

AMENDMENT 8
to the Fishery Management Plan for the
Commercial King and Tanner Crab Fisheries
in the Bering Sea/Aleutian Islands

Instruction 1

In Chapter 4.0 DEFINITION OF TERMS, the following paragraph should be added at the end of the section:

Essential Fish Habitat (EFH) means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purpose of interpreting the definition of EFH: waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species full life cycle.

Instruction 2

In chapter 7.0, amend the heading for section 7.2.4 to read “Habitat Objective: To protect, conserve, and enhance adequate quantities of EFH to support a fish population and maintain a healthy ecosystem” and amend the first paragraph as follows:

Habitat is defined as the physical, chemical, geological, and biological surroundings that support healthy, self-sustaining populations of living marine resources. Habitat includes both the physical component of the environment which attracts living marine resources (e.g. salt marshes, sea grass beds, coral reefs, intertidal lagoons, and near shore characteristics) and the chemical (e.g. salinity, benthic community) and biological characteristics (e.g. marine and salmonid life stage histories, oceanography) that are necessary to support living marine resources. The quality and availability of habitat supporting the BS/AI area king and Tanner crab populations are important. Fishery managers should strive to ensure that

those waters and substrate necessary to scallops for spawning, breeding, feeding, or growth to maturity are available. It is also important to consider the potential impact of scallop fisheries on other fish and shellfish populations. The essential fish habitat of BS/AI king and Tanner crab, and the potential effects of changes in that EFH on the fishery, are described in Appendix D of this FMP.

Instruction 3

In Appendix D, the first heading and the first paragraph are removed; the second heading is amended to read “D1.0 Description of the Management Area”; and the last paragraph with the heading “Habitat Areas of Particular Concern” is removed.

Instruction 4

In Appendix E, the title is amended to read “D2.0 Description of the Fisheries and Stocks”; the heading for section E1.1 is amended to read “D2.1 General History of the Fishery”; the heading for section E1.2 is amended to read “D2.2 Description of BSAI Crab Stocks”; and new section D2.2 is amended by adding the following paragraph at the end of the section:

The following species profiles, prepared in 1998, provide information on the biology, management history and stock structure of each BSAI crab species managed under this FMP. Specific information on habitat requirements for each BSAI crab species managed under this FMP is provided in section D3.0.

New section D2.2 is further amended by inserting the text and tables under section E1.3 at the end of the newly revised section.

Instruction 5

Add a new section D3.0 entitled “Essential Fish Habitat for BSAI crab species”.

Add a new section D3.1 entitled “Habitat Requirements by Life History Stage” and insert the following paragraphs:

Summaries and assessments of habitat information for BSAI king and Tanner crab are provided in the “Essential Fish Habitat Assessment Report for the Bering Sea and Aleutian Islands King and Tanner Crabs” dated March 31, 1998. Habitat descriptions and life history information was reviewed and the levels of information available for each life history stage was determined. The approach set forth in regulations at 50 CFR 600.815(a)(2) for gathering and organizing the data necessary to identify EFH was applied. In evaluating the level of knowledge available, a level 0 was defined as a subset of level 1. For BSAI king and Tanner crabs, it was determined that information at levels 0, 1, and 2 was available.

The type of habitat information available for almost all crab species is spatial distribution over depth and broad geographic areas as collected from survey and fishery samples that have limited linkage with habitat characteristics. Coupled with traditional knowledge, these data demonstrate that geographic distribution of crab contracts and expands due to a variety of factors including, but not limited to, temperature changes, current patterns, changes in population size, and changes in predator and prey distribution. Specific data are lacking to precisely define localized habitat for each life stage of crab. Consequently, the oceanographic (temperature, salinity, nutrient, current), trophic (presence of food, absence of predators), and physical (depth, substrate, latitude and longitude) characteristics of crab habitat are restricted for most crab species and life stages to broad general associations.

At the end of new section D3.1:

- insert the text and tables located on pages 11 through 65 of the “Essential Fish Habitat Assessment Report for the Bering Sea and Aleutian Islands King and Tanner Crabs” dated March 31, 1998;
- insert Table 4 "Levels of Essential Fish Habitat information currently available for BSAI king and Tanner crab, by life history stage", the table entitled “Life History Traits for BSAI King and Tanner Crab Species”, and the table entitled “Habitat Associations for BSAI King and Tanner Crab Species" found on pages 12, 143 and 144, respectively, of the "Environmental Assessment for Amendment 55 to the Fishery Management Plan for the Groundfish Fishery of the Bering Sea and Aleutian Islands Area; Amendment 55 to the Fishery Management Plan for the Groundfish Fishery of the Bering Sea and Aleutian Islands Area; Amendment 8 to the Fishery Management Plan for Bering Sea/Aleutian Islands King and Tanner Crabs; Amendment 5 to the Fishery Management Plan for the Scallop Fishery Off Alaska; Fishery Management Plan for the Salmon Fisheries in the EEZ Off the Coast of Alaska” dated [insert date EA is signed by Assistant Administrator for Fisheries] [**hereinafter “EFH EA”**];
- insert the information on the habitat feature abbreviations found on page 7 of the “Essential Fish Habitat Assessment Report for the Scallop Fisheries Off the Coast of Alaska” dated March 31, 1998.

Instruction 6

Add a new section D3.2 entitled “EFH Determination” and insert the following EFH definitions from section 6.3 of the EFH EA:

- EFH Definition for Red King Crab
- EFH Definition for Blue King Crab
- EFH Definition for Golden King Crab
- EFH Definition for Scarlet King Crab
- EFH Definition for Tanner Crab (*C. bairdi*)
- EFH Definition for Snow Crab (*C. opilio*)
- EFH Definition for Grooved Tanner Crab (*C. tanneri*)

EFH Definition for Triangle Tanner Crab (*C. angulatus*)

Instruction 7

Add a new section D3.3 entitled “EFH Maps” and insert the following maps from section 6.4 of the EFH EA:

- Red king crab eggs
- Red king crab larvae
- Red king crab early juveniles
- Red king crab late juveniles
- Red king crab spawners
- Red king crab matures
- Blue king crab eggs
- Blue king crab larvae
- Blue king crab early juveniles
- Blue king crab late juveniles and matures
- Golden king crab eggs
- Golden king crab late juveniles and matures
- Scarlet king crab eggs
- Scarlet king crab matures
- Tanner crab eggs
- Tanner crab larvae
- Tanner crab early juveniles
- Tanner crab late juveniles and matures
- Snow crab eggs
- Snow crab larvae
- Snow crab early juveniles
- Snow crab late juveniles
- Snow crab matures
- Grooved Tanner crab eggs
- Grooved Tanner crab matures
- Triangle Tanner crab eggs
- Triangle Tanner crab matures

Instruction 8

Add a new section D3.4 entitled “Fishing activities that may adversely affect EFH”.

Add a new section D3.4.1 entitled “The indirect effects of fishing: An executive summary” and insert the text and tables from section 9.2.1.1 of the EFH EA.

Add a new section D3.4.2 entitled “The effects of fishing gear on benthic communities” and insert the text and tables from section 9.2.1.2 of the EFH EA.

Add a new section D3.4.3 entitled “Literature of Scientific Studies on Fishing Threats to Habitat” and insert the text from section 9.2.3 of the EFH EA.

Instruction 9

Add a new section D3.5 entitled “Non-fishing related activities that may adversely affect EFH”. Add a new section D3.5.1 entitled “Identification of non-fishing adverse impacts to EFH in Alaska” and insert the text and table from section 9.1.2 of the EFH EA.

Add a new section D3.5.2 entitled “References” and insert text from section 9.1.4 of the EFH EA.

Instruction 10

Add a new section D3.6 entitled “Cumulative Effects on EFH from Fishing and Non-Fishing Activities” and insert the following paragraphs:

The NPFMC and the Secretary of Commerce have taken appropriate actions when threats to fish habitat have been identified. This includes cumulative effects from fishing activities and non-fishing activities. Cumulative effects on EFH from fishing activities are examined in the Stock Assessment and Fishery Evaluation (SAFE) reports, which are produced annually for the crab, scallop, and groundfish fisheries. In addition, an Ecosystem Considerations section to the SAFE reports is prepared which identifies specific ecosystem concerns that are considered by fishery managers in maintaining sustainable marine ecosystems.

Cumulative effects from non-fishing activities relate to the amount of habitat loss from human interaction and alteration or natural disturbances. Non-fishing activities are widespread and can have localized impacts to crab habitats such as accretion of sediments from at-sea disposal areas, oil and gas exploration, sea floor mining, ice scouring and significant storm events. Also, water quality is a significant factor for healthy larval and juvenile life stages of crab. In addition to EFH consultation guidelines mandated by the MSA, NMFS reviews these types of effects during the review process required by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for certain activities that are regulated by Federal, state, tribal or local authority. The jurisdiction of these activities is in "waters of the United States" and includes both riverine and marine habitats. To assist in understanding these widespread impacts, the development of a habitat and effect baseline database would accelerate the review process and outline areas of increased disturbance. Inter-agency coordination would prove beneficial to all.

Instruction 11

Add a new section D3.7 entitled “Habitat Conservation and Enhancement Recommendations for Non-fishing Threats to EFH” and insert the text and tables from section 9.1.3 of the EFH EA.

Instruction 12

Add a new section D3.8 entitled “Habitat Conservation and Enhancement Recommendations for Fishing Threats to EFH” and insert the following paragraph:

Area closures to trawling and dredging in the Bering Sea and Aleutian Islands area serve to protect EFH from potential adverse impacts caused by these gear types. Other management measures, such as the Pribilof Islands Habitat Conservation Area, the Bristol Bay Closure Area and the proposed Cape Edgecumbe pinnacle closure, are designed to reduce the impact of fishing on marine ecosystems. Catch quotas, bycatch limits and gear restrictions control removals of prey species. Studies that compare seafloor habitats in areas heavily trawled with areas that have had little trawl effort and research efforts on Alaskan scallops as discussed in section 1.3.13 may reveal future habitat conservation and enhancement measures necessary to protect EFH. Additionally, the annual review of existing and new EFH information during the SAFE development process is expected to identify adverse effects to EFH from fishing and proposals to amend the FMP to minimize those adverse effects. Proposals can be submitted during the Council’s plan amendment cycle.

Instruction 13

Add a new section D3.9 entitled “Prey species as a component of EFH” and insert the following paragraphs:

Loss of prey is an adverse effect on EFH because one component of EFH is that it be necessary for feeding. Therefore, actions that reduce the availability of a major prey species, either through direct harm or capture, or through adverse impacts to prey species’ habitat that are known to cause a reduction in the population of the prey species, may be considered adverse effects on a managed species and its EFH. Adverse effects on prey species and their habitats may result from fishing and non-fishing activities.

Section D3.1 contains tables that identify, if known, those prey species that comprise the diet of each BSAI King and Tanner crab species managed under the FMP.

Instruction 14

Add a new section D3.10 entitled “Habitat Areas of Particular Concern” and insert the text from section 11.4 of the EFH EA.

Add a new section D3.10.1 entitled “Living substrates in shallow waters” and insert the text from section 11.4.1 of the EFH EA.

Add a new section D3.10.2 entitled “Living substrates in deep waters” and insert the text from section 11.4.2 of the EFH EA.

Add a new section D3.10.3 entitled “Freshwater areas used by anadromous fish” and insert the text from section 11.4.3 of the EFH EA.

Instruction 15

Add a new section D3.11 entitled “Essential Fish Habitat Research and Information Needs” and insert the following paragraph:

Alaska leads the Nation in fish habitat area and in the value of fish harvested, yet the most basic information on distribution and habitat utilization for most early life stages of commercially valuable groundfish and shellfish is lacking. Systematic sampling exists only for targeted adults. A program is required to generate distributional data on which to determine EFH for the juvenile and larval stages of most of our marine fish. Additionally, Alaska fisheries are affected by anthropogenic impacts, including anthropogenic development that impacts watersheds, wetlands, estuaries, and nearshore benthic environment. Mapping and assessing impacted wetlands and eelgrass beds in an established GIS database with all salmonid producing streams (including riparian and upland land cover and use determinations) and escapements in the system is required to make necessary resource management decisions. Priority needs to be given to identifying, assessing and mapping habitat types such as offshore larval concentration areas (i.e. gyres), near shore nursery areas such as eel grass beds, rocky outcroppings, fine/mixed sediments, and productive bottom types for juveniles and adults. Functional value of high-priority habitats need to be established, and the linkages between fishery productivity and habitats need to be understood. Fishing impact studies are in their infancy in Alaska. Increased emphasis needs to be placed of fish ecology, and marine benthic habitat typing in conjunction with impact assessments of trawls, dredges, longlines, pot gear, and other fishing gear used in Alaska fisheries. Development of a standardized marine benthic habitat typing technology is a required precursor.

At the end of new section D3.11, insert the text from section 10.3 of the EFH EA.

Instruction 16

Add a new section D3.12 entitled “Review and Revision of EFH Components of FMPs” and insert the following paragraphs:

To incorporate the regulatory guidelines requirement for review and revision of EFH FMP components, the NPFMC will conduct a complete review of all the EFH components of each FMP once every 5 years and will amend those EFH components to include new information.

In between each five-year comprehensive review, the NPFMC will utilize its annual FMP amendment cycle to solicit proposals on HAPCs and/or conservation and enhancement measures to minimize the potential adverse effects from fishing. Those proposals that the NPFMC endorses should be developed independent of the five-year comprehensive EFH review cycle.

An annual review of existing and new EFH information will be conducted and this information will be provided for review during the annual SAFE report process. This information could be included in the “Ecosystems Considerations” chapter of the SAFE report.

Instruction 17

Remove Appendix F; re-letter remaining appendices G through J as appendices E through H.

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