Atlantic States Marine Fisheries Commission

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Paul J. Diodati, (MA), Chair *Dr. Louis B. Daniel, III, (NC), Vice-Chair* *John V. O'Shea, Executive Director*

Healthy, self-sustaining populations for all Atlantic coast fish species or successful restoration well in progress by the year 2015

May 17, 2012

Captain Paul Howard, Executive Director
New England Fishery Management Council
50 Water Street
Newburyport, Massachusetts 01950

Dear Captain ~~Howard~~ Paul,

The Atlantic States Marine Fisheries Commission's American Lobster Board (Board) has recently been made aware of potential action by the New England Fisheries Management Council (NEFMC) that could impact the lobster resource. The Board is concerned there could be negative impacts on the lobster resource if during future management actions the Groundfish and Habitat Fishery Management Plans end the prohibition on bottom tending mobile gear in Closed Area II.

At the Spring Commission Meeting, the Board was presented with data that showed a significant number of egg-bearing female lobsters within Closed Area II for several months of the year. There is some concern that opening this closed area could have a negative impact on the lobster resource if large concentrations of egg-bearing female lobster are subject to bottom tending mobile gear. The Board has tasked the Lobster Technical Committee to review the data, explore additional data and report to the Board on possible impacts to lobster if Closed Area II were open to bottom tending mobile gear. I will share the Technical Committee report with the NEFMC once it has been presented to the Lobster Board.

On behalf of the Board, I would like to request the opportunity for the Commission to comment prior to any action by the NEFMC to open Closed Area II to bottom ending mobile gear. The Board looks forward to working with NEFMC on this important issue.

Sincerely,

Vince

John V. O'Shea

cc: American Lobster Management Board

cc: to file and

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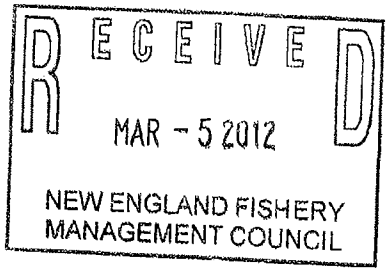


VIA ELECTRONIC MAIL

From: BarryGibson6@aol.com [mailto:BarryGibson6@aol.com]
Sent: Monday, March 05, 2012 11:00 AM
To: Terry Stockwell
Cc: Rip Cunningham; Paul Howard; Tom Nies; Maggie Raymond
Subject: Groundfish ACLs/AMs

March 5, 2012

Mr. Terry Stockwell, Chairman, Groundfish Oversight Committee
New England Fishery Management Council

Dear Terry:

We write to request that the Groundfish Committee recommend the following change to the way the Gulf of Maine cod and Gulf of Maine haddock annual catch limits (ACLs) and accountability measures (AMs) are administered and evaluated in the context of total catches in the fishery.

The general principle is that if either the recreational portion or the commercial portion of the fishery exceeds its ACL for Gulf of Maine cod or Gulf of Maine haddock, but the overall ACL for the stock is not exceeded, then the sector (recreational or commercial) that exceeds its annual catch limit would not be subject to the accountability measures. When evaluating whether the total ACL has been exceeded or not, NMFS should account for the maximum amount of carry-over available to the commercial groundfish sectors and add that to the estimate of total catch. The purpose of the ACL and AM system is to prevent overfishing. Overfishing is likely to occur only if the total ACL is exceeded. It makes little sense to impose additional restrictions on one portion of the fishery, if the total ACL for a stock is not exceeded.

We request that the Groundfish Committee include, in the next regulatory action for the multispecies fishery management plan, an option that addresses the principle described above.

Sincerely,

Barry Gibson, New England Director
Recreational Fishing Alliance

Maggie Raymond
Associated Fisheries of Maine

cc: Council, TN, AH (3/13)

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

APR 13 2012

Mr. C.M. "Rip" Cunningham, Jr., Chairman
New England Fishery Management Council
50 Water Street, Mill 2
Newburyport, MA 01950

Dear Rip:

This letter responds to your request for further guidance on revising the rebuilding plan for Gulf of Maine (GOM) cod. This guidance is based on legal advice, which in turn is based on a review of the legislative mandates of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), our National Standard (NS) Guidelines, and relevant case law. While this guidance is constructed with GOM cod in mind, it would also be applicable in any situation where an inadequate rebuilding determination is made or for any stock that has not reached its rebuilding target by the end of its rebuilding period.

Background

Revision of the GOM cod rebuilding plan is necessary because NOAA's National Marine Fisheries Service (NMFS) determined that the Northeast Multispecies Fishery Management Plan was not making adequate progress toward ending overfishing and rebuilding the stock. NMFS notified the Council of this determination, and the requirement to implement a revised rebuilding plan within 2 years under MSA §304(e)(3), in a letter dated January 26, 2012. In addition, the letter notified the Council that it must implement measures, by May 1, 2013, to immediately end overfishing for GOM cod.

The Council requested, pursuant to MSA §304(e)(6), that NMFS implement interim measures to reduce overfishing until the Council's revised rebuilding measures are implemented. NMFS has implemented interim measures for the first 6 months of the 2012 fishing year, and these measures may be extended an additional 6 months under the provisions of MSA §305(c)(3) that authorize interim measures.

Applicable MSA, NS1 guideline provisions, and relevant case law

In developing revised rebuilding measures for GOM cod, the provisions of MSA §304(e)(3) and (4) apply. The rebuilding plan shall:

- Prevent overfishing
- Specify a time period for rebuilding the fishery that shall be as short as possible, taking into account the status and biology of the overfished stock the needs of the

fishing community, and the interaction of the overfished stock within the marine ecosystem.

- Not exceed 10 years, except in cases where the biology of the stock, or other environmental conditions, dictate otherwise.
- Allocate both overfishing restrictions and recovery benefits fairly and equitably within the fishery.

NS1 guidelines that apply to rebuilding measures are found in 50 CFR 600.310(j)(3). In order to support the selection of a particular rebuilding plan, the Council must evaluate a range of alternative rebuilding plans whose end dates include and fall between the T_{MIN} and T_{MAX} reference points described in the NS1 guidelines. Selection of a rebuilding target time longer than T_{MIN} must be based on analysis showing that the preferred T_{TARGET} is as short a time as possible, taking into account the needs of fishing communities. The analysis should clearly document the range of economic impacts to fishing communities associated with each of these alternatives by describing their dependence on GOM cod, their vulnerability to near-term reductions in cod harvest, and how related management measures affect various user groups of the fishery.

Rebuilding plan analysis

The following steps are essential for the analysis of revised rebuilding measures:

- Calculate the minimum time to rebuild (T_{MIN}) with no fishing mortality (F=0) that provides at least a 50% probability of attaining B_{MSY}. Fishing mortality includes both directed and incidental mortality from all fisheries. The calculation of T_{MIN} starts with the first year the revised measures are to be implemented. This would be 2013 if the Council is implementing revised rebuilding measures coincident with its measures to end overfishing following the end of the interim measures implemented in 2012. Otherwise, the starting point will be the start of the 2014 fishing year – the maximum time allowed for the Council to act.
- Identify the maximum time to rebuild (T_{MAX}). T_{MAX} is 10 years, unless T_{MIN} is longer than 10 years. In that event, the NS1 guidelines describe how to calculate T_{MAX}.
- Identify a range of alternative rebuilding times between T_{MIN} and T_{MAX}, and the associated $F_{REBUILD}$ values. Because the current rebuilding plan specifies an $F_{REBUILD}$ of 75% of F_{MSY}, the analysis may include that case as one of the alternatives.
- Explore and explain the impacts of each alternative to fishing communities and the GOM cod stock. The analysis should include impacts on both the directed fishery for cod and other fisheries that may incidentally catch cod.
- Identify an appropriate T_{TARGET} and $F_{REBUILD}$ based on this analysis that is as short as possible, taking into account the needs of the fishing communities.

The starting point for calculations described above is the first year that the revised rebuilding measures will be implemented. This would be 2013 if the Council is implementing revised rebuilding measures coincident with its measures to end overfishing following the end of the

interim measures implemented in 2012. Otherwise, the starting point will be the start of the 2014 fishing year – the maximum time allowed for the Council to act

I appreciate your patience and collaboration as we move ahead through the process to set appropriate measures to rebuild GOM cod. Should you have any additional questions or concerns about this letter, please contact George Darcy, Assistant Regional Administrator for Sustainable Fisheries at 978-281-9331 or Gene Martin, General Counsel, Northeast at 978-281-9242 regarding legal concerns.

Sincerely,

Daniel S. Morris
Acting Regional Administrator

cc: Adam Issenberg, Section Chief, Fisheries and Protected Resources Section, NOAA GC
Dr. William Karp, Acting Director, Northeast Fisheries Science Center
Carrie Selberg, Acting Director, Office of Sustainable Fisheries

91 FAIRVIEW AVE
PORSTMOUTH NH 03801

NORTHEAST HOOK FISHERMAN'S ASSOCIATION

May 25, 2012

New England Fishery Management Council
50 Water Street, Mill 2
Newburyport, MA 01950
Phone: (978) 465-0492
Fax: (978) 465-3116

Dear NEFMC Council Members:

We represent a small group of Commercial Fishermen with the Limited Access Handgear HA Permits, employing the use Rod and Reel or Handlines to catch Cod, Haddock and Pollock along with small quantities of other regulated and non-regulated marine fish. Historically and currently our fishermen account for a very small percentage of the groundfish landed in New England. However, the monetary gains obtained by the participants in this fishery are very important to us.

We request that the following changes be made to the common pool in order to survive planned GOM cod cuts:

1. Eliminate the Trimester breakup of the quotas. This is not needed and will very much harm the common pool since GOM cod will be the ultimate choke species in 2013. Return the fishery to a ACL with no Trimesters as it was for the first two years with Sectors. Manage the sub ACLs like you did in the past with trip limits and other measures. The GOM cod in the common pool represents a very small percentage of the overall cod TAC. Not doing this will create a severe race to fish every trimester as soon as one opens up. The discussion for not doing this at a previous council meeting, when proposed, was not logical nor based on the facts.

2. Allow the same roll over provisions of unused quota as the other fisheries (Sectors & Rec).

There are very few active Handgear cod fishermen left. The cod jig fishery was the first in New England and if nothing is done it will be the first to be eliminated at a time when cod stocks have rebound.

Respectfully,

Marc Stettner /s/

If you are a holder of a groundfish HA permit and wish to join the NEHFA, please contact the NEHFA at the address above.

Penobscot EAST Resource Center

PO Box 27
13 Atlantic Avenue
Stonington, ME 04681
Phone: (207) 367-2708
Fax: (207) 367-2680
www.penobscoteast.org

Securing a future for fishing communities

Rip Cunningham, Chairman
New England Fishery Management Council
50 Water Street
Newburyport, MA 01950

May 25, 2012

Dear Rip,

As is clear to everyone involved in groundfish management today, the success of fishermen currently in this fishery, and the future composition of this fishery, will depend on the actions taken by this Council in the short term. Cost effective monitoring, accurate stock assessments, and fleet diversity protections will all be necessary to ensure that New England fishermen have the opportunity to continue to operate viable businesses. I am writing today to comment on several items within these three key issue areas.

GOM cod assessment

First, I urge the Council to maintain a focus on the possible role of complex stock structure in the current and future GOM cod assessments. While the Council passed a motion in April, 2012 requesting a GOM cod benchmark assessment in 2012 that would address the ten priority issues identified in the April 3rd MFI letter to Sam Rauch, none of these priority issues identified stock structure as a critical issue to examine, despite the fact that both the Council and SSC have recognized the importance of stock structure considerations earlier this year and last. The Council has categorized an examination of stock structure as a longer-view consideration. However, if it is determined in the short term – through the upcoming GMRI workshop and the SSC's ongoing workgroup progress – that new conclusions about complex stock structure may substantially impact the assessment, then the Council should prioritize incorporating these conclusions in the assessment process as soon as possible. Every effort should be made to ensure the most accurate assessment possible.

Cost-effective electronic monitoring

The Council adopted monitoring objectives to "determine total catch and effort… of target or regulated species." The most affordable method of at-sea monitoring appears to be electronic monitoring (EM). Unfortunately, one of the current hurdles of electronic at-sea monitoring is the agency interpretation that Amendment 16 requires EM to do the task of human observers, including species identification. For the near-term future approval and success of an EM program, it is important to remember that this Council motion approving monitoring goals applies to both at-sea and dockside monitoring, and that the at-sea component need not be constrained by a species identification requirement in the case of EM. The Council and the National Marine Fisheries Service should continue to work together to expedite approval of affordable electronic monitoring as soon as possible, which may include revising the current expectation that EM needs to mimic the role of human observers – an unrealistic requirement when considering affordability.

Payment for monitoring

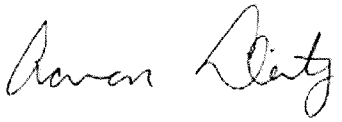
The Groundfish Oversight Committee asked the PDT to "develop an option for proportional monitoring coverage based on groundfish catch." This approach is both logical and equitable. However, regarding industry payment for monitoring, the Council considered allocating a portion of the management uncertainty buffer, or other ACL set-aside to sectors to defray costs. In theory, this is a good approach. However, it is critical to first examine whether the ACE allocation method used will equitably cover the costs incurred by different components of the industry. For example, small vessels landing in remote ports incur a higher cost per pound of landed fish than larger vessels landing in central ports. Will the allocation from a monitoring set-aside provide enough revenue to support these two ends of the spectrum, or will small boats landing in rural ports be penalized with high monitoring costs, and little compensation to pay these costs? The allocation formula used to distribute ACE from a monitoring set-aside should not simply follow the same model as sector allocations, since this method does not sufficiently address the problem raised here.

Fleet diversity and accumulation limits

During the scoping process, the Council received comments from a large number of concerned fishermen from Maine to New Jersey. The Council needs to address these concerns by moving forward with this Amendment quickly. In November, the Council requested that NOAA Fisheries "provide leadership, technical assistance, and funding to reduce administrative and organizational impediments for the development of Amendment 18 dealing with fleet diversity and consolidation issues." Fleet consolidation is as great a problem, if not more of one, than the high cost of monitoring, and low catch limits – other priority issues that the Council is currently grappling with.

Thank you for your consideration.

Sincerely,



Aaron Dority
Downeast Groundfish Initiative Director, Penobscot East Resource Center
Manager, Northeast Coastal Communities Sector

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

MAY 25 2012

Capt. Paul J. Howard
Executive Director
New England Fishery Management Council
50 Water Street
Newburyport, MA 01950

Dear Paul:

Thank you for your January 20th letter regarding a carryover policy. We have carefully considered your questions with respect to the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSA) and the National Standards (NS) guidelines. I regret it has taken a while to get a response to you, but we have been looking at this issue from a national perspective to ensure consistency to the extent possible. A few of your questions overlap, but I have tried to address each of them separately below.

(1) The analysis is based on the primary constraint that "...the realized fishing mortality rate could not exceed the overfishing threshold of F_{MSY}." It is often the case, however, that due to scientific uncertainty or rebuilding requirements the Acceptable Biological Catch (ABC) for multispecies stocks are usually based on a fishing mortality rate that is less than F_{MSY}. The constraint used in the analysis thus implicitly acknowledges that the carry-over levels suggested could lead to catches that exceed the ABC recommendation of the [Scientific and Statistical Committee (SSC)]. Is it consistent with the provisions of the [MSA] to authorize a carryover amount that results in allocating an amount of fish that is greater than the ABC? Is it consistent with the [NS] guidelines to allow a carryover amount that reduces the buffer for scientific uncertainty between the Overfishing Level (OFL) and ABC to zero without explicit SSC concurrence?

The analysis by the Northeast Fisheries Science Center that we forwarded to you was only intended to be an initial analysis of the potential biological implications of a carryover policy and, as such, used F_{MSY} as an example threshold that cannot be exceeded. As acknowledged in the draft paper, the analysis did not address the larger policy questions that would need to be considered in designing any carryover program (e.g., harvest policies). However, your letter raises legitimate questions as to whether a carryover policy, in general, is consistent with the MSA and NS guidelines.

The NS guidelines do not explicitly discuss carryover programs. However, we believe that a carryover policy could be consistent with the guidelines and the MSA, in principle, provided it does not result in exceeding the Annual Catch Limit (ACL) or ABC in the fishing year in which the carryover applies. Some small amount of carryover, where under-harvest in year 1 would not be expected to result in an appreciable change in biomass in year 2, could be

allowed for safety or operational reasons (e.g., to prevent vessels from fishing to their last pound of allocation and increasing the likelihood of an overage). Such a policy could be consistent with the guidelines if analysis showed that this small amount of carryover would likely be offset by under-harvest by other participants in year 2 for the same reasons the year 1 catch was below the catch limit and, thus, would not be expected to increase the likelihood that total catch would exceed the ACL or ABC in year 2. This small amount of carryover, even if not expected to be offset by under-harvest by other participants in year 2, could also be explicitly accounted for in management uncertainty when specifying ACLs so that the ACL or ABC is not exceeded.

To justify larger amounts of carryover where under-harvest in year 1 may result in an appreciable increase in stock biomass in year 2, the impact of the year 1 under-harvest on the year 2 biomass would need to be evaluated and the year 2 ABC and ACL updated, to ensure they are not exceeded. Ideally, this could be done through an assessment update, or by re-running the assessment model with revised catch estimates and then applying the ABC control rule to arrive at an updated ABC recommendation and subsequent ACL for year 2. This method is currently used in the Alaska groundfish fishery to determine the amount of additional harvest that may be allowed in year 2 following an under-harvest in year 1. Alternately, the ABC control rule could be revised to explicitly consider under-harvests. This method may be timelier, if it could be done formulaically or through an abbreviated SSC and New England Fishery Management Council (Council) process. We recognize that some of these methods may be more feasible than others, depending on data availability and resource and timing constraints. Therefore, the Council may want to keep in mind other ways of achieving the same flexibility. For example, a carryover program that would rely on regular under-harvest by other fishery components to offset carryover landings could be achieved by redistributing the ABC to shift the unused allocation to the fishery in need of a carryover buffer.

An additional consideration is the potential for the carryover program to impact the effectiveness of accountability measures (AM) in place for different fishery components. In the case where an AM is triggered only when the overall ACL is exceeded, the system already relies on under-harvest by some fishery components to offset over-harvest by others. Thus, unless there is still a net under-harvest of the ACL, there would be no additional biomass in year 2 to account for carryover by the under-harvesting component.

(2) *The analysis is based on assuming an equilibrium age structure under a constant recruitment assumption. Many multispecies stocks are at low levels of abundance and in rebuilding programs, and recruitment is often highly variable and, for some stocks, recent recruitment is at low levels. How do these deviations from the underlying assumptions affect the amounts of permissible carryover?*

Whatever method is used, the amount of carryover allowed must be based on the best available information regarding the expected impact of the year-1 under-harvest on the stock's biomass in year 2. As you correctly point out, this may require taking into account a number of factors, such as stock characteristics (e.g., natural mortality), uncertainty in the assessment model or other method used to set catch advice, and trends in stock indicators

(e.g., recruitment). The carryover policy should also consider the potential reasons for under-harvest (e.g., depressed stock condition vs. reduced effort).

(3) *If carryover amounts are allowed to result in catches that exceed the ABC for a rebuilding program, how would that affect the prospects for rebuilding?*

Any carryover policy must be consistent with the stock's rebuilding program, if applicable. Furthermore, a carryover program should be monitored using the performance standard outlined in the guidelines (50 CFR 600.310(g)(3)). If catch exceeds the ACL for a given stock more than once in a 4-year period, the system of ACLs and AMs should be re-evaluated and modified where appropriate.

(4) *In some cases ABCs decline due to expected fluctuations in the stock; in other cases it may be due to change in assessment results. This creates the possibility that the proposed carryover amounts may result in allocating an amount of fish greater than the OFL. Is this consistent with the [MSA]? Does a declining ABC affect the amount of permissible carryover? Do these fluctuations need to be considered when setting carryover levels?*

As discussed in the response to question 1, the amount of allowable carryover should be based on the impact of year 1 under-harvest on year 2 biomass. A carryover policy should take into account the possibility of changing stock status and ABCs, and the amount of allowable carryover should be able to be modified to account for such changes. The Pacific Fishery Management Council has attempted to address this issue by incorporating a provision for an automatic downward adjustment to the amount of allowable carryover when there is a decline in the ACL from year 1 to year 2, and by giving NMFS the discretion to implement carryover to the extent allowed by the MSA. The carryover policy should never allow OFL to be exceeded.

I recognize the Council already has carryover programs in place for the Atlantic sea scallop and Northeast (NE) multispecies fisheries. In light of the guidance provided in this letter, it may be necessary to review and clarify those programs. With respect to the Atlantic sea scallop limited access fishery DAS carryover and compensation trip program, Amendment 15 to the Atlantic Sea Scallop Fishery Management Plan (FMP) addressed carryover by establishing a buffer between the fleet's sub-ACL and sub-ACT. This buffer reduces the risk that carryover would cause the ACL to be exceeded, and ensures any carryover catch is taken into account when setting the ABC. In addition, an AM would be triggered if this fleet exceeded its sub-ACL, so carryover is explicitly considered in the decision to trigger an AM. In this way, the limited access scallop fishery carryover program appears to be adequately addressed in the ACL and AM system, consistent with the guidance provided above.

Amendment 15 also implemented a carryover provision for the scallop IFQ fishery, allowing carryover of up to 15% of an individual's IFQ allocation into the following year. However, unlike the limited access fishery, the IFQ fishery sub-ACT is set equal to the sub-ACL, and no deduction is made for management uncertainty. As a result, the current accounting system could potentially exceed the SSC's recommended ABC. This is unlikely, as the total of all IFQ carryover is very small when compared to the overall ACL and it was expected that not all

vessels would carryover the full 15%. Recognizing that the IFQ carryover provision has only been in place since fishing year 2011, it would be beneficial for the Council to gain more information in order to see if the amount of carryover varies widely from year to year. However, we recommend that the Council consider establishing a management uncertainty buffer to account for carryover in the scallop IFQ fishery as it has done with the limited access fishery.

Regarding the NE multispecies fishery Annual Catch Entitlement (ACE) carryover program for sectors, it does not appear that this potential additional catch was taken into account in establishing management uncertainty buffers for the commercial groundfish or sector sub-ACLs in Amendment 16 to the NE Multispecies FMP or subsequent framework adjustments. Given the large participation in sectors in the last 2 years, the allowable carryover can be a large portion of the ABC, particularly when the ABC declines from year 1 to year 2. If caught, this amount of carryover risks exceeding groundfish ACLs and sub-ACLs and potentially triggering an AM for the sector that fished its carryover. We do not think this was the Council's intent, but it is not clear from the regulations or Amendment 16 how else overages of the sector sub-ACL or total ACL due to sector carryover should be handled. Therefore, we recommend the Council review and clarify the existing sector carryover program, in order to ensure it is consistent with the NS guidelines and the FMP. In the meantime, we are currently monitoring catch of a sector's carryover separately from catch toward an ACL, to ensure sectors are not unfairly penalized for using their allowable carryover.

The DAS carryover program for the NE multispecies common pool fishery does not appear to have the same issues. Although it is not clear whether carryover DAS were explicitly taken into account in the management uncertainty buffers, trimester TACs and the Regional Administrator's inseason authority greatly reduce the likelihood that this particular measure will cause a common pool sub-ACL to be exceeded.

My staff will be available to provide support and further guidance as the Council addresses this topic in the coming months. If you have any further questions regarding this letter, please contact Melissa Vasquez at the Sustainable Fisheries Division at (978) 281-9166.

Sincerely,

Daniel S. Morris
Acting Regional Administrator

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SUSTAINABLE HARVEST SECTOR
PO Box 356, So. Berwick ME 03908 | 207-956-8497 | www.groundfish.org

May 23, 2012

Terry Stockwell, Chair
NEFMC Groundfish Committee
50 Water Street, Mill 2
Newburyport, MA 01950

Dear Terry,

At your April 18 Committee meeting, we broached the idea of allowing sectors to carry forward an unlimited percentage of GOM cod ACE from FY2012 into FY2013. We cited these benefits:

- Allows vessels to avoid a reduction in GOM cod allocation to below-bycatch levels in FY2013.
- Potentially averts widespread fleet shutdown in FY2013, with attendant benefits to maintaining both the fleet and shoreside infrastructure.
- Encourages vessels to switch from directed to bycatch GOM cod harvests immediately.
- Encourages larger vessels to move offshore to avoid areas of high GOM cod concentration.

Enclosed is a five page discussion of the concept by NEFSC economist Chad Demarest which quantifies and expands on these benefits:

- Decreased risk of GOM cod SSB declining to record lows.
- More flexibility and increased return to harvesters for stock conservation measures.
- Potentially smoothed catch streams for processors.
- Increased share of groundfish revenues captured by small inshore fleet.

Fishermen are creating their FY2012 ACE catch and trading plans now. Adoption of this concept could slow GOM cod catch immediately and have significant effect on financial strategies. More broadly, the industry needs to know if the Council will seriously consider this concept – not only for GOM cod, but for other stocks scheduled for significant catch reductions in FY2013. As such, we request Committee ask the PDT to continue developing an option to maximize the carryover of all unused ACE (except EGB cod, haddock, and GB yellowtail) under the assumption that policy guidance will allow it to occur, instead of waiting for the policy guidance to materialize.

Regards,

Hank Soule
Sustainable Harvest Sector

cc: Council, TN, FH, CBk (5/24)

Using the carry-forward provisions in Amendment 16 to decrease biological risk, improve industry stability, enhance market efficiency, save small fishing businesses and increase harvest flexibility under markedly decreased Gulf of Maine cod allocations

Chad Demarest
February 11, 2012

Problem statement:
An annual catch level (ACL) of 6700 metric tons (mt) provides significant short-term benefits relative to ending overfishing in 2012. It also carries a 33% risk of decreasing Gulf of Maine (GOM) cod spawning stock biomass (SSB) below the lowest observed level, 7300mt in 1999.[1] A requirement to end overfishing the following year means that ACLs in 2013 will be at or around 2000mt, a catch level that will impair the profitability of fishing in the GOM stock area and have significant and disproportionate impacts on the inshore small vessel fleet.[2]

Large inter-annual quota changes have several affects on seafood harvesting and processing businesses in New England. First, local markets are impaired by irregular supply. Lower quality but routinely available substitutes may displace locally caught product in markets. In response to supply uncertainty, new supply chains become established and demand for locally caught product may decrease despite superior quality and freshness—wholesalers and even white-tablecloth buyers are known to prefer reliability to quality and freshness. One lesson to draw from the sea scallop experience of the past 15 years is that steady, predictable supplies lead to demand increases by providing multi-tiered supply chains with consistent high-quality product.[3]

Second, whip-saw quota changes, even when positive, signal instability and may affect harvester access to capital. Anecdotal evidence indicates that already in the GOM region, banks have been restricting lending as fisherman's ability to repay loans is called in to question.[4] An inability to fund operations through traditional liquidity channels disproportionately affects smaller operators with less collateral.

Third, if large quota decreases are advertised, and if the affected stock is likely to be constraining, the multi-year return on "investing" in fish stock health may be negative. This leads to a prisoner's dilemma, where individual harvesters, anticipating high future opportunity costs, rationally overharvest a stock of fish and harm long-term industry health. Further, such conditions erode regulatory 'buy-in'. The result may be extensive misreporting or other perversions of catch data. Once an inaccurate year (or string of years) infects the data stream, the damage is durable and possibly permanent.

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[1] As modeled, noting that the models likely underestimate both this risk and the medium-term implications if a sub-7300 SSB is observed for 2012.
[2] Under the current assessment using PDT-modified terminal year catch estimates, a 2012 ACL of 6700mt translates into a FY2013 ACL of 1950mt. A 4000mt catch in 2012 translates into a 2013 ACL of 2450mt. The inshore small vessel fleet is defined here as vessels less than 50ft in length sailing from Provincetown, Plymouth, Scituate and Gloucester in Massachusetts, and from any New Hampshire port.
[3] Demand increases, vice increases in quantity demanded, are typically evidenced by increasing prices with steady and/or increasing quantities, as has been the case with sea scallops since the early 2000's.
[4] J. Odlin, personal communication

Proposal:
To ensure seafood harvest levels consistent with current legal guidance while providing greater short-term industry stability and affording the harvest sector the opportunity to smooth harvests across years, I propose expanding the use of the Amendment 16 (A16) carry-forward provisions in upcoming regulatory actions for fishing year (FY) 2012, 2013, and, ideally, for FY 2014 as well.[5]

The mechanism itself is simple. Increasing carry-forward allowances provides a significantly wider range of annual catch streams, allowing harvesters to choose their own efficient extraction path. Such an increase could potentially preserve the participation of the small inshore vessel in the GOM groundfish fishery.

Here's how it might work. Option 1 (below) highlights the commercial sub-ACL available to Sectors under the current 10% carry-forward provision, assuming that the maximum carry-forward from each year is taken. Option 2 is the same allocated catch, but with a 40% carry-forward.

Table 1 – Potential Sector catch streams under 10% (Option 1) and 40% (Option 2) FY 2012 and 2013 carry-forward allowances.

	Option 1 (lbs)	*annual % change*	Option 2 (lbs)	*annual % change*
2011	8,492,962		8,492,962	
2012	7,342,303	*-13.5%*	4,894,869	*-42.4%*
2013	2,952,750	*-59.8%*	4,687,872	*-4.2%*
2014	4,548,940	*54.1%*	5,261,253	*12.2%*

Option 2 assumes that all available carry-forward is saved in each year, such that total catch, C, is

$$C_t = \sum_{h=1}^{n} (a_h)_t + (a_h(\lambda_h))_{t-1} - (a_h(\lambda_h))_t ,$$

where for all harvesters h, a is the allocated annual catch entitlement (ACE) and λ is the percentage of this ACE carried forward from the previous year (t-1) or held in reserve in the current year (t), and $\lambda = F$ where F is the maximum carry-forward permitted in each year. In practice, λ will almost certainly be less than or equal to F, implying that $C_t < C_{max}$.

Assuming ACE are specified in advance and fixed for only two years, and the catch in subsequent years is strictly independent of catch in those two years, the dynamic allocation of consumption across years reduces to a two-period extraction problem more akin to non-renewable resource extraction (ie. oil, diamonds) than to an ongoing harvest of a renewable resource (ie. forestry). In this case, the efficient extraction path is one where the net present value (NPV) from harvest is equated across time periods. Not all harvesters will utilize (or maximize) λ, but the

[5] A16 refers to "carry over". When quotas are relatively stable over time, carry-forward and carry-back provisions may increase efficiency. To be specific and highlight the potential for future carry-back provisions, carry-forward is used here. Also, a two-year Secretarial Action in lieu of an EA may be most efficient for stabilizing seafood markets and businesses at this critical juncture.

anticipation of potentially higher prices in year two may lead some to restrict harvest in year one. That is, some harvesters will chose a discount rate lower than the rate of return on holding quota.[6] This will smooth catch across years, improving industry stability and possibly maintaining the cod fishery for small inshore GOM vessels.

Depending on the timing of assessments and assumptions of terminal year catch, it is possible that observed behavior (specifically, fleet-wide mean λ) could accelerate rebuilding and increase harvester ACE in subsequent years (eg. catch in subsequent years is dependent on harvester behavior). In this case efficient harvester extraction paths would differ slightly from the non-renewable model, though not likely in a significant way.[7] Regardless of individual harvest preferences, the salient fact is that they are provided flexibility in determining their own response to declining quotas.

The 42.2% annual catch decrease implied by Option 2 is not a mandated decrease. It is a potential maximum, predicated entirely on harvester behavior. The catch change imposed under Option 2 is the same as that under Option 1, as harvesters would have the option to fish their entire allocation in FY 2012. The Agency is not requiring a substantial reduction in catch for any particular year.

Option 2 is Pareto-improving. Failure to take advantage of the flexibility afforded by additional carry-forward leaves no harvester worse off than the Amendment 16 carry-forward level of 10%. Percentages higher than the 40% discussed here could be explored if politically feasible--40% carry-forward equates gross groundfish NPV for both time periods under a discount rate of 5%.[8] While stock demographics are influential, carry-forward levels above 40% are also likely to be Pareto-improving. Unlimited carry-forward may be Pareto-optimal in the present case, though practically it is hard to imagine λ being substantially higher than 40% even under an unlimited scenario.

Beyond improved stability and supply consistency, Option 2 has two significant advantages over Option 1. First, the probability of SSB falling below the 7300mt threshold is significantly lower at 25% in 2012 and 8% in 2013. Second, modeled groundfish gross revenue NPV is approximately $6 million higher, while preventing the inshore small vessel share of revenues from falling below 5.5% in any one year.[9]

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[6] Assuming constant demand across both time periods, prices will rise in year two if the quantity supplied (landings) decreases. Recently observed prices appear to support some degree of negative price elasticity.

[7] Sector and individual ACE allocations still exhibit at least one aspect of a commons problem, where individuals with proportionally higher discount rates may front-load harvest, thwarting the efforts of fisherman who are attempting to accelerate rebuilding by back-loading their harvests.

[8] Under a 40% carry-forward in 2013 and 2014, efficiency is compromised if the true harvester discount rate is below 5%, as in this circumstance it would improve efficiency to leave more fish in the ocean for time period two. I can think of no reason other than political expediency to imply a discount rate floor for harvesters, excepting perhaps stock demographics resulting in unexpected SSB changes. Incorporation of cost data (net revenues vice gross) may change this.

[9] Under Option 1 this share of total gross revenues is reduced by more than half, from 7.5% in 2012 to under 3.5% in 2013. The ability of small vessel harvesters in this region, who have prosecuted the bulk of the cod fishery for the past ten years, to rebound from such a decline is unknown. While Option 1 has a NPV within 3% of Option 2, Option 1 places the bulk of the burden of reduced catch squarely on the shoulders of the small inshore GOM fleet.

Table 2 – Predicted annual gross revenues from groundfish and small vessel share of revenues under two Options.

	Option 1	*Small vsl share*	Option 2	*Small vsl share*
2012	$90,042,479	*7.5%*	$83,458,837	*5.6%*
2013	$73,995,815	*3.4%*	$82,865,677	*5.5%*
2014	$80,009,240	*5.0%*	$84,155,555	*5.9%*
2012-14 NPV:	*$230,387,824*		*$236,151,100*	

Implementing this policy would follow current catch accounting practices, where carry-forward from a previous fishing year (FY) is counted against that year's allocations regardless of when (and in what FY) the fish are caught.

Large carry-forward percentages may come with increased risk when stock biomass is declining. This may be the case in 2012-2013, and this proposal should be closely scrutinized for the risk of unanticipated stock declines. It is difficult to imagine that under current circumstances reducing the 2012 catch at the expense of 2013 would prove riskier than achieving a 2012 ACL of 6700 mt.

Strategic implications

Large anticipated quota changes lower a harvester's implied rate of return from resource conservation. This may result in short-term profit maximization at the expense of long-term conservation objectives. The problem is more severe when monitoring and enforcement are difficult or expensive, and provided in sub-optimal quantities. The most challenging circumstance is one of high monitoring costs in combination with strong incentives for circumventing reporting requirements and/or catch restrictions. These incentives are often due simply to profit differentials, but perhaps may be exacerbated by declining regulatory confidence.

Viable catch-smoothing strategies change incentives by disincentivizing short-term profit maximizing behavior. Expected payoffs from compliance improve. The prisoner's dilemma is partially (if not completely) turned on its head, as individually profitable strategies benefit rather than harm other harvesters, and improve market efficiency. Non-zero (negative) price elasticity implies that even if individual harvesters exhibit behavior consistent with high discount rates (or low expected rates of return) by harvesting their maximum allocation in the initial time period, such behavior will almost certainly benefit other harvesters who choose to maximize their carry-forward. As previously stated, a proxy for the most efficient potential outcome is achieved if every harvester harvests at λ=40%, as the gross NPV of catch is equated across both time periods.

Summary and risks

There are six primary benefits to expanded use of carry-forward for GOM cod. Such a policy would:

1. Decrease the risk of SSB falling below the lowest level observed in the time series.
2. Allow harvesters the flexibility to use strategies consistent with their time preferences and anticipated rates of return.

3. Smooth catch streams, potentially increasing market share for locally-caught seafood and delivering fresh high-quality product to consumers while maintaining or improving ex-vessel prices.
4. Improve the small inshore vessels' share of total groundfish gross revenues.
5. Improve medium-term industry stability, ideally improving capital access for less well capitalized harvesters and processors.
6. Improve harvester return on stock conservation, significantly changing the compliance and reporting incentives for FY's 2012 and 2013.

Risks are complicated, but may include increasing age-specific fishing mortality and/or unanticipated changes in SSB due to demographic affects. This seems unlikely as the objective is to smooth catch, which should reduce and not induce adverse stock effects. Another risk is the possibility of overfishing in CY 2014.[10] Nominally, if 40% carryover were permitted in 2013 the 2014 calendar year catch would exceed the FY 2014 ACL. This will not trigger an AM due to carry-forward accounting and, depending on true catch in CY 2012/3, stock conditions may improve enough to ensure that realized CY 2014 catch results in F's below the overfishing definition. But there is a risk is that it will not.

I am taking no position on the current debate regarding FY 2011 carry-forward. This assessment assumes that FY 2011 carry-forward is added to FY 2012 catch but each years carry-forward is independent of quota carried forward from prior years. If asked, I would recommend against allowing FY 2011 carry-forward beyond the 10% currently allowed. The expanded carry-forward proposed here would apply only for the period of declining quota, FY 2012 and 2013.

There are surely additional administrative complications I have not foreseen or considered. It is possible that one or two are insurmountable.

The benefits of increased carry-forward percentages discussed here are only applicable under limited circumstances. Primarily, the stock in question must be constraining to the fishery and be subject to large inter-annual quota changes. Carry-forward provisions applied to non-constraining or under-harvested stocks are likely to increase the risk of stock depletion and overfishing in most circumstances.

Finally, though catch and regulations are more loosely coupled, a similar carry-forward policy could be applied to the recreational fishery in the GOM and, perhaps, to the common pool and state waters sub-allocations as well. Such policies would need to be fully vetted, but the benefits for these industries are similar to those discussed here. They are important and hopefully justify an extra bit of critical thinking.

[10] Overfishing in CY 2013 is virtually guaranteed under current legal guidance, so shifting catch from the 2012 to 2013 fishing years does not pose a legal or Agency policy problem.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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55 Great Republic Drive
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MAY 25 2012

Capt. Paul J. Howard
Executive Director
New England Fishery Management Council
50 Water Street
Newburyport, MA 01950

Dear Paul:

Thank you for your January 20th letter regarding a carryover policy. We have carefully considered your questions with respect to the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSA) and the National Standards (NS) guidelines. I regret it has taken a while to get a response to you, but we have been looking at this issue from a national perspective to ensure consistency to the extent possible. A few of your questions overlap, but I have tried to address each of them separately below.

(1) The analysis is based on the primary constraint that "...the realized fishing mortality rate could not exceed the overfishing threshold of F_{MSY}." It is often the case, however, that due to scientific uncertainty or rebuilding requirements the Acceptable Biological Catch (ABC) for multispecies stocks are usually based on a fishing mortality rate that is less than F_{MSY}. The constraint used in the analysis thus implicitly acknowledges that the carry-over levels suggested could lead to catches that exceed the ABC recommendation of the [Scientific and Statistical Committee (SSC)]. Is it consistent with the provisions of the [MSA] to authorize a carryover amount that results in allocating an amount of fish that is greater than the ABC? Is it consistent with the [NS] guidelines to allow a carryover amount that reduces the buffer for scientific uncertainty between the Overfishing Level (OFL) and ABC to zero without explicit SSC concurrence?

The analysis by the Northeast Fisheries Science Center that we forwarded to you was only intended to be an initial analysis of the potential biological implications of a carryover policy and, as such, used F_{MSY} as an example threshold that cannot be exceeded. As acknowledged in the draft paper, the analysis did not address the larger policy questions that would need to be considered in designing any carryover program (e.g., harvest policies). However, your letter raises legitimate questions as to whether a carryover policy, in general, is consistent with the MSA and NS guidelines.

The NS guidelines do not explicitly discuss carryover programs. However, we believe that a carryover policy could be consistent with the guidelines and the MSA, in principle, provided it does not result in exceeding the Annual Catch Limit (ACL) or ABC in the fishing year in which the carryover applies. Some small amount of carryover, where under-harvest in year 1 would not be expected to result in an appreciable change in biomass in year 2, could be

allowed for safety or operational reasons (e.g., to prevent vessels from fishing to their last pound of allocation and increasing the likelihood of an overage). Such a policy could be consistent with the guidelines if analysis showed that this small amount of carryover would likely be offset by under-harvest by other participants in year 2 for the same reasons the year 1 catch was below the catch limit and, thus, would not be expected to increase the likelihood that total catch would exceed the ACL or ABC in year 2. This small amount of carryover, even if not expected to be offset by under-harvest by other participants in year 2, could also be explicitly accounted for in management uncertainty when specifying ACLs so that the ACL or ABC is not exceeded.

To justify larger amounts of carryover where under-harvest in year 1 may result in an appreciable increase in stock biomass in year 2, the impact of the year 1 under-harvest on the year 2 biomass would need to be evaluated and the year 2 ABC and ACL updated, to ensure they are not exceeded. Ideally, this could be done through an assessment update, or by re-running the assessment model with revised catch estimates and then applying the ABC control rule to arrive at an updated ABC recommendation and subsequent ACL for year 2. This method is currently used in the Alaska groundfish fishery to determine the amount of additional harvest that may be allowed in year 2 following an under-harvest in year 1. Alternately, the ABC control rule could be revised to explicitly consider under-harvests. This method may be timelier, if it could be done formulaically or through an abbreviated SSC and New England Fishery Management Council (Council) process. We recognize that some of these methods may be more feasible than others, depending on data availability and resource and timing constraints. Therefore, the Council may want to keep in mind other ways of achieving the same flexibility. For example, a carryover program that would rely on regular under-harvest by other fishery components to offset carryover landings could be achieved by redistributing the ABC to shift the unused allocation to the fishery in need of a carryover buffer.

An additional consideration is the potential for the carryover program to impact the effectiveness of accountability measures (AM) in place for different fishery components. In the case where an AM is triggered only when the overall ACL is exceeded, the system already relies on under-harvest by some fishery components to offset over-harvest by others. Thus, unless there is still a net under-harvest of the ACL, there would be no additional biomass in year 2 to account for carryover by the under-harvesting component.

(2) *The analysis is based on assuming an equilibrium age structure under a constant recruitment assumption. Many multispecies stocks are at low levels of abundance and in rebuilding programs, and recruitment is often highly variable and, for some stocks, recent recruitment is at low levels. How do these deviations from the underlying assumptions affect the amounts of permissible carryover?*

Whatever method is used, the amount of carryover allowed must be based on the best available information regarding the expected impact of the year-1 under-harvest on the stock's biomass in year 2. As you correctly point out, this may require taking into account a number of factors, such as stock characteristics (e.g., natural mortality), uncertainty in the assessment model or other method used to set catch advice, and trends in stock indicators

(e.g., recruitment). The carryover policy should also consider the potential reasons for under-harvest (e.g., depressed stock condition vs. reduced effort).

(3) *If carryover amounts are allowed to result in catches that exceed the ABC for a rebuilding program, how would that affect the prospects for rebuilding?*

Any carryover policy must be consistent with the stock's rebuilding program, if applicable. Furthermore, a carryover program should be monitored using the performance standard outlined in the guidelines (50 CFR 600.310(g)(3)). If catch exceeds the ACL for a given stock more than once in a 4-year period, the system of ACLs and AMs should be re-evaluated and modified where appropriate.

(4) *In some cases ABCs decline due to expected fluctuations in the stock; in other cases it may be due to change in assessment results. This creates the possibility that the proposed carryover amounts may result in allocating an amount of fish greater than the OFL. Is this consistent with the [MSA]? Does a declining ABC affect the amount of permissible carryover? Do these fluctuations need to be considered when setting carryover levels?*

As discussed in the response to question 1, the amount of allowable carryover should be based on the impact of year 1 under-harvest on year 2 biomass. A carryover policy should take into account the possibility of changing stock status and ABCs, and the amount of allowable carryover should be able to be modified to account for such changes. The Pacific Fishery Management Council has attempted to address this issue by incorporating a provision for an automatic downward adjustment to the amount of allowable carryover when there is a decline in the ACL from year 1 to year 2, and by giving NMFS the discretion to implement carryover to the extent allowed by the MSA. The carryover policy should never allow OFL to be exceeded.

I recognize the Council already has carryover programs in place for the Atlantic sea scallop and Northeast (NE) multispecies fisheries. In light of the guidance provided in this letter, it may be necessary to review and clarify those programs. With respect to the Atlantic sea scallop limited access fishery DAS carryover and compensation trip program, Amendment 15 to the Atlantic Sea Scallop Fishery Management Plan (FMP) addressed carryover by establishing a buffer between the fleet's sub-ACL and sub-ACT. This buffer reduces the risk that carryover would cause the ACL to be exceeded, and ensures any carryover catch is taken into account when setting the ABC. In addition, an AM would be triggered if this fleet exceeded its sub-ACL, so carryover is explicitly considered in the decision to trigger an AM. In this way, the limited access scallop fishery carryover program appears to be adequately addressed in the ACL and AM system, consistent with the guidance provided above.

Amendment 15 also implemented a carryover provision for the scallop IFQ fishery, allowing carryover of up to 15% of an individual's IFQ allocation into the following year. However, unlike the limited access fishery, the IFQ fishery sub-ACT is set equal to the sub-ACL, and no deduction is made for management uncertainty. As a result, the current accounting system could potentially exceed the SSC's recommended ABC. This is unlikely, as the total of all IFQ carryover is very small when compared to the overall ACL and it was expected that not all

vessels would carryover the full 15%. Recognizing that the IFQ carryover provision has only been in place since fishing year 2011, it would be beneficial for the Council to gain more information in order to see if the amount of carryover varies widely from year to year. However, we recommend that the Council consider establishing a management uncertainty buffer to account for carryover in the scallop IFQ fishery as it has done with the limited access fishery.

Regarding the NE multispecies fishery Annual Catch Entitlement (ACE) carryover program for sectors, it does not appear that this potential additional catch was taken into account in establishing management uncertainty buffers for the commercial groundfish or sector sub-ACLs in Amendment 16 to the NE Multispecies FMP or subsequent framework adjustments. Given the large participation in sectors in the last 2 years, the allowable carryover can be a large portion of the ABC, particularly when the ABC declines from year 1 to year 2. If caught, this amount of carryover risks exceeding groundfish ACLs and sub-ACLs and potentially triggering an AM for the sector that fished its carryover. We do not think this was the Council's intent, but it is not clear from the regulations or Amendment 16 how else overages of the sector sub-ACL or total ACL due to sector carryover should be handled. Therefore, we recommend the Council review and clarify the existing sector carryover program, in order to ensure it is consistent with the NS guidelines and the FMP. In the meantime, we are currently monitoring catch of a sector's carryover separately from catch toward an ACL, to ensure sectors are not unfairly penalized for using their allowable carryover.

The DAS carryover program for the NE multispecies common pool fishery does not appear to have the same issues. Although it is not clear whether carryover DAS were explicitly taken into account in the management uncertainty buffers, trimester TACs and the Regional Administrator's inseason authority greatly reduce the likelihood that this particular measure will cause a common pool sub-ACL to be exceeded.

My staff will be available to provide support and further guidance as the Council addresses this topic in the coming months. If you have any further questions regarding this letter, please contact Melissa Vasquez at the Sustainable Fisheries Division at (978) 281-9166.

Sincerely,

Daniel S. Morris
Acting Regional Administrator