OCEANA Protecting the World's Oceans

175 South Franklin Street, Suite 418
Juneau, Alaska 99801 USA

+907.586.4050
OCEANA.ORG

September 26, 2016

Dr. James Balsiger, Regional Administrator
NOAA Fisheries, Alaska Region
709 West Ninth Street
Juneau, AK 99802-1668

Mr. Dan Hull, Chair
North Pacific Fishery Management Council
605 W. 4th Avenue, Suite 306
Anchorage, AK 99501-2252

Dr. Doug Demaster
Auke Bay Laboratories
Ted Stevens Marine Research Institute
17109 Pt. Lena Loop Road
Juneau, AK 99801

Mr. Bill Tweit, Chair
NPFMC Ecosystem Committee
605 W. 4th Avenue, Suite 306
Anchorage, AK 99501-2252

RE: Agenda Item D-5 Essential Fish Habitat

Dear Dr. Balsiger, Dr. Demaster, Mr. Tweit and Mr. Hull,

Taking care of our ocean habitat is important. Much time and effort has been spent studying and surveying the habitats of Alaskan fish and invertebrates. However, even this investment is but a sliver of what is needed to fully understand the habitat requirements of these animals or how changes to habitat, either human induced or otherwise, could affect sustainability of fisheries in a changing climate. The challenge, therefore, for the National Marine Fisheries Service and the North Pacific Fishery Management Council, is to take action to ensure productive and diverse habitat remains for future generations while being informed by the limited information at hand.

NMFS and the NPFMC are considering new approaches both for identifying and describing their units of habitat responsibility (Essential Fish Habitat) and for assessing the impacts of the commercial groundfish fisheries on this habitat. Oceana strongly urges a precautionary approach be taken for both. Further, we are concerned that proposed fishery impacts modeling is progressing without thorough review and is not being supplemented with available literature on growth rates and recruitment of invertebrates that form seafloor habitat.

Fishing Effects Model Review

In April, the public and the SSC had a limited window of opportunity to review and comment on the proposed fishing effects (FE) model. While several SSC members commented during discussion that the FE model was not ready for use, these comments were inexplicably absent

OCEANA Protecting the World's Oceans

175 South Franklin Street, Suite 418
Juneau, Alaska 99801 USA

+907.586.4050
OCEANA.ORG

from the SSC minutes[1]. Instead, the minutes make reference to the New England Council SSC‟s review of a similar approach and a resulting manuscript publication of the literature review. The New England Council‟s endorsement of approaches appropriate for their region is not a sufficient rationale for using the same habitat recovery and sensitivity parameters for this region of the North Pacific. Oceana urges the NPFMC to take steps to maintain its strong record of thorough and impartial scientific review.

Recovery Parameters

The recovery parameters of habitat features are an influential component of the proposed FE model. These recovery parameters were derived from a New England Council literature review of studies chosen for relevance to Northeast Atlantic habitats and fishing gears.[2] The resultant recovery parameters differ markedly from any prior values used for EFH impact reviews in Alaska.

In the 2005 EFH EIS, there was consensus from Alaska invertebrate experts that a reasonable range for recovery rates of structure-forming invertebrates associated with the soft bottom, based on life history characteristics, was 5 years. There was also consensus that hard-bottom recovery rates were slower, on the order of 20 years. For cold water corals, recovery rates were even slower, and values up to 200 years were agreed.[3]

These values are orders of magnitude slower than the recovery rates in the New England fishing impact review proposed for use in the FE model.

We urge NMFS and the model authors to confer with a broader group of Alaska habitat and invertebrate experts to review the proposed recovery parameters. As an example, the recovery value reported for the biological feature of a general group of „Ascidians‟ (or tunicates) in the NE fishing impact review is 1-2 years. Here in the North Pacific an important habitat-forming tunicate is a tall, stalked Ascidian known as the sea onion, *Boltenia ovifera*. This species is featured on the Alaska Fisheries Science Center website for growing to 30 cm tall and forming Habitat Areas of Particular Concern while providing habitat for juvenile king crab.[4] To justify the recovery parameter for the Ascidian habitat feature proposed for in the FE model it is

---

[1] Scientific and Statistical Committee Report to the North Pacific Fishery Managment Council April 4th – 6th, 2016
[2] Grabowski, J.H., Bachman, M., Demarest, C., Eayrs, S., Harris, B.P., Malkoski, V., Packer, D. and Stevenson, D., 2014. Assessing the vulnerability of marine benthos to fishing gear impacts. *Reviews in Fisheries Science & Aquaculture*, *22*(2), pp.142-155.
[3] NMFS, EFH EIS, Appendix B, Evaluation of Fishing Activities that May Adversely Affect Essential Fish Habitat, April 2005
[4] http://www.afsc.noaa.gov/groundfish/HAPC/SeaOnion_synopsis.htm

OCEANA Protecting the World's Oceans

175 South Franklin Street, Suite 418
Juneau, Alaska 99801 USA

+907.586.4050
OCEANA.ORG

important to consult with Alaskan invertebrate experts to evaluate whether *B.ovifera* can grow 30 cm high in Alaska in 1-2 years or whether longer recovery times are more appropriate.

Without some consultation and review of the parameters as described above, it is simply not clear how the New England region parameters for habitat feature recovery and sensitivity have been „adapted" for applicability to the North Pacific marine habitats. To date, we have only seen a table of values for these parameter values, in some cases still labeled with the name of an Atlantic species.[5]

Sensitivity Parameters

The proposed FE model uses information on gear dimensions of various components of a trawl to estimate a very specific and much smaller amount of seabed area contacted by the gear. This approach differs from the prior approach of assuming seabed contact along the entire width between the doors of a trawl. The proposed model now assumes that the seafloor habitat „impact" only occurs in that small surface area of contact estimated from the various gear components. However, by way of analogy, we know that a garden rake with tines of a small surface area can break apart soil quite well. In the case of a trawl, disturbing a buried rock, shell, or clump of sediment can result in a larger surface area of disturbance than is assumed from the surface area of the point of contact itself. Therefore even the smaller points of seabed contact along the width of a trawl tow may result in a larger amount of seabed disturbed than is assumed in the model.

Further, if the proposed model assumes the impact on habitat features only occurs along the smaller surface area of contact, then the parameter values for „sensitivity" of habitat features should be re-evaluated. The sensitivity parameters, or in other words, how vulnerable a habitat feature is to a gear, were derived from the NE literature review of impact studies. These studies typically looked at the condition of habitat features before and after the pass of a trawl. In the studies, some proportion of habitat features along a trawl track may appear unaffected. However, few, if any, studies distinguished between the area of contact of various trawl gear components. Therefore the appearance of lesser vulnerability or sensitivity derived from studies in the literature review is likely simply due to the habitat feature not contacting the trawl gear component. For example, a study notes 50% of sponges were damaged in the path of a trawl. But this could be due to contact with trawl gear components only occurring along 50% of the width of the trawl path. In reality, 100% of the sponges that were contacted by the surface area of the trawl gear components were damaged.

[5] NPFMC, D1 Addendum to Fishing Effects Ch. 11, April 2016

OCEANA Protecting the World's Oceans

175 South Franklin Street, Suite 418
Juneau, Alaska 99801 USA

+907.586.4050
OCEANA.ORG

The sensitivity parameters from the literature review are therefore not directly relatable to the proposed model that assumes the habitat impact occurs in a much smaller surface area of gear contact. Using the literature derived sensitivity values in concert with the smaller assumed area of seafloor contact of the gear will „double-discount" the habitat impacts in the model.

Corals and Sponges

Oceana concurs with the SSC"s recommendation to include long-lived species such as corals and sponges in the fishing effects model.[6] However, as of this date it is not clear whether and how NMFS and the model authors have incorporated the recommendation. Below we offer further argument against using the same habitat sensitivity and recovery values as the New England Council review.

The New England Council fishing impacts review did not include studies that evaluated the growth rates of long-lived corals and sponges. The rationale for not including these studies was the New England Council"s „policy" to consider deep sea corals in another process.[7] A peer-reviewed publication by a subset of NEFMC Habitat team acknowledged that not including deep water corals in the habitat impact review was not strictly a scientific decision:

"We chose not to include deep water coral species in our review because NOAA and the NEFMC are addressing corals separately in attempting to protect areas known to support coral aggregations such the canyons on the south edge of Georges Bank by excluding all fishing" [3]

Additional rationale for not including deep water corals in the New England review was that:

"*these species are relatively rare in the shallower continental shelf habitats that were the focus of the assessment*" [3]

But in contrast to New England, the NPFMC and NMFS in Alaska manage fisheries not only in shelf habitats but also in deep water and slope habitats of the Bering Sea shelf break, the Gulf of Alaska, and the Aleutian Islands. These Alaskan habitats contain deep water corals (and in significant concentrations in many places, with corals being the most prominent feature of the

[6] Pg. 19. Scientific and Statistical Committee Report to the North Pacific Fishery Managment Council April 4th – 6th, 2016

[7] Grabowski, J.H., Bachman, M., Demarest, C., Eayrs, S., Harris, B.P., Malkoski, V., Packer, D. and Stevenson, D., 2014. Assessing the vulnerability of marine benthos to fishing gear impacts. *Reviews in Fisheries Science & Aquaculture*, *22*(2), pp.142-155.

OCEANA Protecting the World's Oceans

175 South Franklin Street, Suite 418
Juneau, Alaska 99801 USA

+907.586.4050
OCEANA.ORG

habitat).[8] The NPFMC and NMFS must take a different approach than the New England Council and acknowledge here that cold water corals are indeed habitat features.

Habitat Features

The proposed model has increased the number of habitat features (12 geological features and 14 biological features) used to describe the habitat. This approach is interesting but the method used to determine which features are included to describe North Pacific habitats needs to be better explained.

Further, there needs to be consideration of the effect of increasing the number of habitat features and then averaging habitat feature vulnerability and susceptibility in the model output. There may be bias in the model outputs if an area of habitat has a higher proportion of low susceptibility, quicker recovering habitat features; even if highly susceptible, slow recovering habitat features are present. Averaging the recovery and sensitivity values for all the features in the habitat area may bias the model output towards lesser impact. I.e. A habitat area could lose all of its slower recovering habitat features but the model output would show a negligible impact if a larger number of quicker recovering habitat features were present. The model output would therefore be in contrast to a significant change to the habitat.

Conclusion

Given all these limitations, a precautionary approach for interpreting modeled or even observed impacts to habitat is necessary. Much more consideration of habitat at the scale that might be meaningful to feeding, breeding, and growth to maturity both for an individual animal and at the scale of a population is vital.

Oceana supports the EFH conservation actions taken by the North Pacific Fishery Management Council thus far. We look forward to working with you to continue to improve the identification and protection of EFH in all Fishery Management Plans.

Sincerely,

Jon Warrenchuk
Senior Scientist and Campaign Manager
Oceana

[8] Stone, R. P. (2006). "Coral habitat in the Aleutian Islands of Alaska: depth distribution, finescale species association, and fisheries interactions." Coral Reefs 25(2): 229-238.