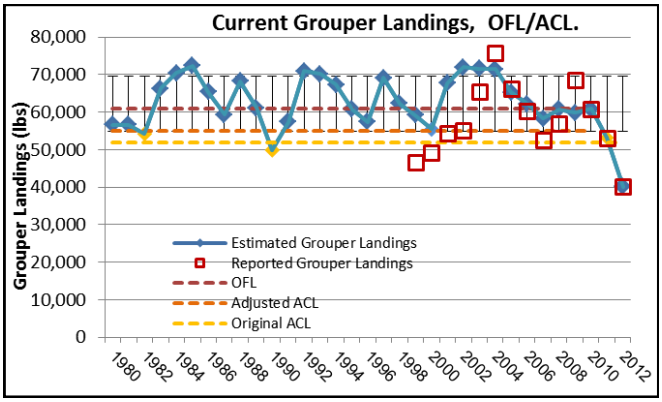


Figure 3. Calculated "grouper" landings, standard deviation, and reported "grouper" landings after 1997.

Impacts of St. Thomas Hind Bank MCD

St. Thomas fishermen question the need for such closure since they had supported a seasonal closure for the Red Hind spawning aggregation in 1989 which eventually led to establishment of the "Hind Bank MCD" in 1999 (CFMC 1996). Red Hind make up 85% of the St. Thomas grouper fishery and so protection of the spawning aggregation has had significant impact on grouper landings (Figure 4).

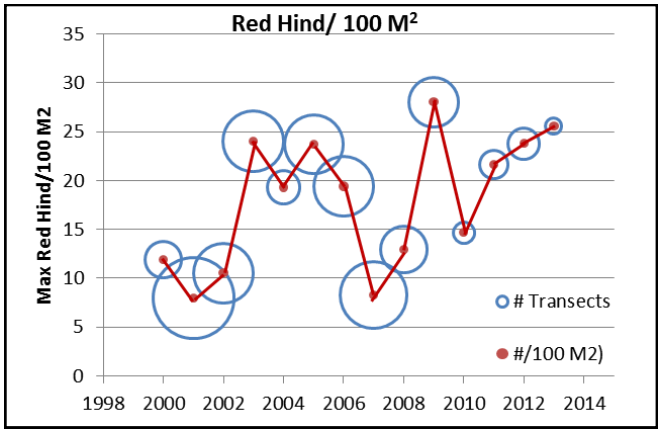


Figure 4. Red Hind abundance on the Red Hind Bank MCD from Nemeth (2005) and pers. comm. Blue circles represent number of transects.

The Hind Bank MCD has been extensively studied by Nemeth and the University of the Virgin Islands since 1997 (Nemeth 2005). His surveys indicated significant recovery both in numbers of fishes and in the average size of fish during the early years (Figure 5).

More recently, he is seeing some fluctuations around an apparent average.

Fishermen are seeing more red hind in their catches and bigger red hind. Thus, they feel that they are being punished for their support of the protection when managers use the success of the hind bank MCD as a reason for implementing closures.

Grouper Resource Evaluation

In addressing this impasse, the St. Thomas Fishermen's Association commissioned a review of this historical data and Nemeth's work in order to see whether or not an alternative exists to the current (always exceeded) Allowable Catch Limits (Figure 6).

The results suggested that there were no indications that current fishing pressure was endangering the resource. In fact current harvest sizes are well above the size at first reproduction.

STFA Proposal for Management Revision

When reported grouper landings are compared to the results of Nemeth's census of the Hind Bank spawning aggregation, there is a significant correlation between the

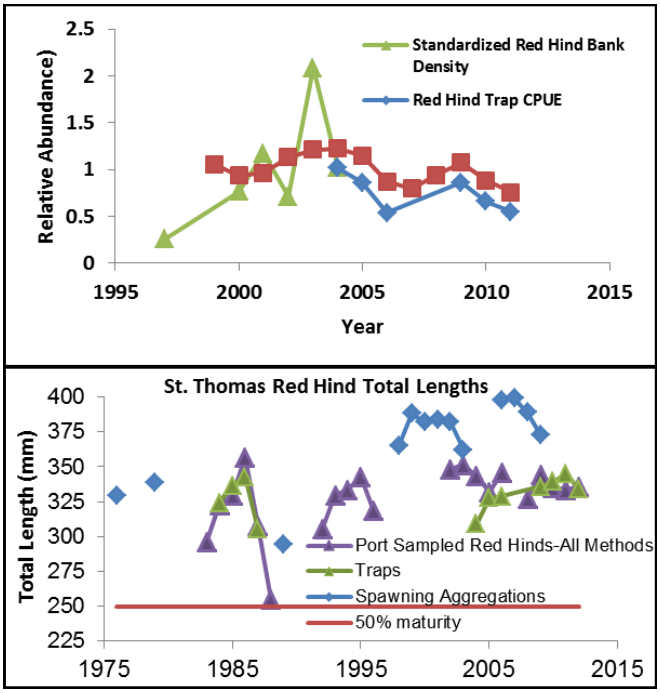


Figure 5. Resource evaluation of St. Thomas Red Hind resources.

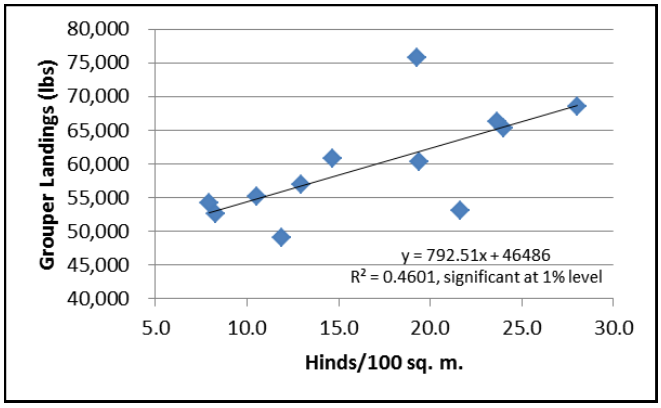


Figure 6. Correlation between Hind Bank census results and annual St. Thomas grouper landings.

census results and the reported landings of groupers for any given year. Since Red Hind make up 85% if the grouper landings, the spawning aggregation census is basically and evaluation of the numbers of adult fish available for the fishery in any given year.

Thus, an annual census of the Hind Bank MCD spawning aggregation in January and February of any given year can provide an estimate of the landings for that year and the Overfishing Limit/Allowable Catch Limit can be set accordingly (Figure 7). While this does not eliminate the risk of "overfishing", it does not guarantee that each year's landings will exceed the quota. In addition, during weak year classes as in 2007, the ACL can be brought lower to reduce fishing pressure and in abundant years it can be raised.

Finally, there are currently activities which can enable in-season management of this resource. Fishermen who currently harvest around a third of the St. Thomas grouper resource are participating in an "electronic reporting project" and are submitting daily catch reports. Analysis of these data can be used by fishery managers at the Southeast Fisheries Science Center to project (and prevent) "overfishing" by instituting in-season closures instead of the current process whereby management accountability measures are being imposed for overfishing which took place several years in the past.

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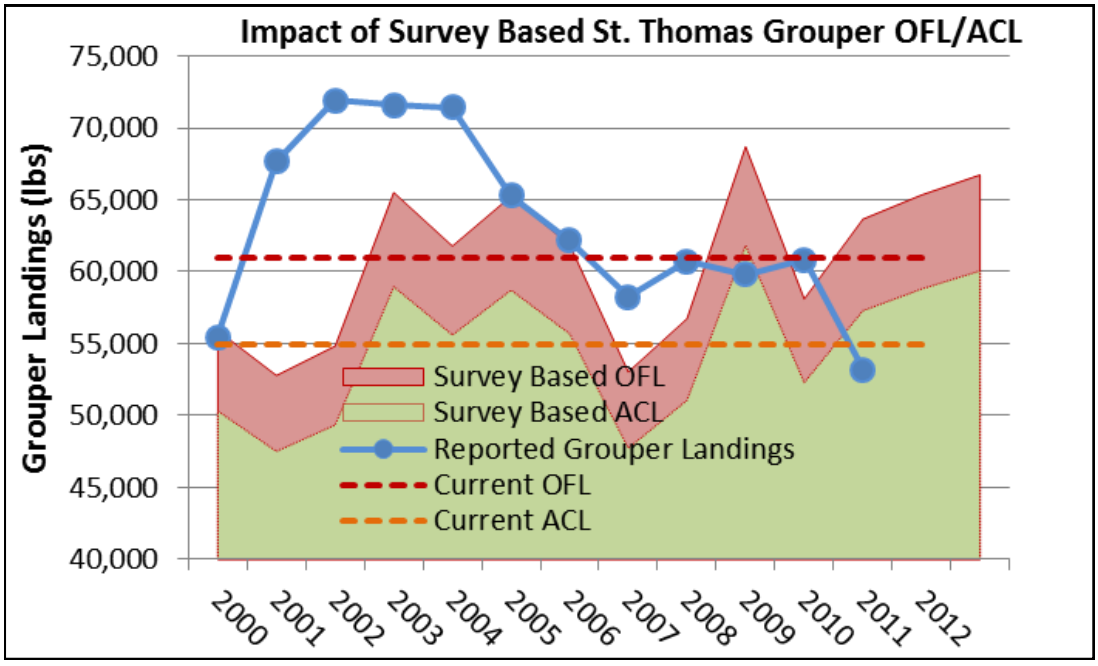

Figure 7. Projected landings, OFL and ACL developed from census of the Hind Bank MCD.