NORTHEAST SEAFOOD COALITION

August 31, 2020

Thomas A. Nies, Executive Director
New England Fishery Management Council
50 Water Street, Mill 2
Newburyport, MA 01950

Dear Tom,

The Northeast Seafood Coalition submits the following comments to the Draft Environmental Impact Statement (DEIS) for Amendment 23 to the Northeast Multispecies Fishery Management Plan.

1. What is at stake

The Northeast Seafood Coalition's (NSC) membership is comprised of more than 170 commercial fishing entities that hold more than 300 limited access northeast multispecies (groundfish) permits. These individuals, their multi-generational fishing families, their small businesses and employees, and their centuries-old fishing communities of which they are the economic and cultural core, have an enormous individual and collective stake in this Amendment.

The New England Fishery Management Council's (Council) preferred alternative of a 100% At-Sea Monitoring (ASM) target appears based on the myth that federal subsidies are available now and that somehow Congress will forever cover the industry's ASM costs – whatever they are. The fact is, however, the Council's final action on this Amendment, if ultimately approved and upheld by judicial review, will forever determine the fate of each and every one of those stakeholders.

2. The Amendment is an illegal attempt to restructure the groundfish fishery

As currently proposed, the Amendment is an exercise in industry re-engineering that violates both the goals and objectives of the Northeast Multispecies Fishery Management Plan (FMP), and the applicable statutes. The DEIS impact analysis predicts that this action will force small vessel fishermen out of business and to sell their permits or lease their shares to larger more efficient vessels, some but not all of which may be able to absorb increased ASM costs through what is, essentially, an economy of scale.

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"As operating costs increase, smaller vessels and those with lower groundfish fishery participation are more negatively impacted, while larger vessels and those participating more intensively may see increased gross revenues and operating profits."[1]

This reality was also confirmed by public testimony provided by fishermen at the Council public hearings when it became quite apparent that the net revenue of fishing operations cannot possibly absorb the added costs of 100% monitoring or any blend of the options presented.

The DEIS analysis fails to put costs into context. It fails to recognize the difficulties of owners to find and maintain crew, and it does not factor in crew shares or the reductions they will necessarily suffer. There is no break-even analysis for the limited remaining groundfish vessels considered to be "efficient". It fails to recognize what the market is and what it is not - or even what the margins are for those vessels participating in the groundfish fishery after operating, maintaining and repairing vessels. Although the DEIS analysis somehow missed it, the bottom-line reality is that, under status quo revenue, there is not enough profit margin in the fishery for business owners to absorb the additional expenses associated with 100% ASM.

That the DEIS failed to evaluate monitoring costs relative to net revenues rather than gross revenues is a fatal flaw of the DEIS. The Council simply cannot make a sound management decision based on a cost/benefit analysis that relies on gross revenues, primarily at the fishery level, as its benchmark for evaluating the impacts of the proposed action.

Furthermore, the DEIS fails to recognize the costs of liquidating a fishing business that is primarily reliant upon groundfish. Those costs are catastrophic yet the DEIS cites the completely incorrect and unproven "economic theory" that the ACE leasing market will be "corrected", implying the scores of bankrupted small entities will be better off once they lease their fish to "more efficient" entities. The reality is that the aging fleet of NE groundfish vessels are not in demand outside of this fishery which means if this Amendment moves forward - as is - the marketability of these vessels would evaporate altogether. The ACE leasing market has already collapsed under status quo. This is real and documented, not hypothesized. It is now officially a buyer's market for ACE leasing. Therefore, not only are the costs of dockage, insurance and loss of fishing income not factored into the "benefits" that falsely imply an "improved ACE leasing market", the collapse of the ACE leasing market, based on today's reality, is not considered at all.

3. Electronic Monitoring is far from becoming a viable monitoring option, if ever

The DEIS and Amendment also, dishonestly, attempt to portray 100% human at-sea monitoring as but a temporary step towards electronic monitoring (EM) – and that EM is the ultimate low-cost "solution". While NSC is generally supportive of advancing technologies that are more cost-efficient than human ASM, and that will generate data that will truly improve estimates of stock abundance and the stock assessment process, once again, the DEIS completely fails to reveal the truths that:

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[1] DEIS, § 7.5.3.1.1. Sector Monitoring Standard Option 1: No Action. Sector costs and fishery impacts https://s3.amazonaws.com/nefmc.org/200304_Draft_Groundfish_A23_DEIS_formal_submission_corrected_200312.pdf

- by its own admission, the agency has confirmed that the development of technology that is sufficient and effective to correctly monitor catch fleet-wide is some unknown number of years into the future;
- the true and full costs of EM, including video review or auditing, are not known, may escalate over time, and may not reduce costs at all as compared to human at-sea monitors;
- the DEIS analysis of using EM for the 'audit model' or 'maximum retention strategy' does not attempt to quantify or even consider the additional costs of crew, equipment and perhaps even vessel configuration associated with the on-deck logistics including fish handling that will be necessary to implement these strategies and technologies;
- It has failed to consider the various components and costs associated with the dockside component of maximum retention EM. The offloading fees associated with removing fish from the vessel's hold (lumper fees), as well as the offloading, storage and transporting costs/fees typically charged by the offloading facilities, are costs that would be borne by the vessel with possibly no revenue to offset it. In fact, there may be an additional fee charged to properly dispose of unmarketable and undersized catch.
- The DEIS fails to recognize the effective costs and resulting impacts on revenues associated with displaced holding capacity from storing unmarketable fish onboard. This is true for most vessels currently engaged in this fishery. Larger vessels are now targeting abundant haddock, redfish and pollock and many struggle to balance ice and fish storage capacity for their marketable product. The DEIS fails to consider these "costs" that would accrue to the very class of vessels the DEIS presumes will be capable of absorbing the costs of monitoring.
- Data generated by current EM technology will not make a meaningful contribution to improving estimates of stock abundance and will be of only limited use in stock assessments overall.
- The efficacy of EM cannot be analyzed to meet the goals and objectives of this Amendment because the details of exactly how or what data will be collected, analyzed or the ultimate outputs have only been established "in concept". The reality is that any proposal by a sector to utilize EM will need to be put forward with an extraordinary and pioneering level of detail that will ultimately require a commensurate level of Agency scrutiny. Until a high-volume sector that is currently responsible for significant portions of the 2018 landings revenues used in this DEIS comes forward with a comprehensive EM plan, and said plan is ultimately approved by the Agency, there is no way to estimate the true costs or benefits. Similarly, we should not pretend to now know the efficacy of that, yet to be developed and approved, sector monitoring plan toward meeting the purpose and need of this Amendment. Yet the DEIS asserts that the costs will be less, the economic benefits will be more and there will be measurable improvements to BOTH precision and accuracy. At the point in time the DEIS was released, EM could not be objectively evaluated on par with AM alternatives in the absence to having the full details of an **approved, sector EM monitoring program** for a high-volume sector.
- The public hearing documents stridently portray EM and blended costs to industry as if all of the details of a fully approved, high-volume sector's EM program were available and working now ,and that the data from said program has been analyzed and objectively evaluated to determine its efficacy towards meeting the goals of this Amendment. Again, the reality is when the DEIS was published and the public hearings

took place, no such approved plan for such a sector existed. Therefore, no credible analysis could be conducted to estimate the costs, impacts or benefits that could be reasonably compared on par with the critical analysis performed on the ASM alternatives.

Providing an objective and factual analysis on the electronic monitoring is vital not only to decision makers but to industry members offering comments on the Amendment 23 DEIS. It is also critical for industry members and their respective sectors who may be considering EM *but so much of the important details are being left for the agency to develop at a later stage.* This could be highly problematic and could ultimately be a moving target without the adoption of clear and consistent standards.

NSC has and continues to recommend Amendment 23 measures retain the flexibility for the individual sectors to design a monitoring program that best meets their operations. Having a universal set of standards, with programmatic requirements, that all programs must meet now is essential to the DEIS.

4. The Amendment is grounded in politics, not science

The DEIS appears to be an attempt to justify the pre-determined political objective of this Amendment to provide cover for the management and enforcement failures of the agency with respect to Carlos Rafael. Rather than correcting the flaws that led to those failures, the Amendment will instead punish hundreds of innocent fishermen for the crimes of one man. And, it is these fishermen, not the Council or agency, that will suffer the tangible damages - damage to the resource on which fishermen depend - and damage to each and every law-abiding fisherman that will be subject to the unsustainable burdens imposed by this Amendment. **The DEIS itself confirms that unreported discarding is not a widespread problem.** This is a draconian, costly and misplaced solution without a problem. And, the DEIS fails to support the Council's preferred action that 100% monitoring – or Electronic Monitoring (EM), for that matter - will be effective in preventing such crimes in the future.

NSC has and continues to point to the decision by the DEIS to focus nearly all simulations and analysis on GOM cod as perhaps the most glaring example of inconsistency with the stated purpose and need. The ACL on this stock was reduced by more than 95% from 2010 to 2014 and fishing effort and behavior changed drastically from 2013 to 2018, making any assumption about constant fishing power erroneous.

The commercial CV's have been averaging single digits at the stock level, including on GOM cod. Yet, the political hypothesis was that the data is not accurate enough.

There are only two stocks the Agency and the Council cannot improve the accuracy or precision of total removals for to the levels unilaterally determined by the PDT, NEFSC and portrayed in the DEIS as being necessary. The two stocks are - GOM haddock and GOM cod - because of the enormous proportion of the non-sector components and recreational catches where the precision CV's are extraordinarily weak, monitoring is near zero, and federal data has indicated recreational catch could be as much as 100% of the overall ACL in one year and below their sub-

ACL in the next. Often this variability comes with no correlated management change to account for such significant changes.

Further evidenced in the most recent framework adjustments to the FMP, Framework 59, the Council and the agency have codified their management and scientific uncertainty tolerances for the GOM cod stock by reallocating a greater percentage of catch to the recreational sub-ACL. It is quite liberal to say the least.

No credible argument could be made to dispute the fact that if 100% certainty were delivered for the sector component catch of GOM cod the overall stock level precision and accuracy would still likely be weaker, on average, than all other allocated stocks under status quo sector monitoring. Yet, the decision was made to use GOM cod commercial data to support this Amendment. GOM cod would ONLY be the best choice if the objective was to be able to conduct analysis that could leverage relatively small numbers of pounds variability into "statistically significant" proportional differences. The ACL is less than 5% of historical catches over the previous two decades. A mere 10 lbs. of variance becomes a "statistically significant" percentage but it amounts to zero significance when put into the context stock assessments.

The reality is that if we were to achieve 100% precision and accuracy on the commercial catch, we would lose any measurable benefits once blended with the MRIP data for GOM cod. The fact remains that, even if we could achieve 100% accuracy and precision on 50% of the ACL while accepting the weakness in the data for the other half of the ACL, calls to question the decision to use this stock to support this Amendment to the extent that it has.

While it might have tried, the DEIS itself completely fails to justify and only faintly attempts to achieve the Amendment's stated Purpose and Need, or to meet the fundamental longstanding Goals and Objectives of the Northeast Multispecies FMP including, especially, its commitment to preserving fleet diversity. The data and qualitative rather than quantitative analyses are profoundly deficient. And, the process by which the DEIS has been developed, including attempts to back-fill these many deficiencies after formal publication and submission of the DEIS for public comment is also in violation of the law. If the Council takes final action on this Amendment and submits it to the Secretary for approval without demanding that the DEIS be withdrawn and revised to correct these deficiencies, it must be disapproved by the agency or fail under subsequent judicial review.

5) The DEIS is fatally flawed – legally, scientifically and economically

The concerns NSC has raised above are, once again, not just our opinion, but reflect definitive findings of the expert economist, scientists and attorney NSC engaged to review the DEIS content and process. This deliberate action to re-engineer the groundfish fishery and diminish its diversity under the guise of collecting data through a monitoring program is not just unfortunate, it is illegal.

<u>Legal Analysis</u>

Indeed, as currently drafted, the DEIS and the Amendment as proposed are in violation of the law in numerous instances articulated in detail in the Legal Analysis set forth in Appendix 1,

This analysis was prepared for NSC by Linda Larson, an attorney at Nossaman LLP with extensive expertise in evaluating the required consistency of fishery management actions with statutory mandates of the National Environmental Policy Act (NEPA), the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and other applicable law. We present here the compelling if not disturbing conclusions of that Legal Analysis:

> *In summary, the DEIS does not comply with NEPA. The Council and NMFS are compelled to withdraw this fundamentally flawed DEIS in order to undertake a comprehensive and accurate analysis of the alternatives for ASM and its likely impacts to the environment, harvesters, fishing communities and the economy. No legally sound decisions about Amendment 23 can or should be made based on the present document. The DEIS must be revised and reissued in accordance with 40 C.F.R. § 1502.9 for at least the following reasons:*
>
> - *The socio-economic and biological analyses rely on unproven assumptions that are not supported by the best available scientific information.*
> - *Available information does not support the DEIS' assumption that there is a widespread or substantial problem of under-reported catch in the fishery. Therefore, the current range of alternatives and coverage targets are not based on any meaningful analysis.*
> - *The socio-economic analysis entirely fails to adequately disclose the community impacts of the widespread harm to industry that the DEIS admits will be caused by substantially increased monitoring costs.*
> - *The DEIS does not provide evidence that increased monitoring will significantly improve groundfish stock assessments and management. Therefore, the Council and the public cannot determine whether and at what level increased monitoring would prevent overfishing.*
> - *The relative merits of the alternatives are not rigorously examined and disclosed in the DEIS. It is impossible for the Council or the public to understand whether the goals and objectives of the program can be only be attained at 100% coverage or at some lesser level.*
> - *The agency cannot cure the deficiencies of the DEIS by preparing new analyses and presenting them to the public during the public comment period. NEPA requires all relevant information to be disclosed in the DEIS.*

As a result of these and all of the other deficiencies discussed in this analysis, the DEIS cannot be the basis for the Council to evaluate a proposed action's consistency with the National Standards. To the extent that even the incomplete information in the DEIS can be used to evaluate the Preferred Alternative, it is clear that the Preferred Alternative does not meet at least the following the National Standards and the requirements of the MSA:

- *The Preferred Alternative would force an exit from the fishery by smaller and part-time operators, resulting in consolidation of quota share. This decrease in the diversity in the fishery is directly contrary to the goals of the FMP and Amendments 13, 16 and 18.*

- *There is no showing that the Preferred Alternative would provide optimum yield or the greatest overall benefit to the nation as required by National Standard 1.*

- *The DEIS does not provide the best scientific information available as required by National Standard 2.*

- *The Preferred Alternative does not minimize costs and would impose unnecessary burdens on the economy and individuals participating in the fishery, and is therefore inconsistent with National Standard 7.*

- *The Preferred Alternative would cause great economic harm and disruption, and does not minimize adverse impacts on fishing communities as required by National Standard 8.*

NEPA compliance is not just a "check the box" exercise. An honest assessment of the benefits, risks and impacts from increased monitoring under each alternative is necessary under NEPA, followed by a meaningful opportunity for the public to comment on the assessment. Without such an assessment, it is impossible for the public or the Council to determine whether a proposed action is consistent with the MSA.

Technical Analysis

Similarly, the review conducted by Dr. Cate O'Keefe and Dr. Steven Cadrin of Fishery Applications Consulting Team, LLC, confirm that the scientific analyses and conclusions of the DEIS are also fatally flawed. This is fully articulated in detail in the Technical Analysis set forth in Appendix 2. Here we present their summary of findings:

- *The Draft Environmental Impact Statement (DEIS) for Amendment 23 does not reasonably compare the proposed alternatives to Status Quo or each other related to the*

defined Purpose and Need, as required by the National Environmental Protection Act (NEPA);

- *The Impact Analysis is focused on fishing mortality and enforcement, which are not included in or directly related to the stated Purpose of the action (i.e., reliability and accountability of catch reporting in the commercial groundfish fishery to ensure precise and accurate representation of catch);*
- *The DEIS does not provide evidence that the proposed changes in monitoring coverage targets will significantly improve groundfish stock assessments and management performance;*
- *Analyses included in the DEIS do not provide evidence that under-reported catch is a widespread or substantial problem in the groundfish fishery; and*
- *Analytical results in the DEIS and recommendations for further research from peer-review suggest that revised analyses are needed to determine the frequency and magnitude of under-reported catch for the DEIS Impact Analysis and rationale for the proposed alternatives in Amendment 23, in accordance with Magnuson-Stevens Act National Standard 2 Guidelines on best scientific information available.*

Further to the scientific inadequacies of not only the DEIS analyses but the fundamental approach taken by this Amendment, we see a profound inconsistency in a process that on the one hand is accepting of historically low abundance estimates based on stock assessments while on the other hand it expresses concerns over the potential for fishermen to be interacting with these "scarcely" populated species at a phantom CPUE rate that would be more consistent with a much larger stock size.

NSC believes that the Council should not have embarked upon an effort to improve the reliability of the monitoring program without acknowledging and incorporating the linkage between the degree of accuracy for a given stock size estimate and the potential for observer bias. There continues to be a need for a broader agreement on abundance estimates that serve as the basis for the monitoring program. Absent that, the Amendment cannot achieve its stated intent to maximize the value of collected data (or minimize costs).

<u>Economic Review</u>

As a general principle, NSC believes any monitoring program that provides coverage beyond that which is provided by NEFOP and is funded by industry must meet a legitimate cost vs benefit standard. To do this, it is not only important to develop mutually agreed upon costs but it is vital that the definition of "benefits" be broadly recognized by industry. This could only happen through meaningful industry input at every level including PDT and other third-party consultants that may be tasked with evaluating the efficacy of industry funded ASM programs.

This vital aspect of "costs/benefits" is one that industry has repeatedly raised during and since the scoping hearings on the Amendment. They are well documented through written and oral comments. **NSC strongly believes that unless and until the definition of benefits is codified along with a list of clear measurable and provable metrics, any cost-benefit analyses will be left open to subjective determinations that will ultimately have no bearing on program accountability.**

Consequently, NSC also engaged the services of a private fisheries economist to examine the DEIS, particularly with respect to the sufficiency of the costs-benefit analyses that are required by law to be a core element of the DEIS. The report of that extensive Economic Review set forth in Appendix 3 also found the DEIS to be so severely deficient that it cannot be used to support a Council final decision on the Amendment. Here is an excerpt from the stark Conclusions that review:

> *The collection of data needed to precisely estimate total catch substantially increases costs to stakeholders and the Council must determine the point at which the costs of collecting additional data outweigh the benefits of the information on management of the program and the fishery stocks. While a substantial amount of information is presented in the DEIS, there are still major information gaps that prohibit the Council from making a well-informed decision on the impacts of the proposed program relative to the fishery stocks, vessel operators, and fishing communities. Without that information being presented in the DEIS, neither the Council nor the fishery stakeholders can determine whether the benefits of the proposed ASM increases outweigh the costs, especially knowing that specific (undefined) sectors of the fishing industry are expected to become insolvent as a direct result of the action.*

This Economic Review also presents a glaring expose' of how information presented in the DEIS confirms that this Amendment will have grossly disproportionate impacts on different vessel size classes and communities in direct violation of the law and of the FMP Goals and Objectives (see excerpt below). Consequently, the Amendment will restructure the industry by forcing vessels out of the fishery, redistribute quota and reduce diversity of the fleet.

> *The analysis should identify which fishing communities would be negatively or positively impacted from the transfer of sector harvest privileges that result from increased operating costs. The analysis does provide information on homeport, sector, and vessel size class[i] but does not allow the reader to understand if the changes in those tables are driven by entry and exit or just overall changes on profitability of firms in the industry. This information is important because the DEIS indicates that smaller/less efficient vessels are most likely to sell out to the larger more efficient operations. Table 134 in the DEIS shows the cost and revenue of the fleets by vessel size class. That information is expanded in Table 1 to show increased costs that are projected to achieve 100 percent coverage. Vessels in the 30' to <50' class are projected to spend 12.6 percent of their gross ex-vessel revenue on ASM costs. For comparison, the small boat fleet in the Alaska halibut and sablefish IFQ fisheries have been paying 1.25 percent of their gross ex-vessel revenue for observer coverage and that amount is scheduled to increase to 1.65 percent based on recent Council actions. In other words, the preferred alternative requires the 30' to <50' fleet to pay about 10 times the percentage of ex-vessel gross revenue as the IFQ fishery in Alaska. The two larger sectors will pay about 5 times the rate of the Alaska halibut and sablefish IFQ fishery. In terms of total costs without federal reimbursement, the smallest vessel class will incur about one-third of their total fishing cost to pay for ASM, the mid-size vessels one-fourth their total cost, and the largest vessels one-sixth of the costs they incur on ASM.*
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> [1] *See Tables 128 through 135 of the DEIS*

Table 1: Gross ex-vessel revenue and costs of 100 percent ASM for trips by vessel length category

Length Class	Gross Rev (mil. $2018)	ASM Cost (mil. $2018)	Cost of Ops (mil. $2018)	ASM as % of Gross Rev	ASM as % of Total Costs
30' to <50'	$14.3	$1.8	$3.4	12.6%	34.6%
50' to <75'	$24.1	$1.8	$6.0	7.5%	23.1%
75' +	$32.5	$2.0	$9.8	6.2%	16.9%

Source: Table 134 of the DEIS

5. Amendment 23 is in flagrant disregard for the President's Regulatory Reform policies.

Since early in his Administration, and as recently as May 7, 2020, President Trump has defined through a series of Executive Orders a clear policy of regulatory reform that applies to the actions being taken by the Council and agency through this Amendment and DEIS. These Executive Orders are set forth in greater detail in Appendix 4. In striking ignorance of the very specific terms of this policy and these directives, and as documented in detail in the economic, scientific and legal analyses set forth in Appendices 1, 2 and 3, the Council and agency have produced a DEIS and proposed Amendment that -

- will eliminate jobs,
- are unnecessary,
- will be ineffective,
- will impose costs that exceed benefits,
- will fail to facilitate the economic growth of coastal communities and promote ocean industries
- will fail to ensure that Federal regulations and management decisions do not prevent productive and sustainable use of ocean, coastal, and Great Lakes waters, and
- will fail to reduce burdens on domestic fishing and to increase production within sustainable fisheries

6. Conclusions

Throughout the Amendment 23 3-year process, NSC and its members have, through its extensive comments and participation in Council, AP, Committee, PDT and SSC meetings, built a very substantial public record which clearly supports the conclusions set forth in this comment that this DEIS is fatally flawed and that this Amendment, if approved, would not be approvable because it is overwhelmingly inconsistent with applicable law.

Early on in the Scoping Process, and as reflected in these comments, NSC and other industry stakeholders provided extensive comments to the Council in support of designing an enhanced industry funded monitoring program that would bring meaningful benefits to the industry. If the industry is going to pay for such monitoring, then those costs must be justified through some meaningful benefits to the industry and science. This included, for example, that such enhanced monitoring be designed to generate fishery dependent and other data that would actually serve to improve estimates of stock abundance in the face of the great disparity between fishery independent estimates of stock abundance and what fishermen observe on

the water. Those inputs were repeatedly ignored and instead, the Council and agency unilaterally defined the benefits of imposing the enormous costs of 100% monitoring on the industry as, essentially, improving the monitoring and enforcement of catch discards – a problem the DEIS documents is not a substantial or widespread problem.

With that in mind, while the conclusion of the Legal Analysis set forth in Appendix 1 is that the DEIS should be withdrawn and revised to cure these numerous flaws and to make it consistent with all applicable law, NSC believes the Council should instead reconsider the fundamental premise of this Amendment and, frankly, start over.

Sincerely,

Jackie Odell, Executive Director
Northeast Seafood Coalition

Attachments:

Appendix 1: Legal Review of Amendment 23 and Draft Environmental Impact Statement

Appendix 2: Technical Review of Northeast Multispecies Fishery Management Plan Amendment 23 Draft Environmental Impact Statement

Appendix 3: Amendment 23 DEIS Economic Review

Appendix 4: President Trump's Regulatory Reform Policies

Appendix 1: Legal Review of Amendment 23 and Draft Environmental Impact Statement

NOSSAMAN LLP | Memorandum

TO: Northeast Seafood Coalition

FROM: Nossaman LLP

DATE: August 28, 2020

RE: Legal Review of Amendment 23 and Draft Environmental Impact Statement

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I. INTRODUCTION.

This analysis responds to a request by the Northeast Seafood Coalition for a legal review of the Formal Submission Draft of the *Northeast Multispecies Fishery Management Plan Draft Amendment 23, Including a Draft Environmental Impact Statement* dated March 4, 2020 ("DEIS"). The DEIS does not comply with the requirements of the National Environmental Protection Act ("NEPA") because it is deficient in several crucial respects. The analyses in the DEIS do not provide a full and fair discussion of the significant environmental impacts of the proposed alternatives and fail to adequately inform decisionmakers and the public of the comparative merits of the alternatives presented. The DEIS is so inadequate as to preclude meaningful comparative analysis of the impacts of the alternatives presented, and therefore, in accordance with 40 C.F.R. § 1502.9(a), the New England Fishery Management Council ("Council") and NMFS must prepare and circulate a revised draft that cures the draft's fatal deficiencies.

In addition, the DEIS does not allow the reader to evaluate objectively whether or how the alternatives under consideration for Amendment 23 meet the goals of the Magnuson Stevens Fishery Conservation and Management Act ("MSA") and its ten National Standards for fishery management. It does not present the information necessary for the Council and the public to evaluate whether an alternative is consistent with the National Standards. The analyses in the DEIS appear to be based on several unsubstantiated assumptions, fail to present readily obtainable information, and consequently are not based on the best available scientific information as required by National Standard 2 as well as NEPA. These deficiencies are discussed in more detail below as well as in the technical analysis of the DEIS performed by Fishery Application Consulting Team ("FACT Analysis") and the socio-economic analysis attached as Exhibit 1. However, even the incomplete and misleading information that is presented

in the DEIS compels the conclusion that the Preliminary Preferred Alternative ("Preferred Alternative") does not comply with at least National Standards 1, 7 and 8. The alternatives, including the Preferred Alternative, may also be inconsistent with National Standards 4, 5 and 10, but the DEIS is so deficient that a consistency determination for those of those standards cannot be made.

Increased collection of data, particularly under the Preferred Alternative, substantially increases costs to participants in the fishery. The financial resources and operating margins of vessels vary widely, yet the DEIS makes no meaningful attempt to explain the disparate and often disproportionate impacts on differently situated harvesters or their communities. In order to comply with the MSA, the Council must determine the point at which the costs of collecting additional data outweigh the prospective benefits to the management of the fishery and fishery stocks. The current draft does not allow the Council to make an informed decision as required by NEPA and the MSA. It must be withdrawn and revised before the Council takes any final action on Amendment 23.

II. BACKGROUND

The Northeast Multispecies Fishery Management Plan (FMP) applies to the management of thirteen groundfish species off the New England and Mid-Atlantic coasts. The commercial groundfish fishery consists of "sectors" as well as the "common pool." Each sector receives a total amount (in pounds) of fish it can harvest for each stock. Fishermen who do not join a sector fish in the "common pool". Vessels in the common pool are allocated a certain number of Days at Sea (DAS). Vessels in the common pool are managed by a variety of input and effort controls such as DAS, trip limits, closed areas, minimum fish sizes, and gear restrictions.

Sector and common pool monitoring programs, including at-sea monitoring (ASM) and dockside monitoring (DSM) have been established and revised in a series of FMP amendments and Framework actions, starting with Amendment 16. Framework 48 later discontinued the DSM program. Under Framework 55, the primary goals of the monitoring programs are to verify areas fished, catch, and discards by species and gear type by the most cost effective means practicable. All other goals and objectives of groundfish monitoring programs are equally weighted secondary goals.

Amendment 23 is being developed to address a perceived but unverified need to implement new industry-funded measures to improve the reliability and accountability of catch reporting in the commercial groundfish fishery to ensure there is precise and accurate representation of catch (landings and discards). Section 3.2 of the DEIS states:

> The need, or problem this action was developed to address is: the need to implement measures to improve the reliability and accountability of catch reporting in the commercial groundfish fishery to ensure there is precise and accurate representation of catch (landings and discards). Accurate catch data are necessary to ensure that catch limits are set at levels that prevent overfishing and to determine when catch limits are exceeded.
>
> The purpose, or potential solutions considered in this action focus on measures that adjust the current monitoring program to improve accounting and accuracy of collected catch data. It is the Council's intent that the catch reporting requirements are fair and equitable for all commercial groundfish fishermen, while maximizing the value of collected catch data, and minimizing costs for the fishing industry and the National Marine Fisheries Service.

The Council's Preliminary Preferred Alternative would establish fixed at-sea target monitoring (ASM) coverage for 100% of trips for the commercial groundfish sectors. It would allow additional monitoring tools, in addition to human ASM, including maximized retention with electronic monitoring. DEIS, Table 1. As the DEIS admits, monitoring coverage of 100% would be "much higher than past and current coverage levels" and is "expected to have substantial socioeconomic impacts." DEIS at 2-4.

III. THE DEIS DOES NOT COMPLY WITH NEPA AND MUST BE REVISED.

The DEIS' assessment of alternatives is legally flawed and insufficient. NEPA and its implementing regulations require agencies to take a "hard look" at the environmental consequences of their actions.[1] This "hard look" must be "timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made." *Metcalf v. Daley,* 214 F.3d 1135, 1142 (9th Cir. 2000). Pursuant to NEPA's "hard look" requirement, the agency must ensure that "the adverse

[1] *See, e.g., Northern Plains Resources Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1076 (9th Cir. 2011); *Churchill Cnty. v. Norton,* 276 F.3d 1060, 1072 (9th Cir. 2001); *Robertson v. Methow Valley Citizens Council,* 490 U.S. 332, 348 (1989); *Kleppe v. Sierra Club*, 427 U.S. 390, n.21 (1976).

environmental effects of the proposed action are adequately identified and evaluated." *Robertson,* 490 U.S. at 350.

The alternatives analysis "is the heart of the environmental impact statement." 40 C.F.R. §1502.14. It "sharply define[s] the issues and provid[es] a clear basis for choice among options by the decisionmaker and the public." The analysis must "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from study, briefly discuss the reasons for their having been eliminated." *Id.* at §1502.14(a). As demonstrated in the FACT Analysis, the work done by the Groundfish Plan Development Team does not support the DEIS' assumption that there is a widespread or substantial problem of under-reported catch.[2] Therefore, the current range of alternatives – 25, 50, 75, 100% coverage targets --are not based on any meaningful analysis.

Agencies shall also "[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits." *Id.* at §1502.14(b). The DEIS does not provide such an analysis. As explained in more detail below and in the FACT Analysis, the DEIS does not reasonably compare the impacts of the proposed alternatives to the status quo or each other relative to the defined purpose and need for Amendment 23, and therefore is fundamentally deficient.

Exhibit 1 contains a list of socio-economic issues and the FACT analysis describes the technical issues that must be re-visited in a revised DEIS in accordance with 40 C.F.R. § 1502.9(a). The DEIS must be comprehensively revised so that the data and analyses presented are accurate, complete, and "commensurate with the importance of the impact." 40 C.F.R. § 1502.15.

A. The socio-economic analysis is inadequate.

An agency is required under NEPA to evaluate the socio-economic impacts of the suite of alternatives it identifies, including both direct and indirect effects and their significance. *See* 40 C.F.R. §§ 1502.8, 1502.16. "Indirect effects" include those effects "what are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." 40

[2] The Council has commissioned a study by GMRI to evaluate the impact of inaccurate catch Information on groundfish management (Dr. Lisa Kerr, GMRI) in an attempt to backfill this critical deficiency, and apparently intends to include the results in the FEIS. Instead of attempting to cure this fatal deficiency in the DEIS after the public comment period has closed, NEPA compels preparation and circulation of a revised DEIS. 40 C.F.R. §§ 1502.9(a); 1502.13.

C.F.R. § 1508.8. The DEIS wholly fails to analyze these effects properly. While generally acknowledging that the Preferred Alternative is "expected to have substantial socioeconomic impacts" resulting from higher operating costs (DEIS at 4), the DEIS improperly downplays and obfuscates the varying socio-economic impacts of the alternatives across participants and fishing communities.

In general, it is evident even from the limited information in the DEIS that the increased operating costs associated with higher levels of ASM have correspondingly increasing and substantial socio-economic impacts. Those impacts vary in intensity both geographically and across various types of participants. The result of these impacts will be consolidation and reallocation of quota among harvesters. NEPA requires both the direct and indirect impacts of a proposed action to be analyzed, but these impacts are not adequately disclosed in the DEIS. 40 C.F.R. §§ 1502.16, 1508.8. NEPA's "hard look" requirement includes all foreseeable environmental consequences, including those to the human environment. *See Robertson*, 490 U.S. at 350. Providing laundry lists of potentially affected communities with general demographic information along with general statements about stakeholder attitudes does not constitute a "hard look" absent a justification regarding why more definitive information could not be provided. *See Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1213 (9th Cir. 1998)*. No such justification is or can be provided here.

The DEIS focuses on the tradeoffs of the proposed action in terms of costs to the fleet and benefits to various stakeholders. Costs to the fleet are described in terms of increased costs that directly result from additional monitoring. Benefits are described as increased gross ex-vessel revenue, fairness associated with more equal compliance with regulations, and more accurate discard and landings data. While both costs and benefits are discussed, neither are presented in the DEIS in a way that allows the reader to verify that the stated conclusions are factual or accurate. It is impossible for the reader to understand whether the goals and objectives of the program can only be achieved under the Preferred Alternative, or whether those goals could be attained at less cost at a coverage level of less than 100% of trips. The DEIS must be revised to provide an objective analysis that allows an evaluation of this key issue to be made by the Council and the public before any further action is taken by the Council. 40 C.F.R. § 1500.1(b). Where significant impacts may result from a proposed action, "the studies must be conducted first, not afterwards." *National Parks and Conservation Ass'n v. Babbitt*, 241 F.3d 722, 736 (9th Cir. 2001).

Examples of the key socio-economic issues that are not adequately analyzed in the DEIS are presented below.

1. Revenue Impacts

Estimated revenue changes that directly result from increased monitoring are a direct impact stemming from the proposed action under all alternatives except the No Action Alternative (the status quo). The DEIS considers revenue changes in terms of changes in gross ex-vessel revenue and net ex-vessel revenue. The analysis concludes that increasing monitoring to cover 100 percent of trips will increase gross ex-vessel revenue to the fleets while also increasing variable trip costs. The conclusion that gross ex-vessel revenues will increase relative the status quo is counter-intuitive and is not explained satisfactorily or supported with rigorous analysis and data. Crucially, the DEIS does not disclose the assumptions needed to reach that conclusion.[3] Under NEPA, this key finding must be clearly explained and rationally supported. 40 C.F.R. §§ 1502.23, 1502.24.

Moreover, the assumptions that seem to drive the analysis do not appear to be supportable. Because gross ex-vessel revenue is the ex-vessel price of the fish sold multiplied by the quantity of fish sold, increases in gross ex-vessel revenue can only be realized if the ex-vessel price or quantity of fish sold increases, relative to the status quo. Yet Amendment 23 should not be expected to cause changes in the ex-vessel price. Factors that affect prices are decreases in the supply of fish, the quality of fish delivered, and demand for the fish. These factors should not be influenced by changes in ASM coverage.

Assuming that changes in ex-vessel prices are not driving the purported increase in gross ex-vessel revenue, the authors must have concluded that increases in the quantity of fish delivered because of increased monitoring will cause the gross revenue to increase under the Preferred Alternative. The Executive Summary postulates:

> Eliminating the management uncertainty buffers for sector ACLs for allocated stocks results in higher operating costs since 100% monitoring coverage required

[3] For example, the DEIS does not explain how accounting for all of the assumed, unreported catches of constraining species results in increased gross revenue. In other words, if the constraining species are more limiting because all catch of those species is accounted for and deducted from the total available (through increased monitoring levels), how do the fleets use less of the constraining species in their fishing operations and maintain or increase current catch levels of other species that are landed?

> for this option; however, revenues are maximized relative to other monitoring options in this action, maximizing operating profits relative to the other 100% monitoring options.

DEIS at 4.

Assuming that the revenues referenced are gross ex-vessel revenues and operating profits are net revenues (that do not include opportunity costs), it means that the DEIS *assumes* that increasing monitoring to cover 100 percent of all trips will result in the following:

1. Fishery managers will release the uncertainty buffer[4] that accounts for 3 percent to 7 percent of ABC depending on the species.

2. Some or all of the uncertainty buffer will be harvested and sold, resulting in an increase the total amount of fish sold. Assuming relatively constant prices, the gross ex-vessel revenue will increase and to some extent off-set the increased variable costs associated with 100 percent monitoring.

But the DEIS fails to consider several factors that should be accounted for that could cause a *decrease* in gross ex-vessel revenue, and not the increase that is predicted in the DEIS.

First, it is logical to assume that fishermen are trying to maximize profits under the current fishing structure. In doing so, they are making rational decisions that allows them to land fish as long as it increases profits. Increasing the cost of a trip could reduce catches in marginal fisheries, leading to reduced gross ex-vessel revenue.

Second, based on the historic catch and delivery data presented in Table 1, less than 25 percent of the combined ACLs have been caught over the years 2011 through 2019[5]. The range for individual ACL groupings ranges from about 5 percent to 84 percent, indicating that even before the uncertainty buffer is released there is still a substantial amount of fish that are left unharvested, including species that could limit the catch of other species. Given these current conditions, it appears that releasing the uncertainty buffer may not increase the amount of fish caught and, therefore, not increase the gross ex-vessel value.

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[4] 5% of the ABC by default, and for stocks with less uncertainty it is set at 3% (no state water catch), for stocks with more it is set at 7% (zero possession and discard only stocks)
[5] The 2019 data presented are through March 17, 2020 and the fisheries run through the end of April, so the data should be considered incomplete.

Third, if unreported discards of fish are occurring, and those amounts are within the amount of the ACL before the uncertainty buffer is released, releasing the uncertainty buffer would not impact fishery closures or gross ex-vessel revenue. If those discards are occurring at a level that would cause fisheries to close sooner than are currently being realized, it would reduce gross ex-vessel revenue because the total amount of fish delivered would decline. The DEIS does not attempt to account for any change in future ACLs that may result directly from changes in accounting for discards.

In summary, since one of the primary findings of the DEIS is that gross ex-vessel revenue will increase as a direct result of imposing 100 percent monitoring of trips and those revenues will help off-set the increased cost of monitoring, the analysis and assumptions that drive that conclusion must be clearly stated and rigorously supported in the DEIS. NEPA requires agencies to "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements" and to "identify any methodologies used" and the "scientific and other sources relied upon for conclusions." 40 C.F.R. § 1502.24. The current socio-economic analysis must be revised without reliance on unsupported assumptions. Without a revised analysis, the Council and the public will be unable to determine whether the proposed action meets the requirements of the MSA's National Standards, particularly National Standards 1, 5, 7 and 8.

2. Impacts on harvesters and fishing communities.

Community impacts associated with the various alternatives relative to the status quo are impossible to understand from the information presented in the DEIS. Section 6.6 consists of many pages of general data, but that information not used to describe the impacts of each alternative, which is the objective of the analysis under NEPA. For example, the tables do not readily allow the reader to understand which communities are likely to be most affected by a portion of their fleet selling/buying quota due to inefficient operators leaving the fishery. The DEIS does not provide information on the at-risk classes of vessels by where they are homeported, owned, or where their crew are located, although such information is ascertainable. This fundamental information must be clearly described for each alternative to allow the reader to understand the impacts of each alternative relative to the status quo. Without it, the Council cannot "take into account the importance of fishery resources to fishing communities by utilizing

economic and social data that are based upon the best scientific information available" as required by National Standard 8. 50 C.F.R. § 600.345(a).

The DEIS should also identify which fishing communities would be negatively or positively impacted from the transfer of sector harvest privileges predicted to result from increased operating costs. The draft does provide information on homeport, sector, and vessel size class[6] but does not allow the reader to understand if the changes in those tables are driven by entry and exit or just overall changes in profitability. This information is crucial in light of the prediction in the DEIS that smaller/less efficient vessels are most likely to sell out to larger/more efficient operations.

Table 134 in the DEIS shows the cost and revenue of the fleets by vessel size class. This information is expanded upon in Table 1 below to show the increased costs for 100 percent coverage. The predicted burden from increased monitoring costs from the Preferred Alternative appears to be substantially higher than that borne by vessels in other monitored federal fisheries. Vessels in the 30' to <50' class are projected to spend 12.6 percent of their gross ex-vessel revenue on ASM costs. In comparison, the small boat fleet in the Alaska halibut and sablefish IFQ fisheries have been paying 1.25 percent of their gross ex-vessel revenue for observer coverage, and that amount is scheduled to increase to 1.65 percent based on recent North Pacific Council actions. In other words, the Preferred Alternative requires the 30' to <50' fleet to pay about 10 times the percentage of ex-vessel gross revenue as the IFQ fishery in Alaska. The two larger sectors will pay about 5 times the rate of the Alaska halibut and sablefish IFQ fishery. In terms of total costs without federal reimbursement, the smallest vessel class will incur about one-third of their total fishing cost to pay for ASM, the mid-size vessels one-fourth their total cost, and the largest vessels one-sixth of the costs they incur on ASM.

Table 1. Gross ex-vessel revenue and costs of 100 percent ASM for trips by vessel length category.
Source: Table 134 of the DEIS

Length Class	Gross Rev (mil. $2018)	ASM Cost (mil. $2018)	Cost of Ops (mil. $2018)	ASM as % of Gross Rev	ASM as % of Total Costs
30' to <50'	$14.3	$1.8	$3.4	12.6%	34.6%
50' to <75'	$24.1	$1.8	$6.0	7.5%	23.1%

[6] *See* Tables 128 through 135 of the DEIS.

Without a thorough analysis of the impacts on each of the affected communities, and on each class of vessel, the Council will not be able to consider the impacts of the proposed action on the sustained participation of fishing communities as required by National Standard 8. Nor can the Council or NMFS minimize the disclosure of adverse impacts on such communities by failing to use the best scientific information available. *See North Carolina Fisheries Ass'n v. Daley,* 27 F.Supp.2d 650, 661(E.D. Va. 1998) (invalidating flounder quota because of agency's "conscious refusal to recognize the economic impacts" of decreased quota which "call[ed] into question the agency's willingness to consider less severe alternatives.")

The reader also cannot ascertain from the information presented whether the Preferred Alternative is fair and equitable as the DEIS claims. The DEIS states:

> The Preferred Alternatives proposed in this action are expected to have substantial socioeconomic impacts. Monitoring coverage of 100 percent, much higher than past and current coverage levels, will be in place, which will result in higher operating costs than under past and current coverage levels. 100% monitoring coverage may be seen as overly burdensome by fishing communities. However, under 100% monitoring coverage enforceability and risk of non-compliance improve, which should improve the fairness and equitability of management measures. In the short term, impacts of 100% monitoring coverage on human communities could be reduced if federal reimbursements for monitoring costs and government subsidies are available. Impacts over the long-term will vary depending on whether federal reimbursements of monitoring costs will continue into the future."

DEIS at 4. Arguing that "fair and equitable" treatment is achieved by applying the same regulations to all harvesting components of the fishery is unreasonable. Much like the current federal tax codes do not apply the same income tax to all wage earners, because policy makers to not consider it to be fair to lower wage earners, applying the 100 percent trip coverage rate to all harvesters and requiring that they pay the daily coverage rate is not "fair and equitable". Sectors of the fleet that the DEIS expects to be forced to exit the fishery would not be receiving fair or equitable treatment under the Preferred Alternative. The "one size fits all" approach is only equitable using an irrational assumption that the federal government will indefinitely continue to reimburse harvesters for the cost of 100 percent monitoring.[7]

[7] Even if costs are reimbursed, harvesters must still pay the observer/ASM provider when the services are rendered. The lag time between when the observer provider must be paid and reimbursement may require participants to take out loans to cover the cost. The need for these types of loans and their cost to participants is not discussed in the DEIS.

3. Safety Considerations

The safety implications of each alternative must be analyzed and disclosed, but the draft does not do so. Safety is discussed in the DEIS only with respect to electronic monitoring. Each of the alternatives will create different incentives for participants, with different potential safety impacts. For example, the requirement to pay for ASM when the weather is bad could create incentives for a vessel to fish in poor weather conditions to minimize costs. Waiting out bad weather when an ASM or observer are on the vessel increases variable costs and create pressures to fish in marginal weather conditions because vessels are billed per day both for at-sea and for standby time during a trip. None of these impacts are considered in the DEIS. In order to enable the Council to determine the impacts of an alternative on safety, safety impacts must be analyzed and disclosed in a revised DEIS. Without this analysis, the Council cannot rationally choose an alternative that promotes the safety of life at sea, as required by National Standard 10.

4. Electronic monitoring.

The DEIS misleadingly and inappropriately presents electronic monitoring ("EM") as an alternative ASM system that could reduce ASM costs in the long run. Appendix IV states that

> [T]he audit model approach is suited to vessels with small amounts of discards where individual fish can be displayed to a camera for measurement, and documented by the captain on the eVTR…The maximized retention approach is better suited to larger volume vessels where discards for undersized fish (e.g., haddock) are more easily estimated by retaining the catch and sampling it at the dock as part of a dealer transaction. While the video footage is used to track compliance for both approaches, it is not currently used to estimate discards for vessels participating in maximized retention.

Implementing the maximum retention EM model would still require all fish to be delivered to shore to determine total removals of each species.

The DEIS acknowledges that the fleets catching groundfish do not have a viable EM program that may be implemented in the short term to achieve the goal of accounting for at-sea discards.[8]

[8] Because there is no viable EM program, it is legally questionable to include it as an alternative component. "Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using comment sense, rather than simply desirable".

Given the expected higher cost in the short term and the fact that a maximum retention EM model is currently not available, it is not a valid tool for sectors of the industry that are not profitable under the proposed 100 percent ASM coverage levels. Small vessels and marginal fishing firms will likely be forced to exit the fishery before a valid EM model can be implemented, and even then, the costs could be higher than human observers. As a result, the EM model is unlikely to provide any benefit to the sectors that are most at-risk from the proposed increased ASM costs. This impact is only obliquely recognized in the DEIS and the socio-economic consequences are not adequately disclosed.

The DEIS briefly mentions, but does not adequately analyze predicted short-term negative impacts with distributional results:

> Initial costs of installing EM may be high which may have negative impacts in the short term, but over the long-term EM may be more cost effective than human at-sea monitors. *Distributional impacts of allowing sectors to use EM as a sector monitoring tools are expected*, as vessels that participate more, or are more efficient, may have positive impacts as EM is cheaper than human observers for these vessels, and vessels that participate less may have negative impacts, as EM is less cost effective for these vessels.

DEIS at 4. (Emphasis added). Distributional impacts stemming from short term costs are significant, probably to the extent of forcing some participants to exit the fishery permanently. They must be candidly discussed and thoroughly disclosed in a revised draft.

5. Funding mechanisms.

In general, the DEIS impermissibly ducks the crucial issue of how to finance more intensive monitoring. The DEIS does not provide any analysis of how EM costs would be paid other referring to NOAA guidance[9] which states that sampling costs are the responsibility of the industry and include a wide variety of costs. Appendix VI[10] indicates the average annual estimated cost of the census model over the first five-years is about $8.57 million. The DEIS states that over the five-year period, 91% ASM coverage averaged $7.6 million annually. In either case, the cost to industry is substantially above the current estimate of about $1.5 million at 22 percent coverage.

CEQ, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, Question 2a.A.

[9] https://www.fisheries.noaa.gov/webdam/download/90619752

[10] https://s3.amazonaws.com/nefmc.org/Amendment-23_Appendix-VI_Monitoring-Cost-Efficiency-Analysis.pdf

Neither the ASM nor the EM options will result in monitoring costs that are less than five times the status quo levels.[11] Common sense dictates that federal funding to help offset those costs cannot reasonably be assumed to continue indefinitely. For all of these reasons, the DEIS underestimates the true cost to harvesters.

In sum, the DEIS hides the ball on the funding issue for both EM and human observers, a failure that is all the more egregious in light of numerous prior agency actions in this and other fisheries which have backed off from 100% monitoring coverage precisely because industry could not afford to implement it. As just one example, in litigation challenging the northeast regional standardized bycatch reporting methodology ("SBRM"), NMFS successfully defended its decision *not* to require 100% observer coverage because the incremental biological benefits of doing so did not outweigh cost concerns, and EM was "not a viable option." *See Oceana, Inc. v. Ross,* 275 F.Supp.3d 270, 290-91 (D.D.C. 2017)(Affirming NMFS' decision, the court found that "[p]lacing observers on all fishing trips, so that there would be no need to worry about differences between observed and unobserved trips, would be prohibitively expensive.") The DEIS makes no attempt to explain why a course of action NMFS deemed to be prohibitively expensive and only marginally useful in the same fishery a few years ago is now economically viable and compellingly beneficial.

If 100% coverage is not economically viable for all participants, the distributional and allocative impacts must be candidly and thoroughly addressed for each harvesting component and community. The socio-economic analyses must be completely revised to provide a transparent and understandable comparison of the economic impacts of all of the alternatives relative to each other and the status quo that can be weighed against the alleged biological and management benefits of increased coverage. *See* 40 C.F.R. § 1500.1(b) ("High quality" information and "accurate scientific analysis" must be "available to public officials and citizens before decisions are made and before actions taken.")

[11] The DEIS ignores 2019 costs for sectors which were substantially higher than in previous years. In addition, fishing year 2020 has a monitoring coverage target of 40%, not the 22% used in the DEIS based on old information. Thus the DEIS misrepresents the actual costs being incurred as part of the status quo.

B. The biological analysis is inadequate.

The DEIS does not provide evidence that supports a conclusion that substantially increased levels of monitoring will significantly improve groundfish stock assessments and management performance, the stated goals of the proposed action. Like the socio-economic analyses, the biological analyses appear to be based on unstated and factually unsupported assumptions. A key assumption is that the current level of monitoring results in under- or mis-reporting of catch at levels that are widespread and substantial enough to affect stock status. However, results from the Groundfish Plan Development Team analyses included in the DEIS do not provide evidence of substantial problems with catch reporting from the current groundfish monitoring program. On the contrary, several of the analyses suggest that illegal discarding, deliberate misreporting, observer effect, and discard incentives are variable across time, stock, and gear type, and impacts of these issues may not be driving factors in the uncertainty of stock assessments and management advice. "To take the required 'hard look' at a proposed project's effects, an agency may not rely on incorrect assumptions or data in an EIS." *Conservation Northwest v. Rey,* 674 F.Supp.2d 1232, 1249 (W. D. Wa. 2009) (citing 40 C.F.R. §1502.24).

The FACT Analysis shows these and other deficiencies in the DEIS analyses in detail. In summary, the FACT Analysis found that:

- The DEIS impact analysis focuses on fishing mortality and enforcement, which are unrelated to the stated purposes of improving the reliability of catch reporting in the commercial groundfish fishery catch;

- The DEIS does not provide evidence that the proposed changes in monitoring coverage targets will significantly improve groundfish stock assessments and management performance and therefore the reader cannot evaluate whether or not increased monitoring will prevent overfishing;

- Analyses included in the DEIS do not provide evidence that under-reported catch is a widespread or substantial problem in the groundfish fishery; and

- Analytical results in the DEIS and recommendations for further research from peer-review indicate that revised analyses are needed to determine the frequency and magnitude of under-reported catch.

Compounding the problem, the DEIS fails to acknowledge other sources of uncertainty that affect assessment and management, including recreational and state water catches, variations in natural mortality, impacts of survey catchability assumptions, shifting population distributions, or ecosystem changes. An EIS must candidly disclose any scientific uncertainty, and it must also disclose responsible scientific opinion in opposition to the proposed action, and make a good faith, reasoned response to it. *Sierra Club v. Bosworth,* 199 F. Supp.2d 971, 981 (N.D. Cal. 2002); *see also Environmental Defense c. U.S. Army Corps of Engineers,* 515 F.Supp.2d 69, 81 (D.D.C. 2007)(agency violated NEPA by failing to identify evidence supporting its model and ignoring information that would invalidate its conclusions). The DEIS does not adequately analyze and disclose scientific uncertainty and must be thoroughly revised.

C. Incomplete information compels the preparation of a revised DEIS.

The agency provides no justification in the DEIS why more definitive information about the trade-offs between more extensive catch data and cost concerns could not be provided. Nor does it candidly examine the extent and impact of any inaccurate catch reporting under the current level of monitoring. But NEPA requires more. NEPA prohibits *uninformed* agency action. *See Robertson*, 490 U.S. at 350-51. NEPA compels agencies to include all information relevant to an adverse impact where the "information is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are not exorbitant." 40 C.F.R. § 1502.22(a). The additional information outlined in the FACT Analysis and Appendix 1 is readily ascertainable without exorbitant cost, as illustrated by the Council's belated commission of the GMRI study. This key information must be examined and presented to the public in a revised DEIS.

The Council and NMFS cannot backfill the fatal deficiencies in the DEIS by preparing and presenting new, after-the-fact analyses not included in the DEIS, such as new analyses prepared by the Council's Plan Development team in an attempt to quantify bias, the GMRI study and "Fishing Vessel Profiles by Homeported State".. As an example, the Fishing Vessel Profiles repeated state that the profiles are based on information in the DEIS, referring to Table 24 in section 6.6.4 as a source. But Table 24 is based on vessel lengths and gives no home port information. Thus the state profiles are based on original work, not summaries of analyses in the DEIS. NEPA does not permit this kind of "hide the ball" process. "We find no indication in [NEPA] that Congress contemplated that studies or memoranda contained in the administrative record, but not incorporated in any way into an EIS, can bring into compliance an EIS that by itself is

inadequate. *Grazing Fields Farm v. Goldschmidt,* 626 F.2d 1068, 1072 (1st Cir. 1980). NEPA "expressly places the burden of compiling information on the agency so that the public and interested government departments can conveniently monitor and criticize the agency's action." If a DEIS does not disclose all relevant information relied upon for a decision, it improperly hampers "the flow of information to the public" and "would tend to mute those most likely to identify problems and criticize decisions." *Id.*

The collection of data needed to estimate total catch precisely by means of 100% coverage substantially increases costs to stakeholders and will have allocative effects as smaller, less efficient operators are forced out of the fishery. The Council must determine the point at which the costs of collecting additional data outweigh the benefits of the information on management of the program and the fishery stocks. Despite a lengthy DEIS, there are still critical information gaps that prohibit the Council from making a well-informed decision on the impacts of the proposed program relative to groundfish stocks, harvesters, and fishing communities.[12] Without a revised DEIS that provides the missing information, neither the Council nor stakeholders can determine whether the benefits of the proposed ASM increases outweigh the costs, particularly in light of the fact that some current (undefined) sectors are expected to become insolvent as a direct result of the Preliminary Preferred Alternative. "When preparing an EIS, the decision maker must, to the extent practicable, **provide the public with relevant environmental information and a meaningful opportunity to provide its views** for consideration by the agency." *Companion Manual for NOAA Administrative Order 216-6A* at 16, NOAA (Jan. 13, 2017) (emphasis supplied). The current DEIS and DEIS process do not meet this mandate.

IV. The Preferred Alternative does not comply with the National Standards.

The MSA requires an FMP and its amendments to be consistent with the MSA and "other applicable law." 16 U.S.C. §1854 (a) and (b). FMP amendments must also be consistent with the MSA's ten National Standards. 16 U.S.C. §1851(a). This means that NMFS must ensure that Amendment 23, in and of itself, complies with the National Standards. *See, e.g., Flaherty v. Bryson,* 850 F. Supp. 2d 38, 55 (D.D.C. 2012) (the MSA includes "a clear Congressional statutory command ... that NMFS shall review FMP amendments for compliance with all provisions of the MSA."). The national standards "are broadly worded statements of the MSA's objectives for all

[12] The fact that Section 8 "Data and Research Needs" in the DEIS is completely blank is further evidence of the DEIS' failure to consider all relevant information and disclose uncertainties.

fishery conservation and management measures" and their purposes "can be in tension with one another." *Lovgren v. Locke*, 701 F.3d 5, 32 (1st Cir. 2012).

NEPA requires an EIS "to state how alternatives considered in it and decisions made based on it will or will not achieve the requirements" of NEPA and "other environmental laws and policies" such as the MSA and the National Standard guidelines. 40 C.F.R. § 1502.2(d). As the discussion above demonstrates, the DEIS is so deficient that it cannot be used to make a reasoned comparison between alternatives with respect to the National Standards. However, even the flawed and incomplete information in the DEIS compels the conclusion that the Council's Preferred Alternative is not consistent with the National Standards or the goals and objectives of the FMP.

A. The Preferred Alternative is not consistent with the goals of the FMP or National Standard 1.

Every management action for a fishery must be consistent with the FMP for that fishery, and the goals and objectives for management must be identified in an FMP. 50 C.F.R. § 600.305(b)(1). In establishing objectives, fishery management councils must "balance biological constraints with human needs, reconcile present and future costs and benefits, and integrate the diversity of public and private interests." *Id.* Importantly, the objectives of an FMP "provide the context in which the Secretary [of Commerce] will judge the consistency of an FMP's conservation and management measures with the national standards." 50 C.F.R. § 600.305(b)(2).

In the multispecies FMP, the Council set the overarching management goal of maintaining the diversity and viability of the commercial fishery in addition to the goals of ending overfishing and rebuilding groundfish stocks. For example, Goal 2 of Amendment 13 was to ["c]reate a management system so that fleet capacity will be commensurate with resource status so as to achieve goals of economic efficiency and biological conservation and that encourages diversity within the fishery." *Northeast Multispecies Amendment 13 SEIS* (Dec. 18, 2003) at I-11. Objective 7 sought "[t]o the extent possible, maintain a diverse groundfish fishery, including different gear types, vessel sizes, geographic locations, and levels of participation." *Id.* These goals and objectives were affirmed in Amendment 16 when groundfish sectors were formed. *Northeast Multispecies FMP Amendment 16* (Oct. 16, 2009) at 67.

In Amendment 18, the Council stressed that management measures must promote fleet diversity in the groundfish fishery and enhance sector management. The Council again reaffirmed the goals of Amendment 13, and identified four goals for Amendment 18. The first was to "[p]romote a diverse groundfish fishery, including different gear types, vessel sizes, ownership patterns, geographic locations, and levels of participation through sectors and permit banks." *Amendment 18 to the Northeast Multispecies FMP and FEIS/IRFA* (August 12, 2016) at 30. The fourth goal was to "[p]revent any individual(s), corporation(s), or other entity(ies) from acquiring or controlling excessive shares of the fishery access privileges."

The FMP's goals are reflected in the "guiding principles" established in current regulations for the establishment of any new industry-funded monitoring program ("IFM").[13] The Council's development of an IFM program must consider or include the following:

(i) A clear need or reason for the data collection;

(ii) Objective design criteria;

(iii) Cost of data collection should not diminish net benefits to the nation nor threaten continued existence of the fishery;

(iv) Seek less data intensive methods to collect data necessary to assure conservation and sustainability when assessing and managing fisheries with minimal profit margins;

(v) Prioritize the use of modern technology to the extent practicable; and

(vi) Incentives for reliable self-reporting.

50 C.F.R. § 648.11(g)(1).

The Preferred Alternative meets none of these "guiding principles" and is contrary to the FMP's goals. As demonstrated by the FACT Analysis, the DEIS does not demonstrate a clear conservation need for the collection of data for 100% of trips, or articulate verifiable benefits from its collection. The socio-economic discussion in the DEIS makes it clear that 100% coverage would cause massive disruption in the fishery by forcing out smaller and part time participants,

[13] Amendment 23 is intended to be an IFM. Although finite federal funding is currently available to cover the costs that would otherwise be allocated to industry, there is no guarantee that government funding will be available in the future.

with quota transferred to larger operators in only a few communities. Consolidation from small to large vessels results in less diversity within the fishery. Implementing the Preferred Alternative, a program that is not designed to maintain the existing fishing communities, is counter to the FMP goals of maintaining and promoting fleet diversity in the groundfish fishery, and preventing the consolidation of excess shares of fishing privileges.

The disproportionate impacts of 100% ASM coverage on vessel size will change the economic structure of the industry by forcing small vessels out of the fishery and consolidating their fishing opportunities with larger vessels. This cannot be justified in light of the stated objectives of the FMP or the objectives of Amendment 23, both of which profess to value continued fleet viability and diversity. Nor would those effects be fair and equitable, also a stated goal of the proposed action. The DEIS attempts to ignore and/or obscure these facts. But the Council cannot "blind[] itself to the high likelihood that its actions" will cause a particular result. *Guindon v. Pritzker*, 31 F. Supp. 3d 169, 201 (D.D.C. 2014). *Com. of Mass. by Div. of Marine Fisheries v. Daley*, 10 F. Supp. 2d 74, 77 (D. Mass. 1998), aff'd sub nom. *Massachusetts ex rel. Div. of Marine Fisheries v. Daley*, 170 F.3d 23 (1st Cir. 1999) (holding NMFS violated the National Standards when it "ignored existing data" and "promulgated a regulation that [NMFS] knew, or should have known, would allocate fishing privileges in an inequitable manner.").

Because of these impacts, the Preferred Alternative cannot be found to provide optimum yield or the greatest overall benefit to the nation. *See* 50 C.F.R. § 600.310. National Standard 1 reflects the MSA's concurrent conservation and commercial purposes, requiring management measures to prevent overfishing "while achieving, on a continuing basis, the optimum yield from each fishery *for the United States fishing industry*." 16 U.S.C. §1851(a)(1) (emphasis added). The impact analyses in the DEIS do not consider risk of overfishing or exceeding ABCs and ACLs in relation to target coverage levels, therefore it is not possible for the Council or the public to compare the performance of the alternatives against the National Standard 1 guidelines.

The determination of optimum yield is a "decisional mechanism for resolving" the MSA's conservation and management objectives, achieving an FMP's objectives, "and balancing the various interests that comprise the greatest overall benefits to the Nation." 50 C.F.R. § 600.310(b)(2)(ii). In determining the greatest benefit to the nation, NMFS must weigh the competing values of food production, economic contributions by a fishery, recreational opportunities, and protecting marine ecosystems, including maintaining adequate forage for all

components of the ecosystem. *Id.* at § 600.310(e)(3)(iii)(A). Because of the lack of candor and crucial information in the DEIS, no determination can be made as to which of the other alternatives would achieve optimum yield, but it is plain that forcing 100% monitoring coverage on all harvesters regardless of size does not.

B. The Preferred Alternative is not supported by the best available information as required by National Standard 2.

National Standard 2 requires fishery management to be based on "the best scientific information available." 16 U.S.C. §1851(a)(2). National Standard 2 requires that "fishery regulations be diligently researched and based on sound science. The agency is not required to collect new data to meet this standard but it is required to consider and use all reliable data available at the time it is making a decision. If superior or contrary data is ignored, National Standard 2 is violated. As illustrated in the FACT Analysis and by the list of questions in Appendix 1, neither the economic or biological analyses in the DEIS use all of the reliable data and information necessary to make an informed choice among the alternatives under consideration. The Council and NMFS have no right to omit known information in order to skew the results of an analysis. *See Commonwealth of Massachusetts v. Daley,* 10 F.Supp.2d 74, 76 (D. Mass. 1998). In order to comply both with NEPA and National Standard 2, the Council must prepare and circulate a revised DEIS.

C. The Preferred Alternative is not consistent with National Standard 7.

Under National Standard 7, "[c]onservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication." 16 U.S.C. § 1851(a)(7). Management measures should not impose unnecessary burdens on the economy or individuals, and can be the reason to choose one alternative over another. 50 C.F.R. § 600.340(c)(Factors such as "the burdens of collecting data may well suggest a preferred alternative.") National Standard 7 sets both substantive and procedural requirements.

National Standard 7 guidelines establish the criteria for supporting analyses for FMP amendments. 50 C.F.R. § 600.340(d) provides:

> The supporting analyses for FMPs should demonstrate that the benefits of fishery regulation are real and substantial relative to the added research, administrative, and enforcement costs, as well as costs to the industry of compliance. In determining the benefits and costs of management measures,

> each management strategy considered and its impacts on different user groups in the fishery should be evaluated.

Moreover, management measures "should be designed to give fishermen the greatest possible freedom of action in conducting business." 50 C.F.R. § 600.340(d)(1). The type and level of burden placed on user groups by the proposed regulations must be identified. *Id.* "The analysis of benefits should focus on the specific gains produced by each alternative set of management measures, including the status quo." 50 C.F.R. § 600.340(d)(2).

National Standard 7 requires the Council and NMFS to give serious, informed consideration to significant, practical alternatives that minimize cost to harvesters. Failure to do so, and to provide a sufficient explanation for imposing more costly management measures, will invalidate a management measure. *See, e,g, Blue Water Fishermen's Ass'n v. Maneta,* 122 F.Supp.2d 150, 169-171 (D.D.C. 2000)(holding that NMFS violated National Standard 7 when it did not provide a reasoned or conservation-based justification for imposing monitoring costs on all permit holders regardless of areas fished).

The DEIS fails to show that the supposed conservation benefits of 100% coverage justify its costs. Nor does it allow the reader to ascertain clearly the types and levels of burdens placed on differently situated user groups. The DEIS does not adequately evaluate the impacts on differently sized vessels and part-time participants. Similarly, it makes no attempt to sufficiently analyze the effects of the redistribution of costs and other burdens according to vessel size. By jumping without support to the apparent conclusion that the conservation benefits of 100% coverage outweigh the crippling costs to small vessels, the Preferred Alternative ignores and is inconsistent with National Standard 7.

The Preferred Alternative, without explanation, abandons the agency's prior conclusions that the cost of 100% monitoring coverage is a burden that cannot be borne by this struggling fishery. Indeed, a decision to adopt the Preferred Alternative would be completely inconsistent with the decision in Amendment 16 *not* to establish certain management measures, including 100% monitoring, because of cost. In response to comments on Amendment 16, NMFS explained that "[s]ome management measures considered in Amendment 16 were not selected in part because of concerns over the costs and burdens of administering the program. The costs associated with 100-percent at-sea and dockside monitoring coverage were deemed to outweigh the benefits

expected from such measures. Therefore, this action minimized costs to the extent practicable, consistent with National Standard 7." 75 Fed. Reg. 18262,18291 (April 9, 2010).

If the Council and NMFS now perceive the benefits and burdens of 100% coverage differently than they did ten years ago, they must explain why they have changed their minds and base that decision on the best available scientific information.[14] An agency change in position is not valid unless the agency displays awareness of its change of position, examines the relevant data, and articulates a satisfactory explanation for its action. *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 514 (2009). No such explanation is provided in the DEIS, nor could it be. Ten years after the adoption of Amendment 16, the DEIS reveals that economic conditions in the commercial fishery are worse, not better, and does not support a change in agency position. The Preferred Alternative is completely inconsistent with National Standard 7's directive to minimize costs to harvesters.

D. The Preferred Alternative is not consistent with National Standard 8.

Under National Standard 8, "[c]onservation and management measures shall, consistent with the conservation requirements of [the MSA]..., take into account the importance of fishery resources to fishing communities by utilizing economic and social data" that meet National Standard 2's best scientific information available requirement in order to "(A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities." 16 U.S.C. § 1851(a)(8). The term "sustained participation" means continued access to the fishery within the constraints of the condition of the resource. 50 C.F.R. § 600.345(b)(4).

Under National Standard 8, the Council and NMFS are required to select the alternative that minimizes adverse economic impacts and provides the greatest potential for sustained participation of fishing communities. *Nat. Res. Def. Council v. Nat'l Marine Fisheries Serv*., 71 F. Supp. 3d 35, 65 (D.D.C. 2014); *see also, N. C. Fisheries Ass'n. v. Daley,* 27 F.Supp.2d 650 (E.D.

[14] In defending the SBRM, NMFS also asserted that observer bias was not significant, relying on a study (Rago 2013) that found only 1-4% difference in fishing behaviors when an observer was on board, and that discard rate for unobserved trips would need to be 5 to 10 times higher for total catch to exceed acceptable catch. *Oceana, Inc. v. Ross,* 275 F.Supp.3d at 290-91. The authors of the DEIS do not appear to have considered Rago 2013. As the FACT Analysis explains, the DEIS does not demonstrate that substantial observer bias is now present in the fishery.

Va. 1998) (holding that conservation factors do not override the required balancing against economic rights of commercial fishermen and fishing communities). The Preferred Alternative does not provide for the sustained participation of smaller vessels in the fleet due to the disproportionate impacts of ASM costs. Those smaller vessels are characteristic of select ports, such Gloucester or those in New Hampshire, which will sustain greater adverse economic impacts than ports hosting larger vessels, such as New Bedford. These disproportionate impacts on smaller vessels actually *maximize* the adverse economic impacts on these communities, directly contrary to National Standard 8's directive to *minimize* adverse impacts on such communities.[15]

It is clear that the Preferred Alternative would cause great economic harm and disruption, but it is impossible to ascertain from the EIS how the fishery would be reconfigured as a result. The Council cannot take further action based on the fatally flawed and incomplete economic analyses in the DEIS without violating National Standard 8. *See N. Carolina Fisheries Ass'n, Inc. v. Daley*, 16 F. Supp. 2d 647, 654 (E.D. Va. 1997) (holding NMFS violated National Standard 8 for failing to evaluate the economic impact of summer flounder quota); *N. Carolina Fisheries Ass'n, Inc. v. Daley*, 27 F. Supp. 2d at 661 (holding NMFS violated National Standard 8 by performing its economic analysis improperly). The Council must minimize adverse impacts to fishing communities. There is no showing that the Preferred Alternative would do so.

V. Conclusion

In summary, the DEIS does not comply with NEPA. The Council and NMFS are compelled to withdraw this fundamentally flawed DEIS in order to undertake a comprehensive and accurate analysis of the alternatives for ASM and its likely impacts to the environment, harvesters, fishing communities and the economy. No legally sound decisions about Amendment 23 can or should be made based on the present document. The DEIS must be revised and reissued in accordance with 40 C.F.R. § 1502.9 for at least the following reasons:

- The socio-economic and biological analyses rely on unproven assumptions that are not supported by the best available scientific information.

[15] To the extent that quota share is sold by affected operators and becomes concentrated in one state over another, the adoption of the Preferred Alternative may also violate National Standard 4.

- Available information does not support the DEIS' assumption that there is a widespread or substantial problem of under-reported catch in the fishery. Therefore the current range of alternatives and coverage targets are not based on any meaningful analysis.

- The socio-economic analysis entirely fails to adequately disclose the community impacts of the widespread harm to industry that the DEIS admits will be caused by substantially increased monitoring costs.

- The DEIS does not provide evidence that increased monitoring will significantly improve groundfish stock assessments and management. Therefore the Council and the public cannot determine whether and at what level increased monitoring would prevent overfishing.

- The relative merits of the alternatives are not rigorously examined and disclosed in the DEIS. It is impossible for the Council or the public to understand whether the goals and objectives of the program can be only be attained at 100% coverage or at some lesser level.

- The agency cannot cure the deficiencies of the DEIS by preparing new analyses and presenting them to the public during the public comment period. NEPA requires all relevant information to be disclosed in the DEIS.

As a result of these and all of the other deficiencies discussed in this analysis, the DEIS cannot be the basis for the Council to evaluate a proposed action's consistency with the National Standards. To the extent that even the incomplete information in the DEIS can be used to evaluate the Preferred Alternative, it is clear that the Preferred Alternative does not meet at least the following the National Standards and the requirements of the MSA:

- The Preferred Alternative would force an exit from the fishery by smaller and part-time operators, resulting in consolidation of quota share. This decrease in the diversity in the fishery is directly contrary to the goals of the FMP and Amendments 13, 16 and 18.

- There is no showing that the Preferred Alternative would provide optimum yield or the greatest overall benefit to the nation as required by National Standard 1.

- The DEIS does not provide the best scientific information available as required by National Standard 2.

- The Preferred Alternative does not minimize costs and would impose unnecessary burdens on the economy and individuals participating in the fishery, and is therefore inconsistent with National Standard 7.

- The Preferred Alternative would cause great economic harm and disruption, and does not minimize adverse impacts on fishing communities as required by National Standard 8.

NEPA compliance is not just a "check the box" exercise. An honest assessment of the benefits, risks and impacts from increased monitoring under each alternative is necessary under NEPA, followed by a meaningful opportunity for the public to comment on the assessment. Without such an assessment, it is impossible for the public or the Council to determine whether a proposed action is consistent with the MSA.

LRL/LRL

Appendix 2: Technical Review of Northeast Multispecies Fishery Management Plan Amendment 23 Draft Environmental Impact Statement

Fishery Applications Consulting Team

Tying science to management for sustainable solutions

Technical Review of Northeast Multispecies Fishery Management Plan
Amendment 23 – Draft Environmental Impact Statement

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July 2020

SUMMARY

Amendment 23 to the Northeast Multispecies Fishery Management Plan proposes changes to the monitoring program for the commercial component of the multispecies fishery. Fishery Applications Consulting Team reviewed the Amendment 23 Draft Environmental Impact Statement to assist the Northeast Seafood Coalition, Associated Fisheries of Maine, and other stakeholders with public comment for the amendment. The technical review concluded the following:

- The Draft Environmental Impact Statement (DEIS) for Amendment 23 does not reasonably compare the proposed alternatives to Status Quo or each other related to the defined Purpose and Need, as required by the National Environmental Protection Act (NEPA);
- The Impact Analysis is focused on fishing mortality and enforcement, which are not included in or directly related to the stated Purpose of the action (i.e., reliability and accountability of catch reporting in the commercial groundfish fishery to ensure precise and accurate representation of catch);
- The DEIS does not provide evidence that the proposed changes in monitoring coverage targets will significantly improve groundfish stock assessments and management performance;
- Analyses included in the DEIS do not provide evidence that under-reported catch is a widespread or substantial problem in the groundfish fishery; and
- Analytical results in the DEIS and recommendations for further research from peer-review suggest that revised analyses are needed to determine the frequency and magnitude of under-reported catch for the DEIS Impact Analysis and rationale for the proposed alternatives in Amendment 23, in accordance with Magnuson-Stevens Act National Standard 2 Guidelines on best scientific information available.

INTRODUCTION

Amendment 23 to the Northeast Multispecies Fishery Management Plan (FMP) proposes changes to the monitoring program for the commercial component of the multispecies fishery. While the action proposes *"improvements to the Northeast Multispecies (groundfish) monitoring program,"* the management alternatives are primarily focused on the industry-funded aspects of monitoring, including at-sea and dockside monitoring requirements. The amendment does not propose changes to the Standardized Bycatch Reporting Methodology (SBRM), the Northeast Fisheries Observer Program (NEFOP), the Marine Recreational Information Program (MRIP), or the Greater Atlantic Regional Fisheries data collection and analyses protocols as described by the Fisheries Dependent Data Initiative (FDDI). The alternatives for improving the monitoring program include a range of target monitoring coverage levels for both at-sea and dockside components to be funded by the commercial groundfish industry. The proposed target coverage levels range from Status Quo (determined by SBRM annually) to 100% with options for At-Sea Monitoring (ASM), Electronic Monitoring (EM) and Dockside Monitoring (DSM). The alternatives were developed based on analyses conducted by the Groundfish Plan Development Team (PDT), which examined discard incentives, illegal discarding, area reporting errors, and mismatch in fisheries independent data reports. In January 2020, the New England Fishery Management Council selected a monitoring coverage target of 100% of groundfish trips as the preferred alternative.

Fishery Applications Consulting Team (Fishery Apps) is an independent business specializing in science-based solutions for sustainable fisheries management. We provide consultation services to fisheries science, management and industry organizations. In consultation with the Northeast Seafood Coalition, we reviewed the Amendment 23 DEIS to aid in public comment for the amendment. The objectives of our review were to:

1) Determine if the proposed action and alternatives are reasonable to fulfill the requirements of the stated Purpose and Need of Amendment 23, in accordance with NEPA;
2) Determine if technical analyses used in support of rationale for alternatives meet Magnuson-Stevens Act National Standard 2 Guidelines; and
3) Provide interpretation of technical analyses included in the DEIS and associated Appendices.

Our review focused on two main aspects of the DEIS: 1) comparison of the proposed alternatives to the stated Purpose and Need for Amendment 23, including examination of the impacts to Valuable Ecosystem Components (VECs); and 2) evaluation of the technical analyses that support the range of alternatives, focusing on methods, results and key assumptions. Fishery Apps does not endorse any of the proposed alternatives for Amendment 23, but we provide a review focused on the technical aspects provided in the DEIS that form the basis for impact assessment.

EVALUATION OF ALTERNATIVES

The National Oceanic and Atmospheric Administration (NOAA) NEPA Handbook (NOAA, 2009) includes guidelines for developing an Environment Impact Statement (EIS). According to the Handbook, every EIS must contain a Purpose and Need statement that explains why the action is being considered, and which serves as an important screening criterion for determining which alternatives are reasonable. The stated Need for Amendment 23, as described in the DEIS, is to *"implement measures to improve the reliability and accountability of catch reporting in the commercial groundfish fishery to ensure there is*

precise and accurate representation of catch (landings and discards)." The Purpose of Amendment 23 is to implement *"measures that adjust the current monitoring program to improve accounting and accuracy of collected catch data."* The DEIS defines the terms included in the Purpose and Need as follows:

- Reliability – The ability of the groundfish monitoring program to consistently provide accurate estimates of total annual catch for each stock with a known level of precision. In the context of a monitoring program, reliability refers to the consistency in quality of catch data, so that there is confidence that estimates from the monitoring program can be used for catch accounting and stock assessment purposes. Reducing bias and improving accuracy in catch data increases reliability of the data.
- Accountability – An obligation to be held responsible for one's actions. In the case of a sector monitoring program, accountability holds all sectors and their members to the same standards, such as matching catches with equivalent units of quota. An effective monitoring program is one designed so that each sector is confident that participants within sectors and across all sectors are treated in a fair and equitable manner in terms of catch reporting requirements and ensuring catches do not exceed allocations.
- Precision – How much estimates of the same quantity differ from each other across multiple samples, due both to sample variation and sample size.
- Accuracy – The closeness of the estimated value of some quantity to its true value.

Amendment 23 also lists the Goals and Objectives of the groundfish monitoring program as defined and clarified in Frameworks 48 (NEFMC, 2013) and 55 (NEFMC, 2016). Amendment 23 proposes to maintain the current goals and objectives, but consider measures to better address Goal 1: *"improve documentation of catch,"* with specific objectives to: *"1) determine total catch and effort, for each sector and common pool, of target or regulated species; and 2) achieve coverage level sufficient to minimize effects of potential monitoring bias to the extent possible while maintaining as much flexibility as possible to enhance fleet viability."*

Although the Purpose and Goals of Amendment 23 are clearly described in the DEIS, it is not clear how the range of alternatives reasonably meet the Purpose and Goals. The impact analysis for each alternative does not assess the reliability or accountability of catch reporting but is instead focused on reductions in fishing mortality and 'enforceability and compliance'. Although reductions in fishing mortality may result from higher levels of monitoring coverage, this was not a stated purpose or goal of Amendment 23. Also, as stated in the DEIS, *"The purpose of enforcement activities is to inspect fishing operations for compliance with regulations and administer penalties if found in violation. This is distinct from the goals of monitoring systems, in which the purpose is to collect catch data for use in management and scientific processes. For example, the goal of the ASM program is to collect catch data for quota management, and while it may provide information useful to enforcement or encourage compliance, it is not designed as an enforcement tool."*

Fishing Mortality

Amendment 23 describes potential ways that fishing mortality could be reduced in response to higher monitoring coverage targets. A key assumption in the Impact Analysis is that current fishing mortality levels are exceeding scientific advice due to illegal discarding and misreporting of total catch. The analyses further assume that increasing monitoring coverage will reduce discard incentives and fishing mortality. Section 7.2 of the DEIS notes that *"biological impacts of the proposed range of alternatives are difficult to assess because we do not know the true amount of missing stock specific removals through time,"* and *"the many unknowns associated with improvements in monitoring makes the*

quantitative determination of biological impacts difficult if not impossible to predict." Despite the conclusion that predictions may be impossible, the DEIS predicts increasing positive biological benefits with higher monitoring coverage levels. Based on the contradictory statements in the document, it is not possible to reasonably compare impacts among the range of alternatives to the Purpose and Need for Amendment 23.

Although reducing fishing mortality is not a stated purpose or need of Amendment 23, it is a focal point in the Impact Analysis, possibly because overfishing has persisted for some groundfish stocks despite Annual Catch Limits (ACLs) that are intended to avoid overfishing (NEFSC, 2019). Underestimated catch can contribute to overfishing, but as described in Section 6.6.10.4 of the DEIS, the major problems in groundfish science and management that lead to continued overfishing are retrospective patterns in stock assessments. The DEIS states that, *"Missing catch may be contributing to the retrospective patterns that are present in the New England groundfish assessments. However, there is not sufficient evidence at this time to understand whether missing catch is the primary contributing factor to the retrospective problem. Further work is needed to determine whether non-stationarity (e.g., variable M* (natural mortality)*, changing catchability, etc.) may be contributing to the retrospective patterns that are present in the stock assessments."* Additionally, because Amendment 23 is solely focused on the federally permitted commercial groundfish fishery with no proposed measures for recreational or state-water fisheries, expected reductions in fishing mortality and improved accuracy of reported catch resulting from increased monitoring requirements will only apply to ~50% of the catch for principal stocks like Gulf of Maine cod and haddock. Changes in monitoring coverage targets in the commercial groundfish fishery are not expected to resolve retrospective patterns in stock assessments or perceptions of persistent overfishing.

Enforceability and Compliance

The Purpose and Need for Amendment 23 did not identify measures for improving enforceability or compliance. These issues are beyond the stated purpose of the action and, according to NEPA Guidelines, should not form the basis for assessing alternatives to meet the defined Purpose and Need. Despite this contradiction, the DEIS includes assessment of these issues and defines the following terms:

- Enforceability – The ability for enforcement officials (NOAA Office of Law Enforcement, OLE, or US Coast Guard, USCG) to detect and prosecute violations. Observers and dockside monitors are not enforcement agents but their records, which include observations of potential illegal activities, can be used by enforcement to identify and prosecute violations.
- Compliance – The extent to which participants' activities are in accordance with all rules and regulations. Actual compliance may vary substantially from the risk for non-compliance. True compliance in the fishery is unknown, and depends on a variety of socio-economic factors, including societal norms.

Input from NOAA OLE during development of Amendment 23 suggested that lack of resources for fishery enforcement is an ongoing challenge (Groundfish PDT Memo 3 May 2018). OLE representatives described that current enforcement activities do not differentiate between at-sea and dockside groundfish inspections, violations in 2017 represented approximately 2% of inspections, and their focus was on *"egregious violations or cases initiated by actionable intelligence."* The PDT's analysis of discard incentives (Appendix V, Attachment #1) includes details from the few OLE documented cases of illegal discarding in 2017 and 2018, including only twelve incidents. The attachment notes that most discarding incidents reported to OLE are generated from observer referrals, but most cases lack sufficient evidence for several reasons including the data collection process utilized by the observer program. These cases document that observers can generate enforcement investigations, but the lack of evidence to support

convictions does not support the conclusion that increased monitoring coverage levels will change unlawful discarding incident dispositions.

Despite the availability of data, there are currently no efforts by OLE to compare NEFOP reports to Dealer Reports as an independent verification of accuracy. OLE representatives suggested that this type of activity may be more appropriately conducted by the Northeast Fisheries Science Center (NEFSC) in cooperation with NOAA's Analysis and Program Support Division (APSD) due to the current OLE staffing resources. Section 6.6.10.7 of the DEIS includes a schematic representation of the current New England multispecies data, monitoring and enforcement system depicting several 'opportunities for enforcement' throughout the process. Based on input from OLE representatives, there is no evidence that enforcement activities will increase as a result of a change in monitoring coverage levels.

Although the DEIS states that compliance in the fishery is unknown, the analyses suggest increasing positive impacts from increased monitoring coverage. The method to assign compliance and enforceability scores, described as, *"a qualitative analytical approach based on assessing the risk of noncompliance and enforceability,"* assumes a direct relationship between high levels of monitoring and high levels of compliance with no supporting information to validate the assumption. However, this assumption is undermined by the stated acknowledgement that *"actual compliance may vary substantially from the risk of non-compliance,"* OLE's input about the *"self-policing construct of the sector management system"*, and the lack of convictions based on observer referrals. Enforceability and compliance are not included in the stated Purpose and Need of Amendment 23, and it is not clear from the DEIS how changes in monitoring coverage targets would improve enforceability to ensure compliance.

Maximize Value and Minimize Cost

Amendment 23's Purpose statement clarifies that *"it is the Council's intent that the catch reporting requirements are fair and equitable for all commercial groundfish fishermen, while maximizing the value of collected catch data, and minimizing costs for the fishing industry and the National Marine Fisheries Service."* The action includes an option for developing a review process to evaluate monitoring coverage rates that would establish metrics and indicators of how well the monitoring program improved accuracy while maximizing value and minimizing costs (DEIS Section 4.1.4.2). The DEIS states that the review process will be further developed after the Council selects a preferred alternative for sector monitoring standards that set coverage levels. An evaluation of alternative coverage rates that is based on metrics and indicators of how well the monitoring program improves accuracy while maximizing value and minimizing costs is necessary for determining which alternatives meet the defined Purpose and Need of Amendment 23. However, the proposed review of changes in the groundfish monitoring program implies that such a review has not been conducted. Therefore, the Impact Analysis cannot assess the alternatives in relation to maximizing value of data and minimizing costs in relation to the stated Purpose of Amendment 23.

REVIEW OF ANALYSES SUPPORTING AMENDMENT 23

Technical analyses for Amendment 23, developed by the Groundfish PDT in cooperation with the NEFSC and reviewed by a sub-panel of New England's Science and Statistical Committee (SSC), focused on incentives for illegal discarding, differences in fishing behavior between observed and unobserved trips, area reporting errors, and mismatch of Vessel Trip Reports (VTRs) and Dealer Reports. The DEIS includes several sections and appendices, which describe the analytical approaches and results in detail. Section

6.6.10.4 describes "Issues with Current Groundfish Monitoring Program" including discrepancies in catch reporting, stock assessment retrospective patterns, catch reporting collusion, and observer effect. The DEIS implies that increased monitoring coverage targets may reduce uncertainties associated with these issues resulting in indirect biological benefits from better management and assessment. Review of the technical analyses reveals that such biological benefits are highly uncertain, and conclusions are not well supported by the information provided in the DEIS. Several of the listed problems are not expected to be significantly improved with increased monitoring coverage.

Area Misreporting

The DEIS cites reports from the NEFSC and the USCG related to stock and statistical area reporting errors. Both reports suggest that area misreporting by stock, year, season and vessel is relatively rare, and a few vessels are responsible for most reporting errors. Palmer (2017) examined stock-area apportioning of catch as reported on VTRs with catch estimated by Vessel Monitoring System (VMS) data on both observed and unobserved trips between 2007 and 2016. He found that 80% of reporting errors were attributed to less than 25 vessels in a fleet of approximately 300 active vessels. The USCG examined over 60,000 groundfish trips occurring between 2011 and 2015 and found <1% that had potential deliberate area misreporting (USCG, 2019). Palmer (2017) also noted a decreasing trend in reported statistical area mismatch between VTR and VMS reports since 2010. He compared report agreement for trips with and without observers and concluded that trends and magnitude were similar, with increased agreement over time and only 4% difference in reports with an observer, suggesting little improvement in VTR area reporting practices from having an observer on board. Palmer (2017) concluded that investigating and monitoring of the vessels that substantially contribute to errors in stock-level landings could mitigate impacts of catch area reporting on stock assessments and in-season quota monitoring efforts. Based on the combined results of these reports, area misreporting is not a significant problem in the current monitoring program, and increased monitoring coverage across the entire groundfish fleet will not significantly improve area misreporting issues.

Kept Catch and Collusion

The DEIS describes potential reasons for discrepancies between VTR and Dealer reported landings, including low precision of visual estimates, differences between whole and dressed weights, and poor recollection of catch amounts. Additionally, the DEIS describes potential misreporting of landings on VTRs and potential for collusion between a dealer and vessel to misreport landings. A comparison of VTR and Dealer reported landings across nine species indicated that the majority of over and underreported VTR landings fall within 100 pounds of Dealer reported landings, suggesting reasonable diligence in self-reported catch and minimal impact on estimates of overall landings (DEIS Figure 9). The description of catch reporting collusion includes reference to a single offender from a unique and vertically integrated business. Based on these descriptions, misreporting of kept catch on VTRs and dealer collusion are not significant problems in the current monitoring program, and increased monitoring coverage will not significantly improve accuracy of reported kept catch.

Stock Assessment Retrospective Patterns

As described in the DEIS, underestimated catch may be one source of retrospective patterns in New England groundfish stock assessments. Retrospective patterns exist when estimates of some assessment parameter for a given time period trend in a systematic way as additional periods of data are added (Deroba, 2014). Retrospective patterns may be caused by one or a combination of several unknown sources, including changes in survey catchability (e.g., Georges Bank yellowtail flounder, Gavaris et al., 2005), changes in natural mortality (e.g., Gulf of Maine cod, NEFSC 2013), closed areas (e.g., Legault, 2009), stock mis-identification (Mayo and Terceiro, 2005), climate change (Szuwalski and

Hollowed, 2016), as well as under-reported catch. The appearance of retrospective patterns in groundfish assessments dates to the Days-at-Sea management period (e.g., Legault, 2009), before the existence of incentives for misreporting or illegal discarding described in the Impact Analysis. For example, substantial retrospective patterns were identified as a common problem in the 2005 Groundfish Assessment Review Meeting (e.g., Mayo and Terceiro, 2005), and stocks that had no trip limits or other incentives for illegal discarding or misreporting catch had significant retrospective patterns (e.g., witch flounder, Georges Bank yellowtail flounder, Gulf of Maine winter flounder). A recent comparison of the frequency and magnitude of retrospective patterns among global regions showed that retrospective problems in New England are far worse than those in Europe (ICES, 2020), where misreporting has been a persistent problem (Rijnsdorp et al., 2007), observer coverage is much lower (Uhlmann et al., 2014), and the recent EU discard ban incentivizes illegal discarding (Stokstad, 2019).

The DEIS describes efforts by NEFSC assessment scientists to quantify the magnitude of under-reported catch required to 'fix' retrospective patterns in some assessments. For example, it was estimated that the reported catch of witch flounder would need to be increased by 300-500% to fix the retrospective pattern (NEFSC, 2017). Similarly, catches of Georges Bank yellowtail flounder would need to be increased by 300-500% to remove the retrospective pattern in the assessment model formerly used to assess the population (O'Brien and Clark, 2014). The DEIS notes that retrospective patterns are present in assessment models for stocks that have relatively large quotas and low utilization rates, indicating that under-reported catch is not the driving factor for the error. The emergence of retrospective patterns in New England groundfish assessments before the current incentives for misreporting, as well as the number of stocks with a retrospective pattern and the magnitude of the patterns compared to those from fisheries with low observer coverage and underestimated catch, indicate that increasing the monitoring coverage target in the commercial groundfish fishery will not resolve retrospective patterns.

Incentives for Illegal Discarding

Appendix V to the DEIS describes the Groundfish PDT's approach to model discard incentives for groundfish stocks. The PDT's analysis is based on the expectation that incentives for illegal discarding increased with the implementation of the sector management system. The model-based estimates of discard incentives suggest that the incentive to discard was limited to a small portion of trips for a few stocks in a few years. The results show that median discard incentives were negative for all stocks in all years, and frequencies of trips with positive discard incentives were low (DEIS Appendix V Figure 3, page 12).

Specifically, results show that the annual average proportion of trips with positive discard incentives during the sector management system (2010-2017) was:

- (<1%) for Georges Bank East haddock, Georges Bank West haddock, Georges Bank winter flounder, pollock, redfish, southern New England-Mid Atlantic winter flounder, and white hake;
- 1% to 2% for Georges Bank West cod, Gulf of Maine haddock, Gulf of Maine winter flounder, American plaice, and witch flounder;
- 4% for Cape Cod-Gulf of Maine yellowtail flounder and Southern New England-Mid Atlantic yellowtail flounder;
- 7% for Georges Bank yellowtail flounder;
- 8% for Gulf of Maine cod; and
- 10% for Georges Bank East cod (DEIS Appendix V Section 1 Figure 8, page 17).

The positive reports of landings for trips that had positive incentives for illegal discarding (e.g., Gulf of Maine cod in 2016) provide evidence that predicted incentives do not necessarily imply noncompliance. The SSC-sub panel review concluded that, *"The analysis is not able to estimate the frequency of trips or magnitude of catch that may be subject to positive discard incentives and thus cannot quantify the magnitude of the problem."*

Differences in Fishing Behavior Between Observed and Unobserved Trips

The Groundfish PDT evaluated the 'observer effect' for the Northeast groundfish fishery, as described in Appendix V to the DEIS. Observer effect is a term used to describe differences in fishing behavior in response to carrying a fishery observer onboard the vessel, including fishing location, target species, trip duration, gear configuration, discarding practices, etc. The PDT applied a published method (Benoit and Allard, 2009) to detect differences in fishing behavior between observed and unobserved trips.

Results showed that observed trawl trips generally fished for less time, landed less fish overall and less high value groundfish stocks in some years compared to unobserved trips. However, significant differences between observed and unobserved trips were also seen during the Days-At-Sea management period (2007-2009) when the PDT analysis did not find any positive incentives for illegal discarding. For example, significant differences were shown for trawl kept catch, trawl revenue, and groundfish average price on trawl trips, as well as gillnet trip duration, total revenue, kept groundfish, groundfish average price and number of groundfish market categories from gillnet trips prior to the implementation of the sector management system. Therefore, results from this method suggest potential for illegal discarding when it was not expected to occur and appear to be 'false positives' for detecting an observer effect. The significance of differences did not account for false positives in the number of comparisons (i.e., with 32 tests, 5% significance would be based on 99% confidence limits), and the statistical test that was applied (Kolmogorov-Smirnov test) is known to produce more false positives than intended with 5% significance (Mason and Schuenemeyer, 1983).

The SSC-sub panel noted that, *"since a key difference is shorter duration of unobserved trips, this may explain at least part of the differences in other variables such as kept catch,"* and, *"that if all detected differences are stemming from shortened trip duration then there is no behavioral change that regulators need to be concerned about."* The SSC strongly recommended that tested indicators be standardized by trip duration, but no additional analysis on this topic was presented in the DEIS. Therefore, it cannot be concluded that the observer effect impacts catch reliability or accountability.

Predicting Gulf of Maine Cod Catch on Groundfish Sector Trips

To quantify catch from unobserved trips, the Groundfish PDT developed predictive models for cod catch based on data from observed trips in the Gulf of Maine stock area. The models accounted for total kept catch, vessel size, trip length, as well as spatial and temporal covariance in catch. Intrinsic prediction error (predicting the observed trip used to develop the model) ranged from 2-13%, and extrinsic prediction error (comparing model predictions to data from observed trips that are not included in model development) was not evaluated. Models were then used to predict total cod catch on unobserved trips in 2011, 2013, 2015 and 2017 for trawl and gillnet gear.

Comparisons of model predictions to reported catch varied widely and did not provide useful information related to evidence of illegal cod discarding. For two of the four years (2013 and 2015), predicted cod catch from unobserved trawl trips was less than reported catch, and for the other two years analyzed, predicted catch from unobserved trips was between 13-15% (15% greater for 2011 and 13% greater for 2017), similar to the intrinsic prediction error. For gillnet trips, the model prediction of

cod catch from unobserved trips was within the prediction error for two years (1% greater than reported in 2011, 9% greater than reported in 2013), and the reported catch was outside the model predictions for unobserved catch in 2015 and 2017 (41% greater than reported catch in 2015, and 68% greater than reported catch in 2017). Reductions in effort and observer coverage across time increased uncertainty for models from later years, specifically the sample size of observed trips for gillnets was nearly an order of magnitude smaller in 2017 compared to 2011. Some model results did not correspond with the PDT's estimates of incentives for illegal discarding. For example, discard incentives were apparently greatest in 2015 (e.g., 28% of trips had a positive discard incentive), but reported trawl catch from unobserved trips was greater than the model prediction in 2015, suggesting no illegal discarding.

Predictive models were also developed for pollock, for which there were no apparent incentives for illegal discarding. For example, a small portion of the pollock allocation was caught in the years that were modeled (utilization ranged from 20% in 2015 to 49% in 2011, DEIS Table 50), so there was little incentive for illegal discarding. However, comparisons of model results to reported catch of pollock were similar to those for cod, which had some of the greatest discard incentives. Predicted pollock catch was less than reported catch from unobserved trawl trips for three of the four years, whereas predicted pollock catch from unobserved gillnet trips was more than reported catch in all years (ranging from 23% to 186% greater), suggesting illegal discarding of pollock when there were no discard incentives. Based on the results of cases in which predicted catch was less than reported catch on unobserved trips, in combination with model prediction error and lack of correspondence with estimated discard incentives, the model predicted estimates of illegal discarding cannot be considered reliable.

Comparison of Catch Rates on Observed and Unobserved Trips

As described in Appendix V to the DEIS, the Groundfish PDT compared catch rates (landings per days absent, and stock landings per total catch) to determine if observed trips were representative of unobserved trips. The analysis and interpretations assumed that differences in catch rates did not result from an 'observer deployment effect' (nonrandom selection of trips for observer deployment), but the assumption was not validated by an investigation of deployment effect. Differences in fishing power among trips (e.g., vessel size, horsepower, gear, season, location) were not standardized as recommended in Appendix II to the DEIS (Fishery Data for Stock Assessment Working Group Report and SSC Sub-Panel Peer Review Report). For example, catch rates of observed vessels would be lower if there was greater observer coverage of smaller, inshore vessels. Therefore, the reported differences between observed and unobserved trips do not necessarily indicate observer effects and cannot be used to estimate the magnitude of illegal discarding.

Many of the reported differences between observed and unobserved catch rates did not correspond with the Groundfish PDT's estimates of discard incentives. For example, catch rates on observed trips were substantially greater than those from unobserved trips for some stocks and years when there were no apparent discard incentives (i.e., no trips with positive incentives and low utilization of catch allocations according to DEIS Table 50). A comparison between the results of Appendix V Section I to Section IV showed the disparity between discard incentives and observer effect, specifically:

- Gulf of Maine winter flounder – 2014, 2016 and 2017 (17% utilization);
- Georges Bank yellowtail flounder – 2015 (19% utilization);
- Pollock – 2014 and 2017 (29% utilization);
- White hake – 2014, 2016 and 2017 (39% utilization);
- Georges Bank winter flounder – 2015 (45% utilization);
- American plaice – 2011 and 2012 (50% and 45% utilization);

- Gulf of Maine haddock – 2011 and 2012 (58% and 34% utilization);
- Cape Cod-Gulf of Maine yellowtail flounder – 2015 (81% utilization); and
- Gulf of Maine cod – 2012 (85% utilization);

The differences in catch rates did not suggest that they result from illegal discarding. The SSC-sub panel review noted that *"there is unequal sample size between observed and unobserved trips… that could result in unequal variance that would challenge the ability to draw robust conclusions about an observer effect."* The SSC recommended *"further research to strengthen the robustness of this analysis*."

Estimates of Illegal Discarding

The SSC-sub panel review report included in Appendix V to the DEIS, provided conclusions about the Groundfish PDT's analyses. The panel concluded that, *"The analyses do not quantify the magnitude of the problem of unaccounted discards. Both PDT analyses reviewed could be used to provide estimates of the total quantity of unreported discards relative to annual catch limits (ACL) or ABCs with some additional refinement."*

In order for the Council to use the Groundfish PDT analyses included in Appendix V, the SSC-sub panel review recommended: *"First, if the percentage of the ACL that is discarded on unobserved trips is not large (e.g., less than 10%) then it might be feasible to use the Section 3 (Methods to predict groundfish catch in the presence of observer bias) approach to estimate discards on unobserved trips and use this to determine an appropriate buffer between the ABC and ACL to account for management uncertainty. Second, if discards are a large proportion of the ACL, then the above approach is unlikely to be successful and may be counterproductive…. In this situation, rather than attempting to estimate the discards, the analysis reviewed in Section 1 (Methods to explore discard incentives of groundfish stocks) suggests that there may be a need for increased monitoring and enforcement or increased penalties to deter illegal discarding."*

Subsequent to the SSC-sub panel review, the Groundfish PDT examined estimates of illegal discarding as described in DEIS Section 7.2.1.1 Sector Monitoring Standards. Contrary to the SSC recommendation that predicting catch in the presence of observer bias is "*unlikely to be successful and may be counterproductive*" if discards are expected to be a large proportion of the ACL, the PDT attempted to quantify the magnitude of illegal discards. To calculate the total catch, catch rates (landings per days absent) from a 'reference year' that had no suspected illegal discarding were applied to fishing effort (days absent) in a 'target year' that had similar stock size as the reference year and included suspected illegal discarding. The estimate of illegal discards was calculated as the predicted catch from this approach minus the reported catch. The PDT *"cautioned against interpretation of the magnitude of the differences and indicated that the results were not likely an accurate estimation of the true extent of the potential missing removals."*

The approach was applied to Gulf of Maine cod, using 2012 and 2013 as reference years, when the ACLs were less constraining, compared to a target year of 2018, when the ACL was considered constraining, but stock size estimates were similar to the reference years. The results suggested a *"possible upper bound multiplier of 2.3 times Gulf of Maine cod landings, …~498mt of missing landings (or missing legal-sized discards)."* These results assumed constant fishing power for the reference years and the target year. As documented throughout the DEIS as well as in previous Amendments and Framework Adjustments to the Northeast Multispecies FMP, there were profound changes to the groundfish fleet and fishing behavior between 2013 and 2018. For example, Table 15 of the DEIS reports a reduction of nearly one-third of the active vessels between the reference and target years. Table 18 reports that

fishing effort (trips) by gear changed substantially, with a large reduction in the proportion of total trips with gillnet gear (34% and 27% of total trips used gillnets in 2012 and 2013 compared to 18% of total trips in 2018) with commensurate increases in the proportion of trawl and extra-large mesh trips. Additionally, fishing decisions have been impacted by changes in groundfish ACLs. For example, fishermen may decide that their business model is not profitable and either leave the fishery, lease quota, or modify fishing behavior by changing fishing locations or seasons. Targeting and avoidance behavior has also changed over time with increased avoidance of certain species and stocks. Given the many, and often abrupt, changes to the multispecies ACLs between 2012 and 2018, it is unreasonable to assume that fishery selectivity was constant over that period. Assuming that the difference in catch between the reference and target years is solely attributable to illegal discarding could result in greatly overestimating the magnitude of discards. Based on the differences in the groundfish fleet between 2012-2013 and 2018, the assumption of constant fishing power is not valid, and the results are inconclusive about the magnitude of discards.

CONCLUSIONS

The DEIS for Amendment 23 does not reasonably compare the proposed alternatives to Status Quo or each other related to the defined Purpose and Need, as required by NEPA. The analysis focuses on reductions in fishing mortality and enforceability and compliance, rather than the stated purpose of improving reliability and accountability of catch reporting. The Impact Analysis does not, with any level of certainty, determine the biological or social and economic impacts of the proposed alternatives in relation to this purpose. Additionally, the impact analysis does not assess the alternatives in relation to maximizing value of data and minimizing costs. The alternatives and analyses do not clearly describe how the value of data could be maximized compared to status quo, and the proposed target coverage levels are not assessed in relation to the action's objective to "*achieve coverage level sufficient to minimize effects of potential monitoring bias to the extent possible while maintaining as much flexibility as possible to enhance fleet viability."* The impact analyses did not consider risk of overfishing or exceeding ABCs and ACLs in relation to target coverage levels, therefore it is not possible to compare the performance of the alternatives against Magnuson-Stevens Act National Standard 1 Guidelines.
The information in the DEIS about fishing mortality and enforcement may be useful towards an understanding of possible secondary benefits of the proposed alternatives but should not serve as substitute analyses of the stated purpose of the action. The DEIS is not conclusive about the benefits associated with reduced fishing mortality or enhanced enforcement resulting from the proposed alternatives. The DEIS states that quantitative determination of biological impacts may be impossible to predict due to the many unknowns associated with improvements in monitoring. Furthermore, input from NOAA's OLE suggests that despite the current ability to use monitoring information to enhance enforcement activities, lack of staffing has prohibited this type of analysis, and that when observer reports have been used for enforcement purposes, they typically lack the required evidence needed for investigations.

The DEIS does not provide evidence that the proposed changes in monitoring coverage targets will significantly improve groundfish stock assessments and management performance. The proposed measures include changes to monitoring coverage targets for the federally permitted commercial groundfish fishery. The measures do not address several major sources of uncertainty that affect assessment and management, including recreational and state water catches, variations in natural mortality, impacts of survey catchability assumptions, shifting population distributions, or ecosystem changes. Accurate catch estimates are an important component of effective science and management

systems but results from the Groundfish PDT analyses included in the DEIS do not provide evidence of substantial problems with catch reporting from the current groundfish monitoring program. On the contrary, several of the analyses suggest that illegal discarding, deliberate misreporting, observer effect, and discard incentives are variable across time, stock, and gear type, and impacts of these issues may not be driving factors in the uncertainty of stock assessments and management advice.

Although the DEIS focused on impact assessment related to assumptions about under-reported catch, the analyses included in Appendix V do not suggest that under-reported catch is a widespread or substantial issue in the groundfish fishery. Based on the information provided in the DEIS, underreporting of kept catch on VTRs is not extensive or deliberate, there have been relatively few fishing trips that had incentives for illegal discarding, the metrics used to detect and estimate illegal discarding produced many false positives (indicating illegal discarding for stocks when there were no discard incentives), and the magnitude of illegal discarding and the effectiveness of mitigation with increased monitoring coverage are unknown. The Groundfish PDT conducted a considerable amount of analyses and used several creative methods to evaluate the questions of discard incentives and observer bias. These analyses provide useful context to compare the discard incentives and observer effect biases before and after the implementation of the sector management system. However, as noted by the SSC-sub panel review report, *"the analyses do not quantify the magnitude of the problem of unaccounted discards,"* and *"unaccounted mortality from the fishery is one of several contributors to issues in our understanding of groundfish populations."* Analytical results in the DEIS and recommendations for further research from peer-review suggest that revised analyses are needed to determine the frequency and magnitude of under-reported catch for the DEIS Impact Analysis and rationale for the proposed alternatives in Amendment 23, in accordance with Magnuson-Stevens Act National Standard 2 Guidelines on best scientific information available.

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Appendix 3: Amendment 23 DEIS Economic Review

Amendment 23 DEIS Economic Review

The DEIS focuses on the tradeoffs of the proposed action in terms of costs to the fleets and benefits to various stakeholders. National Standard 7 of the MSA directs that *"conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication"*.

Costs to the fleet are described in terms of increased costs that directly result from additional monitoring. Benefits are described as increased gross ex-vessel revenue, fairness associated with more equal compliance with regulations, and more accurate discard and landings data. While both costs and benefits are discussed, neither are presented in the DEIS in a way that allows the reader to verify the stated conclusions are factual or accurate. The DEIS should be modified before the amendment is approved to allow the reader to clearly understand whether the goals and objectives of the program are being achieved under the Preliminary Preferred Alternative of ASM 100 percent of trips.

Specific information that is required to understand whether the goals and objectives of the program are being met are described below and presented in the general categories of revenue impacts, community impacts, safety impacts, and electronic monitoring.

Revenue Impacts

Estimated revenue changes that directly result from increased monitoring are a critical component of the DEIS and the conclusions that are presented. Revenue changes are considered in terms of changes in gross ex-vessel revenue and net ex-vessel revenue. The analysis concludes that increasing monitoring to cover 100 percent of the trips will increase gross ex-vessel revenue to the fleets and increase variable trip costs.

The conclusion that gross ex-vessel revenues will increase relative the status quo is counter-intuitive and is not explained satisfactorily, in terms of the assumptions needed to reach that conclusion, so the reader can determine the accuracy of the conclusion. Because gross ex-vessel revenue is the ex-vessel price of the fish sold multiplied by the quantity of fish sold, increases in gross ex-vessel revenue can only be realized if the ex-vessel price or quantity of fish sold increases, relative the status quo. The changes proposed under this action are not expected to cause changes in the ex-vessel price. Factors that impact prices, are decreases in the supply of fish, the quality of fish delivered, and demand for the fish. These factors should not be influenced by changes in ASM. Assuming that changes in ex-vessel prices are not driving the increase in gross ex-vessel revenue, the authors must have concluded that increases in the quantity of fish delivered, as a result of increased monitoring, will cause the gross revenue to increase. As stated in the Executive Summary, *"Eliminating the management uncertainty buffers for sector ACLs for allocated stocks results in higher operating costs since 100% monitoring coverage required for this option; however, revenues are maximized relative to other monitoring options in this action, maximizing operating profits relative to the other 100% monitoring options."* It is assumed that revenues referenced in the above statement are gross ex-vessel revenues and operating profits are net revenues (that do not include opportunity costs).

Restating the quoted paragraph, it means that increasing monitoring to cover 100 percent of all trips will result in the following:

1. Fishery managers will release the uncertainty buffer[1] that accounts for 3 percent to 7 percent of ABC depending on the species.
2. Some or all of the uncertainty buffer will be harvested and sold, resulting in an increase the total amount of fish sold. Assuming relatively constant prices the gross ex-vessel revenue will increase and to some extent off-set the increased variable costs associated with 100 percent monitoring.

There are several factors that should be accounted for that could cause a decrease in gross ex-vessel revenue and not the increase that is predicted in the DEIS.

1. It is assumed that fishermen are trying to maximize profits under the current fishing structure. In doing so they are making rational decisions that allows them to land fish as long as it increases profits. Increasing the cost of a trip could reduce catches in marginal fisheries, leading to reduced gross ex-vessel revenue.
2. Based on the historic catch and delivery data presented in Table 1. Less than 25 percent of the combined ACLs have been caught over the years 2011 through 2019[2]. The range for individual ACL groupings ranges from about 5 percent to 84 percent. Indicating that even before the uncertainty buffer is released there is still a substantial amount of fish that are left unharvested, including species that could limit the catch of other species. Given these current conditions, it appears that releasing the uncertainty buffer may not increase the amount of fish caught and, therefore, not increase the gross ex-vessel value.
3. If unreported discards of fish are occurring, and those amounts are within the amount of the ACL before the uncertainty buffer is released, releasing the uncertainty buffer would not impact fishery closures or gross ex-vessel revenue; if those discards are occurring at a level that would cause fisheries to close sooner than are currently being realized, it would reduce gross ex-vessel revenue because the total amount of fish delivered would decline. The discussion in this section does not attempt to account for any change in future ACLs that may result directly from changes in accounting for discards since it was not presented in the DEIS.

Since one of the primary findings of the DEIS is that gross ex-vessel revenue will increase as a direct result of imposing 100 percent monitoring of trips and those revenues will help off-set the increased cost of monitoring, the analysis and assumptions that drive that conclusion must be clearly stated in the DEIS. Without that information the conclusions stated in the DEIS cannot be determined to be accurate and may be inaccurate or misleading.

Community Impacts

Community impacts associated with the action alternatives relative to the status quo are difficult to understand. While there are a lot of general data presented in the community section (Section 6.6) it is difficult to link that information to the impacts of the proposed analysis, which is the objective of the analysis. For example, the tables do not readily allow the reader to understand which communities are likely to be most affected by a portion of their fleet selling/buying quota as a result of inefficient operators leaving the fishery. The authors do not provide information on the at-risk classes of vessels by where the are homeported, owned, or where their crew are located. This information should be presented for each alternative to allow the reader to understand the impacts of each alternative relative to the status quo.

[1] 5% of the ABC by default, and for stocks with less uncertainty it is set at 3% (no state water catch), for stocks with more it is set at 7% (zero possession and discard only stocks)
[2] The 2019 data presented are through March 17, 2020 and the fisheries run through the end of April, so the data should be considered incomplete.

The analysis does state that *"the preferred alternatives proposed in this action are expected to have substantial socioeconomic impacts. Monitoring coverage of 100 percent, much higher than past and current coverage levels, will be in place, which will result in higher operating costs than under past and current coverage levels. 100% monitoring coverage may be seen as overly burdensome by fishing communities. However, under 100% monitoring coverage enforceability and risk of non-compliance improve, which should improve the fairness and equitability of management measures. In the short term, impacts of 100% monitoring coverage on human communities could be reduced if federal reimbursements for monitoring costs and government subsidies are available. Impacts over the long-term will vary depending on whether federal reimbursements of monitoring costs will continue into the future."*

Arguing that "fair and equitable" treatment is achieved by applying the same regulations to all harvesting components of the fishery is subjective. Much like the current federal tax codes do not apply the same income tax to all wage earners, because it is not considered by policy makers to be fair to lower wage earners, it could be argued that a applying the 100 percent trip coverage rate to all harvesters and requiring that they pay the daily coverage rate is not "fair and equitable". Sectors of the fleet that the analysis acknowledges are expected to be forced to exit the fishery may not be receiving fair or equitable treatment under the proposed action. The one size fits all approach only seems to work when it is assumed that the federal government will continue to reimburse harvesters for the cost of 100 percent monitoring. These payments are not guaranteed unto the future and may not exist the when the proposed management measures are implemented. Even when costs are reimbursed the harvesters must still pay the observer/ASM provider when the services are rendered. The lag time between when the observer provider must be paid and the harvesters are reimbursed may require that harvesters access loans to cover the cost. The need for these types of loans and their cost to firms are not discussed in the analysis and tend to underestimate the true cost to harvesters. Implementing a program that is not designed to maintain the existing fishing communities is counter to the goal of maintaining fleet diversity in the groundfish fishery.

The analysis should identify which fishing communities would be negatively or positively impacted from the transfer of sector harvest privileges that result from increased operating costs. The analysis does provide information on homeport, sector, and vessel size class[3] but does not allow the reader to understand if the changes in those tables are driven by entry and exit or just overall changes on profitability of firms in the industry. This information is important because the DEIS indicates that smaller/less efficient vessels are most likely to sell out to the larger more efficient operations. Table 134 in the DEIS shows the cost and revenue of the fleets by vessel size class. That information is expanded in Table 1 to show increased costs that are projected to achieve 100 percent coverage. Vessels in the 30' to <50' class are projected to spend 12.6 percent of their gross ex-vessel revenue on ASM costs. For comparison, the small boat fleet in the Alaska halibut and sablefish IFQ fisheries have been paying 1.25 percent of their gross ex-vessel revenue for observer coverage and that amount is scheduled to increase to 1.65 percent based on recent Council actions. In other words, the preferred alternative requires the 30' to <50' fleet to pay about 10 times the percentage of ex-vessel gross revenue as the IFQ fishery in Alaska. The two larger sectors will pay about 5 times the rate of the Alaska halibut and sablefish IFQ fishery. In terms of total costs without federal reimbursement, the smallest vessel class will incur about one-third of their total fishing cost to pay for ASM, the mid-size vessels one-fourth their total cost, and the largest vessels one-sixth of the costs they incur on ASM.

[3] See Tables 128 through 135 of the DEIS

Table 1Gross ex-vessel revenue and costs of 100 percent ASM for trips by vessel length category

Length Class	Gross Rev (mil. $2018)	ASM Cost (mil. $2018)	Cost of Ops (mil. $2018)	ASM as % of Gross Rev	ASM as % of Total Costs
30' to <50'	$14.3	$1.8	$3.4	12.6%	34.6%
50' to <75'	$24.1	$1.8	$6.0	7.5%	23.1%
75' +	$32.5	$2.0	$9.8	6.2%	16.9%

Source: Table 134 of the DEIS

Safety Considerations

Safety is discussed in the DEIS in terms of the benefits of EM. The DEIS is incomplete because it should also discuss that the requirement to pay for ASM when the weather is bad could create incentives for a vessel to fish in poor weather conditions to minimize costs. Waiting out bad weather when an ASM or observer are on the vessel increases variable costs and create pressures to fish in marginal weather conditions because vessels are billed per day both for at-sea and for standby time during a trip.

Electronic Monitoring

Electronic monitoring (EM) is referenced in the analysis as an alternative ASM system that could reduce ASM costs in the long-run. Appendix IV states that *"the audit model approach is suited to vessels with small amounts of discards where individual fish can be displayed to a camera for measurement, and documented by the captain on the eVTR…The maximized retention approach is better suited to larger volume vessels where discards for undersized fish (e.g., haddock) are more easily estimated by retaining the catch and sampling it at the dock as part of a dealer transaction. While the video footage is used to track compliance for both approaches, it is not currently used to estimate discards for vessels participating in maximized retention."* Implementing the maximum retention EM model would still require that all fish are delivered to shore to determine total removals of each species.

Currently the fleets catching groundfish do not have a viable EM program that may be implemented in the short-term to achieve the goal of accounting for at-sea discards. Given the expected higher cost in the short-term and the fact that a maximum retention EM model is currently not available, it may not be a valid tool for sectors of the industry that are not profitable under the proposed 100 percent ASM coverage levels. Small vessels and marginal fishing firms could be forced to exit the fishery before a valid EM model can be implemented and even then, the costs could be higher than human observers. As a result, the EM model is unlikely to provide any benefit to the sectors that are most at-risk from the proposed increased ASM costs. This is essentially confirmed in the DEIS that states the "i*nitial costs of installing EM may be high which may have negative impacts in the short term, but over the long-term EM may be more cost effective than human at-sea monitors. Distributional impacts of allowing sectors to use EM as a sector monitoring tools are expected, as vessels that participate more, or are more efficient, may have positive impacts as EM is cheaper than human observers for these vessels, and vessels that participate less may have negative impacts, as EM is less cost effective for these vessels."*

The analysis also does not provide any analysis of how EM costs would be paid other than the NOAA guidance[4] which states that sampling costs are the responsibility of the industry and include a wide variety of costs. Appendix VI[5] indicates the average annual estimated cost of the census model over the first five-years is about $8.57 million. The DEIS states that over the five-year period, 91% ASM coverage averaged

[4] https://www.fisheries.noaa.gov/webdam/download/90619752
[5] https://s3.amazonaws.com/nefmc.org/Amendment-23_Appendix-VI_Monitoring-Cost-Efficiency-Analysis.pdf

$7.6 million annually. In either case, the cost to industry is substantially above the current estimate of about $1.5 million at 22 percent coverage. Neither the ASM nor the EM options will result in monitoring costs that are less than five times the status quo levels and federal funding to help offset those costs is not guaranteed into the future.

Conclusion

The collection of data needed to precisely estimate total catch substantially increases costs to stakeholders and the Council must determine the point at which the costs of collecting additional data outweigh the benefits of the information on management of the program and the fishery stocks. While a substantial amount of information is presented in the DEIS, there are still major information gaps that prohibit the Council from making a well-informed decision on the impacts of the proposed program relative to the fishery stocks, vessel operators, and fishing communities. Without that information being presented in the DEIS, neither the Council nor the fishery stakeholders can determine whether the benefits of the proposed ASM increases outweigh the costs, especially knowing that specific (undefined) sectors of the fishing industry are expected to become insolvent as a direct result of the action. After careful consideration of the proposed action and the information provided, stakeholders recommend that the EIS should be expanded to make available the following information and clarifications.

1. Provide information at the vessel category and fishery level that shows:
    a. the percentage of gross ex-vessel revenue that the proposed monitoring coverage levels are projected to cost relative to the no action alternative;
    b. the percentage of gross ex-vessel revenue paid for monitoring coverage in other fisheries and areas of the U.S. and any reported impact those levels of cost have had on stakeholders in the fishery; and
    c. whether vessel operators, by category, are projected to remain viable as a result of those economic and social impacts, when federal funding is available and when it is not.
2. Provide a clear and detailed discussion of the assumptions and economic theory[6] (including factors that would result in increased quantity of fish delivered and/or increased ex-vessel prices - given that fish compete in world-market for whitefish) that would result in ex-vessel gross revenue increasing as a result of increasing monitoring coverage.
    a. The discussion should consider the under-harvests of species.
    b. Other species that are substitutes.
    c. How the assumed illegal discards (unreported catches) of constraining stocks may be used to increase landings on unobserved trips.
    d. How accounting for all the assumed, unreported catches of constraining species results in increased gross revenue. In other words, if the constraining species are more limiting because all catch of those species is accounted for and deducted from the total available (through increased monitoring coverage levels), how can the fleets use less of the

[6] The current analysis attributes the increase to changes in "efficiency". That general description does not provide the reader sufficient information to understand the assumptions built into the model that generate the results described in the EIS.

constraining species in their fishing operations and maintain or increase current catch levels of other species that are landed?

3. Expand the discussion of safety beyond the benefits of EM and describe whether increased variable fishing costs may create economic incentives for vessel operator to fish in marginal weather conditions[7] or delay vessel repairs and maintenance.
4. Describe how the preferred alternatives meet the program objective of maintaining fleet diversification.
5. Describe how identified fishing communities and first buyers/processors of fish are projected to be impacted as a result of the increased monitoring costs leading to consolidation of the fishing fleets. Specifically, which communities are the winners and losers when monitoring coverage is increased to 75% or 100% of trips?

Thank you for your consideration of the issues described in this paper that highlight concerns with the current draft EIS. We look forward to work with you to develop a program that meets the needs of the stewards of the resource, the users of the resource, and the owners of the resource.

[7] https://www.pcouncil.org/managed_fishery/electronic-monitoring/

Table 2 ACLs, catch, and discards for 2011 through 2019

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
CC/GOM Yellowtail Flounder										
Sub-ACL(mt)	913.0	1,021.0	466.0	462.7	437.0	326.5	325.7	381.1	376.7	4,709.7
Cumulative Catch (mt)	795.1	954.3	376.5	249.4	371.7	248.8	196.3	164.8	116.1	3,473.0
Percent Caught	87.1%	93.5%	80.9%	53.9%	85.0%	76.2%	60.3%	43.3%	30.8%	73.7%
Percent Discarded	10.5%	11.7%	4.4%	6.3%	4.9%	5.7%	8.4%	12.6%	11.5%	8.9%
GB Cod										
Sub-ACL(mt)	4,208.0	4,524.0	1,776.0	1,735.6	1,748.4	596.6	520.9	1,170.1	1,514.4	17,794.0
Cumulative Catch (mt)	3,215.3	1,593.0	1,540.6	1,364.3	1,601.1	582.3	439.5	831.6	463.0	11,630.7
Percent Caught	76.4%	35.2%	86.8%	78.6%	91.6%	97.6%	84.4%	71.1%	30.6%	65.4%
Percent Discarded	4.5%	8.3%	3.0%	1.5%	1.7%	4.2%	2.9%	0.5%	1.4%	3.6%
GB Cod East										
Sub-ACL(mt)	196.0	159.0	90.0	145.2	121.3	135.4	143.3	251.8	182.5	1,424.5
Cumulative Catch (mt)	162.4	67.4	33.3	68.7	82.0	82.0	43.7	106.4	43.2	689.1
Percent Caught	82.8%	42.4%	36.8%	47.3%	67.6%	60.6%	30.5%	42.3%	23.7%	48.4%
Percent Discarded	20.4%	45.1%	29.7%	6.3%	2.3%	6.6%	5.5%	1.3%	6.3%	13.3%
GB Haddock										
Sub-ACL(mt)	30,393.0	27,363.0	26,111.0	17,052.3	21,566.3	51,327.7	52,253.1	44,339.9	52,431.7	322,838.0
Cumulative Catch (mt)	3,828.8	1,197.1	2,977.1	5,448.3	5,074.4	4,390.3	4,090.2	5,139.2	4,388.6	36,534.0
Percent Caught	12.6%	4.4%	11.4%	32.0%	23.5%	8.6%	7.8%	11.6%	8.4%	11.3%
Percent Discarded	2.1%	22.6%	9.4%	8.7%	16.9%	21.5%	13.8%	8.5%	4.8%	11.3%
GB Haddock East										
Sub-ACL(mt)	9,581.0	6,861.0	3,742.0	9,454.0	15,045.4	15,063.0	29,287.6	15,487.8	14,750.9	119,272.7
Cumulative Catch (mt)	1,060.2	365.9	578.8	1,536.2	1,057.9	549.0	407.3	623.1	388.7	6,567.1
Percent Caught	11.1%	5.3%	15.5%	16.2%	7.0%	3.6%	1.4%	4.0%	2.6%	5.5%
Percent Discarded	4.0%	21.2%	8.7%	5.6%	12.9%	20.6%	23.0%	9.9%	8.5%	10.6%
GB Winter Flounder										
Sub-ACL(mt)	1,993.0	3,367.0	3,506.0	3,355.9	1,872.7	585.3	614.6	724.7	742.1	16,761.3
Cumulative Catch (mt)	1,924.2	1,930.9	1,722.0	1,149.3	868.8	422.6	377.6	419.9	303.8	9,119.1
Percent Caught	96.5%	57.3%	49.1%	34.2%	46.4%	72.2%	61.4%	57.9%	40.9%	54.4%
Percent Discarded	0.7%	0.2%	0.3%	0.3%	0.5%	0.3%	0.2%	0.1%	0.3%	0.4%
GB Yellowtail Flounder										
Sub-ACL(mt)	1,122.0	364.1	152.6	250.6	199.0	247.1	160.1	185.1	82.2	2,762.8
Cumulative Catch (mt)	988.0	215.2	55.8	62.4	38.4	23.9	31.0	27.6	3.2	1,445.5
Percent Caught	88.1%	59.1%	36.5%	24.9%	19.3%	9.7%	19.4%	14.9%	3.8%	52.3%
Percent Discarded	4.9%	6.0%	17.2%	13.9%	4.9%	2.1%	0.3%	0.7%	3.1%	5.7%
GOM Cod										
Sub-ACL(mt)	4,721.0	3,619.0	812.0	810.6	201.4	271.1	271.1	356.7	349.6	11,412.5
Cumulative Catch (mt)	4,368.0	2,181.1	732.0	652.2	181.6	260.4	260.6	309.2	253.6	9,198.7
Percent Caught	92.5%	60.3%	90.2%	80.5%	90.2%	96.0%	96.1%	86.7%	72.6%	80.6%
Percent Discarded	3.3%	5.6%	2.7%	3.7%	7.4%	3.8%	5.4%	2.1%	4.6%	4.0%
GOM Haddock										
Sub-ACL(mt)	770.0	648.0	185.0	431.7	945.7	2,390.4	2,984.5	8,640.8	8,215.7	25,211.8
Cumulative Catch (mt)	483.7	245.1	169.2	323.8	726.2	1,576.1	2,250.9	2,837.1	3,288.5	11,900.6
Percent Caught	62.8%	37.8%	91.2%	75.0%	76.8%	65.9%	75.4%	32.8%	40.0%	47.2%
Percent Discarded	1.5%	13.6%	12.3%	9.2%	6.4%	5.3%	4.3%	1.8%	2.6%	3.8%
GOM Winter Flounder										
Sub-ACL(mt)	313.0	690.0	688.0	682.8	370.8	606.8	607.1	339.1	336.5	4,634.1
Cumulative Catch (mt)	158.2	258.0	167.6	123.7	117.6	109.2	111.0	90.6	45.6	1,181.5
Percent Caught	50.5%	37.4%	24.4%	18.1%	31.7%	18.0%	18.3%	26.7%	13.5%	25.5%
Percent Discarded	3.2%	3.3%	2.7%	4.0%	1.6%	4.6%	2.8%	2.6%	3.1%	3.1%

Species	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Halibut										
Sub-ACL(mt)										
Cumulative Catch (mt)	41.4	57.4	53.8	45.9	58.5	56.7	68.2	70.1	71.2	523.2
Percent Caught										
Percent Discarded	75.1%	78.7%	75.1%	58.0%	63.1%	64.6%	62.5%	62.3%	62.6%	66.5%
Plaice										
Sub-ACL(mt)	3,038.0	3,223.0	1,395.0	1,356.2	1,381.1	1,162.9	1,195.7	1,551.7	1,436.0	15,739.6
Cumulative Catch (mt)	1,631.6	1,601.4	1,391.6	1,292.8	1,366.0	1,121.9	1,068.9	1,064.7	800.5	11,339.4
Percent Caught	53.7%	49.7%	99.8%	95.3%	98.9%	96.5%	89.4%	68.6%	55.7%	72.0%
Percent Discarded	12.0%	14.8%	7.5%	6.0%	5.9%	8.3%	6.6%	5.3%	6.1%	8.5%
Pollock										
Sub-ACL(mt)	13,848.0	12,530.0	12,802.0	13,138.9	13,633.6	17,704.2	17,703.9	37,170.2	37,152.0	175,682.8
Cumulative Catch (mt)	7,543.1	6,394.7	4,878.4	3,971.6	2,876.9	2,961.5	2,990.0	3,475.8	2,931.0	38,023.0
Percent Caught	54.5%	51.0%	38.1%	30.2%	21.1%	16.7%	16.9%	9.4%	7.9%	21.6%
Percent Discarded	1.5%	1.5%	2.2%	3.4%	2.6%	2.5%	1.3%	3.1%	2.3%	2.1%
Redfish										
Sub-ACL(mt)	7,505.0	8,291.0	10,092.0	10,521.0	10,970.3	9,474.0	10,126.5	10,704.7	10,914.6	88,599.1
Cumulative Catch (mt)	2,703.2	4,423.4	3,996.2	4,681.9	5,284.3	4,077.6	4,646.5	5,360.9	4,610.6	39,784.6
Percent Caught	36.0%	53.4%	39.6%	44.5%	48.2%	43.0%	45.9%	50.1%	42.2%	44.9%
Percent Discarded	6.8%	7.2%	9.6%	6.9%	1.9%	1.3%	0.6%	1.3%	0.9%	3.8%
SNE Winter Flounder*										
Sub-ACL(mt)			1,074.0	1,062.6	1,146.6	523.1	515.1	456.2	444.1	5,221.7
Cumulative Catch (mt)	86.9	104.8	670.4	489.9	583.4	396.6	372.0	228.7	133.0	2,978.8
Percent Caught	0.0%	0.0%	62.4%	46.1%	50.9%	75.8%	72.2%	50.1%	30.0%	55.0%
Percent Discarded	96.1%	99.4%	1.0%	0.6%	0.7%	1.9%	2.0%	1.0%	1.9%	7.7%
SNE/MA Yellowtail Flounder										
Sub-ACL(mt)	404.0	607.0	487.5	462.0	460.2	169.1	175.5	34.9	25.7	2,825.9
Cumulative Catch (mt)	364.0	425.6	281.9	313.0	174.4	44.5	10.5	7.0	2.3	1,623.2
Percent Caught	90.1%	70.1%	57.8%	67.7%	37.9%	26.3%	6.0%	19.9%	8.8%	57.4%
Percent Discarded	5.1%	9.8%	3.9%	1.0%	1.1%	3.1%	10.5%	15.7%	8.7%	4.9%
White Hake										
Sub-ACL(mt)	2,946.0	3,257.0	3,822.0	4,248.1	4,311.5	3,432.8	3,331.1	2,714.7	2,714.2	30,777.4
Cumulative Catch (mt)	3,014.4	2,446.8	2,039.8	1,740.1	1,598.8	1,471.5	2,022.9	2,095.4	1,917.3	18,347.0
Percent Caught	102.3%	75.1%	53.4%	41.0%	37.1%	42.9%	60.7%	77.2%	70.6%	59.6%
Percent Discarded	1.1%	1.3%	1.1%	1.3%	0.9%	2.4%	0.4%	0.5%	0.4%	1.0%
Witch Flounder										
Sub-ACL(mt)	1,211.0	1,426.0	599.0	597.6	596.0	362.1	717.6	811.5	830.6	7,151.4
Cumulative Catch (mt)	992.9	981.0	638.9	514.2	523.2	351.4	486.5	794.1	688.6	5,970.8
Percent Caught	82.0%	68.8%	106.6%	86.0%	87.8%	97.0%	67.8%	97.9%	82.9%	83.5%
Percent Discarded	6.2%	6.7%	6.2%	8.1%	8.0%	18.2%	9.6%	5.9%	5.1%	7.4%
Total Sub-ACL(mt)	**83,162.0**	**77,950.1**	**67,800.1**	**65,767.8**	**75,007.3**	**104,378.1**	**120,933.4**	**125,321.0**	**132,499.5**	**852,819.3**
Total Cumulative Catch (mt)	**33,361.4**	**25,443.1**	**22,303.9**	**24,027.7**	**22,585.2**	**18,726.3**	**19,873.6**	**23,646.2**	**20,448.8**	**210,416.2**
Total Percent Caught	**40.1%**	**32.6%**	**32.9%**	**36.5%**	**30.1%**	**17.9%**	**16.4%**	**18.9%**	**15.4%**	**24.7%**
Total Percent Discarded	**4.5%**	**8.3%**	**3.0%**	**1.5%**	**1.7%**	**4.2%**	**2.9%**	**0.5%**	**1.4%**	**3.6%**
*** 2011 SNE/MA Winter Flounder**										

Appendix 4: President Trump's Regulatory Reform Policies

Appendix 4: President Trump's Regulatory Reform policies

1) President Trump issued Executive Order 13777 on February 24, 2017, that among other things, established a Regulatory Reform Task Force that was directed to evaluate and make recommendations to repeal, replace or modify regulations that; *"(i) eliminate jobs, or inhibit job creation; (ii) are outdated, unnecessary, or ineffective; (iii) impose costs that exceed benefits".* https://www.federalregister.gov/documents/2017/03/01/2017-04107/enforcing-the-regulatory-reform-agenda

As documented in detail in the analyses set forth in Appendix 1,2,3, the Amendment will eliminate jobs by, at admitted in the DEIS itself, will force small fishing vessels out of the fishery. This will eliminate their jobs, their crew's jobs, and the jobs of those working in the shoreside sectors that support these fishing operations.

Further, the Amendment is unnecessary. As the DEIS itself admits, data does not support the allegation that unreported discarding is a widespread problem that would warrant this draconian regulatory response.

Still further, the Amendment will be ineffective in achieving its stated Purposes and Need and objectives. It will not improve estimates of stock abundance but only generate more data on fishing mortality/extractions.

Finally, as confirmed in the analyses set forth in the DEIS - the Amendment will impose costs that far exceed benefits.

2) President Trump subsequently issued Executive Order 13840 on June 19, 2018, that, among other things, called for his Administration to "facilitate the economic growth of coastal communities and promote ocean industries", to "ensure that Federal regulations and management decisions do not prevent productive and sustainable use of ocean, coastal, and Great Lakes waters", and for Federal agencies to engage in this process with stakeholders. https://www.whitehouse.gov/presidential-actions/executive-order-regarding-ocean-policy-advance-economic-security-environmental-interests-united-states/

The DEIS provides no analysis to support the President's policy that this Amendment will facilitate the economic growth of coastal communities – or promote ocean industries. While it may, as the DEIS itself states, promote the large vessel fleet and facilitate the economic growth of those communities in which those large vessels operate, it will do so at the direct expense of the small vessel fleet and the communities in which they operate. Further, the Amendment will prevent the productive and sustainable use of groundfish stocks by the small vessel fleet.

3) Most recently, President Trump issued Executive Order 13921 on May 7, 2020. In section 4 of the Executive Order, the President directs the Council to submit "*a prioritized list of recommended actions to reduce burdens on domestic fishing and to increase production within*

sustainable fisheries, including a proposal for initiating each recommended action within 1 year of the date of this order".

https://www.whitehouse.gov/presidential-actions/executive-order-promoting-american-seafood-competitiveness-economic-growth/

In direct contravention to the President's Order, this Amendment will increase burdens on domestic fishing and decrease production within sustainable small vessel fisheries.