

Multispecies Monitoring Committee

Fishermen's Report Summary and Background  
December 1998

## **Report Summary and Background Information**

- **What is the Multispecies Monitoring Committee (MSMC) and what is its function?**

The MSMC was established by the NEFMC as part of Amendment 7 to the Northeast Multispecies FMP. The MSMC is charged with monitoring the current plan measures, assessing their effectiveness, projecting groundfish stock conditions and formulating any additional measures necessary to achieve the plan's objectives in the forthcoming fishing year.

The MSMC membership consists of technical staff from the New England and Mid-Atlantic Fishery Management Councils, representatives of NMFS' Northeast Fisheries Science Center and Regional Office, representatives of the fishery agencies of the New England states, the U.S. Coast Guard, and a member of the New England Fishing industry. Meetings are generally held at the New England Council office in Saugus, MA and at the Northeast Fisheries Science Center in Woods Hole, MA

The MSMC process is a prelude to the framework adjustment process currently used to quickly modify measures in a FMP. The MSMC makes recommendations, usually presented as a suite of goal-effective options: (1) to forward a recommendation for a proposed rule to the NMFS Regional Administrator (RA) after only one meeting or (2) to forward a recommendation for final rule to the RA after two council meetings and consideration of public comment and a social/economic analysis. If the Council fails to take action by February 1st, the RA may unilaterally publish any of the MSMC's options, provided the selected option was not rejected by the Council as a proposed rule.

In all cases the RA must publish a final rule before April 1st to provided the required opportunity for public comment prior to an expected implementation date of May 1st, the beginning of the new management year.

- **What are the MSMC Management Criteria?**

The MSMC uses objectives established by the Council in Amendment 7. Briefly these are (1) a fishing mortality rate target for each of 5 critical stocks (Gulf of Maine cod, Georges Bank cod, Georges Bank haddock, Georges Bank yellowtail, and Southern New England yellowtail), (2) a spawning stock biomass (SSB) threshold for the above critical stocks except Gulf of Maine cod and (3) a target total allowable catch (TAC) for each of the five primary cod, haddock, and yellowtail stocks and an aggregated TAC for the remaining large mesh multispecies (American plaice, winter flounder, witch flounder, windowpane flounder, ocean perch, white hake, and pollock).

This year a new concern was added by the enactment of the Sustainable Fisheries Act (SFA) in September 1996. Among many mandates, SFA requires a fishery council to revise the definitions of overfishing for all stocks governed by a Fisheries Management Plan (FMP). The new overfishing definitions embrace both a mortality rate and a biomass level. For the stocks under scrutiny by the MSMC the New England Fishery Management Council has developed Amendment #9 to the Northeast Multispecies FMP. This amendment is presently under final review by NMFS.

Anticipating imminent approval of this Amendment, MSMC has evaluated stock conditions relative to both Amendment 7 and the SFA criteria. The MSMC only provided the management implications for projected stock status under the proposed SFA overfishing definitions and did not provide recommendations to achieve the proposed guidelines. This new standard has profound implications for fishermen.

Three stocks, Gulf of Maine cod, Georges Bank haddock, and Southern New England yellowtail, among the five critical stocks are projected to reach biomass levels that are near or below the biomass threshold where SFA criteria demand a mortality rate, "As close to zero as is practicable". In addition, while the seven other large mesh species managed by Amendment 7 were heretofore governed by a 25,500 MT aggregate TAC, under SFA each must be controlled discretely. Assessments for Southern New England/Mid-Atlantic winter flounder, Georges Bank winter flounder, Cape Cod yellowtail, white hake, and American Plaice are scheduled for reviewed at SARC 28 to be held in December 1998.

Fishermen should become aware of these changes in the standards to which they are being held accountable. They should take away two important messages resulting from the application of these standards. (1) the bar has been raised. Mortality objectives will become more conservative, possibly irrespective of the current level of fishing pressure on a specific stock. For example, Southern New England yellowtail is below the Amendment 7 standard mortality rate ( $F_{0.1}=0.27$ ). Its biomass remains low because of poor recruitment but, nevertheless, Amendment 9 may well call for further reduction in fishing mortality. (2) No matter insignificant a weak stock's economic value relative to other catch components its condition will tend to dominate management policy. Thus we may expect to see fishing throughout the Gulf of Maine restricted in some degree due to the need to protect Gulf of Maine cod.

- **What information does the MSMC use in evaluating the effectiveness of current management measures?**

The Committee evaluates information from a variety of sources. The MSMC uses landings data provided by NMFS. The primary source of this information is dealer reports, however, this must be modified by a proration process using fishermen's vessel trip reports (VTR's) to assign landings to the appropriate stock unit.

The Northeast Regional Stock Assessment Workshop Advisory Report on

Stock Status Report prepared by the NEFSC provides current information on mortality rates, spawning stock biomass, abundance indices and recruitment levels and trends. Days at Sea (DAS) utilization rates and patterns are provided for the vessel call in service administered by NMFS.

In 1998 a number of management measure affecting groundfish were adopted:

1. Framework 24 adjusted the terms and conditions under which the “running clock” could be used to legitimize excess cod catches. Also, it provided a DAS carryover.
2. Framework 25 implemented measures intended to reduce fishing mortality reduction for Gulf of Maine cod to achieve Amendment 7 objective. These included a new Western Gulf of Maine (WGOM) closed area, one month “rolling closure” of coastal waters and Cashes Ledge, two adjustments to the cod landing limit and two adjustments to the haddock landing limit.

This complex mix of management measures and events, in addition to the adaptive behavior adopted by fishermen facing a rapidly changing regulatory and economic climate resulted in effort shifting among the Northeast stocks. The Stock Assessment Process (SAW/SARC) captures these events only in retrospect for the previous fishing year. It is the MSMC’s mission to update stock status, anticipate effort shifts where possible and to propose measures designed to mitigate any adverse effects.

- **What uncertainties accompany the interpretation of information provided to the MSMC?**

Under the Multispecies FMP the fishing year begins on May 1st. When the MSMC begins its annual task in mid October there is at best only 5 months of landings data available for analysis. In 1997, Framework Adjustment 25 shifted closed area impacts, and allowable catches per day at sea and Framework Adjustment 24 affected utilization of days at sea relative to cod catches. This made extrapolation of Gulf of Maine cod landings for the remainder of the year more complex than the other four stocks.

Stock assessments are made on a calendar year basis. Thus, SARC 27 and 28 assessments look retrospectively at the year ending December 31, 1997. The MSMC projects mortality rates, spawning stock biomass and partial recruitment for the next calendar year, which runs January – December 1998 from the SARC assessments. The MSMC also calculates fishing mortality rates for the fishing year and applies the calendar year TAC’s to the next fishing year.

Finally, the MSMC is confronted with the difficulty of quantifying the “value” of many measures. For example, an area closure does not eliminate effort; it merely displaces it. Catches continue but at rates governed by the abundance and catchability of species in the alternative areas. Trip limits affect only those trips which catch in excess of the limited

value. As trip limits are reduced, the percentage of affected trips increases but so does the likelihood of fishermen continuing to fish while discarding fish in excess of allowable catch.

Latent effort resulting from less than full utilization of allocated days at sea remains an area of uncertainty. A characteristic identified in previous MSMC reports remains consistent. Vessels in fleet days exhibit low usage rates ranging from 27% in 1996 to 43% in 1997 while individual days program vessels utilize 80% to 85% of their allocated days. Overall only 48% of allocated days were used in 1997. However, based on analysis and projection of trends evident in partial 1998 data, the MSMC predicts a 7.4% decrease in DAS use.

Nevertheless we must be ever mindful that the activation of latent days remains the choice of individual fishermen. Factors such as shifting profits, restrictions on proximate fisheries or evolving fishing strategies can contribute to unforeseen shifts in effort. For example, how will displaced effort from the proposed closure of the dogfish fishery affect the DAS utilization in the future?

As area closures near shore become larger or longer in duration predicting effort shifts becomes more uncertain, Vessel seaworthiness and lifestyle considerations become an important part of the decision process. A 40 foot inshore vessel has little likelihood of transferring effectively to fishing on Georges Bank.

- **How does the MSMC interpret this information when making its projections?**

The long answer to this question is the substance of the full report. A shorter, more concise answer is that the MSMC takes all available information, applies scientific principles of analysis, conditions the results with practical knowledge of the fisheries, incorporates sources of error in earlier analyses, applies decision making and renders an opinion. This opinion is not a final rule; it is scientific advice to the NEFMC. There is minimal consideration of social and economic factors in its derivation, since this is not the Committee's role.

The MSMC options and recommendation are indicative of the types of management options needed to achieve Amendment 7 and SFA goals. The MSMC recommendations and options are not final rules. They are options to be considered and modified through the Council process.

- **Amendment 7 Issues**

The MSMC mission is to measure the effectiveness of all management measures presently in effect and, where shortfalls are detected, to recommend modifications or additions necessary to achieve the plan objectives. By this standard the 1998 MSMS report presents a mixed message.

Among the five critical stocks three (GBK Haddock, GBK Yellowtail and SNE Yellowtail) have fishing mortality rates below target, one (GBK Cod) is slightly above target ( $F = 0.26$  vs.  $F_{0.1} = 0.18$ ). Only GOM Cod remains substantially above target ( $F = 0.82$  vs.  $F_{max} = 0.29$  or  $F_{0.1} = 0.16$ ).

Seven aggregated large mesh species [American Plaice (Dabs), Witch Flounder (Greysole), Winter Flounder, Windowpane Flounder (Sand Dabs), White Hake, Redfish, and Pollock] are monitored by MSMC. The aggregate catch in 1998 is projected to be 20,059 metric tons which is 4,941 below the 25,500 metric ton target TAC. The majority of these stocks are presently undergoing assessment by the SAW/SARC process. However, available indices of exploitation do not reveal any alarming trends for the aggregate 10 stocks.

Amendment 7 contains a second objective of rebuilding spawning stock biomass (SSB) levels among the five critical stocks to specified thresholds. Only one stock (GBK Yellowtail) has achieved that objective. Three other stocks (GBK Cod, GBK Haddock, and SNE Yellowtail) remain below their SSB thresholds but are increasing. Below average recruitment (the addition of progeny to a population) for all three stocks is retarding the rebuilding process.

GOM Cod stands alone. Although Amendment 7 does not specify an SSB threshold for this stock, MSMC has projected that its present record low SSB (6,565 Metric tons) will continue to decline precipitously unless drastic action is taken. Continued high fishing mortality and record low and deteriorating recruitment are combining to create a collapsing stock condition.

- **Sustainable Fisheries Act (SFA) Issues**

In 1996 Congress directed NMFS and the Regional Fishery Management Councils to accommodate several new rigorous standards in all fishery management plans. Among these was a revised method of determining whether a stock was in an overfished condition.

The New England RFMC response to this mandate for the Multispecies FMP is known as Amendment 9. Amendment 9 has been completed and is awaiting review and approval by NMFS.

Once Amendment 9 is adopted it will require revision of overfishing definitions for all stocks governed by the Multispecies FMP. According to the SFA mandate the revised overfishing definitions will specify both a fishing mortality rate ( $F$ ) and a stock biomass threshold ( $B$ ). Stock biomass includes both immature and mature fish while spawning stock biomass only includes mature fish. For some species such as haddock, spawning stock biomass is used as a proxy for a biomass target. In general, the standards for  $F$  and biomass are contained in a report prepared by the Overfishing Definition Review Panel which was published on June 17, 1998.

The relationship between F and biomass are expressed by a formula known as a Control Law. A Control Law requires F to be reduced as biomass diminishes below an optimum level. However, additional stipulations also apply.

Under no circumstances can the recovery of SSB to a specified optimum level take longer than 10 years. In addition, when SSB is determined to fall below a specified critical level F must be reduced to zero. These provisions have significant implications for the New England fisheries.

The MSMC has evaluated conditions for the five critical multispecies stocks and provides the following information:

- GBK Cod biomass is below 50% of optimum. To satisfy SFA mortality must be reduced to  $F = 0.14$ .
- GBK Haddock, while increasing, is slightly below 50% optimum SSB. If SSB fails to rise above 50% mortality must be reduced to 0.
- GBK Yellowtail biomass is presently above the 50% optimum SSB benchmark. Under this circumstance, F can rise slightly.
- SNE Yellowtail biomass is below 25% of optimum. Even though F is very low, stock rebuilding is slow due to poor recruitment and low biomass that the stock is rebuilding from. If biomass fails to rise above 25% of optimum, F must be reduced to zero.
- GOM Cod biomass is barely 25% of optimum and declining. At levels below 25% SFA requires F be reduced to zero.

### **Economic Implications**

In 1997 the MSMC recommended drastic reductions in fishing opportunity through cuts in days at sea allocations, extensive area closures and reduced possession limits for Gulf of Maine Cod. The New England Fishery Management Council weighed this advice against economic concerns and chose a more moderate level of restrictions in Framework 25.

Unfortunately, in the case of Gulf of Maine Cod, the moderate action was not sufficient to reduce mortality and stem the decline in SSB. With the MSMC projections and SAW 27 advice in hand, and SFA mandates looming, the pressure for the Council to take drastic action has increased.

The numbers speak for themselves. An 80% reduction in cod catch is needed to achieve a recommended 781 MT target TAC. As the Council concluded in 1997,

reductions of this magnitude cannot be made without major economic dislocation and social consequences.

The core GOM Cod habitat is located within 50 miles of shore from Portland to Cape Cod. Closure of these grounds will place hundreds of smaller boats at grave risk. Most do not have the seaworthiness to fish offshore. Many do not have the permits necessary to transit to other ports and enter other fisheries. Fishing communities and vital infrastructure such as the Portland and Gloucester Auctions may not survive.

If there are major displacements of effort into other regions, a domino effect may ensue. As noted, several key stocks are barely above SFA overfishing thresholds. Additional effort displaced by GOM Cod protection measures could easily engender a second wave of management crises.

At this juncture the Council may need to seriously consider invoking a declaration of economic disaster. The Magnuson-Stevens Fishery Conservation and Management Act makes explicit provision for intervention by the Secretary of Commerce under such circumstances. Section 312 (a) of M-S FCMA details a procedure to provide disaster relief for afflicted fisheries. This procedure explicitly involves state governments as collaborators. As the Director of each state marine resource agency is a voting member of the NEFMC, a logical linkage among the appropriate levels of government already exists.

- **Overall Conclusions: What is the message of the 1998 MSMC report?**

The overall message for 1998 is far more sobering than in previous years. Despite a projected 22% decrease in nominal effort for fishing year 1997, mortality increased slightly on George's Bank cod. Additionally, notwithstanding constant and low mortality South New England yellowtail and possibly one or more of the seven aggregated stocks are approaching critical biomass thresholds. Finally but foremost, Gulf of Maine cod has degenerated to a critical condition.

There are two primary operators driving this turn of events. First is poor recruitment. Without progeny a fish stock begins to decline due to natural mortality alone, regardless of the level of fishing. Poor recruitment is slowing the rebuilding of Georges Bank haddock and Georges Bank cod, and is partially responsible for the continued decline of Gulf of Maine cod biomass.

Secondly, recovery of chronically weak stock may not be compatible with a multispecies management regime. In Gulf of Maine, for example, multispecies catches are defined by a suite of species common to gear type and geographic area. Without limiting access to the area or mandating alternate gear it is next to impossible to eliminate catches of any member of the suite.

Finally, it must be noted that the distribution and catchability of GOM Cod make it a particularly difficult stock to manage independently. The number of boats, the gear types



employed and the proximity of key cod producing areas to active fishing ports are all important factors. Any measures which protect Gulf of Maine cod burden fishermen disproportionately to the reduction in cod catches alone.