

Assessing the Potential of the Points System as an Alternative Management Program for the Northeast Multi-species Fishery

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Recent assessments of groundfish stocks in the Northeastern United States coastal area illustrate the critical condition of the Northeast multi-species fishery; a result of overfishing. In 2004, 19 stocks were considered overfished¹ and 10 stocks were experiencing overfishing². A factor of multi-species fisheries that may contribute to overfishing is the constraining TAC³ problem that occurs when the ratio of species' TACs differs from their catch ratios. If the species with the lowest TAC is maintained, it will constrain reaching the TACs of all other species, and if fishing continues so as to catch the species with higher TACs, the lowest TAC species will be overfished. Thus, there is a critical need for a flexible and effective management plan that prevents overfishing while allowing for all species' TACs to be reached.

The current fishery management plan (FMP) for the Northeast multi-species groundfishery is unable to effectively manage the fishery and prevent overfishing. The fishery operates under Amendment 13 of the FMP; a Days at Sea (DAS) management system with an adjustment mechanism to reduce the number of fishing days if fishing mortality targets aren't met. Recent adjustments highlight the need for new management mechanisms to address overfishing, as fishing mortality levels were exceeded for 7 of the 19 managed groundfish stocks and crippling adjustments to the plan were implemented, including a 8.3% cut in number of days allowed at sea, two for one counting of catch, and trip limits.

Another adjustment is to occur on May 1, 2009, and faced with more cuts in days, the New England Fishery Management Council has decided to assess new management plans as alternatives to the current DAS system. In response to this decision in Amendment 16, several proposals were put forth, including a hard TAC, an ITQ system, an Area Management Plan, a new DAS system, and a Points System.

Perhaps the most innovative of those proposed, the Points System attempts to convert current allocations under the DAS system into a common currency unit of biological point values (BPVs). In the plan, each participant is allotted a total number of points annually which can be "spent" on any species of fish. Each fish stock is assigned a certain BPV based upon the current biological level of the stock and the rate of harvest with regard to the annual catch limits (ACL). Thus, whatever the participant lands will be docked from his points total by the BPV multiplied by the pounds landed.

The BPV for each stock will be adjusted periodically throughout the year to ensure that ACLs are not exceeded and to prevent overfishing. More vulnerable, exploited stocks will have higher BPVs to discourage fishermen from targeting these species. There is also a temporal element to the plan in that a certain percentage of points may be carried over and unused points can be banked and acquire interest to be used in subsequent years.

There are many elements to the Points System plan that still need to be developed and assessed. As a preliminary analysis, I will assess the potential of the Points System to achieve its purpose of modifying participant behavior through BPV adjustments. The feasibility of the Points System depends upon how much flexibility the participants are able to exert. They cannot

¹ Overfished means that current stock levels are below a biomass threshold

² Overfishing means that the stock is above its fishery mortality threshold

³ TAC stands for Total Allowable Catch

pick exactly what species to catch, but they can choose certain types of trips based on location, timing, and gear that will catch different ratios of species. Thus, participants will attempt to maximize their profits given the number of points allocated to them.

In addition, I will model and assess incentives to discard or high grade, and investigate the relationship between market price and BPV. The relative price and BPV of a certain species could explain discarding incentives, emphasizing the importance of appropriately and carefully set BPVs. Without a thorough analysis and correct modeling, there is a high probability that BPVs will be inadequately assigned, resulting in the failure of the Points System and the continued depletion of stocks. If the appropriate mechanisms and parameters for the Points System can be ascertained there may be potential for mitigation of the constraining TAC problem, as the flexibility in the plan will allow for more efficient exploitation of stocks and better chances of meeting all species' TACs.