

GROUND FISH ESSENTIAL FISH HABITAT REVIEW COMMITTEE  
EVALUATION OF PROPOSALS TO MODIFY  
AREAS CLOSED TO BOTTOM TRAWL FISHING GEAR

PROPOSAL TO MODIFY  
THE EEL RIVER CANYON CLOSED AREA

Submitted by Peter Leipzig, Executive Director, Fishermen's Marketing Association.

The Ad Hoc Groundfish Essential Fish Habitat Review Committee (EFHRC) conducted a thorough review of the information presented in the proposal, including an informal presentation from the applicant. The EFHRC concluded the proposal had sufficient technical merit for further consideration; however the EFHRC identified a number of areas that would benefit from additional information. This evaluation will focus on those areas, with the intent of improving the content of the proposal and the ability of the Council and its advisory bodies to further evaluate and analyze the effects of the proposal.

Based on the evaluation criteria in sections B. and C. of the Terms of Reference (TOR), the EFHRC considered the following questions:

- a. Was the application complete?
  - The proposal included information for some sections listed in the TOR; however, there were several sections that would benefit from additional information.
  - The proposal provided an adequate statement of the problem and description of the proposed action. The proposal noted that the current eastern boundary was assumed to encompass untrawlable areas; the EFHRC, however, thinks that the proposal would benefit from a description of the original rationale for establishing the current eastern boundary in the 2005 Amendment 19 process.
  - The proposal did not explicitly describe how it was consistent with the Council's requirement to identify and protect EFH and to mitigate for the adverse effects of groundfish fishing activities.
  - The proposal included a justification for the interim review process. While the EFHRC recognized this decision lies ultimately with the Council, there was some discussion of this justification. The EFHRC was unable to achieve consensus on whether the justification was sufficient.
- b. Were the coordinates consistent with the proposed actions and do they map out correctly?
  - The EFHRC verified the points provided in the proposal, which were accurate. A shape file for use in GIS applications was also created by the EFHRC.
- c. What habitat types are affected by the proposal?
  - The proposal would benefit from more detailed topographic/geologic maps. The proposal would open an area suspected to be complex habitat in 2005 (i.e., Zimmerman trawl hangup areas; Zimmermann 2003). The proposal indicates the area is sand habitat on the shelf, which is corroborated by recent scientific studies (e.g., Drexler et al. 2006, Mullenbach et al. 2004, Lamb et al. 2008). However, the proposed open area also includes a portion of the head of the Eel River Canyon, which was not apparent in the

proposal; additional information presented by EFHRC members at the EFHRC meeting confirmed this.

- The proposal would benefit from an assessment of the canyon habitat, and a full analysis of substrate type, including the sites specified in the literature above. Alternative boundary lines only opening sandy shelf habitat could be considered during further analysis.
  - The proposal could benefit from additional information on physical process, such as sediment transport, and possibly chemical processes, in the canyon area, which may be available from the STRATA FORMation on Margins (STRATAFORM) project (Nittrouer and Kravitz 1996.), and other recent studies.
  - The proposal could benefit from a review of recent literature on the effects of mobile fishing gear on soft bottom sediment habitats, although because the area is relatively shallow and dynamic (e.g., area is adjacent to Eel River outflow), it is likely that negative effects of mobile fishing gear would be less than those in stable deep-water habitats.
  - The proposal had no information on structure forming invertebrates; The EFHRC recommended reviewing Amendment 19 for possible additional information.
- d. Are the data sufficient to evaluate the proposal effects and objectives, and if not why?
- The proposal would benefit from specific information regarding the areal extent of the trawlable area that will be opened by the proposed boundary changes.
  - The proposal should differentiate between what information was available in 2005 and what new information has been developed in the interim.
- e. What are the biological, ecological, and socioeconomic effects (beneficial and detrimental) of the proposal? For example:
- i. What is the importance of affected habitat types to any groundfish FMP stocks for their spawning, breeding, feeding, or growth to maturity?
    - The proposal would benefit from an assessment of habitat suitability probabilities, which are available in Amendment 19.
  - ii. What is the distribution and abundance of important habitat?
    - Moving the boundary would open a portion of canyon habitat that was not indicated in the proposal. Supplemental information was available to the EFHRC that should be included in the proposal to help determine the habitat types affected by the proposed boundary modification.
  - iii. Is that habitat vulnerable to the effects of fishing and other activities?
    - The proposal states that the area is not known to be vulnerable to the effects of fishing. However, there is no further discussion of the effects of trawling or fishing with fixed gear on the shelf habitat, nor is there discussion of the effects of fishing on canyon habitat.
  - iv. Is there unique, rare, or threatened habitat?
    - The proposal indicated there are no unique, rare, or threatened habitats that will be affected by the proposed boundary change. As indicated above, the proposal would benefit from a more thorough assessment of the canyon habitats that would become available to mobile bottom contact fishing gear.

- v. What are the changes in location and intensity of bottom contact fishing effort?
  - The proposal would benefit from trawl track information to help identify areas that were fished in the recent past. The proposal would open up 13 km<sup>2</sup> of a currently closed area to trawling. Trawling would presumably return to pre EFH closure levels.
  - The proposal would benefit from information on displacement of current fixed bottom contact fishing gear effort.
  
- vi. What is the displacement or loss of revenue from fishing?
  - The proposal would benefit from better quantification of socioeconomic impacts to the three trawlers that fished the area prior to establishing the Eel Canyon closed area, and subsequently the impacts of allowing all bottom contact fishing gear vs. only fixed bottom contact fishing gear.
  
- vii. Has there been collaboration with affected fishermen and communities to identify socioeconomic costs and benefits?
  - The proposal considers the benefits to the mobile gear community but fails to consider the costs to fixed gear fisheries in terms of competition and gear conflict. Further interaction with the affected communities is likely to occur in the Council process.
  
- f. If models are used in the proposal are they consistent with the best available information?
  - The proposal did not include a description of, or results from, any models that may have been used.
  
- g. Is the proposal consistent with the goals and objectives of the FMP?
  - The proposal did not specifically address FMP goals and objectives.
  
- h. How will fishing communities and other stakeholders be affected by the proposal?
  - The proposal would benefit from an analysis of the socioeconomic effects of the proposed boundary change. The analysis should include impacts on access to adjacent fishing areas.
  - The EFHRC was unsure at which stage such a socioeconomic analysis would occur and who might be involved in conducting the analysis, including the role of NMFS and Council staff.
  
- i. How are Tribal Usual and Accustomed Areas affected by the proposal, and how was that determined?
  - Tribal Usual and Accustomed Areas are not affected by the proposal.
  
- j. How are overfished stocks/ESA listed species affected by the proposal?
  - The proposal does not include a statement on the adverse effects on ESA listed species that addresses new information post Amendment 19.
  - The proposal does not include a statement on the effects of the proposal on overfished stocks.

- k. Is a monitoring plan part of the proposal?
- The proposal did not include a monitoring plan, but the EFHRC noted that the ongoing groundfish observer and vessel monitoring programs would provide some elements of a monitoring plan.
- l. Has there been coordination with appropriate state, tribal, and Federal enforcement, management, and science staff?
- The proposal did not include details on coordination with tribes or other agencies. The EFHRC expects some level of coordination to occur through the Council process.
- m. Are there components of the proposal that require additional expertise beyond the EFHRC for a comprehensive evaluation?
- If this proposal moves forward in the process, there will be a need for additional socioeconomic expertise; however, the EFHRC had sufficient expertise to evaluate the proposal at this decision point.

## References

Drexler T.M., C.A. Nittrouer, and B.L. Mullenbach. 2006. Impact of local morphology on sedimentation in a submarine canyon, ROV studies in Eel River Canyon, Northern California.

Lamb, M.P., J.D. Parsons, B.L. Mullenbach, D.P. Finlayson, D.L. Orange and C.A. Nittrouer. 2008. Evidence for super elevation, channel incision, and formation of cyclic steps by turbidity currents in Eel Canyon, Geological Society of America Bulletin 2008;120;463-475.

Mullenbach, B.L., C.A. Nittrouer, P. Puig, D.L. Orange. 2004. Sediment deposition in a modern submarine canyon: Eel Canyon, northern California. Marine Geology 211 (2004) 101–119

Nittrouer, C.A. and J. H. Kravitz. 1996. Strataform: A program to study the creation and interpretation of sedimentary strata on continental margins. Oceanography 9:146-152.

Zimmerman, M. 2003. Calculation of untrawlable areas within the boundaries of a bottom trawl survey. Canadian Journal of Fisheries and Aquatic Sciences. 60: 657–669.

PROPOSAL TO MODIFY  
THE OLYMPIC 2 AND GRAYS CANYON CLOSED AREAS

Submitted by Ben. Enticknap and Santi. Roberts, Oceana

The EFHRC conducted a thorough review of the information presented in the proposal, including an informal presentation from the applicant. The EFHRC concluded the proposal had sufficient technical merit for further consideration; however the EFHRC identified a number of areas that would benefit from additional information. This evaluation will focus on those areas with the intent of improving the content of the proposal and the ability of the Council and its advisory bodies to further evaluate and analyze the effects of the proposal.

Based on the evaluation criteria in sections B. and C. of the Terms of Reference, the EFHRC considered the following questions:

- a. Was the application complete?
  - The proposal included information for all sections listed in the TOR; however, there were several sections that would benefit from additional information.
  - The proposal provided an adequate statement of the problem and description of the proposed action; no additional information was necessary.
  - The proposal described how it was consistent with the Council's requirement to identify and protect EFH and to mitigate for the adverse effects of groundfish fishing activities.
  - The proposal included a justification for the interim review process. While the EFHRC recognized this decision lies ultimately with the Council, there was some discussion of the justification provided. The EFHRC was unable to achieve consensus on whether the justification was sufficient. Some of the discussion points central to the debate were: (1) whether the proposal adequately distinguished between new information and that which was available in 2005 (when Amendment 19 to the Groundfish Fishery Management Plan (FMP) was approved by the Council); (2) whether there was adequate information about the risks associated with fixed, bottom-contact fishing gear; and (3) whether the proposal would benefit from including estimates of the areal extent of new coral/sponge observations.
  
- b. Were the coordinates consistent with the proposed actions and do they map out correctly?
  - The EFHRC verified some but not all of the points provided in the proposal, which appeared accurate. The applicants also provided a shape file for use in GIS applications, however, the EFHRC was not equipped to verify all the points during its meeting, and recommends a complete verification of points should be conducted using appropriate mapping tools.
  
- c. What habitat types are affected by the proposal?
  - The proposal would benefit from an estimate of the areal extent of additional hard substrate, by type, that would be protected if the proposal was adopted.
  - The proposal would benefit from additional information on seafloor lithology for the two areas in question. In particular, clarification of the description of geological characteristics for Grays Canyon, which may be available from updated geological maps (e.g., Paul Johnson, University of Washington).

- d. Are the data sufficient to evaluate the proposal effects and objectives, and if not why?
- The proposal would benefit from specific information about the size of the areas involved in boundary changes (i.e., how many km<sup>2</sup> are being proposed for protection).
  - The proposal should differentiate between what information was available in 2005 and what new information has been developed in the interim.
  - Evaluation of the proposal would benefit from inclusion of new information on sea floor mapping and 2008 dive sites available from the Olympic Coast National Marine Sanctuary (OCNMS).
  - The proposal should include maps that indicate Rockfish Conservation Areas (RCA) for fixed gear and Yelloweye Rockfish Conservation Areas as well as trawl gear RCA,
- e. What are the biological, ecological, and socioeconomic effects (beneficial and detrimental) of the proposal? For example:
- i. What is the importance of affected habitat types to any groundfish FMP stocks for their spawning, breeding, feeding, or growth to maturity?
- The proposal would benefit from estimates of coral and sponge abundance at each site where they have been observed, not simply presence. This would help correlate fish densities associated with this type of habitat, as well as help inform decision makers on the spatial significance of the habitat.
- ii. What is the distribution and abundance of important habitat?
- Information should be presented on the areal extent of structure forming invertebrates at each dive site. This would supplement photos/video of individual organisms/colonies.
  - The maps should be modified to indicate the locations of images of the seafloor and associated organisms in the figures, and should include the dive-site numbers from Table 2.
  - The proposal relies on the use of hard substrate as a proxy for occurrence of structure forming invertebrates; the validity of this assumption would benefit from further justification. Overall, the proposal would benefit from a more transparent description of how habitat areas for structure forming invertebrates were determined, including data used and assumptions that were made.
  - The proposal's current maps should display the locations of all NMFS bottom trawl survey hauls, not just those that included structure forming invertebrates – the current figures do not show the distribution of trawl sampling effort. This information is important to the evaluation of coral/sponge distributions as well as the areal extent of important habitat.
- iii. Is that habitat vulnerable to the effects of fishing and other activities?
- The effects of fishing and other activities on the coral and sponge habitat type that the proposal is intended to protect is well documented, particularly for mobile bottom contact fishing gear, but the proposal would benefit from additional information on the effects of fixed bottom contact fishing gear.

- iv. Is there unique, rare, or threatened habitat?
  - Yes, based on best available information, deep-sea corals and sponges appear to have limited/patchy distribution, and they can be threatened by bottom contact fishing effort. However further studies are ultimately needed to determine their areal extent.
- v. What are the changes in location and intensity of bottom contact fishing effort?
  - During an oral PowerPoint presentation, the applicants presented information to the EFHRC on the distribution of mobile bottom-contact fishing effort; this was not included in the proposal. Including this information would help identify areas that were fished in the recent past, as well as give us some understanding of the associated seafloor substratum types. In particular, the EFHRC requests clarification about the extensive 2005 trawl tracks within the 2009 RCA in the western portion of proposed closure in Juan de Fuca Canyon area.
  - The proposal would benefit from information on displacement of fixed bottom contact fishing gear effort.
- vi. What is the displacement or loss of revenue from fishing?
  - The proposal would benefit from better quantification of socioeconomic impacts of prohibiting all bottom contact fishing gear vs. only mobile bottom contact fishing gear.
  - The proposal would benefit from more specific information on the socioeconomic hardship of closure of the areas in question (both the closed area and impacts on access to adjacent fishing areas).
- vii. Has there been collaboration with affected fishermen and communities to identify socioeconomic costs and benefits?
  - Further collaboration with the tribes was encouraged, particularly on an individual tribal level as opposed to tribal commission level.
- f. If models are used in the proposal are they consistent with the best available information?
  - The proposal did not include a description of, or results from, any models that may have been used.
- g. Is the proposal consistent with the goals and objectives of the FMP?
  - Yes, see a. above.
- h. How will fishing communities and other stakeholders be affected by the proposal?
  - The proposal would benefit from an analysis of the socioeconomic hardship of the proposed area closures. The analysis should include impacts on access to adjacent fishing areas.
  - The EFHRC was unsure at which stage such a socioeconomic analysis would occur and who might be involved in conducting the analysis, including the role of NMFS and Council staff.

- i. How are Tribal Usual and Accustomed Areas affected by the proposal, and how was that determined?
  - The proposal defers these issues to the consultation process between the tribes and NOAA.
- j. How are overfished stocks/ESA listed species affected by the proposal?
  - The proposal does not include a statement on the adverse effects on ESA listed species that addresses new information post Amendment 19.
  - The proposal does not include a statement on the effects of the proposal on overfished stocks.
- k. Is a monitoring plan part of the proposal?
  - The proposal did not include a monitoring plan, but the EFHRC noted that the ongoing groundfish observer and vessel monitoring programs would provide some elements of a monitoring plan.
- l. Has there been coordination with appropriate state, tribal, and Federal enforcement, management, and science staff?
  - The proposal reflected coordination with the OCNMS; the proposal did not include details on coordination with the tribes or other agencies. The EFHRC expects some level of coordination to occur through the Council process.
- m. Are there components of the proposal that require additional expertise beyond the EFHRC for a comprehensive evaluation?
  - If this proposal moves forward in the process, there will be a need for additional socioeconomic expertise; however, the EFHRC had sufficient expertise to evaluate the proposal at this decision point.
- n. Other Points of Discussion
  - There was a discussion of non-fishing anthropogenic impacts (e.g., sedimentation, hypoxia, and ocean acidification) that were not considered in the 2005 EFH EIS but could be relevant to future proposals.

PFMC  
5/27/2009