

7.0 Environmental Consequences – Analysis of Impacts

7.4 Economic Impacts – Atlantic halibut specifications and management

7.4.1 Updates to Annual Catch Limits

7.4.1.1 Annual Catch Limits- Atlantic Halibut for FY2018-FY2020

7.4.1.1.1 Option 1: No Action

Economic Impacts

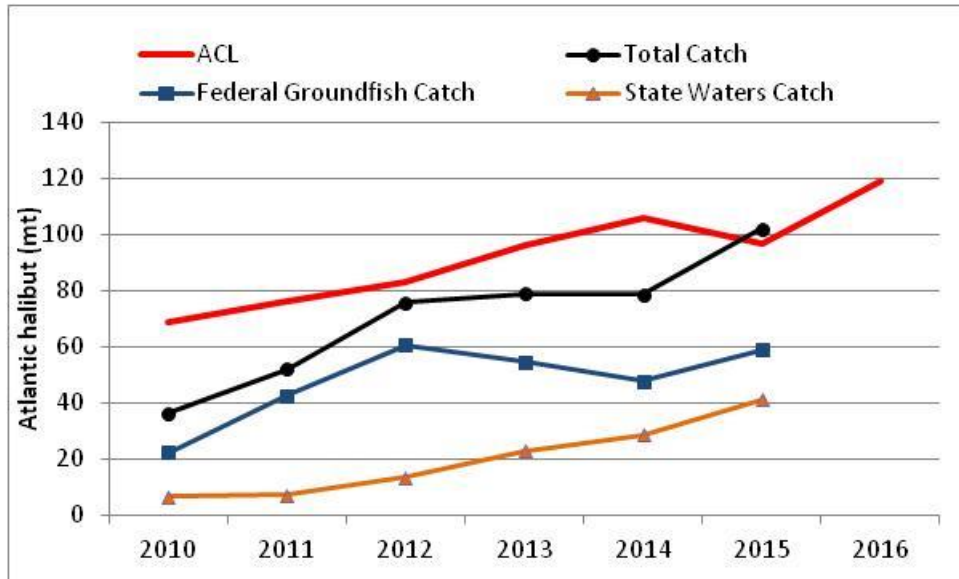
Atlantic halibut catches (landings and discards) in US waters have been increasing in recent years (Table 1 and Figure 1). Besides federally permitted vessels in the Northeast Multispecies (Groundfish) Fishery, state-only permitted commercial vessels in the state of Maine are a major contributor to halibut catches. In fishing year 2010, 36.2 mt of halibut were caught, with 22.4 mt captured by federally permitted commercial groundfish vessels, and 6.6 mt caught in all state waters fisheries. In fishing year 2015, halibut catches increased to 102 mt, with 59 mt caught by the federal commercial groundfish fishery and 41.1 mt from the state waters fisheries. Atlantic halibut catches in fishing year 2015 slightly exceeded the acceptable biological catch (ABC) of 100 mt, nearly causing AMs to be triggered for the federal groundfish fishery.

In general, increased ACLs from those in FY2017 would result in positive economic impacts for the commercial groundfish fishery. Conversely, decreased ACLs from those in FY2017 would further constrain the commercial fishery and could lead to triggering AMs in the future. No Action may provide for positive or negative impacts depending on the magnitude and directional change of the ACLs for Atlantic halibut determined under Option 2.

Table 1- Recent halibut catch estimates by fishery (mt). Source: Final fishing year-end catch reports, GARFO FY2010-FY2016.

Fishing Year	<u>Total</u>				<u>Federal Groundfish Fishery</u>		<u>State Waters</u>	
	OFL	Quota	ACL	Catch	Catch	% of total catch	Catch	% of total catch
2010	119	71	69	36.2	22.4	61.9%	6.6	18.2%
2011	130	78	76	52.1	42.6	81.8%	7.1	13.6%
2012	143	85	83	75.7	60.7	80.2%	13.3	17.6%
2013	164	99	96	79.0	54.7	69.2%	22.8	28.9%
2014	180	109	106	78.6	47.8	60.8%	28.7	36.5%
2015	198	100	97	102.0	59.0	57.8%	41.1	40.3%
2016	210	124	119	108.1	56.9	52.6%	47.9	44.3%

Figure 1- Recent halibut catches (mt) by fishery. Source: Final fishing year-end catch reports, GARFO FY 2010-FY 2015.



7.4.1.1.2 Option 2: Revised Annual Catch Limit Specifications

Atlantic halibut

The 2015 operational assessment for Atlantic halibut was rejected as a basis for management advice. The 2015 assessment report highlighted several data needs, including research on stock structure, improved biological data, and a more precise and accurate survey. The Panel also noted that more research was needed to investigate stock identity, and determine whether halibut should be managed in US and Canadian waters as a transboundary resource. The Council worked closely with the NEFSC to hire a contractor to explore data-limited assessment approaches for Atlantic halibut. The draft approach uses a combination of fishery dependent and fishery independent data sources to assess recent changes to the relative condition of the halibut resource. The assessment will recommend catch advice for FY2018-2020, and although projections are not possible under this approach, bootstrap analyses were used to derive the confidence intervals around the catch forecast, which can help managers better account for the uncertainty in the assessment. A peer review will convene to review the report on December 11, 2017. The SSC will meet on December 18, 2017 to discuss Atlantic halibut OFL and ABC recommendations for FY2018-FY2020. A range of possible ABCs (100, 125, 225 and 500 mt) is provided in this action. The OFL and ABC recommendations are expected to be based on the best available science.

In general, increased ACLs from those in FY2017 would result in positive economic impacts for the commercial groundfish fishery. Conversely, decreases in ACLs from FY2017 would further constrain the commercial fishery and could lead to triggering AMs in the future. Relative to No Action, Option 2 may provide for positive or negative impacts depending on the magnitude and directional change of the ACLs for Atlantic halibut.

7.4.3 Commercial and Recreational Fishery Measures

7.4.3.1 Accountability Measures

7.5.3.1.1 Atlantic Halibut Accountability Measures for Federal Fisheries

7.5.3.1.1.1. Option 1: No Action

Impacts on groundfish fishery

Atlantic halibut management measures for federally permitted commercial groundfish vessels were designed to minimize directed fishing effort on the stock, while also not wasting all fish through required discarding under no possession. Vessels with a Northeast Multispecies Permit are allowed to land one halibut per trip. Amendment 16 increased the minimum landing size to 41 inches (104.1 cm) from 35.8 inches (91 cm), based on updated size-at-maturity information. Because halibut are not considered a target species, they are not allocated to sectors.

Atlantic halibut AMs are triggered when the catches exceed the ACL plus a management uncertainty buffer. The AM would be triggered in either year 2 or year 3 following the overage, with the timing of the AM dependent upon the availability of data. The AMs were designed to account for an overage of up to 20%, and the AMs would need to be revised in the future if overages greater than 20% occurred.

If the AM is triggered, vessels that possess a Northeast Multispecies permit, or a Category C or D Monkfish permit would not be allowed to retain halibut for the entire fishing year. Year-round gear restricted areas are also enacted as part of the AMs. Under the AM, federally permitted multispecies trawl vessels would be required to use selective large-mesh trawl gear (e.g., haddock separator trawl, rope trawl, or Rhule trawl) that is designed to reduce flatfish bycatch when fishing in a large area adjacent to Closed Area I (**Error! Reference source not found.**) for the entire fishing year. Gillnet and longline vessels with a Northeast Multispecies permit would be prohibited from using either gear type in two areas of the Gulf of Maine for the entire fishing year. One of these AM areas is on Stellwagen Bank, and the other is on Platts Bank (**Error! Reference source not found.**).

There is a concern that the recent increase in Atlantic halibut catches could cause AMs to be triggered. The federal commercial groundfish fishery (sector and common pool) is the only portion of the fishery that is held accountable for overages of the halibut ABC. The AMs do not apply to state-only permitted vessels or the other components of the halibut fishery. The AMs would restrict the ability of the federal commercial groundfish fishery to target and catch marketable species, such as haddock and winter flounder, and these AMs will likely result in adverse economic impacts to the groundfish fishery on Georges Bank and in the Gulf of Maine.

There is a directed halibut fishery in Maine state waters, where commercial permit holders are allowed to land up to 25 halibut between May 1 and June 30 of each calendar year. The minimum landing size is 41 inches (104.1 cm), consistent with the federal size limit. In 2016, halibut tags were issued to 858 commercial permit holders in the State of Maine. Recreational and charter vessels are issued 5 tags per year.

Since 2009, only 7-10% of the halibut tags issued by the state of Maine have been filled annually. Of the 719 harvesters that were issued halibut tags in 2015, 215 of these reported catching one or more halibut. In 2016, the State of Maine issued 23,600 halibut tags to the commercial component. By comparison, 17,975 halibut tags were issued in 2015 and of these 9% of the tags used. Given the number of permit holders in the fishery, halibut catches by the Maine state water fishery could exceed the entire US ABC

for this stock if effort in the state water fishery were to increase. However for the 2017 fishing year, the state of Maine implemented emergency rulemaking to clarify the targeting and possession of Atlantic Halibut in federal waters (<http://www.maine.gov/dmr/laws-regulations/documents/Ch%2034EmergencyClosure4.30.17.pdf>). A preliminary landings report from the State of Maine indicates that both this emergency regulation and enforcement efforts have resulted in reduced landings during the 2017 fishing year.

This option would not change existing halibut Accountability Measures for the groundfish fishery. Under Option 1, the existing reactive accountability measures would remain in place for the federal groundfish fishery, including the no possession provision and the gear restricted areas. Although, this option would continue the requirement that Atlantic halibut possession would be prohibited if the AM is triggered, this requirement does not prevent federally permitted non-groundfish vessels from targeting and landing halibut. Therefore, triggering AMs is more likely under Option 1 than it is under Option 2A or 2B. Option 2B would be expected to result in neutral to low positive impacts on the groundfish depending on the modifications to the gear-restricted areas selected

Impacts on other fisheries

This option would not be expected to have any direct economic impacts on other fisheries.

7.5.3.1.1.2 Option 2: Atlantic Halibut Accountability Measures for Federal Fisheries

7.5.3.1.1.2.1 Sub-Option 2A: Reactive AM of No Possession Would Apply to All Federal Permit Holders

The revision would extend the no possession AM provision to all federally permitted fishing vessels; including lobster vessels, scallop vessels, party/charter vessels in the recreational fishery and other vessels covered under several FMP's. If the AM is triggered and the state waters sub-component catches contribute significantly to the catches, then the modified AM provision would limit catch by vessels with a federal permit that is not a groundfish permit. Other provisions of the AM would remain unchanged.

Impacts on commercial groundfish

Since the no possession provision would still apply, the economic impacts of Sub-Option 2A relative to No Action are neutral.

Impact on other fisheries

Analysis indicates that halibut landings occur on federally permitted vessels on non-groundfish trips, especially for commercial vessels with lobster and Highly Migratory Species permits, presumably from state waters. Catches from federally permitted lobster vessels are a major component of these landings. HMS is another component. If the AM was triggered, extending the no possession provision to these vessels would be expected to result in a decrease in directed fishing effort and landings in the Maine state water fishery.

Table 2 shows that over the past three years Atlantic halibut landings by federally-permitted lobster vessels has risen substantially from 39,030 lb. in fishing year 2014 to 55,881 lb. in fishing year 2016. A consistent 12-13% of those landings were by vessels that also possess a federal Northeast multispecies permit and so this group would already be impacted by the No Action alternative. The remaining 33,807 lb. in fishing year 2014 to 49,038 lb in fishing year 2016 would be impacted by Sub-Option 2A. Based on the past three years of landings, Sub-Option 2A would impact between about 2,000 lb. and 5,000 lb. of halibut that are landed by commercial HMS-permitted vessels that have neither a federal lobster nor a federal groundfish permit (Table 3). It is assumed that these are primarily state water halibut

landings. Sub-Option 2A would also impact federally permitted HMS recreational permits, (charter and headboat) – which only land 7-14 halibut in recent years (Table 4).

Table 2- Atlantic halibut landings (lbs.) by Federally-Permitted Lobster Vessels, summarized by those with a lobster permit and those with a lobster and Northeast multi-species permit.

Halibut Landings by Federally-Permitted Lobster Vessels					
MULT_YEAR	PLAN	PERMIT_PLAN	HALIBUT_POUNDS	TRIPS	VESSELS
2014	LO	AMERICAN LOBSTER	33,807	337	98
2014	MUL	NORTHEAST MULTI-SPECIES	5,223	62	12
2014	Total		39,030	399	110
2015	LO	AMERICAN LOBSTER	42,038	355	110
2015	MUL	NORTHEAST MULTI-SPECIES	6,092	75	16
2015	Total		48,130	430	126
2016	LO	AMERICAN LOBSTER	49,038	472	134
2016	MUL	NORTHEAST MULTI-SPECIES	6,843	102	19
2016	Total		55,881	571	152

Table 3- Atlantic halibut landings (lbs.) by HMS Vessels, having neither a lobster or Northeast multi-species permit. Excludes Groundfish, Party/Charter, and NAFO trips.

Halibut Landings by HMS Vessels Having Neither Lobster Northeast Multispecies Permits				
MULT_YEAR	HALIBUT_POUNDS	TRIPS	VESSELS	
2014	2,168	32	6	
2015	4,760	33	8	
2016	2,890	38	11	

Table 4-Atlantic halibut landings (number of fish.) by Federally-Permitted HMS recreational, summarized by charter/headboat.

HMS Permits Landing Halibut					
MULT_YEAR	PLAN	FISHERY	HALIBUT_COUNT	TRIPS	VESSELS
2014	CHARTER/HEADBOAT		14	14	7
2015	CHARTER/HEADBOAT		5	5	5
2016	CHARTER/HEADBOAT		7	7	4

As compared to Option 1/No Action, Sub-Option 2A would be expected to lead to more control on fishery catches of Atlantic halibut by federally permitted fishing vessels. The reduction in directed fishing effort is expected to constrain fishing effort and increase the probability that catches will be below the ACLs. Relative to No Action, Sub-Option 2A would be neutral for commercial groundfish vessels – already subject to the no possession AM. Relative to No Action, Sub-Option 2A would be negative for federally permitted vessels – especially lobster and HMS. Relative to No Action, Sub-Option 2A would be low negative for party/charter due to the low catches.

7.5.3.1.1.2.2 Sub-Option 2B: Modified Gear Restricted Areas

Under Sub-Option 2B the current Atlantic halibut AM areas would be modified for vessels possessing a northeast multispecies permit. Modifying the AM areas would provide additional operational flexibility for fixed gear and trawl gear multispecies vessels while continuing to reduce impacts on Atlantic halibut. The modifications to the gear restricted areas are likely to have positive impacts for the commercial groundfish fishery relative to No Action.

Fixed Gear AM Areas – Under Sub-Option 2B there could be up to three modifications to the fixed gear AM areas.

- Exempt longline gear from the Fixed Gear AM areas - As compared to Option 1 No Action, this measure would be expected to have a positive impact for the commercial fishery. Analysis of observer data demonstrates that there is extremely low bycatch of Atlantic halibut by the federal longline fishery that targets cod, haddock, tilefish and spiny dogfish. In addition, the longline fishery has low amounts of fishing effort in Fixed Gear AM areas 1 and 2. From 2011 to August 2016 there were 1,792 observed longline hauls for vessels with a multispecies permit. Halibut were only encountered in four of the 1,792 observed hauls (0.22%), and this fishery did not have any observed halibut catches within fixed gear AM areas 1 or 2.
- Remove Fixed Gear AM Area 1 - As compared to Option 1/No Action, this measure would be expected to have positive impacts on the commercial groundfish fishery as it would remove an existing AM area. Halibut were encountered on <10% of all observed gillnet hauls in the Stellwagen Bank AM area in all months except April and May, and the mean halibut catch rates were <1 kg/tow in all months except April and June. Monthly catch rates were generally lower in the Stellwagen Bank AM area than the Platts Bank AM area.
- Allow gillnet gear in Fixed Gear AM Area 2 seasonally from November through February - As compared to Option 1/No Action, this measure would be expected to have positive impacts for the commercial groundfish fishery. Analysis suggests that halibut catch rates, and gillnet fishing effort are low in Fixed Gear AM area 2 from November to February, and allowing gillnet fishing effort in Fixed Gear AM area 2 during these months would provide additional fishing opportunities for the federal gillnet fishery.
- Trawl Gear AM Area – Under Sub-Option 2B the Trawl Gear AM area would be modified to allow standard trawl gear in the area between 41 degrees 40 minutes and 42 degrees seasonally from April 1 through July 31. As compared to Option 1/No Action, this measure would be expected to have positive impacts on the commercial groundfish fishery. Analysis suggests that halibut catch rates, and trawl fishing effort are low in the northern portion of the Trawl Gear AM area from April to July, and allowing vessels to fish using a standard trawl during these months would provide additional fishing opportunities for the federal trawl fishery.