Gulf of Maine Research Institute

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Gulf of Maine Research Institute
Responsibly Harvested Seafood from the Gulf of Maine Region

Report on
Gulf of Maine Haddock

☒ The fishery is managed by a competent authority and has a management plan in place that incorporates a science-based approach to ensure sustainability.

- *GOM haddock is managed by NMFS and NEFMC, and regulated by the Northeast Multispecies Fishery Management Plan, which utilizes the best available science to set biological reference points and harvest restrictions.*

☒ If stock sizes are below management target levels, whether due to natural or man-made causes, management plans are established that enable rebuilding within a specified timeframe.

- *GOM haddock stock size is not below management target levels; the stock is fully rebuilt.*

☒ Sufficient data exists to determine harvest levels.

- *The Groundfish Assessment Review Meeting utilized fisheries-dependent and –independent data to determine biological reference points, which are assessed through the Council process. Ultimately, the Council sets the harvest levels (Annual Catch Limits) based on these data and information, which incorporate uncertainty. It is not considered a data poor species.*

☒ Monitoring and compliance measures are in place to ensure acceptable harvest levels.

- *GOM haddock catch is monitored through vessel trip reports (VTRs), observers, dealer reports, and for sectors, dockside monitoring and other electronic reporting requirements. Compliance is assessed through consistency throughout these reports as well as enforcement in the field.*

☒ Enforcement exists to ensure that harvesters follow regulations, and to prevent illegal practices and unreported harvest.

- *U.S. Coast Guard, NMFS Office of Law Enforcement agents, and state marine patrol agents enforce the laws and regulations governing the harvest of GOM haddock.*

I. Definition of Gulf of Maine Haddock

Gulf of Maine haddock (*Melanogrammus aeglefinus*) is harvested from the waters off the coast of Massachusetts, New Hampshire, and Maine (see Figure 1). Otter trawl, sink gillnet and benthic longline vessels account for approximately 99% of total landings (NEFSC 2008).

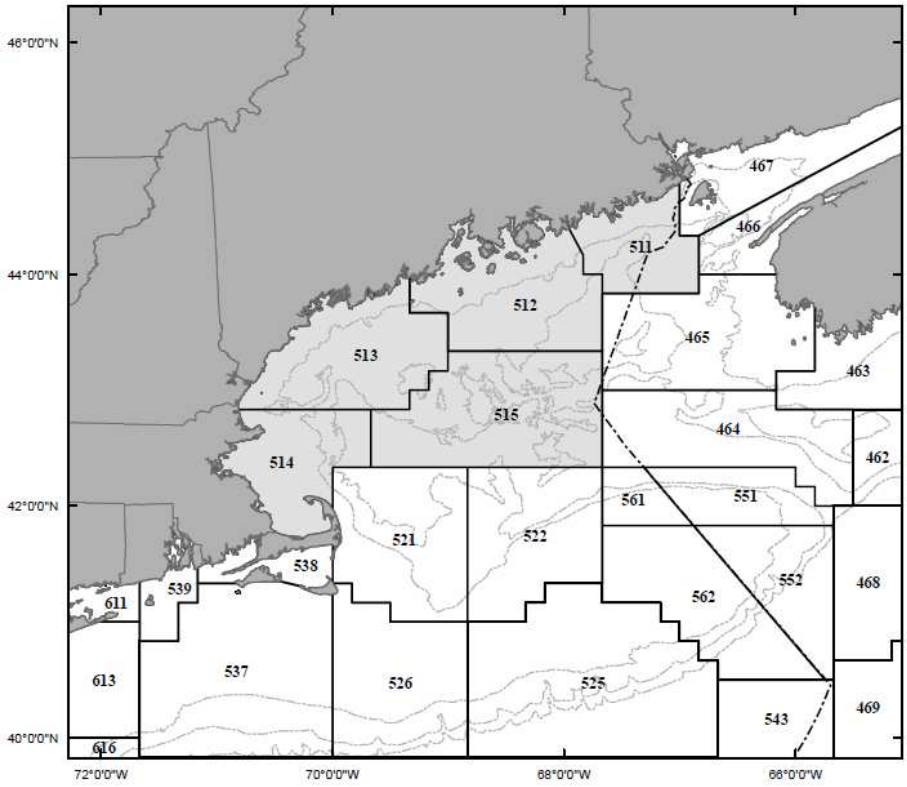

Figure 1. Statistical areas included in the Gulf of Maine haddock management unit, 511-515, are shown in light grey. The dashed line represents the United States Exclusive Economic Zone (NEFSC 2008).

II. Description of the Management Authority and Regulatory Process

Responsibility of Gulf of Maine haddock management lies within the National Marine Fisheries Service (NMFS), which is a part of the National Oceanic and Atmospheric Administration (NOAA). The New England Fishery Management Council (NEFMC) facilitates the development of Gulf of Maine haddock regulations as part of a complex of 15 groundfish species that are managed together as the Northeast Multispecies Fishery. The NEFMC consists of 18 voting members, including the Regional Administrator for NMFS, the principal marine resource management official from each New England state, and governor appointees.

For Gulf of Maine haddock management, the NEFMC is advised by an oversight committee that currently consists of representatives from state and federal management agencies, the fishing industry, and environmental groups. This committee is responsible for the development of the fishery management plan and regulations that are consistent with the ten national standards

outlined in the Magnuson Stevens Act (MSA), which dictate that conservation and management measures shall:

1. Prevent overfishing while achieving optimum yield.
2. Be based upon the best scientific information available.
3. Manage individual stocks as a unit throughout their range, to the extent practicable; interrelated stocks shall be managed as a unit or in close coordination.
4. Not discriminate between residents of different states; any allocation of privileges must be fair and equitable.
5. Where practicable, promote efficiency, except that no such measure shall have economic allocation as its sole purpose.
6. Take into account and allow for variations among and contingencies in fisheries, fishery resources, and catches.
7. Minimize costs and avoid duplications, where practicable.
8. Take into account the importance of fishery resources to fishing communities to provide for the sustained participation of, and minimize adverse impacts to, such communities (consistent with conservation requirements).
9. Minimize bycatch or mortality from bycatch.
10. Promote safety of human life at sea.

To help the oversight committee meet these requirements, an Advisory Panel made up of representatives from the fishing industry, scientists, and conservation organizations provides input to management measures. The chairs of the oversight committee provide detailed guidance (terms of reference) to a Plan Development Team (PDT), which consists of scientists, managers and other experts on biology and/or management of haddock. Then the PDT provides reports to the oversight committee in response to the terms of reference. The PDT meets regularly to provide analysis of species-related information and to develop issue papers, alternatives, and other documents as appropriate. Figure 2 provides a visual of this process.

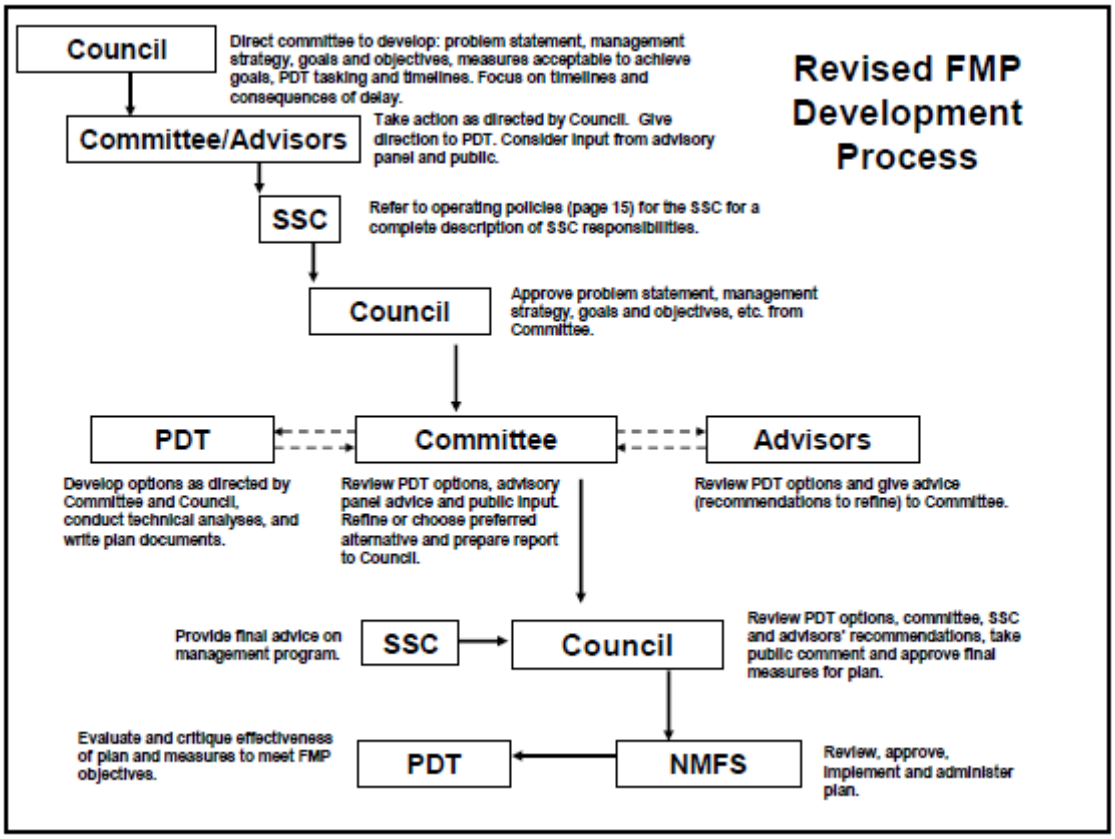

Figure 2. Fishery Management Plan Process (Fiorelli 2008)

III. Gulf of Maine Haddock Data

Landings and survey data are used in determining the biological reference points (BRP) for Gulf of Maine haddock. The latest assessment utilized a virtual population analysis (VPA) that included estimates for recreational landings, commercial discards, research survey abundance indices, and analytical models. The accepted VPA configuration included catch, survey, and biological data from 1977 through 2006. The BRPs in Groundfish Assessment Review Meeting (GARM III) report have been recalculated using the updated VPA results. The resulting BRP estimates were a Spawning Stock Biomass at maximum sustainable yield (SSB_{MSY}) of 5,900 mt, and a fishing mortality $(F)_{MSY}$ of 0.43. The 2007 SSB was estimated to be 5,850**Error! Bookmark not defined.** and in 2008 F was 0.25 (NMFS 2010). As biomass (B) levels are greater than half the B_{MSY}, and F is less than F_{MSY}, Gulf of Maine haddock is not overfished and overfishing is not occurring (NEFSC 2008). The Gulf of Maine haddock stock has been rebuilt since 2000 (NEFMC 2009). **Error! Bookmark not defined.**

This description of historical landings provides a summary of recent trends in the status of Gulf of Maine haddock. While landings rose above 6000 metric tons (mt) before 1980, a decline followed until around 1994, when they steadied out. Landings gradually increased after 1994 and remained relatively constant at approximately 1000 mt from 2003 to 2005. Landings have dropped off in 2006 and 2007 and remain below 700 mt per year. Figure 3 provides a graphical depiction of Gulf of Maine haddock landings between 1956 and 2007 (NEFSC 2008). Sufficient

data exist to determine harvest levels, and the annual catch limits (ACLs) for this stock in fishing years (FY) 2010-2012 are identified in Framework Adjustment 44 (75 FR 18356; April 9, 2010).[1]

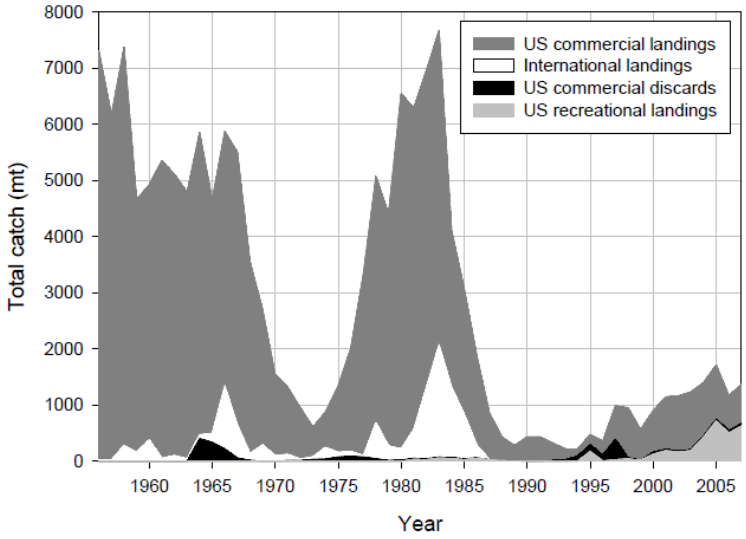

Figure 3. Total catch (mt) of Gulf of Maine haddock, 1956-2007 (NEFSC 2008).

Sources of Uncertainty

GARM III identifies the following sources of uncertainty for GOM haddock:

1. assumption of 100% survival in the recreational released live catch (type B2); and,
2. use of the size at age from the recent five years for long term projections.

IV. Northeast Multispecies Fisheries Management Plan

The Northeast Multispecies Fishery Management Plan (FMP) was implemented in 1986 to reduce fishing mortality of heavily fished groundfish stocks and to promote rebuilding to sustainable biomass levels. Sixteen species of groundfish are managed under Amendment 16 to Northeast Multispecies FMP. Thirteen large-mesh species are managed together based on fish size and type of gear used to harvest the fish: Atlantic cod, haddock, pollock, yellowtail flounder, witch flounder, winter flounder, windowpane flounder, American plaice, Atlantic halibut, redfish, ocean pout, white hake, and wolffish. The other three species (silver hake [or whiting], red hake, and offshore hake) are managed under a separate small-mesh multispecies program pursuant to Amendment 12 of the Northeast Multispecies FMP. Because several large-mesh species are managed as two or more separate stocks, e.g., Gulf of Maine haddock and Georges Bank haddock, there are a total of 20 separate stocks of groundfish managed under the FMP.

[1] A Framework Adjustment is an abbreviated rule-making process for actions within the scope of the existing goals and objectives of the respective fishery management plan (Amendment 16 in this case), and with no significant impacts on the human or physical environment.

The groundfish complex has been managed by seasonal and year-round area closures (i.e., no fishing in certain areas), gear restrictions (i.e., specified mesh size, number of nets/hooks, etc.), minimum fish size limits, trip limits (i.e., limiting fishermen to a certain poundage of fish per trip), limited access (i.e., limiting the number of participants in the fishery) and restrictions on the number of days a vessel is allowed to fish for groundfish each year (i.e., days-at-sea). In May 2004, Amendment 13 to the FMP implemented formal rebuilding plans for groundfish stocks, including Gulf of Maine haddock, based on revised biomass and fishing mortality targets derived by the Working Group on Re-evaluation of Biological Reference Points for New England Groundfish. The overall goal of these actions was to reduce fishing mortality to rebuild depleted groundfish stocks to target biomasses.

The current regulations, which were implemented by Amendment 16 in 2010, implement new requirements under the Magnuson-Stevens Reauthorization Act (MSRA) of 2006. The MSRA requires the NEFMC to determine Annual Catch Limits (ACLs) and Accountability Measures (AMs) for all managed stocks. This action implements a process for calculating an ACL in addition to the Overfishing Level (OFL) and Acceptable Biological Catch (ABC) for each stock. Recommendations for these figures are developed by the PDT. The Science and Statistical Committee (SSC) recommends ABC levels, and the NEFMC approves final ACLs, but cannot exceed the SSC's recommended levels. ACLs may be broken into subcomponents for different segments of the fishery, including state waters, commercial, recreational, sectors, and the common pool. Although the following stocks do have ACLs, possession is prohibited due to their overfished status: SNE/MA winter flounder, windowpane flounder, ocean pout, and wolffish. In addition, halibut catch is limited to one fish per trip. Northeast Multispecies permit holders are eligible to receive an allocation for the remaining 14 groundfish stocks.

In addition to general regulations for the fishery, Amendment 16 also implements species- and stock-specific regulations for vessels in the common pool and in sectors. Beginning in 2010, commercial harvesters of Gulf of Maine haddock will be managed in two self-selecting categories: Common Pool and Sectors. The following sections describe each of these categories.

Common Pool

Members in the common pool are managed by an effort control system that regulates the number of days a harvester may fish. In addition to a limited number of days a harvester may fish, controls include 24-hour days-at-sea counting, trip limits on other groundfish stocks, gear restrictions, minimum mesh size restrictions, gillnet restrictions, hook limits, seasonal and year-round closures, minimum fish size restrictions, and special access programs. Specific effort control measures are described in the final rule for Amendment 16 (NMFS 2010). For example, minimum mesh size for trawl gear used to target haddock is 6.5-inch diamond or square mesh. On May 27, 2010 the regional administrator for NOAA's Northeast Regional Office implemented a 1,000-lb trip limit for GOM haddock for common pool vessels.

In 2010 and 2011, in the year following an overage of any ACLs specified for vessels in the common pool, the rate DAS are charged would be increased proportional to the overage. In 2012, trimester hard TACs (total allowable catch) will be used as a primary AM, and the fishery will be suspended once the ACL of a stock is reached.

Sectors

Seventeen sectors have been authorized in the New England region. Sectors are self-selecting and largely self-regulating groups of fishermen who collaboratively manage an allocation of fish. Sectors must draft and submit formation proposals, operations plans, and sector monitoring plans, revised enforcement provisions, and clarification of the interaction of sectors with Special Management Programs, such as U.S./Canada management areas. Sectors are required to submit supporting environmental impact assessment documents with their application and operations plan.

In exchange for fishing under an ACL for each allocated species in the management plan, sectors are exempt from most common pool effort control measures, such as limited number of days at sea and trip limits. A Sector's allocation of an ACL for a particular stock is called the Annual Catch Entitlement, or ACE. At-sea and dockside catch monitoring ensures that sector ACEs are not exceeded. For each permit that is eligible to join a sector, the permit's Potential Sector Contribution (PSC) is calculated based on the permit's catch history. The ACE that is allocated to a sector is based on the sum of the PSCs for the permits that join the sector. Sector participants are not allowed to discard legal sized fish, and all fish caught count toward their allocations.

Regulations Shared by Common Pool and Sector Vessels

The only shared regulation that directly affects the harvest of Gulf of Maine haddock is that the minimum size is now 18 inches (NMFS 2010).

V. Monitoring

Monitoring of the common pool is carried out through several different programs. When fishing in certain areas, such as the Eastern U.S./Canada Area, vessels are required to submit daily vessel trip reports (VTRs), which provide details on type of gear fished, area fished, species caught (and discarded), dealer information, and port of landing information, in addition to other details. The New England Fisheries Observer Program (NEFOP) employs at-sea observer coverage and port sampling for the groundfish fleet. The final rule for Standardized Bycatch Reporting Methodology (SBRM) states that the Regional Administrator and the Science and Research Director will allocate at-sea observer coverage to the applicable fisheries of the Northeast Region sufficient to achieve a level of precision (measured as the coefficient of variation [CV]) no greater than 30% for each (73 FR 4736; January 28, 2008). In addition, vessels fishing in Special Access Programs (SAPs) are required to contact NEFOP prior to their trip to determine if they will have observer coverage. There are also shore-side port samplers who periodically work at fish auctions and exchanges taking biological samples. This program ensures compliance with the MSA in addition to the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). Shore-side, there is 100% electronic dealer reporting on a weekly basis, which includes, but is not limited to, unique trip identifier, quantity of species landed, price per unit by species, and port and state landed.

Sectors have additional monitoring requirements. Sector operations plans specify how a sector will monitor its catch to assure that sector catch does not exceed the sector allocation. In addition, 50% random dockside monitoring is required in Fishing Year (FY) 2010, and will be

reduced to 20% in subsequent years. While at-sea monitoring is not required until 2012, NMFS is providing funding to cover the costs of at-sea monitoring in FY 2010, which provides vessels with a more accurate estimate of discards, and therefore it is assumed that the majority of sectors will participate in at-sea monitoring in FY 2010. For those sectors that participate, at-sea monitoring is required at less than 100%, with coverage levels set by NEFSC. This level has been set at 38% in FY 2010. This monitoring is in addition to NEFOP coverage, and sector vessels are still required to submit daily VTRs.

Based on the data collected through monitoring, the Northeast multispecies complex is routinely evaluated and necessary changes to management measures are made through biennial Framework adjustments.

VI. Enforcement

In general, enforcement of the NE Multispecies FMP is coordinated through NOAA's Office of Law Enforcement (OLE). OLE Special Agents and Enforcement conduct complex criminal and civil investigations, board vessels fishing at sea, inspect fish processing plants, and conduct patrols on land, in the air and at sea. In addition to this enforcement work, the OLE administers the Cooperative Enforcement Program (CEP), which authorizes certain coastal state and territorial marine conservation law enforcement agencies to enforce federal laws and regulations in the Exclusive Economic Zone (EEZ). OLE also partners with the U.S. Coast Guard (USCG) and various other federal agencies, fishery management councils, and non-governmental organizations. In the common pool, enforcement is focused on compliance with DAS, seasonal closures, closed areas, gear restrictions, and trip limits, to name a few measures. Enforcement for sector vessels will primarily rely on monitoring harvest levels through sector reporting, dockside monitoring, dealer reporting, and VTR (in addition to some of the measures described above for which sectors are not universally exempt); however individual sectors are also responsible for self-enforcement.

It will be the responsibility of each sector to enforce any provisions adopted through procedures established in the operations plan and agreed to through the sector contract. Sectors may be held jointly liable for violations of the following sector operations plan requirements: ACE overages, discarding of legal-sized fish, and misreporting of catch (landings or discards).

V. References

Fiorelli, P.M. 2008. New England Fisheries Management Council Process. Presentation to the Marine Resource Education Program. January 21-23, 2008, West Greenwich, Rhode Island.

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New England Fishery Management Council. 2009. Summary of the Northeast Multispecies Fisheries Management Plan. Available: http://www.nefmc.org/nemulti/summary/large_mesh_multi.pdf

Northeast Fisheries Science Center. 2008. Assessment of 19 Northeast Groundfish Stocks through 2007: Report of the 3rd Groundfish Assessment Review Meeting (GARM III), Northeast Fisheries Science Center, Woods Hole, Massachusetts, August 4-8, 2008. US Dep Commer, NOAA Fisheries, Northeast Fish Sci Cent Ref Doc. 08-15; 884 p + xvii.