Committee on Resources
Subcommittee on Fisheries Conservation, Wildlife and Oceans

Statement

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My name is John Gauvin and I am the director of the Groundfish Forum, a trade association principally devoted to the development of bycatch reduction methods for trawl fisheries through gear innovation and the development of incentive systems for incidental catch avoidance in groundfish fisheries off Alaska.

Groundfish Forum did not anticipate further council action in response to the EFH mandate within the Sustainable Fisheries Act of 1996 because a great deal of habitat protection measures for the waters off Alaska have already been implemented. In fact, most of these protections had already been undertaken in the North Pacific fisheries without industry objection prior to the reauthorization of the Act in 1996. With healthy groundfish stocks in our region, we could see no evidence of a need for large scale additional habitat protection measures because the high abundance of fisheries resources would not seem to indicate any deficiency in fish habitat in our region.

Our attention turned to the habitat issue when, in 1997, we encountered a campaign of misinformation on the effects of mobile fishing gear. This erroneous information involved greatly exaggerated descriptions of the effects of trawls and other mobile gears, descriptions of effects in areas where the gear is not actually fished or even open to trawling in the North Pacific, and a gross misrepresentation of the scale of trawls used to fish on the sea floor. This attack was being leveled by a few environmental groups, some advocates of competing gear types, and a small number of outspoken individuals, apparently with scientific credentials, whose extreme views and methodologies do not appear to be widely accepted by the scientific community. While this type of crusade is not uncommon for the fishing industry, it was troubling that the example of good habitat management and zoning of fishing gears that embodies the management of fisheries off Alaska was not even mentioned in the literature put out by these groups.

This campaign certainly opened our eyes and demonstrated the importance of understanding the available scientific information on the effects of fishing gear. From that point in time, it was evident to us that those who use mobile fishing gear in the North Pacific had better expend some time and energy getting the word out on how our fisheries are managed and what peer-reviewed scientific findings actually tell about the effects of fishing gear, lest the inaccuracies of the anti-mobile fishing gear campaign pass for fact.

Our involvement in the EFH process has since led us to undertake several important projects devoted to the

attainment of scientifically objective information on the effects of fishing gear on EFH. These include providing funding for graduate students interested in studying this issue and an ongoing field research collaboration between Groundfish Forum and the University of Alaska to study the effects of trawling on flatfish habitat (sand and mud substrates). Additionally, several trawl groups that fish in Alaska have joined us in supporting a project which funds a team of scientists (including a benthic ecologist, physical oceanographer, and fish population expert) to review existing scientific studies on the effects of fishing on the types of fish habitats that are currently open to fishing with trawl gear in the North Pacific.

My remarks today will focus on what has occurred thus far in the North Pacific Council's attempts to implement the EFH mandate. I feel this progression adequately illustrates the issues surrounding the feasibility of the Sustainable Fisheries Act's EFH mandate as it stands now, including the North Pacific Council's subsequent reformulation of the EFH process into a focus on habitat areas of particular concern (HAPC). I will conclude by listing my thoughts on a few steps I feel could productively refocus the EFH mandate on the objective of protecting habitat for sustainable fisheries. It is my strong belief that without such reformulation, the EFH process will simply continue to fuel negative PR leveled at fishermen and a new set of fish allocation battles instead of a process to develop reasonable and sound habitat protection measures for sustainable fisheries.

Step One for the NPFMC in attempting to meet the EFH mandate: Identification of EFH based on a broad definition of habitat and proxy information

As has been noted in the public comments of the oil and gas industry at a recent Senate hearing on reauthorization, EFH is defined very broadly in the Act. In addition to dragging unsuspecting parties into the fray, this has had ramifications on the scope and feasibility of implementation of EFH. Using the current EFH definition which covers habitat for all life stages of managed fish populations, managers in the North Pacific have had to, at least technically, consider habitat in all federal waters off Alaska as well as adjoining state waters, including, in some cases, estuarine waters, and freshwater rivers, and streams. Further, due to the dearth of information on the actual presence and location of different habitat types and the lack of information on types of habitats used by different species at different life stages, the NPFMC has essentially been forced to adopt a proxy approach to the identification of EFH.

To identify EFH, the NPFMC and Alaska Region of NMFS have had to rely of observed catch data (species composition from sampled hauls) from the groundfish fishery as well as NMFS and Alaska Department of Fish and Game survey data. These data identify areas where fish were caught at different life stages. This, of course, assumes that locations where fish were caught are strongly correlated with their habitat, which is undeniably true. While imperfect in terms of resolution, such an approach is certainly defensible because of the high level of observer coverage that has been instituted in the North Pacific. Frankly, it was the best that could be done under the charge of the Act to identify EFH with no accompanying additional funding for field research. The ultimate result, however, is that fish habitat can be generally identified through this approach but little or no information is produced as to the type of habitat fish use most productively. Also, the use of this proxy data creates a very broad and inclusive notion of habitat as being everywhere fish were at some time in the past. It is undeniable that some subset of these areas is probably more important in terms of productivity than others, but from the available information there is no way of knowing which ones.

Step Two for EFH: the decision of whether to implement additional measures in the context of the NPFMC's prior actions to protect fish habitat

Under the Sustainable Fisheries Act, the NPFMC has had to undertake the required second step of identifying threats to EFH, including an assessment of the degree of effects of various fishing gears used in the North Pacific. Although NMFS is apparently being sued for not taking additional steps for the North Pacific, we feel the NPFMC acted correctly in opting not to take any substantial new actions to restrict the use of fishing gears beyond the extensive closed areas it has already instituted (please see Attachment 1 detailing areas closed to trawling in the Bering Sea, Aleutians, and Gulf of Alaska). To appreciate why the

NPFMC deserves credit for the decision to move cautiously with further restrictions, one has to understand the actions the council has already taken and the available scientific information on the effects of fishing gear on the types of substrates where trawling is allowed within the waters managed by the council.

Prior to 1997, the NPFMC had proactively closed extensive areas to trawling (in fact, approximately 89,000 sq. miles of federal waters off Alaska) in advance of the EFH mandate. Most of this was done to reduce incidental catch of crab species and to protect their associated habitat. Juvenile crab are known to be associated with areas of cobble, as well as free standing invertebrates such as sea onions and sea fans. Although not all of the council's actions to protect habitat were taken specifically for the habitat protection rationale, most scientists would concur that restricting fishing to reduce catch of crab species and protection of their habitat amounts to protection of sensitive and important habitat. Further, protection of those vast areas by the NPFMC probably affords considerable related benefits for juvenile groundfish species in Bristol Bay, the Pribilofs, the inner portion of the Bering Sea shelf, as well as in the Gulf of Alaska and Aleutians.

The decision of what additional steps should be taken to protect habitat also involved an evaluation of the available information of the effects of trawls and other gears in the remaining areas not already subject to existing restrictions on fishing gears. These areas are predominantly sand and mud substrates. Based on our reading of the weight of existing scientific opinion, fishing at sustainable harvest rates with trawls or other gears does not necessarily have any negative impacts on the productivity of this kind of fish habitat. In fact, some of the peer-reviewed scientific research on fishing effects in sand and mud substrates have shown that the disturbance in such areas can actually be beneficial to fish production, particularly when the fishing is managed at sustainable harvest rates as is the case in the North Pacific. A fundamental question, therefore, regarding further protection of EFH is: given the importance of a particular habitat type to marine resources, can or should that habitat be "protected" from the effects of fishing? Are area closures invariably best for fish and their habitat?

Interestingly, empirical studies of shelf substrates composed of predominantly sand and mud often conclude that it is impossible to distinguish fishing gear disturbances in such areas from natural disturbances caused by tides, storm surges, ice edge scouring, and other effects. This is because, as a general rule, waters of less than 50 fathoms depth on the Eastern Bering Sea shelf are "high energy" areas due to their inherent amount of natural disturbance. Natural disturbance makes these areas very productive and organisms that inhabit such areas are well adapted to disturbance, whether it is natural or man made. Even what we believe to be rather questionable "science", as espoused in advocacy-oriented anti-fishing campaigns, seems to grasp the notion of fishing impacts being dwarfed by natural disturbance. What we find telling is that these campaigns tend to approach this subject as a frustration to their ability to implicate mobile fishing gears that fish in relatively shallow areas instead of a recognition that the gear is not having the negative effect they expect to find (please see Attachment 2 excerpted from an anti-mobile fishing gear piece appearing in Conservation Biology Vol. 2, No. 6, December 1998).

All of the above should not be taken to imply that our understanding of the effects of fishing gear is complete at this point in time. I am simply saying that a balanced view of what is known scientifically does not suggest that there are negative effects from fishing in the more resilient habitats. An important factor facing managers charged with drawing conclusions on the effects of fishing gears is that relevant scientific findings, whether they implicate or vindicate the fishing gear in question, are inherently limited by the tools used to conduct the research. This, however, is rapidly changing.

The technical ability to systematically observe changes in marine habitats has been rather limited due to the physical constraints of observing the sea floor, and it is only within the last few years that this situation is improving. The advent of affordable and effective side-scan sonar systems, low-light cameras towed by sleds, and apparatus to feasibly sample both biota and sediments in controlled experiments now offers promise for improving our understanding of the effects of fishing gears. Because these technical advances are so new, however, very few (if any) scientific studies have passed through the peer review stage and are

thus available to provide truly scientific information on the effects of fishing gears.

So how will more informed decisions on the allowable impacts of fishing gears come about? There are several obstacles to advancement of our scientific understanding of fishing gear effects on fish habitats despite the newly improved technical equipment and approaches. One is that the essential fish habitat mandate was not accompanied by funding to conduct the type of peer reviewed-research that is critically needed even if the technology for such studies is available. In our opinion, this has resulted in the predominance of what we feel is basically politically-motivated "research" because the major source of funding for "research" into the effects of mobile gear has been environmental campaigns and their supporting foundations that are using the issue as a fund raising tool. The fishing industry has its particular frustrations with this approach to science. Suffice it to say that we do not feel good science results when research sets out to prove a particular conclusion.

Another obstacle is that thus far even the legitimate scientific research on the effects of fishing gears has tended to gravitate to trawl gear and tends to be aimed at the effects of fishing in sensitive areas, most of which already been closed to the use of trawls in the North Pacific. The reason for this pull is the natural desire in academics for publishable results. Let's face it, effects of gear on coral are inherently more interesting to most audiences, and can be studied from a generally biologically driven methodology. The effects of fishing gear on sand and mud substrates in relatively shallow waters are far harder to study and involve multi-disciplinary training involving biology, physical oceanography, chemistry, and applied marine geology.

Further, the EFH mandate is not supposed to be limited to managing the effects of mobile fishing gear. But thus far, all the focus has been on mobile gear because there is some (albeit limited) information on mobile gears. With the new technologies that feasibly allow the study of effects at the direct observation level, researchers should also be able to evaluate the effects of gears that are generally thought to be less intrusive, such as long lines, fish and crab or lobster pots, and even jig and hand line gears. Fixed gears are allowed in all but one of the existing trawl closure areas in the waters off Alaska. This may not be the best approach for the preservation of EFH, but little information is available to evaluate this.

A recent evaluation of NMFS observer data by the NPFMC indicated evidence that fixed gears may be fished in the sensitive habitat areas, such as coral fields, to a greater extent than mobile gears. Further, the increased ability to evaluate fixed gears from the new technology allows for the evaluation of chronic, cumulative effects from fixed gears. This is important because even if effect from one placement of fixed gear is not be as large as for mobile gear, the large number of fixed gear sets over time may create measurable cumulative impacts on fish habitat that need to be understood and considered. The potential for damage from fixed gears has been largely ignored in the past.

Lastly, one should consider that management councils have to grapple with a list of management decisions that compel them to balance a number of considerations beyond EFH. In the North Pacific, the habitat protection objective has to be weighed against competing objectives of minimizing bycatch. Managers therefore have to consider the implications of potentially restricting fishing in additional areas for habitat protection against the effect such a move would have on the fleet's ability to achieve low bycatch rates. An illustration of this was the case of the Nearshore Bristol Bay Closure Area (see Attachment 2) in the Bering Sea where the tradeoff between achieving protections for crab habitat had to be compared against the potential loss of a fishing area where yellowfin sole could be caught at exceedingly low rates of halibut bycatch. In the end, the NPFMC opted to leave a subset of the area open for trawling in recognition of the bycatch reduction benefits and the knowledge that an extensive habitat area for crab had already been protected.

This same type trade-off has emerged more recently with the need to spread pollock fishing out over time and areas to reduce potential for competition with foraging Steller sea lions. In the extreme, if habitat protection were the only objective, then the ability to spread fishing out over wide areas to protect sea lions

might not be available and this would likely be seen as an unacceptable tradeoff by those focused on marine mammal protection.

Step Three: The shift in approach from broadly defined EFH to habitat areas of particular concern (HAPC)

Recently, the NPFMC has begun to modify its approach to fulfillment of the EFH mandate via the identification and management of habitat areas of particular concern (HAPC). Although somewhat more appealing from an identification and management perspective, we believe that the HAPC approach has its own set of pitfalls and may inevitably result in institutional paralysis and the failure to create reasonable and beneficial protections for fish habitat.

The underlying problem with the HAPC approach for the NPFMC thus far is that it lacks the underpinning of a demonstrable or even hypothetical scientific relationship between protection of fish habitat and benefits in terms of fish production and management. The reason is that scientific information on the relationship of different habitat types to production and growth rates of important fish stocks simply does not exist for most if not nearly all of the managed groundfish fish species in the North Pacific (and likely other areas). Despite the lack of a demonstrable relationship, everyone knows intuitively that fish use and need habitat, but this is not in itself sufficient guidance to proceed effectively with HAPC. Will the iterative process of identification and management of some apparently vulnerable areas serve to protect the habitat needed for healthy fish stocks when the selection of the area to protect may be based mainly on an anthropomorphic notion of the importance of habitat to fish? Will areas receiving HAPC designation actually be the most valuable to sustainable fish populations without some guiding understanding of how fish use habitat?

This begs the complementary question of how much habitat do fish essentially need and where that habitat should optimally be located. While it is known that some species of fish associate frequently with different types of habitats, and that this association can be strong for some high-profile habitats such as coral heads and sea mounts, scientists and managers do not know how much fish stocks depend on habitat of a given sort, or how much habitat is necessary for a given level of fish population. Nor do we really know whether fish are better off with a limited number of large set asides of habitats that are free from fishing disturbances, or a large number of patches of undisturbed habitats spread throughout their range. In the end, we believe these types of unknowns could limit the value of an HAPC approach to habitat protection.

In the extreme, the iterative process of HAPC could amount to setting aside the wrong set of areas due to this lack of information on the relationship between fish and their habitat. Another possibility is that the HAPC process could end up being more reflective of the tendency of political and allocation agendas to be played out between different gear sectors fishing different areas instead of an effective and deliberate process to make sure fish populations have the habitat they need. Either outcome could occur under an HAPC approach and any other approach to restrictions of fishing gear associated with the EFH mandate. This raises the question of how to make the EFH process result in reasonable and beneficial habitat protection instead of the battleground for fish allocation, anti-fishing or anti-mobile gear campaigns, and litigation against NMFS.

Suggestions for improvements to the process of habitat identification and protection

1. Provide funding for research on how fish use habitat and how habitat quantity and quality affect fish productivity.

2. Provide funding for scientific research on gear effects. This research should be subjected to full peer review standards and should make use of the new technologies to evaluate fishing impacts. This research should not be limited to trawls and dredges. Acute, chronic, and cumulative effects of all types of fishing gear that come in contact with the sea floor should be studied as they compare to natural disturbance.

3. Consider changing the timeline for the EFH mandate to recognize the limitations in available information on habitat identification and fishing gear impacts. The lead time for peer-reviewed research is at least three to five years, particularly for research employing the newly available empirical techniques for benthic observation and sampling.

4. In the interim, NMFS should conduct a review of existing gear impacts studies as they relate to different types of habitats open to fishing gears in the different parts of the country. NMFS should also conduct a review of existing studies of how fish use fish habitat and synthesize these findings as a starting point for the identification of gaps in available knowledge.

5. Congress should consider modifying the EFH mandate to:

a. Give very explicit instructions to NMFS to allow only peer-reviewed scientific findings to be used in making determinations of fishing gear effects on EFH.

b. State up front that the EFH process is not to be used for fish allocation decisions. In the event that the EFH process results in a finding of unacceptable impact by a given fishing gear or style of fishing gear, the users of that gear are provided an opportunity to make sufficient modifications to the gear or suggest allowable areas where the existing gear can be fished.

c. Provide explicit instructions that assessment of impacts of fishing gear on EFH is not limited to trawls and scallop dredges. NMFS has pointed out in the past that studies of other gears are not available. This may be the case currently, but improved technology to assess impacts has become available and NMFS should encourage such research as well as direct its own field research to incorporate other gears into its studies of fishing gear effects.

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