



New England Fishery Management Council

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John F. Quinn, J.D., Ph.D., *Chairman* | Thomas A. Nies, *Executive Director*

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Mr. Michael Pentony

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Dear Mike:

Dear Mr. Pentony:

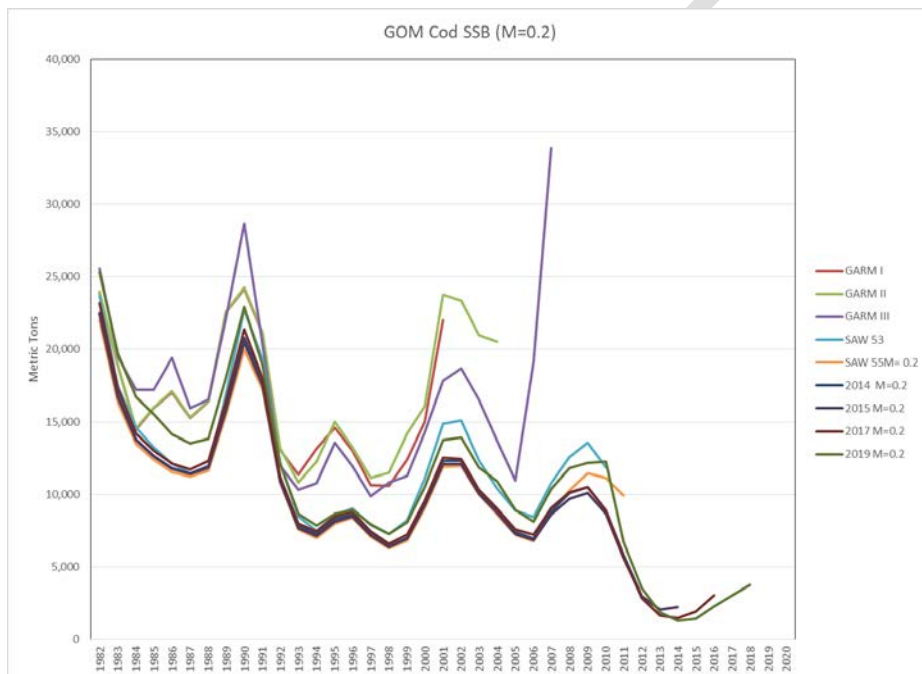
Thank-you for providing the New England Fishery Management Council (Council; NEFMC) an opportunity to review the “Petition for Rulemaking to End Overfishing and Rebuild Atlantic Cod” (Petition) that was submitted by the Conservation Law Foundation (CLF). We carefully reviewed the petition and do not agree with its conclusion that action is needed by the Secretary of Commerce. As we will detail in this letter and its attachments, CLF frequently misrepresents the information available to the Council when past decisions were made, mischaracterizes past Council actions, selectively quotes advice from the Council’s Scientific and Statistical Committee (SSC) and Plan Development Team (PDT), and ignores federal court decisions that found the Council in compliance with all applicable law. As a result we do not believe the Petition has merit.

The Council readily acknowledges its struggles with rebuilding the two cod stocks that it manages. Scientific advice provided to the Council reports that both Gulf of Maine (GOM) and Georges Bank (GB) cod biomass is at very low levels. While some members of the fishing industry question the conclusions of these assessments, the record of Council management actions shows that since at least 1994 the Council responded to every stock assessment with stringent management measures (see attachment 1). Fishing mortality for GOM cod has been reduced (acknowledged by CLF), but it remained higher than the overfishing level in 2018. There isn’t a current estimate of GB cod fishing mortality, but in 2018 the GB cod relative exploitation rate was the lowest estimated since 1986, and was less than five percent of the peak value in the early 1990s. The Petition ignores these accomplishments, which were achieved through difficult decisions made by the Council. These decisions have had tremendous impacts on fishermen and their communities, putting the lie to CLF’s claim that the Council chose short-term economic gain over stock rebuilding. It also ignores that these are just two stocks managed in the Northeast Multispecies fishery. The Council’s efforts have successfully reduced the number of multispecies stocks subject to overfishing from ten in 2010 to three in 2020¹.

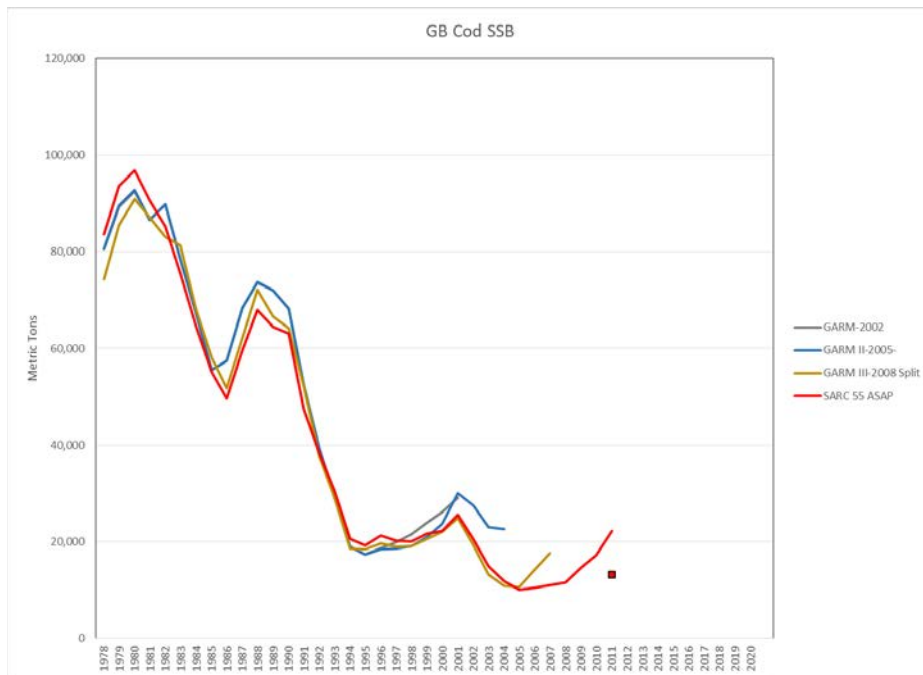
¹ See Fishery Stock Status Update, July 2020, <https://www.fisheries.noaa.gov/national/population-assessments/fishery-stock-status-updates>. The three stocks subject to overfishing are GOM cod, GB cod, and GB

In the case of the Petition, CLF is guilty of an egregious case of Monday-morning quarterbacking. At its core, the Petition argues that the Council neglected its responsibility and failed to take the actions necessary to rebuild cod. Admittedly, cod has not rebuilt, but the Council’s management decisions were informed by the information it has at the time of the decision – not the information that may be available years after the decision. CLF conveniently ignores this limitation when it uses the most recent stock assessments to criticize past Council actions. The following two figures illustrate the problem, showing spawning stock biomass (SSB) over time as reported by consecutive assessments. After a rapid decline in biomass in the late 1980s, management interventions in the 1994-1996 time frame began gradual rebuilding for both stocks. These gains slowed or were lost in the early 2000s, but progress resumed with the adoption of Amendment 13 in 2004. This is the context for understanding decisions made during this period.

Figure 1 – GOM and GB cod spawning stock biomass



yellowtail flounder. The latter two do not have current estimates of fishing mortality and status is based on previous analytic assessments.



In the case of GOM cod, stock assessments through 2008 indicated that the stock was generally rebuilding since the mid-1990s. Indeed, the GARM III assessment concluded the stock was no longer overfished and projections based on this assessment predicted it would be rebuilt by 2012 – two years ahead of schedule. Reviewers concluded the assessment’s retrospective pattern was small and did not need an adjustment. The assessment report even suggested that the 2007 stock size might be under-estimated². Given these results, the Council’s management decisions based on this assessment were based on clear evidence that earlier measures were effective and the stock was on track for rebuilding. This assessment was the basis for the Acceptable Biological Catches (ABCs) set for fishing years 2010 and 2011. Not until late 2011 did the Council discover this stock assessment was flawed and the 2010-2011 ABCs were set higher than the new assessment supported. Over the next two years the Council reduced the Annual Catch Limit (ACL) from 8,545 mt in 2011 to 1,470 mt in 2013 – nearly 83%. After the 2014 assessment of this stock, the ACL was further reduced to 366 mt in 2015 – or a 96 percent reduction from 2011. Clearly the Council took significant action when presented with the assessments after GARM III.

While biomass trends for GB cod were not as positive, the GARM III report showed a gradual increase in SSB after implementation of Amendment 13 in 2004. More importantly, this assessment showed a dramatic reduction in fishing mortality from 2004 through 2007, and while overfishing was still occurring, mortality was the second lowest value in the time series. The accepted model (which used a split in the survey time series) did not have a significant retrospective pattern. In 2012 a new assessment model was adopted. This model estimated the 2007 biomass at only 62 percent of the GARM III value, but it also showed that biomass had increased by 20 percent since then and fishing mortality had declined by 33 percent. In response, the 2013 ABC established by the Council was 60 percent lower than the 2012 value.

² “Comparing the two formulations, the Panel noted that the VPA may be underestimating current stock status.” Assessment of 19 Northeast Groundfish Stocks through 2017, NEFSC.

The Petition criticizes the Council for what CLF describes as “deference to short-term economic interests.” First, the Council notes that catch limits since 2010 have been consistent with the recommendations of the Council’s Scientific and Statistical Committee. Second, this argument is similar to CLF claims that have been rejected by two federal courts because the MSA requires that the Council consider economic impacts when managing its fisheries. In *Oceana et al v. Evans*, CLF challenged measures adopted in Amendment 13 to the Northeast Multispecies FMP, including rebuilding plans for GB cod and other stocks. The court upheld the Amendment 13 decision on this count, stating “Furthermore, it was permissible for the Secretary to take into account “the needs of fishing communities” in establishing the rebuilding framework and in setting the timetable for ending overfishing...National Standard One, which prioritizes conservation measures, see 16 U.S.C. § 1851(a)(1), must be read *in pari materia* with the rebuilding requirements of § 1854(e)(4), which dictate that these economic considerations be considered when establishing plans for ending overfishing.” And then again in *Conservation Law Foundation v. Pritzker et al*, CLF challenged the ACL for GOM cod adopted by Framework Adjustment 50. Once again the court upheld the Council’s action: “But the Service did not prioritize cost over conservation, since either ABC was designed to meet conservation objectives...In such a situation, the National Standards actually encourage the Service and the Council to take cost into account, to the extent practicable... Considering cost to industry, then, was a reasonable decision. The ACL for Gulf of Maine cod must remain in place.”

This balancing act between stocks and communities is a well-known requirement of the MSA. CLF itself supported a GOM cod ABC that would have resulted in overfishing in February of 2012 in order to mitigate impacts on inshore fishermen. After the 2011 assessment of GOM cod dramatically changed the understanding of the stock’s status, the NMFS proposed 2012 catch limits under the provisions of Sections 304 and 305(c) of the MSA. In a February 21, 2012 letter to the Secretary of Commerce, CLF supported this general approach and advocated for an ABC of 4,000 mt. “CLF supports the New England Council’s emergency action request and the general approach that the National Marine Fisheries Service (NMFS) has proposed in taking interim emergency action to respond to this unexpected and troubling new development. As mentioned above, however, we feel strongly that the quota should be set no higher than 4,000 mt.” CLF was well aware that the PDT told the Council in January 2012 that the 2012 overfishing level was 1,915 mt. CLF also acknowledged that this situation was highly unusual and caused by events beyond human control: “The recent GOM cod reassessment was a unique and highly unusual set of events that was beyond anyone’s control. The scientists exercised their best professional judgment in performing the original assessment in 2008, **the managers strictly followed the scientific harvest level advice**, and the fishermen appear to have stayed within their prescribed quota limits.” (emphasis added)

While these comments address broad themes in the Petition, there are numerous other examples in the Petition where CLF’s “evidence” that the Secretary should take action falls short. These are detailed in attachment (2). For example, with respect to recent actions, CLF challenges the ABCs adopted by the Council in Framework 59 to the Northeast Multispecies FMP. With respect to GOM cod, CLF’s argument that the ABC will not prevent overfishing is unfounded. Analyses presented to the SSC clearly showed that the ABC is expected to end overfishing, which occurs if the OFL is exceeded. CLF’s complaint hinges in part on the fact that past ABCs have not ended overfishing, but ignores that a different approach was used to calculate the ABC. The conclusions of the court in *Conservation Law Foundation v. Pritzker et al* could be applied to this situation as well: “...the Committee – which is the scientific expert here – ran the numbers, accounted for the aforementioned scientific uncertainty, and determined that...the recommended

ABCs would prevent overfishing.” As noted in *Oceana v. Ross et al*, “...the language “likely to result in overfishing” is prospective, not backward-looking...”, and in this instance the ABC is projected to end overfishing.

In closing, the Council wants to emphasize its continued commitment to managing all of the stocks in the Northeast Multispecies FMP at sustainable levels. Cod stocks will benefit from that commitment. As you are aware, the Council’s decision on monitoring improvements is imminent. In addition, the Council and the Northeast Fisheries Science Center are cooperating on how to incorporate a revised understanding of cod stock structure into management and assessments. Council representatives recently pressed for a reduced EGB cod quota during the Transboundary Management Guidance Committee meeting and are supporting development of a data-limited approach for that management unit. The biennial assessment process carefully monitors these two stocks and will result in updated ABCs for 2022. Research track assessments planned for 2023 will provide an opportunity to consider different assessment models for both stocks.

Once again, thank-you for the opportunity to comment. Please let me know if you have questions.

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APPENDIX A: STOCK ASSESSMENT TABLE – 9/202/2020

Taken from CLF petition summary. Text in italics added, as was column on Council response

YEAR	MEETING	GOM COD STATUS	GB COD STATUS	ASSESSMENT CONCLUSIONS & MANAGEMENT RECOMMENDATIONS	COUNCIL RESPONSE
1986	SAW 3 ⁱ	Overfishing *	Overfishing	GOM Cod: "...short- term annual yields at the 1985 level (12,000 mt) do not appear to be sustainable. Presently, potential yield and stock reproductive potential can be enhanced by reducing F towards F_{max} ." GB Cod: "No rebuilding of total biomass can be expected during 1987 unless F in 1987 is reduced below $F=0.58$ and towards F_{max} ."	1986: Northeast Multispecies FMP adopted. Established mortality targets, management program 1987: Amendment 1: Increases large mesh area for yellowtail founder protection
1988	SAW 7 ⁱⁱ	Overfishing	Overfishing	GB Cod: "The updated assessment described herein indicates that stock conditions have deteriorated further. Fishing mortality in 1987 ($F=0.95$) is the highest ever recorded for Georges Bank stock...The SAW expressed concern that the SSB may be approaching a level where the probability of future strong recruitment to the stock is low."	
1990	SAW 11 ⁱⁱⁱ	N/A	Over-exploited, not depleted		
1991	SAW 12 ^{iv}	Over-exploited, medium stock level	N/A	"Fishing mortality rates need to be reduced to rebuild stock and widen the number of age groups in the spawning stock biomass. Reducing the rate of fishing mortality to the reference level (20% MSP) which defines overfishing would result in a 24% increase in yield per recruit and a 100% increase in spawning biomass per recruit."	1991: Amendment 4: More controls on Exempted Fisheries Program increased mesh size for SNE area;

1991	SAW 13 ^v	N/A	Over-exploited, medium stock level	“The fishing mortality rate needs to be reduced to increase yield per recruit and at least maintain the stock at its present level. Reducing F to the overfishing definition would increase yield per recruit by 10% and spawning biomass per recruit by 90%. This would also increase catch rates...sharply. If the 1990 year-class is as strong as presently estimated, it may be vulnerable to the fishing gear in 1992 and result in high rates of discards of small fish. Management action may be warranted to forestall excessive discards in 1992.”	
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ⁱ NEFC. 1986. *Report of the Third NEFC Stock Assessment Workshop (Third SAW)*. NEFC Ref. Doc. 86-14.

ⁱⁱ NEFC. 1989. *Report of the Seventh NEFC Stock Assessment Workshop (Seventh SAW)*. NEFC Ref. Doc. 89-04.

ⁱⁱⁱ NEFC. 1990. *Report of the Eleventh NEFC Stock Assessment Workshop*. NEFC Ref. Doc. 90-09.

^{iv} NEFSC. 1991. *Report of the Twelfth Northeast Regional Stock Assessment Workshop (12th SAW)*. NEFSC Ref. Doc. 91-03.

^v NEFSC. 1992. *Report of the Thirteenth Northeast Regional Stock Assessment Workshop (13th SAW)*. NEFSC Ref. Doc. 92-02.

1993	SAW 15 ^{vi}	Over-exploited, low biomass level	Over-exploited, low biomass level	<p>GOM Cod: “Continued fishing at current levels of fishing mortality (i.e., $F = 1.14$) will lead to catches in 1993 declining to their lowest level since 1973. At a minimum, fishing mortality should be reduced to avoid further declines in stock size. A 10% reduction in fishing mortality in 1993 would not result in any appreciable short-term increase in SSB between 1993 and 1994. Recovery of the stock will require a marked reduction in fishing mortality.”</p> <p>GB Cod: “Continued fishing at current levels of fishing mortality will result in further declines in SSB to all-time low levels. At a minimum, fishing mortality should be reduced to avoid further declines in stock size. A 10% reduction in fishing mortality in 1993 would not result in any appreciable short-term increase in SSB. Recovery of the stock will require a marked reduction in fishing mortality.”</p>	1993: Amendment 5: Moratorium on new vessel permits during rebuilding period; implements a day-at-sea effort reduction program; additional mesh size restrictions; interim gillnet regulations to reduce harbour porpoise bycatch; mandatory reporting system for landings; prohibits pair-trawling; requires finfish excluder device for shrimp fishery; implements minimum fish size; expands size of Closed Area II.
1994	SAW 18 ^{vii}	N/A	Over-exploited, low biomass level	“Fishing mortality on this stock should be reduced to levels approaching zero. Continued fishing under Amendment 5 scenarios will result in further declines in SSB...Without substantial reductions in fishing mortality, there is the possibility of stock collapse.”	
1995	SAW 19 ^{viii}	Over-exploited, low biomass level	N/A	“The decline in spawning stock biomass should be halted and reversed immediately. To achieve this, fishing mortality should be reduced immediately to $F_{20\%}$ or lower to eliminate overfishing... Rebuilding of spawning stock biomass to previously observed higher levels is necessary to reduce the risk of recruitment failure.”	1996: Amendment 7: Expanded DAS program and accelerated reductions:
1997	SAW 24 ^{ix}	Over-exploited, low biomass level	Over-exploited, low biomass level	GOM Cod: “The combined effects of low spawning stock biomass, high fishing mortality, record low incoming recruitment, and record low survival of pre-recruit fish indicate that the stock is on the verge of collapse...An immediate reduction in fishing mortality to levels approaching zero is required to halt the declining trend in spawning stock biomass and to rebuild at the maximum rate possible. Measures should be enacted immediately to minimize all directed fishing and bycatch on this stock.”	1997: FW 24: Adjusted GOM cod trip limits; 1998: FW 25: GOM closed areas to protect cod, trip limits, and other GOM cod measures

^{vi} NEFSC. 1993. *Report of the 15th Northeast Regional Stock Assessment Workshop (15th SAW) The Plenary*. NEFSC Ref. Doc. 93-07.

^{vii} NEFSC. 1994. *Report of the 18th Northeast Regional Stock Assessment Workshop (18th SAW) The Plenary*.
NEFSC Ref. Doc. 94-23.

^{viii} NEFSC. 1995. *Report of the 19th Northeast Regional Stock Assessment Workshop (19th SAW) The Plenary*.
NEFSC Ref. Doc. 95-09.

^{ix} NEFSC. 1997. *Report of the 24th Northeast Regional Stock Assessment Workshop (24th SAW) Public Review Workshop*. NEFSC Ref. Doc. 97-11.

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1998	SAW 27 ^x	Over-exploited, low biomass level	Over-exploited, low biomass level	<p>GOM Cod: “The SARC recommends an immediate reduction in fishing mortality to near zero. Measures should be implemented immediately to cease all directed fishing and minimize bycatch on this stock. Measures implemented in 1998 were only intended to achieve F_{max}. Reductions to F_{max} will be insufficient to promote rebuilding from record low spawning stock biomass. The combined effects of low spawning stock biomass, high fishing mortality, record low recruitment, and record low survival of pre-recruit fish indicate that the stock is collapsing.”</p> <p>GB Cod: “Fishing mortality should be reduced from the current level ($F=0.26$, 21% exploitation) to substantially less than $F_{0.1}=0.18$ (Amendment 7 rebuilding target). Poor recruitment coupled with a truncated age structure from years of overfishing has decreased the potential for stock rebuilding at the current fishing mortality rate. Reducing fishing mortality will avoid declines in SSB and enhance the probability of long-term building. Low fishing mortalities will eventually lead to an expansion of the age distribution of the population and increase the likelihood of improved future recruitment.”</p>	<p>1998: FW 26: Additional seasonal closures in February and April to protect GOM cod</p> <p>1999: FW 27: Additional cod protection measures, including closures trip limits, and gear restrictions</p> <p>1999: FW 30: Measures to reduce fishing mortality for GB Cod</p>
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2000	TRAC 3 ^{xi}	N/A	Overfishing not occurring, not overfished	<i>Mean biomass in 2000 is above BTHRESHOLD (1/4 BMSY =27,000 mt) and biomass weighted fishing mortality is below FMSY (0.32), therefore, the stock is not overfished and overfishing is not occurring, according to the Sustainable Fisheries Act (SFA) status determination criteria. Fully recruited fishing mortality declined from a record high of 1.47 (72% exploitation) in 1994 to 0.22 (18% exploitation) in 2000, slightly above F0.1. (0.18) (Figure A1). Biomass weighted fishing mortality in 2000 was about twice the target F specified by the SFA control rule (Figure A4). Although mean biomass has increased from the record low in 1995 it is still only about 36% of BMSY (108,000 mt; Amendment 9) in 2000 (Figure A2 and A4). Spawning stock biomass has increased from the time series low in 1995 to 29,000 mt in 2000 (41% of the Amendment 7 rebuilding target) (Figure A2).</i>	2000: FW 33: Measures to protect GOM cod (overturned by a federal court decision)
2001	SAW 33 ^{xii}	Overfishing occurring, not overfished	N/A	“Fishing mortality has remained high despite recent trip limit and area closure management actions to reduce fishing mortality on Gulf of Maine cod. To meet the Amendment 7 fishing mortality target ($F_{max}=0.27$), fully recruited F must be markedly reduced. The above average 1998 year class, which will become full recruited in 2002, should be protected to enhance the spawning potential and rate of recovery of the stock.”	
2001	TRAC 4 ^{xiii}	N/A	Overfishing not occurring, not overfished	“The Georges Bank cod stock remains at a low biomass level. Biomass indices derived from research surveys indicate that the stock remains below the long term average of the 37 year time series...As fishing mortality has declined, the SSB has gradually increased, primarily due to somatic growth, but was still near record-low size (29,000	

^x NEFSC. 1998. *Report of the 27th Northeast Regional Stock Assessment Workshop (27th SAW) Public Review Workshop*. NEFSC Ref. Doc. 98-14.

^{xi} NEFSC. 2000. *TRAC Advisory Report on Stock Status - A Report of the Third Meeting of the Transboundary Resources Assessment Committee (TRAC)*. NEFSC Ref. Doc. 00-08.

^{xii} NEFSC. 2001. *33rd Northeast Regional Stock Assessment Workshop (33rd SAW) Public Review Workshop*. NEFSC Ref. Doc. 01-19.

^{xiii} NEFSC. 2001. *TRAC Advisory Report on Stock Status- A Report of the Fourth Meeting of the Transboundary Resources Assessment Committee (TRAC)*. NEFSC Ref. Doc. 01-08.

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				mt) in 2000...Recovery of the stock will depend on further reductions in fishing mortality as well as improved recruitment.” ^{xiv}	
2002	GARM I ^{xv}	Overfishing occurring, overfished	Overfishing occurring, overfished	<p>GOM Cod: “Overall, there is accumulating evidence that the biomass of Gulf of Maine cod has been increasing in 2001 and 2002. Further increases in biomass may occur if fishing mortality is reduced to maximize the contribution of the 1998 year class to the spawning stock...However, given the expected relatively poor strength of the 1999 and 2000 year classes, rebuilding of the stock may plateau unless additional average or above average year classes recruit in the next several years.”</p> <p>GB Cod: “The lack of strong recruitment in the last decade suggests that recovery of this stock will be largely dependent on reducing fishing mortality.”</p> <p><i>Chair comment: “The meeting was the most optimistic assessment meeting that I have attended. For the majority of stocks, fishing mortality has gradually been reduced and in response spawning stock biomass (SSB) is rebuilding.”</i></p>	<p>2004: Amendment 13.</p> <p>Changes in days at sea baseline to reflect historical participation; days at sea reductions; reductions in cod trip limits; planned future reductions in DAS if mortality targets not met ; sharing agreement with Canada for eastern GB cod; new rebuilding programs for GOM and GB cod.</p> <p>2004: FW 40A and FW 40B: approval of special programs to target haddock while reducing cod catches.</p>
2005	GARM II ^{xvi}	Overfishing occurring, overfished	Overfishing occurring, overfished	<p>GB Cod: “The lack of strong recruitment in the last decade suggests that recovery of this stock will be largely dependent on reducing fishing mortality in the near term and husbanding the strong 2003 year class, and potentially the 2004 year class, to increase SSB.”</p>	<p>2006: Framework 42: Reductions in days at sea; days at sea counting 2:1 in inshore GOM to reduce fishing mortality on GOM cod; target 44% reduction in F on GOM cod; 9% on GB cod</p>

2008	GARM III xvii	Overfishing occurring, not overfished **	Overfishing occurring, overfished	<p>GB Cod: “Continued exploration of retrospective pattern and methods to account for it are critical for this stock.” <i>“Fishing mortality (unweighted, ages 5-8) in 2007 was estimated to be about 0.30, the second lowest F in the time series.”</i></p> <p>GOM Cod: “Comparing the two formulations, the Panel noted that the VPA may be underestimating current status. Spawning stock biomass increased substantially to 19,000 mt in 2006 on the strength of the 2003 year class becoming partially mature, and further to 34,000 mt in 2007 on the combined strength of the 2003 year class (95% mature) and the partially mature 2005 year class (34% mature).”</p>	<p>2009: Emergency action until A16 implemented.</p> <p>2010: Amendment 16: Established the sector management program; established ABCs and ACLs and accompanying AMs; additional reductions in fishing mortality for both cod stocks; modified recreational measures and established rec/commercial allocation for GOM cod</p> <p>2010: FW 44: Adopted ABCs/ACLs</p>
2011	SAW 53 xviii	Overfishing occurring, overfished	N/A	<p>“Under all projection scenarios, the stock does not rebuild by the current rebuilding date of 2014.”^{xix}</p> <p>“...studies indicate strong site fidelity to the spawning grounds, and the almost immediate disruption of spawning activity when those areas are opened. This would suggest that area closures to protect spawning grounds is beneficial and could reduce vulnerability. Additional considerations of vulnerability and productivity are the implications of shifts in distribution, recruitment dynamics and increased natural mortality...A considerable source of additional vulnerability is the continued weak recruitment and low reproductive rate (e.g., recruits per spawner) of Gulf of Maine cod. If weak recruitment and low reproductive rate</p>	<p>2012: NMFS adopted interim action to reduce overfishing. CLF wrote letter supporting this approach.</p>

^{xiv} O’Brien and Munroe. 2001. *Assessment of the Georges Bank Atlantic Cod Stock for 2001*. NEFSC Ref. Doc. 01- 10.

^{xv} NEFSC. 2002. *Assessment of 20 Northeast Groundfish Stocks through 2001*. NEFSC Ref. Doc. 02-16.

^{xvi} Mayo et al. 2005. *Assessment of 19 Northeast Groundfish Stocks through 2004*. NEFSC Ref. Doc. 05-13.

^{xvii} NEFSC. 2008. *Assessment of 19 Northeast Groundfish Stocks through 2007*. NEFSC Ref. Doc. 08-15.

^{xviii} NEFSC. 2012. *53rd Northeast Regional Stock Assessment Workshop (53rd SAW) Assessment Summary Report*. NEFSC 12-03.

^{xix} NEFSC. 2012. *53rd Northeast Regional Stock Assessment Workshop (53rd SAW) Assessment Summary Report*.

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				continues, productivity and rebuilding of the stock will be less than projected.” ^{xx}	
2012	Update ^{xxi}	N/A	Overfishing occurring, overfished	“Current low productivity is related to current age structure, which is truncated compared to age structure in the late 1980’s. The last year SSB was above the 50,000 mt threshold was 1991 and the 1990 yearclass [sic] was the last above average yearclass [sic]. Population recovery will be more likely if the age structure is expanded due to lower fishing mortality, however, achieving rebuilding will be very slow even under a range of low fishing mortality rates if current productivity continues.”	
2012	SAW 55 ^{xxii}	Overfishing occurring, overfished	Overfishing occurring, overfished	<p>GOM COD: “High mortality, both fishing and natural will lead to a truncated age structure, implying that spawning success is increasing dependent upon younger individuals. Murawski et al. (2001) suggest that reproduction by older females is more successful than by young females...If weak recruitment and low reproductive rates of Gulf of Maine cod continue, productivity and rebuilding of the stock will be less than projected.”^{xxiii}</p> <p>“The available information points to a stock at a low level and with a concentration of the remaining stock into a relatively small region of the western Gulf, the vulnerability of the stock is likely to be increased.”^{xxiv}</p> <p>“A concentration of the fishery on the areas where the remaining population is concentrated may result in the maintenance of fishery catch rates, make the stock more vulnerable to fishing and give the perception that the stock is in a healthier state than it really is.”^{xxv}</p> <p>GB Cod: “The last above average year class was 1991. Until spawning stock biomass gets above about 50,000 mt, recruitment is likely to remain low and rebuilding will be slow...Given the uncertainty in the retrospective adjustment, downward trends in mean weight at age, and a potential recent increase in natural mortality (the key</p>	2013: FW 48 and FW 50: Adopted revised status determination criteria, revised ABCs and ACLs based on SAW 55 assessments.

^{xx} NEFSC. 2012. 53rd Northeast Regional Stock Assessment Workshop (53rd SAW) Assessment Report. NEFSC 12- 05.

^{xxi} NEFSC. 2012. *Assessment or Data Updates of 13 Northeast Groundfish Stocks through 2010*. NEFSC Ref. Doc. 12-06.

^{xxii} NEFSC. 2013. *55th Northeast Regional Stock Assessment Workshop (55th SAW) Assessment Summary Report*. NEFSC 13-01.

^{xxiii} NEFSC. 2013. *55th Northeast Regional Stock Assessment Workshop (55th SAW) Assessment Report*. NEFSC 13-11.

^{xxiv} SARC. 2012. *55th Northeast Regional Stock Assessment Review Committee Summary Report*. <https://www.nefsc.noaa.gov/saw/saw55/SARC55%20Panel%20Summary%20Report-2013-01-02.pdf>.

^{xxv} Casey. 2012. *Independent Peer Review Report on the 55th Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC): Benchmark stock assessments for Georges Bank cod and Gulf of Maine cod*. https://www.nefsc.noaa.gov/saw/saw55/2012_01_02%20Casey%20SARC%2055%20review%20report.pdf.

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				<p>elements of the productivity processes), the projections may be optimistic.”^{xxvi}</p> <p>“...an age structure of older repeat spawners would likely be more productive, under favorable environmental conditions. Given the uncertainty in the magnitude of M and the overfished state of the stock, at 7% of SSBMSY the stock is vulnerable to an allowable biological catch (ABC) quota that is too high.”^{xxvii}</p>	
2014	Update ^{xxviii}	Overfishing occurring, overfished	N/A	<p>“Declining spawning stock biomass and truncation of the age-structure...could compromise the future recruitment success of this stock. Recruitment over the last 5 years (2009-2013) has been well below the long-term recruitment levels...If recent weak recruitment of Gulf of Maine cod continues, productivity and rebuilding of the stock will be less than projected.”</p>	<p>2014: Council requested NMFS Emergency Action to reduce catch of GOM cod in FY 2014.</p> <p>2015: FW 53: Revised GOM cod seasonal closure areas to reduce fishing mortality on GOM cod in winter months; revise cod protection areas and rolling closures in the GOM to reduce mortality on aggregations of GOM cod and provide spawning protections for GOM cod</p>
2015	Operational Assessment ^{xxix}	Overfishing occurring, overfished	Overfishing occurring, ^{***} overfished	<p>GOM Cod: “When setting catch advice, careful attention should be given to the retrospective error present in both models, particularly given the poor performance of previous stock projections.”</p> <p>GB Cod: “The Panel concluded that the updated assessment model (i.e., the SAW55 benchmark configuration) was not acceptable as a scientific basis for management advice...When the retrospective adjustment was attempted in the update assessment for projections, a substantial number (24.2%) of the projected realizations were not feasible, because they could not support the preliminary estimate of 2015 catch... Recent catches have not allowed the stock to rebuild. Mean length at age, the proportion of old fish in the fishery and surveys, and recruitment indices all remain relatively low. None of these indicate stock recovery. Therefore, the Operational Assessment Panel recommends that the overfishing limit (OFL) should be a proportion of the most recent 3-year average catch, and that proportion should be determined by recent survey trends.”</p>	<p>2016: FW 55: Modified GOM and GB cod ABCs/ACLs; adjusted Gulf of Maine Cod Protection measures; modified GOM cod recreational possession limit process</p>

2017	Operational Assessment ^{xxx}	Overfishing occurring, overfished	Overfishing occurring, ^{***} overfished	GOM Cod: “The Gulf of Maine Atlantic cod stock shows a truncated size and age structure, consistent with a population experiencing high mortality. Additionally, there are no positive signs of incoming recruitment, continued	2018; FW 57: Established recreational GB cod limits; adjusted GOM and GB cod ABCs/ACLs
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^{xxvi} NEFSC. 2012. *55th Northeast Regional Stock Assessment Workshop (55th SAW) Assessment Summary Report*. NEFSC 13-01.

^{xxvii} NEFSC. 2012. *55th Northeast Regional Stock Assessment Workshop (55th SAW) Assessment Report*. NEFSC 13-11.

^{xxviii} Palmer. 2014. *2014 Assessment Update Report of the Gulf of Maine Atlantic Cod Stock*. NEFSC Ref. Doc. 14- 14.

^{xxix} NEFSC. 2015. *Operational Assessment of 20 Northeast Groundfish Stocks Updated Through 2014*. NEFSC Ref. Doc. 15-24.

^{xxx} NEFSC. 2017. *Operational Assessment of 19 Northeast Groundfish Stocks, Updated Through 2016*. NEFSC Ref. Doc. 17-17.

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				<p>low survey indices, and the current spatial distribution of the stock is considerably less than its historical range within the Gulf of Maine...When setting catch advice, careful attention should be given to the retrospective error present in both models, particularly given the poor performance of previous stock projections.”</p> <p>GB Cod: “The panel concluded that the operational assessment was acceptable as a scientific basis for management advice. However, a relatively large increase in catch advice results from this approach, and this should be approached with caution, because previous recruitment events were not always realized in the fishery. The Scientific and Statistical Committees (SSCs) approach to buffering catch advice in determining an acceptable biological catch should consider this uncertainty.”</p>	
2019	Operational Assessment xxxi	Overfishing occurring, overfished	Overfishing occurring,*** overfished	<p>GOM Cod: “Should the retrospective patterns continue then the models may have overestimated spawning stock size and underestimated fishing mortality... The Gulf of Maine Atlantic cod shows a truncated size and age structure, consistent with a population experiencing high mortality. Additionally, there are only limited signs of incoming recruitment, continued low survey indices, and the current spatial distribution of the stock is considerably less than its historical range within the Gulf of Maine...Recent low recruitment compromises the rebuilding potential of the stock.”</p> <p>GB Cod: “The smoothed survey biomass is decreasing, but without a biomass reference point it is not known if rebuilding is on schedule...The Georges Bank Atlantic cod continues to show a truncated age structure. The most recent survey values remain below the mean of their time series. The 2013 year class was larger than recent year classes, but has not continued to be large as it ages and is below the average from the 1970s at every age in both surveys.”</p>	2020: Modified GOM and GB cod ABCs/ACLs

* The 1986 assessment of GOM cod (SAW 3) was based on analysis of empirical data rather than an analytical model. The 1986 GB cod assessment, as well as the majority of subsequent assessments for both stocks, were model-based.

** This “not overfished” determination was based on unusually high uncertainty associated with

the 2007 federal survey data and subsequent assessments found that the stock was in fact overfished at the time of the 2008 assessment: “In particular, the [SAW 53] Panel agrees that the 2005 cod year class in the Gulf of Maine was less strong than suggested by analyses conducted for a prior assessment... The addition of three years of catch and survey data since the last assessment has altered the perception of the 2005 year class. Two anomalously large tows in the spring survey (2007 and 2008) produced an estimate of this year class of 23.9 million fish in the previous assessment. The additional recent observations of this year class in the surveys, and

^{.xxvi} NEFSC. 2019. *Operational Assessment of 14 Northeast Groundfish Stocks, Updated Through 2018. Prepublication copy.*

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CLF Petition for Rulemaking Critique – 9/22/2020

	Original Petition
Page	Comment
ii	CLF misstates the MSA rebuilding requirements: “not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the United States participates dictate otherwise.”
iii	NEFMC has consistently followed scientific advice since at least 1994. Since 2010, catch limits have been consistent with recommendations of the SSC. Challenges to those limits have been rejected on at least three occasions by two different US District Courts. Two different courts have upheld the Council’s consideration of economic impacts while setting quotas.
V	There are technical issues with Figure 2. <ol style="list-style-type: none"> 1. SSBMSY and FMSY are shown as constant over the time period, but this is not accurate. These parameters change based on selectivity, recruitment, etc. In addition, this chart does not reflect both GOM cod models currently in use. These technical issues are not likely to modify the perception the stocks are in poor condition. 2. The retro adjustment shown is only applied to the terminal year of an assessment. As a result, it can present a misleading indicator of stock trends at the end of the time series.
Vi	The statement on the rejection of the 2015 operational assessment is only partially accurate. The model was rejected for several reasons, not just due to the retro error. Most notably, the reviewers also said “The pattern and magnitude of predominantly positive aggregate survey residuals in the last decade also increased, indicating that the updated assessment does not fit survey trends well, and conflicts between information in fishery and survey age composition and survey trends increased.”
Viii	The measures proposed by CLF focus solely on rebuilding cod stocks without any consideration of the impacts on communities. It is not clear these approaches would be consistent with NS8.
ix	CLF does not accurately characterize the court’s ruling on <i>CLF v. Pritzker</i> . CLF challenged two separate provisions adopted by FW 50 and 48. First, they challenged the GOM cod ACL as too high. Second, they challenged that the carry-over allowance was illegal because it could lead to a catch limit that exceeded the ABC recommended by the SSC. On the first point, they lost. The court ruled “In such a situation, the National Standards actually encourage the Service and the Council to take cost into account, to the extent practicable... Considering cost to industry, then, was a reasonable decision. The ACL for Gulf of Maine cod must remain in place.” The court affirmed the complaint about carry-over. The carry-over complaint was for all stocks, not just GOM cod.
2	In listing the National Standards, CLF conveniently leaves out NS8. On three occasions – two were lawsuits by CLF – courts have ruled the Council appropriately considered the needs of fishing communities when setting catch limits or rebuilding programs. This fact is ignored throughout the petition.
4	Several incorrect statements of ABC control rules on this page. <ol style="list-style-type: none"> 1. CLF misquotes the NS1 guidelines (NS1G) on ABC control rules – it does not say “control rules <u>should</u> become more conservative as biomass estimates

	<p>decline.” What the NS1G says is “The ABC control rule <u>should consider</u> reducing fishing mortality as stock size declines below Bmsy and as scientific uncertainty increases...”</p> <ol style="list-style-type: none"> 2. CLF cites <i>Oceana v. Lock</i> in this discussion. The court upheld the A16 ABC control rules, a fact CLF does not report. 3. The ABC control rules used on the multispecies plan were developed by the SSC. They replaced control rules that reduced the target F as biomass declined. See A16 page 78.
8	CLF mis-states the criteria for emergency action. There are three, not two: recent, unforeseen events, or recently discovered circumstances; presents serious conservation or management problems; can be addressed through emergency action where the benefits outweigh the value of advance notice, public comment and deliberative consideration of the impacts.
8	There are court opinions that conflict with CLF’s conclusion that the Council “has repeatedly failed to develop and submit the necessary measures to end overfishing and rebuild Atlantic cod.” In the lawsuit on FW 50, the court decisions said: “CLF notes that the Service’s previous efforts have failed to prevent Gulf of Maine cod overfishing, that there is significant scientific uncertainty regarding this population, and that the model used by the Committee to arrive at the higher ABC is not the economic model the Committee typically uses. All of this is true. But the Committee – which is the scientific expert here – ran the numbers, accounted for the aforementioned scientific uncertainty, and determined that both models and both recommended ABCs would prevent overfishing...None of Plaintiff’s concerns undermines that analysis. In addition, either recommendation represents a steep downward departure from previous fishing limits – which increases the likelihood that the new caps will prevent overfishing... The cod ACL thus comports with National Standard 1. ”
9	CLF refers to historic low levels of stock size. "historic", in this case, really means only back to 1982 - the start of the assessment time series - or 1962 -the start of the trawl survey. GOM cod catches in the late 50s - a period of few regulations - were not much higher than recent catches constrained by regulation. I suspect if we had a survey or assessment from the 50s, stock status may have been worse than they are now.
10	CLF highlights the decline for the groundfish stocks by 65 percent from 1977 to 1987, but ignores more recent increases of the complex. These increases are driven by a few stocks, however.
10	CLF criticizes “short-term economic decisions that jeopardized the long-term future...” The MSA’s NS8 requires the consideration of impacts on communities. On two occasions, CLF complaints that rebuilding programs or catch limits should not have taken this into account were rejected by a court (A13 and FW 50 lawsuits).
11	CLF incorrectly reports stock status as determined in 2002. You cannot compare that assessment to a more recent overfishing definition. NMFS corrected their determination in a letter to the Council.
11	CLF incorrectly attributes the errors in the 2008 assessment solely to the treatment of 2007 survey data. The letter implies this was a careless mistake by the Council. While that was a contributor, analyses in the 2011 assessment document show that

	the over-estimate of biomass was largely caused by errors in estimating weights at age and other changes to the catch stream. These corrections accounted for 82% of the reduction in the estimate of 2007 biomass, with the survey issue accounting for the rest.
12	Note that Table 1 incorrectly reports the results of the 2002 assessment as overfishing occurring. It was not, and NMFS provided a letter stating that.
13	CLF incorrectly states what FMSY is. First, it is not a fishing mortality rate target – it is a limit that is not supposed to be exceeded. Fishing above FMSY is considered overfishing under the MSA. As such, it is not associated with any particular stock size. FMSY is the fishing mortality rate that, over the long term, would give the maximum sustainable yield. Second, the Council’s ABC control rule does not set 75% FMSY as the “proper fishing mortality for a healthy stock.” The Council’s ABC control rule explicitly recognizes that 75%FMSY may be adequate to achieve rebuilding objectives for an overfished stock: “If fishing at 75% of FMSY does not achieve the mandated rebuilding requirements for overfished stocks, ABC should be determined as the catch associated with the fishing mortality that meets rebuilding requirements (Frebuild).”
14	Figure 5 concludes that the M-ramp results would show a similar pattern. That is not really certain. Reference points have never been calculated under the Mramp model. The Mramp model is using the M=0.2 reference points under the assumption the higher F is a temporary deviation and a lower M will return. If you are going to look at the results of this model over the entire time series, you should compare the output to Mramp reference points.
15	CLF would you have the reader believe that that changes in distribution is solely due to overfishing. Changes in spatial distribution may be partly due to climate change.
16	CLF claims measures have not been developed in response to low recruitment and truncated age structure. This ignores development of additional closures from 1996 through 2004, changes in mesh size to reduce capture of small fish, and targeted reductions in mortality.
20	CLF is misleading on the retro issue and GOM cod. Prior to 2011, there was not a significant retro pattern for GOM cod. The GARM III assessment had only a minor retrospective pattern. The pattern first appeared in 2011/SAW 53, but was judged “moderate” and an adjustment was not applied. A change in the recruitment assumption was made for short-term projections that reduced recruitment at low stock sizes. In 2012/SAW 55, the retrospective pattern (M=0.2 model) increased but reversed direction in the terminal year: “While the retrospective pattern is larger than that observed in the SAW53 model, the directionality in the terminal year has shifted such that spawning stock biomass tended to be underestimated and fishing mortality overestimate(d). It appeared that the retrospective pattern was transient with a one year peel showing no bias. Both the SAW 55 WG and SARC 55 Panel agreed that no adjustment be made for retrospective pattern given that the retrospective pattern is small, it may be transient in nature and that SAW 53 made no retrospective adjustment.” This panel also said “There was no indication that important sources of catches were not accounted for.” In 2015, the pattern was characterized as “major” (M=0.2 model) but an adjustment was not made, consistent with the 2011 and 2012 assessment reports. Note that this assessment concluded “Population projections for Gulf of Maine Atlantic cod are reasonably well determined and projected biomass from the last assessment was within the confidence bounds of the biomass estimated

	<p>in the current assessment." The 2017 update again concluded the retro error was major but did not make an adjustment. This was the first assessment report to suggest catch data might be a problem: "Other areas of uncertainty include the retrospective error in the M=0.2 model, residual patterns in the model fits to some of the survey series, stock structure, and the accuracy of fishery catch data." The 2019 assessment also found the pattern to be major but an adjustment was not applied by the review panel. The SSC, however, considered retro-adjusted projections when developing the ABC for this stock.</p>
22	<p>Paragraph 6: CLF incorrectly states the NS1G requires that an ABC control rule must produce progressively more conservative management actions as biomass estimated decline. This is inaccurate, as noted above – the NS1G says this should be considered. (Arguably the control rule does become more conservative, since catches decline with stock size.)</p>
23	<p>CLF incorrectly states the ABC control rules unlawfully sanction overfishing up to 50 percent of the time. This is incorrect. The Council’s ABC control rule sets the OFL with a median probability of overfishing. The ABC is always set below that amount. The Council routinely reports the probability of overfishing for its ABCs in its framework actions and it has never been at 50 percent since 2010.</p>
24	<p>CLF’s summary of the FW 53 ABC decision is not consistent with the record. CLF is misconstruing the SSC's initial recommendation. The SSC explicitly called its first recommendation a provisional ABC. Because of the control rule guidance on rebuilding, "3. The SSC requests that the PDT produce estimates of incidental, non-target bycatch of GOM cod, including spatial patterns of bycatch, in time for the October 20, 2014 SSC meeting so that the SSC can consider adjusting the ABC in light of that information and providing additional advice." The SSC did not say rebuilding could occur with the ten year timeframe - they said "Based on this analysis, the SSC concluded that rebuilding this stock in 10 years is unlikely under current conditions...SSB would still be projected to increase, so an ABC of 386 mt would not compromise the ability of the stock to rebuild. However, catch projections to provide for rebuilding by 2024 would need to be re-estimated." Also, note this: "The control rule includes a provision for the ABC to be set based on an estimate of incidental non-target bycatch, with a reduction, when projections suggest that rebuilding is not possible within 10 years. Given the information at hand and the need to balance this provision with other components of the control rule associated with alternative scenarios put forward by the assessment, this recommendation is the best option the SSC can offer to achieve this policy objective."</p>
25	<p>On this page, CLF makes numerous misleading statements. First, CLF shifts seamlessly from arguing the FW 53 ABC would not rebuild fast enough to the claim NMFS "...did not determine or require that the ACLs end overfishing as the statute requires." Neither the 200 mt nor the 386 mt amounts are higher than the SSC's OFL of 514 mt. Neither was expected to result in overfishing. CLF is wrong - the selected ABC was expected to end overfishing, based on the best available science and the advice of the SSC.</p>
25	<p>Next, CLF criticizes NMFS for basing its approval decision on the economic and social needs of fishing communities. Since the ABC was expected to end overfishing, this is appropriate. Two separate court decisions have affirmed this.</p>

25	CLF complains Frebuild was not calculated. The PDT report explains Frebuild was not calculated if the stock cannot rebuild by the end of the period at $F=0$.
25	CLF selectively quotes the SSC concerns out of context. What the SSC said was "The operational assessment for Gulf of Maine cod suggests that the steep decline in biomass observed from 2009-2013 might have been arrested. In both the $M=0.2$ and M -ramp models, 2014 biomass was approximately the same, and in fact was marginally greater, than 2013 biomass. The SSC cautions that a two-year trend in a model with considerable uncertainties for a stock at very low biomass should not be overstated. However, the assessment provides the first encouraging sign for the stock in several years. The ABC recommendation of 500mt represents a 30% increase from the status quo ABC of 386mt. While offering this recommendation, the SSC questioned whether a 30% increase is warranted in the absence of a comparable increase in the survey trend, biomass estimate from the model, or other indicator. However, the SSC notes that the operational assessment does not account for effects of the 386mt ABC, given that it was implemented in 2015 and the terminal year of the assessment is 2014. Therefore, the apparent change in the stock trajectory might have been achieved by the previous ABC of 1,550mt for 2013 and 2014. The recent operational assessment is the first to provide insights into the effects of the 2013 and 2014 ABCs, given that the 2014 operational assessment did not include a full year of fishing under that ABC. Despite being an increase from the status quo ABC, the new ABC recommendation is 68% less than the 2013 and 2014 ABC. If the operational assessment is revealing positive effects of the 2013 and 2014 ABCs, then we can expect those effects to continue under the new recommendation. However, the SSC notes that the stock remains far away from its target biomass and sustained rebuilding over many years will be required to achieve the target. "
25	CLF next criticizes the FW 57 ABC. The SSC calculated the FW 57 OFL/ABC differently than in previous years. This results in, arguably, a more cautious approach that CLF ignores. In previous years the $M0.2$ and $M0.4$ models were averaged (multi-model inference is the term they use). In the past the $M0.4$ projection assumed M returned to 0.2. In this year they did not. As a result, the OFL was 938 mt rather than 1,075 mt, and the ABC was 703 rather than 806. The SSC said: "It is important to note that the rho adjustment was not used in this case for the $M=0.2$ model. This departure from the standard rules of engagement were justified based on an examination of the CVs from this model, which indicated a very precise estimate (tight bounds on the CV). Given that the peer reviewers did not recommend using a rho adjusted value and because the procedure previously did not use the adjustment, the SSC felt comfortable proceeding with this approach. The SSC noted that inclusion of the rho adjustment would have had little impact on the catch advice. Additionally, the use of the ensemble approach offers a different mechanism for accounting for scientific uncertainty."
25	CLF once again shifts between ending overfishing and rebuilding time frames.
26	With its comments on the FW 59 ABC, CLF demonstrates that it does not understand what the SSC did. CLF ignores that the 2019 recommendation reflects a change in how the SSC developed its recommendation. For the first time, the retro adjusted $M0.2$ model projection results were used for the catch. This is important because previous comments are critical that the retro adjustment was not used, and here it was

	and they ignore that. Using the retro adjusted M0.2 results reduces the ABC by about 158 mt compared to what the earlier method would produce. It is also worth noting that contrary to an earlier CLF footnote, in this year the SSC averaged the 75%FMSY catch from each of the models - they did not use 75% of the averaged OFL. (This actually increases the ABC by about 9 mt).
27	First, it is worth noting that the empirical approach to setting catch advice for GB cod was never reviewed and implemented by the Council, as required by the NSGs. It was developed by a review panel. While the first year this was done the assessment report specifically refers to the OFL calculation, in 2017 and 2019 the assessment report refers to "catch advice" for the calculation. The SSC's decision on the OFL reflected several factors. One was to be consistent with the way the approach is used for other stocks. Another was the realization that the approach did not make logical sense: if the assessment determines that overfishing status is unknown, how can an overfishing limit be set? In addition, as applied, ABCs would consistently reduce unless the survey trend increased by more than 25 percent. Finally, the basis for the advice - catch adjusts by a change in survey trends - reflects the fact the starting point - the average catch for the years 2012-2014, when this approach was first used - reflects scientific uncertainty that was taken into account in the years those catches were established. Note also that because it is based on catch - which should always be lower than an ABC - there is caution built into future advice.
28	CLF notes accurately it is impossible to assess the stock's rebuilding progress. This same shortcoming makes it impossible to determine if rebuilding targets are still accurate.
29	CLF is once again selectively quoting from a document. The FW 51 response if the conditions are met is: 1) Consider extending the rebuilding program to the maximum 10 years if a shorter time frame was initially adopted; 2) Review biomass reference points; and 3) Provide F-rebuild ACLs under 1 and 2 (directly above), in addition to those based on the rebuilding plan adopted in FW51. However since biomass reference points would be reviewed but not necessarily changed, F-rebuild ACLs under 2 (directly above) may also remain unchanged. The FW 51 document goes on to say:" This measure outlines the administrative steps that would be taken to review the GOM cod rebuilding plan, should the specified conditions be met, in order to investigate why rebuilding has not occurred as expected. These types of analyses would likely already be completed under the current biennial review process, and not necessarily only when the above conditions are met. However, the administrative steps are not explicitly identified in the current biennial review process. The basis for such a review would be an assessment benchmark or update. " PDT memos to the SSC provided much (if not all) of this information on 2015, 2017 and 2019.
30	CLF once again incorrectly the report's 2002 status determination for GO M cod.
30	Note that in 2012, CLF supported continued overfishing of GOM cod in order to mitigate economic impacts. See CLF letter to Secretary Bryson, February 21, 2012: "CLF supports the New England Council's emergency action request and the general approach that the National Marine Fisheries Service (NMFS) has proposed in taking

	interim emergency action to respond to this unexpected and troubling new development.”
31	Note CLF admits there have been measureable improvements in slowing overfishing. This is relevant considering the <i>Oceana v. Ross</i> ruling (2019).
31	CLF’s recitation of the 2014 F estimate for GOM cod ignores that the 2014 stock assessment provided a lower estimate. The 2019 estimate includes recreational catch that is 20 percent higher than that used in the 2014 assessment. This is a result of changes to the MRIP system that were not known in 2014.
32	There are technical issues with Figure 11. First, the 2004 rebuilding program objectives were based on a very different understanding of stock productivity. Second, CLF does not plot the earlier biomass trajectories from several other assessments that were used to guide management actions. As an example, the 2008 GARM III assessment trajectory looks very different than the one shown here – but the same is also true for earlier assessments.
36	CLF cites 64 FR 42042 as evidence of “unreported discarding” in the groundfish fishery. The reference, however, makes it clear that the discarding was caused by a reduction on the GOM cod trip limit to 30 pounds that was implemented in May 1999, and revised in August 1999. The citation does not provide evidence of continued excessive discarding.
43	CLF comments on the GOM “rolling closures” does not acknowledge closures specifically adopted for protecting cod spawning: the Whaleback closed area, etc.
43	CLF comments on OHA2 and its impact on the WGOM Closed Area and the Cashes Ledge area are not accurate. The changes to the WGOM closed area did not affect areas known to have spawning cod. The Cashes Ledge area protections were maintained or strengthened.
45	CLF comments on age structure are not accurate. One way to improve age structure is to reduce fishing mortality so that more fish survive to older ages. This was the goal of many actions and as CLF admits, there have been reductions in (though overfishing continues). Limiting recreational retention of cod also protects larger fish. Cod protection areas were designed to reduce mortality on aggregations of fish for spawning.
45	CLF refers to the current understanding of stock structure as a “management paradigm.” Until the completion of the recent Atlantic Cod Stock Structure review, this was the scientific understanding as well. The Council and the NEFSC are working to incorporate this new information into management and science.
45	CLF’s comment that the two-stock model may over-estimate MSY ignores the corollary: that current rebuilding biomass targets may be too high.
47	CLF mischaracterizes the 2012 stock assessment workshop as failing to lead to management changes. The 2012 workshop did not complete its task and recommended follow-on analyses.
48	CLF cites the Pershing et al paper as evidence that climate change affects cod recruitment. That paper was refuted by the NEFSC and proves nothing.
52	CLF says the PDT “...recommended a more extensive suite of seasonal closures...” What the referenced memo actually says is “An alternative Sub-Option C <u>should be considered (emphasis added)</u> that will more fully protect block-months of spawning cod indicated by these analyses and also allowing fishing in block-months that do not have aggregations of spawning cod. ” The decision document used at the December 2014 Council meeting does not refer to this as a PDT recommendation.

54	CLF refers to "current cod mortality closures." OHA2 redefined these closures and they are no longer considered mortality closures.
Supplement 1	
Comments on FW 59 Proposed Rule	
4	CLF incorrectly conflates probability of rebuilding with ending overfishing. All four of the steps in the Northeast Multispecies FMP ABC control rule are designed to end overfishing because they result in catches that are less than the OFL.
5	CLF argues the ABC control rule adopted by Amendment 16 establishes 75%FMSY as the approach only for a healthy stock. The control rule clearly does not specify this, as it says it will be used for a rebuilding stock if Frebuild is higher than 75%FMSY.
6	CLF criticizes the SSC for its GB cod ABC. Without an analytic assessment, the PDT recommendation was based on an approach called the Plan B Smooth. In the past the SSC used this result as an OFL. However, for other stocks, a similar approach was used as an ABC. The SSC rectified this inconsistency. In addition, the discussion note the Plan B Smooth implicitly includes scientific uncertainty because it is based on past catches, and would always reduce catch limits unless the survey increased by more than 25 percent.

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