

## GROUNDFISH MANAGEMENT TEAM REPORT ON ELECTRONIC MONITORING DISCARD MORTALITY RATES

The Groundfish Management Team (GMT) reviewed the Groundfish Electronic Monitoring Policy Advisory Committee (GEMPAC)/Technical Advisory Committee (GEMTAC) report ([Agenda Item E.6.a, Supplemental GEMPAC Report](#)) and [Supplemental NMFS Report 1](#) and offers the following recommendations:

### Halibut Discard Mortality Rate

In April 2017, the Council selected the GEMPAC alternative of a National Marine Fisheries Service (NMFS) approved discard mortality rate (DMR; sub-option E8) as their Final Preferred Alternative (FPA):

“Use a NMFS-approved discard mortality rate (DMR), developed in consultation with the Council, with the intent of finalizing halibut DMRs under EM by November 2017. The GEMPAC would like NMFS, in consultation with the Council, to develop and implement DMRs that are less than 90% to better reflect the mortality rates of the fleet. The DMRs would be applied upon implementation of the final rule for bottom trawl and non-whiting midwater trawl EM program. Therefore, GEMPAC recommends the following process to examine and apply DMRs for IFQ [individual fishing quota] accounting and total mortality accounting:

- a) Explore potential fleet-wide and vessel-specific rates using data from observed EM and Non-EM trips in years 2011 to 2016, and examine rates by depth;
- b) Examine current data collected by Pacific States Marine Fisheries Commission (PSMFC) to assess the possibility of creating an EM DMR and how that rate compares to fleet-wide and vessel-specific rates” ([Agenda Items F.2.a, Supplemental GEMPAC Report, April 2017](#))”

After consideration of the data available and reviewing the Supplemental GEMPAC Report at this meeting, **the GMT recommends removing fleet-wide and fixed vessel-specific rates (e.g., an average based on their historical DMRs) from the FPA, and selecting an electronic monitoring (EM) DMR approach.**

In 2016, observers were placed onboard EM bottom trawl vessels to assess viabilities of discard Pacific halibut compared to the DMR of non-EM vessels. EM vessels with observers had an average of 0.68 DMR compared to the average observed rate of 0.48 (Jannot et al., 2017). However, the sample size was quite small (five vessels, 12 trips, 27 hauls), and hauls only occurred south of Pt. Chehalis, WA. Upon investigation as to why the EM DMR was higher, it is likely due to the fact that EM trips are debited 90 percent regardless of condition and don't have the same incentive as observed trips for best handling practices. This is supported by the fact that the EM trips had considerably longer halibut times on deck than observed trips. Therefore, the GMT echoes the concerns of National Marine Fisheries Service ([Agenda Item E.6.a, Supplemental](#)

NMFS Report 1, September 2017) that this is not a representative sample and **recommends that this rate not be used for a fleet-wide DMR.**

Fixed vessel-specific rates would theoretically be based on the vessel's previous halibut DMRs under observers. However, there are a lot of questions about how this would be updated and applied. For example, what years would be used for the DMR? Would it be updated every year? What rates would be used for those EM vessels that were not observed for biological sampling during a year? Furthermore, vessels may have an extremely high rate in one year when in fact, the viabilities of the halibut discarded in the next year are excellent (or vice versa).

Most importantly, the GMT does not believe that locking in flat rates irrespective of trip conditions is the best approach, given that modeling has identified factors such as time on deck that affect DMRs. Since we now have an improved understanding of what affects DMRs, the GMT believes the best approach for moving forward is to base EM DMRs on the conditions known to affect mortality as per our proposal.

The GMT therefore believes that an EM DMR, as described in Supplemental GMT Report 1, is the best method available at this time for implementing a reduced DMR for halibut for EM bottom trawl vessels. **We again recommend that the GMT Alternative in Report 1 be forwarded for review by the Scientific and Statistical Committee (SSC) in November.**

Regarding EM midwater trawl vessels, since there were no observed EM vessels in the midwater fleet, the GMT cannot definitively say these rates are applicable to all trawl gear. The GMT proposes looking at available data between now and the November Council meeting to assess whether or not the DMR methodology can be applied, or if a separate rate should be developed.

## **DMR Buffers for Uncertainty**

The GMT recognizes that the use of DMR on EM trips is new and there is uncertainty surrounding the proposed method and application. The GMT has therefore developed two buffer sub-options that the Council could consider.

*Sub-Option A: After a certain time limit, assume the 90 percent dead DMR*

Rationale: The probability of the dead viability rapidly increases and approaches an asymptote with longer times on deck.

*Sub-Option B: Add an "across-the-board" X percent buffer to all times (or time intervals)*

Rationale: The GMT recognizes that there may be uncertainty regarding the proposed DMRs on EM trips in general, and specifically for longer times, as the actual viability of the halibut can't be accessed. If intervals were used (e.g., 0-10 minutes, 10-20 minutes, etc.), higher buffers could be used with longer times.

These sub-options can be further developed in November if the SSC endorses the GMT-proposed methodology. The GMT does see these sub-options as a policy call, and a measure of how risk-tolerant the Council wants to be in implementing DMRs for EM bottom trawl vessels.

## Discard Species List

The GMT reviewed the options presented in [Agenda Item E.6.a, Supplemental NMFS Report 1](#) for reviewing and modifying the discard species list for EM vessels and recommends Option 2.

## Recommendations

The GMT recommends the Council:

1. **Remove fleet-wide and fixed vessel-specific rates (e.g., an average based on their historical DMRs) from the FPA, and selecting an EM DMR approach;**
2. **Recommend that the observer assessed viabilities of discard Pacific halibut compared to the DMR of non-EM vessels not be used for a fleet-wide DMR;**
3. **Forward for review by the SSC in November the GMT Alternative in Report 1;**
4. **Choose Option 2 in [Agenda Item E.6.a, Supplemental NMFS Report 1](#) for reviewing and modifying the discard species list for EM vessels.**

## References

Jannot, J.E., Somers, K., Riley, N.B., Tuttle, V., McVeigh, J. 2017. Pacific halibut bycatch in the U.S. west coast fisheries (2002-2016). NOAA Fisheries, NWFS Observer Program, 2725 Montlake Blvd E., Seattle, WA 98112.

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09/14/17