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March 29, 2016

Mr. Dan Hull, Chairman  
North Pacific Fishery Management Council  
605 West 4th, Suite 306  
Anchorage, Alaska 99501-2252

**RE: C-7: Halibut Discard Mortality Rate: Timeline and Public Participation**

Dear Chairman Hull,

The Freezer Longline Coalition (FLC) would like to offer the following comments on the proposed timeline for DMR revisions addressed in agenda item C-7 (Halibut DMRs) and the opportunities for public involvement. We appreciate the opportunity to provide input on this issue.

The FLC represents the owners and operators of over 30 U.S.-flag vessels that participate in the freezer longline sector of the Pacific cod fishery in the Bering Sea and Aleutian Islands. The mission of the FLC is to promote policies and practices that support the sustainable and orderly harvest of Pacific cod and other groundfish species. Since its establishment, FLC has been a leader in efforts to reduce bycatch and promote more sustainable fishing practices in the BSAI.

**Timeline:** The Halibut DMR Working Group (Work Group) is operating under the premise that the Council expectation is to have an alternative DMR method in place by 2017. The Discussion Paper includes a very large number of possible revisions<sup>1</sup>. The Work Group is recommending an as yet undetermined alternative method for 2017 (to be presented to the Plan Team in September 2016) along with the intent of additional revisions in 2018 and annual incremental revisions into the future (for an unspecified time).

The FLC supports the Work Group intent to conduct retrospective analysis to determine the effect of a revised DMR protocol.<sup>2</sup> The Discussion Paper also notes that the revised DMR protocol may result in revised historic estimates of halibut PSC mortality in previous years.<sup>3</sup>

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<sup>1</sup> DMR revisions could include (but not limited to): 1.) changing method for assigning targets; 2.) aggregating some targets; 3.) combining CDQ and non-CDQ; 4.) splitting out CP and CV; 5.) establishing minimum data thresholds for a fishery; 6.) changing time period for averaging; 7.) changing time period for review; 8.) alternative methods of weighting and filtering data, and; 9.) changing observation methods and sampling protocols to increase assessments.

<sup>2</sup> P. 27, Halibut DMR Discussion draft, April, 2016: *"In order to fully understand the effect of using a revised protocol, we would include a retrospective evaluation of what halibut PSC would have been had we applied DMRs using an alternative calculation, and the difference between that and our existing understanding of PSC mortality"*

<sup>3</sup> P. 28: *"This may impact our understanding of halibut mortality in previous years and thus the Council's (and the IPHC's) may choose to use the revised estimates as the best available halibut mortality estimate for prior years."*

However, given the large number of possible proposed revisions (and the combined effect of multiple revisions); this will require considerable analysis, particularly if historic estimates of halibut PSC mortality are to be revised. While the intent and result of a single revision may be clear, combinations of multiple revisions could result in unintended consequences.

The FLC recommends to the Council that the DMR revision process proceed in a more deterministic fashion to arrive at a more focused alternative DMR method - with appropriate scientific review and public process. In other words, the goal should not be to implement a revised protocol by 2017, but to take the time to do it right. It should be noted that at the December 2015 NPFMC meeting, the Council approved DMRs for both 2016 and 2017.

A more deterministic approach and analysis would likely result in a more robust DMR product - which may not need to be immediately amended in the subsequent year (or on an annual basis).

The Discussion Paper includes the intent of a revised protocol not only for 2017 but an additional revised protocol in 2018 as well as annual revision of the DMR process (p. 27): *“A single year specification period [2017] will allow for incremental changes to the estimation methods.....Continued work on estimation methods may result in alternative DMRs for 2018 being presented in late 2017, and additional recommendations for improvements to DMR estimation being applied to later years.”*

The constant revision to DMR protocols may result in a lack of consistency across datasets making comparative analysis across years unfeasible. Constant revisions to the DMR methodology will also provide little stability to the fishing industry (and may undermine efforts to reduce DMRs).

**Public Process:** The Halibut DMR Work Group is proposing alternative DMR method(s) with an unknown number of modifications that could result in re-specification of those DMRs by the beginning of 2017.<sup>4</sup> The Work Group intent is to present these alternative methods to the Groundfish Plan Team at the September 2016 meeting.<sup>5</sup> With this timeline, the Work Group will be working over the course of the summer 2016 – but with no public input or process.

The Work Group is currently composed entirely of inter-agency personnel with no public members. To the best of our knowledge, the Work Group meetings have not been advertised nor have been open to the public. The Work Group does not appear to have a mechanism to take public comment.

When the Work Group was first formed, the FLC inquired about public participation and was told that the group was just forming and public involvement would come later. There are members of the public who have extensive technical knowledge and a long history of involvement with the existing DMR process. The FLC recommends the Work Group be expanded to include members of the public with technical expertise in DMRs. Additionally, the Work Group meetings should be accessible to the public and allow opportunity for public comment.

Thank you for your consideration of these comments.

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<sup>4</sup> P. 2, Halibut DMR Discussion draft, April 2016. *“Expectation that ongoing work to identify alternative methods for calculating DMRs by the interagency Halibut DMR Working Group (WG) could result in re-specification of those DMRs by the beginning of 2017.”*

<sup>5</sup> P. 27, *“Alternative methods would be presented to the Groundfish Plan Teams for feedback in September 2016.”*

Sincerely,



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March 29, 2016

Mr. Dan Hull, Chair  
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Dr. James Balsiger, Regional Administrator  
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709 West Ninth Street  
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RE: C7 Halibut Discard Mortality Rate (DMR) Methodology

Dear Chairman Hull, Dr. Balsiger, and Council Members,

Oceana has taken the opportunity to review the Pacific halibut discard mortality rates (DMR) discussion paper. We support the efforts to reduce handling mortality of halibut bycatch and to review the science relevant to halibut handling mortality through commercial fishing operations. We also support better understanding the species composition of discards from all fisheries as an important step towards reducing halibut bycatch.

Pacific halibut can grow to be amongst the largest fish of the North Pacific and fulfill an important role in the marine ecosystem as a higher-level predator. They are a fish of high economic and cultural value. These fish support one of North America's most established commercial fisheries, are a premier sportfish, and are fully allocated (and over-allocated) to stakeholders up and down the coast.

Fishing impacts on the Pacific halibut population are an economic, social, and conservation problem. Particularly concerning is the waste of millions of halibut discarded after being killed or injured by the groundfish vessels that trawl fish for high volumes of other target species. It is unfortunate that the discussion about Pacific halibut management has become focused on bycatch as a limiting factor for industrial fisheries rather than management for optimum yield of the species for the greatest number of stakeholders and benefits.

The Pacific halibut population is currently exhibiting less-desirable characteristics, possibly exacerbated by fishing effects, such as smaller size-at-age and the growing scarcity of the very largest size-classes of halibut.<sup>1, 2</sup> Halibut can also be long-lived, and if they survive with injuries

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<sup>1</sup> Stewart, I. J., C. C. Monnahan, and S. Martell. 2015. Assessment of the Pacific halibut stock at the end of 2015. IPHC Report of Assessment and Research Activities 2015: 188 – 209.

<sup>2</sup> Sullivan, J., S. Martell, and G. Kruse. 2016. Can fishing explain declines in size-at-age of Pacific halibut? Alaska Marine Science Symposium (Oral Presentation), Abstract Book p. 64.

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after being handled and released as bycatch or escaping fishing gear there are unknown cumulative effects on the fitness of individuals and the halibut population.

Regular reporting of halibut mortality estimates and associated standard errors are needed to identify possible solutions. It appears the standard error of the estimates of the halibut discard mortality rates for target fisheries are calculated, but they are not routinely reported to the public. As a first step, all the DMR tables in the discussion paper should report the standard error of the halibut mortality estimates and the range in the total number of halibut killed as bycatch in each target fishery. It should be a relatively straightforward exercise to calculate and report these estimates. The estimates will help better inform where resources need to be expended to improve estimates and where halibut bycatch savings can accrue.

Each fleet, and ideally each vessel, needs to take responsibility for the halibut that are killed or injured while in the pursuit of their target species. Full observer coverage could be used to obtain larger sampling sizes in order to apply more specific DMRs to halibut bycatch. DMRs can be applied to not only specific region/gear/species/CDQ status but also by vessel type to represent the handling time and mortality halibut experience across all fisheries. Coordinating the observer reports with the Catch Accounting System so that they collect and reflect the same fishery data would allow for accurate target fish identification and, therefore, representative DMRs for both calculation and application.

Despite the great public concern over halibut, NMFS has drastically reduced the proportion of bycatch halibut that are assessed for viability and injury in the groundfish fishery. NMFS has gone from collecting viabilities on 83.4% of halibut measured to 19.2% over the past decade, and the agency now records viabilities for 0.45% and 0.20% of the estimated halibut caught in BSAI and GOA fisheries, respectively (see Table 5 in the discussion paper). It is not clear if an accurate and scientifically representative DMR can be estimated from such a small subsample of halibut. The reduction in the number of halibut viability and injury assessments can also be addressed through 100% observer coverage to get the best possible catch and bycatch data for all fisheries.

The cumulative effects of handling on halibut mortality are a concern that was not addressed in the discussion paper. Halibut have the potential to be caught and handled multiple times in longline fisheries, trawl fisheries, and the directed halibut fishery. The IPHC Standardized Stock Assessment surveys collect prior hook injuries (PHI) with simple categories of none, minor, moderate, and severe injuries to the jaw and/or eye socket.<sup>3</sup> Observers should also identify these

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<sup>3</sup> Dykstra, C. L. 2015. Prior hook injuries: results from the 2015 IPHC SSA and NMFS trawl surveys. IPHC Report of Assessment and Research Activities 2015: 603 – 614.

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PHI categories while performing injury assessments to expand this data set. Cumulative handling effects on halibut viability should be considered when estimating target-specific halibut DMRs in high fishing areas and during active fishing seasons for BSAI and GOA fisheries.

Reducing halibut bycatch and handling mortality is important for all fisheries, and we look forward to continuing to work with you toward that goal.

Sincerely,

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March 28, 2016

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**RE: C-7 Halibut DMRs**

Dear Chairman Hull and Dr. Balsiger

Please consider my comments on methods of estimating halibut discard mortality rates (DMRs). For the past 24 years, Fisheries Information Services (*FIS*) has developed and implemented a program to analyze DMRs in-season, facilitating significant reduction of DMRs in the freezer-longliner sector. Here are a few recommendations for improvements to the DMR determination process.

Page 4 of the discussion paper notes that observers deployed on longline vessels use a dichotomous key to categorize severity of hooking injuries. Over two decades the observer program has sought to improve the key; still, at several junctures the observer must make subjective decisions that affect such assignment, such as the extent to which blood is flowing or how firmly sand fleas have attached - not factors easily quantifiable or demonstrated during classroom observer training. Information available to me inseason shows only the final category assignment, not the specific injuries. It would be far more useful as far as captains' taking prompt corrective measures on board to know the exact nature of those injuries. Since 1992 I have attended annual Captains' meetings and Freezer Longline Coalition (FLC) symposia at least every third year to review the program and provide updates to DMR information. All captains are well-aware that observer DMR data does not have an inseason effect on their fishery but is important in the longer term. Careful halibut handling is a long-standing and ingrained habit with them and their crews. Injuries to halibut caused by roller man are uncommon; a majority of halibut graded "dead" by observers are due to sandflea presence, which is associated with certain grounds and with sets that are left to soak too long due to unusual weather or operational problems. I recommend discontinuing the approach of working through a key and instead provide information about specific injuries/sand flea predation. This could free up some observer time to examine more halibut.

A discussion on page 5 describes protocols that aim at a data collection goal of approximately 20 halibut condition assessments per day. In most instances, this would require 10 halibut per set. The average in 2015 on the freezer-longliner fleet was 5 per day. Many observers only assess one or two halibut per set. A second problem is that there are two boats on which injury sampling is rarely done. These use "hook-straightening" as their careful release method, which was touted as among the best in the early days of careful release (as demonstrated by three other boats from the same company also using careful release and showing very low DMRs). Lacking injury-sampling, those two vessels are not contributing to the DMR calculation for the sector. Revised sampling plans implemented in 2016 (page 5) may have somewhat improved the first problem but have not addressed the second.

I appreciate the effort that went into Table 10 on page 21 of the discussion paper which clearly lays out four elements of DMR methodology and five steps for progressive change for each. However, I have reservations about the “Gold standard” program under “unit of estimation” that would use individual vessel DMRs inseason. I frequently encounter situations where there are large differences between sequential observers’ assessments on a boat, with no other change to vessel operations or personnel. For this reason, in 2002 I discontinued a weekly DMR “report card” (vessel names listed) format which I had used starting in 1992. A weekly report card format has been an important element in promoting individual accountability in *FIS* monitoring programs for halibut encounter rates and seabird incidental catch numbers, but I consider those data, resulting from observer counts and strict sampling protocol, to be substantially reliable and accurate. On board halibut injury assessments can be more problematic. In 2000-2001 I examined halibut injury data to see if there was an “observer effect”. There were too few cases where observers made trips on more than one boat to make my analysis statistically conclusive, but I recommend that NOAA similarly examine this phenomenon before implementing a system that would use individual vessel DMRs inseason. After 2002 I continued to provide weekly updates to boat managers describing fleet averages and ranges (for each of four categories: CDQ and non-CDQ Bering Sea cod, Gulf cod, and turbot). In 2014, when the Council asked for further reductions in overall halibut bycatch mortality, I was still reluctant to release boat names, but added boat DMR “ranking” to the detailed DMR information provided. Boat managers can better track their boat(s) success compared to the rest of the fleet, and we have continued this approach in 2016.

However frequently the Council decides to review/revise DMRs, I hope there is sufficient opportunity for industry analysts to have input. I informally reviewed IPHC’s estimates for hook-and-line DMRs annually until 2009 and communicated any concerns to Gregg Williams. In the two subsequent 3-year cycles his summary paper became available too late to provide an opportunity for thorough review. In almost every instance *FIS* estimates have agreed with Williams’ but I have identified two cases that are still unresolved: I estimate the 2010 CDQ cod target at 9% not 18% and the 2009 Greenland turbot target at 16% not 35%. Though these are obvious outliers in the Hook-and-line DMR time series, neither the SSC nor Plan teams or the Review Team have recommended correcting them. I realize these numbers and others may be revised with a changed methodology (and they may “fall off” the time series being considered, if it’s shortened); but I hope they are revisited, particularly if the new system is not implemented in 2017.

I appreciate the opportunity to comment on this issue.

Sincerely

*Janet Smoker*

Janet Smoker

Copy to Chad See, FLC