

Recreational Groundfish Fishery Fishing Year 2022 Measures

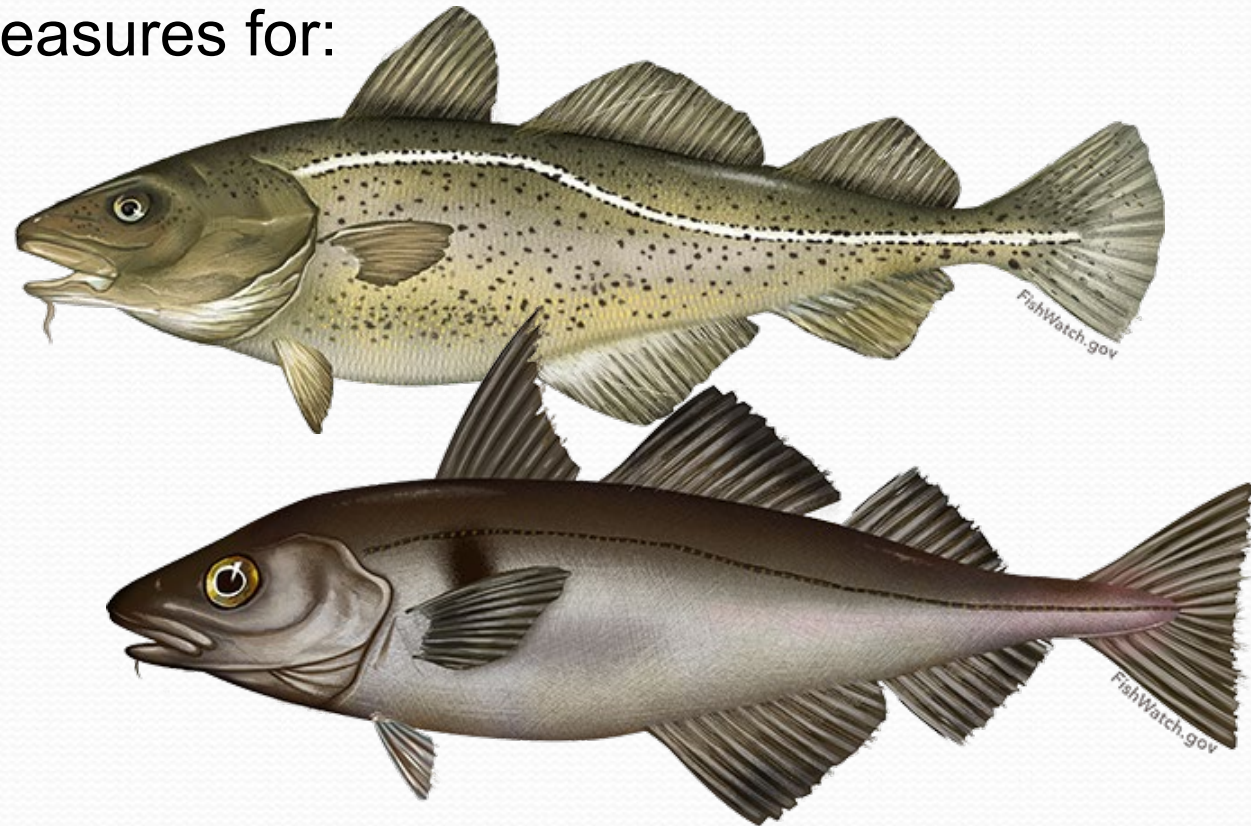
Recreational Advisory Panel

January 18, 2022

Meeting Goal

Develop recommendations to the Groundfish Committee on fishing year 2022 recreational measures for:

- Gulf of Maine cod and
- Gulf of Maine haddock



Current Measures

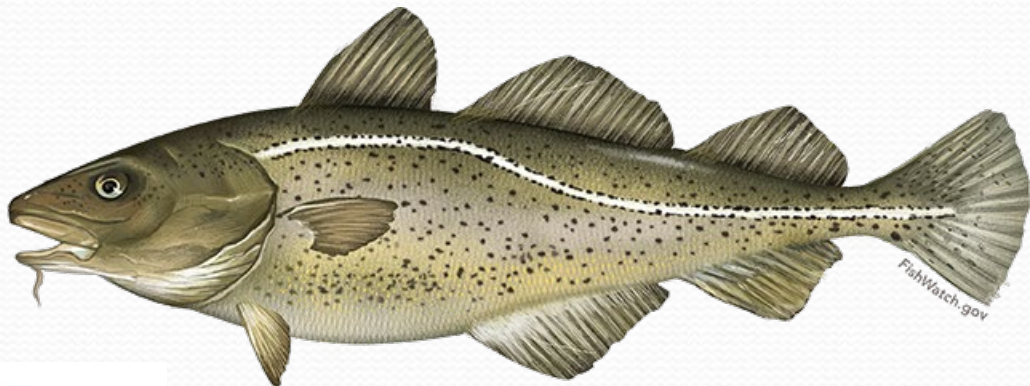
Gulf of Maine Cod

Open season:

- Private Anglers - September 15-30; April 1 - 14
- Party/Charter Anglers - September 8 - October 7; April 1 - 14

Minimum size: 21 inches

Possession limit: 1 fish per day

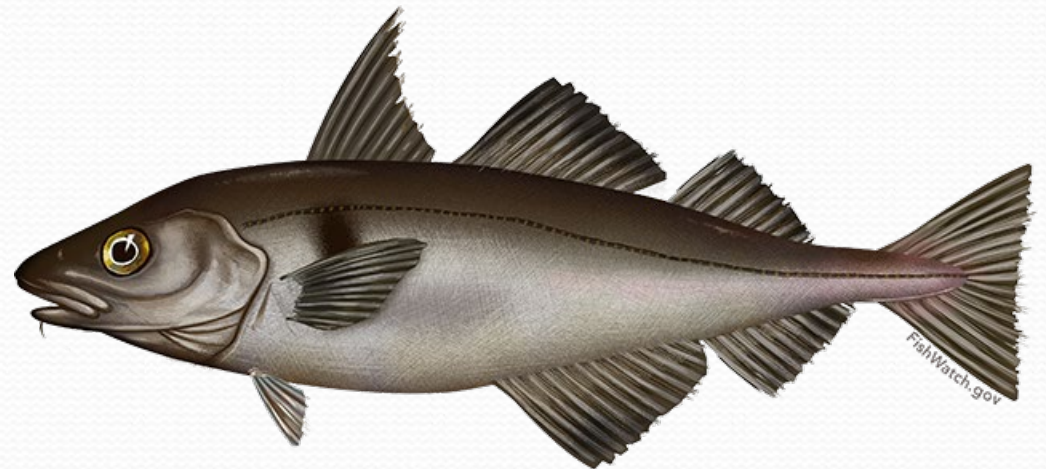


Gulf of Maine Haddock

Open season: May 1–Feb 28/29; April 1–30

Minimum size: 17 inches

Possession limit: 15 fish per day

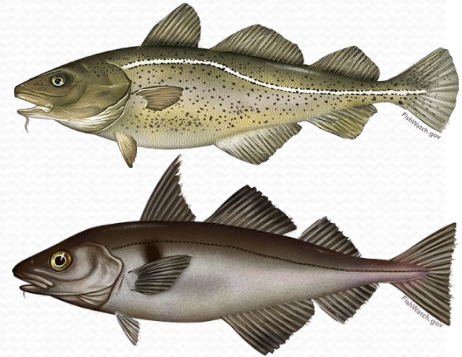


Accountability Measures

Reactive

- If catches exceed the sub-ACL, NMFS determines the measures necessary to prevent exceeding the sub-ACL in future years following consultation with the Council
- Final measures are to be published no later than January.
- The three-year average of recreational harvest is compared to the three-year average of the recreational sub-ACL and if necessary, AMs are to be implemented in the year immediately following.
- The recreational AM is either/or adjustments to season, adjustments to minimum size, or adjustments to bag limits.
- Separate AMs can be determined for the private boat and party/charter components of the recreational fishery – that is, the AMs may be different for these two components.

Recent Catches



Stock	Fishing Year	Recreational Catch				
		Catch	Landings	Discard	Recreational sub-ACL	Percent of Catch Limit Taken
		A + B	A	B		
GOM Cod	2018	146.9	4.3	142.6	220	66.8
	2019	79.8	23.3	56.5	220	36.3
	2020	184.0	41.5	142.4	193	95.3
	Average	136.9	23.0	113.8	211	64.9
GOM Haddock	2018	595.0	423.9	171.1	3,358	17.7
	2019	423.2	301.6	121.6	3,194	13.3
	2020	1,202.3	913.7	288.5	6,210	19.4
	Average	740.2	546.4	193.8	4,254	17.4

Recreational estimates based on Marine Recreational Information Program (MRIP) data.

FY 2020 GOM cod and GOM haddock recreational catch estimates are based on the Fishing Effort Survey (FES). FY 2018 & FY 2019 GOM cod and GOM haddock estimates are back calibrated from the FES to the Coastal Household Telephone Survey (CHTS) metrics.

Values in metric tons of live weight

Source: NMFS Greater Atlantic Regional Fisheries Office

November 15, 2021

These data are the best available to NOAA's National Marine Fisheries Service (NMFS).

Accountability Measures

Proactive

- Can be adjusted by the Regional Administrator to ensure the recreational fishery will achieve, but not exceed, its sub-ACL.
- Changes are typically made prior to the start of the fishing year.
- The Regional Administrator consults with the Council, or the Council's designee, and tells the Council, or its designee, what recreational measures are under consideration for the upcoming fishing year.
- If time allows, the Council also provides the RAP an opportunity to meet and discuss the proposed management measures.
- These AMs require development in consultation with the Council, because the appropriate suite of measures (e.g., bag limit, minimum fish size, and season) depends on the sub-ACL specified.

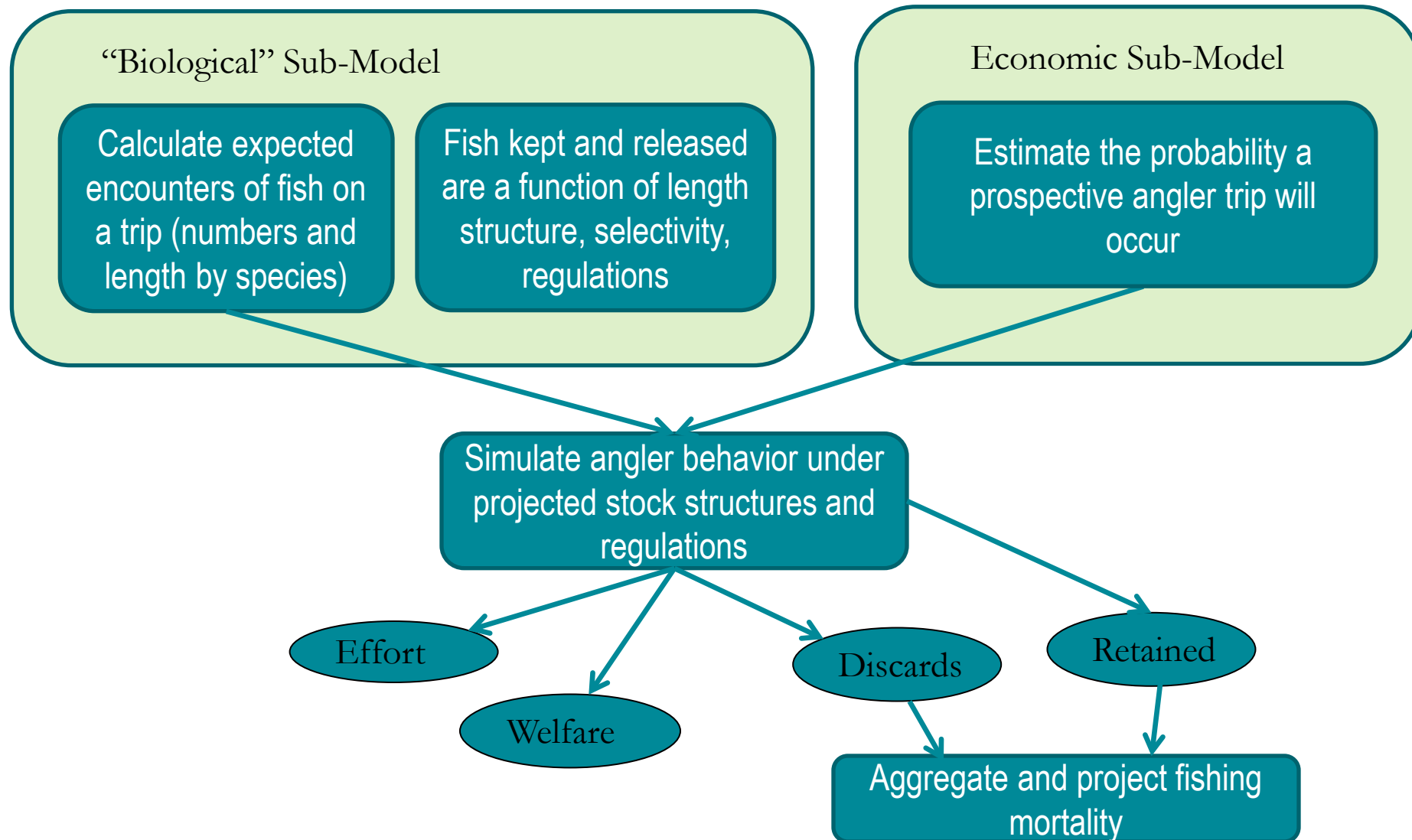
Current and Proposed Catch Limits

<i>Stock</i>	<i>FY2021 sub-ACL (mt)</i>	<i>Council's Proposal FY2022 sub-ACL (mt)</i>	<i>% Change</i>
GOM Cod	193	192	-1%
GOM Haddock	5,295	3,634	-31%

GOM Cod and Haddock Recreational Bioeconomic Model

- Used to help develop management options for GOM cod and haddock each year since 2013 (excluding FY 2021)
- Lee, Min-Yang, Scott Steinback, Kristy Wallmo. 2017.
“Applying a Bioeconomic Model to Recreational Fisheries Management: Groundfish in the Northeast United States.”
Marine Resource Economics 32:2.

Bioeconomic Model Overview



2022 Model Data

- Annual (FY 2021) MRIP length-frequencies
- Monthly MRIP catch-per-trip for cod and haddock
- FY 2022 estimated numbers-at-age for cod and haddock from the AGEPRO assessment projections
 - Median values taken from the combined M2 and MRAMP models
- Bottom trawl survey data from 2017-2019 used to form the age-length keys
- Updated economic parameters in the model

Updated Economic Parameters

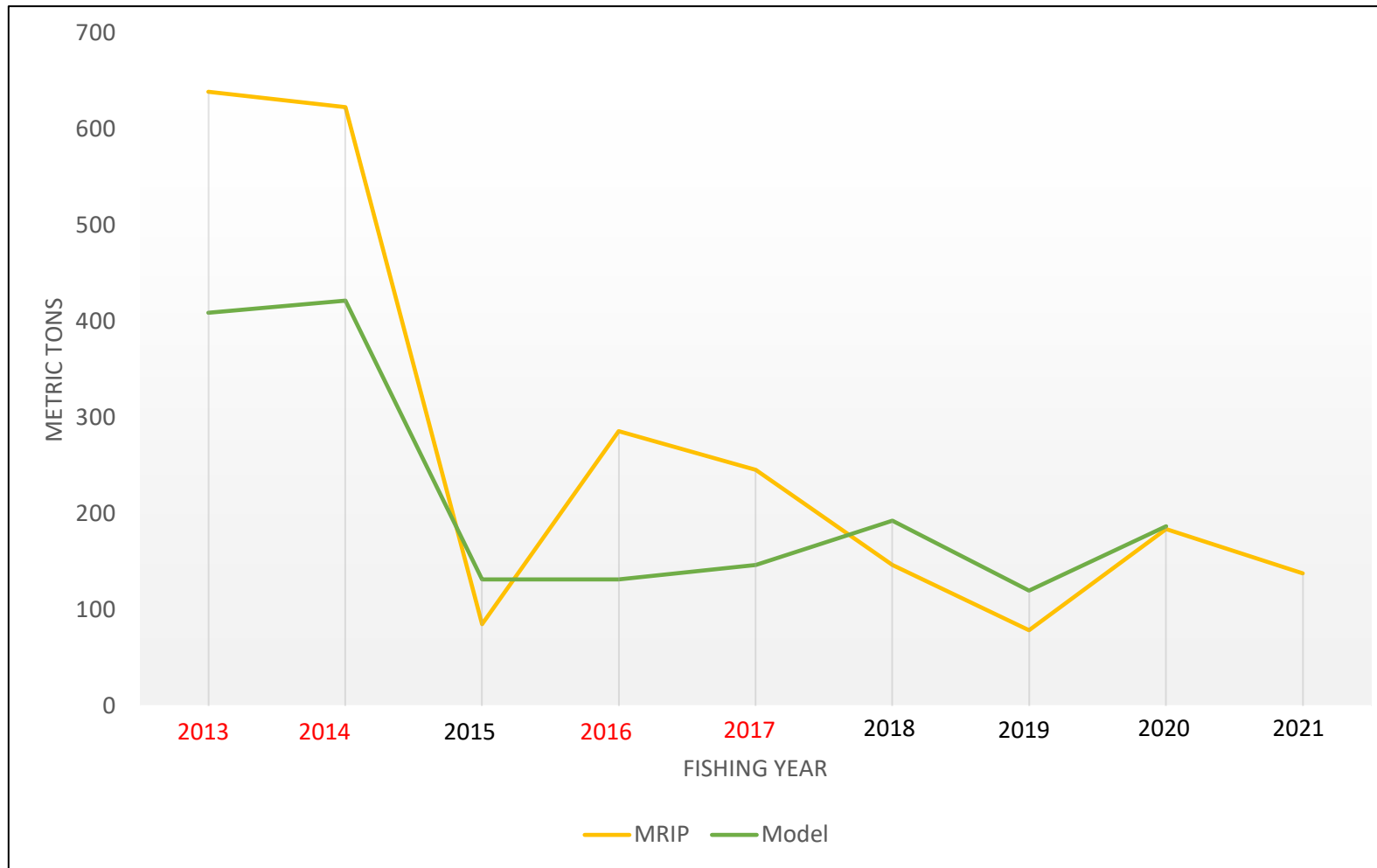
- New economic survey of angler preferences for GOM cod and haddock conducted in 2019 (previous surveys administered in 2009 and 2014)

What we found:

- The value of keeping cod relative to haddock increased from 2014 to 2019
 - Anglers are now more responsive to policy-induced changes in cod harvest over changes in haddock harvest
 - Important to incorporate this preference change into the model



Model Predictions versus MRIP: GOM cod



FY 2022 Mortality Projections

Option	Mode	Cod				Haddock				Angler Trips (Median)	% Under Cod ACL (out of 100 Simulations)	% Under Had ACL (out of 100 Simulations)
		Cod Limit	Cod Size	Cod Open Season	Cod Total Mortality mt (Median)	Had Limit	Had Size	Had Open Season	Had Total Mortality mt (Median)			
1 (Status Quo)	Private For-Hire	1	21"	Sep 15-Sep 30, Apr 1-14 Sep 8-Oct 7, Apr 1-14	116	15	17"	May-Feb28, Apr 1-Apr30	875	318,549	100	100
2 Cod open Sep 8-Oct 7 (private and for-hire)	All	1	21"	Sep 8-Oct 7, Apr 1-14	140	15	17"	May-Feb28, Apr 1-Apr30	958	345,711	90	100
3 Cod open Sep 1-Oct 7 (private and for-hire)	All	1	21"	Sep 1-Oct 7, Apr 1-14	151	15	17"	May-Feb28, Apr 1-Apr30	1,006	360,062	82	100
4 Cod open Sep 1-Oct 14 (private and for-hire)	All	1	21"	Sep 1-Oct 14, Apr 1-14	162	15	17"	May-Feb28, Apr 1-Apr30	1,050	375,081	70	100
5 Cod open Sep 8-Oct 7 (private and for-hire), cod min size 22"	All	1	22"	Sep 8-Oct 7, Apr 1-14	136	15	17"	May-Feb28, Apr 1-Apr30	955	344,636	91	100
6 Cod open Sep 1-Oct 7 (private and for-hire), cod min size 22"	All	1	22"	Sep 1-Oct 7, Apr 1-14	146	15	17"	May-Feb28, Apr 1-Apr30	1,003	358,743	84	100
7 Cod open Sep 1-Oct 14 (private and for-hire), cod min size 22"	All	1	22"	Sept 1-Oct 14, Apr 1-14	157	15	17"	May-Feb28, Apr 1-Apr30	1,048	373,655	72	100
8 Cod open Sep 8-Oct 7 (private and for-hire), cod slot limit 22" to 28"	All	1	22-28"	Sept 8-Oct 7, Apr 1-14	123	15	17"	May-Feb28, Apr 1-Apr30	952	343,192	96	100
9 Cod open Sep 1-Oct 7 (private and for-hire), cod slot limit 22" to 28"	All	1	22-28"	Sep 1-Oct 7, Apr 1-14	129	15	17"	May-Feb28, Apr 1-Apr30	1,000	357,455	95	100
10 Cod open Sep 1-Oct 14 (private and for-hire), cod slot limit 22" to 28"	All	1	22-28"	Sep 1-Oct 14, Apr 1-14	138	15	17"	May-Feb28, Apr 1-Apr30	1,043	372,076	90	100

FY 2022 rec sub-ACLs: cod = 192 mt, haddock 3,634 mt



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Why FY 2022 Mortality Under Status Quo Regulations is Estimated to be Lower than FY 2021

Assessment Projections of GOM Cod by Age

year	age1	age 2	age3	age4	age5	age6	age7	age8	age9
2020	26.6%	20.1%	35.9%	8.0%	2.9%	2.5%	3.2%	0.4%	0.4%
2021	51.4%	13.2%	10.0%	17.5%	3.7%	1.3%	1.1%	1.4%	0.4%
2022	45.1%	26.1%	8.0%	5.9%	10.4%	2.2%	0.7%	0.6%	1.0%



FY 2022 Mortality Projections

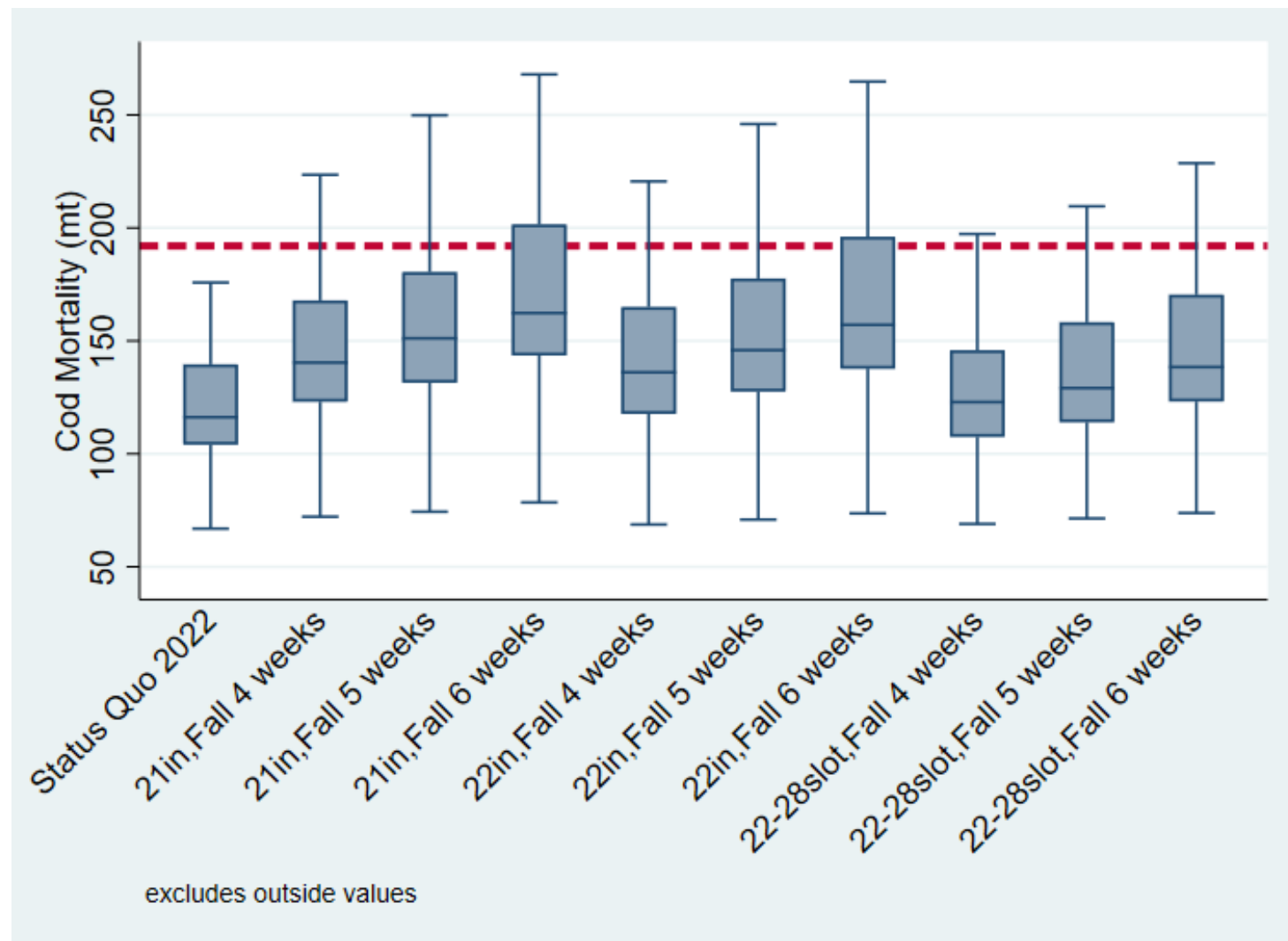
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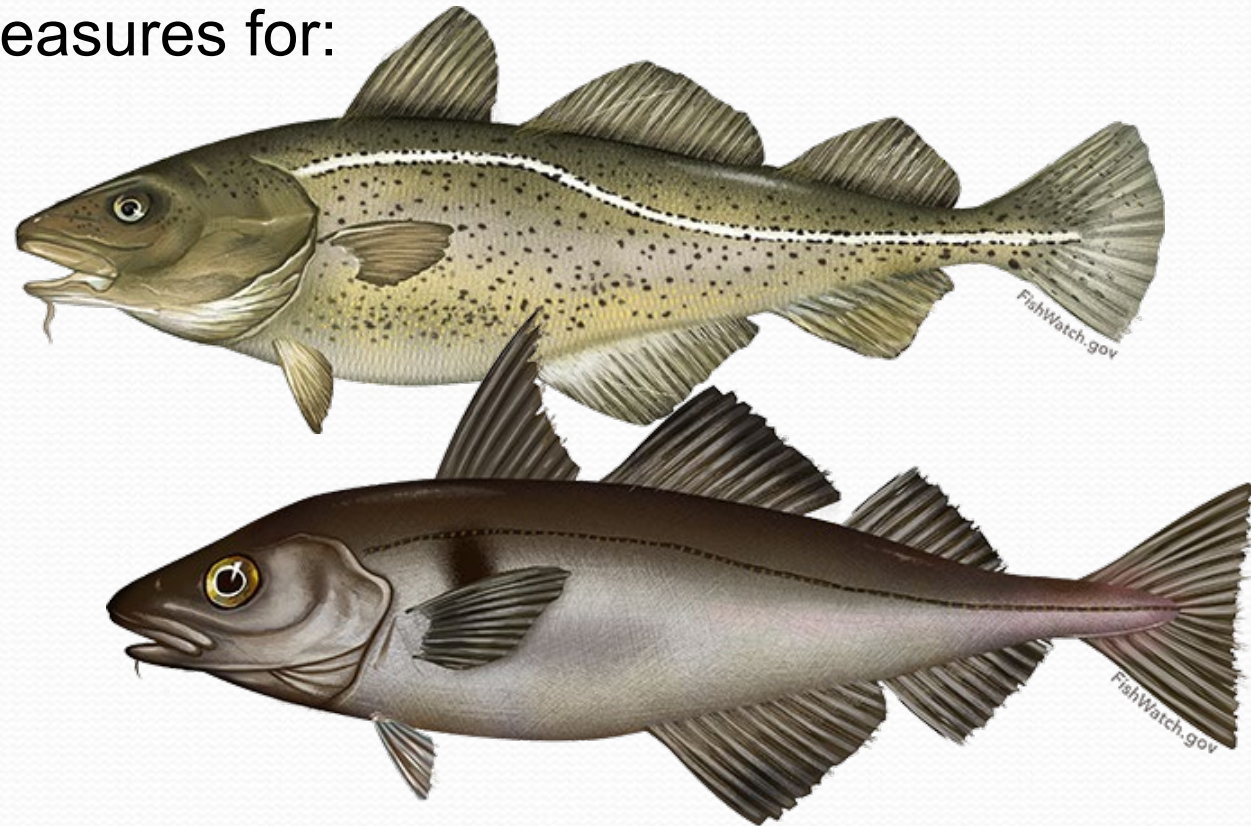
Box Plots of FY 2022 Mortality Predictions



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Next Steps

January 20 – Groundfish Committee
February 3 – Council

