#1



New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116 E.F. öTerryö Stockwell, *Chairman* | Thomas A. Nies, *Executive Director* 

#### **MEMORANDUM**

DATE:	September 5, 2014
TO:	Groundfish Oversight Committee (Committee)
FROM:	Groundfish Plan Development Team (PDT)
SUBJECT:	Progress on Amendment 18

To inform your meeting on September 17-18, this memo provides some background for the key discussion points that the Committee should work through. The PDT had a conference call on August 7 and an in-person meeting on September 3. PDT members present (most for both meetings) were: Jamie Cournane, Rachel Feeney, Jonathon Peros (NEFMC staff); Chad Demarest, Anna Henry, Paul Nitchke (NEFSC); Dan Caless, Tim Cardiasmenos, Sarah Heil, Danielle Palmer, Michael Ruccio, William Whitmore (GARFO); Steve Correia (MADMF); and Sally Sherman (MEDMR). Three members of the public were present on September 3. The PDT primarily discussed measures for inshore/offshore Gulf of Maine cod and accumulation limits. This memo was finalized via emails and phone calls.

To facilitate the Committeeø discussion on September 17-18, and at the request of some Committee members for a simpler list of topics to work through, the PDT is providing a discussion guide for Amendment 18. Feedback on the utility of that new document and its format would be appreciated.

#### **Contents:**

Amendment 18 Action Timeline	
Inshore/Offshore Gulf of Maine (Section 4.5)	2
Accumulation Limits (Section 4.1)	4
Data Confidentiality (Section 4.4)	7
U.S./Canada trading (Section 4.2)	9
Committee Motions (to date)	9
References	10

### **Amendment 18 Action Timeline**

The current Amendment 18 action timeline has the Council approving the remaining Range of Alternatives for the DEIS at their meeting Sept. 30 ó Oct. 2, 2014 (HA fishery and US/CA trading measures are already approved). Updates to the Discussion Document have been made to reflect the Committee motions in August. The document, as revised September 5, will be sent to the Council on September 19. Additional Committee motions made September 17-18 will go directly to the Council meeting for approval.

2014		
Sept. 16 (AM)	Recreational Advisory Panel meeting	
Sept. 16 (PM)	Groundfish Advisory Panel meeting	
Sept. 17-18	Committee meeting	
Sept. 19	Discussion Document (9/5 version) and OSC motions sent to Council	
Sept. 30-Oct.2	NEFMC approves remaining Range of Alternatives	
OctDec.	Notice of Intent revised, PDT develops DEIS (analyze probable effects)	
2015		
Jan. 27-29	NEFMC approves DEIS with Range of Alternatives, selects preferred alternatives	
Mar. 1	DEIS accepted by NMFS	
Apr. 1	EPA approves DEIS and issues NOA that DEIS is available	
AprMay.	DEIS 45-day public comment period	
June 16-18	NEFMC votes on final action	
Aug. 1	FEIS submitted to NERO	
AugDec.	EIS review, revisions, final submission, and deeming of proposed regulations. GARFO publishes NOA. 60-day public comment period.	
2016		
January	Continue review/comment period	
May 1	Possible implementation of measures	

#### Table 1 - Amendment 18 timeline

### Inshore/Offshore Gulf of Maine (Section 4.5)

The Committee has been developing measures based on the following Council motion, which passed in June (14/1/0):

1. That the PDT develop a range of alternatives in establishing an inshore/offshore Gulf of Maine boundary line including among those alternatives, 70 degrees west longitude line extended north and south, and 70 degrees 15 minutes west longitude line extended north and south.

2. The following be included in Amendment 18, which would apply to the commercial and recreational groundfish fisheries:

A. An alternative to create an inshore Gulf of Maine sub-ACL, which would divide the existing ACL into inshore and offshore sub-ACLs, based either on historical catch patterns or stock distribution (up to 20 years prior), and a sub-option which would

prohibit vessels from fishing in both the inshore and offshore Gulf of Maine areas on a single trip without an observer or electronic monitoring technology which can correctly attribute catch to each area;

*B.* An alternative that attempts to address concentrated inshore effort with the development of an expanded gear restricted area in inshore Gulf of Maine; and

*C.* To provide a range of alternatives as to how long you would declare in and out of area (time periods).

## Application to the recreational fishery

The Committee should discuss how the measures in Section 4.5 should apply to the recreational fleet (see Discussion Guide for specific questions). The PDT is unsure how many recreational (and commercial) vessels currently fish on both sides of the boundary lines on a given trip. Since the two inshore/offshore boundary options intersect the 3-mile limit off the coast of Maine and Massachusetts, it is likely that there are recreational anglers that currently fish on both sides of the line on a given trip. The party/charter fleet submits Vessel Trip Reports (VTRs), but does not carry observers. Captains are required to provide one lat/lon position on their VTR, as well as the statistical area they are fishing in. Private anglers currently do not have to declare a trip. The private angler fleet submits neither VTRs nor is monitored. It would be very difficult to track recreational ACLs by sub-areas or enforce declaration time periods without substantial changes to the administration of the recreational fishery. For the catch monitoring provision, it may not be possible to require observers (or perhaps electronic monitoring in the future) for the portion of the fleet for which federal permits are not required (i.e., private anglers). It will be difficult to develop an impact analysis for the private recreational fleet, as there is no data on current fishing areas. The PDT questioned how the provision would be enforced, particularly for vessels without VMS.

## Declaration time periods

In August, the Committee tasked the PDT with developing measures for declaration time periods at the trip level or higher. Trip, seasonal, and annual time periods were discussed, so the PDT developed Section 4.5.4.1 accordingly. The Committee has not yet discussed how measures in Section 4.5.4 would apply to the recreational fishery, in accord with the June Council motion.

# Overall purpose/outcomes of Section 4.5

The PDT is still unsure what the aim of Section 4.5 is. If the aim is to rebuild GOM cod to promote fleet diversity, resilience and stability, then it is not clear how the measures in this section would reduce mortality to rebuild the stock quicker. If the aim is to provide access to the GOM cod ACL by different segments of the fleet (ports, gears, vessel sizes), it is not clear how Section 4.5 would accomplish that. Generally, it is not clear what the desired optimal level of fleet diversity really is or how it should be measured. What should the ratio of large to small boats be by port? What should the ratio be by gear type? Is the status quo optimal? Should the fishermen be able to choose their optimal ports, gears, and vessel sizes or should diversity be imposed through regulations?

The PDT discussed potential outcomes of the inshore/offshore measures and distributional impacts associated with dividing GOM cod quota into inshore and offshore portions. The PDT

recognized that this split would impact the common pool differently than sectors. The primary outcomes would seem to be GOM cod catch attribution to the sub-areas and potentially increased reliance on the lease market by sectors. For smaller vessels with a limited range, the measures would reduce their fishable quota. They could become more reliant on the lease market, unless sectors divide allocations of inshore and offshore GOM cod between their members in a way that reduces the burden of trading. Likewise, sectors with vessels that can fish in the offshore sub-area would likely lease more (offshore) quota or transfer it within the sector to those vessels. The annual and seasonal sub-area declaration options may constrain effort, but the end goal continues to be unclear.

# Accumulation Limits (Section 4.1)

At the August Committee meeting, there was much discussion about if a personøs holdings can exceed the accumulation limit alternative adopted, upon implementation of the action and in the future if someone obtains additional permits or PSC that would put their holdings over the limit (e.g., through an estate settlement, permit buyback program, PSC redistribution). Section 4.1.3 (PSC holdings in excess of the accumulation limit) was revised to reflect the August motions and consensus statements. The Committee should confirm that the new language satisfies the Committeeøs intent.

# How grandfathering and divestiture is handled in other fisheries

Committee members have requested information for how accumulation limits in other catch share fisheries were implemented, specifically: if grandfathering was allowed, if entities were required to divest, how the divested holdings were treated, and if there are scenarios where holdings can exceed the cap. Table 2 describes all U.S. catch share programs with accumulation limits. It is provided with the help of staff of other Regional Councils. The NMFS website on catch shares is also useful<sup>1</sup>. Quite a variety of approaches have been used.

## Table 2 - Grandfathering and divestiture in other US fisheries

### Cap set above highest current holdings. Grandfathering not necessary.

*Red Snapper IFQ (GMFMC).* The quota allocation cap of 6.0203% for an entity was implemented concurrent with the IFQ program itself. The cap was set at the highest percent of average landings by an entity over a 5-year window of time. Implementing this accumulation cap did not involve divestiture and grandfathering was unnecessary. This cap was set at the entity rather than the individual person level. Many shareholders have incorporated their business, thus it is difficult to identify whether the same individual is part owner in multiple business entities.

*Gulf of Mexico Grouper and Tilefish IFQ (GMFMC)*. Holdings can be no greater than a certain percentage of the total available quota for each species/group. The caps are: Red Grouper 3.69%; Gag Grouper 2.29%; Other Shallow Water Grouper 7.05%; Deepwater Grouper 14.28%; and Tilefish 11.47%. The caps were determined by the maximum IFQ share issued to a person, corporation, or other entity at the time of initial apportionment of the IFQ shares. Thus, implementing this accumulation cap did not involve divestiture and grandfathering was unnecessary.

*Wreckfish ITQ (SAFMC).* The program was implemented in 1992 and had a 10% cap for initial shares, but no cap on shares held by purchasing additional permits. In 2011, a 49% share cap was implemented, in addition to reverting inactive shares and redistributing them to active shareholders. This cap did not

<sup>&</sup>lt;sup>1</sup> <u>http://www.nmfs.noaa.gov/sfa/management/catch\_shares/index.html</u>

exceed any current holdings in the fishery. Thus, implementing this accumulation cap did not involve divestiture and grandfathering was unnecessary. Holdings cannot increase above this limit for any reason (e.g., inheritance, redistribution).

*Alaska Pollock (NPFMC)*. The American Fisheries Act of 1998 section on excessive shares states, that "No particular individual, corporation, or other entity may harvest, through a fishery cooperative or otherwise, a total of more than 17.5% of the pollock available to be harvested in the directed pollock fishery.ö Also, no processor may process more than 30% of the pollock directed fishery allocation. The AFA implies that the goal of the caps is to preserve competition in the Bering Sea and Aleutian Islands fishing and processing industries. When the caps were set, the caps exceeded any vesseløs historical landings or processorøs use. Thus, grandfathering was unnecessary and there was no divestiture.

## Cap set above highest current holdings. Temporary grandfathering allowed, but not necessary.

*Golden Tilefish IFQ (MAFMC)*. No person or entity may hold more than 49% of the quota at any time. When the cap was set, it exceeded any vesseløs historical landings for the allocation time period and any entityøs current holdings. The FMP states that õIf the initial IFQ share allocation for any given person or entity is higher than the selected percent accumulation cap, then the excess shares associated with the initial allocation must be divested within 180 days after the implementation of the IFQ system.ö Thus, implementing this accumulation cap did not involve divestiture, and temporary grandfathering was allowed but unnecessary. There is no scenario allowed under which an allocation can exceed 49%.

### Cap set below highest current holdings. Grandfathering allowed with expiration upon sale.

*Bering Sea & Aleutian Islands Non-Pollock Catcher/Processor Cooperatives (NPFMC).* No single person can collectively hold or use more than 30% of the quota share unless grandfathered in. Additionally, no single vessel may catch more than 20% of the initial TAC assigned to the non-AFA trawl catcher/processor sector in a year. Those with grandfathered holdings that exceed the use cap cannot receive additional permits by transfer that person holdings of aggregate quota are reduced to an amount below the use cap. One company had holdings above the cap. If the owners want to sell the company, then just the holdings that would conform to the cap would be transferred to the new owners. Thus, implementing this accumulation cap did not involve divestiture and grandfathering was allowed with an expiration. The Council considered individual holdings caps and vessel use caps to help maintain the minimum fleet size and prevent excessive consolidation of market power. The caps have been successful in limiting consolidation. At implementation, there were 23 active vessels, while in 2012 there were 20 active Amendment 80 vessels.

*Pacific Sablefish IFQ Permit Stacking Program (PFMC).* No vessel may stack (register) more than three sablefish-endorsed permits during the sablefish primary season. No individual or entity may hold (lease or otherwise obtain) more than three permits unless that individual or entity held more than three permits as of 11/1/00. Thus, implementing this accumulation cap (in 2002) did not involve divestiture and grandfathering was allowed. The grandfather exception expires with changes in ownership which involve a new owner (e.g. transferring a vessel to a new owner or the addition of a new partner to a partnership that owns the vessel - loss of a partner would not count as a change in ownership).

### Cap set below current holdings. Grandfathering allowed with expiration date.

*Pacific Groundfish IFQ and Harvest Cooperatives (PFMC).* The program implemented individual species and aggregate quota share accumulation limits in 2011. That divestiture date was later postponed, because of a delay in the start of quota share trading. Vessels have limits on the amount of quota pounds that can be registered to a vessel at any one time and cumulative over the year. The mothership sector of the at-sea whiting cooperatives limit the amount a vessel may catch to no more than 30% of the whiting allocation to the mothership sector and limit the mothership processor to processing no more than 45% of the whiting allocation to the mothership sector. The vessel limits for shoreside quota are, with exceptions, about 50% above the quota control limits to allow several quota holders to work together on a

single vessel. The plan required the initial recipients of quota who exceed the limits to divest by the end of 2014. Thus, implementing this accumulation cap did not involve immediate divestiture and grandfathering was allowed, but with a sunset.

### Cap set below highest current holdings. Grandfathering allowed with expiration on inheritance.

*Alaska Halibut and Sablefish IFQ (NPFMC)*. Unless grandfathered in based on original landings history, no one can hold or control more than 0.5%-1.5% of the halibut or sablefish shares in various combinations of areas (Gulf of Alaska, Bering Sea, and Aleutians). There are similar restrictions on the amounts that can be used on any single vessel. Thus, implementing this accumulation cap allowed grandfathering and did not involve divestiture. If holdings that are transferred through inheritance put the recipient over the cap, then within three years, the recipient must divest quota until their holdings are at or below the cap. If the recipient already had grandfathered holdings, they would have to divest back to the grandfathered level.

#### Cap set below highest current holdings. Grandfathering allowed with no expiration.

*Central Gulf of Alaska Rockfish (NPFMC)*. There are several caps in place. No person may hold more than 4% of the catcher vessel quota. No person may hold more than 40% of the catcher/processor quota. No rockfish cooperative may hold more than 30% of the catcher vessel quota. No catcher vessel and no catcher/processor vessel may harvest more than 8% or 60% of the rockfish primary species quota, respectively. No processor may receive and process more than 30% of the rockfish primary species. The intent of the use caps under the Rockfish Program is to limit the degree of consolidation that could occur in the Central GOA rockfish fisheries. The Program includes grandfather provisions that allow persons to retain amounts of initial allocations of rockfish QS in excess of the use caps if those persons that held QS in excess of the use caps prior to the date of final Council action, June 14, 2010. Thus, implementing this accumulation cap allowed grandfathering and did not involve divestiture. Apart from offshore quota that is temporarily transferred to an inshore cooperative (not applying to the inshore sector use caps), there is no scenario allowed under which allocation or use can exceed the caps.

#### Cap set below highest current holdings. Grandfathering not allowed; divestiture necessary.

Atlantic Scallop General Category IFQ (NEFMC). The initial accumulation limit was that a vessel issued an IFQ scallop permit could not be allocated >2% of the quota allocated to the fleet of vessels issued IFQ scallop permits, and an individual could not have ownership interest in >5% of the quota allocated to the fleet. Through a subsequent action, the vessel cap was increased to 2.5%, so that someone could own two vessels to be at the 5% max, rather than three. Implementing this accumulation cap did involve divestiture and grandfathering was not allowed. There was one permit holder above the cap. Upon notification of the overage, the entity sold enough permitted vessels to another entity to comply with the cap. Based on written testament from the seller, NMFS determined that the seller did not have any ownership interest in or control of the buyer. The transfer occurred after the start of the fishing year that the accumulation limit was implemented, but the excess IFQ was not used by the seller in the interim.

#### Unknown\*

*Bering Sea & Aleutian Islands Crab Rationalization Program (NPFMC)*. Individuals may not hold/use more than 1%-10% of shares (varies by fishery). Processors may not process more than 30% of processor shares for each fishery.

\* PDT was unable to gather the relevant information in time for this memo.

#### **Action under Development**

*Gulf of Alaska Trawl Bycatch Management* Program (NPFMC). This is a LAPP that is in the early stages of development, and would be a cooperative-based program, where target and secondary species catch history associated with limited access permits is awarded to the cooperative in which the license (permit)

is enrolled. That catch history would bring with it a pro rata amount of prohibited species (i.e., halibut, Chinook salmon). The NPFMC has not yet determined which species would be allocated to the cooperatives. Accumulation limit alternatives are being developed with grandfathering of holdings, but the Council has not yet weighed in divestiture or the purchase of new quota share for one species if the license holder is above the cap on other allocated species. There is a control date for this action. It has yet to be determined how this date will be used (relative to setting catch history for the allocation or grandfathering holdings).

# Data Confidentiality (Section 4.4)

In April, the Council passed the following motion (11/5/1):

That PSC-determined catch allocations of multispecies groundfish and any subsequent leasing of those allocations (amount and value) by individuals within and between sectors will not be considered confidential information as part of continued catch share management of groundfish through Amendment 18 dealing with groundfish fleet consolidation and diversity.

There are several aspects of this motion and the alternatives in this section that the Committee should take note of:

- 1. Catch allocations are made to sectors and are non-confidential already. Thus, an alternative in A18 is not necessary for this component of the motion.
- 2. ACE is õmovedö within a sector not õleased.ö Alternative 2 in Section 4.4 has been revised to be technically accurate.
- 3. Data on the leasing of ACE between sectors are posted on the GARFO website already. However, price data are not currently posted. NMFS has previously determined that ACE price data are not necessary for the administration of the program, and thus, do not warrant an exception from the Magnuson-Stevens Act data confidentiality provisions.
- 4. NMFS does not receive data on ACE movement within a sector until after the end of the fishing year (in the sector annual reports).

# Viability of Section 4.4, Alternative 2

An alternative that makes data on allocation and leasing at the individual level non-confidential is not viable, because ACE is allocated and trades occur at the sector level, not the individual level. Thus, in part, to make Alternative 2 more viable, the PDT wrote it to require that the price data on the movement of ACE within and between sectors be non-confidential. However, the PDT has concerns with this alternative as written:

- 1. It does not have sufficient legal standing to be a viable alternative for Amendment 18, as indicated by General Counsel at the April Council meeting. The Council would need to make it clearer why making the price data public is necessary for the administration of the program, warranting an exception to the data confidentiality requirements of the Magnuson-Stevens Act.
- 2. Having accurate and complete price data would be very useful in understanding the economics of the fishery. However, requiring that all prices paid be submitted and posted may have the opposite effect than the Council intends. It could make the

reporting of prices strategic (i.e., incentivize misreporting), and it would be very difficult to confirm data accuracy. Because multiple stocks are often bundled in a trade, teasing out the price for each stock in a trade would also be difficult.

Unless these concerns are addressed, the PDT recommends moving Alternative 2 to Considered but Rejected (Section 5.0).

### Other websites posting catch share data

There are several other catch share programs in the US that have fishery data posted by NMFS to public websites. The information below was provided by staff of other Regional Councils. The PDT could not find a case where permit holder and price of transfer data are listed with each transfer.

### Alaska

NMFS has a website where various reports on quota use and transfer are posted at <u>http://alaskafisheries.noaa.gov/ram/default.htm</u>. For example, the page for the halibut and sablefish IFQ program has a list of annual data sets about half way down on the page called "QS/IFQ Transfers and IFQ Crewmember Statisticsö at <u>http://alaskafisheries.noaa.gov/ram/ifq</u> reports.htm. In the *Transfer Report*, the annual average transfer price data are caveated by noting that NMFS only learns the cash price paid, but does not necessarily know what other goods or services might have been included in the private exchange. The report includes the total traded each year by area and by relationship of the trading parties (e.g., business partner, family, friends).

### Gulf of Mexico

The NMFS website for Gulf of Mexico catch share programs is at <u>https://ifq.sero.nmfs.noaa.gov/</u> <u>ifqgt/main.html#</u>. Under the õAdditional Informationö tab are copies of the annual reports on the programs, which include aggregated proportions of shares sold and allocation traded. All information on individual transfers and sales are considered confidential. This page also has a tab to see the dealers. The main Southeast Regional Office Freedom of Information Act page at <u>http://sero.nmfs.noaa.gov/operations management information services/constituency services</u> <u>branch/freedom of information act/common foia/index.html</u> has a spreadsheet with all shareholders listed, and which type of shares they hold (e.g., gag, red snapper), but not the quantity of shares, which is considered confidential (see bottom of the page, under õCatch Shares.ö

## Mid-Atlantic

The initial ITQ allocation holder report and transfers reported for the Mid-Atlantic surfclam ocean quahog ITQ program is at: <u>http://www.nero.noaa.gov/sustainable/species/clam/</u>. Price of transfers is not posted. The transfer prices for the SCOQ ITQ fishery are not collected. However, this is about to change as new reporting requirements are about to start for that fishery. For the tilefish IFQ system, transfer prices are collected by NMFS but not posted.

## Pacific

The general website for the Pacific trawl rationalization program is at <u>http://www.westcoast.</u> <u>fisheries.noaa.gov/fisheries/groundfish\_catch\_shares/index.html.</u> The list of permits and quota holders is at: <u>https://www.webapps.nwfsc.noaa.gov/apex\_ifq/f?p=112:31:0::NO</u>. Individual quota share account balances are at: <u>https://www.webapps.nwfsc.noaa.gov/ifq/</u>. Vessel accounts (annually issued quota pounds are transferred to vessel accounts for use) are at: <u>https://www.webapps.nwfsc.noaa.gov/apex\_ifq/f?p=112:23:566572056717::NO::</u>. Individual vessel account balances are at: <u>https://www.webapps.nwfsc.noaa.gov/ifq/</u>. Limited entry permits are at: <u>https://www.webapps.nwfsc.noaa.gov/apex\_ifq/f?p=112:23:0::NO.</u>

# U.S./Canada trading (Section 4.2)

Through the course preliminary impacts analysis on the U.S./Canada trading measures (Section 4.2), a few questions on details arose that the PDT would like to clarify with the Committee:

- 1. Does the Committee envision a limit on the number of trades that can be negotiated per year and the timing?
- 2. Does the Committee envision a minimum size threshold for trades?
- 3. What is the rationale for why the common pool is excluded from trades?
- 4. Before trades can be offered to Canada should a right of first refusal be allowed for other sectors or other U.S. fisheries (e.g., the scallop fishery)?
- 5. What degree of Council consultation is envisioned, with just the OSC or the entire Council?

## **Committee Motions (to date)**

The following are motions and consensus statements from the August 4 Committee meeting that will be presented for consideration at the September-October Council meeting. Any motions from the September 17-18 meeting will be added to this.

## Inshore/Offshore GOM

*Motion:* In Section 4.5.2.2, Alternative 2 (Establish an inshore/offshore GOM cod sub-ACL), refine the options for specifying the control rule for setting the sub-ACLs by adding sub-options to Options B and C that would have two time periods, 10- and 20-years rolling forward (set in each specifications process).

Motion carried (5/1/0). See p. 53-54 of Discussion Document.

## Accumulation Limits

*Motion:* To move Section 4.1.3.1, Option A (Do not grandfather current holdings) to the Considered but Rejected section. *Motion carried (7/1/0). See p. 35 of Discussion Document.* 

*Motion:* In Section 4.1.3.2 (Disposition of current holdings in excess of what is allowed), add Option C to allow the purchase of permits that exceed the PSC cap, with the stipulation that any PSC over the cap would be permanently deleted from that permit and annually redistributed to the remainder of the fleet in the manner described in Framework 45. It would not be used by the purchaser and would no longer be attached to that permit when it is sold. *Motion carried (5/0/1). See p. 36 of Discussion Document.* 

*Motion:* In Section 4.1.3.3 (Acquisition of future holdings), add Option B that would require relinquishment (permanent divestment) only of the PSC that is above the established cap. *Motion carried (6/0/0). See p. 37-38 of Discussion Document.* 

#### References

- Legault CM, Alade L, Stone HH, Gross WE. 2012. Stock Assessment of Georges Bank Yellowtail Flounder for 2012. Woods Hole (MA) and St. Andrews (NB): Transboundary Resources Assessment Committee. Ref. Doc. 2012/02. 138 p.
- MSFCMA. Magnuson-Stevens Fishery Conservation and Management Reauthorization Act. 2007. Public Law 109-479, 16 USC 1801-1884.
- NEFSC. 2010. 50<sup>th</sup> Northeast Regional Stock Assessment Workshop (50<sup>th</sup> SAW) Assessment Summary Report. Woods Hole (MA): US Department of Commerce. Northeast Fisheries Science Center Ref. Doc. 10-09. 57 p.
- NEFSC. 2011. 52<sup>nd</sup> Northeast Regional Stock Assessment Workshop (52<sup>nd</sup> SAW) Assessment Summary Report.: US Department of Commerce. Northeast Fisheries Science Center Ref. Doc. 11-11. 51 p.
- NEFSC. 2012a. 54<sup>th</sup> Northeast Regional Stock Assessment Workshop (54<sup>th</sup> SAW) Assessment Summary Report. Woods Hole (MA): US Department of Commerce. Northeast Fisheries Science Center Ref. Doc. 12-14. 45 p.
- NEFSC. 2012b. Assessment or Data Updates of 13 Northeast Groundfish Stocks through 2010. Woods Hole (MA): US Department of Commerce. Northeast Fisheries Science Center Ref. Doc. 12-06. 789 p.
- NEFSC. 2013a. 55<sup>th</sup> Northeast Regional Stock Assessment Workshop (55<sup>th</sup> SAW) Assessment Summary Report. Woods Hole (MA): US Department of Commerce. Northeast Fisheries Science Center Ref. Doc. 13-01. 47 p.
- NEFSC. 2013b. 56<sup>th</sup> Northeast Regional Stock Assessment Workshop (56<sup>th</sup> SAW) Assessment Summary Report. Woods Hole (MA): U.S. Department of Commerce. Northeast Fisheries Science Center Ref. Doc. 13-04. 42 p.