

Amendment 16 Goals and Objectives:
Looking Back on Year One



White Paper

New England Fishery Management Council
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Introduction

Amendment 16 to the Northeast Multispecies Fishery Management Plan (FMP) was implemented on May 1, 2010. This action adopted a broad suite of management measures in order to achieve the fishing mortality targets necessary to rebuild overfished stocks and meet other requirements of the Magnuson Stevens Fishery Management and Conservation Act. Notably, Amendment 16 greatly expanded the sector management program, which allows fishery participants to form self-selecting groups of three or more members that are allocated a percentage of the quota for each groundfish stock based on their fishing history. The amendment also adopted a process for setting annual catch limits (ACLs) to be set in biennial specifications packages and accountability measures to ensure that the ACLs are not exceeded.

The measures included in Amendment 16, taken as a whole, were anticipated to have widespread effects on the fishery due to the reorganization of the fleet and the low catch levels for most stocks. The purpose of this paper is to examine the goals and objectives stated in Amendment 16, and to compare those goals with the outcomes of the first year of implementation.

Amendment 16 Goals

The goals incorporated in Amendment 16 were originally adopted in Amendment 13 to the FMP (implemented in May 2004). Each is listed below with a description of relevant impacts.

1) Consistent with the National Standards and other required provisions of the Magnuson-Stevens Fishery Conservation and Management Act and other applicable law, manage the northeast multispecies complex at sustainable levels.

Amendment 16 and its subsequent Frameworks 44, 45, 46, and 47 (in development) adopted status determination criteria for each of the twenty groundfish stocks and a process for setting annual catch limits, taking into account scientific and management uncertainty, that ensures that each stock is not subject to overfishing. These actions also implemented or continued existing rebuilding plans for stocks that are overfished to allow them to return to healthy levels. The best available science has been used to update these numbers when necessary (for example, when new stock assessments occur, as with the incorporation of new status determination criteria for pollock in Framework 45).

In addition to the annual catch limits, Amendment 16 and subsequent frameworks also adopted accountability measures for the multispecies complex. These measures ensure that annual catch limits are not exceeded or that, if they are, adjustments are made in the following year. The accountability measures are being updated in Framework 47 in order to make them more effective for several non-target stocks that have very small catch levels. Together with the ACLs, these measures will ensure that stocks are managed at sustainable levels.

2) Create a management system so that fleet capacity will be commensurate with resource status so as to achieve goals of economic efficiency and biological conservation and that encourages diversity within the fishery.

No recent study has been conducted to comprehensively assess the capacity of the Northeast multispecies fleet since the implementation of Amendment 16. One study conducted by

NOAA in 2006¹ showed that the fleet was overcapitalized during the period 1998 through 2000, but only insofar as capitalization was related to the depressed stock conditions and low catch limits: "...If resource levels were restored to levels consistent with supporting the long-term potential yield, the fleet would have insufficient capability to over-harvest cod, haddock yellowtail flounder, window pane, redfish, white hake, and pollock. The fleet, however, would have the capability to harvest in excess of the MSY levels for plaice, winter flounder, and witch flounder." However, that conclusion does not really address issues of whether the current fleet size is sustainable throughout the duration of the rebuilding plans for stocks in this complex, or how the capacity of the fleet is related to diversity.

An updated estimate of capacity in the Northeast Multispecies fishery was prepared by NOAA in 2008 based on vessels operating in 2004. In the multispecies complex, there was overcapacity in 2004 for nine stocks based on the difference between estimated capacity and the target TACs. The stocks experiencing overcapacity compared to the 2004 TACs are as follows: (1) Gulf of Maine cod and yellowtail flounder; (2) Georges Bank cod, yellowtail flounder, and winter flounder; (3) Southern New England yellowtail flounder and winter flounder; and (4) white hake and witch flounder.

The Council has expressed interest in receiving information on fleet capacity, economic efficiency, and diversity in consideration for Amendment 18 on accumulation limits and fleet diversity (in development). This information could be useful for analyzing whether this goal has been met and, if not, what modifications are necessary to achieve it.

3) Maintain a directed commercial and recreational fishery for northeast multispecies.

This goal has been met due to the continued presence of both a commercial and recreational fishery for groundfish species. While both fisheries experienced increased restrictions on levels of allowable catch in 2010, neither fishery is being bolstered at the expense of the other, and neither appears in danger of being eliminated. Amendment 16 set a formula, based on historical catch, for allocating a percentage of the ACL for major groundfish species to both the recreational and commercial components of the fleet. This allocation will ensure that both fisheries persist and that one does not supersede the other even in the face of low catch limits in the near future.

4) Minimize, to the extent practicable, adverse impacts on fishing communities and shoreside infrastructure.

During the development of Amendment 16, initial analyses of its impacts showed that landings and revenues were likely to decline for many participants in the subsequent years of the rebuilding program. The declines were expected to have negative impacts on fishing communities throughout the region, but particularly on those ports that rely heavily on groundfish, in the short-term. The declines were seen as unavoidable given the Magnuson-Stevens Act requirements to rebuild overfished stocks.

In light of the analysis that revenue would decrease because of decreased allowable catch levels, Amendment 16 contains many provisions that were intended to mitigate the impacts of the low catch limits on communities and fishermen. The sector allocation programs were

¹ Kirkley, J.E., Ward, J., Nance, J., Patella, F., Brewster-Geisz, K., Rogers, C., Thunberg, E., Walden, J., Daspit, W., Stenberg, B., Freese, S., Hastie, J., Holiman, S., and M. Travis. 2006. Reducing Capacity in U.S. Managed Fisheries. NOAA Technical Memorandum NMFS-F/SPO-76.

primarily intended by many, at the time of their development, to provide an opportunity for local communities to maintain a presence in the fishery. It was widely believed that a move toward sector management would alleviate some of the burdens of heavy regulation on the fishermen, and allow them to be more self-directing in order to maximize their efficiency and develop effective business plans. Additionally, many provisions that were considered to be included in Amendment 16 and the recent frameworks were rejected on the sole basis of their potential cost to industry (for example, 100% at-sea monitoring).

Some participants in the Amendment 16 process believed that sectors would lead to fewer fishing vessels and, as a result, less vibrant fishing communities. Some of the data currently available indicates that there were proportionally fewer active vessels in the fishery in 2010 than in previous years. There is limited data on changes in infrastructure that occurred during the past year, but anecdotal evidence suggests that negative impacts have occurred. However, there was also detailed analysis in Amendment 16 that showed that the industry was unlikely to remain profitable under the DAS restrictions that would have been required and that many vessel owners would have gone out of business.

Concern persists over the community impacts of changes to the FMP since 2010. The Council is actively seeking ways to address these impacts by improving the sector management program while maintaining rules that keep catch at sustainable levels. Their “lessons learned” sector review workshop held in October 2011 is considered a major step in gaining feedback about the impacts of sector management in order to identify potential solutions.

5) Provide reasonable and regulated access to the groundfish species covered in this plan to all members of the public of the United States for seafood consumption and recreational purposes during the stock rebuilding period without compromising the Amendment 13 objectives or timetable. If necessary, management measures could be modified in the future to insure that the overall plan objectives are met.

The American public’s access to New England groundfish stocks has not been unreasonably compromised by any of the provisions of Amendment 16 or its subsequent frameworks. To the extent to which availability of seafood for consumption has been limited, it has only been when stock conditions are so poor as to require it for rebuilding purposes. One example of this is the restriction on landing Atlantic wolffish that was implemented in response to a very poor assessment and potential Endangered Species Act listing. Similarly, the recreational fishery has had measures that restrict fishing – the season for GOM cod was reduced in 2010, and a closure in the Whaleback area implemented in 2011 – but only because mortality reductions were required for rebuilding. The overall effect of these measures has not decreased public access to the resource beyond what was necessary in order to achieve goals on sustainability and rebuilding.

6) To promote stewardship within the fishery.

There are many definitions for what characterizes “stewardship” of a resource. According to the U.S. Environmental Protection Agency (EPA), environmental stewardship is the “responsibility for environmental quality shared by all those whose actions affect the environment.”² Whether this has been achieved is extremely difficult to gauge, and in order to determine whether stewardship has increased there must be clear, causal links between

² United States Environmental Protection Agency (EPA). 2011. “Environmental Stewardship”. Available at: <http://www.epa.gov/stewardship/>.

program actions and outcomes. The EPA also offers extensive guidance on how to measure the effectiveness of programs that promote stewardship of natural resources:³

“The specific challenge of performance measurement for *stewardship* programs is that they often seek to influence the attitudes and behaviors of a broad range of organizations or individuals. In order to successfully measure progress towards stewardship, it is important to be able to specifically define the desired attitudes and behaviors the programs are seeking to engender, as well as the target audience, and articulate how these behaviors are expected to lead to achievement of long-term outcomes. It is also necessary to be able to clearly identify and communicate how the programs' activities will reach the intended audience, and the way in which the activities will motivate this audience to change its attitudes and behaviors.”

The report goes on to identify ways to collect data in order to determine if stewardship has increased. Because of a lack of this type data at this time, it cannot be determined whether the Amendment 16 regulations have promoted stewardship within the fishery. However, even in the absence of performance measures, there are indicators that stewardship within the fishery may be thriving. Sectors reported only 10 total violations in their annual reports for 2010, and the 2010 annual catch limits were only exceeded on two stocks, neither of which had targeted fisheries. It would be helpful, if the Council would like to maintain this goal, to have a more clearly-defined notion of stewardship and performance measures for evaluating its success.

Amendment 16 Objectives

1) Achieve, on a continuing basis, optimum yield (OY) for the U.S. fishing industry.

There is considerable confusion over this objective, which is a restatement of National Standard One, and how to measure whether it is being attained. Much of the rhetoric that argues that OY has not been achieved is based on the faulty assumption that OY for a stock is equal to the Annual Catch Limit (ACL). This is not the case for the Northeast Multispecies FMP.

The M-S Act defines OY as follows:

“The term “optimum”, with respect to yield from a fishery, means the amount of fish which—

(A) will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems;

(B) is prescribed as such on the basis of the maximum sustainable yield from the fishery, as reduced by any relevant economic, social, or ecological factor;

³ United States Environmental Protection Agency (EPA). 2007. “Measuring and Evaluating Stewardship and Innovation Programs: Learning from the PART (Summary Report). Available at: <http://www.epa.gov/evaluate/pdf/benchmarksummary.pdf>.

(C) in the case of an overfished fishery, provides for a rebuilding to a level consistent with producing maximum sustainable yield in such fishery.”

NSG1 (50 CFR 600.310(e)) provides additional guidance on OY. OY is defined as “a long-term average amount of desired yield from a stock complex, or fishery.” OY must take into account the need to prevent overfishing and rebuild overfished stocks and stock complexes. The FMP must contain a specification of OY.

The Northeast Multispecies FMP defines OY on a stock-specific basis. The definition for OY first adopted in Amendment 9 and restated in Amendment 13 was: “Optimum yield for a stock is achieved when fishing at the target fishing mortality for a given stock size.” Based on this definition and GARM III assessment results, from 2004 through 2007 OY was not achieved for most stocks because target fishing mortalities were exceeded – catches were too high. There were a few exceptions to this general statement, most notably GB haddock and redfish where catches were too low. When Amendment 16 adopted the ABC and ACL system, the definition of OY was not changed. This means that determining if OY was achieved must consider whether the target fishing mortality was achieved and cannot be determined by merely comparing catches to TTACs or ACLs.

Since GARM III, new assessments have only been completed for pollock, the three winter flounder stocks, and GB yellowtail flounder, so these are the only stocks for which it can be determined if OY has been met. Pollock fishing mortality has been less than the target and as a result catches have been less than OY. For the three winter flounder stocks, fishing mortality in 2009 and 2010 was slightly less than the target and catches were less than OY. Overfishing continued through 2009 for GB yellowtail flounder - OY was not achieved because catches were too high - but may have ended in 2010. There is some doubt about this conclusion because of uncertainty in the assessment.

2) Clarify the status determination criteria (biological reference points and control rules) for groundfish stocks so they are consistent with the National Standard guidelines and applicable law.

The process for setting status determination criteria for all groundfish stocks was specified in Amendment 16. They are consistent with the Magnuson-Stevens Act and National Standard guidelines requirements for using best available science and setting catch limits at sustainable levels.

3) Adopt fishery management measures that constrain fishing mortality to levels that are compliant with the Sustainable Fisheries Act.

As noted in the discussion of Goal 1 above, fishery management measures have been implemented that constrain catch to the annual catch limits as required by law. If catch limits are approached exceeded, accountability measures are in place to ensure that overfishing does not occur and rebuilding timelines are met.

Meeting this objective is complicated by assessment uncertainty. Catches may be constrained below ACLs but still lead to higher fishing mortalities than are targeted. An illustration of this problem can be seen by comparing GB yellowtail flounder recent catches to realized fishing mortality.

4) Implement rebuilding schedules for overfished stocks, and prevent overfishing.

All overfished stocks in the management complex are currently subject to rebuilding plans as required by the Magnuson-Stevens Act. Overfishing is prevented through the implementation of annual catch limits and corresponding accountability measures.

5) Adopt measures as appropriate to support international transboundary management of resources.

Amendment 13 adopted measures to implement the U.S./Canada Resource Sharing Understanding. Specifications are updated in frameworks to the FMP to adopt catch levels as negotiated under the agreement.

6) Promote research and improve the collection of information to better understand groundfish population dynamics, biology and ecology, and to improve assessment procedures in cooperation with the industry.

Cooperative research is utilized in several different ways in the New England groundfish fishery. Cooperative research is largely conducted outside of the Council process. NOAA Fisheries has a Cooperative Research Strategic Plan that is undergoing review in late 2011 and dictates funding priorities and research strategies. The research that comes out of this program is sometimes used in the stock assessment process. Recently, the Northeast Fisheries Science Center has also been holding pre-assessment hearings for major groundfish stocks (Atlantic pollock and GOM cod) with industry members in order to gain information to be used in the assessments, and to improve industry's understanding of the assessment process.

7) To the extent possible, maintain a diverse groundfish fishery, including different gear types, vessel sizes, geographic locations, and levels of participation.

The Council has expressed interest in evaluating diversity in the groundfish fleet, and has initiated Amendment to consider these issues. Analysis contained in the first-year report of sector performance from the Social Sciences Branch of the NEFSC shows that the implementation of sector management in the Amendment 16 system may have had differentiated impacts on active participation by vessels in different size categories. Expanded review of these impacts, along with information on fleet capacity and potential revenue generation, is expected to be completed as part of the Amendment 18 analysis.

8) Develop biological, economic and social measures of success for the groundfish fishery and resource that insure accountability in achieving fishery management objectives.

This objective has not truly been met. While the Council has indicated a desire to review the sector system and identify potential improvements, it has not developed a set of performance measures to measure the effects against. This could be useful to track changes that may occur as a result of the recent changes to the management plan.

9) Adopt measures consistent with the habitat provisions of the M-S Act, including identification of EFH and minimizing impacts on habitat to the extent practicable.

Each amendment and framework to the groundfish FMP has considered the impacts of the actions on EFH and minimized impacts to the extent practicable. An omnibus amendment on

habitat for all New England fisheries is currently in development, and once complete this will update the information in Amendment 16 and the recent frameworks. The Council may also initiate work in 2012 on examining the closures contained in the groundfish plan.

10) Identify and minimize bycatch, which include regulatory discards, to the extent practicable, and to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

The sector system was designed to minimize bycatch by requiring sector participants to land all legal-sized fish they caught, with the exception of certain stocks for which the sectors did not receive an allocation.

Catch information for FY 2010 indicates that for many stocks discards have declined. The table below summarizes discard rates for twelve stocks in calendar year 2007 (as determined by GARM III with the discard rates in FY 2010 based on NERO catch monitoring. Discard rates increased dramatically for SNE/MA winter flounder since possession was prohibited, and there was little change for witch flounder. Discard rates also increased for four other stocks where possession was prohibited.

Stock	CY 2007	
	FY 2010	GARM III
GB Cod	4.30%	22.0%
GOM Cod	2.21%	12.9%
GB Haddock	0.49%	39.8%
GOM Haddock	0.73%	6.6%
GB Yellowtail Flounder	9.02%	32.2%
SNE Yellowtail	3.03%	47.2%
CC/GOM Yellowtail Flounder	10.66%	23.9%
Plaice	11.42%	24.1%
Witch Flounder	8.23%	8.3%
GB Winter Flounder	1.29%	19.7%
GOM Winter Flounder	1.95%	6.2%
SNE Winter Flounder	81.26%	6.6%

Conclusions

Overall it appears as though the management measures implemented in Amendment 16 have been meeting the majority of the goals specified therein. However, there are still several areas in which the Council could clarify the goals or receive additional information on whether their goals have been met.

The area in which it is most difficult to quantify whether the goals and objectives have been met relate to the community and social impacts of the Amendment 16 management regime. To the extent that fishing communities have been adversely impacted by the low catch levels and new management system, it will be useful for the Council to identify further “fixes” to the sector administration rules that will mitigate those impacts. Issues of fleet diversity would similarly benefit from additional information. It would be useful, for example, to have an analysis of what

the ideal fleet capacity would be in light of diversity and resource status issues. In order to conduct this type of analysis, goals should be clarified as to what types of diversity are desirable. The development of biological, economic, and social performance indicators, and the periodic review of fishery performance associated with those indicators, would be beneficial for determining whether goals are met in the future. Finally, the Council should clarify its definition of stewardship, and develop associated performance indicators, if a primary goal of sector management is to increase industry stewardship of the resource.

Additional scientific information will also be useful for analyzing whether the sector system is meeting the Council's goals as the management structure continues. The inclusion of industry knowledge in stock assessments has been useful, and the best available science continues to be used to manage this resource. It would be beneficial to determine if OY has been met for all stocks in the fishery as stock assessments are updated. A long-term plan for achieving OY could be considered, recognizing the difficulty of achieving OY (as currently defined by the FMP) on every stock in a mixed-stock fishery.