



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668

April 8, 2004

Stephanie Madsen, Chair
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501-2252

Dear Ms. Madsen:

The National Marine Fisheries Service (NMFS) has asked the Center for Independent Experts (CIE) to conduct a peer review of our evaluation of the effects of fishing on Essential Fish Habitat (EFH) in Alaska. CIE is a group affiliated with the University of Miami that provides independent peer reviews of NMFS science nationwide, including reviews of stock assessments for fish and marine mammals. Recent CIE reviews in Alaska have included assessments for Bering Sea and Aleutian Islands (BSAI) pollock in 2000, BSAI and Gulf of Alaska (GOA) Pacific cod in 2001, and Bering Sea snow crab and GOA Pollock in 2003. In 2004 CIE will also review the pollock recruitment program and the Steller sea lion telemetry research and analysis.

NMFS and the North Pacific Fishery Management Council have expended considerable effort to develop a comprehensive draft Environmental Impact Statement (EIS), including an innovative evaluation of the effects of fishing on EFH. That evaluation has two components: a quantitative mathematical model to show the expected long term effects of fishing on habitat, and a qualitative assessment of how those changes affect fish stocks. After considering the available tools and methodologies for assessing effects of fishing on habitat, NMFS, the Council, and the Council's Scientific and Statistical Committee concluded that the model and analysis incorporate the best available scientific information and provide a good approach to understanding the impacts of fishing activities on habitat. Nevertheless, the model and its application in this context have many limitations, and have not been subjected to a formal peer review.

Given the newness of the model, the importance of this analysis for Alaska's fisheries, and the controversial nature of the subject matter, NMFS determined that an outside peer review is a prudent step that will add credibility to the final analysis and strengthen our administrative record for the EIS process. While we would have preferred to undertake such a review earlier in the EIS process, the aggressive schedule for completing the draft EIS did not afford an opportunity to do so. Fortunately we were able to secure CIE's services during the interval between publication of the draft EIS and the deadline for the final EIS.

As described in the enclosed draft statement of work, the CIE panel will review Appendix B to the draft EFH EIS and related materials, and will participate in a meeting with the NMFS scientists who developed the model and the analytical approach. That

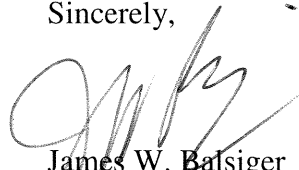


meeting will be held in Seattle in late June, and will be open to the public. The CIE panel will provide a final written report by the end of July, and will present the results during the October Council meeting in Sitka.

I realize that the Council may have concerns about the timing of the review, given the court-ordered schedule to complete the final EIS by June 1, 2005. I do not anticipate that we will have problems meeting that schedule. However, once the CIE panel completes its review, NMFS and Council staff will identify the remaining tasks needed to develop the final EIS, and we will confer with the Council regarding the schedule and work plan during the October Council meeting.

I believe NMFS and the Council will be well served by undertaking this independent review and identifying any problems now, as opposed to foregoing the review and risking an adverse legal determination on the EIS later if a court finds that the analysis was inadequate. I appreciate the Council's understanding, and look forward to working with the Council to address the results of the CIE review.

Sincerely,



James W. Balsiger
Administrator, Alaska Region

Enclosure

DRAFT 2/23/04
Terms of Reference and Statement of Work

University of Miami / Center for Independent Experts
Review of the Evaluation of the Effects of Fishing on Essential Fish Habitat (EFH)
in the Draft Environmental Impact Statement for EFH in Alaska

The Center for Independent Experts (CIE) will provide an independent peer review of a model and analysis developed by the National Marine Fisheries Service (NMFS) to evaluate the effects of fishing on Essential Fish Habitat (EFH) in Alaska. This document provides the terms of reference and statement of work for that review, specifying the information to be reviewed, the questions to be answered, deliverables, and the schedule for completing the review.

Background

The Magnuson-Stevens Fishery Conservation and Management Act requires that every fishery management plan describe and identify EFH for the fishery, minimize to the extent practicable the adverse effects of fishing on EFH, and identify other measures to promote the conservation and enhancement of EFH. NMFS and the North Pacific Fishery Management Council recently developed a draft environmental impact statement (DEIS) to consider the impacts of incorporating new EFH provisions into the Council's fishery management plans. The DEIS evaluates three actions: (1) describing and identifying EFH for fisheries managed by the Council; (2) adopting an approach for the Council to identify Habitat Areas of Particular Concern within EFH; and (3) minimizing to the extent practicable the adverse effects of Council-managed fishing on EFH. Most of the controversy surrounding the level of protection needed for EFH concerns the effects of fishing on sea floor habitats. Substantial differences of opinion exist as to the extent and significance of habitat alteration caused by bottom trawling and other fishing activities. Although an increasing body of scientific literature discusses the effects of fishing on habitat, there is no consensus within the scientific community on an appropriate methodology for analyzing potential adverse effects.

The national EFH regulations (50 CFR 600.815(a)(2)) require an evaluation of the effects of fishing on EFH, and this evaluation appears in Appendix B to the DEIS. The evaluation has two components: a quantitative mathematical model to show the expected long term effects of fishing on habitat, and a qualitative assessment of how those changes affect fish stocks. The model estimates the proportional reductions in habitat features relative to an unfished state, assuming that fishing will continue at the current intensity and distribution until the alterations to habitat and the recovery of disturbed habitat reach equilibrium. The model provides a tool for bringing together all available information on the effects of fishing on habitat, such as fishing gear types and sizes used in Alaska fisheries, fishing intensity information from observer data, and gear impacts and recovery rates for different habitat types. Due to the uncertainty regarding some input parameters

(e.g., recovery rates of different habitat types), the results of the model are displayed as point estimates as well as a range of potential effects.

After considering the available tools and methodologies for assessing effects of fishing on habitat, the Council and its Scientific and Statistical Committee concluded that the model incorporates the best available scientific information and provides a good approach to understanding the impacts of fishing activities on habitat. Nevertheless, the model and its application have many limitations. Both the developing state of this new model and the limited quality of available data to estimate input parameters prevent drawing a complete picture of the effects of fishing on EFH. The model incorporates a number of assumptions about habitat effect rates, habitat recovery rates, habitat distribution, and habitat use by managed species. The quantitative outputs of the analysis may convey an impression of rigor and precision, but the results actually are subject to considerable uncertainty.

One major limitation of the model is that it does not consider the habitat requirements of managed species or the distribution of their use of habitat features. Therefore, DEIS analysts were asked to use the model output to address whether continued fishing at the current rate and intensity is likely to alter the ability of a managed species to sustain itself over the long term. In other words, are the fisheries, as they are currently conducted, affecting habitat that is essential to the welfare of each managed species? To help answer that question, the analysts considered available information about the habitats used by managed species. The analysts also considered the ability of each stock to stay above its minimum stock size threshold (MSST), after at least thirty years of fishing at equal or higher intensities. MSST is the level below which a stock is in jeopardy of not being able to produce its maximum sustainable yield on a continuing basis.

The DEIS analysis concludes that despite persistent disturbance to certain habitats, the effects on EFH are minimal because there is no indication that continued fishing activities at the current rate and intensity would alter the capacity of EFH to support healthy populations of managed species over the long term. The DEIS finds that no Council-managed fishing activities have more than minimal and temporary adverse effects on EFH, which is the regulatory standard requiring action to minimize adverse effects under the Magnuson-Stevens Act. Additionally, the analysis concludes that all fishing activities combined have minimal, but not necessarily temporary, effects on EFH. These findings suggest that no additional management actions are required pursuant to the EFH regulations.

Expertise Needed for the Review

The panel should be comprised of five individuals. Panelists should have expertise in benthic ecology, fishery biology, fishing gear technology, ecological modeling, and/or closely related disciplines.

Information to be Reviewed

The CIE panel will review the following materials:

- The Executive Summary from the *Draft Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska* (11 pages plus tables and figures)
- The evaluation of fishing activities that may adversely affect EFH (Appendix B to the DEIS; 76 pages plus tables and figures)
- EFH sections of the minutes of the Council's Scientific and Statistical Committee meetings in October 2002, December 2002, February 2003, April 2003, June 2003, and October 2003 (each is approximately 2 pages)
- Section 303(a)(7) of the Magnuson-Stevens Act
- Pertinent excerpts from the NMFS regulations for EFH (50 CFR 600.10 and 600.815(a)(2)) and the associated preamble (67 FR 2354-2355)
- Pertinent excerpts from the Magnuson-Stevens Act National Standard 1 Guidelines (50 CFR 600.310(d))
- Selected public comments on the DEIS that are pertinent to Appendix B, including criticisms of the analytical approach (comments to be selected by NMFS after the close of the public comment period on April 15, 2004).

Questions to be Answered

Given the context of the Magnuson-Stevens Act requirements and the EFH regulations, the CIE review should focus on the following issues:

1. Does the model incorporate the best available scientific information and provide a reasonable approach to understanding the effects of fishing on habitat in Alaska?
2. Does the DEIS Appendix B analysis provide a reasonable approach for identifying whether any Council-managed fishing activities adversely affect EFH in a manner that is more than minimal and not temporary in nature? (For purposes of this question, the terms "temporary" and "minimal" should be interpreted consistent with the preamble to the EFH regulations: "Temporary impacts are those that are limited in duration and that allow the particular environment to recover without measurable impact. Minimal impacts are those that may result in relatively small changes in the affected environment and insignificant changes in ecological functions.") To answer this question, the panel should address at least the following issues:
 - a. Does the DEIS Appendix B analysis apply an appropriate standard (including the consideration of stock status relative to MSST) for determining whether fishing alters the capacity of EFH to support managed species, a sustainable fishery, and the managed species' contribution to a healthy ecosystem?
 - b. Does the DEIS Appendix B analysis give appropriate consideration to localized habitat impacts that may reduce the capacity of EFH to support

managed species in a given area, even if those impacts do not affect a species at the level of an entire stock or population?

3. What if any improvements should NMFS consider making to the model, or to its application in the context of the DEIS, given the limited data available to use for input parameters?

Review Process, Deliverables, and Schedule

The review panel shall consist of five members, one of whom shall serve as the chair, as specified below.

Duties of the Panelists:

1. Each panelist shall attend in person and participate in a one day meeting with the scientists who developed the fishing effects model and the analytical approach used to evaluate the effects of fishing in the DEIS. The meeting will be held in Seattle in late June 2004 at a specific time and place mutually acceptable to the panelists and NMFS. The meeting will be open to the public to attend, but there will be no opportunity for public testimony. The lead authors of the model, Dr. Jeffrey Fujioka and Dr. Craig Rose, will provide an overview of the model, how it was developed, how it was refined in response to comments from the Council's Scientific and Statistical Committee and other reviewers, and how it was used in the DEIS. The panel will have an opportunity to question Dr. Fujioka and Dr. Rose, as well as Dr. Anne Hollowed, who assisted in designing the analytical approach used to evaluate the effects of fishing in the DEIS.
2. Prior to the meeting, each panelist shall review the materials specified above. Panelists may submit written questions at least two weeks before the meeting to ensure topics of particular interest will be covered during the presentation.
3. The panel shall deliver a final written report containing answers to the questions posed above and any recommendations. The report shall be submitted no later than 30 days following the meeting described above. The report shall reflect the individual views of each of the panelists (i.e., not a consensus report). The report shall include the following sections: executive summary, background, description of review activities, summary of findings, conclusions/recommendations, bibliography of any materials relied upon by the panel, and a copy of this statement of work.

Duties of the Chair

1. The chair shall serve as a member of the panel with all of the same responsibilities as other panelists. The chair shall have the additional responsibilities detailed below.
2. The chair shall moderate the meeting with the NMFS scientists as well as other meetings the panel may have to conduct its work.

3. The chair shall compile all of the panelists' input to prepare the panel's report, and shall provide the final report to David Die of the University of Miami via e-mail at ddie@rsmas.miami.edu.
4. The chair shall present the results of the review to the Council and its Advisory Panel and Scientific and Statistical Committee at a meeting on or about October 6, 2004, in Sitka, Alaska.

NMFS anticipates that the review will require approximately 12 days of work per reviewer (3 days to review specified materials, 1 day to review other pertinent materials, 2 travel days, 1 day for the NMFS meeting, 2 days for panel meetings, 3 days to prepare the report) for a total of approximately 60 reviewer days. Additionally, 3 days (including travel) will be required for the chair to attend the October 2004 Council meeting.