

MEMORANDUM

TO: Council, SSC, and AP Members

FROM: Clarence G. Pautzke
Executive Director



ESTIMATED TIME
2 HOURS

DATE: January 23, 1998

SUBJECT: Essential Fish Habitat

ACTION REQUIRED

- (a) Preliminary Review of Essential Fish Habitat reports and amendment.
- (b) Comment on the interim final rule.

BACKGROUND

(a) Essential Fish Habitat Amendments

The Magnuson-Stevens Act amendments emphasized the importance of habitat protection to healthy fisheries and strengthening the ability of the National Marine Fisheries Service (NMFS) and the Councils to protect and conserve habitat of finfish, mollusks, and crustaceans. This habitat is termed essential fish habitat (EFH), and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". The Councils are required to amend their fishery management plans by October 1998 to:

- identify and describe EFH for species managed under a fishery management plan;
- describe adverse impacts to that habitat from fishing activities;
- describe adverse impacts to that habitat from non-fishing activities; and
- recommend conservation and enhancement measures necessary to help minimize impacts, protect, and restore that habitat.

Once the FMPs are amended with this EFH information, NMFS and the Councils can be more proactive in protecting habitat areas by alerting other federal and state agencies about areas of concern. Federal agencies engaging in activities that may adversely affect EFH must consult with NMFS regarding those activities. NMFS and the Council may make suggestions on how to mitigate any potential habitat damage. The Council will be required to comment on any project that may affect salmon habitat or habitat of any other anadromous fish (smelt, steelhead, etc.). However, the interim final rule encourages coordination between NMFS and the Councils, and may allow for the Council to delegate the consultation process to NMFS.

Over the past year, Council staff has worked closely with NMFS and ADF&G to prepare preliminary EFH reports for groundfish, crab, salmon, and scallops, which were released for public review in December. EFH can only be defined for target species defined in FMPs, according to a NOAA GC-AK opinion. Hence, EFH will not

be designated for halibut or herring. However, ADF&G and IPHC have agreed to provide habitat information for these species, and this information will be included as an appendix in the final groundfish plan amendment package.

The Council is scheduled to make a preliminary review of these documents in February. These reports will form the basis of preliminary NMFS EFH recommendations in April, when the Council is scheduled to make an initial review of the analysis. Final review of the EFH amendments is scheduled for June, 1998. The alternatives proposed to be analyzed in the EA/RIR for these amendments are the following:

- Alternative 1: Status quo.
- Alternative 2: All habitat where a species life stage occurs would be deemed EFH.
- Alternative 3: In the case of level 2 information and greater, EFH would be a subset of all habitat [e.g. hotspots]

At this time, only one management measure is proposed to address the impacts of fishing gear on habitat. A 4-mile by 4-mile pinnacle area off Sitka has been proposed as a no fishing area to protect habitat important for juvenile rockfish and lingcod.

Staff will present a summary overview of the reports and timetable for completion.

(b) Interim Final Rule

On December 19, NMFS published the interim final rule (attached as Item C-4a) to implement the EFH provisions of the Magnuson-Stevens Act. The rule establishes guidelines to assist the Councils and the Secretary of Commerce in the description and identification of EFH in FMPs, including identification of adverse impacts from both fishing and non-fishing activities and identification of actions required to conserve and enhance EFH. Although the rule became effective on January 20, comments are being solicited through February 17, 1998.

Also, as part of their activities on EFH, NMFS contracted a study of gear impacts on habitat. Study results were presented at a public meeting on Wednesday evening, February 4. Written testimony received on the study is placed under C-4 Supplemental. As I understand it, this first draft will be revised and then go out for a 60-day comment period that overlaps our April 1998 meeting.

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 600

[Docket No. 961030300-7238-04; I.D. 120996A]

RIN 0648-AJ30

Magnuson-Stevens Act Provisions; Essential Fish Habitat (EFH)

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Interim final rule; request for comments.

SUMMARY: NMFS issues this interim final rule to implement the essential fish habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This rule establishes guidelines to assist the Regional Fishery Management Councils (Councils) and the Secretary of Commerce (Secretary) in the description and identification of EFH in fishery management plans (FMPs), including identification of adverse impacts from both fishing and non-fishing activities on EFH, and identification of actions required to conserve and enhance EFH. The regulations also detail procedures the Secretary (acting through NMFS), other Federal agencies, state agencies, and the Councils will use to coordinate, consult, or provide recommendations on Federal and state activities that may adversely affect EFH. The intended effect of the rule is to promote the protection, conservation, and enhancement of EFH.

DATES: Effective on January 20, 1998. Comments must be received no later than February 17, 1998.

ADDRESSES: Requests for copies of the Environmental Assessment (EA) should be sent to the Director, Office of Habitat Conservation, Attention: EFH, NMFS, 1315 East-West Highway, Silver Spring, MD 20910-3282. (see **SUPPLEMENTARY INFORMATION**). These documents are also available via the NMFS Office of Habitat Conservation Internet website at: <http://kingfish.ssp.nmfs.gov/rschreib/habitat.html> or by contacting one of the regional NMFS Offices:

Northeast Regional Office, Attention: Habitat and Protected Resources Division, One Blackburn Drive, Gloucester, MA 01930-2298; 978/281-9328.

Southeast Regional Office, Attention: Habitat Conservation Division, 9721

Executive Center Drive North, St. Petersburg, FL 33702-2432; 813/570-5317.

Southwest Regional Office, Attention: Habitat Conservation Division, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213; 562/980-4041.

Northwest Regional Office, Attention: Habitat Conservation Branch, 525 N.E. Oregon St., Suite 500, Portland, OR 97232-2737; 503/230-5421.

Alaska Regional Office, Attention: Protected Resources Management Division, 709 West 9th Street, Federal Bldg., Room 461, P.O. Box 21668, Juneau, AK 99802-1668; 907/586-7235.

FOR FURTHER INFORMATION CONTACT: Lee Crockett, NMFS, 301/713-2325.

SUPPLEMENTARY INFORMATION: This rulemaking is required by the Magnuson-Stevens Act (16 U.S.C. 1801 *et seq.*) as reauthorized by the Sustainable Fisheries Act, signed into law on October 11, 1996. Details concerning the justification for and development of this interim final rule were provided in the proposed rule (62 FR 19723, April 23, 1997) and will not be repeated here. In the proposed rule, the guidelines to the Councils for amending FMPs and the regulations outlining the processes for coordinating and consulting with, and providing recommendations to, the appropriate Federal and state agencies were combined within one subpart. For increased clarity and easier access for agencies involved in coordination or consultation, the interim final regulations separate the guidelines from the coordination, consultation, and recommendation procedures. The former is in subpart J and the latter is in subpart K of 50 CFR part 600. Both subparts are being issued together because of the importance for all affected parties to understand the implications of an area being identified as EFH.

Overview of EFH FMP Amendment Guidelines

The themes of sustainability and risk-averse management are prevalent throughout the Magnuson-Stevens Act, both in the management of fishing practices (e.g., reduction of bycatch and overfishing and consideration of ecological factors in determining optimum yield (OY)) and in the protection of habitats (i.e., prevention of direct and indirect losses of habitats, including EFH). Management of fishing practices and habitat protection are both necessary to ensure long-term productivity of our Nation's fisheries. Mitigation of EFH losses and degradation will supplement the

traditional management of marine fisheries. Councils and managers will be able to address a broader range of impacts that may be contributing to the reduction of fisheries resources. Habitats that have been severely altered or impacted may be unable to support populations adequately to maintain sustainable fisheries. Councils should recognize that fishery resources are dependent on healthy ecosystems; and that actions that alter the ecological structure and/or functions within the system can disturb the health or integrity of an ecosystem. Excess disturbance, including over-harvesting of key components (e.g., managed species) can alter ecosystems and reduce their productive capacity. Even though traditional fishery management and FMPs have been mostly based on yields of single-species or multi-species stocks, these regulations encourage a broader, ecosystem approach to meet the EFH requirements of the Magnuson-Stevens Act. Councils should strive to understand the ecological roles (e.g., prey, competitors, trophic links within food webs, nutrient transfer between ecosystems, etc.) played by managed species within their ecosystems. They should protect, conserve, and enhance adequate quantities of EFH to support a fish population that is capable of fulfilling all of those other contributions that the managed species makes to maintaining a healthy ecosystem as well as supporting a sustainable fishery.

Councils must identify in FMPs the habitats used by all life history stages of each managed species in their fishery management units (FMUs). Habitats that are necessary to the species for spawning, breeding, feeding, or growth to maturity will be described and identified as EFH. These habitats must be described in narratives (text and tables) and identified geographically (in text and maps) in the FMP. Mapping of EFH maximizes the ease with which the information can be shared with the public, affected parties, and Federal and state agencies to facilitate conservation and consultation. EFH that is judged to be particularly important to the long-term productivity of populations of one or more managed species, or to be particularly vulnerable to degradation, should be identified as "habitat areas of particular concern" (HAPC) to help provide additional focus for conservation efforts. After describing and identifying EFH, Councils must assess the potential adverse effects of all fishing-equipment types on EFH and must include management measures that minimize adverse effects, to the extent practicable, in FMPs. Councils

are also directed to examine non-fishing sources of adverse impacts that may affect the quantity or quality of EFH and to consider actions to reduce or eliminate the effects. Councils are directed to identify proactive means to further the conservation and enhancement of EFH.

Overview of Coordination, Consultation, and Recommendation Regulations

This regulation establishes procedures for implementing the coordination, consultation, and recommendation requirements of the Magnuson-Stevens Act. NMFS will coordinate with other Federal and state action agencies by providing them with descriptions and maps of EFH, as well as information on ways to conserve and enhance EFH. The regulations allow Federal agencies to use existing consultation/environmental review procedures or the procedures outlined in the regulation to fulfill their requirement to consult with NMFS on actions that may adversely affect EFH. Consultations may be conducted at a programmatic and/or project-specific level. In cases where effects from an action will be minimal, both individually and cumulatively, a General Concurrence (GC) procedure has been developed to simplify the Federal consultation requirements. Consultation on Federal actions may be conducted under Abbreviated or Expanded Consultation, depending on the severity of the threat to EFH. NMFS anticipates that a majority of Federal actions with the potential for adverse effects on EFH may be addressed through the abbreviated consultation process or the General Concurrence process. Coordination between NMFS and the Councils is encouraged in the identification of threats to EFH and the development of appropriate EFH conservation recommendations to Federal or state agencies. When NMFS or a Council provides EFH conservation recommendations to a Federal agency, that agency must respond in writing within 30 days. If the action agency's decisions differ from NMFS' conservation recommendations, further review of the decision may be continued by the two agencies, as detailed in the regulations.

Related Documents

Other related documents that led to this interim final rule were referenced in the proposed rule. The Technical Assistance Manual that was released for public comment concurrent with the proposed rule received very little public comment. This was in part due to the very technical nature of the document.

Therefore, NMFS will maintain this information as internal technical guidance, and as such, is not making it available for public comment again.

Comments and Responses

Six regional public meetings and numerous briefings were held during the comment period to explain the proposed rule and solicit public comments from all interested parties. Fishery and non-fishery representatives attended the public meetings and were included in briefings. Comments were received in writing from 6 Regional Fishery Management Councils, 3 Interstate Marine Fishery Commissions, 8 Federal agencies, 22 state agencies, 13 fishery groups, 49 conservation/environmental groups, 60 non-fishing industry groups, 11 other non-governmental organizations, 11 academicians, 1 local government, and 40 individuals.

1. Comments Asking for Additional Time to Comment

Comments: Several commenters requested that, given the complex nature of the proposed regulations, additional time should be granted for public comment.

Response: NMFS agrees that, because the EFH rule outlines a new program, additional public comment is desirable. However, because it is critical that these guidelines be available to the Councils and to the Secretary as soon as possible so that EFH FMP amendments can be developed and submitted to the Secretary in time to meet the statutory deadline of October 11, 1998, NMFS is issuing this rule as an interim final rule to provide necessary certainty to conduct this work. NMFS will also consider additional comments received during the comment period on this interim final rule before issuing the final rule. NMFS is particularly interested in receiving comments on those sections of the interim final rule that have been changed in response to comments and any new information not previously submitted.

2. Comments in Favor of Protection of Fish Habitats

Comments: Most of the commenters supported the concept of protecting fish habitats as a means to support fisheries, sustain ecosystems, or preserve aesthetics, some in spite of the fact that they were wary of the approach outlined in the proposed rule because of potential adverse impacts on their activities. Numerous groups and individuals expressed concern that the habitat conservation approach set forth in the proposed rule was a dilution of

the previously presented ecosystem approach from the Framework for the Description and Identification of EFH (62 FR 1306, January 9, 1997) (Framework) and feared that it would be weakened further in the interim final rule under pressure from non-fishing interests. Many commenters pointed out that marine fisheries belong to all Americans, not just to certain industries.

Response: NMFS believes that EFH must be conserved and enhanced to prevent future depletions of managed species and to restore many presently overfished stocks. Measures detailed in these regulations are necessary to ensure that adverse impacts from both fishing and non-fishing will be adequately addressed in accordance with the requirements of the Magnuson-Stevens Act. The regulations were developed by NMFS to provide the Councils with guidance that is both feasible and scientifically defensible. Although the guidelines vary superficially from the Framework, they are not fundamentally different. Additional input from Councils and the public, and discussions with other Federal agencies, were used to make the program workable. NMFS will continue to work with all parties to protect both quantity and quality of these habitats in a streamlined and efficient manner. NMFS has worked to insure that an ecologically sound approach was developed to protect, conserve, and enhance EFH to support sustainable fisheries and the ecosystems that support them in accordance with the mandate set by Congress.

3. Comments on the Interpretation of EFH

Comments: Some industry groups commented that linking EFH to the amount of habitat necessary to support a healthy ecosystem exceeds the authority granted to NMFS under the Magnuson-Stevens Act. Additionally, they criticized this linkage as vague and overly broad. Some fishing interests expressed concern that ecosystem considerations might interfere with the focus on maintaining fishing production. Other commenters supported the linkage to healthy ecosystems, but asked that a healthy ecosystem be more clearly defined. Some commenters suggested that healthy ecosystems should be defined by species composition and abundance, presence of key interactions, and habitat persistence.

Response: In the proposed rule, NMFS linked EFH to the amount of habitat required to support a sustainable fishery and healthy ecosystem. In the

interim final rule, NMFS clarified this linkage to be the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem.

The Magnuson-Stevens Act provides authority for the link between EFH and the managed species' contribution to a healthy ecosystem in a number of places. Ecosystem themes are common in the definitions of "fishery resources," "conservation and management," and "optimum." These definitions link protection of the marine environment to managing fisheries. Specifying that Councils should address the degradation and loss of EFH from both fishing and through conservation and enhancement measures further reflects support for more ecologically-based management of marine fisheries. In addition to its present emphasis on ecological components of management, the Magnuson-Stevens Act, in section 406, calls for the establishment of an advisory panel to analyze the extent to which ecosystem principles are being applied, and to recommend to the Secretary and Congress ways to expand the application of ecosystem principles in fishery conservation and management in the future.

Although the implementation of ecosystem management varies among the agencies and organizations that have adopted it, there are common elements among the approaches. Ecosystem management encourages sustainable resource use that is achieved through goal setting and the use of ecological precepts and understanding to achieve those goals; recognition that different processes occur at different temporal and spatial scales and must be addressed appropriately; recognition of the complexity and integration of ecosystems; recognition of humans as active components in ecosystems; recognition of the uncertainties inherent in management and the need to make risk-averse decisions; and the need for adaptive management (Christensen *et al.*, 1996; Grumbine, 1997; Hancock, 1993). This regulation embraces those concepts and urges Councils to seek environmental sustainability in fishery management of living marine and anadromous resources, within the current statutorily-prescribed fishery management framework (i.e., management by FMPs).

Linking EFH to healthy ecosystems will improve conserving and enhancing the habitats of all living marine resources which depend on the same marine ecosystem. Applying an ecosystem approach to the conservation and enhancement of EFH will require NMFS and the Councils to consider the

inter-relationships between and among species managed under the Magnuson-Stevens Act, the Marine Mammal Protection Act, and the Endangered Species Act (ESA). Carrying out the habitat conservation mandates of these laws independently is inefficient, because the interrelationships between species are not considered. Concerns expressed by fishing interests that focusing on the ecosystem will divert attention from promoting sustainable fisheries are unfounded since sustainable resource use must be grounded in a sustained ecosystem.

In response to comments requesting clarification, this interim final rule provides additional guidance by listing the general attributes of a healthy ecosystem in a definition. The linkage between a healthy ecosystem and EFH has been clarified to mean the habitat required to support a sustainable fishery and the managed species contribution to a healthy ecosystem.

Comments: Many comments, mainly from conservation groups, opposed linking EFH to fisheries in the definition and throughout the proposed rule. In particular, they wanted the quantity of EFH to be linked to the support of fish populations rather than to fisheries production. Conversely, some Councils' comments suggested that NMFS link EFH to a quantifiable fishery term such as maximum sustainable yield (MSY) or OY. One Council urged NMFS to clarify that the term sustainable fishery means the level necessary to maintain at least the current production. Other commenters supported the linkage of EFH to sustainable fisheries, but were unclear about the meaning of target production goal as used in the proposed rule. One asked that the time period over which sustainable should apply be better defined. Some non-fishing commenters criticized the linkage to sustainable fisheries as vague and too broad.

Response: The Magnuson-Stevens Act mandates that EFH requirements be incorporated into FMPs. It also explicitly states that one of its purposes is to provide for the preparation and implementation of FMPs that will achieve and maintain on a continuing basis, the OY from each fishery. The definition of optimum states that the yield from a fishery should provide the greatest national benefit. This benefit includes food production and recreational opportunities, and takes into account protection of marine ecosystems. This is the basis for long-term sustainable fisheries. Therefore, NMFS continues to maintain that linking EFH to sustainable fisheries is appropriate and based on the

Magnuson-Stevens Act. Because managed species are integral parts of the ecosystems that support them, consideration of ecosystem processes are equally important, as expressed in the rule.

In managing a fishery under their jurisdiction, Councils limit the quantity of fish that can be harvested by fishers from a population or stock. These limits or yields, usually expressed as MSY or OY, are based on estimates of the total population (or stock) size and the ability of the population to sustain itself when subjected to some level of fishing pressure. When considering the EFH requirements of a managed species, Councils must describe and identify enough habitat to support the total population, not just the individual fish that are removed by fishing (the fisheries production). "Target production goal" was intended to portray this concept in the proposed rule; but, because commenters confused biological production with fisheries production, NMFS has modified this wording. The interim final rule states that FMPs should identify enough EFH to support a population adequate to maintain a sustainable fishery and the managed species' contributions to a healthy ecosystem. If the current stock size supports the long-term potential yield of the fishery then EFH should be adequate to support that population and its contribution to a healthy ecosystem. If the current stock size is lower than that (i.e., overfished), then EFH may need to be bigger or annually enlarged to support a larger spawning stock if habitat is limiting.

Comments: Some commenters stated that including "biological properties" and "biological communities" in the interpretation of "waters" and "substrate" was an inappropriate expansion of the Magnuson-Stevens Act. Other commenters criticized NMFS for including "chemical properties" in the interpretation of "waters" because other agencies have greater expertise in, and jurisdiction over, water quality issues.

Response: NMFS disagrees with these comments and did not change the rule. "Biological properties" and "biological communities" are fundamental aspects of habitat and have long been recognized as such by the scientific and technical communities. The fact that an area is aquatic or contains a specific physical structure may not necessarily make it fish habitat. Fish species require waters with, among other things, appropriate biological properties and chemical properties (e.g., prey, nutrient sources, salinities, dissolved oxygen concentrations, and pH) to meet their

physiological/habitat requirements. Substrata also must often have certain biological communities (typically sessile organisms) before they function as fish habitat. For example, it is the presence of seagrasses (associated biological community) that provides appropriate settlement habitat for post-larval queen conch, not just the underlying coarse grain sand.

NMFS and other NOAA offices have considerable expertise and state-of-the-art scientific facilities to assess and evaluate water quality issues. The fact that NMFS does not have statutory authority for regulation of water quality makes it no less important in the research and management of resources under NMFS' jurisdiction.

Comments: Some commenters objected to the inclusion of "structures underlying the waters" in the interpretation of "substrate." Others supported the inclusion of "structures," but questioned whether the owners of structures that are identified as EFH would be required to maintain them as EFH. Several commenters, primarily dive groups, recreational fishers, and oil industry representatives, applauded the inclusion of artificial reefs as structures, and further stressed the importance of offshore oil platforms as artificial reefs and potential EFH. One commenter pointed out that artificial reefs, if inappropriately established, have the potential to adversely impact EFH.

Response: NMFS included "structures underlying the waters" in its interpretation of substrate to clarify that structures such as artificial reefs, jetties, and shipwrecks may be considered EFH if they provide essential habitat for a managed species. This should not be interpreted to mean that all such structures are EFH. Only those structures that meet the criteria outlined in these guidelines and identified as such in an FMP are EFH. If a structure is identified as EFH, the Secretary is required to comment on any state or Federal action that may have an adverse impact on such habitat. Activities, such as routine maintenance, that do not require a state or Federal permit or license would not require consultation. If a state or Federal agency is involved in creating or modifying an artificial reef in, or affecting, EFH, NMFS will be required to comment on ways to minimize or mitigate any adverse impacts to the EFH.

Comment: Some commenters were opposed to interpreting "spawning, breeding, feeding, or growth to maturity" to cover a species' full life cycle. Other commenters supported it.

Response: The Magnuson-Stevens Act established this definition for EFH.

NMFS recognizes that some may interpret spawning, breeding, and growth to maturity to exclude key life stages, (e.g., mature adults). However, all immature life stages grow to maturity and all mature adults feed, spawn, and/or breed. Therefore, it is appropriate to interpret this phrase to cover the entire life cycle.

Comments: Some commenters criticized the definition of EFH in the proposed rule for allowing historic or degraded habitat to be identified as EFH "if the loss of that habitat has contributed to reduced yields for the species and it is feasible to restore the lost habitat." Other commenters criticized NMFS for allowing degraded or inaccessible habitat to be identified as EFH. The commenters argued that these provisions exceed NMFS' statutory authority. Port authorities in particular are concerned that facilities on dry land may be identified as EFH.

Response: These provisions were included in the proposed rule because the restoration of historic, degraded, or inaccessible habitat, where technologically and economically feasible, may be necessary to meet the rule's stated goal of ensuring the production necessary for some species to support a sustainable fishery and contribute to a healthy ecosystem. This interim final rule continues to allow the identification of historic or degraded habitat as EFH but further clarifies that "historic habitat" must currently be an aquatic area before it can be identified as EFH and that restoration must be technologically and economically feasible. Therefore, dry land could not be identified as EFH.

4. Comments Requesting Definition of Other Terms in the Interim Final Rule

Comment: Several commenters suggested that the interim final rule contain a definition of "adverse impact."

Response: NMFS agrees and has included a definition in the rule.

Comment: Several commenters suggested that a definition for critical habitat" is necessary.

Response: NMFS disagrees that a definition is necessary but has modified the rule to clarify that "critical habitat" relates to species that are listed as threatened or endangered under the ESA.

Comment: Some commenters suggested that the acronym "FMU" needs to be defined.

Response: The acronym FMU is already defined in 50 CFR 600.10, which contains the definitions for all of part 600. The EFH provisions contained in this interim final rule will become

subparts of part 600 and as such are subject to those definitions.

Comment: Several commenters suggested that the terms "high value habitat" and "ecosystem scale" need to be defined in the interim final rule.

Response: NMFS disagrees that these terms need to be defined in the rule since they may be interpreted from the contexts in which they are used in the rule.

5. Comments on the Purpose and Scope of the Rule

Comments: Several commenters criticized NMFS for not requiring Councils to describe and identify EFH for all fish species inhabiting the geographic jurisdiction of a Council, and suggested that such a limitation is not supported by the Magnuson-Stevens Act. Other commenters suggested that EFH be described and identified for all major fisheries, even those not in an FMP. They stated that Councils should be able to describe and identify EFH of non-managed species in order to protect habitats that are affected by fishing for a managed species. Others suggested that as soon as EFH is identified in a proposed FMP, management measures and consultations should begin without waiting for final approval of the FMP.

Response: NMFS continues to maintain that the Magnuson-Stevens Act requires Councils to describe and identify EFH for only those species managed under an FMP. According to section 303(a)(7) of the Magnuson-Stevens Act, EFH provisions are required components of an FMP. Therefore, it is appropriate to describe and identify EFH only for those species managed in the FMP. However, the Magnuson-Stevens Act does not preclude Councils from identifying habitat of a fishery resource under its authority. Section 305(b)(3) describes the Councils' commenting responsibilities for activities that may affect such habitat. In the rule, NMFS points out that Councils have the option to describe and identify habitats (not EFH) and institute management measures to protect species (and their habitats) that are not managed under FMPs. This is currently done by some Councils. However, the habitats of species not managed under a Federal FMP would not be considered EFH for the purposes of consultation.

EFH consultation and management measures can not be implemented until FMPs include an EFH provision. Consultation and management measures would have no statutory basis without the EFH provisions in an FMP.

Comments: Several commenters questioned whether EFH would be

identified in state waters. Many commenters urged NMFS to do so; others opposed it. Commenters urged NMFS to clearly state that management actions regarding fishing impacts only apply to species managed by Councils in Federal waters. While some commenters pointed out that NMFS cannot regulate fishing in state waters, others asked that fishing be regulated in state waters as well as Federal waters. Three commenters suggested that the Submerged Lands Act, in combination with the Magnuson-Stevens Act, would allow NMFS to assert jurisdiction over state waters, and that the rule should explain how states' authority over their waters and submerged lands will be affected by this rule. Some suggested that fishing regulations be closely coordinated with state management agencies to ensure consistency in habitat protection. The commenters who stated that EFH should not be identified in state waters, further asserted that NMFS should not provide comments on Federal and state activities that take place in state waters.

Response: The Magnuson-Stevens Act requires Councils to describe and identify EFH based on all life stages of the managed species, with no limitations placed on the geographic location of EFH. Therefore, EFH may be in state or Federal waters depending on the biological requirements of the species. Regarding actions that occur in state waters that may adversely affect EFH, the Magnuson-Stevens Act provides authority for NMFS to provide EFH conservation recommendations, not regulate.

With few exceptions, direct NMFS regulatory authority applies only to Federal waters, the exclusive economic zone (EEZ). Generally, without appropriate preemptive procedures, NMFS can not implement management measures for state waters. However, many species targeted in Federal fisheries spend part of their life cycle in state waters and may be impacted by fishing activities that are managed by a state. Effective management of marine resources that cross jurisdictional boundaries requires coordination between management entities, and NMFS has added additional language to the interim final rule to emphasize such arrangements. Adverse impacts to EFH that result from state-managed fisheries will be addressed through conservation recommendations to the appropriate state agency. Failure to consult or comment on activities adversely affecting all habitats would be a failure to carry out the legislative mandate to protect EFH for all life history stages.

Comments: Several commenters recommended that the EFH mandate should be applied beyond U.S. territorial waters. They argue that many of the species managed under the Magnuson-Stevens Act range beyond U.S. territorial waters, e.g., New England groundfish and Alaska salmon are found in Canadian waters and the high seas. The highly migratory species that are managed under Secretarial FMPs range into international waters and the waters of other nations. The basic question raised in the comments is whether NMFS and the Councils can identify EFH for those species in the territorial waters of another country or in international waters.

Response: The EFH provisions under the Magnuson-Stevens Act do not direct the Councils to include waters beyond the jurisdiction of the U.S. Since provisions in statutes are not presumed to apply extraterritorially, NMFS has determined that waters beyond the United States' EEZ are not to be identified as EFH. Therefore, NMFS will not regulate fishing beyond the EEZ, and Federal consultation will not be required. However, Councils may describe, identify, and promote protection of habitats for managed species in waters beyond the EEZ. The Secretary will use such information in discussions with Federal agencies involved in international actions, including negotiations with foreign nations.

Comment: One Federal agency commented that the Great Lakes should be added to the EFH program. Other commenters suggested that interjurisdictional fisheries be added to the program.

Response: In order for an area, like the Great Lakes, to be identified as EFH, it must provide essential habitat for a species managed under the Magnuson-Stevens Act. Similarly, an interjurisdictional fishery must be at least partially managed under the Magnuson-Stevens Act for the EFH mandate to apply.

Comment: Commenters asked whether EFH would be described and identified in waters under the jurisdiction of tribes or native corporations.

Response: NMFS intends that tribal and native corporation waters be treated the same as state waters for the purposes of describing and identifying EFH (i.e., EFH may be identified in those waters if the habitat is essential for a managed species). However, tribes and native corporations are not required to consult with NMFS on actions that do not require Federal or state authorization or action. Tribal and native corporation

actions, including activities carried out through Federal financial assistance and under permits or licenses issued by Federal or state governments, will require the appropriate procedures for consultation and/or recommendations as set forth in subpart K.

Comment: Commenters voiced concern that this regulation would affect the rights of private landowners to manage their own property.

Response: Private landowners have no new responsibilities to consult with NMFS on private land activities as a result of the Magnuson-Stevens Act or this interim final rule. No consultation is required unless an activity may have an adverse impact on EFH and it requires a Federal or state action, such as permitting or licensing. Those Federal or state actions will trigger the consultation and/or recommendation requirements of section 305(b)(2-4) of the Magnuson-Stevens Act. EFH coordination, consultation, and recommendation procedures are detailed in this interim final rule and will be added to part 600 as new subpart, K. Use of existing consultation procedures to minimize adverse impacts to EFH is strongly advocated in the rule.

Comment: One organization suggested that EFH should be expanded beyond aquatic areas to include riparian areas and hydrological basins.

Response: The statutory definition of EFH limits it to "waters"; therefore, terrestrial areas may not be identified as EFH. However, there is not a similar legal limit on Federal or state activities that may adversely impact EFH. The only criteria is that the activity may have an adverse impact on EFH, with no limits on where the activity is located. An adverse effect on EFH should be reasonably foreseeable for the action to require consultation. Therefore, NMFS may comment on Federal or state actions which take place within riparian areas or hydrological basins if they may have a reasonably foreseeable adverse impact on EFH. In this rule, NMFS has confined EFH to include only aquatic habitat because the Magnuson-Stevens Act definition of EFH limits it to "waters." However, NMFS believes that areas important to a sustainable fishery necessarily include riparian and upland areas, as well as aquatic areas, particularly in the case of anadromous species. Areas that NMFS considers important are illustrated in the critical habitat designation for Snake River chinook.

Comment: One commenter expressed concern that those areas not identified as EFH will be subject to greater threat of disturbance because they will be thought of as expendable.

Response: The Fish and Wildlife Coordination Act (FWCA) provides a directive to Federal agencies to consult with NMFS when waters of the United States may be modified by activities requiring a Federal permit or license. The FWCA will continue to allow the Secretary to comment on Federal activities that may adversely affect living marine resources and their habitat, even if such habitat is not identified as EFH.

6. Comments on Mandatory Contents of Fishery Management Plans

Comments: Some non-fishing industry commenters argued that NMFS has exceeded the authority granted by the Magnuson-Stevens Act by including mandatory provisions in the EFH guidelines. They argue that Congress intended the guidelines to be voluntary. Other commenters argued that proposing discretionary components that "should" be included in an FMP will expose the Councils and NMFS to third-party suits. They stated that the guidelines need to be far less prescriptive to guard against such suits. Conversely, other commenters argued that NMFS should change many of the discretionary components of FMPs in the proposed rule to mandatory components in the interim final rule.

Response: The Magnuson-Stevens Act directs the Secretary to "establish by regulation guidelines to assist Councils" in carrying out the EFH mandate. The mandatory components specified in the rule reflect requirements of the Magnuson-Stevens Act, or are logical extensions of it. Since receiving these comments, NMFS has reviewed the use of each term (i.e., must, should, may, etc.) to ensure that the requirements of the Magnuson-Stevens Act are reflected in the interim final rule. NMFS will continue to maintain a mixture of voluntary (may), strongly suggested (should), and mandatory (must) components to inform Councils of the elements needed in an EFH amendment to receive Secretarial approval.

7. Comments on Description and Identification of EFH in Fishery Management Plans

Comment: A commenter criticized NMFS for not providing tighter, less vague standards for the description and identification of EFH.

Response: The guidelines contained in this rule apply to all regions of the United States, including the Caribbean and western Pacific territories, and will be used to amend 39 different FMPs covering over 400 species. Because of this diversity of regional needs, the guidelines need to be flexible, while

providing consistent guidance to ensure that amendments meet equivalent standards.

Comments: Many commenters suggested other types of information that should be included in describing and identifying EFH. These include: (1) Sensitive life stages; (2) reproductive and dispersal patterns; (3) information generated from spatial, temporal, and fishing gear experiments; (4) historical information for each data level; (5) carrying capacity, habitat availability, quality, and utilization; and (6) spawning structures and structural complexity.

Response: NMFS concurs that this information may be useful. The lists of information types were intended to be instructive, not exhaustive. The interim final rule has been modified to provide more flexibility with regard to the data used.

8. Comments on the Sources and Quality of Information Used

Comment: Several comments, particularly from state agencies, stressed the need to involve states and use state agency data in satisfying the EFH requirements of the Magnuson-Stevens Act. Several commenters urged NMFS to cooperate with states in gathering information, developing FMP amendments, and funding restoration.

Response: NMFS agrees, and is already collaborating with the states in many activities. For example, NMFS is coordinating with the state fisheries agencies and the three interstate fisheries commissions to gather the best available information for use in the EFH amendments. NMFS is also working with state coastal zone programs to coordinate EFH efforts with approved coastal management plans. These interactions with states are facilitated by the fact that Council members represent each state under the Council's jurisdiction, and many resource agency experts also serve on various Council committees and panels, including habitat committees and advisory panels. All Council activities are open to the public, which affords further opportunities for cooperation. Subpart J of the interim final rule has been further modified to emphasize coordination between states, interstate commissions, and Councils in the development of EFH FMP provisions.

Comment: Several commenters suggested that "best available information" might preclude NMFS and the Councils from using local knowledge and log books as sources of information to describe and identify EFH.

Response: Section 305(b)(1)(B) of the Magnuson-Stevens Act requires NMFS to consult with participants in the fishery before submitting its recommendations and information to the Councils to assist in the description and identification of EFH. This indicates Congress' intent to use information from fishers. NMFS intends for Councils to use the best available information, including local knowledge and log books, to describe and identify EFH. However, all information should be evaluated with regard to the reliability of the information and its source.

9. Comments on the Four-Level Approach for Gathering and Organizing EFH Data

Comments: Many commenters expressed concern about the four-level approach to gathering and organizing data for the description and identification of EFH. Some expressed concern that there is no incentive for Councils to move beyond level 1 information (i.e., presence/absence information) and that Councils would identify all habitats occupied by managed species as EFH to ensure the greatest amount of protection. Other commenters suggested that there should be a rebuttable presumption that all habitat is EFH if data from levels 2 through 4 are used to refine the identification of EFH. Finally, some commenters criticized NMFS for allowing the identification of EFH to be based on production rates by habitat type, because it restricts the goal of the Magnuson-Stevens Act to promote the protection of EFH.

Response: The four-level approach provides a logical method to gather and organize data for the identification of EFH. There is a natural incentive to gather and use information from progressively higher levels, because this will enable NMFS and the Councils to target their habitat conservation efforts to ensure that the most productive habitats receive greater attention. The rule has been modified to reinforce this intention. Councils are required to demonstrate that the best scientific information available was used in the identification of EFH. NMFS also disagrees with the comment that linking EFH to production will not promote the protection of EFH. Clearly linking EFH to biological production, and advocating research to quantify these relationships, will increase awareness of the importance of habitat to sustainable fisheries and will likely lead to greater emphasis on protecting EFH. NMFS did not create a rebuttable presumption that all habitat identified by levels 2 through

4 information is EFH because it could lead to an overly broad area being identified as EFH without adequate scientific justification. NMFS' use of the four levels of information is a means of organizing the available data for the identification of EFH. This data will be considered in determining the extent of EFH.

Comment: One commenter suggested that NMFS require Councils to submit a schedule detailing when higher levels of information will be developed.

Response: Periodic updates are required for EFH amendments. Amendments should include an assessment of the information needed to improve the description and identification of EFH. The research needs identified in an FMP should include a schedule for meeting those needs.

10. Comments on Criteria for EFH Determinations

Comments: Several commenters questioned the role of Council judgment when there is only level 1 information available. Others asked for additional guidance on how to interpret level 1 information.

Response: The role of Councils is to evaluate information and use the EFH determination criteria in the interim final rule to identify EFH and the measures required to conserve it. Councils will need to evaluate all available information, according to its merit, and use best scientific judgement in arriving at their decisions. Demonstration that this identification is based on the best scientific information available will be necessary to attain Secretarial approval of an EFH amendment. Additional clarification on how to interpret level 1 information to identify EFH has been added to the interim final rule.

Comments: Comments from conservation groups, many fishing groups, and most individual commenters fully supported a "precautionary approach" and encouraged expansion of these provisions. A few commenters urged that all habitats be designated EFH and that those people who impact the habitat should be responsible for proving that their activities are not decreasing the habitat's capacity to support fish populations. Many comments, primarily from non-fishing industry interests, criticized NMFS for establishing a "risk-averse" process for identifying EFH that they claim will result in most aquatic areas being identified as EFH. Of particular concern is the guidance in the proposed rule that if only species distribution information

is available, EFH should be everywhere a species is found. Also of concern is a provision which states that, if a species is overfished, all habitats used by the species, plus certain historic habitats, should be considered EFH. The commenters believed that these provisions will result in most, if not all, habitats being identified as EFH and that this is not the intent of the Magnuson-Stevens Act.

Response: The "risk-averse" approach to describing and identifying EFH was advocated in the proposed regulation because of the uncertainty inherent in much of our knowledge of habitat-productivity relationships. Care should be exercised in the face of inadequate information or overfished stocks to guard against habitat losses or alterations that may prove significant to the long-term productivity of the species. The rule continues to endorse these risk-averse approaches, but clarifies that Councils should use information from all available levels to make best scientific judgments on how to describe and identify EFH. Presence/absence data should be used to delineate the geographic range of the species. Habitat-specific information on density, reproduction, and growth should be used to identify EFH within that range. If only presence/absence information are available on a managed species, these data should be evaluated to identify those areas most commonly used by the species as EFH. The rule also clarifies that, for overfished species, all habitats currently used, and certain historic habitats, should be identified as EFH only if habitat loss or degradation may be contributing to the species' being identified as overfished.

11. Comments on the Relationship Between EFH and Critical Habitat

Comments: Some commenters criticized the proposed rule for stating that EFH will always be greater than or equal to "critical habitat." One commenter noted that some critical habitat can include upland habitats and therefore this linkage is not consistent with the statutory definition of EFH. Others stated that EFH should not be described and identified for species listed under the ESA. One commenter questioned why NMFS is allowing fishing on endangered species. Some commenters supported EFH being equal to or greater than critical habitat because it will promote the recovery of endangered species.

Response: NMFS maintains that it is appropriate to state that EFH will always be greater than or equal to critical habitat, as defined under ESA. The interim final rule includes a minor

modification to the language that helps distinguish between critical habitat and EFH and to reiterate that EFH is aquatic only. EFH includes habitats for all life history stages of a species, while for some anadromous salmonids listed under ESA, adult marine habitats have not been identified as critical habitat. NMFS does recognize that critical habitat may contain terrestrial areas and has modified the interim final rule to clarify that those areas may not be considered EFH.

NMFS and the Councils do not allow directed fishing on listed species but EFH requirements are still necessary if the species are covered by an FMP. Certain stocks of west coast salmon are currently part of the management unit of an FMP. Specific runs of those stocks are listed as threatened or endangered under the ESA. Even though certain runs of a larger stock are listed under the ESA, the Magnuson-Stevens Act still requires Councils to describe, identify, and consider actions to conserve and enhance EFH for the species. This does not mean that directed fishing will be allowed on the listed runs.

12. Comments on Inclusion of Mariculture and Indirect Fishing Effects

Comments: NMFS received comments suggesting that fishing activities should include all components of the activity (e.g., anchoring, refueling). Some commenters requested that mariculture be considered a fishing activity.

Response: As fishing is defined in section 3(4) of the Magnuson-Stevens Act it includes "harvesting of fish." Commercial fishing, in the same section, means "fishing in which the fish harvested, either in whole or in part, are intended to enter commerce or enter commerce through sale, barter or trade." NMFS agrees that mariculture is included within these definitions because the fish harvested enter commerce. The interim final rule was not changed, because mariculture was already considered to be part of commercial fishing. Under these regulations Councils would be required to assess the impacts of mariculture activities and minimize any adverse effects that impact EFH within their jurisdiction. The indirect effects of fishing activities should also be considered, when evaluating adverse impacts from fishing, as well as when analyzing cumulative impacts on EFH.

In the rule, NMFS has used the term "fishing equipment" to replace the term "fishing gear," that was used in the proposed rule. Fishing equipment is used to portray the intention to more broadly consider impacts from fishing-related activities when assessing

adverse impacts on EFH. Councils should assess impacts of different fishing gears, fishing techniques, equipment, and practices used in mariculture, and other factors, as appropriate.

13. Comments on Fishing Gear (Equipment) Assessment

Comments: In addition to completing an assessment of fishing gear, commenters requested that Councils rank gear based on the severity of impacts to specific habitats. Some argued that recreational fishing impacts should be excluded from such assessment.

Response: The effects of fishing practices or gear types is habitat-dependent. NMFS has modified the rule to direct that during the assessment of fishing equipment (gear) impacts, the relative effect of different equipment types or techniques on different habitat types should be assessed. This will help the Councils focus research and management efforts on those habitats that require the most attention.

Assessments and subsequent research should be conducted on all types of fishing impacts, including recreational and commercial fishing equipment or practices, however relative impacts should be prioritized and management and research should address needs accordingly.

NMFS also emphasizes in the rule that the fishing equipment assessment should be conducted periodically with subsequent review or revision. As new equipment is developed, techniques are changed, or additional research is conducted, new information on effects on EFH will be developed. Language has been added to the rule to clarify that Councils should assess all new information regarding EFH, including new assessments of fishing equipment impacts, to determine when an amendment needs to be updated. EFH amendments are to be reviewed and revised as appropriate, but at least once every 5 years. New information regarding equipment effects on EFH should be incorporated as available into any updates of EFH amendments.

Comments: Commenters suggested that technology, such as the use of remotely operated vehicles, should be an acceptable alternative to research closure areas in assessing the effects of gear. One Council asked that it be able to base assessments on operational characteristics of gear in their specific area rather than inference from studies in other areas.

Response: The rule recommends "consideration of the establishment of research closure areas and other

measures" to assess the effects of fishing equipment on EFH. It does not restrict Councils from considering any options. Councils should use the most appropriate measures to assess impacts. Councils, however, should not discount some methods or tools because they may be time-consuming or require management action, if they are the most appropriate method to use. All relevant research should be considered when assessing impacts of fishing gear on EFH, including research that has been conducted in other, biogeographically similar areas.

Comment: Several commenters expressed concern that there is no requirement to conduct a cumulative impacts assessment of fishing impacts, as there is for non-fishing impacts.

Response: NMFS assumed that all forms of adverse impacts, including those from fishing, were included as cumulative impacts on EFH. However, NMFS has modified the rule to further clarify this intent. Impacts of fishing and non-fishing activities should be considered when a cumulative impacts analysis is conducted. This may be particularly important where fishing gear of one fishery impacts the habitat of another fishery. Furthermore, cumulative impacts analysis should consider synergistic effects of both fishing and non-fishing impacts on habitat, and should give additional consideration to cumulative impacts affecting HAPC.

Comment: Commenters stated that adverse impacts from fishing should be demonstrated scientifically.

Response: National standard 2 requires that conservation and management measures be based upon the best scientific information available. Councils should, however, take into consideration information available through other valid sources. If scientific information is limited, the best available information should be considered for assessing adverse impacts of fishing equipment on habitats. This information should be weighed, based on the quality of information, and considered appropriately in the development of EFH conservation and management decisions.

14. Comments on the Threshold That Requires Councils To Regulate Fishing Activities That Adversely Impact EFH

Comments: The proposed rule required Councils to act to mitigate or minimize any adverse effect from fishing, to the extent practicable, if there is evidence that a fishing practice is having "substantial" adverse effect on EFH. Many comments from environmental and fishing groups

criticized the proposed rule for using "substantial" to characterize adverse impacts that would require a Council to regulate damaging fishing practices. They claimed this was a higher threshold than intended in the Magnuson-Stevens Act. Under the Magnuson-Stevens Act, Councils are required to "minimize to the extent practicable adverse effects on such habitat caused by fishing." Many of the commenters maintain that this "higher threshold," is so high that Councils will never act to control a damaging fishing practice, nor will research be conducted to assess less understood impacts from fishing. Commenters, additionally, suggested that the burden to prove they are in fact causing no impact should be placed on those wishing to exploit the public resource.

Response: The language of the proposed rule was not meant to raise the threshold of damage from fishing impacts higher than that intended in the statute. The language was intended to provide guidance to assist Councils in determining when they are required to take action on a fishing impact. NMFS believes that the intent of the Magnuson-Stevens Act is to regulate fishing gears or techniques that reduce an essential habitat's capacity to support marine resources, not practices that produce inconsequential changes in the habitat. Therefore, NMFS continues to support this concept but has deleted the word "substantial" from the rule and added new language to clarify this concept. Impacts from fishing practices that justify the implementation of management actions should be "identifiable" (i.e., both more than minimal and not temporary in nature).

Comments: Commenters stated that the inclusion of a formal cost-benefit analysis to determine whether it is practicable to impose management restrictions on a damaging fishing activity goes beyond the statute. Costs to industry and costs to the environment cannot be directly compared because they are measured differently. Commenters pointed out that the legislative history indicates that while the term "to the extent practicable" was intended to allow for the consideration of costs; it was not a requirement that the benefits justify the costs. Commenters suggested that the long-term costs to the ecosystem and long-term benefits to the fishery and all potential users (since this is a public resource) must be weighed and that short-term cost to the fishers is only one of many factors that must be considered.

Response: NMFS agrees that the Magnuson-Stevens Act does not require a formal cost/benefit analysis or a

demonstration that the benefits of minimizing adverse impacts justifies the costs to fishers. In considering management measures, Councils should evaluate the long-term benefits to the habitat and the managed species (including long-term benefits to the fishery), as well as short-term economic consequences to the fishery. This provision is intended to simply focus Council attention on costs and benefits consistent with national standard 7, which requires consideration of costs and benefits in the development of conservation and management measures. Further, Executive Order (E.O.) 12866 requires NMFS to regulate in the most cost effective manner to achieve the regulatory objective. The rule has additional clarifying language to avoid the interpretation that a formal cost/benefit analysis must be completed before taking action.

Comment: Several commenters urged that immediate management measures should be taken as precautionary measures against further EFH degradation, rather than waiting for Councils to identify and describe EFH, and assess gear impacts on EFH. Many commenters identified specific gear types that should be immediately banned or restricted.

Response: Councils must know what types and locations of habitats constitute EFH before they will be able to act to prevent, minimize, or mitigate adverse impacts from either fishing or non-fishing activities on EFH. Banning a gear type to protect EFH before it is identified, in an FMP and without assessment of adverse impacts, is contrary to the Magnuson-Stevens Act. The interim final rule presents a logical progression for description and identification of EFH, identification of adverse impacts to EFH, and development of management, conservation, or enhancement measures, as appropriate.

15. Comments Objecting to Listing of Specific Fishing Gears/Diving as Fishing Impacts

Comment: Commenters opposed the listing of diving or specific fishing gears as potentially causing adverse impacts that would require fishing restrictions. Dive groups commented that commercial diving should be distinguished from recreational diving, or that diving should not be listed at all. Commenters suggested that anchoring on artificial reefs was as damaging as the other examples listed and that it should also be included in the list of potential restrictions.

Response: The intent of this language was to provide the Councils with some

examples of typical activities that have the potential to adversely affect diverse types of EFH (e.g., careless divers and snorkelers have been widely documented to cause adverse effects on coral reef habitats). However, NMFS agrees that it is more appropriate to address these considerations in a broader manner. As a result, the language in the interim final rule was modified to present general options that Councils should consider in determining appropriate management measures. These general options are illustrative only, many activities may result in habitat-specific impacts. Councils should examine all practices that may contribute to EFH degradation and act to minimize the impacts as appropriate.

16. Comments on Marine Fishery Reserves as Options for Managing Adverse Effects From Fishing

Comment: Many commenters, primarily individuals, fishing groups, and conservation groups, requested that language be added to the interim final rule to clarify that Councils are not restricted from considering closed areas (Marine Protected Areas, Marine Fishery Reserves, No-Take Zones, or Research Closure Areas) as management tools for protection of habitats and habitat functions and for enhancing recovery of overfished species, as well as for conducting research. Commenters felt that a statement in the preamble of the proposed rule which stated, "NMFS has clarified that the intent [of the regulation] is not to preclude fishing in areas identified as EFH," could be interpreted to mean that fishing or specific fishing gears would never be restricted in any area. Commenters indicated that establishment of such zones is supportive of a precautionary approach to habitat conservation where there is uncertainty on the extent and degree of impacts that occur from fishing. They suggested that early establishment of such zones could protect areas and stocks from further impacts while additional information is gathered. Additional commenters suggested that NOAA's National Marine Sanctuaries and National Estuarine Research Reserves and the Environmental Protection Agency's National Estuary Program provide sites that should be utilized for research areas. These areas are the focus of current research efforts and many have extensive databases on habitat types and usage within the reserve areas.

Response: The interim final rule continues to advocate research closures areas and other measures, as appropriate, to evaluate the impact of

fishing equipment and techniques on EFH. The regulations continue to encourage Councils to consider time/area closures as management tools for minimizing impacts of fishing gears on EFH. The language in the preamble of the proposed rule, " * * * that the intent [of the regulation] is not to preclude fishing in areas identified as EFH," was intended to confirm that identification of an area as EFH did not automatically bring restrictions on fishing in the area. NMFS altered the language in the interim final rule to clarify that Councils are encouraged to consider marine protected areas as management tools for habitat conservation as well as management of fishing practices. Currently established Federal and state research areas (e.g., National Marine Sanctuaries or Estuarine Research Reserves) should be evaluated as logical locations for additional studies.

17. Comments on the Statutory Authority To Address Adverse Impacts on EFH From Non-Fishing Activities

Comments: Many commenters, primarily non-fishing industry groups, did not agree that the Magnuson-Stevens Act provided NMFS or the Councils the statutory authority to comment and make recommendations on non-fishing activities. They proposed that the sections regarding identification of adverse impacts from non-fishing activities and consultation be deleted in their entirety.

Response: NMFS disagrees for a number of reasons. First, one of the stated purposes of the Magnuson-Stevens Act is to promote the protection of EFH through the review of projects conducted under Federal permits, licenses, or other authorities that affect, or have the potential to affect, such habitat. These projects would include non-fishing activities. Second, the Magnuson-Stevens Act, in section 303(a)(7), requires that FMPs identify conservation and enhancement measures for EFH. These measures are not limited by statute to addressing only fishing activities. A necessary first step to identifying conservation and enhancement measures is to identify adverse impacts that will require conservation and enhancement measures to adequately promote the protection of EFH. Therefore, a logical extension of the Magnuson-Stevens Act requirement to identify conservation and enhancement measures is the consideration of adverse impacts from non-fishing activities that would necessitate the use of such measures. Third, the requirements for coordination, consultation, and

recommendations relate directly to non-fishing actions. The Magnuson-Stevens Act requires that other Federal agencies consult with the Secretary and then consider and respond in writing to the Secretary's EFH conservation recommendations regarding actions that may adversely impact EFH. These actions will be non-fishing actions. Therefore, the EFH amendments must include consideration of adverse impacts from non-fishing activities to aid NMFS and the Councils when they are consulting/commenting on actions that may adversely impact EFH.

18. Comments on Different Levels of Scrutiny of Non-Fishing Impacts

Comment: Many non-fishing interests commented that their impacts on EFH were being held to a higher standard than adverse impacts from fishing, because NMFS does not have to determine whether it is practicable to minimize or mitigate the adverse impact before providing a recommendation. The commenters were also concerned that too much emphasis is placed on non-fishing adverse impacts on EFH.

Response: Non-fishing and fishing impacts are held to two different levels of scrutiny because of legal differences in how the impacts are addressed. Fishing impacts, as required by the Magnuson-Stevens Act, must be minimized to the extent practicable by implementing conservation and management measures. For non-fishing activities, NMFS is required to provide EFH conservation recommendations to action agencies for all actions that may have an adverse impact on EFH. NMFS and the Councils control fishing activities through regulation, whereas recommendations by NMFS and the Councils on non-fishing activities are advisory. The action agency then considers NMFS' recommendations according to its statutory requirements. The emphasis placed on non-fishing in the coordination, consultation, and recommendation process will depend on the level of impact from each.

19. Comments on the Identification of Specific Industries With Potential Adverse Effects on EFH

Comments: Many commenters objected to their particular industries or activities being highlighted in the proposed rule as having potential adverse effects on EFH. Many pointed out that non-fishing activities do not always adversely impact fish habitat. Some forest industry groups pointed out that they are involved in restoration of anadromous fish habitats. Oil and gas industry commenters pointed out that oil platforms have been documented as

artificial reefs that support fish populations and therefore produce positive effects on fisheries, not adverse effects.

Response: NMFS acknowledges that many industries take certain actions specifically to improve fish habitat even if other activities conducted by the industry may adversely affect fish habitat. Therefore, NMFS agrees that the language of the rule should be more generic and that the types of activities that have been demonstrated to have potentially adverse effects on EFH should be highlighted for the Councils in the interim final rule rather than identifying the industries that may engage in these activities. NMFS revised this section to clarify that its intent is to avoid, minimize, or compensate for adverse impacts on EFH. The rule avoids singling out specific industries just because they have the potential to adversely impact EFH.

20. Comments on Cumulative Impacts Analysis

Comments: Several commenters were concerned that the relationship between the required analysis of cumulative impacts and EFH was not clearly specified. Many cited an ecological risk assessment as a lengthy, expensive procedure that would tell little about EFH. Some commenters asked NMFS to provide criteria for conducting an ecological risk assessment.

Response: NMFS has clarified the cumulative impacts analysis requirements in the rule. Cumulative impacts analysis is intended to monitor the effect on EFH of the incremental impacts, occurring within a watershed or marine ecosystem context, that may result from individually minor but collectively significant actions. The assessment of ecological risks is intended in a generic sense to examine actions occurring within the watershed or marine ecosystem that adversely affect the ecological structure or function of EFH. The assessment should specifically consider the habitat variables, previously noted while describing and identifying EFH, that control or limit a managed species' use of a habitat. It should consider the effects of all impacts that affect either the quantity or quality of EFH. The term "ecological risk assessment" was not meant to be interpreted in the stricter toxicological sense. NMFS will continue to develop further criteria for conducting an ecological risk assessment.

21. Comments on Mapping of Cumulative Impacts Analysis

Comments: Some commenters thought the requirement to map adverse impacts should be discretionary. Others thought it should be deleted altogether.

Response: NMFS disagrees and considers mapping of the impacts to be one of the most important ways to analyze the data and to easily share the information with other resource management agencies and the public. It is also an efficient way to track cumulative effects over time and detect when effects are reaching threshold limits. The rule has been revised to clarify that the mapping requirements are strongly encouraged.

22. Comments on the Options for Conservation and Enhancement of EFH

Comments: Several commenters were concerned about the broad examples given in this section. They recommended that FMPs address site-specific activities because an activity might adversely impact EFH under certain conditions and not under others. Other commenters expressed concern that statements suggesting that certain activities (such as diversion of fresh water) always produce adverse effects did not reflect their regional perspective. There were many comments about the examples used and questions over whether these were the best or even proper examples. There were many suggestions of different examples to include in the rule. Several commenters were concerned that NMFS was mandating best management practices for non-fishing activities.

Response: NMFS recognizes that this section did not provide the clarity that it intended, and that the listing of examples, while not meant to be exhaustive, needs modification. The section has been revised in the interim final rule to clarify that the intent of the section is to provide examples of proactive and reactive measures to conserve and enhance EFH. The revisions focus on avoiding, minimizing, or compensating for impacts on EFH derived from activities both inside and outside of EFH and the need for Councils to provide recommendations to address those impacts. The management measures listed in this section are intended to be optional. Certain actions may have positive or negative impacts on EFH depending on the location and the purpose of the action. The effect of actions should be judged within the context of watershed planning and/or by ecosystem considerations.

Comment: One commenter expressed concern that habitat creation was listed as an option to conserve and enhance EFH.

Response: The Magnuson-Stevens Act requires NMFS and the Councils to conserve and enhance EFH. NMFS believes that, under certain circumstances, habitat creation is a viable means to enhance EFH on a watershed basis.

Comment: One commenter criticized NMFS for not encouraging proactive measures to conserve and enhance EFH.

Response: NMFS modified the rule to include language stating that the Councils and NMFS will provide information on ways to improve ongoing Federal operations.

23. Comments on the Treatment of Prey Species Under the Proposed Rule

Comments: Several commenters asked that the proposed rule be modified to require that EFH be described and identified for all prey species. Numerous commenters stated that habitat for forage species should be included in an ecosystem approach, and mapped as well. Other commenters, against the inclusion of prey, stated that loss of prey should not categorically be considered an adverse impact because the fishery decline could be due to other factors such as overfishing, rather than loss of prey. Inclusion of threats to prey, they commented, exceeds the scope of the statute. Commenters concerned with anadromous species stated that predators should be considered if prey are included. They stated that this reflects more of an ecosystem approach and could take into consideration the effects of pinniped predation on the fishery. One Council asked NMFS to clarify that Councils may not place harvest limits on prey species unless the prey species is managed under an FMP.

Response: NMFS continues to maintain that describing and identifying separate EFH for prey species not included in an FMU is beyond the scope of the Magnuson-Stevens Act. However, NMFS recognizes the importance of prey to the managed species. The statutory definition of EFH includes "feeding" as an ecological function of EFH necessary to a species. Therefore, presence of adequate prey is one of the biological properties that can make a habitat essential. It is appropriate to consider loss of prey as an adverse impact to a managed species' EFH because the species would not be able to use the habitat for feeding. Therefore, the rule requires Councils to identify prey species for managed species in the FMU and the habitats of major prey species. Councils must address threats

to the prey species and its habitat if there is evidence that such adverse effects may lead to a decline in the prey species population and by extension reduce the quality of a managed species' EFH. These threats should be covered under the adverse effects section of the EFH amendment.

A requirement to describe and identify EFH for predators is not authorized by statute, and therefore, not included in the rule. In identifying EFH through an ecosystem approach, however, NMFS does suggest that Councils consider the extent to which the managed species is prey for other managed and non-managed species or marine mammals in determining the habitat necessary to support a sustainable fishery and the managed species' contribution to a healthy ecosystem. Predators of managed species need to be considered a source of natural mortality inherent in the ecosystem. The MMPA does include provisions which address the interactions between marine mammals and other species. NMFS is able to address these interactions through that statute.

24. Comments on Vulnerable Habitats (Habitat Areas of Particular Concern)

Comment: Some commenters asked for a definition of "vulnerable habitat" and wanted to know how broad this category may be. Other commenters supported the identification of vulnerable habitats or prioritizing actions in "areas of special concern" and suggested that important habitats be ranked. Some commenters asked for guidance in determining whether a habitat type is vulnerable. They asked that impacts analyses consider both fishing and non-fishing impacts as human-induced degradation in vulnerable habitats. Some commenters thought that an additional level of habitat delineation, as envisioned with the identification of vulnerable habitats would add confusion, and thought that this was beyond the scope of the statute.

Response: Comments on the Framework indicated a need for prioritizing the habitats and determining which should be given greatest attention in the coordination and consultation process when little is known about a species' distribution. The vulnerable habitat provision was added to the proposed rule to address these concerns. After consideration of comments on the proposed rule, NMFS has refined this concept to include ecological function of the habitat along with considerations of vulnerability. In the rule, NMFS renamed vulnerable habitats as "habitat areas of particular

concern" (HAPC). In determining HAPCs, Councils should consider ecological value of a type or area of EFH, its susceptibility to perturbation from both anthropogenic (human-caused) sources and natural stressors, and whether it is currently stressed or rare. HAPC criteria are outlined in the interim final rule. NMFS will elaborate on these criteria in internal technical guidance.

These HAPCs can be used to focus the conservation, enhancement, management, and research efforts of NMFS and the Councils, as well as the consultation requirements of the Federal action agencies and EFH conservation recommendations. These areas should be a primary focus to provide insight into relationships between key habitat characteristics and ecological productivity or sustainability and the ways in which human activity adversely affects such habitat and its contribution to population productivity.

25. Comments on Research Needs and FMP Amendments and Updates

Comment: Commenters suggested annual reviews of research needs and assessments of progress towards meeting those needs. Other commenters were concerned that reviewing EFH sections of FMPs at least once every 5 years is too long.

Response: The proposed rule states that reviews of EFH sections of FMPs must be completed as recommended by the Secretary, at least once every 5 years. NMFS considers this amount of time appropriate and has maintained it in the rule. Councils are strongly encouraged to include interim reviews of EFH information needs during annual reviews of Stock Assessment and Fishery Evaluation (SAFE) reports. NMFS will work to develop an appropriate format for future SAFE reports to address the requirements under the Magnuson-Stevens Act EFH mandate.

Comment: One Council commented that Councils should have the option of including a framework adjustment mechanism in the EFH amendment to allow for more timely changes in management measures.

Response: NMFS agrees that framework amendments may be an appropriate way to institute management measures to conserve and enhance EFH.

Comments: Commenters called for incentives to encourage research to address gear effects and management measures to minimize adverse impacts. They suggested that a schedule be established under which the Councils or industry will be obliged to conduct the

necessary research that will indicate the extent, if any, of impacts caused by fishing sectors. As written, there is no incentive to conduct further research. They feel there is a disincentive, because findings of impacts could be used to restrict a fishery.

Response: To address this concern the interim final rule specifies that, as part of a Council's assessment of impacts caused by fishing, a schedule should be developed detailing the Council's plan to collect any missing information. Regular reporting of progress toward meeting these research goals will provide added incentive for Councils to conduct added research. A standardized schedule for all FMPs would not be useful since existing data and research needs regarding each fishery's impacts to different habitats vary greatly both within and among regions.

Comments: Some commenters asked that research needs be categorized and that cost estimates be included in FMPs. Many commenters stressed that gear effects research is needed.

Response: In developing research recommendations in FMPs, the interim final rule encourages Councils to prioritize research needs. The interim final rule does not require cost estimates; however, Councils may include budget information if they choose. Fishing gear-effects research should be considered, along with research on habitat utilization, habitat availability, and adverse impacts from non-fishing activities. Research should be conducted on all types of fishing impacts, including recreational and commercial fishing equipment or practices, however relative impacts should be prioritized and research should address needs accordingly.

26. *Comments on Development and Review of NMFS EFH Recommendations to Councils*

Comments: Many commenters stated that a public process must be available for participation in the development and review of EFH recommendations. They sought participation outside of the Council process. They want all stakeholders to be involved in the development of recommendations. Some state resource agencies commented that, prior to approval of recommendations, public meetings should be held in each state. Some commenters suggested that conservation groups should be specifically listed as interested parties, and some commenters suggested that any potentially impacted party should be contacted so that they could review the recommendations.

Response: The proposed rule stated that the NMFS draft recommendation will be made available for public review. The interim final rule continues to suggest that the public review process be coordinated with Council meetings in order to accommodate those user groups most closely associated with the regulation. Stakeholders that have not previously been involved in the Council process are not precluded from participating. Where appropriate, additional meetings outside the Council process may be held. Individual meetings in every state may not be practicable, but where feasible, should be considered, as is standard practice with many Council proceedings. Contacting individual stakeholders to extend the review process is not practicable. It is incumbent upon stakeholders to take the initiative and become involved in the EFH process.

Comment: One commenter criticized NMFS for establishing a standard of "best available scientific information" for NMFS EFH conservation recommendations to Councils. The commenter pointed out that this standard is stricter than that established in § 600.815(a)(2)(i).

Response: NMFS agrees and has modified the rule to allow other appropriate information to be used. However, NMFS will evaluate the quality of information in determining if it is appropriate to use.

27. *Comments on Authority To Issue the Coordination, Consultation, and Recommendation Section*

Comment: Many non-fishing industry representatives doubted the Agency's legal authority to issue regulations for the consultation process, including the requirements that Federal action agencies prepare EFH Assessments or participate in a dispute resolution process.

Response: First, NMFS does have authority to issue the coordination, consultation, and recommendation regulations. Section 305(d) of the Magnuson-Stevens Act gives the Secretary the authority to issue regulations to carry out any provision of the Act. This rulemaking authority applies directly to the EFH coordination, consultation, and recommendation provisions of the Magnuson-Stevens Act.

The provision calling for dispute resolution has been retitled "further review" in the interim final rule to clarify that a formal dispute resolution is not envisioned. Further review is not required each time agencies disagree. It is an option available to reach agreement only if both agencies so

choose. Information in an EFH Assessment is needed to allow NMFS to fulfill its requirement to provide EFH conservation recommendations to a Federal or state action agency. Thus, the requirements calling for EFH Assessments and further review are mechanisms to improve the efficiency of the consultative process.

28. *Comments on the Inclusion of Coordination, Consultation, and Recommendation Procedures*

Comments: Many comments from non-fishing industries suggested that NMFS develop the consultation regulations at a later time. Some suggested that the EFH guidelines to Councils and the regulations detailing the coordination, consultation, and recommendation procedures should be published separately.

Response: Within section 305(b), the Magnuson-Stevens Act requires Councils to amend FMPs in order to describe, identify, conserve, and enhance EFH, and requires Federal action agencies to consult with NMFS if their actions may adversely affect EFH identified in FMPs. Developing the consultation regulations at a later date would be neither efficient for implementing the Magnuson-Stevens Act, nor clear to the public. Including the consultation provisions in this rulemaking allows the public and affected parties to fully understand the significance and effect of an area being identified as EFH in an FMP. Description and identification of EFH does not automatically require increased management measures (for fishing) or consultation (for non-fishing) except when Federal or state actions may adversely impact the quality or quantity of EFH. In those cases, it is important for the Councils and the action agency to understand completely the procedures involved. Therefore, NMFS considers it necessary for the development of the two sections to proceed in parallel. Moreover, between completion of this interim final rule and before the first required consultations, NMFS and the Councils will need to develop memoranda or other agreements with Federal and state agencies on how to work within or modify existing consultation procedures and in developing general concurrences, consistent with the rule. The Councils and NMFS will also need to establish procedures to coordinate sharing of information, tracking of projects, and development of conservation recommendations. NMFS does acknowledge that the coordination, consultation, and recommendation provisions for action agencies and

guidelines to the Councils may be clearer and better presented by assigning them to separate subparts (J and K) of 50 CFR part 600.

29. Comments on Use of Existing Consultation/Environmental Review Procedures

Comments: Many non-fishing groups and one government agency commented that the proposed consultation process was burdensome and duplicative because it did not recognize existing procedures that may fulfill the Magnuson-Stevens Act mandate that Federal action agencies must consult with NMFS on actions that may adversely impact EFH.

Response: The coordination, consultation, and recommendation procedures in the proposed and interim final rules reflect the Magnuson-Stevens Act's mandate. The proposed rule included a provision that EFH consultation may be consolidated with other existing consultation and environmental review processes. To clarify that it is NMFS' intention to use existing processes whenever appropriate, the interim final rule contains language strongly encouraging the use of existing consultation and environmental review processes to fulfill the EFH consultation requirements. The procedures will not be duplicative because only one review process will be used.

Existing Federal statutes such as the FWCA, ESA, and National Environmental Policy Act (NEPA) already require consultation or coordination between NMFS and other Federal agencies. Therefore, the need for Federal agencies to evaluate the effects of their actions on fish and fish habitat is not a new requirement imposed by the Magnuson-Stevens Act. As required by section 305(b)(1)(D) of the Magnuson-Stevens Act, NMFS will coordinate with, and provide information to, other Federal agencies on conservation and enhancement of EFH. This will include distribution of maps, tables and narrative descriptions of EFH. The EFH FMP amendments, which will be widely available at all NMFS Regional offices (see ADDRESSES), the NMFS Office of Habitat Conservation, Council offices, and other locations such as the World Wide Web, will provide additional information to assist Federal agencies in the assessment of their actions. FMPs will describe EFH and identify those characteristics of EFH that control or limit the habitat's use by a managed species. Action agencies can use this information to determine if, and how, an action will affect EFH. Thus, EFH

consultation should not be burdensome, since it will use readily available information that may be incorporated into the same processes that are currently invoked to satisfy existing review requirements.

Comments: Several industry groups commented that the EFH coordination, consultation, and recommendation process will mean additional restrictions on non-fishing industry activities and will not result in any benefit to EFH.

Response: The coordination, consultation, and recommendation process itself will not automatically impose additional restrictions, because NMFS' and the Councils' EFH conservation recommendations are non-binding. However, one of the purposes of the Magnuson-Stevens Act is to promote the protection of EFH in the review of projects that require Federal or state action. Accordingly, Federal and state action agencies must give NMFS' and the Councils' comments and EFH conservation recommendations due weight in their decision-making process. After consideration, Federal or state action agencies may recommend modifications of any actions with adverse effects on EFH, in order to conserve EFH. Benefits to EFH will depend on the extent to which these recommendations are followed.

Comments: Many environmental groups commented that NMFS' recommendations should be mandatory and that NMFS should be able to either stop a project based on adverse effects on EFH or postpone it pending completion of consultation.

Response: The Magnuson-Stevens Act does not provide such authority. Therefore, NMFS' EFH conservation recommendations are not mandatory, and NMFS has no authority to stop a project based on adverse effects on EFH.

Comment: One environmental group suggested that NMFS EFH conservation recommendations contain performance criteria.

Response: Where appropriate, NMFS EFH conservation recommendations will contain performance criteria.

Comments: Several agencies and many industry representatives commented that actions covered by other consultation procedures should be exempt from EFH consultation or covered by a General Concurrence. Many industry groups or resource management programs requested a blanket exemption for their activities.

Response: A purpose of the Magnuson-Stevens Act is "to promote the protection of essential fish habitat in the review of projects conducted under Federal permits, licenses, or other

authorities that affect or have the potential to affect such habitat." The Magnuson-Stevens Act does not provide exemptions from its consultation requirements in section 305(b)(2). Therefore, NMFS has no authority to exempt any actions from the consultation requirement. Existing environmental consultation procedures do not necessarily "promote" the protection of EFH. The rule is sufficiently flexible to consolidate EFH requirements with those environmental review procedures that do promote EFH, or that are modified to conform to the EFH consultation requirements. To address programs or groups of actions that have minimal adverse effects on EFH, the interim final rule allows NMFS to issue a General Concurrence rather than review each of these actions separately.

Comment: One Council commented that the Coastal Zone Management Act (CZMA) consistency process be cited as an existing environmental review that may be used to evaluate adverse impacts from Federal activities.

Response: The CZMA consistency process is a state-run program which would not be appropriate for NMFS to use to evaluate Federal actions. However, NMFS recognizes that state CZM programs may be helpful in learning of, and providing recommendations on, state actions that may adversely impact EFH, and has included this in the rule. Moreover, through joint permitting processes used by many Federal agencies, NMFS attends monthly permit review meetings along with state CZM representatives. NMFS encourages exchanges of this type.

Comment: Four commenters would prefer that the consultation procedures focus on only those activities with the potential for the most significant impacts.

Response: NMFS agrees that effective coordination, consultation, and recommendation will require prioritization of efforts. The three-tiered consultation process (GCs, abbreviated consultation, and expanded consultation) is intended to focus effort on those activities with the greatest potential to adversely affect EFH. If HAPCs are identified in an FMP, NMFS and the appropriate Council may use these as areas to further focus the consultation procedures.

Comments: Several environmental groups commented that states should be subject to the same consultation requirement as Federal agencies. Those commenters also asked for more details on state roles in the consultation process.

Response: The Magnuson-Stevens Act does not require that states consult with the Secretary. NMFS and the Councils are required to provide EFH conservation recommendations to states on activities that may adversely affect EFH. This is why the rule suggests establishing formal agreements with states to inform NMFS and the Councils of such activities. The Secretary and the state may also enter into agreements to promote the protection of EFH.

Comment: One Council commented that NMFS should keep a record of Federal and state actions for which it provides recommendations.

Response: NMFS agrees and plans to establish a system to track the disposition of its recommendations.

Comment: One commenter asked whether it was NMFS' responsibility to develop agreements with states to facilitate providing recommendations on state actions that may adversely impact EFH.

Response: It is NMFS' responsibility to develop such agreements.

Comment: One commenter stated that NMFS should separate the consultation functions from the recommendation functions.

Response: The requirement in the Magnuson-Stevens Act for Federal agencies to consult with NMFS is immediately followed by the provisions that Councils and NMFS provide recommendations to Federal action agencies. The two are also linked because consultation is the main way NMFS receives information about actions that may adversely affect EFH. NMFS must provide EFH conservation recommendations for these actions. Congress clearly intended that these activities be linked; therefore, NMFS continues to link the requirements in the rule.

30. Comments Regarding Federal Actions Requiring Consultation

Comment: Many state and Federal agencies and several non-fishing industries questioned when EFH consultations would begin, whether ongoing or delegated Federal actions require consultation, and to what extent Federal funding may trigger consultation.

Response: No consultation is required until the Secretary has approved an FMP amendment identifying EFH. The Councils are required to submit these amendments to the Secretary by October 11, 1998. Once EFH is identified, completed actions such as issued permits do not require consultation. Permit renewals, modifications, or reviews are a Federal action that could result in further consultation. Delegated

programs will require consultation at the time of delegation or renewal of delegation. All Federal funding for programs that may have an adverse effect on EFH will trigger consultation. NMFS encourages agencies funding programs that may adversely affect EFH to initiate programmatic consultation to evaluate their programs. Once funds are dispersed to a non-Federal entity, they are no longer considered Federal funds. Therefore, non-Federal entities receiving Federal funds for certain actions are not required to consult on these actions.

Comments: Several commenters expressed concern about requiring EFH consultation for actions not actually occurring in EFH.

Response: The Magnuson-Stevens Act requires consultation for all actions that may adversely affect EFH, and it does not distinguish between actions in EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside of EFH when those actions may have an adverse effect on EFH. Therefore, EFH consultation is required on any Federal action that may adversely affect EFH, regardless of its location. An adverse effect on EFH must be reasonably foreseeable before consultation is required.

31. Comments Regarding Participation in the Consultation Process

Comments: Several individuals and non-fishing interests expressed concern that the rule allowed no clear role for applicants, private landowners, or the conservation community in the consultation process. Those commenters urged more opportunities for public participation.

Response: NMFS' coordination, consultation, and recommendation procedures include opportunities for public involvement, and all Council meetings are open to the public. Most existing environmental review processes, which can be used to satisfy the EFH consultation requirements, already include opportunities for applicants and the public to participate, (e.g., permit reviews under the Clean Water Act section 404 program). Additionally, § 600.905(c)(2) of the rule allows a designated non-Federal representative of a Federal action agency to participate in consultation or preparation of an EFH Assessment. This non-Federal representative could be an applicant or landowner.

Comment: A few commenters requested that the rule clarify the role of Councils in the EFH coordination,

consultation, and recommendation process.

Response: The Magnuson-Stevens Act does not require Federal action agencies to consult with Councils on actions that may adversely affect EFH. However, the Act authorizes Councils to provide comments and recommendations on Federal or state activities that may affect fish habitat, including EFH, and requires Councils to comment and provide recommendations if the activity may affect anadromous fish habitat. NMFS included a specific section on coordination between the Councils and NMFS in the interim final rule. The Councils are viewed as integral partners in the entire EFH process. Councils will have a significant role in describing and identifying EFH, in considering threats to EFH, and in selecting conservation measures to enhance EFH. The rule encourages the establishment of agreements between the Secretary and appropriate Council(s) to facilitate provision of Council EFH conservation recommendations to Federal and state agencies.

Comment: Several non-fishing industry groups were concerned that the Councils might institute their own, completely different consultation process. Those commenters urged that NMFS should be the only point of contact.

Response: The Magnuson-Stevens Act does not require Federal agencies to consult with the Councils, although Federal agencies are required to respond to Council comments and recommendations. NMFS and the Councils will be developing agreements to minimize duplication when dealing with action agencies, but Councils will have the ability to act on their own.

32. Comments on the Determination of Adverse Impact

Comments: Several commenters asked that the rule clarify who determines adverse effects.

Response: The action agency is responsible for making an initial determination of whether its activity is going to have an adverse effect on EFH. If NMFS becomes aware of an action that appears to have an adverse effect, and the action agency has not initiated consultation, NMFS may advise the action agency of its concerns and request the initiation of consultation. If the action agency does not initiate consultation, NMFS still has the responsibility to provide EFH conservation recommendations to which the action agency must respond within 30 days of receipt. The rule contains additional language to clarify this process.

33. *Comments on the Use or Development of General Concurrences (GCs)*

Comments: Several commenters felt the criteria for GCs were ambiguous.

Response: The wide range of actions that may affect EFH makes it impossible to implement more specific criteria for GCs. GCs, established for actions that cause no greater than minimal adverse impact on EFH, will be developed on a case-by-case basis in response to specific programs, activities, habitats, species, and areas. GCs developed for actions that affect HAPCs should be subject to a higher level of scrutiny. GCs will be developed through a public process to allow participation by all interested parties.

Comment: Several Councils believe that GCs should not restrict them from commenting on activities.

Response: GCs are agreements between Federal action agencies and NMFS. Each GC will be developed in coordination with the Councils to improve agreement on which activities have minimal impacts both individually and cumulatively. The informal Council role in developing each GC is separate from the Councils' authority to provide comments and recommendations to Federal and state action agencies and will not restrict Councils from commenting on any action that may affect EFH.

Comments: Several commenters suggested that NMFS should track all activities covered by GCs.

Response: NMFS will ask each Federal action agency to track activities they authorize that are covered by a GC. Tracking and providing information to NMFS may be a GC requirement. NMFS may maintain its own tracking system for specific issues that warrant special attention based on geography, habitat types, species, or other factors.

Comment: An interstate commission commented that the rule should require that GCs be reviewed every 5 years. The commission also suggested that NMFS clarify that GCs it initiates will be subject to public review before issuance.

Response: The rule states that NMFS will periodically review and revise its findings of general concurrence, as appropriate. It is NMFS' intent to conduct this review at least once every 5 years. The rule also requires that GC tracking information be made available to the public annually. Such information will allow the public to review GCs prior to NMFS' review and revision. Additionally, the rule states that NMFS will provide an opportunity for public review prior to the issuance of a GC, even those initiated by NMFS.

34. *Comments on the Use of Appropriate Level of Consultation*

Comment: Several Federal agencies requested clarification on what triggers the expanded consultation. They sought guidance on whether the action agency or NMFS can initiate expanded consultation.

Response: The rule has been clarified to address this comment. Expanded consultation is appropriate when a proposed action may have substantial adverse impacts on EFH. The action agency determines the appropriate level of consultation. However, if NMFS feels that a proposed action will have substantial effects on EFH and its concerns are not receiving proper consideration, NMFS may request expanded consultation.

35. *Comments on EFH Assessments*

Comments: Some commenters supported the standard of "best scientific information" that is mandated in the Federal consultation and EFH Assessment section of the rule. They felt that all portions of the EFH rule should specify the same standard.

Response: NMFS applies the best scientific information standard throughout the rule. When describing and identifying EFH, Councils should seek the broadest possible information base, since the data are widely scattered among various state and Federal agencies, university or private researchers, and diverse fishery participants. Best professional judgment will be required to properly weigh all data collected regarding habitat usage for the various life history stages of the managed species. With respect to assessing the effects of both fishing and non-fishing activities on EFH, the rule states that the best scientific information available should be used, but that other appropriate sources of information may also be considered. This standard is appropriate and consistent with national standard 2 that requires all FMP conservation and management measures to be based on the best scientific information available. EFH Assessments during Federal consultation should also be based on best scientific information available. An action agency's conclusions regarding the potential adverse impact of an action on EFH should be well supported by relevant research, when available. Conclusions that are contrary to the readily available information will not be considered adequate assessment of adverse effects.

Comment: One commenter was concerned that an EFH Assessment would be required for actions with any

adverse impact on EFH and suggested that NMFS establish a threshold level of adverse impact, preferably the NEPA significance threshold, for when such an assessment would be required.

Response: The Magnuson-Stevens Act requires Federal action agencies to consult with NMFS on any action that may adversely affect EFH. The requirement for an EFH Assessment is a mechanism to improve the efficiency of the consultation process. The level of detail in the EFH Assessment should be commensurate with the potential impact. If the action's impacts will be minimal, then it may qualify for a GC and no EFH Assessment would be required.

Comment: One commenter criticized NMFS for allowing the use of a completed EFH Assessment for other similar actions because of temporal and spatial differences in adverse impacts on EFH.

Response: The rule states that completed EFH Assessments may be used for other actions only if the proposed action involves similar impacts to EFH in the same geographic area or a similar ecological setting.

36. *Comments on the Establishment of Timelines in the Consultation, Recommendation, and Response Processes*

Comment: Several commenters sought clarification on timelines for NMFS action in consultation process. Some commenters were concerned that the consultation process would slow projects. Others expressed concern that NMFS would delay projects while preparing their recommendations.

Response: The timelines presented in the proposed rule have been clarified in this rule. If an existing process is used to meet the EFH consultation requirement, NMFS will work within that procedure's specified timelines, assuming that NMFS receives timely notification of the action. NMFS has clearly established timelines for preparation and submission of its recommendations during consultation. For example, the interim final rule requires NMFS to respond to Federal action agencies within 30 days during abbreviated consultation and within 60 days during expanded consultation. Those timelines may be adjusted based on mutual agreement between the action agency and NMFS (e.g., a compressed schedule for special situations).

Comment: Several commenters suggested that NMFS should not extend the time for the consultation process without concurrence from the Federal action agency.

Response: That has always been NMFS's intent and the rule has been modified to clarify that intent.

Comment: One commenter suggested that NMFS extend the time required for a Federal action agency to respond to a NMFS recommendation from 30 to 90 days.

Response: The deadline for Federal agency response is established in the Magnuson-Stevens Act and can not be extended by regulation.

Comment: One commenter stated that the rule should clarify that if NMFS does not respond to a Federal action agency's request for consultation, the action agency may proceed with the action.

Response: The rule states that Federal action agencies will have fulfilled their consultation requirement after submittal of a complete EFH Assessment to NMFS. The Magnuson-Stevens Act requires Federal agencies to consult with NMFS and NMFS is required to provide recommendations as part of that consultation. Federal agencies and NMFS will follow the requirements of the statute and the rule.

37. Comments on Supplemental Consultation

Comment: Three commenters want supplemental consultation deleted from the interim final rule.

Response: NMFS reconsidered the entire consultation process during its analysis of comments received on the proposed rule. The Agency concluded that supplemental consultation is an important element of the EFH rule. A Federal action agency must reinitiate consultation with NMFS if the agency substantially revises its plans for an action in a manner that may adversely affect EFH or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations. This rule clarifies the language on supplemental consultation.

38. Comments on NMFS' EFH Conservation and Enhancement Recommendations

Comments: Comments from several industry interests and one Federal agency urged NMFS not to recommend measures that are impracticable, too costly, or beyond the action agency's authority.

Response: NMFS will use scientific assessments of impacts on EFH as the basis for conservation recommendations. NMFS agrees that its recommendations should be practical and cost-effective, but it is not NMFS' statutory responsibility to conduct a benefit/cost analysis or to do a public interest test. NMFS expects that action

agencies will make their own decisions about the practicality and economic aspects of the EFH conservation recommendations as part of their review of proposed actions. NMFS will not make recommendations that are beyond the action agency's authority.

39. Comment on Federal Action Agency Response to NMFS EFH Recommendations

Comment: One commenter stated that NMFS has no statutory authority to require Federal action agencies to provide the scientific justification for disagreeing with a NMFS EFH conservation recommendation.

Response: As stated previously, section 305(d) of the Magnuson-Stevens Act gives the Secretary authority to issue regulations to carry out any provision of this Act. Therefore, NMFS has the authority to issue regulations detailing how Federal action agencies should respond to NMFS' EFH recommendations. The requirement to provide scientific justification applies to disagreements over the anticipated adverse effects of the proposed action and elaborates on the requirements of section 305(b)(4)(B) of the Magnuson-Stevens Act that a Federal agency explain its reasons for disagreeing with the NMFS EFH conservation recommendation. Federal action agencies may also include discussions of non-scientific issues (e.g., lack of legal authority to carry out the recommendation or economic infeasibility) in their response.

40. Comments Regarding the Interpretation of Anadromous

Comments: Several commenters were confused by the use of the term "anadromous fishery resource" in the rule and how such species and their habitat are covered by the EFH mandate.

Response: NMFS included this section in the rule to clarify the meaning of the term "anadromous fishery resource under a Council's authority," as it applies to a Council's commenting responsibilities under section 305(b)(3)(B) of the Magnuson-Stevens Act. Anadromous fish are treated differently from other fishery resources in the Magnuson-Stevens Act. Section 3 of the Magnuson-Stevens Act defines "anadromous species" as "fish which spawn in fresh or estuarine waters of the United States and which migrate to ocean waters." It further defines "fishery resources" as "any fishery, any stock of fish, any species of fish, and any habitat of fish." In § 600.930(c)(4) of this interim final rule, "an anadromous fishery resource under a Council's authority" is described as an

anadromous species that inhabits waters under the Council's authority at some time during its life. Although EFH is identified only for species managed under an FMP, the Magnuson-Stevens Act requires Councils to comment on any activity that is likely to substantially affect the habitat of an anadromous fishery resource under its authority.

41. Comments on Extending the Deadline for Councils To Submit FMP Amendments to the Secretary

Comments: Several commenters asked NMFS to extend the deadline for Councils to submit EFH FMP amendments to the Secretary one year beyond the October 11, 1998 deadline.

Response: The Sustainable Fisheries Act, Pub. L. 104-297, requires that each Council submit to the Secretary amendments to each of their FMPs to comply with the amendments of the Act by October 11, 1998. The Secretary does not have the authority to extend this statutory deadline through regulation.

42. Comment on How the NMFS National Habitat Plan Relates to Implementation of the EFH Mandate

Comment: One Council commented that the rule should discuss the relationship between the NMFS National Habitat Plan (NHP) and the EFH mandate of the Magnuson-Stevens Act.

Response: The major themes of the NHP: better integrate habitat and fishery management; promote habitat restoration as a routine part of fisheries and habitat management; expand habitat conservation to assess and manage habitat degradation on a watershed scale; expand understanding of the interrelationships between habitat quality and quantity and the healthy of fisheries, are woven throughout the rule.

43. Comments on Consistency With Coastal Zone Management Plans

Comments: Several state agencies commented concerning consistency with their states' federally approved Coastal Zone Management Programs (CZMP). There was general agreement that the intent of the rule was consistent with CZMPs. Several of the state agencies cautioned that the FMP amendments and their site-specific actions that result from compliance with these regulations would require further review for consistency.

Response: NMFS agrees with this analysis. These regulations guide the Councils in amending FMPs, and detail procedures for NMFS, the Councils, and Federal and state action agencies to use in meeting the EFH requirements of the

Magnuson-Stevens Act. Analysis of the effects of specific EFH amendments to FMPs at this time would be purely speculative; they are not reasonably foreseeable. EFH amendments to FMPs will be submitted to state coastal zone agencies. CZMP consistency will be determined for each FMP EFH section, as is required for all Federal FMPs.

44. *Comments on the EA Prepared for the Rulemaking*

Comments: Some non-fishing industry commenters questioned the preparation of an EA, rather than an Environmental Impact Statement (EIS), and the finding of no significant impact.

Response: In compliance with NEPA, NMFS prepared an EA for the regulations implementing EFH requirements of the Magnuson-Stevens Act. The environmental review process led to the conclusion that this action will not have a significant effect on the human environment. The rule provides guidelines to the Councils to assist them in developing EFH sections in FMPs. The rule itself does not establish any new regulatory jurisdiction for NMFS or the Councils over these habitats, but it does provide procedures for NMFS, the Councils, and Federal and state action agencies to use in coordinating, consulting, and providing recommendations on actions that may adversely affect EFH. NEPA documentation will be undertaken for each EFH FMP amendment, as is currently done, to fully address FMP-specific effects of EFH implementation. Therefore, an EIS is not required by section 102(2)(C) of NEPA or its implementing regulations.

45. *Comments on NMFS' Determination of Significance for the Purposes of E.O. 12866*

Comments: One commenter disagreed with NMFS's determination that the rule is not significant for purposes of E.O. 12866 because NMFS did not consider whether the proposed rule was duplicative or inconsistent with existing regulations, and interfered with actions by other agencies. Another commenter did not give the basis for its disagreement.

Response: NMFS continues to believe that the rule does not meet any of the criteria for a significant regulatory action established in E.O. 12866, including those mentioned in the comment. This rule establishes procedures for coordination, consultation, and recommendations to other agencies on actions that may adversely affect EFH. The consultations will be fit into existing procedures whenever possible, and when this is not

possible, will be fit into the other agency's time frame for decision-making. The EFH conservation recommendations are not mandatory, but will be part of the action agency's decision-making process. Therefore, the rule does not meet E.O. 12866's requirements for significance.

46. *Comments on NMFS' Regulatory Flexibility Act Determination*

Comments: One commenter agreed with NMFS that no regulatory flexibility analysis needs to be prepared now, but that regulations affecting EFH will be subject to the analysis. Other commenters disagreed with NMFS' conclusion that the rule would not have a significant economic impact on a substantial number of small entities engaged in non-fishing activities and requested that NMFS prepare a regulatory flexibility analysis.

Response: NMFS does not have mandatory authority over non-fishing interests. NMFS provides EFH conservation recommendations to a Federal or state action agency if their action may adversely affect EFH. The action agency considers the recommendation in its decision-making process and decides for itself whether it will impose any requirements on the entity seeking a permit or license and assess any economic impact on small entities. Additionally, the consultation process itself should not impose any additional burdens on small businesses engaged in non-fishing activities because the Federal action agency will most likely use existing consultation/environmental review procedures. If there are no existing consultation procedures, then the procedures in the rule must be used by the Federal agency. The information requested in the rule is material that the action agency already will need to make its decision on issuing a permit or license. Therefore, there will be no additional burden on small businesses engaged in non-fishing activities.

47. *Comments on NMFS' determination That a Federalism Assessment is not Required*

Comments: Commenters expressed the opinion that NMFS' determination is incorrect that this rule does not include policies with federalism implications requiring preparation of a Federalism Assessment. This rule does not contain policies that have a substantial direct effect on the states, on the relationship between the National government and the states, or on the distribution of power or responsibilities among the various levels of government. Some commenters stated that while EFH

conservation recommendations are not mandatory, the states will be pressured to comply with the recommendations. One commenter stated that the process to guide the agencies is mandatory and therefore raises federalism issues. Other commenters raised the concern that because EFH may be identified in state waters, and many adverse impacts may occur there, a federalism assessment should be prepared.

Response: NMFS disagrees with the commenters and continues to take the position that the rule does not contain policies that have federalism implications sufficient to warrant preparation of a Federalism Assessment. States are not required to consult with NMFS on their actions that may adversely affect EFH. As stated in the Classification section of the rule, NMFS EFH conservation recommendations are not mandatory, and states are not required to undertake action in any way not of their own choosing.

48. *Comments on NMFS Compliance With the Paperwork Reduction Act*

Comments: Two commenters expressed their opinion that NMFS has not complied with the Paperwork Reduction Act (PRA) because the rule neither displays an Office of Management and Budget (OMB) control number nor states that the rule is not subject to OMB review. They stated that the proposed rule is clearly a collection of information subject to the PRA. They claim that this will be a big burden on many entities.

Response: Commenters correctly state that the PRA requires OMB approval before NMFS may require a collection of information. However, they overlook the regulatory definition of information in 5 CFR 1320.3(h)(4) stating that information does not generally include "facts or opinions submitted in response to general solicitations of comments from the public published in the *Federal Register* * * * regardless of the form * * *". The rule clearly fits the regulatory exemption for information and therefore is not subject to OMB approval. As such, it does not need either an OMB control number or a statement that the rule is not a collection of information.

49. *Comments on Compliance With the ESA*

Comments: Two commenters stated they think that promulgation of the rule is an action that may affect listed species, requiring consultation under section 7(a)(2) of the ESA.

Response: NMFS complied with the ESA by requesting the U.S. Fish and Wildlife Service (FWS) and NMFS'

office that handles ESA issues to concur with its determination that the proposed activity is not likely to adversely affect listed species. Both responded to NMFS stating their concurrence that the EFH rule is not likely to adversely affect listed species.

Changes From the Proposed Rule

The proposed rule contained guidelines to the Councils and procedures addressing the requirements to coordinate, consult, and recommend under the EFH provisions of the Magnuson-Stevens Act. The guidelines to the Councils will be in part 600 subpart J, but NMFS has determined that the regulations on coordination, consultation, and recommendation should be moved to a separate subpart, K. This provides easier access to the regulations, clarification of purpose, and still maintains their proximity to subpart J so that the implications of EFH designation are readily apparent. This is not a substantive change from the proposed rule.

NMFS reorganized parts of the coordination, consultation, and recommendation procedures by addressing use of existing procedures before the regulatory requirements for GCs, and abbreviated and expanded consultation. The use of existing procedures section includes more detail. NMFS reordered this section and expanded it in response to commenter's concerns that consultation could be duplicative with existing consultation/environmental review procedures.

Changes made are technical or administrative in nature and clarify intent or otherwise enhance administration of the EFH process. These changes are listed in the order that they appear in the regulations; grammatical or other minor changes are not detailed. Unless otherwise discussed, the rationale for why changes were made from the proposed rule is contained in the Comments and Response section.

In § 600.10, "aquatic" was added to the interpretation of historically used areas of EFH.

In § 600.10, "the managed species' contribution to" was added to denote that the healthy ecosystem is the local ecosystem in which the managed species participates.

In § 600.805, references to the consultation procedures required by the Magnuson-Stevens Act have been removed since these regulations have been separated into a new subpart as noted above.

In § 600.805, a new paragraph was added to describe the geographic scope of EFH and clarify the relationship of

the regulations to Federal waters, state waters, and extraterritorial waters.

Section § 600.810 was changed to add "Definitions and Word Usage" for terms specific to this subpart; subsequent sections were renumbered.

Section 600.815 was renumbered from § 600.810.

In § 600.815, paragraph (a)(2)(i)(B), the phrase "the habitat requirements by life stage, and the distribution and characteristics of those habitats" was added to be consistent with later sections regarding information on the habitat; the phrase "but not limited to" was added to emphasize that this list is intended to be illustrative not exhaustive; "or formerly occupied" was added to correct the language to agree with the definition of EFH.

In § 600.815, paragraph (a)(2)(i)(C), "should" was substituted for "will be" to emphasize that Councils should use information from all levels that are available.

In § 600.815, paragraph (a)(2)(i)(C)(2), "relative densities" was changed to "density or relative abundance" as more scientifically acceptable language; "gear" was changed to "methods" to include different techniques using the same gear.

In § 600.815, paragraph (a)(2)(ii)(A), the phrase "erring on the side of inclusiveness" was deleted because it is redundant with the concept of identifying EFH in a "risk-averse fashion." Wording has been changed to clarify that Level 1 information "should be used to identify the geographic range" of a species, Levels 2-4 information should be used to identify EFH within that range. If only Level 1 data exist, appropriate analyses should be used to identify EFH based on utilization of habitats. The sentence, "Councils must demonstrate that the identification of EFH is based on the best scientific information available, consistent with national standard 2" was added to clarify that Councils must use all available information to focus their identification of EFH.

In § 600.815, paragraph (a)(2)(ii)(B), references to populations recovering from "declines" were removed in favor of the terms "overfished" or "rebuilding the fishery," which are more commonly used fishery management terms. NMFS added the phrase "and habitat loss or degradation may be contributing to the species being identified as overfished" to clarify that habitat limitations should be considered when identifying historic habitat as EFH. "Once the fishery is no longer considered overfished, the EFH identification should be reviewed, and the FMP amended, as appropriate" was

added to clarify the dynamic nature of EFH identification.

In § 600.815, paragraph (a)(2)(ii)(C), "aquatic areas" has been added to clarify that the statutory definition limits EFH to aquatic portions of "critical habitat."

In § 600.815, paragraphs (a)(2)(ii)(D) and (E), the phrase "a sustainable fishery and the managed species' contribution to a healthy ecosystem" replaced "target production goal."

In § 600.815, paragraph (a)(2)(ii)(E), the listing of ecological roles to be considered in determining EFH has been removed, these ecological factors are considered broadly in the national standards. Councils should address these needs on a case-by-case basis.

In § 600.815, paragraph (a)(2)(ii)(F), "aquatic" is added to qualify "degraded or inaccessible habitat" to clarify that this is not intended to be dry land.

In § 600.815, paragraphs (a)(3), (a)(4), and (a)(5), have been reordered to strengthen the connections between EFH identification and description and the management of fishing activities that may adversely affect EFH as suggested by commenters. Non-fishing activities are addressed under § 600.815(a)(5).

In § 600.815, paragraph (a)(3)(ii), the phrase "fishing equipment" has replaced "fishing gear" to encompass all sources of fishing-related adverse impacts to EFH; the wording clarifies that "best scientific data" should be used but that other "appropriate information sources" should be considered. The wording also clarifies for the Councils that gear assessments should include effects on all EFH types potentially impacted (especially HAPC) and Councils should evaluate relative impacts.

In § 600.815, paragraph (a)(3)(iii), "identifiable" replaces "substantial." The phrase "and cumulative impacts analysis" clarifies that fishing impacts should be included in an analysis of cumulative impacts on EFH.

In § 600.815, paragraph (a)(3)(iv) clarifies that consideration should be given to long- and short-term benefits and costs to both EFH and the fishery when assessing management actions. "EFH" is substituted for "the marine ecosystem" to improve consistency with the Magnuson-Stevens Act.

In § 600.815, paragraph (a)(4)(i) is retitled "Fishing equipment restrictions." NMFS replaced the list of mixed general and specific examples of fishing types with more general examples of potential gear restrictions.

In § 600.815, paragraph (a)(4)(ii), wording was added to clarify that "marine protected areas" can be used for management of adverse effects on

EFH, as well as research on fishing equipment impacts; especially in HAPC.

In § 600.815, paragraph (a)(5) is a consolidation of § 600.810 (a)(3) paragraphs (i) and (ii) from the proposed rule.

In § 600.815, paragraph (a)(5), illustrative examples of "activities which can adversely affect EFH" were made more consistent so that broad actions, not industries potentially causing those actions, were highlighted. The phrases, "actions that contribute to non-point source pollution and sedimentation" and "introduction of potentially hazardous materials" were added for clarity in place of "runoff" and "placement of contaminated material." The mapping provisions specific to this section were moved from the Cumulative Impacts Analysis section of the proposed rule.

Section 600.815, paragraph (a)(6)(i), clarifies that fishing effects as well as non-fishing impacts on EFH should be subject to cumulative impacts analysis, separately and in concert. NMFS added the term "feasible" to emphasize that a cumulative impacts analysis may not be possible because of technological or other limitations. NMFS replaced the phrase "natural stresses" with "natural adverse impacts". NMFS changed the wording to avoid misinterpretation of "ecological risk assessment" as a formalized toxicological test.

In § 600.815, paragraph (a)(6)(ii) was split out from the cumulative impacts section to emphasize cumulative impacts from fishing and to highlight that HAPCs should be examined for cumulative effects.

In § 600.815, paragraph (a)(6)(iii) splits the mapping of cumulative impacts into a separate paragraph.

In § 600.815, paragraph (a)(6)(iv) "Research needs," was added to emphasize that Councils should pursue research efforts geared to understand ecosystem and watershed effects on fish populations and incorporate them into their protection of EFH if they are unable to conduct cumulative impacts analyses.

In § 600.815, paragraph (a)(7) was renumbered from paragraph (a)(3)(iv) and reordered. NMFS modified the language to emphasize that the preferred approach to EFH conservation should be to avoid, minimize, or compensate for adverse effects on EFH from specific actions to focus EFH conservation efforts. NMFS added "especially in habitat areas of particular concern."

In § 600.815, paragraphs (a)(7)(ii)(A), (B), (C), and (D) have been renumbered from paragraphs (a)(3)(iv)(A-F) of the proposed rule reflecting the incorporation of the wording from

paragraph (a)(7)(ii)(A) (proposed rule) into the previous paragraph mentioned, and titles were generally modified for grammatical consistency. Language was added to clarify that conservation measures presented in these paragraphs are illustrative of measures that Councils may consider to proactively or reactively address past or present adverse effects to conserve and enhance EFH.

In § 600.815, paragraph (a)(7)(iii)(A) has been retitled "Enhancement of rivers, streams, and coastal areas." Paragraph (a)(3)(iv)(C) from the proposed rule has been incorporated into this paragraph. The phrase "modification of operating procedures for dikes and levees" was added to clarify that removal is not always the preferred option for providing fish passage. The final sentence in the paragraph was added to emphasize governmental planning in watershed management.

In § 600.815, paragraph (a)(7)(iii)(B), "and quantity" has been added to the title; and "providing appropriate in-stream flow" has been added to reflect general options to apply to all regions.

In § 600.815, paragraph (a)(7)(iii)(C), "subsequent watershed" was deleted from the title. Specific examples have been replaced by more general examples of watershed-scale conservation and enhancement options.

In § 600.815, paragraph (a)(7)(iii)(D), the example has been deleted since it may be only regionally applicable; "(converting non-EFH to EFH)" was added for clarity; "and degraded" has been added to clarify that such areas may be appropriate for enhancement through habitat creation; "conversion" was included as a synonym for "creation;" "within an ecosystem context" has been added for clarity.

In § 600.815, paragraph (a)(8), "and their habitat" has been added to better explain how prey species should be addressed. Language was added to explain why adverse impacts to prey and prey habitat may be adverse impacts to EFH.

In § 600.815, paragraph (a)(9) has been renumbered from paragraph (a)(7) of the proposed rule and retitled "Identification of habitat areas of particular concern;" language has been included to denote that HAPC might include not only those areas especially vulnerable to degradation, but those that provide important ecological functions for one or more managed species; the paragraphs have been renumbered after the inclusion of paragraph (i). The importance of the ecological function provided by the habitat.

In § 600.815, paragraph (a)(10) has been renumbered from paragraph (a)(8) of the proposed rule; "cumulative impacts from fishing," "priority," "and a schedule for obtaining that information" have been added; "equipment" replaced "gear;" "maintaining a sustainable fishery and the managed species' contribution to a healthy ecosystem" replaces "reaching target long-term production levels." All of these changes were made to ensure that this section is consistent with other parts of the rule.

In § 600.815, paragraph (a)(11) has been renumbered from paragraph (a)(9) of the proposed rule; "including an update of the equipment assessment originally conducted pursuant to paragraph (a)(3)(ii) of this section" has been added, as has been "This information should be reviewed as part of the annual Stock Assessment and Fishery Evaluation (SAFE) report prepared pursuant to § 600.315(e)" and "complete."

In § 600.815, paragraph (c), language has been added to clarify that NMFS EFH FMP recommendations may include "other appropriate information." Language was added to acknowledge differences between Council procedures in preparing FMPs and to assure the flexibility to work within each process.

In § 600.815, paragraph (d) has been added to encourage coordination with other fishery management authorities.

The consultation, coordination, and recommendation provisions in the proposed rule have been separated out into a new subpart K of part 600.

Sections 600.905, 600.915, 600.920, 600.925, and 600.930 have been reorganized from the proposed rule's § 600.815 to provide better access and understanding to the provisions. Each of the provisions that applies to a different part of the Magnuson-Stevens Act has been separated into a different section to highlight the different requirements in response to many commenters who failed to recognize the distinctions between coordination, consultation, and commenting (or providing recommendations) and the entities involved in each process.

Section 600.905 has been added to clarify the intent of these provisions in promoting the protection of EFH in the review of Federal and state actions that may adversely affect EFH.

Section 600.905(c) has been revised adding language to emphasize cooperation between Councils and NMFS in all phases of EFH implementation. The clarification that "NMFS and the Councils also have the

authority to act independently." has been added.

Section 600.910 has been added for definitions and word usage that apply to this subpart.

Section 600.915 has been renumbered and expanded to provide the details of the coordination between NMFS and other action agencies and to indicate that NMFS will take a proactive approach in promoting the conservation of EFH.

Section 600.920 has been revised to combine all sections of the Federal agency consultation provisions in a more organized fashion. The proposed rule recommended incorporation of EFH consultations with other existing environmental reviews, but this was overlooked by some commenters. These sections clarify the details of appropriate consultation and emphasize that NMFS' preference is for consultations to occur within existing consultation/environmental review procedures, whenever possible.

Section 600.920, paragraphs (a) (1) and (2) were added to provide specific information on which Federal actions require consultation, and the use of programmatic consultation.

In § 600.920, paragraph (d), language has been added to clarify that "other appropriate sources of information may also be considered" when evaluating the effects of a proposed action on EFH.

In § 600.920, paragraph (f)(1), "minimal" has been changed to "no more" than minimal.

Section 600.920, paragraph (f)(2)(ii) clarifies the requirements for tracking actions included in General Concurrences.

Section 600.920, paragraph (f)(2)(iv) explains that in HAPC, activities will be held to a greater level of scrutiny before being granted a General Concurrence.

In § 600.920, paragraph (f)(4), "if appropriate" has been added.

Section 600.920, paragraph (g)(1) has been rewritten to improve clarity.

Section § 600.920, paragraph (g)(2)(iv), has been moved from the Additional information section.

In § 600.920, paragraph (g)(3)(iv), "particularly when an action is non-water dependent" has been added to emphasize alternatives when an action is not water dependent.

In § 600.920, paragraph (h)(1) contains additional criteria to determine when abbreviated consultation is appropriate.

In § 600.920, paragraph (h)(2), "must" was changed to "should" and language was added to clarify when notification should be sent to a Council.

In § 600.920, paragraph (h)(5), language on combining EFH Assessments with other environmental

reviews was deleted because the same concept is included in § 600.920(e)(2).

In § 600.920, paragraph (i)(1) contains additional explanation of the intent of expanded consultation and criteria to determine when expanded consultation is appropriate.

In § 600.920, paragraph (i)(3) provides additional clarification regarding NMFS' response to Federal agencies during expanded consultation.

In § 600.920, paragraph (i)(4) clarifies that there is flexibility in the schedules for consultation; "or emergency situation" has been added, and the NMFS deadline has been changed from 90 to 60 days.

In § 600.920, paragraph (i)(5), "must" has been changed to "should."

Section 600.920, paragraph (j)(2) has been retitled "Further review of decisions inconsistent with NMFS or Council recommendations" from "Dispute resolution;" language has been added to describe actions available in the case when an action agency's decision is inconsistent with NMFS or the Council's EFH conservation recommendations.

Section 600.920, paragraph (j)(1) has been rewritten to improve clarity.

In § 600.925, paragraph (c), "use existing coordination procedures under statutes such as the Coastal Zone Management Act or establish new" and other language has been added to further encourage the use of existing procedures to coordinate with state agencies, and to encourage sharing information with states.

In § 600.925, paragraph (a), language has been added stating that NMFS will not make recommendations beyond a Federal agency's authority.

In § 600.925, paragraph (b) has been added to clarify the relationship between Federal consultation and providing EFH conservation recommendation to Federal agencies.

Classification

The Assistant Administrator for Fisheries (AA), NMFS, has determined that this interim final rule is consistent with the Magnuson-Stevens Act and other applicable laws.

NMFS prepared an EA for this interim final rule, and the AA concluded that there will be no significant impact on the human environment as a result of this rule. The regulations contain guidelines to the Councils for amending FMPs in accordance with the EFH requirements of the Magnuson-Stevens Act, and procedures to be used by NMFS, the Councils, and Federal and state action agencies to satisfy the coordination, consultation, and recommendation requirements of the

Magnuson-Stevens Act. Any specific effects on the human environment will be addressed in NEPA documents prepared for individual FMP provisions that are prepared pursuant to this rule. A copy of the EA is available from NMFS (see ADDRESSES).

This interim final rule has been determined to be not significant for the purposes of E.O. 12866. Each EFH amendment to an existing FMP and all new FMPs will contain detailed analyses of the benefits and costs of the management programs under consideration, to ensure compliance with E.O. 12866.

The Assistant General Counsel for Legislation and Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration that this rule would not have a significant economic impact on a substantial number of small entities. NMFS received comments regarding this certification. As addressed earlier, NMFS' consideration of these comments did not cause it to change its determination regarding the certification. This rule establishes guidelines for Councils to identify and describe EFH, including adverse impacts, and conservation and enhancement measures. The regulations require that the Councils conduct assessments of the effects of fishing on EFH within their jurisdiction. The Magnuson-Stevens Act requires the Councils to examine their existing FMPs and all future FMPs and amend them as required to comply with the EFH guidelines in this rule. These guidelines are intended to provide direction on compliance with the EFH provisions and in themselves, do not have the force of law. Should Councils establish regulations on fishing as a result of the guidelines and the assessment of fishing equipment, that action may affect small entities and could be subject to the requirement to prepare a Regulatory Flexibility analysis at the time they are proposed. Any future effects on small entities that may eventually result from amendments to FMPs to bring them into compliance with the Magnuson-Stevens Act would be speculative at this time. Finally, the consultation procedures establish a process for NMFS to provide conservation recommendations to Federal and state action agencies. However, because compliance with NMFS recommendations is not mandatory, any effects on small businesses would be speculative. As a result, a regulatory flexibility analysis was not prepared.

For the purposes of E.O. 12612, the AA has determined that this interim

final rule does not include policies that have federalism implications sufficient to warrant preparation of a Federalism Assessment. This rule establishes procedures for coordination between the states and NMFS or the Councils in situations where state action may adversely impact EFH. The rule states that, in such circumstances, NMFS or the Councils would furnish the state with EFH recommendations. NMFS EFH conservation recommendations are not mandatory, and the states are not required to expend funds in a way not of their own choosing.

References

Christensen, N.L., A.M. Bartuska, J.H. Brown, S. Carpenter, C. D'Antonio, R. Francis, J.F. Franklin, J.A. MacMahon, R.F. Noss, D.J. Parsons, C.H. Peterson, M.G. Turner, and R.G. Woodmansee. 1996. The report of the Ecological Society of America committee on the scientific basis for ecosystem management. Ecological Applications, 6(3): 665-691.

Grumbine, R.E. 1997. Reflections on "What is Ecosystem Management?" Conservation Biology 11(1): 41-47.

Hancock, D.A. (ed.) 1993. Sustainable Fisheries through Sustaining Fish Habitat, Australian Society for Fish Biology Workshop, Victor Harbor, SA, 12-13 August, Bureau of Resource Sciences Proceedings, AGPS, Canberra.

List of Subjects in 50 CFR Part 600

Administrative practice and procedures, Confidential business information, Fisheries, Fishing, Fishing vessels, Foreign relations, Intergovernmental relations.

Dated: December 15, 1997.

David L. Evans,

Deputy Assistant Administrator for Fisheries, National Marine Fisheries Service.

For the reasons stated in the preamble, the National Marine Fisheries Service amends 50 CFR part 600 as follows:

PART 600—[AMENDED]

1. The authority citation for part 600 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

2. Section 600.10 is amended by adding the definition for "Essential fish habitat", in alphabetical order, to read as follows:

§ 600.10 Definitions.

* * * * *
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 essential fish habitat: *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.
 * * * * *

3. New subparts J and K are added to part 600 to read as follows:

* * * * *

Subpart J—Essential Fish Habitat (EFH)

- 600.805 Purpose and scope.
- 600.810 Definitions and word usage.
- 600.815 Contents of Fishery Management Plans.

Subpart K—EFH Coordination, Consultation, and Recommendations

- 600.905 Purpose, scope, and NMFS/Council cooperation.
- 600.910 Definitions and word usage.
- 600.915 Coordination for the conservation and enhancement of EFH.
- 600.920 Federal agency consultation with the Secretary.
- 600.925 NMFS EFH conservation recommendations to Federal and state agencies.
- 600.930 Council comments and recommendations to Federal and state agencies.

Subpart J—Essential Fish Habitat (EFH)

§ 600.805 Purpose and scope.

(a) *Purpose.* This subpart provides guidelines for Councils and the Secretary to use in adding the required provision on EFH to an FMP, i.e., description and identification of essential fish habitat (EFH), adverse impacts on EFH (including minimizing, to the extent practicable, adverse impacts from fishing), and actions to conserve and enhance EFH.

(b) *Scope—(1) Species covered.* An EFH provision in an FMP must include all fish species in the FMU. A Council may describe, identify, and protect the habitat of species not in an FMU; however, such habitat may not be considered EFH for the purposes of sections 303(a)(7) and 305(b) of the Magnuson-Stevens Act.

(2) *Geographic.* EFH may be described and identified in waters of the United States, as defined in 33 CFR 328.3 and the exclusive economic zone, as defined in § 600.10. Councils may describe,

identify, and protect habitats of managed species beyond the exclusive economic zone; however, such habitat may not be considered EFH for the purposes of section 303(a)(7) and 305(b) of the Magnuson-Stevens Act. Activities that may adversely impact such habitat can be addressed through any process conducted in accordance with international agreements between the United States and the foreign nation(s) undertaking or authorizing the action.

§ 600.810 Definitions and word usage.

(a) *Definitions.* In addition to the definitions in the Magnuson-Stevens Act and § 600.10, the terms in this subpart have the following meanings:

Adverse effect means any impact which reduces quality and/or quantity of EFH. Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, or reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Council includes the Secretary, as applicable, when preparing Secretarial FMPs or amendments under sections 304(c) and (g) of the Magnuson-Stevens Act.

Ecosystem means communities of organisms interacting with one another and with the chemical and physical factors making up their environment.

Habitat areas of particular concern means those areas of EFH identified pursuant to § 600.815(a)(9).

Healthy ecosystem means an ecosystem where ecological productive capacity is maintained, diversity of the flora and fauna is preserved, and the ecosystem retains the ability to regulate itself. Such an ecosystem should be similar to comparable, undisturbed, ecosystems with regard to standing crop, productivity, nutrient dynamics, trophic structure, species richness, stability, resilience, contamination levels, and the frequency of diseased organisms.

Overfished means any stock or stock complex, the status of which is reported as overfished by the Secretary pursuant to § 304(e)(1) of the Magnuson-Stevens Act.

(b) *Word usage.* The terms "must", "shall", "should", "may", "may not", "will", "could", and "can", are used in the same manner as in § 600.305(c).

§ 600.815 Contents of Fishery Management Plans.

(a) *Mandatory contents—(1) Habitat requirements by life history stage.* FMPs must describe EFH in text and with tables that provide information on the biological requirements for each life

history stage of the species. These tables should summarize all available information on environmental and habitat variables that control or limit distribution, abundance, reproduction, growth, survival, and productivity of the managed species. Information in the tables should be supported with citations.

(2) *Description and identification of EFH*—(i) *Information requirements.* (A) An initial inventory of available environmental and fisheries data sources relevant to the managed species should be used in describing and identifying EFH. This inventory should also help to identify major species-specific habitat data gaps. Deficits in data availability (i.e., accessibility and application of the data) and in data quality (including considerations of scale and resolution; relevance; and potential biases in collection and interpretation) should be identified.

(B) To identify EFH, basic information is needed on current and historic stock size, the geographic range of the managed species, the habitat requirements by life history stage, and the distribution and characteristics of those habitats. Information is also required on the temporal and spatial distribution of each major life history stage (defined by developmental and functional shifts). Since EFH should be identified for each major life history stage, data should be collected on, but not limited to, the distribution, density, growth, mortality, and production of each stage within all habitats occupied, or formerly occupied, by the species. These data should be obtained from the best available information, including peer-reviewed literature, data reports and "gray" literature, data files of government resource agencies, and any other sources of quality information.

(C) The following approach should be used to gather and organize the data necessary for identifying EFH. Information from all levels should be used to identify EFH. The goal of this procedure is to include as many levels of analysis as possible within the constraints of the available data. Councils should strive to obtain data sufficient to describe habitat at the highest level of detail (i.e., Level 4).

(i) *Level 1: Presence/absence distribution data are available for some or all portions of the geographic range of the species.* At this level, only presence/absence data are available to describe the distribution of a species (or life history stage) in relation to potential habitats. Care should be taken to ensure that all potential habitats have been sampled adequately. In the event that distribution data are available for only

portions of the geographic area occupied by a particular life history stage of a species, EFH can be inferred on the basis of distributions among habitats where the species has been found and on information about its habitat requirements and behavior.

(2) *Level 2: Habitat-related densities of the species are available.* At this level, quantitative data (i.e., density or relative abundance) are available for the habitats occupied by a species or life history stage. Because the efficiency of sampling methods is often affected by habitat characteristics, strict quality assurance criteria should be used to ensure that density estimates are comparable among methods and habitats. Density data should reflect habitat utilization, and the degree that a habitat is utilized is assumed to be indicative of habitat value. When assessing habitat value on the basis of fish densities in this manner, temporal changes in habitat availability and utilization should be considered.

(3) *Level 3: Growth, reproduction, or survival rates within habitats are available.* At this level, data are available on habitat-related growth, reproduction, and/or survival by life history stage. The habitats contributing the most to productivity should be those that support the highest growth, reproduction, and survival of the species (or life history stage).

(4) *Level 4: Production rates by habitat are available.* At this level, data are available that directly relate the production rates of a species or life history stage to habitat type, quantity, quality, and location. Essential habitats are those necessary to maintain fish production consistent with a sustainable fishery and the managed species' contribution to a healthy ecosystem.

(ii) *EFH determination.* (A) The information obtained through the analysis in paragraph (a)(2)(i) of this section will allow Councils to assess the relative value of habitats. Councils should interpret this information in a risk-averse fashion, to ensure adequate areas are protected as EFH of managed species. Level 1 information, if available, should be used to identify the geographic range of the species. Level 2 through 4 information, if available, should be used to identify the habitats valued most highly within the geographic range of the species. If only Level 1 information is available, presence/absence data should be evaluated (e.g., using a frequency of occurrence or other appropriate analysis) to identify those habitat areas most commonly used by the species. Areas so identified should be considered essential for the species.

However, habitats of intermediate and low value may also be essential, depending on the health of the fish population and the ecosystem. Councils must demonstrate that the best scientific information available was used in the identification of EFH, consistent with national standard 2, but other data may also be used for the identification.

(B) If a species is overfished, and habitat loss or degradation may be contributing to the species being identified as overfished, all habitats currently used by the species should be considered essential in addition to certain historic habitats that are necessary to support rebuilding the fishery and for which restoration is technologically and economically feasible. Once the fishery is no longer considered overfished, the EFH identification should be reviewed, and the FMP amended, if appropriate.

(C) EFH will always be greater than or equal to aquatic areas that have been identified as "critical habitat" for any managed species listed as threatened or endangered under the Endangered Species Act.

(D) Where a stock of a species is considered to be healthy, then EFH for the species should be a subset of all existing habitat for the species.

(E) Ecological relationships among species and between the species and their habitat require, where possible, that an ecosystem approach be used in determining the EFH of a managed species or species assemblage. The extent of the EFH should be based on the judgment of the Secretary and the appropriate Council(s) regarding the quantity and quality of habitat that is necessary to maintain a sustainable fishery and the managed species' contribution to a healthy ecosystem.

(F) If degraded or inaccessible aquatic habitat has contributed to the reduced yields of a species or assemblage, and in the judgment of the Secretary and the appropriate Council(s), the degraded conditions can be reversed through such actions as improved fish passage techniques (for fish blockages), improved water quality or quantity measures (removal of contaminants or increasing flows), and similar measures that are technologically and economically feasible, then EFH should include those habitats that would be essential to the species to obtain increased yields.

(iii) *EFH Mapping Requirements.* The general distribution and geographic limits of EFH for each life history stage should be presented in FMPs in the form of maps. Ultimately, these data should be incorporated into a geographic information system (GIS) to

facilitate analysis and presentation. These maps may be presented as fixed in time and space, but they should encompass all appropriate temporal and spatial variability in the distribution of EFH. If the geographic boundaries of EFH change seasonally, annually, or decadal, these changing distributions need to be represented in the maps. Different types of EFH should be identified on maps along with areas used by different life history stages of the species. The type of information used to identify EFH should be included in map legends, and more detailed and informative maps should be produced as more complete information about population responses (e.g., growth, survival, or reproductive rates) to habitat characteristics becomes available. Where the present distribution or stock size of a species or life history stage is different from the historical distribution or stock size, then maps of historical habitat boundaries should be included in the FMP, if known. The EFH maps are a means to visually present the EFH described in the FMP. If the maps identifying EFH and the information in the description of EFH differ, the description is ultimately determinative of the limits of EFH.

(3) *Fishing activities that may adversely affect EFH.* (i) Adverse effects from fishing may include physical, chemical, or biological alterations of the substrate, and loss of, or injury to, benthic organisms, prey species and their habitat, and other components of the ecosystem.

(ii) FMPs must include management measures that minimize adverse effects on EFH from fishing, to the extent practicable, and identify conservation and enhancement measures. The FMP must contain an assessment of the potential adverse effects of all fishing equipment types used in waters described as EFH. This assessment should consider the relative impacts of all fishing equipment types used in EFH on different types of habitat found within EFH. Special consideration should be given to equipment types that will affect habitat areas of particular concern. In completing this assessment, Councils should use the best scientific information available, as well as other appropriate information sources, as available. Included in this assessment should be consideration of the establishment of research closure areas and other measures to evaluate the impact of any fishing activity that physically alters EFH.

(iii) Councils must act to prevent, mitigate, or minimize any adverse effects from fishing, to the extent

practicable, if there is evidence that a fishing practice is having an identifiable adverse effect on EFH, based on the assessment conducted pursuant to paragraph (a)(3)(ii) of this section and/or the cumulative impacts analysis conducted pursuant to paragraph (a)(6)(ii) of this section.

(iv) In determining whether it is practicable to minimize an adverse effect from fishing, Councils should consider whether, and to what extent, the fishing activity is adversely impacting EFH, including the fishery; the nature and extent of the adverse effect on EFH; and whether the management measures are practicable, taking into consideration the long and short-term costs as well as benefits to the fishery and its EFH, along with other appropriate factors, consistent with national standard 7.

(4) *Options for managing adverse effects from fishing.* Fishery management options may include, but are not limited to:

(i) *Fishing equipment restrictions.* These options may include, but are not limited to: Seasonal and area restrictions on the use of specified equipment; equipment modifications to allow escapement of particular species or particular life stages (e.g., juveniles); prohibitions on the use of explosives and chemicals; prohibitions on anchoring or setting equipment in sensitive areas; and prohibitions on fishing activities that cause significant physical damage in EFH.

(ii) *Time/area closures.* These actions may include, but are not limited to: Closing areas to all fishing or specific equipment types during spawning, migration, foraging, and nursery activities; and designating zones for use as marine protected areas to limit adverse effects of fishing practices on certain vulnerable or rare areas/species/life history stages, such as those areas designated as habitat areas of particular concern.

(iii) *Harvest limits.* These actions may include, but are not limited to, limits on the take of species that provide structural habitat for other species assemblages or communities, and limits on the take of prey species.

(5) *Identification of Non-fishing related activities that may adversely affect EFH.* FMPs must identify activities that have the potential to adversely affect EFH quantity or quality, or both. Broad categories of activities which can adversely affect EFH include, but are not limited to: Dredging, fill, excavation, mining, impoundment, discharge, water diversions, thermal additions, actions that contribute to non-point source pollution and

sedimentation, introduction of potentially hazardous materials, introduction of exotic species, and the conversion of aquatic habitat that may eliminate, diminish, or disrupt the functions of EFH. An FMP should describe the EFH most likely to be adversely affected by these or other activities. For each activity, the FMP should describe known and potential adverse impacts to EFH. The descriptions should explain the mechanisms or processes that may cause the adverse effects and how these may affect habitat function. A GIS or other mapping system should be used to support analyses of data. Maps geographically depicting impacts identified in this paragraph should be included in an FMP.

(6) *Cumulative impacts analysis—(i) Analysis.* To the extent feasible and practicable, FMPs should analyze how fishing and non-fishing activities influence habitat function on an ecosystem or watershed scale. This analysis should describe the ecosystem or watershed, the dependence of the managed species on the ecosystem or watershed, especially EFH; and how fishing and non-fishing activities, individually or in combination, impact EFH and the managed species, and how the loss of EFH may affect the ecosystem. An assessment of the cumulative and synergistic effects of multiple threats, including the effects of natural stresses (such as storm damage or climate-based environmental shifts), and an assessment of the ecological risks resulting from the impact of those threats on the managed species' habitat should also be included. For the purposes of this analysis, cumulative impacts are impacts on the environment that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of who undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.

(ii) *Cumulative impacts from fishing.* In addressing the impacts of fishing on EFH, Councils should also consider the cumulative impacts of multiple fishing practices and non-fishing activities on EFH, especially, on habitat areas of particular concern. Habitats that are particularly vulnerable to specific fishing equipment types should be identified for possible designation as habitat areas of particular concern.

(iii) *Mapping cumulative impacts.* A GIS or other mapping system should be used to support analyses of data. Maps depicting data documenting cumulative

impacts identified in this paragraph should be included in an FMP.

(iv) *Research needs.* If completion of these analyses is not feasible or practicable for every ecosystem or watershed within an area identified as EFH, Councils should, in consultation with NMFS, identify in the FMP priority research areas to allow these analyses to be completed. Councils should include a schedule for completing such research. Such schedule of priority research areas should be combined with the research needs identified pursuant to paragraph (a)(10) of this section.

(7) *Conservation and enhancement—*
(i) *Contents of FMPs.* FMPs must describe options to avoid, minimize, or compensate for the adverse effects identified pursuant to paragraphs (a) (5) and (6) of this section and promote the conservation and enhancement of EFH, especially in habitat areas of particular concern.

(ii) *General conservation and enhancement recommendations.* Generally, non-water dependent actions should not be located in EFH if such actions may have adverse impacts on EFH. Activities that may result in significant adverse effects on EFH, should be avoided where less environmentally harmful alternatives are available. If there are no alternatives, the impacts of these actions should be minimized. Environmentally sound engineering and management practices should be employed for all actions which may adversely affect EFH. Disposal or spillage of any material (dredge material, sludge, industrial waste, or other potentially harmful materials) which would destroy or degrade EFH should be avoided. If avoidance or minimization is not possible, or will not adequately protect EFH, compensatory mitigation to conserve and enhance EFH should be recommended. FMPs may recommend proactive measures to conserve or enhance EFH. When developing proactive measures, Councils may develop a priority ranking of the recommendations to assist Federal and state agencies undertaking such measures.

(iii) *Conservation and enhancement options.* FMPs should provide a variety of options to conserve or enhance EFH, which may include, but are not limited to:

(A) *Enhancement of rivers, streams, and coastal areas.* EFH located in, or influenced by, rivers, streams, and coastal areas may be enhanced by reestablishing endemic trees or other appropriate native vegetation on adjacent riparian areas; restoring natural bottom characteristics; removing

unsuitable material from areas affected by human activities; or adding gravel or substrate to stream areas to promote spawning. Adverse effects stemming from upland areas that influence EFH may be avoided or minimized by employing measures such as, but not limited to, erosion control, road stabilization, upgrading culverts, removal or modification of operating procedures of dikes or levees to allow for fish passage, structural and operation measures at dams for fish passage and habitat protection, or improvement of watershed management. Initiation of Federal, state, or local government planning processes to restore watersheds associated with such rivers, streams, or coastal areas may also be recommended.

(B) *Water quality and quantity.* This category of options may include use of best land management practices for ensuring compliance with water quality standards at state and Federal levels, improved treatment of sewage, proper disposal of waste materials, and providing appropriate in-stream flow.

(C) *Watershed analysis and planning.* This may include encouraging local and state efforts to minimize destruction/degradation of wetlands, restore and maintain the ecological health of watersheds, and encourage restoration of native species. Any analysis of options should consider natural variability in weather or climatic conditions.

(D) *Habitat creation.* Under appropriate conditions, habitat creation (converting non-EFH to EFH) may be considered as a means of replacing lost or degraded EFH. However, habitat conversion at the expense of other naturally functioning systems must be justified within an ecosystem context.

(8) *Prey species.* Loss of prey is an adverse effect on EFH and a managed species, 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 the 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. FMPs should identify the major prey species for the species in the FMU and generally describe the location of prey species' habitat. Actions that cause a reduction of the prey species population, including where there exists evidence that adverse effects to habitat of prey species is causing a decline in the availability of the prey species, should also be described and identified. Adverse effects on prey species and

their habitats may result from fishing and non-fishing activities.

(9) *Identification of habitat areas of particular concern.* FMPs should identify habitat areas of particular concern within EFH. In determining whether a type, or area of EFH is a habitat area of particular concern, one or more of the following criteria must be met:

(i) The importance of the ecological function provided by the habitat.

(ii) The extent to which the habitat is sensitive to human-induced environmental degradation.

(iii) Whether, and to what extent, development activities are, or will be, stressing the habitat type.

(iv) The rarity of the habitat type.

(10) *Research and information needs.* Each FMP should contain recommendations, preferably in priority order, for research efforts that the Councils and NMFS view as necessary for carrying out their EFH management mandate. The need for additional research is to make available sufficient information to support a higher level of description and identification of EFH under paragraph (a)(2)(i) of this section. Additional research may also be necessary to identify and evaluate actual and potential adverse effects on EFH, including, but not limited to, direct physical alteration; impaired habitat quality/functions; cumulative impacts from fishing; or indirect adverse effects such as sea level rise, global warming and climate shifts; and non-equipment related fishery impacts. The Magnuson-Stevens Act specifically identifies the effects of fishing as a concern. The need for additional research on the effects of fishing equipment on EFH and a schedule for obtaining that information should be included in this section of the FMP. If an adverse effect on EFH is identified and determined to be an impediment to maintaining a sustainable fishery and the managed species' contribution to a healthy ecosystem, then the research needed to quantify and mitigate that effect should be identified in this section.

(11) *Review and revision of EFH components of FMPs.* Councils and NMFS should periodically review the EFH components of FMPs, including an update of the equipment assessment originally conducted pursuant to paragraph (a)(3)(ii) of this section. Each EFH FMP amendment should include a provision requiring review and update of EFH information and preparation of a revised FMP amendment if new information becomes available. The schedule for this review should be based on an assessment of both the existing data and expectations when

new data will become available. This information should be reviewed as part of the annual Stock Assessment and Fishery Evaluation (SAFE) report prepared pursuant to § 600.315(e). A complete review of information should be conducted as recommended by the Secretary, but at least once every 5 years.

(b) *Optional components.* An FMP may include a description and identification of the habitat of species under the authority of the Council, even if not contained in the FMU. However, such habitat may not be EFH. This subpart does not change a Council's ability to implement management measures for a managed species for the protection of another species.

(c) *Development of EFH recommendations.* After reviewing the best available scientific information, as well as other appropriate information, and in consultation with the Councils, participants in the fishery, interstate commissions, Federal agencies, state agencies, and other interested parties, NMFS will develop written recommendations for the identification of EFH for each FMP. In recognition of the different approaches to FMP development taken by each Council, the NMFS EFH recommendations may constitute a review of a draft EFH document developed by a Council, or may include suggestions for a draft EFH FMP amendment and may precede the Council's development of such documents, as appropriate. In both cases, prior to submitting a written EFH identification recommendation to a Council for an FMP, the draft recommendation will be made available for public review and at least one public meeting will be held. NMFS will work with the affected Council(s) to conduct this review in association with scheduled public Council meetings whenever possible. The review may be conducted at a meeting of the Council committee responsible for habitat issues or as a part of a full Council meeting. After receiving public comment, NMFS will revise its draft recommendations, as appropriate, and forward a final written recommendation and comments to the Council(s).

(d) *Relationship to other fishery management authorities.* Councils are encouraged to coordinate with state and interstate fishery management agencies where Federal fisheries affect state and interstate managed fisheries or where state or interstate fishery regulations affect the management of Federal fisheries. Where a state or interstate fishing activity adversely impacts EFH, NMFS will consider that action to be an adverse effect on EFH pursuant to

paragraph (a)(5) of this section and will provide EFH conservation recommendations to the appropriate state or interstate fishery management agency on that activity.

Subpart K—EFH Coordination, Consultation, and Recommendations

§ 600.905 Purpose and scope and NMFS/Council cooperation.

(a) *Purpose.* These procedures address the coordination, consultation, and recommendation requirements of sections 305(b)(1)(D) and 305(b)(2–4) of the Magnuson-Stevens Act. The purpose of these procedures is to promote the protection of EFH in the review of Federal and state actions that may adversely affect EFH.

(b) *Scope.* Section 305(b)(1)(D) of the Magnuson-Stevens Act requires the Secretary to coordinate with, and provide information to, other Federal agencies regarding the conservation and enhancement of EFH. Section 305(b)(2) requires all Federal agencies to consult with the Secretary on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH. Sections 305(b)(3) and (4) direct the Secretary and the Councils to provide comments and EFH conservation recommendations to Federal or state agencies on actions that affect EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH resulting from actions or proposed actions authorized, funded, or undertaken by that agency. Section 305(b)(4)(B) requires Federal agencies to respond in writing to such comments. The following procedures for coordination, consultation, and recommendations allow all parties involved to understand and implement the requirements of the Magnuson-Stevens Act.

(c) *Cooperation between Councils and NMFS.* The Councils and NMFS should cooperate as closely as possible to identify actions that may adversely affect EFH, to develop comments and EFH conservation recommendations to Federal and state agencies, and to provide EFH information to Federal or state agencies. The Secretary will seek to develop agreements with each Council to facilitate sharing information on actions that may adversely affect EFH and in coordinating Council and NMFS comments and recommendations on those actions. However, NMFS and the Councils also have the authority to act independently.

§ 600.910 Definitions and word usage.

(a) *Definitions.* In addition to the definitions in the Magnuson-Stevens Act and § 600.10, the terms in this subpart have the following meanings:

Adverse effect means any impact which reduces quality and/or quantity of EFH. Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitatwide impacts, including individual, cumulative, or synergistic consequences of actions.

Council includes the Secretary, as applicable, when preparing FMPs or amendments under section 304 (c) and (g) of the Magnuson-Stevens Act; and when commenting and making recommendations under the authority of section 305(b)(3) of the Magnuson-Stevens Act to any Federal or state agency on actions that may affect the habitat of fishery resources managed under such FMPs.

Federal action means any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken by a Federal agency.

Habitat areas of particular concern means those areas of EFH identified pursuant to § 600.815(a)(9).

State action means any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken by a state agency.

(b) *Word usage.* The terms "must", "shall", "should", "may", "may not", "will", "could", and "can", are used in the same manner as in § 600.305(c).

§ 600.915 Coordination for the conservation and enhancement of EFH.

To further the conservation and enhancement of EFH in accordance with section 305(b)(1)(D) of the Magnuson-Stevens Act, NMFS will compile and make available to other Federal and state agencies, information on the locations of EFH, including maps and/or narrative descriptions. NMFS will also provide information on ways to improve ongoing Federal operations to promote the conservation and enhancement of EFH. Federal and state agencies empowered to authorize, fund, or undertake actions that may adversely affect EFH are encouraged to contact NMFS and the Councils to become familiar with areas designated as EFH, and potential threats to EFH, as well as opportunities to promote the conservation and enhancement of such habitat.

§ 600.920 Federal agency consultation with the Secretary.

(a) *Consultation generally—(1) Actions requiring consultation.* Pursuant

to section 305(b)(2) of the Magnuson-Stevens Act, Federal agencies must consult with NMFS regarding any of their actions authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect EFH. EFH consultation is not required for completed actions, e.g., issued permits. Consultation is required for renewals, reviews, or substantial revisions of actions. Consultation on Federal programs delegated to non-Federal entities is required at the time of delegation, review, and renewal of the delegation. EFH consultation is required for any Federal funding of actions that may adversely affect EFH. NMFS and Federal agencies responsible for funding actions that may adversely affect EFH should consult on a programmatic level, if appropriate, with respect to these actions.

(2) *Appropriate level of consultation.*
 (i) NMFS and other Federal agencies may conduct consultation at either a programmatic or project-specific level. Federal actions may be evaluated at a programmatic level if sufficient information is available to develop EFH conservation recommendations and address all reasonably foreseeable adverse effects to EFH. Project-specific consultations are more appropriate when critical decisions are made at the project implementation stage, or when sufficiently detailed information for the development of EFH conservation recommendations does not exist at the programmatic level.

(ii) If, after a Federal agency requests programmatic consultation, NMFS determines that all concerns about adverse effects on EFH can be addressed at a programmatic level, NMFS will develop EFH conservation recommendations that cover all projects implemented under that program, and no further EFH consultation will be required. Alternatively, NMFS may determine that project-specific consultation is needed for part or all of the program's activities, in which case NMFS may develop some EFH conservation recommendations at a programmatic level, but will also recommend that project-specific consultation will be needed to complete the EFH consultation requirements. NMFS may also determine that programmatic consultation is not appropriate, in which case all EFH conservation recommendations will be deferred to project-specific consultations.

(b) *Designation of lead agency.* If more than one Federal agency is responsible for a Federal action, the consultation requirements of sections 305(b)(2-4) of

the Magnuson-Stevens Act may be fulfilled through a lead agency. The lead agency must notify NMFS in writing that it is representing one or more additional agencies.

(c) *Designation of non-Federal representative.* A Federal agency may designate a non-Federal representative to conduct an abbreviated consultation or prepare an EFH Assessment by giving written notice of such designation to NMFS. If a non-Federal representative is used, the Federal action agency remains ultimately responsible for compliance with sections 305(b)(2) and 305(b)(4) of the Magnuson-Stevens Act.

(d) *Best available information.* The Federal action agency and NMFS must use the best scientific information available regarding the effects of the proposed action on EFH. Other appropriate sources of information may also be considered.

(e) *Use of existing consultation/environmental review procedures—(1) Criteria.* Consultation and commenting under sections 305(b)(2) and 305(b)(4) of the Magnuson-Stevens Act should be consolidated, where appropriate, with interagency consultation, coordination, and environmental review procedures required by other statutes, such as the National Environmental Policy Act (NEPA), Fish and Wildlife Coordination Act, Clean Water Act, Endangered Species Act (ESA), and Federal Power Act. The consultation requirements of section 305(b)(2) of the Magnuson-Stevens Act can be satisfied using existing or modified procedures required by other statutes if such processes meet the following criteria:

(i) The existing process must provide NMFS with timely notification of actions that may adversely affect EFH. The Federal action agency should notify NMFS according to the same timeframes for notification (or for public comment) as in the existing process. However, NMFS should have at least 60 days notice prior to a final decision on an action, or at least 90 days if the action would result in substantial adverse impacts. NMFS and the action agency may agree to use shorter timeframes if they allow sufficient time for NMFS to develop EFH conservation recommendations.

(ii) Notification must include an assessment of the impacts of the proposed action on EFH that meets the requirements for EFH Assessments contained in paragraph (g) of this section. If the EFH Assessment is contained in another document, that section of the document must be clearly identified as the EFH Assessment.

(iii) NMFS must have made a finding pursuant to paragraph (e)(3) of this

section that the existing process satisfies the requirements of section 305(b)(2) of the Magnuson-Stevens Act.

(2) *EFH conservation recommendation requirements.* If an existing consultation process is used to fulfill the EFH consultation requirements, then the comment deadline for that process should apply to the submittal of NMFS conservation recommendations under section 305(b)(4)(A) of the Magnuson-Stevens Act, unless a different deadline is agreed to by NMFS and the Federal agency. The Federal agency must respond to these recommendations within 30 days pursuant to section 305(b)(4)(B) of the Magnuson-Stevens Act. NMFS may request the further review of any Federal agency decision that is inconsistent with a NMFS EFH recommendation, in accordance with paragraph (j)(2) of this section. If NMFS EFH conservation recommendations are combined with other NMFS or NOAA comments on a Federal action, such as NOAA comments on a draft Environmental Impact Statement, the EFH conservation recommendations shall be clearly identified as such (e.g., a section in the comment letter entitled "EFH conservation recommendations") and a response pursuant to section 305(b)(4)(B) of the Magnuson-Stevens Act is required for only the identified portion of the comments.

(3) *NMFS finding.* A Federal agency with an existing consultation process should contact NMFS at the appropriate level (regional offices for regional processes, headquarters office for national processes) to discuss how the existing process, with or without modifications, can be used to satisfy the EFH consultation requirements. If, at the conclusion of these discussions, NMFS determines that the existing process meets the criteria of paragraph (e)(1) of this section, NMFS will make a finding that the existing or modified process can satisfy the EFH consultation requirements of the Magnuson-Stevens Act. If NMFS does not make such a finding, or if there are no existing consultation processes relevant to the Federal agency's actions, the action agency and NMFS should follow the consultation process in the following sections.

(f) *General Concurrence—(1) Purpose.* The General Concurrence process identifies specific types of Federal actions that may adversely affect EFH, but for which no further consultation is generally required because NMFS has determined, through an analysis of that type of action, that it will likely result in no more than minimal adverse effects individually and cumulatively. General

Concurrences may be national or regional in scope.

(2) *Criteria.* (i) For Federal actions to qualify for General Concurrence, NMFS must determine, after consultation with the appropriate Council(s), that the actions meet all of the following criteria:

(A) The actions must be similar in nature and similar in their impact on EFH.

(B) The actions must not cause greater than minimal adverse effects on EFH when implemented individually.

(C) The actions must not cause greater than minimal cumulative adverse effects on EFH.

(ii) Actions qualifying for General Concurrence must be tracked to ensure that their cumulative effects are no more than minimal. In most cases, tracking will be the responsibility of the Federal action agency, but NMFS also may agree to track actions for which General Concurrence has been authorized. Tracking should include numbers of actions, amount of habitat adversely affected, type of habitat adversely affected, and the baseline against which the action will be tracked. The agency responsible for tracking such actions should make the information available to NMFS, the Councils, and to the public on an annual basis.

(iii) Categories of Federal actions may also qualify for General Concurrence if they are modified by appropriate conditions that ensure the actions will meet the criteria in paragraph (f)(2)(i) of this section. For example, NMFS may provide General Concurrence for additional actions contingent upon project size limitations, seasonal restrictions, or other conditions.

(iv) If a General Concurrence is developed for actions affecting habitat areas of particular concern, the General Concurrence should be subject to a higher level of scrutiny than a General Concurrence not involving a habitat area of particular concern.

(3) *General Concurrence development.* A Federal agency may request a General Concurrence for a category of its actions by providing NMFS with a written description of the nature and approximate number of the proposed actions, an analysis of the effects of the actions on EFH and associated species and their life history stages, including cumulative effects, and the Federal agency's conclusions regarding the magnitude of such effects. If NMFS agrees that the actions fit the criteria in paragraph (f)(2) of this section, NMFS, after consultation with the appropriate Council(s), will provide the Federal agency with a written statement of General Concurrence that further consultation is not required, and

that preparation of EFH Assessments for individual actions subject to the General Concurrence is not necessary. If NMFS does not agree that the actions fit the criteria in paragraph (f)(2) of this section, NMFS will notify the Federal agency that a General Concurrence will not be issued and that abbreviated or expanded consultation will be required. If NMFS identifies specific types of Federal actions that may meet the requirements for a General Concurrence, NMFS may initiate and complete a General Concurrence.

(4) *Notification and further consultation.* NMFS may request notification for actions covered under a General Concurrence if NMFS concludes there are circumstances under which such actions could result in more than a minimal impact on EFH, or if it determines that there is not a process in place to adequately assess the cumulative impacts of actions covered under the General Concurrence. NMFS may require further consultation for these actions on a case-by case basis. Each General Concurrence should establish specific procedures for further consultation, if appropriate.

(5) *Public review.* Prior to providing any Federal agency with a written statement of General Concurrence for a category of Federal actions, NMFS will provide an opportunity for public review through the appropriate Council(s), or other reasonable opportunity for public review.

(6) *Revisions.* NMFS will periodically review and revise its findings of General Concurrence, as appropriate.

(g) *EFH Assessments—(1) Preparation requirement.* For any Federal action that may adversely affect EFH, except for those activities covered by a General Concurrence, Federal agencies must provide NMFS with a written assessment of the effects of that action on EFH. Federal agencies may incorporate an EFH Assessment into documents prepared for other purposes such as ESA Biological Assessments pursuant to 50 CFR part 402 or NEPA documents and public notices pursuant to 40 CFR part 1500. If an EFH Assessment is contained in another document, it must include all of the information required in paragraph (g)(2) of this section and be clearly identified as an EFH Assessment. The procedure for combining an EFH consultation with other consultation of environmental reviews is set forth in paragraph (e) of this section.

(2) *Mandatory contents.* The assessment must contain:

(i) A description of the proposed action.

(ii) An analysis of the effects, including cumulative effects, of the proposed action on EFH, the managed species, and associated species, such as major prey species, including affected life history stages.

(iii) The Federal agency's views regarding the effects of the action on EFH.

(iv) Proposed mitigation, if applicable.

(3) *Additional information.* If appropriate, the assessment should also include:

(i) The results of an on-site inspection to evaluate the habitat and the site-specific effects of the project.

(ii) The views of recognized experts on the habitat or species that may be affected.

(iii) A review of pertinent literature and related information.

(iv) An analysis of alternatives to the proposed action. Such analysis should include alternatives that could avoid or minimize adverse effects on EFH, particularly when an action is non-water dependent.

(v) Other relevant information.

(4) *Incorporation by reference.* The assessment may incorporate by reference a completed EFH Assessment prepared for a similar action, supplemented with any relevant new project specific information, provided the proposed action involves similar impacts to EFH in the same geographic area or a similar ecological setting. It may also incorporate by reference other relevant environmental assessment documents. These documents must be provided to NMFS with an EFH Assessment.

(h) *Abbreviated consultation procedures—(1) Purpose and criteria.* Abbreviated consultation allows NMFS to quickly determine whether, and to what degree, a Federal action may adversely affect EFH. Federal actions that may adversely affect EFH should be addressed through the abbreviated consultation procedures when those actions do not qualify for a General Concurrence, but do not have the potential to cause substantial adverse effects on EFH. For example, the abbreviated consultation procedures should be used when the adverse effect(s) of an action or proposed action could be alleviated through minor modifications.

(2) *Notification by agency.* The Federal agency should notify NMFS and, if NMFS so requests, the appropriate Council(s), in writing as early as practicable regarding proposed actions that may adversely affect EFH. Notification will facilitate discussion of measures to conserve the habitat. Such early consultation should occur during

pre-application planning for projects subject to a Federal permit or license, and during preliminary planning for projects to be funded or undertaken directly by a Federal agency.

(3) *Submittal of EFH Assessment.* The Federal agency must submit a completed EFH Assessment, prepared in accordance with paragraph (g) of this section, to NMFS for review. Federal agencies will have fulfilled their consultation requirement under paragraph (a) of this section after notification and submittal of a complete EFH Assessment.

(4) *NMFS response to Federal agency.* NMFS must respond in writing as to whether it concurs with the findings of the EFH Assessment. If NMFS believes that the proposed action may result in substantial adverse effects on EFH, or that additional analysis is needed to accurately assess the effects of the proposed action, NMFS will request that the Federal agency initiate expanded consultation. Such request will explain why NMFS believes expanded consultation is needed and will specify any new information needed. If additional consultation is not necessary, NMFS will respond by commenting and recommending measures that may be taken to conserve EFH, pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act. NMFS will send a copy of its response to the appropriate Council.

(5) *Timing.* The Federal action agency must submit its complete EFH Assessment to NMFS as soon as practicable, but NMFS must receive it at least 60 days prior to a final decision on the action. NMFS must respond in writing within 30 days. NMFS and the Federal action agency may agree to use a compressed schedule in cases where regulatory approvals or emergency situations cannot accommodate 30 days for consultation, or to conduct consultation earlier in the planning cycle for proposed actions with lengthy approval processes.

(i) *Expanded consultation procedures—(1) Purpose and criteria.* Expanded consultation allows maximum opportunity for NMFS and the Federal agency to work together in the review of the action's impacts on EFH and the development of EFH conservation recommendations. Expanded consultation procedures must be used for Federal actions that would result in substantial adverse effects to EFH. Federal agencies are encouraged to contact NMFS at the earliest opportunity to discuss whether the adverse effect of a proposed action makes expanded consultation appropriate.

(2) *Initiation.* Expanded consultation begins when NMFS receives from the Federal agency an EFH Assessment completed in accordance with paragraph (g) of this section and a written request for expanded consultation. Federal action agencies are encouraged to provide in the EFH Assessment the additional information identified under paragraph (g)(3) of this section. Subject to NMFS's approval, any request for expanded consultation may encompass a number of similar individual actions within a given geographic area.

(3) *NMFS response to Federal agency.* NMFS will:

(i) Review the EFH Assessment, any additional information furnished by the Federal agency, and other relevant information.

(ii) Conduct a site visit, if appropriate, to assess the quality of the habitat and to clarify the impacts of the Federal agency action. Such a site visit should be coordinated with the Federal agency and appropriate Council(s), if feasible.

(iii) Coordinate its review of the proposed action with the appropriate Council(s).

(iv) Discuss EFH conservation recommendations with the Federal agency and provide recommendations to the Federal action agency, pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act. NMFS will also provide a copy of the recommendations to the appropriate Council(s).

(4) *Timing.* The Federal action agency must submit its complete EFH Assessment to NMFS as soon as practicable, but at least 90 days prior to a final decision on the action. NMFS must respond within 60 days of submittal of a complete EFH Assessment unless consultation is extended by agreement between NMFS and the Federal action agency. NMFS and Federal action agencies may agree to use a compressed schedule in cases where regulatory approvals or emergency situations cannot accommodate a 60-day consultation period.

(5) *Extension of consultation.* If NMFS determines that additional data or analysis would provide better information for development of EFH conservation recommendations, NMFS may request additional time for expanded consultation. If NMFS and the Federal action agency agree to an extension, the Federal action agency should provide the additional information to NMFS, to the extent practicable. If NMFS and the Federal action agency do not agree to extend consultation, NMFS must provide EFH conservation recommendations to the

Federal action agency using the best scientific information available to NMFS.

(j) *Responsibilities of Federal action agency following receipt of EFH conservation recommendations—(1) Federal action agency response.* As required by section 305(b)(4)(B) of the Magnuson-Stevens Act, the Federal action agency must provide a detailed response in writing to NMFS and the appropriate Council within 30 days after receiving an EFH conservation recommendation. Such a response must be provided at least 10 days prior to final approval of the action, if a decision by the Federal agency is required in fewer than 30 days. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with NMFS conservation recommendations, the Federal action agency must explain its reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects.

(2) *Further review of decisions inconsistent with NMFS or Council recommendations.* If a Federal action agency decision is inconsistent with a NMFS EFH conservation recommendation, the Assistant Administrator for Fisheries may request a meeting with the head of the Federal action agency, as well as any other agencies involved, to discuss the proposed action and opportunities for resolving any disagreements. If a Federal action agency decision is also inconsistent with a Council recommendation made pursuant to section 305(b)(3) of the Magnuson-Stevens Act, the Council may request that the Assistant Administrator initiate further review of the Federal agency's decision and involve the Council in any interagency discussion to resolve disagreements with the Federal agency. The Assistant Administrator will make every effort to accommodate such a request. Memoranda of agreement or other written procedures will be developed to further define such review processes with Federal action agencies.

(k) *Supplemental consultation.* A Federal action agency must reinstate consultation with NMFS if the agency substantially revises its plans for an action in a manner that may adversely affect EFH or if new information becomes available that affects the basis

for NMFS' EFH conservation recommendations.

§ 600.925 NMFS EFH conservation recommendations to Federal and state agencies.

(a) *General.* Under section 305(b)(4) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations to Federal and state agencies for actions that would adversely affect EFH. NMFS EFH conservation recommendations will not suggest that state or Federal agencies take actions beyond their statutory authority.

(b) *Recommendations to Federal agencies.* For Federal actions, EFH conservation recommendations will be provided to Federal action agencies as part of EFH consultations conducted pursuant to § 600.920. These recommendations fulfill the requirements of section 305(b)(4)(A) of the Magnuson-Stevens Act. If NMFS becomes aware of a Federal action that would adversely affect EFH, but for which a Federal agency has not completed an EFH consultation, NMFS may request that the Federal agency initiate EFH consultation or NMFS will provide EFH conservation recommendations based on the information available. NMFS will provide a copy of such recommendation to the appropriate Council(s).

(c) *Recommendations to state agencies—(1) Establishment of*

procedures. Each NMFS Region should use existing coordination procedures under statutes such as the Coastal Zone Management Act or establish new procedures to identify state actions that may adversely affect EFH, and for determining the most appropriate method for providing EFH conservation recommendations to the state agency. NMFS will provide a copy of such recommendation to the appropriate Council(s).

(2) *Coordination with states on recommendations to Federal agencies.* When an action that would adversely affect EFH requires authorization or funding by both Federal and state agencies, NMFS will provide the appropriate state agencies with copies of EFH conservation recommendations developed as part of the Federal consultation procedures in § 600.920. NMFS will also seek agreements on sharing information and copies of recommendations with Federal or state agencies conducting similar consultation and recommendation processes to ensure coordination of such efforts.

§ 600.930 Council comments and recommendations to Federal and state agencies.

(a) *Establishment of procedures.* Each Council should establish procedures for reviewing Federal or state actions that may adversely affect the EFH of a species managed under its authority.

Each Council may receive information on actions of concern by methods such as: Directing Council staff to track proposed actions; recommending that the Council's habitat committee identify actions of concern; or entering into an agreement with NMFS to have the appropriate Regional Administrator notify the Council of actions that may adversely impact EFH. Federal and state actions often follow specific timetables which may not coincide with Council meetings. Therefore, Councils should consider establishing abbreviated procedures for the development of Council recommendations.

(b) *Early involvement.* Councils should provide comments and recommendations on proposed state and Federal actions of concern as early as practicable in project planning to ensure thorough consideration of Council concerns by the action agency. Copies of Council comments and recommendations should be provided to NMFS.

(c) *Anadromous fishery resources.* For the purposes of the commenting requirement of section 305(b)(3)(B) of the Magnuson-Stevens Act, an "anadromous fishery resource under a Council's authority" is an anadromous species that inhabits waters under the Council's authority at some time during its life cycle.

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BILLING CODE 3510-22-P

GROUND FISH FORUM, INC.

Mr. Richard B. Lauber
Chairman
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501-2252

4215 21st Avenue W. Suite #201
Seattle, WA 98199
301-9504 FAX (206) 301-9508

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JAN 22 1998

N.P.F.M.C.

January 21, 1998

RE: Council's Essential Fish Habitat Document

Dear Chairman Lauber:

Groundfish Forum has reviewed the Council's preliminary documents prepared for the Essential Fish Habitat interim rule. We believe that although the reports are a good start, they fail to include all available information. Although replete with information from the east coast and foreign countries on the effects of trawls, the reports lack available information on longline and pot gear impacts on habitat. Groundfish Forum would like to suggest the incorporation of studies and management experiences with longline and fish pot gear from the U.S. Atlantic fisheries. Although we do not want to overstate the applicability of east coast information to the North Pacific for any gear type, it must be recognized that most of the information referenced in the sections of the Council's report on trawl impacts is from east coast fisheries. In our judgment, east coast information and experience with longlines and fish pots is (arguably) no less applicable and thus belongs in the mix of information.

To illustrate that information on habitat impacts of fish pots and longlines is available for incorporation into the North Pacific Council's gear impacts section, we list in the table below several management measures approved by the South Atlantic and Gulf of Mexico fishery management Councils and implemented by NMFS from 1992 through 1997. Some measures restrict or prohibit the use of some fixed gears not only in sensitive coral reef areas, but also in habitats that are sand and mud areas with infrequent reef outcroppings and live bottom areas. All of the management actions listed were undertaken, in part, to address known habitat impacts of longlines or fish pots.

We have also attached two appendices. One provides quotations from management plans and background information describing the habitat protection reasons for prohibitions and restrictions on these gears. The second appendix lists studies and reports from the South Atlantic and Gulf of Mexico evaluating the effects of fishing gear, including longlines and fish pots.

We have focused on South Atlantic and Gulf of Mexico management measures because that information was readily available. We recommend that plans from the Mid-Atlantic and New England Councils be perused as well to see if management information and scientific studies pertaining to longlines or fish pots are available to supplement the works cited on trawling from those areas.

Thank you for considering our comments. Please feel free to call me if you have questions or would like further documentation on this material.

Sincerely,



John R. Garvin

Table 1: Management Measures approved by the South Atlantic and Gulf of Mexico Fishery Management Councils

<i>gear</i>	<i>management plan</i>	<i>management council</i>	<i>restriction</i>	<i>rationale</i>
pelagic longlines	Snappers/Groupers (see below)* Amendment 6	South Atlantic	prohibition on use to target all species in complex	bycatch, enforceability of prohibition on bottom longlines
bottom longlines	Wreckfish, Amendments 3,5	South Atlantic	prohibition on use for wreckfish (Blake Plateau, depths 300-500 fathoms)	gear loss, habitat damage, gear conflicts
bottom longlines	Snappers/Groupers (see below)* Amendment 4	South Atlantic	prohibition on use inside 50 fathoms throughout Council jurisdiction (North Carolina to Florida)	gear conflicts, habitat protection
bottom longlines	Snappers/Groupers (see below)* Amendment 6	South Atlantic	prohibited for all species at any depth south of Cape Lucia, Florida	habitat protection, excessive shares, gear conflicts
bottom longlines	Reef Fish Amendment 7	Gulf of Mexico	prohibited in depths under 50 fathoms in habitat protection areas	habitat protection
fish pots/traps	Snappers/Groupers (see below)* Amendment 4	South Atlantic	prohibited at all depths except to catch black seabass north of Cape Canaveral	habitat protection, excessive shares, gear conflicts
fish pots/traps	Reef Fish Amendment 7	Gulf of Mexico	restrictions on size and number of pots, depths where used	habitat protection, excessive shares, gear conflicts

* note: the SAFMC's Snapper Grouper Plan manages a complex of groupers, snappers, sea basses, jacks, tilefish, and other species with varying degrees of dependence on subtropical and temperate reef habitat.

Appendix I: Description of the rationale for South Atlantic and Gulf of Mexico measures to protect habitat regarding longlines and fish pots.

Longlines: Bottom longlines used to be one of the principle gears used to target snappers, groupers, wreckfish and other species in the Southeast U.S., and particularly within the jurisdiction of the South Atlantic Council. That Council's area of authority encompasses habitat ranging from the coral reefs of South Florida to the large expanses of sand and mud habitat with occasional rock and "live bottom" outcroppings and ledges off the coast of Georgia, South Carolina, and North Carolina. Between 1991 and 1997, significant restrictions were placed on the use of bottom longlines as part of Amendments 3 through 9 to the FMP for Snappers/Groupers. Pelagic longlines are used for a number of species in the region and are managed under different regulations.

One restriction that was developed in Snapper/Grouper Amendments 4 prohibited the use of bottom longlines for wreckfish, now exclusively a deep water vertical hook and line fishery (300-400 fathoms). The prohibition was implemented because of gear conflicts and potential for habitat damage as stated in the Council plan. The plan provides the following rationale:

Longline cable on the bottom has the potential to break some of the ledges, overhangs and associated organisms, and otherwise damage the habitat on which the wreckfish depend. Habitat damage caused by the longlines would violate the SAFMC habitat policy and should be avoided (SAFMC Amendment 4 to the Snapper/Grouper Plan, pg.53).

In 1992, the SAFMC prohibited the use of bottom longlines to fish for snappers, groupers, sea basses, and other finfish in the complex in South Atlantic waters inside of 50 fathoms. The following habitat protection rationale was offered by the SAMFC:

Habitat damage and intense competition among users are problems that arise when longline gear is used within 50 fathoms where significant live bottom occurs and where competition with other hook and line vessels occurs. The Council concluded that this gear is appropriate for use in the deep-water snowy grouper/tilefish fishery where much of the bottom is mud with sparse live bottom areas (pg 55, SAFMC Amendment 4 to the FMP for Snapper/Groupers).

And on page 56:

This regulation essentially segments the mid-shelf and the deep-water complex to the bottom longlines. This measure was supported during the public hearing process and the Council concluded that prohibiting use of longline gear within 50 fathoms will prevent the problems of habitat damage and intense competition while at the same time allow fishermen using this gear to continue fishing in deeper water. This action effectively limits longlines to targeting the deep water component of the snapper grouper fishery and keeps the use of longlines outside of the rough bottom habitat.

More recently, for enforcement reasons, the South Atlantic Council prohibited fishing with bottom longline gear for nearly all species in the Snapper/Grouper complex, the single exceptions are tilefish and snowy grouper which are found in mud and sand areas with little sensitive habitat (Snapper/Grouper Amendment 6).

The Gulf of Mexico Council has partially followed the SAFMC's lead on prohibiting bottom longlines inside of 50 fathoms. Prohibitions in the waters of the Gulf of Mexico are in state waters in Florida and in federal waters within habitat protection areas.

It is noteworthy that in nearly all South Atlantic and Gulf of Mexico waters, the relatively flat continental shelf means that depths do not exceed 50 fathoms until at least 30 to 70 miles from the coastline. The shelf off South Florida is an exception, however, where depths greater than 50 fathoms can be reached within 3-10 miles of the coastline.

Fish Pots and Traps: Fish pots have been used in the South Atlantic and Gulf of Mexico to target black sea bass as well as numerous snapper and grouper species. The most extensive restrictions placed on fish traps were been put in place in state of Florida and federal waters managed by the South Atlantic Council. In 1991, the SAFMC approved restrictions on the use of baited and non-baited fish pots and traps as part of Amendment 4 to the Council's Snapper/Grouper FMP. Fish pots for snapper and grouper were prohibited in all waters, with one exception for the use of pots for black sea bass north of Cape Canaveral (with a 2 ft by 2ft by 3 ft maximum size restriction for pots). The stated rationale in Amendment 4 for taking such an action was as follows:

There is some evidence that fish trapping causes habitat damage where fish traps are set in "trawls" on live bottom and where grappling hooks are dragged across live bottom to retrieve them. Testimony and video records of damaged *Oculina* reefs off Palm Beach County, Florida shown to the Council at the February 1991 meeting, depicted significant and measurable damage to coral reef and live bottom communities. These activities leave an imprint of the trap upon the bottom communities and trenches caused by grappling hooks dragged over the bottom for the purpose of locating and recovering traps. Lost traps not only continue to fish, as it has been pointed out in the ghost trap discussion, but may contribute secondary habitat damage by becoming mobilized at times of storm activity and impacting delicate bottom communities. These problems cannot be alleviated by trap design modifications even if such modifications could be enforced. (SAFMC's Snapper/Grouper Plan, Amendment 4. April 1991 page 73-74).

Concerns over ghost fishing and data showing that fish pots were taking an excessive share of the harvest from traditional gears were also reasons for the SAFMC's actions to ban fish pots.

While the Gulf of Mexico Council opted not to adopt parallel regulations in the face of the South Atlantic's prohibition on fish pots, the Gulf Council concurrently placed size, area, and number restrictions on the use of fish pots, partly for habitat protection objectives.

Appendix II: Examples of available scientific and management information on habitat effects of fish pots and longlines from the South Atlantic and Gulf of Mexico

South Atlantic and Gulf of Mexico Council documents cite information used to back their restrictions on fish pots and longlines. Often, evidence presented to the Council from underwater videos (probably available from SAFMC) is cited as well as scientific studies. We have provided examples of available literature below: (Note: none of these works are cited in the North Pacific Council's Essential Fish Habitat reports and all of these papers provide at least some information and evidence of habitat effects, particularly as habitat effects are currently defined in the North Pacific's EFH document, i.e., certain types of bycatch are also construed as habitat impacts).

Bohnsack, J.A., D.L.Sutherland, D.E.Harper, D.B. McClellan, M.W.Hulsbeck and C.M.Holt 1989. The effects of fish trap mesh size on reef fish catch off southeastern Florida. *Marine Fisheries Review* 51(2):36-46.

Cofer-Shabica, S.V. 1989 Fish traps in the coral reefs of South Florida. In: Proc. Sixth Symp. On Coastal and Ocean Management, Coastal Zone 1989, 4:3030-3044

GMFMC 1983. Gulf of Mexico Fishery Management Council. Amendment Number 7 and Environmental Assessment and Regulatory Impact Review to the Fishery Management Plan, for the Reef Fish Fishery of the Gulf of Mexico.

Harper, D.E., J.A. Bohnsack, D.B. McClellan 1990. Preliminary report on bycatch from the southern Florida wire fish-trap fishery. NMFS SEFC Miami, Florida. MTA-89/90-19. 23pp.

Huntsman, G.R. 1993 Development of management options combining quotas and marine reserves for deep reef species in the jurisdiction of the South Atlantic Fishery Management Council. DOC/NOAA/NMFS/SEFSC. Beaufort Lab, 101 Pivers Island Road, Beaufort, NC 28516. Unpubl. Ms. 5pp.

Kitner, K.R. 1989. Fish trapping in the South Atlantic: Report to the South Atlantic Fishery Management Council, Charleston, South Carolina. Report completed December 1987, Published December 1989. SAFMC Technical Report Number 10, SAFMC Contribution Number 15, 18 pp.

Manson, J.S. and J. A. DeFoor, III. 1985, Natural resource damages: Restitution as a mechanism to slow destruction of Florida's natural resources. *J. Land Use Env. Law* 1(3):295:319.

Reed, J.K. 1992 Submersible studies of Deep-Water *Oculina* and *Lophelia* Coral Banks off Southeastern U.S.A Proc. The American Academy of Underwater Sciences Twelfth Annual Scientific Diving Symposium. Sept 24-27, 1992. 143-151.

SAFMC 1988. South Atlantic Fishery Management Council. Amendment Number 1 and Environmental Assessment and Regulatory Impact Review to the Fishery Management Plan, for the Snapper Grouper Fishery of the South Atlantic Region.

SAFMC 1990. South Atlantic Fishery Management Council. Amendment Number 3 (Wreckfish), Regulatory Impact Review, Initial Regulatory Flexibility Analysis and Environmental Assessment for the Fishery Management Plan, for the Snapper Grouper Fishery of the South Atlantic Region.

SAFMC 1991. South Atlantic Fishery Management Council. Amendment Number 4 (Gear Restrictions and Size Limits), Regulatory Impact Review, Initial Regulatory Flexibility Analysis and Environmental Assessment for the Fishery Management Plan, for the Snapper Grouper Fishery of the South Atlantic Region.

SAFMC 1991. South Atlantic Fishery Management Council. Updated Source Document for the Snapper Grouper Fishery of the South Atlantic Region.

SAFMC 1993. South Atlantic Fishery Management Council. Amendment Number 6 (Commercial Trip Limits, Recreational Bag Limits, Gear Restrictions), Regulatory Impact Review, Initial Regulatory Flexibility Analysis and Environmental Assessment for the Fishery Management Plan, for the Snapper Grouper Fishery of the South Atlantic Region.

Sutherland, D.L. 1989. Mortalities of reef fish in traps. NOAA, NMFS, SEFC, Miami Laboratory, Coastal Resources Division Contribution No. CRD-88/89-03, 10 pp.

Sutherland, D.L., D.E. Harper 1983. The wire fish trap fishery of Dade and Broward counties, Florida December 1979 -September 1980. Fla. Mar. Res. Publ. No. 40, 21 pp.

Taylor, R.G. and R.H. McMichael, Jr. 1983. The wire fish trap fishery Monroe and Collier counties, Florida. Fla. Mar. Res. Publ. No. 39, 19 pp.

TO: RICK LAUBER, CHAIRMAN
NORTH PACIFIC FISHERY MANAGEMENT BOARD

RE: "THE INDIRECT EFFECTS OF FISHING"

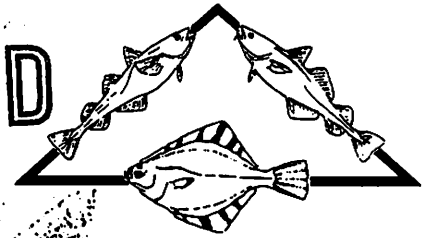
DATE: JANUARY 23, 1998

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JAN 26 1998

N.P.F.M.C



**RE: COMMENTS ON THE JANUARY 2, 1998, DRAFT REPORT"
"THE INDIRECT EFFECTS OF FISHING"**

Submitted by Chris Blackburn, Director, Alaska Groundfish Data Bank

The draft copy of the report "The Indirect Effects of Fishing" and the authors are to be commended on the mass of information they have summarized for this report and the clarity of the presentation. Following are comments on the draft which are intended not as criticisms but as suggestions for subsequent drafts.

OMISSIONS

1. It has been noted by Alaska Groundfish Data Bank as well as other reviewers that most of the work cited is from research done on the East Coast of the U.S. and in Europe. We realize that there has been less research done on the West Coast and even less in the Alaska region. However, the work which has been done should be part of this report, including reports in the Fishery Management Plans for the Gulf of Alaska and Bering Sea and reports in the EA/RIR's.

AGDB has provided a short list of papers and information sources on the effect of fishing gear on habitat in the Alaska Region as an appendix to these comments.

2. Most of the information reviewed in the draft document comes from research done on trawls and dredges. AGDB realizes that much more work has been done on trawls and dredges because trawls and dredges are the predominant method of fishing in the developed countries which have funds for research. However, AGDB is aware that work on other gears has been done on the East Coast of the U.S, Carribean and New Zealand. Any information on other gears should be included in subsequent drafts of the report.

3. While the draft report does include information on the effect of natural physical processes such as storms, currents and tides processes which change habitat little mention is made of the effects on habitat by marine species.

The natural disturbances of the sea bottom whether caused by physical processes or by biological processes provide insight into the kind, intensity and duration of perturbations to which a particular ecosystem has adapted and provide a scale which managers may find useful in evaluating the perturbations caused by fishing gear.

Perhaps the most dramatic example of natural perturbation caused by marine species is the "tilling" of the ocean bottom by gray whales and Pacific walrus.

"Both the whales and the walrus modify the sea floor in the course of foraging on the continental shelf underlying the sea. The whales excavate huge patches of sediment from the Bering Shelf as they search for their preferred food Pacific walrus disturb the sediment as they forage" Nelson, H. and Johnson, K.R. 1987.

The paper reports that the whales and walrus introduce significantly more sediment into the water than does the Yukon River.

TWO SUGGESTIONS FOR FUTURE DRAFTS

1. The term "mobile gear" as used in the draft report to refer to gears that affect benthic habitat is imprecise and should not be used. Pelagic trawls are mobile gear, but do not impact the benthic habitat. On the other hand, pots (or traps), longlined pots and bottom longlines, usually perceived as fixed gear, may be retrieved in such a way that they are pulled across the bottom and have been banned in some areas of reef habitat.
We suggest that "mobile gear" be replaced by the more awkward, but more precise, term "gear which moves while in contact with the sea bottom". It is not the gear that is important, but how the gear is fished.

2. Much of literature on the impacts of "trawls" on benthic habitat fails to be precise about the gear being discussed. The worst offenders lump dredges, beam trawls and otter trawls together under "trawl" and also fail to describe the bottom type on which the observations were made. Very few papers adequately describe the "trawl" gear whose impacts or lack of impacts (depending on which paper one is reading) were observed.

Because there are three genera of trawls, beam trawl, bottom otter trawl and pelagic otter trawl. Within these three classes there are a number of "species" which have different attributes and perform differently on different bottom types. It is important to distinguish carefully the attributes of the trawl which was used and the bottom type on which it was used when presenting observations on the effects or lack of effects on the benthic habitat.

AGDB suggest that the scientific community develop a protocol for peer reviewed papers on trawl effects on habitat. AGDB suggests, as a start, the items such as

1. Type of bottom
2. Type of trawl - beam, bottom otter or pelagic otter trawl
3. Horsepower of the vessel
4. Rigging of foot rope (tickler chains, cookie gear, etc.)
5. Floatation on the net and/or cod end

Studies which do not directly use a trawl, but look at benthic habitat to compare fished to unfished habitat, changes over time or evidence of fishing gear impact should at least describe the most common type of trawl used in the subject area as well as the bottom type. This information will help fishermen and managers decide whether findings in one region are applicable to their own region, gear and fishery.

LASTLY - A FEW QUIBBLES

1. Some of the summary statements appear to be overstatements that are not supported by the text. For example:

Page 2, Paragraph 2: *"mobile gear is the most wide spread form of direct disturbance in marine systems below depths which are affected by storms."* Yet on page 11 under "Implications for Management" is the statement *"The pattern that does appear to be emerging from the available literature is that communities that are subject to variable environments and are dominated by short-lived species are fairly resilient. Depending on the intensity and frequency of fishing, the impact of such activity may well fall within the range of natural perturbations."*

And on Page 10, Paragraph 3 is the statement *"Other studies of pre and post trawling on sandy to hard bottoms have generally shown similar results (Gibbs et al., 1980; MacKenzie, 1982; Currie and Parry, 1996) with no or minimal long term impact detectable."*

It would seem that in certain habitats gear which moves across the bottom is a direct disturbance, but not in other habitats.

The generalization in paragraph 2 of Page 2 continues what appears to be overstatement in the sentence *"The spatial extent of bottom fishing is extensive, and almost synonymous with the geographic extent of the world's continental shelves."*

Further in the report reference is made to the lack of knowledge of how much of a statistical region is actually fished. Alaska itself has large areas of shelf which are closed to trawl gear.

2. The use of the word "insidious" in the first sentence under the heading "Further Considerations for Management" on page 17 seems gratuitous and not exactly scientific.

Included with these comments is a copy of "Worldwide Trawl and Dredge Study" by Stephen C. Drew and Ronald E. Larsen". The study was done for Marine Data Systems to assess how deeply different gears penetrated the bottom so that underwater cables could be buried at appropriate depths to avoid interference from fishing gear. This paper also gives a very clear description of different trawls and dredges. AGDB thanks John Gauvin of Groundfish Forum for bringing this paper to our attention.

Thank you for the opportunity to comment on the "The Indirect Effects of Fishing".



Chris Blackburn, Director
Alaska Groundfish Data Bank

BIBLIOGRAPHY

Nelson, H. and Johnson, K.R. 1987. Whales and walrus as tillers of the sea floor. Scientific American. February: 112:117.

**CITATIONS REFERRING TO ALASKA RESEARCH ON GEAR EFFECTS ON HABITAT NOT IN
"THE INDIRECT EFFECTS OF FISHING"**

- AFSC. 1986. Assessment of the impact of bottom trawling on crab, other non-target species and the benthic habitat. Cruise Report.
- Armstrong, D.A. Wainwright, T. C., Jensen, G.C., Dinnel, P.A., and Andersen, H.B. 1993. 'Taking refuge from bycatch issues: Red king crab (*Paralithodes camtschaticus*) and trawl fisheries in the Eastern Bering Sea'. *Can. J. Fish, Aquat.*, 50:1993:2000.
- Heifetz, J. (Editor). Workshop on the potential effects of fishing gear on benthic habitat. 1997. AFSC Processed Report 97-04.

Papers

- Freese J.L., Heifetz, J., Wing, B.L., and Auster, P.J. Synopsis of 1996 field work related to trawling impacts on hard-bottom areas of the Eastern Gulf of Alaska.
- McConnaughey, R. and Sample, T.M. Trawl impact studies in the Eastern Bering Sea.
- Rose, C. Introduction to trawl gear in contact with the sea floor.
- Shirley, T.C. and Coon, C. A retrospective analysis of trawling effects in the Gulf of Alaska and Aleutian Islands.
- Auster, P.J. Retrospective of fishing gear impacts studies off the Northeast United States.
- Otto, R.S. and Donaldson, W.A. Feasibility of using a laser line scan system to assess trawl impacts on bottom habitat.
- O'Connell, V.M., Wakefield, W.W., Greene, H.G. and Carlile, D.W. The role of sidescan sonar in seafloor classification with a direct application to commercial fisheries management.
- McConnaughey, R., von Szalay, P. and Ito, D.H. An evaluation of hydroacoustic technology for seafloor classification.
- Stone, R.P. and Johnson, S.W. Residence time, movement and habitat of adult tanner crabs in Taku Inlet Alaska: Potential impacts from submarine tailings disposal.
- Il'inskii, E.N. 1991. 'Longstanding changes in the composition of bottom fish caught at the continental slope of the Sea of Okhotsk and Sea of Japan. *The Soviet Journal of Marine Biology*, 6, 12:18. Translated from *Biologiya Morya*.
- NMFS: 1987. Cruise results: Assessment of the impact of bottom trawling on crab, other non-target species and the benthic habitat. Cruise 86-1, F/V Morning Star, NWAFC.

Marine Data Systems

65 Flintlock Drive
Plymouth, MA 02360 USA

(1-508) 830-0910
Fax (1-508) 830-1927
Internet scdraw@aol.com

Marine Data Systems

65 Flintlock Drive, Plymouth, MA 02360 USA
Telephone (1-508) 830-0910
Telefax (1-508) 830-1927
e-mail scdraw@aol.com

August 20, 1994

Dear Colleague,

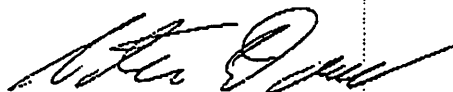
Enclosed is the summary report of the Worldwide Trawl and Dredge Study for which you contributed information. We are truly grateful to all of the experts who shared with us their expertise and experience. Without the information and guidance which you provided, this project would have been impossible.

The goals of the study were to gather information about the seabed penetration depths of various fishing gears under diverse conditions, so that cable burial depth requirements can be determined, and to gain an overview of which bottom mobile fishing gears are used in different areas on a global scale.

Diversity is one of the most striking features of fishing. This diversity becomes apparent in any attempt at a global study of fisheries. Over 100 individuals and organizations responded to our survey. Although their responses illustrated this diversity, some general trends and common values emerged.

We hope the enclosed summary is of interest to you. We would also welcome any comments or suggestions you may have on the subject. Again, thank you for your help with the study.

Sincerely,



Steve Drew
Project Manager

WORLDWIDE TRAWL AND DREDGE STUDY

Summary report by:
Stephen C. Dracw
Ronald E. Larsen

ACKNOWLEDGEMENTS

Over 100 fishing technologists, scientists, engineers, fishermen, fishing gear designers, manufacturers, and vendors provided information and guidance for this study. Many organizations and experts specialized in laying and maintaining underwater cables contributed. Manomet Observatory provided valuable support and encouragement. This study was possible only because these people and organizations were willing to share their vast experience and expertise with us. The authors are truly grateful to them.

"All sorts of statistical studies have been made in an attempt to co-ordinate the hooking of cables with such diverse things as the phases of the moon, the design and maintenance of the boards, the habits of fish, the maneuvering of the trawlers, etc."

Goodman and Lawton, 1968, in Ocean cables and trawlers - the problem of compatibility (FAO, Modern fishing gear of the world).

"The digging in of a pipeline can be compared as buying insurance which becomes more expensive with greater coverage."

S.J. de Groot, 1975, in The possible effects of beam and otter trawls on submarine pipelines (ICES Gear and Behaviour Committee).

EXECUTIVE SUMMARY

This study is a step toward understanding how deeply into the sediment bottom fishing gear penetrates so that cable burial depth requirements can be established. Within the constraints of the three-month period allocated for this preliminary study, we have set out to address two general questions, 1) how

deeply into the seabed do different types of mobile fishing gear penetrate, and 2) what bottom trawl and dredge fisheries are conducted in which areas of the world. We concentrated on fisheries pursued in water depths greater than 30 meters. A literature search was conducted and a questionnaire was sent to more than 850 potential sources of information in 100 countries.

We found a tremendous amount of information available on the cutting depth of fishing gear. Companies involved in laying and maintaining communications cables have studied the subject for decades. Fishing technology institutes and government agencies have conducted a great many studies of fishing gear/seabed interactions including underwater observations. Fishermen and gear makers have provided a great deal of information, and there is a wealth of literature containing data on the subject.

The major types of fishing gear likely to affect cables are bottom trawls and dredges. A great variety of bottom trawl and dredge types are used all over the world. Seabed penetration varies with the characteristics of the fishing gear, the hardness of the substrate and other factors. In assessing seabed penetration it is important to consider that most studies and measurements have been conducted in ideal or at least normal fishing conditions. Most types of gear for which a "normal" penetration depth can be assessed will also penetrate the seabed to a much greater depth under unusual conditions. Such unusual conditions may occur when a vessel stops towing, causing a trawl door to lay down flat, when equipment such as a hydraulic dredge or trawl door is adjusted incorrectly, when the gear encounters an obstacle, when a piece of rigging breaks, etc. It is extremely difficult to find reliable information on how deeply the gear penetrates under such conditions and on how frequently such conditions occur. For normal fishing conditions, the following seabed penetration values have emerged from this study. The lower values in these ranges may apply to light gear and hard bottom, while the higher values would correspond to heavy gear and soft mud bottom.

<u>TYPE OF GEAR</u>	<u>MAXIMUM CUTTING DEPTH (mm)</u>
bottom (otter) trawl and doors	50-300
beam trawl	60-300
boat dredge (for scallops)	40-150
boat dredge (for mussels)	250
boat dredge, clams	50-100
hydraulic/mechanized dredge	200-300

When considering the impact of a bottom otter trawl on the sediment, it is important to note that the values cited above are for the doors. The doors usually penetrate the sediment more than the footrope, but they sweep a much smaller area than the footrope. The doors sweep two paths, each of which is on the order of 0.75 - 1.5 m in width. The footrope may sweep a path 20-60 m or more in width, depending on the size of the trawl. In the North Sea, most cable/fishing problems involve beam trawls. If a given area had all the above types of gear present, one might expect the most damaging to cables to be the mechanized dredge (also referred to as the hydraulic dredge), the next most damaging the beam trawl or scallop dredge, and the least damaging to be the otter trawl.

In assessing the significance of the values for "normal" fishing conditions, it is worth noting that one cable maintenance organization has confirmed that a hydraulic clam dredge caused a fault to a cable buried 400 mm into the substrate. A hydraulic dredge left stationary will dig itself much deeper into the substrate than a moving dredge. This is one of the gear types which removes a layer of substrate with each pass along a track. Multiple passes along or across a given track may remove several layers at 200-300 mm per pass, thus digging quite deeply into the substrate.

Shifting seabed is another factor which makes it very difficult to assess cable burial depth requirements. One extreme example is provided by certain areas of the North Sea, which are fished very intensively and crossed by cables and pipelines. Some areas of the North Sea where fishery/cable interactions caused great difficulty for a number of years have a seabed characterized by sand waves. Sand waves in those areas can rise to a height of 10 meters, and they move. Under such conditions it may be very difficult to keep even thoroughly buried cables covered over long periods of time.

It is also worth noting that other types of fishing gear besides bottom mobile gear have been reported to damage cables. We heard one report of a Fish Aggregating Device (FAD) consisting essentially of an anchored buoy, whose anchor cable or chain severed a communications cable by chafing. Bottom longlines (consisting of lines set on the bottom with hooks and leaders attached at intervals) were implicated in one cable interaction off Portugal, and mentioned as a potential cable hazard by other sources. The bottom longline is usually fished as a stationary gear. However, when a vessel is retrieving the line it may be dragged across the bottom for some distance.

The substrate penetration, if there is any, would not be expected to exceed the breadth of a fishhook, which is rarely more than 50 mm.

NOTES ON SOURCES OF INFORMATION

We have sought information from a wide variety of sources - scientific literature, trade journals, fishermen, fishing gear designers and vendors, government agencies, fishery institutes, telecommunications cable companies, etc. The brief period available for this study has not permitted us to develop a process of carefully checking the precision of the data from the various sources. In addition, the technical aspects of this issue raise some doubts about just how precisely any method of measure can assess the exact penetration depth of fishing gear. (Although we use millimeters as a unit of measure for many items in this study, this is merely a convention, and not an indication of the degree of precision of an item such as seabed penetration depth.) Some background on how these various sources gather their data may be useful.

Telecommunications cable companies generally keep detailed records of cable faults. In cases where buried cables were cut by fishing gear, these companies know how deeply into the seabed the cables were originally buried. This may or may not be a good indication of how deeply fishing gear cuts, depending on how much the seabed over the cable has shifted. This last piece of information may be impossible to know with precision.

Fishermen and gear vendors know how their gear wears, when it gets stuck on an obstacle and what species it takes in what quantities. They know exactly what water depths and locations they fish in. They usually gauge seabed penetration by the wear on doors and other hardware, and by where on a piece of gear they find mud or sand stuck when they bring the gear on board. We believe that many fishermen have a fairly accurate idea of how deeply into the seabed their gear digs, and many have provided valuable data to us. Fishing gear designers and manufacturers have also provided a great deal of information.

Scientific and technical literature contains many studies of the effects of fishing gear on the seabed. Most of this information has been gathered by underwater observations, either by divers, by manned submersibles, or by unmanned underwater observation systems using video, etc. Sidescan sonar is also used to identify tracks of fishing gear. Such observations are almost always made under "friendly" conditions - calm seas, no very strong currents, etc. Some sources

believe that, even under ideal conditions, divers and video will not provide very precise measurements of seabed penetration due to movement of the seabed as the gear passes, limited visibility, etc.

Some studies have gathered seabed penetration depth data by the examining the species contained in catches of dredges, etc. For example, species A may live 75 mm below the surface of the substrate. If a dredge catches many individuals of species A, that is an indication that the dredge penetrates to at least 75 mm. Many scientific and technical studies have used a combination of methods to assess penetration. We feel that many of these measurements are quite reliable, though it is difficult, in a preliminary study such as this, to judge the degree of precision to which such measurements can be made.

TYPES OF FISHING GEAR STUDIED

BOTTOM (OTTER) TRAWL

The bottom otter trawl consists of a funnel-shaped net towed across the bottom by a single vessel. Common bottom trawling speeds range from 2.5 to 4 knots. The most common configuration for a vessel targeting fish (and for some vessels targeting shrimp or other shellfish) involves one vessel towing a single net. Two warps extend from the vessel, one to each door.

A more common configuration for shrimp trawling, particularly in the Gulf of Mexico, Southeastern USA and many tropical areas, is the double rigged shrimp vessel, which tows two nets and sometimes a third, smaller "try-net". There are many variations of this rig.

Trawl doors

Trawl doors, also called otterboards, are used to keep the gear on or near the bottom and to provide horizontal spread to the net. Door designers generally try to maximize the horizontal spreading force of the doors while minimizing the drag, or resistance to towing. Many sources indicate that trawl doors penetrate the seabed more than footropes, to depths ranging from 25-300 mm under normal towing conditions. As with all gear, penetration is greater on soft substrates than on hard substrates.

In most bottom fisheries the intention is to have the doors and the footrope (at the bottom of the mouth of the net) skim along in contact with the seabed, without penetrating it. In many fisheries the cloud of mud stirred up by passing doors tends to herd

the fish toward the track where the net will pass. However, door makers consider that this mud cloud is produced by stirring the top few centimeters of the substrate. Beyond that, we have heard of no advantage to having doors penetrate the bottom. To the fisherman, such penetration causes extra resistance to towing, extra wear and potential gear damage, resulting in greater costs for fuel, door maintenance and repair.

The pressure that a door exerts on the bottom results from the interaction of several forces. The weight of the door in water is counteracted to some extent by the upward force of the warp from the vessel. As the towing warp-to-depth ratio decreases, the warp exerts a greater upward force on the door. In very shallow water a vessel may use a ratio of warp length to water depth greater than 4:1. In common trawling depths to 300 meters, a ratio of 3:1 is often used. In deepwater fisheries (water depths of 900-1800 meters) ratios on the order of 1.6:1 to 2:1 are used. Inward heel (doors like this / \) results in less door pressure on the bottom due to the hydrodynamic forces on the door. Outward heel (doors like this \ /) results in greater pressure on the bottom from the hydrodynamic forces on the door.

There are dozens of types of doors in use today. The traditional flat wooden door is still widely used in many areas. During the past 30 years a great many new door types have been developed and have entered commercial use. Many new designs rely less on ground shear (from contact with the seabed) and more on hydrodynamic forces to produce spread. Some provide greater stability on rough bottom and better spreading-force-to-drag ratios. Most modern doors have the shoes curved upward at the front, and they will ride over small obstacles which may include cables. In some deepwater fisheries, doors are rigged to stay slightly off the bottom. Bottom contact is made by the footrope and by ground cables and bridles between the doors and the trawl. A reversal of that principle is applied with some semi-pelagic trawls, where the doors ride on the bottom, but the net is rigged with enough floats on the headrope to keep the entire net and footrope fishing at some height above the seabed.

Trawl ground gear and footropes

Aft of the trawl doors are cables connecting the doors to the sides of the net (to the ends of the footrope and headrope). In some cases, such as traditional double rig shrimping, these cables are rather short, only 1-3 m in length. In other cases, where

species such as flatfish may be herded by cables stirring up the substrate on smooth bottom, ground cables and bridles several hundred meters in length may run between the doors and the net. Ground cables and lower bridles may consist of bare steel cable, wrapped cable, chain, or cable strung through rubber discs often 75-100 mm in diameter. Most sources indicate that these cables penetrate the substrate very little. Their penetration is considered to be less than that of otterboards.

Footrope types

Along the bottom front edge of the trawl is the footrope, also called the groundrope. There are a great many types of footrope in use today. Footropes for smooth bottom may be made of steel cable, combination cable made of steel and synthetic fiber, wrapped cable, or cable with loops of chain attached. On slightly rougher bottom, cable strung through rubber discs (often stamped from old tires and called "cookies") up to 200 mm diameter is often used. Rockhopper gear consists of rubber disks or rollers separated by spacers, with one cable and/or chain strung through their centers and at least one more parallel cable or chain strung through holes near the outside edges of the disks. The second chain keeps the disks and rollers from rolling. This footrope tends to skid or hop along the bottom. A rockhopper footrope may be less expensive than a roller footrope, and it is effective on both smooth and rough bottom. A roller footrope has bobbins and rollers with a cable or chain strung through their centers only, so that they may roll across the bottom and over obstacles. The disks of a roller or rockhopper footrope often vary in size, with the largest diameter disks in the center of the footrope, where the net is most likely to be stopped by obstacles in its path. In some areas it is common for vessels 25-40 m in length towing on hard bottom to use rockhoppers or rollers with diameters in the 0.5 - 0.75 m range.

Some vessels on the West Coast of the USA and some Japanese trawlers use "tire gear" on their footropes. Tire gear consists of whole car or truck tires up to 0.76 m diameter set side-by-side and connected by three chains running through their sidewalls. It is reported that tire gear can fish on rougher bottom than rollers or rockhoppers.

Tickler chains

Vessels towing on smooth bottom for shrimp and other species which live in contact with the bottom often use tickler chains. A tickler chain is a steel chain

attached to the ends of the footrope. The tickler is shorter than the footrope, so that as the net moves forward, the tickler stirs the bottom in front of the footrope, causing bottom dwellers to jump or swim up and be captured by the net. Tickler chains are used in most shrimp trawl fisheries, as well as on beam trawls and scallop dredges. A typical shrimp trawl for smooth bottom incorporates a single tickler chain, believed to penetrate the substrate up to 50 mm. Beam trawls and scallop dredges sometimes use multiple tickler chains so the substrate penetration is compounded.

Bottom trawling and seabed types

Before synthetic twines became common in fishing, trawlers stayed mainly on smooth bottom. Now virtually all trawls are made of synthetic twine, and footropes have evolved to tow over much rougher seabeds. Echosounding technology and ground gear used in some fisheries have evolved to allow trawlers to tow on almost any bottom, no matter how rough.

Seabed penetration of bottom trawls

Most literature we found reported maximum trawl gear penetration depths of 50-300 mm under normal towing conditions. The 300 mm cutting depth would correspond to very soft mud. Questionnaire responses reported cutting depths ranging from 0 to 2000 mm. The 2 m bottom penetration reported was not from a direct observation, and its accuracy cannot be determined from this study. Several sources cautioned that under abnormal towing conditions (broken or badly adjusted gear, a door jumping over an obstacle, vessel stopped, etc.) the gear may penetrate much deeper than normal.

Other bottom net types

This study yielded some information on bottom pair trawls and boat seines. These gear types are generally considered less threatening to cables than otter trawls, beam trawls and dredges.

BEAM TRAWLS

In many parts of the world, beam trawls are used to target a range of demersal species. Prior to the development and use of otter boards, a rigid beam was only means by which a single vessel could maintain the horizontal spread of a trawl net. The beam trawls in use today range in technical characteristics from the lightweight artisanal shrimp trawl to the heavy duty flatfish trawl used in industrialized fisheries.

Industrialized beam trawl fisheries are generally categorized by target species, primarily shrimp and flatfish. The trawl heads and sole plates, constructed of steel, support the beam and most of the weight of the trawl. The sole plate is the primary point of contact with the seabed. The underside of the sole plate is approximately 200 mm in width and can penetrate soft substrate to 100 mm while only cutting to 15 mm on sand. The leading edge of the plate, which is the point of impact where an obstacle (cable) is encountered, is rounded and often reinforced with a rounded steel shoe.

The net is attached to the beam at the trawl heads. With the shrimp beam trawl, a single tickler chain, or an array of up to four tickler chains may be attached to the sole plates. They serve to stir the substrate and get the target species to rise in the water column to be captured by the trawl. One chain can penetrate up to 30 mm in soft bottom while virtually no effect was reported on hard sandy bottom, where there may be a penetration depth of 10 mm.

The flatfish beam trawl is similar to the shrimp beam trawl in its design but is much heavier and more disruptive to the seabed. An array of tickler chains, as many as 15, may be used in conjunction with rock chains, which run perpendicular to the tickler chains, to form a "chain mat." The chain mat may penetrate to 100 mm on soft bottom. Modern flatfish beam trawls can be up to 18 meters wide and weigh up to 10 tons with a chain mat. Towing speeds for this gear can reach 7.0 knots.

The northeast Atlantic appears to be the region where industrial beam trawls are most intensively fished, especially in the North Sea. They have been implicated in a large number of interactions with unburied cables since the 1960's. During the mid-1970's this conflict, and the problem of beam trawl interactions with pipelines, were studied in depth. One development that emerged was the rounding of the shoes on the leading edge of the trawl head as well as the distribution of the bridle attachment points on the trawl head. The rounded shoes and attachment array aid the trawl in passing over obstacles rather than towing through them.

Other areas in which there is significant beam trawl use include the East and South China Seas with vessels from Japan, China, Taiwan, Thailand and Indonesia; the Northeastern Indian Ocean with vessels from Indonesia, Thailand and India; the Western Pacific with Japanese vessels; and the Northeastern

Pacific with American vessels fishing for shrimp and flatfish.

BOAT (DRY) DREDGES

Dredges generally fit into one of two categories, boat (dry) dredges and mechanized (hydraulic) dredges. Mechanized or hydraulic dredges use jets of water directed at the seabed, which liquify the sediment. Dredges are used to catch scallops, clams, quohogs, mussels, oysters, cockles, blue crabs, and sea urchins. Artisanal dredge fisheries are present in many coastal areas around the world.

In the industrialized fleets, boat (dry) dredges targeting scallops are the most prevalent. Most scallop dredges are of the same basic design, with the cutting bar, shoes and tickler chains being of primary concern in relation to seabed penetration.

New Bedford / Hathaway dredge

This dredge is typical of the Northwest Atlantic and Northeast Pacific. The maximum width allowed by regulations in the USA, both coasts, is 4.55 meters. Vessels up to 45 meters in length and 2000 hp fish two dredges simultaneously at speeds up to 5.0 knots. In these areas, sea scallops can be found in 20 - 120 meters of water, with commercial concentrations between 50 - 80 meters.

Dredge frames are constructed of steel. A bag made up of steel rings is attached to the frame and used to retain the catch. A pressure plate, a length of steel that runs the width of the dredge, is angled so that the water pressure passing over it creates a downward force on the dredge and keeps it on the bottom. A 4.5 meter dredge set up with an array of tickler chains and rock chains, similar to those of flatfish beam trawls, can weigh in excess of 2200 kg when empty. Cutting bar for this type of dredge is a misnomer. The cutting bar is actually not in contact with the bottom. It acts to keep large rocks out of the chain bag. It does, however, have a tendency to push rocks or other objects encountered along the bottom and such objects can dig deeper than the gear itself. Bottom penetration of the gear is due to the dredge shoes and the tickler/rock chains. Normal cutting depth has been shown not to exceed 40 mm on sandy/rocky bottom. Mud is avoided.

Box Dredge

Box dredges are rigid structures used to catch bivalves such as scallops, mussels and clams. They are

generally fished in shallower waters than the New Bedford-style dredges described above. They are used in parts of Europe, Australia and other areas. Some types have a toothed cutting bar. Bottom penetration of various types of box dredge may range from 50 to 250 mm.

Most other dry dredges are variations of the types described above. Scallop dredge fisheries are conducted in France, Iceland, Norway and the United Kingdom using gear similar in size and design to the New Bedford dredge described above. Other fisheries for scallops also exist using a "dredge-net", which is basically a modified beam trawl. The dredge-net is widely used in Japan and a few areas of Europe.

Mussel dredge fisheries are conducted in the coastal waters of the North Sea by Germany, Denmark and the Netherlands. The Netherlands also supports a dredge fishery for cockles, and is the largest producer of the same. These fisheries are limited in size and are not thought to have any substantial penetration into the seabed at any significant distance from the coast.

MECHANIZED (HYDRAULIC) DREDGES

Mechanized hydraulic dredges use high pressure streams of water to excavate infaunal shellfishes from the seabed. This is done by pumping water at a rate of up to 4000 gal/min into the jet manifold. The water is then forced through the jets, which are directed towards the bottom. Pressure from the jets can exceed 200 pounds per square inch. The water jets themselves penetrate the substrate to depths exceeding 300 mm, turning the bottom into a slurry of water, sediment and benthic sea life. Penetration to 500 mm has been documented when the dredge comes to a stop.

The mechanized dredge is most commonly fished singly, but some vessels are known to fish two smaller dredges. They are towed along the bottom using a polypropylene rope, which can exceed 100 mm in diameter, at 2.0 - 3.2 knots. The dredges themselves are constructed almost entirely of steel and can exceed 10,000 kg in weight when empty. This type of dredge is supported along the bottom by skids which are approximately 250 mm wide and run the length of the "cage". The fishermen prefer to fish sandy bottom and the skids basically slide over the bottom, penetrating to perhaps 50 mm.

Although the water jets penetrate sandy bottoms in excess of 300 mm, the knife blade usually only extends 150 mm below the hard parts of the

dredge. The knife, in effect, acts as a scoop rather than actually digging into the substrate. The knife can range from less than one meter to 5.0 meters in width. Repeated dredging in an area can have a cumulative effect, removing layers of sediment and penetrating the substrate to a depth of one meter.

The area most intensively fished using this gear is the northwest Atlantic with vessels from Canada and the United States. Vessels range from 16 to 60 meters in length with up to 1400 hp. The gear is used in both inshore and offshore areas to about 70 meters in depth with sand being the preferred bottom type, although rocky and muddy areas are also fished. The French fish this type of gear in the North Sea, and the Italians use it in the Mediterranean. Japan also uses hydraulic dredges to fish horse mussels in coastal areas. Limited fisheries are also present in New Zealand, Iceland and the United Kingdom.

DEVELOPMENTS IN FISHING GEAR WHICH HELP PREVENT CABLE INTERACTIONS

Although the expansion of fishing grounds has made cable interactions more likely, a number of gear modifications have been developed which may decrease the potential for damage to cables, should a collision occur. For example, the past few decades have seen a strong trend toward trawl door shoes which are curved upward at the front. Most scallop dredges used in the northeastern USA now incorporate a triangular "cable-jumper" structure and sometimes a wheel on their bottom front edge. Many beam trawls now also use rounded shoes or a curved metal hoop on the front edge, as well as extra towing points which tend to deflect rather than snag cables. Recently an experimental beam trawl has been tested which used wheels in front rather than fixed shoes.

REPORTED CABLE INTERACTIONS

Companies involved in laying and maintaining underwater cables keep extensive records on fishery/cable interactions. Respondents to this survey reported cable faults attributed to fishing gear from the North Sea, several parts of the North Atlantic, the East and West coasts of the USA, the East coast of Canada, and the coasts of Senegal and South Africa. Otter trawls, beam trawls, boat dredges and mechanized dredges were involved. One fault may have involved bottom longline fishing.

Cable faults due to fishing were reported in water depths as great as 1000 m. There was consensus among respondents that cables laid on top of the

substrate are much more vulnerable to fishing damage than buried cables. Although virtually all new telecommunications cables are buried as soon after laying as is feasible, in some areas there are old cables laid on top of the substrate and still in use. After a cable has been repaired, it is usually exposed above the substrate at least for some period of time. In some cases a bight of cable at a splice remains above the substrate for a long time, or the shifting seabed removes the cover from a cable.

When concentrations of fish are present, some trawlers will apparently trawl among cables whether they are buried or exposed. Trawlers have been known in some cases to haul a cable to the surface and cut it.

TELECOMMUNICATIONS CABLE BURIAL PRACTICES

Before laying a cable, a telecommunications company usually conducts a routing study of the area concerned, including seabed types, local fisheries, burial cost and risk analysis, in order to determine the most appropriate degree of cable armoring and burial. The most common burial depth for most areas was reported as 0.6 m below the surface of the substrate, although a cable may be buried deeper or less deep under some conditions. On very rough substrate in some cases cables have been protected not by burial into the substrate, but by laying a berm over an armored cable.

In areas where cables extend down the continental slope to the deep ocean bottom, some telecom companies bury cables in water depths down to 1,000-1,500 meters. It appears that several companies are keeping a watchful eye on fisheries expanding into deeper water, and considering burying their cables in greater water depths.

GEOGRAPHIC DISTRIBUTION OF FISHERIES

Bottom mobile gear fisheries are extremely widespread and diverse. Worldwide, most areas of smooth continental shelf support some bottom mobile gear fisheries, and we are seeing increased fishing on continental slopes and seamounts. The most common type of bottom mobile fishing gear in these areas is the otter trawl.

A region-by-region review of bottom trawl and dredge fisheries is beyond the scope of this summary. However, an excellent geographic overview of fisheries, Review of the state of world marine

fishery resources, (FAO Marine Resources Service, Rome, 1993, Fisheries Technical Paper No. 335) has recently been published. This report provides a region-by-region overview of the world's fisheries, including some information about which gear types are used in which areas. Virtually all of the world's major fisheries are summarized in this 133-page document.

Here we will mention a few points of interest in the context of a global study of bottom mobile gear fisheries. In summary, the North Atlantic and North Pacific Oceans support very widespread fisheries with many different types of bottom trawls and dredges. Target species include many types of finfish and shellfish. Coastal areas of the Indian Ocean, Southeast Asia and China also have extensive and diverse trawl fisheries, as well as some dredge fisheries. The South American and African coasts support extensive trawl fisheries, but we have heard of no substantial offshore dredge fisheries around these continents. Some other factors related to geographic distribution and/or expansion of fisheries are as follows.

Tropical shrimp fisheries

In tropical countries and some temperate countries, shrimp trawling is extremely common. Most shrimp catches are taken by bottom trawls, however, beam trawls are also used widely for shrimp, in the North Sea, Gulf of Alaska, and other areas. The most widespread type of bottom fishing in tropical areas is shrimp trawling, and the double rig is perhaps the most common configuration. Most tropical shrimping is conducted on smooth bottom in waters less than 200 m deep. However, some species such as the royal red shrimp off the Florida coast are caught in depths as great as 370 m.

Distant Water Fishing Fleets

In addition to coastal and offshore trawlers, several countries have fleets of distant water trawlers. Distant water trawlers sometimes work within the Exclusive Economic Zone (EEZ) of a country with which they have a fishing agreement. In other cases they operate in waters which do not fall within any country's EEZ. There are perhaps a dozen major fishing grounds which do not fall within any country's EEZ. A few international areas most intensively fished by bottom trawlers are the Doughnut Hole between Russia and Alaska in the Bering Sea, the Patagonian Shelf off Argentina, and the Tail and Nose of the Bank off Canada (although the status of these last two appear to be in transition as of this writing). Several coastal nations are increasing their efforts to protect

stocks on these grounds, which often straddle the boundaries between international waters and EEZ's.

Deepwater Trawl Fisheries

Although most trawling is concentrated on continental shelves in waters less than 200 m deep, vessels in some temperate areas also trawl for species such as halibut and sole in depths as great as 1,500 meters. The nineteen eighties also saw a rapid and substantial expansion of deepwater trawl fisheries to depths now exceeding 1,500 meters, on both smooth and rough bottom. This expansion was most striking around New Zealand, where large stocks of orange roughy were discovered. A vessel may catch several tons of this species during a relatively short tow (one hour for setting and hauling, 15 minutes with the gear near the bottom). This species stays in good condition when handled properly on board, and brings an attractive price on the international market. Stocks of orange roughy and other deepwater species of commercial value have been identified in the North Atlantic and other areas.

Declining coastal resources in traditional fisheries, and increasing regulations, are among the factors contributing to the expansion of fisheries into deeper waters. As fishing technology continues to evolve, as new fishing techniques spread and markets develop for deepwater species, the expansion of trawl fisheries into deeper waters and rougher grounds will continue to cause concern for those involved in laying and maintaining underwater cables.

TONGASS HUNTING AND FISHING COALITION

Working for the preservation of habitat and the wise use of fish and game

PO Box 6125

*North Pacific Fisheries Management Council
605 W. 4th St. Ste 300
Anchorage, Al. 99501*

Sitka, AK 99835

Jan 26

RECEIVED
JAN 26 1998

N.P.F.M.C

Dear Mr. *Richard* *Chenman*

On behalf of the membership of the Tongass Hunting and Fishing Coalition, I wish to give support to ADF&G proposal #AKR23 which would create a permanent closure to most fishing operations in the area known as the "Pinicles" off Cape Edgecumbe near Sitka.

We are a group of Southeast residents incorporated as a non-profit organization. Under our charter, we are dedicated to speaking out on resource issues and working for the preservation of habitat and the wise and sustainable use of fish and game resources.

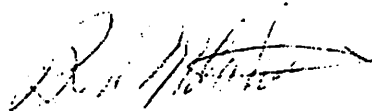
Proposal #AKR23 is long overdue. Overfishing of this highly productive area has been occurring for a long time by traditional commercial fisherman and for the last four years by the burgeoning commercial charter sport fishing industry who flood the area day after day during the summer season.

Historically, ADF&G and NPFMC have been overly influenced, in our opinion, by political pressure from industry in their decision-making. This political pressure continues to manifest itself to some extent in Proposal #AKR23 in that the area proposed for permanent fishing closure has been reduced to four square miles from the present six square mile emergency closure area enacted last year by ADF&G here in Sitka.

We urge the council to expand the closure area for the "Pinicles Marine Sanctuary", as it should be known, to six square miles and to prohibit all fishing for any species within the area year-round.

Serious depletion of all species of bottomfish exists throughout the Sitka Sound - Salisbury Sound area. One fish can be found where 20 existed 15 years ago. It is imperative to enact this proposal into regulation to take effect by May 1, 1998.

Sincerely,



Ben Mitchell

FV HAZEL LORRAINE

Mr. Richard Lauber
Chairman, NPFMC
605 West 4th Avenue
Anchorage, Ak 99501-2252

Albert Geiser
202 Center St.
Suite 315-274
Kodiak, Ak 99615

January 29, 1998

Re: Essential Fish Habitat

Dear Richard,

Essential Fish Habitat (EFH), the framework document, covers "all things" underwater and it will take the Lord our God to quantify every nuance of environmental change, human or natural, covered by it's scope.

V. DEVELOPMENT AND APPROVAL OF EFH FMP AMENDMENTS

"These efforts will involve **close cooperation** with the Councils, states, other Federal agencies, interstate fisheries commissions, tribal agencies, academia, **fishing participants**, conservation organizations and other interested parties." That covers everyone in the United States that may want to make a comment.

This is a living document in real time, so that management of the fisheries can be adjusted to constant change. Systematic hydrographic charting of the bottom and shore lines of Alaska began over 100 years ago, that work is not finished. You are being asked to lay out the secrets of the entire ecosystem for the same two oceans in the next 18 months. Impossible!

Comments: Every year the bottom trawl fishery in each of the areas 610,620, 630, and 640 is prosecuted by trawling on **less than one half of one percent (>.005%)** of the traditional fishable bottom. Fishable bottom begins at 400 hundred fathoms inside the continental shelf, right up to the the thousands of square miles of protected bays, passes and crab protection zones in state waters. That leaves 99.95% of the **hundreds of thousands** of square miles of essential fish habitat bottom in the Gulf of Alaska **undisturbed** by trawling.

Sincerely,



Albert Geiser

Fishing Captain & Owner

FV HAZEL LORRAINE

Page 2

Mr. Richard Lauber
Essential Fish Habitat

cc: Al Burch, Alaska Draggers Association
Fred Yeck, Midwater Trawlers Cooperative
Chris Blackburn, Alaska Ground Fish Data Bank

Background in fishing Industry, Resume'

I salmon trolled for two summers, 1977-78.

I began trawling on the west coast in 1978, shoreside and joint venture.

Began fishing in Alaska in 1983, GOA/BS, to present.

Past Board of Director, Fishermen's Marketing Association, Eureka, Calif.

Past Board of Director, Midwater Trawlers Cooperative

Past President, Midwater Trawlers Cooperative

Present Board of Directors, Alaska Draggers Association

*I HAVE OWNED & OPERATED THE HAZEL LORRAINE SINCE
1981 — HAZEL LORRAINE IS A 90' TRAWLER.*

General Questions and Answers on Implementation of the Essential Fish Habitat (EFH) Requirements of the Magnuson-Stevens Act

What is the Magnuson-Stevens Act? In 1976, the Magnuson Fishery Conservation and Management Act (Magnuson Act) established a management system for fisheries in the U.S. EEZ. Under this system, fishery conservation and management measures are developed by eight Regional Fishery Management Councils (Councils). After approval by the Secretary of Commerce, these management measures become Federal regulations enforced by NMFS. On October 11, 1996, the Sustainable Fisheries Act, among other things, amended the habitat provisions of the Magnuson Act. The renamed Magnuson-Stevens Act calls for direct attention to stop or reverse the continued losses of fish habitats. Congress mandated the identification of habitats essential to managed species and measures to conserve and enhance that habitat.

What is essential fish habitat? As defined in section 3(10) of the Magnuson-Stevens Act, essential fish habitat is "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity". NMFS interprets "waters" to 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.

What must NMFS do to meet the EFH mandates? NMFS must develop regulatory guidelines that assist Councils to incorporate EFH provisions into all of their fishery management plans (FMPs). NMFS is also required to provide recommendations to the Councils for the description and identification of EFH, the identification of adverse effects to EFH, including adverse effects from fishing, and conservation and enhancement measures. Councils must amend each FMP with EFH provisions. NMFS must also provide EFH conservation recommendations on Federal and state activities that may adversely affect EFH, as well as coordinate with other Federal agencies to further the conservation and enhancement of EFH.

When will FMPs be amended to include EFH provisions? Councils and NMFS are required by law to submit EFH amendments to the Secretary by October 11, 1998.

How many Councils and FMPs will be covered by these new requirements? There are eight Councils, 36 Council FMPs and 3 Secretarial (NMFS) FMPs.

What will be the result of incorporating EFH provisions into FMPs? One result of the EFH provisions is the minimization of identifiable adverse effects caused by fishing. The Magnuson-Stevens Act also requires that Federal agencies consult with NMFS on their actions that may adversely affect EFH. NMFS must provide conservation recommendations on any Federal or state action that may adversely affect EFH. Federal agencies are required to respond in writing to NMFS' recommendations within 30 days. This process establishes a public record of how Federal agencies have responded to NMFS' recommendations on proposed activities and promotes the protection, conservation, and enhancement of fishery habitat.

What species will be addressed through the EFH amendments? EFH will be described and identified for all species managed under a Council's or NMFS' fishery management plan. There are more than 400 species currently covered by FMPs.

Where will EFH be identified? The Magnuson-Stevens Act defines EFH as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. Since the Magnuson-Stevens Act defines EFH in biological terms, so does the NMFS rule implementing the EFH guidelines. Although Council authority to regulate fishing is limited to Federal waters, EFH may be described in Federal and state waters, including many estuaries, rivers, and streams where anadromous fish spawn or migrate.

How will EFH be treated in international waters/high seas? The provisions of the Magnuson-Stevens Act are not presumed to apply extraterritorially, thus waters beyond the U.S. EEZ may not be identified as EFH. Except in specific circumstances, Councils cannot regulate fishing beyond the EEZ, and Federal consultation will not be required. The Councils and NMFS may, however, describe, identify, and promote the protection of habitats for managed species in waters beyond the EEZ.

Will fishing be banned in areas identified as EFH? Not necessarily. Councils must minimize, to the extent practicable, identifiable adverse effects from fishing. Where an impact is identifiable, Councils should develop management measures to minimize such impacts. Fishing closures are only one of many methods to minimize adverse impacts.

Do the consultative requirements apply to upland activities? Yes, the Magnuson-Stevens Act states that those activities that may adversely affect EFH require EFH consultation. Possible adverse impacts from upland activities may include, but are not limited to, increased sedimentation, lost habitat, altered temperature or hydrologic flow, and contaminant releases.

Will the cost of a project's modification be considered when a Federal agency determines how to respond to a NMFS EFH recommendation? Yes. While NMFS will use scientific assessments of impacts to EFH as the basis for its conservation recommendations, it is the responsibility of the action agency to determine if the recommendations can feasibly be accomplished. The cost of the modification should be a factor in determining feasibility.

Are there ways to combine the consultative requirements of other environmental reviews with EFH consultations? Yes. The EFH regulations support streamlining of all consultative procedures. Where existing procedures acceptably address the EFH requirements or can be modified to accommodate such requirements, those procedures will be used.

Do the consultative procedures provide flexibility to accommodate diverse consultative needs? Yes. The EFH regulation identifies several options in order to accommodate different situations in the Federal permit and licensing processes. The options are intended to provide maximum flexibility in meeting the consultative requirements.

Will EFH violate the agreements established in the Administration's "No Surprise Policy" under the Endangered Species Act? No. NMFS may use programmatic reviews and general concurrences for existing Habitat Conservation Plans to accommodate the consultative requirements of the Magnuson-Stevens Act. Processes such as these will streamline the consultative requirements and avoid conflicts with established interagency agreements.

Will identifying EFH help reduce environmental threats such as harmful algal blooms and *Pfiesteria*? Yes. Each FMP will identify adverse impacts to EFH and make recommendations to improve the habitat. When harmful algal blooms and *Pfiesteria*-like toxins are identified as causing adverse effects, recommendations will be made to Federal and state agencies to address the problem.

What geographic areas will be covered by these new provisions? The specific areas will be identified only after the Councils and NMFS develop EFH amendments for their FMPs. Councils will consider habitat needs of managed species in all Federal and state waters of all coastal states, as well as Caribbean and Pacific U.S. territories.

Will the regulations be implemented while they are interim final? Yes. Interim final regulations have the same affect as final regulations.



"One of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats. Habitat considerations should receive increased attention for the conservation and management of fishery resources of the United States."

--Magnuson-Stevens Act, 1996

Managing Fishery Resources and Fish Habitat

Living marine resources constitute valuable and renewable resources that contribute to the food supply, economy, welfare, health, and recreational opportunities of the Nation. In 1976, the Magnuson Fishery Conservation and Management Act (Magnuson Act) established a management system to more effectively utilize the marine fishery resources of the United States. It established eight Regional Fishery Management Councils (Councils), consisting of representatives with expertise in marine or anadromous fisheries from the constituent states. In order to develop fishery management plans (FMPs) for the conservation and management of fishery resources, Councils use input from the Secretary of Commerce (Secretary), the public, and panels of experts. After approval by the Secretary, the National Marine Fisheries Service (NMFS) implements and enforces the management measures in the FMP.

As amended in 1986, the Magnuson Act required Councils to evaluate the effects of habitat loss or degradation on their fishery

stocks and take actions to mitigate such damage. In 1996, this responsibility was expanded to ensure additional habitat protection.

On October 11, 1996, the Sustainable Fisheries Act (Public Law 104-297) became law which, among other things, amended the habitat provisions of the Magnuson Act. The re-named Magnuson-Stevens Act (Act) calls for direct action to stop or reverse the continued loss of fish habitats. Toward this end, Congress mandated the identification of habitats essential to managed species and measures to conserve and enhance this habitat. The Act requires cooperation among NMFS, the Councils, fishing participants, Federal and state agencies, and others in achieving the essential fish habitat (EFH) goals of habitat protection, conservation, and enhancement.

Identification and Conservation of EFH

- The Councils, in accordance with NMFS's guidelines, must submit to the Secretary amendments to their 36 current FMPs by October 11, 1998, to incorporate EFH provisions, *i.e.*, the description and identification of EFH, identification of adverse impacts to EFH from both fishing and non-fishing sources, and identification of measures to conserve and enhance EFH. NMFS must also amend its 3 Secretarial FMPs in the same manner.
- NMFS, in consultation with participants in the fishery, must provide Councils with recommendations and information for use in the preparation of EFH amendments.
- Federal agencies must consult with NMFS regarding any action or proposed action that may adversely affect EFH.
- Council(s) may comment and make recommendations to NMFS and any Federal or state agency undertaking actions that may adversely affect the habitat, including EFH, of any fishery resource under its authority; and must comment if the action is likely to substantially affect the habitat of an anadromous fishery resource under its authority.
- After receiving information from a Council or Federal or state agency concerning an action or proposed action that would adversely affect any EFH, NMFS must recommend measures to the Federal or state agency to conserve such habitat.
- Within 30 days of receiving a NMFS EFH recommendation, a Federal agency must respond in writing to NMFS and any Council(s), if appropriate. The response should detail the measures that will be taken to avoid, mitigate, or offset the adverse effects to EFH and explain the reasons for any actions inconsistent with the NMFS EFH recommendations.

Opportunities for Public Participation

- Public comments on the EFH interim final rule are accepted during a 60-day public comment period. During that time, the interim final rule has the same effect as a final rule.
- In developing recommendations and information for the description and identification of EFH, NMFS will hold public workshops and hearings for public review of draft materials. The public is encouraged to contact the appropriate NMFS regional office for its schedule of EFH implementation.
- Draft fishery management plan amendments are made available for public comment prior to final approval through the normal Council process. Interested parties may contact the appropriate Council to review draft EFH documents and plan amendment schedules.
- Completed EFH documents, including narrative descriptions and maps of EFH, will be available to Federal and state resource agencies, and other interested parties and can be obtained by contacting the appropriate NMFS regional office.
- NMFS will provide additional opportunities for public input as it develops general concurrences with Federal and state agencies for streamlined review of activities.

Coordination, Consultation, and Recommendations on EFH

- Where there are existing environmental review procedures that adequately address EFH requirements, NMFS encourages the use of those procedures to meet consultative mandates.
- Four alternatives are available where existing procedures are inadequate or unavailable, including: programmatic reviews, general concurrences, and abbreviated and expanded review procedures. These options provide Federal agencies flexibility in meeting the consultative requirements of the Magnuson-Stevens Act.
- Memoranda of agreement and other cooperative agreements are encouraged to streamline the process for NMFS to provide EFH recommendations to state resource agencies.
- In areas where EFH is not identified, but living marine resources may be adversely affected, NMFS will continue to utilize existing interagency coordination and consultation processes. These actions are pursuant to statutes such as the Fish and Wildlife Coordination Act, National Environmental Policy Act, Endangered Species Act, Federal Power Act, and the Clean Water Act.

NMFS is committed to working with the Councils, affected Federal and state agencies, fishing and non-fishing industries, conservation groups, academia, land owners, and the general public to ensure that EFH provisions are understood and well coordinated, thereby providing effective protection for essential fish habitats as Congress envisioned. NMFS will seek working agreements with organizations and provide many avenues for public input to the EFH process. Partnerships with other Federal agencies, state resource agencies, and non-governmental organizations will enhance the process.

For further information contact: Office of Habitat Conservation, NOAA/NMFS, 1315 East West Highway, Silver Spring, MD 20910. (301) 713-2325; FAX (301) 713-1043.

A STRATEGIC INVESTMENT FRAMEWORK FOR THE ALASKA REGION'S ESSENTIAL FISH HABITAT PROGRAM

By: Tamra Faris, Lowell Fritz, Jeff Fujioka, Cindy Hartmann, Norris Jeffrey, Michael Murphy, Stan Rice, Ramona Schreiber, Jeff Short, David Witherell, and Steven Zimmerman

Background

The Sustainable Fisheries Act amended the Magnuson Fishery Conservation and Management Act to require the description and identification of essential fish habitat (EFH) in fishery management plans. It also requires minimization of adverse impacts of federally authorized fishing practices on EFH, and provides the opportunity for review of any actions, authorizations or funds provided by other federal agencies that may have adverse impacts on EFH. Along with these increased requirements, the Fisheries Service anticipates additional funds for fish habitat protection and research will be provided by Congress.

This document is to be used as a planning tool to identify the highest priority needs. New funds may be directed toward programs and research projects designed to address those needs. Existing programs and projects may be evaluated according to their responsiveness to identified needs.

Definitions of Planning Terms Used in this Framework

- Goal:** Desired future condition.
Principle: Underlying assumption fundamental to achieving goal.
Objective: What must be done to achieve goal.
Strategy: How an objective will be accomplished.
Investment: Approaches to achieve the objective. (These need to be supplemented with project proposals identifying the work to be done or hypothesis to be tested; time required, and staff and budget necessary for the research.)

GOAL: Acceptable habitat available for production of maximum sustainable yield of managed fish species.

PRINCIPLES:

1. Abundant, high quality fish habitat is essential to production of maximum sustainable yields of managed fish species.

2. Protecting fish habitat requires an effective management infrastructure.
3. Management depends on an effective science infrastructure for information.
4. Management and science are integrated in the overall NMFS program.
5. Habitat conservation programs will be developed using an ecosystem context.
6. The Magnuson-Stevens Act essential fish habitat project review program will be more effective at protecting fish habitat if it is used in conjunction with the National Environmental Policy Act, Clean Water Act, and Federal Power Act project review programs as well as the sustainable fisheries and protected species management programs.
7. To protect fish habitat, other resource management agencies must support the above principles and carry them out through their programs.

Toward achieving the goal articulated above, five objectives were identified. Each objective is presented with associated sets of strategies and investments necessary for its achievement. The terminology follows the NMFS guidelines for identification of EFH as much as possible. The fish species receiving EFH descriptions are those which are listed as target species in Department of Commerce approved fishery management plans as well as Pacific halibut.

OBJECTIVE I. AMEND FISHERY MANAGEMENT PLANS TO CONTAIN ESSENTIAL FISH HABITAT DESCRIPTIONS AND LOCATIONS.

Strategies:

A. Describe essential fish habitat for appropriate fish species in the Alaska Region and identify their locations geographically.

- Investments:** (1) Literature review and analysis of unpublished information.
(2) Depict on maps the locations of EFH by species by life history stage.
(3) Use geographic information system tools.

B. Obtain presence/absence information by life history stage for those species and locations which presently are little known.

- Investments:** (1) Original research to determine presence/absence information by fish by life history stage.
(2) Amend EFH descriptions and maps with new information.

C. Develop and refine knowledge of marine habitat present in the North Pacific Ocean.

- Investments:** (1) Conduct surveys to determine bottom type of marine benthic habitat where bathymetric maps are unavailable.
(2) Standardize bottom type information and, using the data from the surveys, create maps.

D. Perform research to fill information gaps in the descriptions of EFH.

- Investments:** (1) Original research to describe essential fish habitat by life history stage of fish species.

(2) Amend EFH descriptions and maps with new information.

OBJECTIVE II. IDENTIFY HABITAT AREAS OF PARTICULAR CONCERN BY IDENTIFYING LIFE HISTORY STAGES AND TYPES OF HABITATS THAT ARE VULNERABLE TO HABITAT ALTERATIONS.

Strategies:

A. Describe life history stages (egg, larval, juvenile, migration, sexual maturity, reproductive period) of managed fish species.

Investments: (1) Literature review and analysis of unpublished information.

(2) Original research to determine little known life history stages of marine species (priority species: Atka mackerel)

B. Identify fish species with life history stages for which survival to the next life history stage is dependant upon availability of specific habitat parameters. The list of habitat parameters includes, but is not limited to: spawning substrate, egg attachment substrate, species associations, feeding habitat, habitat used for protection from predators or aspects of the physical environment (surge, light, salinity, etc.), preferences for freshly disturbed substrate or the opposite, preference for substrate with fauna in climax state. If specific habitat is limited in availability or quality, significant portions of a population may fail to progress to next life history stage.

Investments: (1) Literature review and analysis of unpublished information.

(2) Original research to determine habitat dependancies by life history stage.

C. Using the habitat parameters identified above, identify type and location of habitat vulnerable to loss or impairment by anthropogenic actions.

Investments: (1) Original research to determine effect of disturbance by trawl gear on biological substrate, resuspension of sediment by trawl gear, and reduction of complexity and diversity in benthic environment due to frequency of disturbance.

(2) Original research for anadromous fish species and crabs to determine effect of conversion to uplands of eel grass beds and other intertidal and subtidal habitat in coastal waters.

OBJECTIVE III. MINIMIZE HABITAT IMPACT BY MANAGING HUMAN ALTERATIONS OF HABITAT.

Strategies:

A. Minimize loss and impairment of vulnerable habitats.

Investments: (1) Conduct Magnuson-Stevens Act EFH consultations (write letters) recommending avoidance and or minimization of activities that alter habitat important to a life history stage of a managed species. Activities deserving EFH consultations include:

fishing practices, aquaculture practices, timber harvest and forest management, urban developments, road construction and maintenance, programs that concentrate and/or promote

increases in human population, oil and gas exploration and development, mineral and metal mining, energy transport, hydropower development and production, and transportation of hazardous materials.

(2) Review water quality standards for opportunities to reduce chronic water pollution that alters habitat parameters required by specific life history stages of managed species. Advise management agencies of findings.

(3) Assist management agency (EPA) with determinations of upper limits for total maximum daily load limitations on waterbodies declared as impaired.

OBJECTIVE IV. WHERE HABITAT HAS BEEN IMPAIRED, DEVELOP AND IMPLEMENT RECOVERY PROGRAMS .

Strategies:

A. Identify habitat that has been impaired such that it no longer provides for production of maximum sustainable stocks of managed fish species.

Investments: (1) Determine which fish species could have a higher exploitable biomass if additional habitat or higher quality habitat were available to one or more life history stages of the species.

(2) Determine recovery rate, or conditions necessary for recovery, of benthic areas.

B. Modify habitat previously degraded where it will result in a higher exploitable biomass of a managed fish species.

Investments: (1) Develop techniques to restore impaired habitat where cost-effective.

(2) Restore habitat where cost-effective.

(3) Foster cooperative community-based restoration programs.

(4) Export habitat restoration technology to other regions.

OBJECTIVE V. MANAGE RESEARCH TO TRACK WITH THE GOAL.

Strategies:

A. Require accountability.

Investments: (1) Principle investigators prepare annual progress reports.

B. Require peer review.

Investments: (1) Publish results in peer-reviewed journals.

C. Fund research studies focused on obtaining information identified as high priority for effective minimization of habitat losses.

Investments: (1) Award funding based on study plans designed to obtain information.

D. Fund only research proposals with accountable track records.

Investments: (1) Maintain accountability for EFH funds at Regional level.

A STRATEGIC INVESTMENT FRAMEWORK FOR ESSENTIAL FISH HABITAT PROGRAM

Background

The Sustainable Fisheries Act amended the Magnuson-Stevens Fishery Conservation and Management Act to require the description and identification of essential fish habitat (EFH) in Department of Commerce approved fishery management plans by the National Marine Fisheries Service and respective Fishery Management Councils . It also requires minimization of adverse impacts of federally authorized fishing practices on EFH, and provides the opportunity for review of any actions, authorizations or funds provided by other federal agencies that may have adverse impacts on EFH. Along with the increased requirements, the Fisheries Service anticipated additional funds for fish habitat protection and research will be provided by Congress. This document is a planning tool to identify the highest priority needs. It will be used to direct new funds and redirect existing funds toward those identified programs and research projects.

Definitions

- At Risk:** Habitat for marine and anadromous fish species.
Goal: Desired future condition.
Principle: Underlying assumption fundamental to achieving goal.
Objective: What must be done to achieve goal.
Strategy: How an objective will be accomplished.
Investment: The allocation of funds and personnel to objectives.

GOAL: Acceptable habitat available for production of maximum sustainable stocks of managed fish species

PRINCIPLES:

1. Fish habitat is essential to production of maximum sustainable stocks of fish.
2. Protecting fish habitat requires an effective management infrastructure.
3. Management depends on an effective science infrastructure for information.
4. Management and science are integrated in the overall NMFS program.
5. Fish habitat protection is best approached from an ecosystem context.
6. The Magnuson-Stevens Act essential fish habitat project review program will be more effective at protecting fish habitat if it is integrated with National Environmental Policy

Act, Clean Water Act, and Federal Power Act project review programs as well as the sustainable fisheries and protected species management programs.

7. To protect fish habitat, other resource management agencies must support the above principles and carry them out through their programs.

OBJECTIVE I. DESCRIBE AND IDENTIFY ESSENTIAL FISH HABITAT FOR MANAGED SPECIES.

Strategies:

A. Interpret proposed regulations containing guidelines for the description and identification of essential fish habitat.

Investments: (1) EFH Team time.

B. Describe and identify essential fish habitat for appropriate fish species in the Alaska Region.

Investments: (1) Literature review and analysis of unpublished information.

(2) Make maps denoting the locations of EFH by species by life phase. Use and refine geographic information system tools.

C. Amend EFH descriptions with new information as it becomes available.

Investments: (1) Literature review and analysis of unpublished information.

(2) Amend maps with refined and new information.

D. Perform research to fill information gaps in the descriptions of EFH.

Investments: (1) Original work to determine habitat descriptions and identification by life phase of species with knowledge bases presently at less than Level 1 level (see FR Vol.62, No. 78 19723-19732 and associated supplemental guidance).

OBJECTIVE II. IDENTIFY LIFE HISTORY PHASES THAT ARE VULNERABLE TO HABITAT ALTERATIONS.

Strategies:

A. Describe life history phases (egg, larval, juvenile, migration, sexual maturity, reproductive period) of managed species.

Investments: (1) Literature review and analysis of unpublished information.

(2) Original work to determine little known life history phases of marine species (including: Atka mackerel, etc.)

B. Identify life phases that are closely associated with, or in which survival to the next life phase is dependant upon, specific habitat parameters. The list of habitat parameters includes, but is not limited to: egg attachment substrate, spawning substrate, species associations, feeding

habitat, biological substrate used for protection from predators or aspects of the physical environment (surge, light, salinity, etc.), preferences for freshly disturbed substrate or the opposite, preference for substrate with fauna in climax state). If specific habitat is limited in availability or quality, significant portions of a population may fail to progress to next life phase.

Investments: (1) Literature review and analysis of unpublished information.
(2) Original work to determine habitat dependencies by life phase.

C. Using the habitat parameters identified above, identify type and location of habitat vulnerable to loss or impairment by anthropogenic actions.

Investments: (1) Original work for groundfish to determine affect of increased frequency of disturbance by trawl gear on biological substrate, resuspension of sediment by trawl gear, reduction of complexity and diversity in benthic environment due to frequency of disturbance.

(2) Original work for anadromous fish species and crabs to determine affect of conversion to uplands of eel grass beds and subtidal habitat in coastal waters.

OBJECTIVE III. CONTROL HABITAT IMPACT BY MANAGING HUMAN ALTERATIONS OF HABITAT.

Strategies:

A. Minimize loss and impairment of vulnerable habitats.

Investments: (1) Conduct Magnuson-Stevens Act EFH consultations (write letters) recommending avoidance and or minimization of activities that alter habitat important to a life phase of a managed species. Activities deserving EFH consultations include: fishing practices, aquaculture practices, timber harvest and forest management, urban developments, road construction and maintenance, programs that promote increases in human population, oil and gas exploration and development, mineral and metal mining, energy transport, hydropower development and production, transportation of hazardous materials.

(2) Review water quality standards for opportunities to reduce chronic water pollution that alter habitat parameters required by specific life phases of managed species. Advise management agencies of findings.

(3) Assist management agency (EPA) with determinations of upper limits for total maximum daily load limitations on waterbodies declared as impaired.

OBJECTIVE IV. DEVELOP AND IMPLEMENT RECOVERY PROGRAMS WHERE HABITAT HAS BEEN IMPAIRED.

Strategies:

A. Modify habitat previously degraded where it will result in population level increases of managed fish species.

- Investments: (1) Restore freshwater habitat of anadromous fish where cost-effective.
(2) Foster cooperative community-based restoration programs.
(3) Export freshwater habitat restoration technology to other regions.

B. Perform research to fill information gaps.

Investments: (1) Determine recovery rate, or conditions necessary for recovery, of benthic areas formerly exhibiting climax stands of biological substrate that were subject to repeated disturbances and reverted to basic unconsolidated sediment.

- (2) Develop techniques to restore impaired freshwater habitat where cost-effective.

OBJECTIVE V. MONITOR AND EVALUATE RESEARCH.

Strategies:

A. Require accountability.

Investments: (1) Principle investigators prepare annual progress reports.

- (2) Conduct program review of the Alaska Region Habitat Conservation Division annually.

B. Require peer review.

Investments: (1) Publish results in peer-reviewed journals.

C. Fund research studies focused on obtaining information identified as high priority for effective minimization of habitat losses.

Investments: (1) Award funding based on study plans designed to obtain information.

D. Fund only research proposals with accountable track records.

Investments: (1) Maintain accountability for EFH funds at Regional level.

A STRATEGIC INVESTMENT FRAMEWORK FOR ESSENTIAL FISH HABITAT PROGRAM

Definitions

- Goal:** Desired future condition.
Objective: What must be done to achieve goal.
Strategy: How an objective will be accomplished.
Investment: The allocation of funds and personnel to strategies.
At Risk: Habitat for marine and anadromous fish species

GOAL: unimpaired habitat available for production of maximum sustainable stocks of managed fish species

PRINCIPLES:

1. Habitat is essential to production of maximum sustainable stocks of fish.
2. Effective management infrastructure
3. Effective science infrastructure
4. Integration of management and science in overall NMFS program
5. Ecosystem context
6. Integration of Magnuson-Stevens Act EFH project review program with National Environmental Policy Act, Clean Water Act, and Federal Power Act project review programs; Sustainable Fisheries programs; and Protected Species programs.
7. Agreement on principle with other living marine resource management agencies.

OBJECTIVES:

- I. DESCRIBE ESSENTIAL FISH HABITAT FOR SPECIES MANAGED UNDER DEPARTMENT OF COMMERCE APPROVED FISHERY MANAGEMENT PLANS IN THE ALASKA REGION.
 - A. Interpret proposed regulations containing guidelines for the description and identification of essential fish habitat and use it to,
 - B. Describe essential fish habitat for appropriate fish species in the Alaska Region.
 - C. Resolve unknowns and uncertainties in essential fish habitat descriptions.
- II. IDENTIFY LIFE-HISTORY PHASES OF SPECIES VULNERABLE TO HABITAT ALTERATIONS.

- A. Review life history phases (larval, juvenile, migration, sexual maturity, reproductive period.) of appropriate species.
- B. Identify phases that are closely associated with specific habitat parameters (eggs, spawning substrate, biological substrate, species associations, reliance on cover for physical protection from aspects of the physical environment (surge, light, salinity), reliance on cover for protection from predators, feeding habitat, preferences for freshly disturbed substrate for some activity or the opposite, preference for substrate with fauna in climax stages for some activity).
- C. Identify bottlenecks phases. This means identify vulnerabilities to habitat absence (points that fish species fail to progress to next life history phase) due to species intolerance of variance or absence of identified habitat parameters.
- D. Identify alternate species that respond positively to bottlenecks for another species.

III. MANAGE HUMAN ALTERATIONS OF HABITAT PARAMETERS THAT DESIRED SPECIES ARE DEPENDENT UPON.

- A. Review human activities (include: fishing, hydrocarbon recovery, timber harvest, urban growth, mineral/metal mining, shipping infrastructure) identifying the habitat parameters species are dependent upon that are subject to alteration by these activities.
- B. Review projects and activities that alter habitat important to a vulnerable life stage.
- C. Recommend avoidance and/or minimization of activities that alter habitat important to a vulnerable life stage of a desired species.

IV. WHERE POPULATION LEVEL DIFFERENCES COULD BE MADE, DEVELOP AND IMPLEMENT CONSERVATION/RECOVERY PROGRAMS FOR HABITAT THAT HAS BEEN LOST OR ALTERED.

- A. Determine and evaluate factors affecting change in habitat.
 - 1. Continued disturbance (rate and/or intensity of disturbance) such as interaction of trawl gear with seafloor substrate.
 - 2. Conversion to another habitat type (uplands) such as filling sacred areas (eel grass beds) or near anadromous streams.
 - 3. Chronic pollution (review Water Quality Standards, assist with setting TMDLs, recommend precautions in handling and transport of toxic substances, recommend locations of storage sites far from vulnerable habitats).
 - 4. Catastrophic pollutants (clean-up, recommend sanctions for unauthorized discharges)
 - 5. Explain and predict regime shifts (natural environmental variability)
 - 6. Identify cascade effects in related competing/complementing species (Finfish, Crustaceans, Seabirds, Pinnipeds) in the ecosystem. (What species increase abundance when others decline).
 - 7. Cumulative effects (combinations of any/all of the above)

B. Conduct Magnuson-Stevens Act EFH consultations and implement recommendations/conservation actions

1. Fishing
2. Aquaculture
3. Timber harvest
4. Urban growth
5. Oil and Gas exploration and development
6. Mineral and metal mining
7. Energy/Hydropower
8. Shipping/Transport

V. MONITOR AND EVALUATE RESEARCH.

- A. Require accountability.
- B. Require peer review.
- C. Fund research studies focused on obtaining priority information needed for more effective minimization of habitat losses
- D. Fund only research proposals with accountable track records.