

# **Report of the NPFMC Joint Plan Teams' review of proposals for Habitat Areas of Particular Concern (HAPC)**

**March 8-9th, 2004**

**Compiled by the Plan Teams for the North Pacific Fishery Management Council:**

**BSAI Groundfish Plan Team**

**GOA Groundfish Plan Team**

**BSAI Crab Plan Team**

**Scallop Plan Team**

## **Table of Contents**

<b>Introduction</b>	<b>3</b>
<b>Plan Team concerns</b>	<b>4</b>
<b>Plan Team comments and suggestions</b>	<b>5</b>
<b>Review of individual proposals</b>	
<b>Group A: proposals 1,2,3,4,23</b>	<b>6</b>
<b>Group B: proposals 20,21</b>	<b>11</b>
<b>Group C: proposals 5,6,7,8</b>	<b>12</b>
<b>Group D: proposals 9,15,16,17</b>	<b>13</b>
<b>Group E: proposals 10,18,19</b>	<b>16</b>
<b>Group F: proposals 12,14</b>	<b>20</b>
<b>Group G: proposals 11,13</b>	<b>22</b>
<b>Group H: proposal 22</b>	<b>24</b>
<b>Tables</b>	
<b>Table 1</b>	<b>26</b>
<b>Table 2</b>	<b>27</b>
<b>Table 3</b>	<b>28</b>
<b>Group Members</b>	<b>29</b>
<b>Appendix:</b>	
<b>Plan Team instructions</b>	<b>30</b>
<b>Directions to Reviewers</b>	<b>31</b>
<b>Attendance at Plan Team Meeting by location</b>	<b>32</b>

## Introduction

This report represents a summary of the special joint NPFMC Plan Team meeting to review 23 different HAPC proposals. All four of the Plan Teams (BSAI groundfish, GOA groundfish, BSAI Crab and Scallop) convened concurrently on March 8 and 9<sup>th</sup>, 2004. The meeting was conducted from Seattle with video linkages to Kodiak and Juneau. Public notice for attendance was distributed in advance of the meeting. List of attendance is provided in the Appendix along with instructions for reviewing proposals and a copy of the letter of guidance sent to Plan Team members. To facilitate the review process, Council staff organized groups of Plan Team members that were able to attend the meeting—these groups were assigned to focus on a subset of the proposals. This report is therefore organized into the presentations made by the Plan Team groups. The list of groups and assigned proposals were as follows (participating group members are presented in the Appendix).

Plan Team Group	Proposal Area	Proposer	Proposal Number
A	North Pacific seamounts	TOC	1
A	GOA pinnacles	Oceana	2
A	AI pinnacles	Oceana	3
A	Named seamounts	NMFS	4
C	GOA Sanak Island	AAG	5
C	GOA Albatross Rockfish	AAG	6
C	GOA Middleton Island	AAG	7
C	GOA Primnoa Forrest	NMFS	8
D	AI Adak Canyon	AMCC	9
E	AI Bowers Ridge	AMCC	10
G	AI Coral and Sponge	TOC	11
F	AI Marine Reserve	TOC	12
G	AI coral gardens	Oceana	13
F	AI core bottom trawl area	Oceana	14
D	AI South Amlia Atka	MCA	15
D	AI Adak and Kanaga	MCA	16
D	AI Amatignak/Alak	MCA	17
E	AI Semisopchnoi	MCA	18
E	AI coral gardens	NMFS	19
B	BS Zemchug and Pribilof canyons	TOC	20
B	GOA Prince William Sound deep water canyon	TOC	21
H	BS- Soft coral	Oceana	22
A	Kodiak 8 fathom pinnacle	NMFS	23

The Plan Teams discussed a number of issues that required clarification. The classification of “hard corals” appears to be insufficient, as were other terms such as “deep-water coral” or “cold-water coral.” The Teams interpreted hard corals to include hydrocorals and gorgonian corals (such as red-tree corals). These two types of coral provide vertical structure and are long-lived and sensitive to disturbance. Excluded from this group are soft corals, e.g., *Gersemia* spp. such as sea raspberries. The Teams noted that for the purpose of discussion (and this report) the term “proposal” refers to a document (such as one of the 23 proposals reviewed). This distinction was made to avoid confusion with HAPC sites proposed within a document (many documents proposed multiple sites). The Teams also struggled with comparing proposals that declared (often multiple) small areas and habitat types with those that claimed the same (or

similar) habitat types but over large areas that covered a wide diversity of habitats (not just those listed as being of particular concern).

It was noted that seamounts are typically outside of EFH designation and therefore are inappropriate for HAPC declaration. The EFH definitions are under revision and are likely to include seamounts in the near future. Hence, considering them at this time was considered proactive. By way of background, it was clarified that HAPC designations are discretionary, not mandatory.

The Plan Teams' reviews of the HAPC proposals were to include additional support from experts on enforcement and economic issues. Due to the limited time available to review these proposals, comments on these aspects were not specifically addressed during the meeting and are not represented in this report. It was the Plan Teams' understanding that separate reports from agency personnel regarding these aspects were being prepared for Council review.

## Plan Team concerns

Council staff provided the Plan Teams with tables for their review (see Appendix) based upon Council direction for facilitating the relative scoring of proposals. While the Plan Teams attempted to follow Council direction in reviewing proposals per these instructions, the Plan Teams have several concerns regarding Tables 1 and 2:

- 1) The rating criteria were evidently not established until after the proposals had been submitted, meaning that proposers had no way of knowing the full range of information that would be required to rate their respective proposals.
- 2) The proposals deal with habitat *areas*, but the tables deal only with habitat *types*. This tends to generate a mismatch between the data provided in the proposal and the data required for completion of the tables. For example, a proposal might provide data showing that a given habitat *area* is "stressed" without mentioning whether the habitat *type* in general is similarly stressed. A related problem has to do with homogeneity of habitat type within a proposed area. If a proposed area encompasses more than one habitat type, the ratings in the tables become difficult to interpret. A more precise description defining the meaning of habitat area and habitat type for the purpose of this analysis is needed.
- 3) The ratings in the tables may imply a greater degree of precision than is warranted by the available data. For example, a rating of 3 under one category should not necessarily be interpreted as carrying the same weight as a rating of 3 under another category. Similarly, a rating of 3 should not necessarily be interpreted as carrying three times the weight as a rating of 1, even under the same category.
- 4) The rating criteria sometimes conflict with standard usage of terms. For example, according to the rating criteria, a habitat type can be classified as "locally rare" only if the habitat type is "common" in the respective management area (the Plan Teams dealt with this problem by assuming that "common" meant "occurs to some extent"). Another example is the rating criteria for "stressed," where a *higher* level of fishing pressure implies a *lower* "stressed" rating.
- 5) In several instances, the rating criteria are ambiguous. First, under "local rarity," the criteria for ratings of 2 and 3 are logically equivalent. Second, under "ecological importance," multiple criteria are presented for each rating, making it difficult to assign a rating if some criteria are met while others are not. Third, under "stressed," the criteria for ratings of 2 and 3 are expressed in different dimensions (i.e., the criterion for a rating of 2 is expressed in terms of *frequency* of fishing whereas the criterion for a rating of 3 is expressed in terms of *regularity* of fishing).

Some additional concerns were also noted with respect to Table 3 summarizing the proposals according to Council priorities. Specifically, the Plan Teams were unable to adequately address what they interpreted Council direction to be on “relative disturbance”. While the interpretation of this was believed to be the relative disturbance of the habitat, the Plan Teams did not feel that adequate clarification was made nor sufficient information provided to evaluate this. Instead the Plan Teams chose to mimic the ratings used in this category as for the “stress” category in the Tables 1 and 2. The Plan Teams also noted that evaluating to what degree proposals met Council priorities was more befitting a staff or agency decision than an evaluation by the Plan Teams. The Teams noted that deciding upon the degree to which a proposal was responsive to the request for proposals would have been more beneficial earlier in the process.

## **Plan Team comments and suggestions on the current HAPC process**

The Teams generally expressed appreciation to be included in the process of establishing useful HAPC designations. This issue is important and can have far-reaching consequences for developing innovative management strategies. The Council requested comments from the Teams about the effectiveness of this style of review process.

The Teams’ felt that more input on writing the “directions for reviewers” and on criteria might have helped alleviate some ambiguity.

The Teams’ discussed the pros and cons of establishing a smaller subset of plan team members assigned specifically to a HAPC review workgroup (along with a number of experts). Many plan team members felt that could be more efficient than requesting that all members of all Plan Teams participate in the full review process. Such a workgroup could then report back to the full Plan Team their findings similar to other working groups (e.g., “Other species” working group, Crab overfishing working group). However, other plan team members discussed that the inclusion of all Team members brought together diverse experiences and expertise and provided for a more comprehensive review. This was felt to be constructive initially and served to raise the level of general understanding about habitat issues to those involved in FMP implementations (where these types of concerns have not traditionally played a large role). The Teams’ acknowledged that time and opportunity to involve additional expertise from outside of the plan teams would have been beneficial in the process.

An evaluation of the level of data utilized in the proposal as well as the level of scientific uncertainty inherent in that data would be useful in this review.

Citations should be submitted in full for these proposals such that reviewers could pursue these citations if necessary to evaluate their relevance. Grey literature should be accessible and would assist reviewers.

A general habitat inventory should be made available. If this is unavailable, it should be a priority for agency work. This would serve a number of purposes, one of which would be to provide a uniform basis for evaluating HAPC sites.

As noted above under “Plan Team concerns,” it was difficult to evaluate proposals in a consistent manner according to established criteria. Also, there was a lack of time available to debate and discuss a number of critical concepts and measures.

The Teams struggled with the notion in many proposals that HAPC sites that lack information should be designated HAPC *first*, and then evaluated for refinements and further research to determine if the designation was appropriate. Since HAPC are discretionary tools for Council use, a HAPC designation should be based on information that is currently available rather than on speculation. That said, perhaps HAPC proposals that fit this description should fall into a separate research priority category. This would

provide the Council with a subset of sites that may not fit the HAPC criteria, but may reflect a higher priority research area.

Several sites proposed were areas already closed to trawling, hence the question of how to treat the Council's priority on "stress" was raised. Since Council guidance did not specify the type of fishing activity, the Teams interpreted any fishing activity (e.g., fixed gear such as longline and pots) in considering the degree of stress.

Additional data concerns centered on the determination of extent of relative fishing pressure by proposal area. This was notably difficult for reviewers to assess given only the information provided in the proposal though it was noted that some additional information was provided by staff. While it was noted that confidentiality issues may be problematic, it was suggested that in the future catch data be provided in some aggregated form such as within statistical areas.

The number of proposals and limited time to review them did not leave sufficient time to discuss important concepts like the size of buffers around areas, maintaining habitat types as well as connected groups of habitat types, and the overall management objectives for HAPCs.

The Teams noted that the same sites were identified in a number of proposals, but varying levels of scientific information were utilized for each site. There should be consistent availability of data for proposed sites such that it would then raise the levels of information available for use by all proposers and therefore increase the quality and consistency of all proposals. Mixing of sites within proposals made them difficult to evaluate (i.e. pinnacles and seamounts). Proposers could likely have done a much better job in their respective proposals had they been advised to separate out these conflicting and sometimes confusing mixtures of areas and habitat types.

Finally evaluating individual HAPC sites (regardless of who proposed them) rather than evaluating duplicative sites by individual proposal would have been more beneficial and increased the utility of proposal review. The Plan Teams understand that during this review this was not necessarily feasible under the time constraints and thus the Teams evaluated each proposal individually. However it is the Teams understanding that it is the individual sites and relative merits thereof that will eventually be evaluated in any forthcoming analysis.

## **Review of individual proposals**

### **Group A: Proposals 1, 2, 3, 4, and 23**

#### ***General comments***

The ability to discuss ecological importance and sensitivity (from the perspective of the Council's priorities) depends on coral and sponge abundance on the seamounts. In general, the proposals assume that all of the seamounts and pinnacles proposed as protected areas include significant quantities of coral and sponge. However, there is no specific information provided to substantiate this claim. The exception is the 8 fathom pinnacle proposal (#23), which specifically describes the habitat and why that habitat type is susceptible to fishing effects.

The remaining proposals describe the harmful effects of fishing on such biota, but the story isn't complete without specific information on the amount of coral and sponge habitat at each of the seamounts and pinnacles. One piece of evidence implies that seamount habitat is heterogeneous, rather than homogeneous as implied by the proposals. Coral is commonly caught during longline surveys of Dickins but not other sampled seamounts (N. Maloney, Auke Bay Lab). The most specific descriptions were provided in the NOAA Fisheries proposal for named seamounts, which described general habitat features and fish species in the "Habitat Type and Species Information" section, but the proposal could be

improved by providing more information on susceptible species (corals and sponges) present in the proposed HAPC.

Deep water crab species were noted by reviewers to probably occur within the appropriate depth ranges on all seamounts as well as continental shelf and slope areas within their range.

## **Proposal 1, The Ocean Conservancy, North Pacific Seamounts Marine Reserve Network**

### *Ecological importance*

The proposal documents that seamounts exhibit some structure and that fish are present. At least one seamount contains several crab species (Patton, DSV Alvin survey). Several surveyed seamounts demonstrate wide species diversity (Hughes 1981). However, vulnerable life stages or habitat associations not documented. The information linking lingcod spawning to seamounts is incorrect.

### *Sensitivity*

Some corals are present and are sensitive, but coral abundance is apparently unknown, so habitat sensitivity is unknown overall. Reference to Gubbay seems irrelevant. We also don't see the relevance of the repeated paragraph on sablefish being vulnerable to overfishing, since they are well-managed by NMFS - perhaps the author is implying that seamounts will act as a buffer against declines?

### *Stress*

No documentation provided for how much fishing occurs on North Pacific seamounts. The stress section simply repeats the sensitivity section.

### *Scientific/Technical merit*

We found this proposal difficult to evaluate scientifically. The author frequently uses documentation that has not been peer reviewed to substantiate important points. The points may be correct, but they are difficult to objectively evaluate when no substantial proof is offered. The 15 nautical mile radius (chosen to cover the base of the largest seamount) seems arbitrary. Why apply this to all seamounts, including the smallest seamount?

The aggregation of individual seamounts into larger marine protected areas isn't adequately justified. For example, including large tracts of the abyssal plain seems to contradict the reasons for protecting the seamounts.

### *Ecological merit*

Seamounts are rare features based on their area size. Seamounts are unique because they are relatively shallow areas in an otherwise deepwater, oceanic area, and they can concentrate plankton in an otherwise low productivity area.

### *Other comments*

Objective 1 seems reasonable. However, objectives 2 and 3 have problems. Objective 2 seems inappropriate because it preserves atypical parts of the distribution (i.e., the stated "unique" habitat) and thus inappropriate to preserve as sanctuaries. Objective 3 seems impractical. Research at these isolated, deep seamounts would be costly and also may be inappropriate to study fishing effects in atypical ("unique") habitats. Six of the mentioned seamounts are not included in the depth range of the FMP species.

The choice of 15 nautical mile radius and the value of larger MPAs encompassing several seamounts might be worth considering.

## **Proposal 2, Oceana, Gulf of Alaska Pinnacles and Seamounts**

Seamount habitat is rare (based on habitat size) but can be found in other Alaska regions. Pinnacles are common in the Gulf of Alaska and Aleutians and less frequent in the Bering Sea.

### *Ecological importance*

The roles of corals and sponges as important habitat are documented, but their abundance on the seamounts is unknown, therefore the overall effect on the seamounts is unknown. Vertical structure has been documented. The listed pinnacles are very diverse and the general documentation provided is insufficient to determine if all pinnacles have the same ecological importance. Furthermore, the listed pinnacles are found in several depths and distances from shore which presumably increases the diversity.

### *Sensitivity*

The effects of fishing for the seafloor and associated biota are documented for some ecosystems. There are a large number of pinnacles listed and they are diverse. The documentation provided is insufficient to determine if all pinnacles have the same ecological importance. Furthermore, the listed pinnacles are found in several depths and distances from shore which presumably increases the diversity.

### *Stress*

No documentation was provided to determine how much fishing occurs on North Pacific seamounts. No documentation was provided to determine how much fishing occurs on North Pacific pinnacles (except for effects of one tow).

### *Scientific/Technical merit*

One citation (Bradshaw et al.) is inappropriate, referring to completely different habitat (25-m deep, mixed mud bottom) than seamount habitat proposed to protect. The sensitivity section made extensive use of peer-reviewed literature. However, there is little specific information cited that pertains to the proposed protected areas. Citations on deepwater corals often are inappropriate given the diversity of listed pinnacles.

### *Ecological merit*

Seamounts are rare features based on their area size. Seamounts are unique because they are shallow areas in an otherwise deepwater, oceanic area and they concentrate plankton in an otherwise low productivity area.

### *Other comments*

Table 2 lists 21 seamounts, whereas the text cites 19 seamounts (p. 4), so we're not sure which 19 seamounts are proposed for protection. Three of the 21 seamounts in Table 2 are greater than 3000 m, which is below the NMFS definition of EFH.

The shotgun approach of listing all of the pinnacles likely masks the importance of some of the pinnacles. The pinnacles likely are diverse habitats, are found in the photic zone, and likely harbor diverse species. The proposal would be greatly improved by separating the seamounts from the pinnacles and describing specific pinnacles, which likely are better known because they're closer to the surface and nearer to shore.

Many of the listed pinnacles are close to the 3-mile State waters limit. A two mile radius protected area likely would infringe upon State waters.

The proposal is vague as to what gears besides bottom trawl would be limited and therefore it is difficult to evaluate the effects of this proposal.



### **Proposal 3, Oceana, Aleutian Islands Pinnacles and Seamounts**

Seamount habitat is rare (based on habitat size) in all 3 Alaska regions. Pinnacles are common in the Gulf of Alaska and Aleutians and less frequent in the Bering Sea.

#### *Ecological importance*

The roles of corals and sponges as important habitat are documented, but not their abundance on the seamounts, so the overall effect on the seamounts is unknown. Vertical structure is documented. The listed pinnacles are very diverse (Table 1). The general documentation provided is insufficient to be true for all of the listed pinnacles because of their diversity (e.g. listed pinnacles are found in several depths and distances from shore).

#### *Sensitivity*

The effects of fishing for the seafloor and associated biota are documented for some ecosystems. The listed pinnacles are very diverse (Table 1). The general documentation provided is insufficient to be true for all of the listed pinnacles because of their diversity.

#### *Stress*

No documentation provided for how much fishing occurs on North Pacific seamounts. Analysis methods were presented on p. 9-10, but no conclusion was made about how much fishing occurs. No documentation provided for how much fishing occurs on North Pacific pinnacles (except for effects of one tow). The listed pinnacles are very diverse (Table 1). The general documentation provided is insufficient to be true for all of the listed pinnacles because of their diversity.

An analysis on p. 9-10 described how 3 pinnacles were excluded from protection because the analysis showed they were located within the core trawling area.

#### *Ecological merit*

One citation (Bradshaw et al.) is inappropriate, referring to completely different habitat (25-m deep, mixed mud bottom) than seamount habitat proposed to protect. The sensitivity section made extensive use of peer-reviewed literature. However, there is little specific information cited that pertains to the proposed protected areas. Citations on deepwater corals often are inappropriate given the diversity of listed pinnacles.

Seamounts are rare features based on their area size. Seamounts are unique because they are shallow areas in an otherwise deepwater, oceanic area and they concentrate plankton in an otherwise low productivity area.

#### *Other comments*

The proposal did not specifically consider golden king crab fishing and hook-and-line fishing.

The remaining additional commentary for proposal 3 is identical as that for the previous proposal (#2). The shotgun approach of listing all of the pinnacles likely masks the importance of some of the pinnacles. The pinnacles likely are diverse habitats, are found in the photic zone, and likely harbor diverse species. The proposal would be greatly improved by separating the seamounts from the pinnacles and describing specific pinnacles, which likely are better known because they're closer to the surface and nearer to shore.

Many of the listed pinnacles are close to the 3-mile State waters limit. A two mile radius protected area likely would infringe upon State waters.

The proposal is vague as to what gears besides bottom trawl would be limited and therefore it is difficult to evaluate the effects of this proposal.

## **Proposal 4, NOAA Fisheries, Named seamounts on NOAA charts**

### *Scientific/Technical merit*

No vulnerable life history stages of fish or habitat reproductive associations are definitively documented in this proposal. However, the reviewers note that local populations of some species (e.g. scarlet king crab, golden king crab) could be reproductively isolated but this is difficult to determine without specific genetic data.

### *Ecological merit*

High species diversity because seamount flanks span great depth range. Role of seamounts for fish and plankton (concentrating effect) are documented. Seamounts are rare features based on their area size. Seamounts are unique because they are shallow areas in an otherwise deepwater, oceanic area and they concentrate plankton in an otherwise low productivity area.

### *Sensitivity*

Sensitivity of habitat to fishing is not documented sufficiently to scientifically evaluate this aspect of the proposal.

### *Stress*

The proposal authors state that little fishing occurs; however, they should specifically document this statement.

### *Concepts for further evaluation*

The method of choosing the boundaries of the protected areas is unclear. For example, Marchand area covers depths to 1805 fm whereas the Patton area covers depths only to about 92 fm (proposal p. 9).

## **Proposal 23, NOAA Fisheries, Eight Fathom Pinnacle in the Gulf of Alaska**

This pinnacle is rare and unique as a shallow water, kelp forested, offshore pinnacle.

### *Ecological importance*

Role of this shallow water, offshore pinnacle is documented. Habitat diverse and vertical structure, substrate is notable, but no vulnerable life history stages or habitat reproductive associations noted.

### *Sensitivity*

Habitat or structure is somewhat sensitive to fishing because kelp forest is adapted to regeneration after winter storms in contrast to slow-growing corals.

### *Stress*

The proposed protected area is within existing fishing areas and subject to perturbation from storms (wave action).

### *Scientific/Technical merit*

The Teams felt that the level of information provided was good and allowed an objective evaluation of the proposed protected area.

### *Concepts for further evaluation*

Are any FMP species present? Is the presence of FMP species relevant for the rating of the proposal?

### *Ecological merit*

The rarity mostly is due to the presence of a kelp forest a long distance from shore that is different from the adjacent habitat and the presence of black rockfish typically associated with near shore, shallow habitat.

## **Group B Deep Water Canyons, proposals 20, 21**

The areas defined in these proposals were introduced as being similar in some respects to seamounts (albeit inverted).

### **Proposal 20, BS Zemchug and Pribilof Canyons**

Zemchug canyon appears to have higher biodiversity than Pribilof but both are considered to be in the “green belt.” There were concerns about the proposal’s description on the location of Pribilof canyon. Ecological importance was well described and ecological function is clearly high.

### *Sensitivity*

The sensitivity of habitat to human-induced degradation was poorly documented. Some statements regarding sensitivity are not well supported in the text of the proposal. The “Mushroom area” experiences fishing pressure and therefore falls well within core fishing areas. The Zemchug canyon may be less susceptible to disturbance than the Pribilof canyon. It was noted that there is limited data on coral bycatch in this region.

### *Ecological merit*

Golden king crab and other crab species occur in both canyons. The importance of these areas on these species’ life histories is unknown. The authors provide a good argument for why that area is important but the Teams noted that these are not presently on the list of the Council’s priorities.

The Teams discussed how canyons qualify as being “rare.” For the Eastern Bering Sea, there are only two and it was noted that worldwide, canyons such as these are relatively uncommon. The degree to which these canyons are unique was argued without firm resolution.

### *Stress*

These areas are routinely fished. Longline fisheries routinely operate in Zemchug canyon as do snow crab fisheries (fish down to 150 fathoms).

### *Other comments*

Discussion of rating the ecological importance centered on the highly diverse vertical structure and prey base. The proposed management measures (e.g., 15 mile radius no-take zone) were considered important to provide protection of the midwater zone. It was noted that there are difficulties using this for ranking since vulnerable life history stages and/or reproductive associations were not established. It was noted that although these do not necessarily meet Council priorities but these may be important to other priorities and meet EFH final rule.

### **Proposal 21, GOA Prince William Sound Deep Water Canyon**

This proposal fails to address Council priorities.

The Teams felt this proposal was low in terms of merit and recommended dropping it from further consideration. Among the problems were that the HAPC fell within internal waters (not federal).

Fishing in this area includes a limited pollock trawling (less than 1 week per year), shrimp fishing, and small-boat (<60ft) sablefish fishery. Based on this, the Teams considered this area to be routinely fished.

### **Group C GOA Hard corals, proposals 5,6,7,8**

#### *Comments*

Proposals 5,6, and 7 are similar in content and scope. However, given that much of the information on coral and habitat use by rockfish was anecdotal, it was difficult for some reviewers to provide accurate scores within the framework of the provided matrix.

### **Proposals 5, 6, & 7 GOA sites (Sanak Island, Albatross Rockfish, Middleton)**

#### **General comments**

The Teams note that these proposals fail to meet the Council's priorities since HAPC sites are neither seamounts nor in Aleutian Islands area and only loosely establish an association between rockfish and habitat.

The lack of definitive information on the existence of coral within the proposed areas limited the ability to review these proposals. Reviewers found merit in the general concept of rockfish abundance evaluation and submersible mapping. However, there was a lack of information in the proposal as to what a HAPC designation would accomplish. The Teams acknowledged that impacts to the fishing fleets would be minor with the adoption of these areas as HAPC. There was a general lack of habitat use and coral abundance information within these proposals; this lack of data hampers the Teams' ability to recommend these proposals be considered further by the Council. The NMFS trawl survey data may help determine if corals are indeed present within the proposed areas and might be the worth further evaluation.

The Teams felt that the proposals deserve merit based on the experimental design approach to learn more about how rockfish utilize habitat. These proposals fail to demonstrate that there are any corals in this area. The proposals documented the presence of rockfish but no coral association.

There was a lengthy discussion on how these sites should be classified for rarity. One viewpoint is that the area is generally untrawlable and relatively common, particularly in the GOA. Another view was that the untrawlable area in the GOA slope area is unique and rare. The Teams concluded that more clarification and guidance would be required to adequately specify the level of rarity for this type of habitat.

#### *Ecological merit*

This assessment was difficult given available information presented in the proposal.

#### *Sensitivity*

Sensitivity was also difficult to evaluate from available information presented in these proposals. If corals were actually documented, then the sites listed in these proposals would be sensitive.

#### *Stressed*

These sites are considered to be occasionally fished (though the degree to which longline vessels fish these areas was poorly documented).

## **Proposal 8, GOA Primnoa Forrest**

There was some discussion that the proposal fails to meet the Council priorities. However, the Teams felt that it should be highlighted since rockfish are apparently abundant. Also, the sites are relatively undisturbed and occur outside core fishing areas.

### *Scientific/Technical merit*

The Teams found this proposal to have a high degree of scientific and technical merit. Direct observations of corals and rockfish have occurred from submersibles and the proposed HAPC sites seemed appropriate.

### *Ecological merit*

The Teams found this proposal to have a high level of ecological merit since the presence of corals and rockfish was documented. Rarity of Primnoa habitat was discussed at length. This work was based on a sub-set of work and characterizing it as the most important area may be premature. It was pointed out that high densities of Primnoa (as described for this proposal) might be rare elsewhere (while the organism itself may not be).

### *Stress*

These areas are already closed to trawling, hence the question of whether it automatically gets a lower rating was raised. Since Council guidance did not specify the type of fishing activity, the Teams interpreted any fishing activity (e.g., fixed gear such as longline and pots) in considering the degree of stress.

## **Group D AI Hard Corals, proposals 9,15,16,17**

### **Proposal 9 Adak Canyon**

For this proposal, the Teams felt that the HAPC covered a broad area that included regions that likely have limited ecological importance and sensitivity (e.g., the very deep-water portion).

### *Ecological Importance*

The region covered in this proposal has a high degree of ecological importance both for juvenile SR/RE and for golden king crab, important FMP species. It was noted by a reviewer that golden king crab species are found normally at depths coincident with high profile corals and both golden king crab populations and fishing for golden king crab occurs to some degree in all of the proposed areas in the AI.

### *Sensitivity*

Since hard, cold-water coral are easily damaged and apparently have long recovery periods, the sensitivity of the area covered in this proposal is considered high.

### *Stressed*

Using the Council's priority for this aspect, the proposal demonstrates that the habitat (at a significant but unknown fraction of the region) is moderate and exposed to occasional fishing.

### *Scientific/Technical merits*

This proposal is technically quite good and the management measures seem proactive and appropriate. Estimates on the percentage of current "critical areas" would have allowed better rationale to judge the scale of the proposed management area.

### *Ecological merit*

The Teams felt that the ecological merit was high due to coral and rockfish found in this area. The question of biological diversity rather than ecological function was discussed (this site would likely fit in the former). This region is ecologically important for rockfish and golden king crab.

### *Other comments*

The management objectives outlined in this proposal focus on research and relatively limited restrictions on fishing. The Teams supported the concept of cooperative research that will lead to better information on the role of habitat and stock productivity.

## **Proposal 15 South Amlia/Atka**

This proposal refers to a number of technical aspects of a draft EFH EIS that was unfamiliar with the majority of the Plan Team members. This added to the difficulty in assessing whether the proposal warranted further consideration.

### *Ecological Importance*

The region covered in this proposal was considered *likely* to have a high degree of ecological importance. However, the authors did a poor job of providing the background information required to satisfy this criterion (note that they do not check the box for ecological importance, hence this is not necessarily a shortcoming of the proposal).

### *Sensitivity*

Since hard, cold-water coral are easily damaged and apparently have long recovery periods, the sensitivity of the area covered in this proposal is considered high. However, the supporting evidence is weak and limits the degree to which these HAPC can be judged.

### *Stressed*

Using the Council's priority for this aspect, the proposal demonstrates that the habitat (for a significant but unknown fraction of the region) is fished rarely to moderately. For this reason, the Teams had difficulty assigning a single value to this

### *Scientific/Technical merits*

This proposal is technically deficient. The authors rely on anecdotal knowledge of unnamed fisherman. While this may be appropriate, links to better establish credibility are needed. Listing the fishermen's names would help to allow follow up the information.

### *Ecological merit*

The Teams felt that the ecological merit was high due to the *likely* presence of coral and rockfish found in this area. The extent of these species presence was not well documented.

### *Other comments*

The Teams felt that the management measures were noteworthy and appeal to the need for more research. However, they questioned the appropriateness of claiming an area as HAPC solely for the purpose of determining if the area should be declared HAPC.

## **Proposal 16 Adak and Kanaga**

This proposal refers to a number of technical aspects of a draft EFH EIS that was unfamiliar with the majority of the Plan Team members. This added to the difficulty in assessing whether the proposal warranted further consideration.

### *Ecological Importance*

The region covered in this proposal was considered *likely* to have a high degree of ecological importance. However, the authors did a poor job of providing the background information required to satisfy this criterion (note that they do not check the box for ecological importance, hence this is not necessarily a shortcoming of the proposal).

### *Sensitivity*

Since hard, cold-water coral are easily damaged and apparently have long recovery periods, the sensitivity of the area covered in this proposal is considered high. However, the supporting evidence is weak and limits the degree to which these HAPC can be judged.

### *Stressed*

Using the Council's priority for this aspect, the proposal demonstrates that the habitat (for a significant but unknown fraction of the region) is fishing is rare to moderate. For this reason, the Teams had difficulty assigning a single value to this

### *Scientific/Technical merits*

This proposal is technically deficient. The authors rely on anecdotal knowledge of unnamed fisherman. While this may be appropriate, links to better establish credibility are needed. Listing the fishermen's names would help to allow follow up the information.

### *Ecological merit*

The Teams felt that the ecological merit was high due to the *likely* presence of coral and rockfish found in this area. The extent of these species presence was not well documented.

### *Other comments*

The Teams felt that the management measures were noteworthy and appeal to the need for more research. However, they questioned the appropriateness of claiming an area as HAPC solely for the purpose of determining if the area should be declared HAPC.

## **Proposal 17 Amatignak/Alak**

This proposal refers to a number of technical aspects of a draft EFH EIS that was unfamiliar with the majority of the Plan Team members. This added to the difficulty in assessing whether the proposal warranted further consideration.

### *Ecological Importance*

The region covered in this proposal was considered *likely* to have a high degree of ecological importance. However, the authors did a poor job of providing the background information required to satisfy this criterion (note that they do not check the box for ecological importance, hence this is not necessarily a shortcoming of the proposal).

### *Sensitivity*

Since hard, cold-water coral are easily damaged and apparently have long recovery periods, the sensitivity of the area covered in this proposal is considered high. However, the supporting evidence is weak and limits the degree to which these HAPC can be judged.

### *Stressed*

Using the Council's priority for this aspect, the proposal demonstrates that the habitat (for a significant but unknown fraction of the region) is fishing is rare to moderate. For this reason, the Teams had difficulty assigning a single value for this criterion.

### *Scientific/Technical merit*

This proposal is technically deficient. The authors rely on anecdotal knowledge of unnamed fisherman. While this may be appropriate, links to better establish credibility are needed.

### *Ecological merit*

The Teams felt that the ecological merit was high due to the *likely* presence of coral and rockfish found in this area. The extent of these species presence was not well documented.

### *Other comments*

The Teams felt that the management measures were noteworthy and appeal to the need for more research. However, they questioned the appropriateness of claiming an area as HAPC solely for the purpose of determining if the area should be declared HAPC.

## **Group E     AI Hard Corals**

### ***General comments***

These three proposals are diverse in terms of scale and data sources, and usefully illustrate some of the problems we had as a team in evaluating the proposals and attempting to fit them within the criteria for review. First, it was difficult in general to evaluate proposals for certain information (e.g., global rarity) when the proposers had not been specifically told to provide it. Second, the different scale of areas outlined in the proposals combined with a general lack of information about benthic habitats in Alaska and with a lack of clarity in objectives for establishing HAPC areas made the process generally difficult, and maintaining consistency in evaluating proposals nearly impossible.

There are some general concepts that warrant further discussion which may not be captured in the following description of our assignment of ratings. The first is of scale. If we are concerned with a particular habitat area (or type within a particular area) then it seems as though a small and specific area should be outlined using best available information (this appears to be the approach of proposal 19). However, if we are concerned that there are lots of habitat types within a general area that we suspect meet the criteria outlined by the council but we have little specific information, and we want to further protect unknown but perhaps important habitat connectivity, or a suite of habitats that together are more important than the isolated pieces themselves to the ecosystem, then we should outline large areas (the approach of proposal 10). Proposal 18 takes a middle ground approach which protects narrower areas than the large block in proposal 10 but with much less specific information than that used in proposal 19. This approach, of protecting moderately large areas outlined by the combined experience of fishermen who arguably have the most direct experience with these habitats of anyone involved in the process, should be considered despite the "anecdotal" nature of the information provided in the proposal which some reviewers found far less credible than survey information.



## **Proposal 10, AI Bowers Ridge**

Habitat in this big an area is likely to be highly varied in type and therefore likely found commonly in Alaska regions with high bathymetric variability; the AI and the GOA.

### *Scientific/Technical merit*

The Teams felt that the technical merit for this proposal was high. However, given the diversity of habitat and size of the proposed HAPC, it was difficult to provide unambiguous conclusions. No information on fish abundance or coral abundance was provided. The proposal fails to provide any analysis or evaluation or methods for monitoring. The implication that the whole area of Bowers Ridge is coral habitat seems unlikely.

### *Ecological merit*

We decided that this was not possible to evaluate over an area this large in a comparable way that we evaluated the other proposals. (The same logic was used in ranking the ecological importance for GOA pinnacles in proposal 2 and the AI HAPC that resulted from closing all but core trawling areas to trawling in proposal 22.) While it is nearly assured that some portions of the area outlines would rate 3 for ecological importance, it is equally likely that other areas would not. Since our instructions were to apply ratings to habitat types, we felt our only options were to attempt to average ratings based on the areal coverage of different habitat types with different importance or to say that ecological importance was not possible to evaluate. Given that there was not information on areal coverage of habitat types in this area, we chose the latter option.

We noted that this method of rating leaves aside an important discussion on the importance of protecting not just habitat types, but also connected mosaics of habitat types of differing ecological importance and sensitivity. There is certainly merit in the approach of protecting large areas containing multiple habitat types, even if it is uncertain exactly what they are, especially if they are relatively undisturbed. However, it was the general feeling of the reviewers (and the Plan Team) that the HAPC designation was designed to be applied to discrete areas of known and relatively homogenous habitat characteristics. The approach of protecting large heterogeneous areas containing many habitat types might be more appropriately applied as a general Marine Protected Area or other management measure than a HAPC.

None of this means that Bowers Ridge is not an ecologically important area, we certainly do not mean to imply that. It simply means that the information we had for it as presented within the framework of the HAPC process made us unable to evaluate it.

### *Sensitivity*

See above discussion. In short, this large area likely contains such a range of habitat types with variable sensitivity that we were unable to assign a rating.

### *Stressed*

This region is thought to have a low level of fishing effort. However, given the large area, there could be differential fishing pressure on some portions.

### *Other comments*

We found this proposal difficult to evaluate scientifically. No information on habitat types on Bowers Ridge is presented, primarily because little exists. The logic is that places in the Aleutian Islands with similar bathymetric features contain some coral and rockfish habitat identified in the Council priorities, so Bowers Ridge probably does too. While this may be true, it does not seem in keeping with the type of information required for HAPC designation as we understand it.

The management measures were not well defined and the rationale behind the shapes proposed was not explained. Presumably these alternative area definitions were done to be responsive to perceived monitoring and enforcement needs.

The two options for different boundaries are not discussed. They should be if we are to evaluate them.

One concept for further evaluation would be to evaluate the merit of protecting large relatively undisturbed areas containing multiple unknown habitat types (but perhaps not as HAPC?).

## **Proposal 18, AI Semisopchnoi**

Coral with associated rockfish are found in the GOA as well as in the AI.

### *Scientific/Technical merit*

This proposal had similar issues due to the reliance on fishermen's information. They propose that submersible mapping be done later to delineate areas to close. Also, they propose that experiments be done in the Bowers ridge area, both in fishing and no fishing areas to understand effects. Don't we already know the effects? This just sounds like want to keep open as much area as possible in contrast to #10 which suggests closing the whole area, without really any information on where the unique areas are. Information utilized in the proposal was fishermen's knowledge of where coral areas are in contrast to proposal #19 which utilized only information from submersible dives.

### *Ecological merit*

We assumed that dense stands of corals exist in the areas identified by the fishermen surveyed as they report; therefore, these areas would have the highly diverse vertical structure and likely associations with vulnerable life history stages of FMP rockfish warranting a rating of 3. We note, however, that the proposers did not even attempt to attest to the ecological importance of these areas to rockfish in their proposal; they simply identified areas of dense coral stands.

### *Sensitivity*

We assume that the dense stands of high relief coral reported to be in these areas would be quite sensitive to the effects of fishing, but this rating is based on weak evidence.

### *Stressed*

We separated our rating into one for the Semisopchnoi area and one for the Bowers Ridge area identified in the proposal, because we felt they had different fishing histories and warranted a different rating.

Occasionally to routinely fished (Semisopchnoi). The Semisopchnoi area is currently part of a closure for Stellar Sea lions and so has limited fishing for atka mackerel, cod, and Pollock. However, other fishing is allowed there and the area is an important region for the golden king crab fishery.

The Bowers ridge area has no fishing restrictions, however it has had historically limited fishing. There is some rockfish catch in the region however this was considered to be of limited importance. There is also intermittent fishing for golden king crab in this area.

The areas are identified by fishermen, so at least the adjacent areas are routinely fished. However, assigning this rating is difficult for the coral stands themselves. We heard public comment during the meeting that most of the fishermen choose not to fish in these areas because of the density of coral (although perhaps more to conserve fishing gear than habitat), so the areas might be relatively undisturbed relative to the heavily fished non coral habitats immediately adjacent.

While some reviewers criticized the data quality used in this proposal because it is “anecdotal;” many reviewers felt that information based on fishermen’s collective experience is extremely useful, especially when complemented with other information sources. What this information may lack in specificity compared with a trawl survey or sub survey, it more than makes up in sample size and spatial coverage. The lack of specificity of the information was recognized by the proposers, who recommended additional sub survey work in these areas to quantitatively describe the sites and evaluate whether a final HAPC designation should be made based on this supplemental information.

*Ecological merit:*

At least one reviewer questioned the motivation for including areas already in a Steller sea lion closure as being more motivated by economic and managerial considerations rather than ecological considerations. It was also commented both by some reviewers and during the Plan Team meeting that the proposers “are proposing HAPCs and then proposing research to determine if they should be HAPCs,” which reflected on the lack of specific information that the proposers themselves admit.

*Other comments:*

Combination of this approach with approaches for defining HAPC based on alternative data sources may ultimately prove most efficient than attempting to use any one source. Incorporating information from those who spend the most time in the system in a more quantitative way is certainly valuable.

**Proposal 19, AI coral gardens**

The coral gardens are a subset of coral habitat found commonly within the Aleutians; this was reflected in the proposal. Jon Heifetz stated in the meeting that all of the dive sites were selected based on the likelihood of finding corals, so the fact that “coral gardens” habitat was found in a small subset within this already selective sample of habitats attests to the local rarity of the habitat type. It was apparently not observed in any other FMP areas, where there is admittedly more limited sampling with sub surveys.

*Scientific/Technical merit*

This proposal received a high technical/scientific merit rating because of the established link to scientific dive sites supplemented with fishery information.

*Ecological merit*

The proposal documents many FMP species and several life history stages of those species in association with the coral gardens, as well as gravid females of at least one species. The areas are also suggested to be aggregation areas for fishes and high relief feeding areas for invertebrates, and perhaps important sites of nutrient cycling due to the presence of high densities of filter feeding invertebrates such as sponges. These are direct visual observations of the areas and are therefore considered strong evidence.

There was some question on how much coral coverage should be considered for ecological sensitivity. The authors used all available dive sites and picked the “best of the best” for consideration. They note that dive site selection was pre-specified to be in areas with rich features (i.e., the dive sites were not randomly selected within the Aleutian Islands). Brown crab and other fisheries operate in these areas (in particular, the Semisopchnoi site). The Teams concluded that all the areas of this proposal are routinely fished.

Direct observation of the habitat types is the strongest evidence that can be presented to argue for the special nature of these habitat areas. The fact that this habitat type was not found on all sub dives designed to find general coral habitat attests to their rarity.

### *Sensitivity*

The species observed in these areas are known to be long lived and slow growing, and also fragile in the case of high relief coral. They are therefore expected to be highly sensitive to fishing from a population standpoint (slow recovery time) as well as from physical damage.

### *Stressed*

Regularly fished. While the relatively high relief locations of the coral gardens appear undisturbed by trawl fishing activities, the proposal states that some groundfish and king crab fishing occurs regularly in the vicinity of the identified areas, and that derelict longline gear was observed in the areas.

### *Overall ecological merit:*

The proposal makes a convincing case that the areas observed are special, even within the already coral-rich Aleutian Islands area.

### *Other comments:*

Combining submarine research with information presented in other proposals might represent the strongest overall approach for outlining HAPC. The review team wondered why draw the line at 100% coverage of benthic invertebrates—could habitats with lower coverage be similarly important? This is an open question. During the Plan Team meeting it was commented that protecting these discrete areas may not represent much of an advantage to larger stocks of fish; this approach was called a “piecemeal” approach in contrast to an approach covering larger areas. The council should decide which approach is more appropriate to the HAPC process, as it was unclear to the Plan Team which would be more useful without clearer management objectives.

Additionally, the proposal would be improved by providing a map showing where all dives were conducted to evaluate the coverage of the area. It was difficult to determine how good the sampling was - are there more sites that have not been explored? How were these sites selected to be observed? How much of the coral habitat is this protecting? What is the optimum size for the closed areas? How do we know that these areas cover the extent of the coral habitat in that location if only one dive occurred in the area?

## **Group F**

### **Proposal 12, AI Marine Reserve**

There was a discussion amongst the Plan Teams of the degree of rarity of this habitat type in the Aleutian Islands. Following debate the specific corals in the regions were determined to be locally rare due to the diversity of corals in the region and particularly the rare species being identified from this region. It was discussed that the evolutionary origin of cold water corals for the entire world is in the Aleutian Island region. Concern was expressed however regarding the size of the HAPC proposed in this area as it covers a large area of habitat and thus could encompass areas where these corals are not found which influences the degree of local rarity

### *Scientific and technical merit*

The proposal is weak in scientific and technical justifications for designating the proposed areas as marine reserves. Neither the number nor the boundaries of proposed closed areas are justified in the proposal. The areas chosen for marine reserves are according to Alternative 6 of the EFH EIS. Thus, this proposal merely supports an Alternative of the EFH EIS that suggests that marine reserves should be designed around areas with identified presence of habitat such as high relief coral, sponges, and sea onions, with emphasis on areas with notable benthic structure and/or high concentrations of benthic invertebrates.

Many strong statements are made without supporting documentation. For example, the rarity of the habitat is asserted but not proven. The discussion of rarity is really about biodiversity. As another example, the proposal refers to the affected ecosystems both as pristine and as deeply impacted by previous fishing. In the event that this proposal is carried forward, all concepts within the proposal should be evaluated further.

#### *Ecological merit of this proposal:*

Although it is intuitively acceptable that protection is good against human activities that physically wrecks benthic resources of corals, sponges, sea onions, etc., any ecological harm of such destruction has not been proven. Nonetheless, the proposal has reasonable overall ecological logic as marine reserves can be an important component of conservation. The size of marine reserves is an important consideration. It is not known what size of marine reserve would be necessary to provide for fish stock protection. Therefore implementation of marine reserves needs to have valid assumptions concerning the area utilized by species of interest to ensure that they will be protected.

#### *Stressed*

The habitat type was determined to fall under the routinely fished category. However the relative scale of the HAPC area calls into question the ability to determine a single category of stress for the entire area as some regions within this may be routinely fished while others may less so.

#### *Other comments*

There is a tendency to want special protections to what are intuitively sensitive biological areas; but there should be facts and science to support why designation of marine reserves is the best solution for conservation. Beyond that, there is also need to scientifically define the geographical extent of these reserves.

### **Proposal 14, AI Core bottom trawl area**

This proposal represented a unique approach to HAPC design. While the Plan Teams appreciate the innovative concept, it was inherently difficult to evaluate this type of proposal within the context of the others. Nevertheless the Plan Teams discussed the scientific and technical merits of this approach and this proposal.

#### *Scientific and technical merits*

The limited amount of knowledge that exists on the abundance and distribution of Alaskan corals, sponges and other living substrates, and their role as habitat for other species, are the major weaknesses of this proposal. The abundance or rarity of the habitat is relatively unknown, and the ecological relationships that probably exist between the corals, sponges (and other living substrates) and different life history stages of commercially harvested fish and crabs, remain almost entirely unsubstantiated.

The authors of the proposal have conducted considerable analysis of spatial trawling effort and harvest values by area; but based on selected narrower scope of the data. The proposals utilizes the NMFS-Observer data from the recent 12-year period (since 1990) to show where fishing has taken place in the Aleutians. Out of 27,600 km<sup>2</sup> where fishing had taken place since 1990, the proposal suggests that the core fishing areas should only be 5,500 km<sup>2</sup> as these areas accounted for 82% of the catches and 75% of the observed hauls. The area is only 20% of the entire areas fished from 1990. In the Aleutian region, fishing since 1990 has actually been significantly lower than the periods prior to 1990; particularly when foreign fisheries were active in the Aleutians. Thus the percentage of the core fishing area would be substantially lower than 20% of all fishable grounds in the Aleutians

The Aleutian Islands region is composed of island features of high-relief, complex vertical structures and complex benthic communities (like deep sea and cold water coral gardens) and other biological organisms. Little is scientifically known of the benthic habitat and the area has not been comprehensively mapped. This proposal uses a very limited data source to draw a conclusion to close off a massive area that is more than 80% of recent areas fished.

#### *Overall ecological merit*

One reviewer says that “Although I am chagrined by the use of superlatives and unsubstantiated claims of ecological values of certain substrates and its rarity, the basis of the proposal is sound and it merits additional evaluation.”. The logic of this proposal needs probing analyses: rather than defining closed areas, this proposal defined some core fishing areas and closed off the rest of the Aleutian area. As such, the entire Aleutian region will be closed to fishing unless the areas are mapped and scientifically proven that fishing will not harm the habitat. This will demand an unrealistically large burden of proof to have future fishing areas opened up.

#### *Stress:*

The entire Aleutian Islands area has been routinely fished.

#### *Other comments:*

The Teams had trouble evaluating this proposal given its’ peculiar nature. The Teams decided to treat this proposal similar to how other very large area proposals were evaluated (e.g., Adak and Pinnacles) leading to an inability to adequately establish numbers for these categories. The Teams discussed the philosophical difference in this proposal, and the nature of reversing the burden of proof in order to reopen areas, and questioned the appropriateness of this proposal in the current process. The Teams understand that the Council has a wide latitude for describing HAPCs and that if a proposal has technical merit the Council is not limited from pursuing it. However, given the difficulty inherent in evaluating a proposal of this nature, the Teams felt that this proposal was currently out of order with respect to the other HAPC proposals under review.

## **Group G**

### ***General comments***

The two proposals focus on the same areas (5) in the Aleutian Islands that have had NMFS research and documented coral gardens. Some of the overall comments of the reviewers apply to both proposals. NMFS proposal #19 also addresses the same areas.

#### *Scientific /Technical Merit:*

The overall scientific merit is limited to observational data from the NOAA submersible research. There is no direct link with FMP species however golden king crab fishing, as noted in previous proposals, occurs to some degree in all AI areas proposed. Corals are also known to be long lived and sensitive to fishing impacts. The proposals directly addresses one of the Council’s identified priorities of largely undisturbed, high relief, long lived hard coral beds in the AI. However some of the documentation in both proposals is lacking. NMFS #19 is similar to these two proposals and should these be carried forward that would be evaluated together.

#### *Stress:*

Two of the sites are relatively unfished, however, the two eastern most (Bobrof and Adak Is) areas located where some commercial fishing occurs, and thus are relatively disturbed.

The information within the proposal to determine if it is largely undisturbed and occur outside core fishing areas has not been adequately provided. Only groundfish observer data was shown which may bias the review.

#### *EFH Considerations:*

Rarity of corals or coral garden areas within the Aleutian Islands has not been documented. Most reviewers indicated that cold water corals were rare on a global scale however one reviewer indicated that they are found throughout the world (not rare)

Corals themselves are vulnerable and sensitive, but the link to the ecological role these corals play in the life history of FMP managed species is not documented. Anecdotal data does suggest it may have some ecological merit to protect nursery area to FMP species and permanent habitat (vertical structure) to other species.

It was difficult to do some of the overall rankings since three of the sites are relatively undisturbed and two are relatively disturbed.

#### *Other comments*

Need to coordinate with the state to see if the management for these areas would fall within their realm since some of them are within the 3 mile to land.

It is not documented in how large a closure would need to be around a coral bed to afford it adequate protection.

### **Proposal 11, AI coral and sponge**

#### *Scientific and technical merit*

The proposal lacks merit from a scientific and technical perspective. There is little research that substantiates a proposal of this type. The proposal suggests that the closed areas could be used as control areas in a study. No study design or areas where experimental treatments will be applied is proposed. The proposal states that the areas suggested for closure are pristine and that fishing gear contacting the bottom damages these habitats. Perhaps little bottom contact fishing has occurred in the proposed areas possibly negating the justification for a closure. An alternative approach would be to close areas that have impacted more heavily by bottom contact gear. No justification is made for the size of the closed areas. Commercial fishery landings data from the 2001, 2002 and 2003 seasons indicate that at least 2-4% of the state waters sablefish harvest and 4-9% of the Aleutian Islands golden king crab harvest has come from the areas proposed for closure. The closures could displace vessels and contribute to increased gear conflicts and habitat damage in other areas. Rarity is not addressed under the rarity section, but discusses biodiversity. There is no justification of the boundary of the closure size.

#### *Ecological merits*

The goal of protecting largely undisturbed concentrations of rare or uncommon corals and bryozoans in the Aleutian Islands has some ecological merit. Because of the small size of the proposed closed areas, and the migratory patterns of fish and larval drift these areas seem to be of limited value as essential fish habitat. The proposed areas may contain unique and important populations of corals, sponges and other sessile marine invertebrates, but they are not unique habitat for commercially important fish and shellfish in the Aleutian Islands. We find important habitat throughout the Aleutian Islands. Much of this habitat is currently in a de facto marine reserve because of depth and bottom topography that renders the areas unfishable.

### *Other comments*

There may be some merit in protecting concentrations of corals and sponges for their own intrinsic value, but the small areas suggested by this proposal are likely to provide little benefit in terms of protecting essential fish habitat. HAPCs and marine reserves should be addressed in terms of ecosystem management rather than this piecemeal approach. Unfortunately, the general lack of data on coral and sponge populations in the Aleutian Islands makes it difficult to evaluate proposals of this type

## **Proposal 13, AI coral gardens**

### *Scientific and technical merit*

The scope of this proposal is broad and lacks important specific details. From a scientific and technical perspective the proposal lacks justification. The boundaries of proposed closed areas are not justified in the proposal. The proposal suggests that the entire Aleutian Islands should be designated as a Special Management Area (SMA), but does not define the term nor what management steps would be taken in developing the SMA.

### *Ecological merits*

The goal of protecting largely undisturbed concentrations of rare or uncommon corals and bryozoans in the Aleutian Islands has some ecological merit. The proposed areas may contain unique and important populations of corals, sponges and other sessile marine invertebrates, but they are not unique habitat for commercially important fish and shellfish in the Aleutian Islands. We find important habitat throughout the Aleutian Islands. Much of this habitat is currently in a de facto marine reserve because of depth and bottom topography that renders the areas unfishable.

### *Other comments*

There may be some merit in protecting coral gardens for their own intrinsic value, but the small areas suggested by this proposal are likely to provide little benefit in terms of protecting essential fish habitat. HAPCs and marine reserves should be addressed in terms of ecosystem management rather than this piecemeal approach. Unfortunately, the general lack of data on coral and sponge populations in the Aleutian Islands makes it difficult to evaluate proposals of this type.

## **Group H      BS Soft Corals**

### **Proposal 22, BS Soft coral**

The Teams found that this proposal use poorly supported arguments for declaring a HAPC and failed to meet Council priorities. However, they used valid qualitative reasoning to consider this type of habitat.

This proposal submitted by Oceana proposes to create HAPC's at two areas in the Bering Sea to protect soft corals (*Gersemia* sp.). One area encompasses 8,800 km<sup>2</sup> east of the Pribilof Islands and the second area encompasses 2,000 km<sup>2</sup> northwest of Unimak. The areas would be used for studies to evaluate the effects of fishing gear on the soft coral habitat and ecology. This proposal also creates one HAPC area to protect the Medny Seamount. The review group sees two components in this proposal that perhaps should have been treated in separate proposals. As such we have chosen to review them separately.

The Medny Seamount is not located within the US EEZ. Coordinates for the seamount location confused the longitude putting the seamount in the Bering Sea instead of in Russian waters. As such, the likelihood of these seamounts providing habitat for important species is not known. Also, rationale for the area of closure was not given. Too little is known about the seamount and no rationale was stated for the closure; therefore the proposal had very little scientific merit. Thus, the Plan Teams had no further discussion on Medny seamount.



With respect to the Bering Sea soft corals *Gersemia sp.*, this proposal does not meet Council priorities because it addresses soft corals instead of hard corals. These sites have a small amount of rockfish catch suggesting that they meet the Council priorities of limited fishing disturbance and positive association with managed rockfish. The site nearest the Pribilofs appears to have large amounts of coral/bryozoa catch according to NMFS observer data although it is not known if this is large relative to what may be available. The soft corals provide low relief structure which *may* promote ecological diversity. However, little information or supporting data is presented to establish the benefit of these soft coral beds to fish communities (esp. rockfish). The justifications given for creating these HAPC's were based on general literature without focus on the *Gersemia sp.* in particular. Furthermore, relative importance of this habitat is difficult to ascertain due to a lack of data outside the proposed regions. The discussion of costs due to this closure action does not exist in the proposal except to say it will be "minimal".

Plan Team members noted many inconsistencies in the bycatch data provided for Box 2 of the proposal. These inconsistencies were also reiterated by members of the public present.

Overall the scientific merit of this proposal is weak due to limited data and no evidence to support the arguments made.

#### *Ecological Merits:*

The reviewers agree that data is too limited to properly evaluate the ecological importance of *Gersemia sp.* If in fact this is a unique habitat to Alaska, it would be important to sustain its ecological function. At this point, however, there has been no demonstrated association of commercial species with this soft coral habitat. The proposed HAPC areas may help preserve the biodiversity in the Bering Sea but at substantial cost to industry. One reviewer suggested that the closure area be reduced to areas open, closed and monitored to study the impact of bottom trawling.

#### *Additional comments:*

The proposal contained a number of citation errors and the mis-location of the Mednyy seamount suggests that the proposers did not have a clear idea of what they were proposing. The Teams also expressed concerns as noted above with respect to the bycatch data provided and implications thereof for box 2 of the proposal. Given these concerns, if this proposal were to be forwarded on for analysis, it is suggested that the area delimited by box 2 be excluded from the HAPC proposal.

## Tables

Table 1. Summary of Plan Teams' classification for seamounts. NOTE: see Plan Teams' concerns in introduction for a discussion on problems with interpreting this table.

Plan Team Groups	Proposal Area	Proposer	Proposal Number	Number of Named Seamounts	Council priority (named, EEZ)	Rarity Global (Y/N)	Rarity Local	Ecological Importance	Sensitivity	Stressed	Total
A	<b>Alaska</b>	TOC	1	23	Y	Y	3	2	2	2	NA
A	<b>Gulf of Alaska</b>	Oceana	2	21	Y	Y	3	2	2	2	NA
A	<b>Aleutian Islands</b>	Oceana	3	3	Y	Y	3	2	2	2	NA
A	<b>Alaska</b>	NMFS	4	16	Y	Y	3	2	NA	2	NA

Table 2. Summary of Plan Teams' classification by group. NOTE: see Plan Teams' concerns in introduction for a discussion on problems with interpreting this table.

Plan Team Group	Proposal Area	Name of Proposer	Proposal Number	Rarity Global (Y/N)	Rarity Local	Ecological Importance	Sensitivity	Stressed	Total
A	AI Pinnacles	Oceana	3	N	2	NA	NA	NA	NA
A	GOA Pinnacles	Oceana	2	N	2	NA	NA	NA	NA
A	Kodiak 8 fathom pinnacle	NMFS	23	Y	3	2	2	R	NA
B	BS Zemchug and Pribilof Canyons	TOC	20	N	3	2	2	R	NA
B	GOA Prince William Sound Deep Water Canyon	TOC	21	N	2	2	2	R	NA
C	GOA Albatross Rockfish	AAG	6	CY	2	2	2	O	NA
C	GOA Middleton Island	AAG	7	CY	2	2	2	O	NA
C	GOA Sanak Island	AAG	5	CY	2	2	2	O	NA
C	GOA Primnoa Forrest	NMFS	8	Y	2	3	3	O	NA
D	AI Adak Canyon	AMCC	9	Y	2	3	3	O	NA
D	AI South Amlie Atka	MCA	15	Y	2	3	3	R	NA
D	AI Adak and Kanaga	MCA	16	Y	2	3	3	R	NA
D	AI Amatignak/Alak	MCA	17	Y	2	3	3	R	NA
E	AI Bowers Ridge	AMCC	10	Y	2	NA	NA	L	NA
E	AI Semisopochnoi	MCA	18	Y	2	3	3	R/O	NA
E	AI Coral Gardens	NMFS	19	Y	3	3	3	R	NA
F	AI Marine Reserve	TOC	12	Y	3	3	3	R	NA
F	AI Core bottom trawl area	Oceana	14	Y	3	NA	NA	R	NA
G	AI Coral and Sponge	TOC	11	Y	3	3	3	R	NA
G	AI corals gardens	Oceana	13	Y	3	3	3	R	NA
H	BS- Soft coral	Oceana	22	Y	2	2	3	R	NA

**Legend:**

- L = Low level of fishing
- O = Occasionally fished
- R = Routinely fished
- CY = Conditionally yes
- Y = Yes
- W = Weak information
- NA = Not available, see qualitative comments

Table 3. Plan Teams' summary for Council priorities.

Proposal Number	Proposal Name	Proposer	Sites Proposed	Council Priorities				
				Named Seamount	Aleutian Islands	Rockfish	Relative Disturbance	High Relief Coral
1	North Pacific Seamounts	TOC	23	Y	Y			
2	<i>GOA Pinnacles &amp; Seamounts</i>		73					
	GOA Seamounts	Oceana		Y	N			
	GOA Pinnacles	Oceana		Y	N	Y	R	CY
3	<i>AI Pinnacles &amp; Seamounts</i>		85					
	AI Seamounts	Oceana		Y	Y			
	AI Pinnacles	Oceana		Y	Y	Y	R	CY
4	Named Seamounts	NMFS	16	Y	Y			
5	Sanak Island rockfish	AAGF	1	N	N	Y	O	UNK
6	Albatross Bank	AAGF	1	N	N	Y	O	UNK
7	Middleton Island	AAGF	1	N	N	Y	O	UNK
8	GOA Primnoa	NMFS	4	N	N	Y	O	Y
9	Adak Canyon	AMCC	1	N	Y	Y	O	Y
10	Bowers Ridge	AMCC	2	N	Y	Y	L	Y
11	AI Coral & Sponges	TOC	5	N	Y	Y	R	Y
12	AI Marine Reserve Network	TOC	4	N	Y	Y	R	Y
13	AI Coral Gardens	Oceana	5	N	Y	Y	R	Y
14	AI Core Bottom Trawling Open Permit Area	Oceana	55	N	Y	Y	R	Y
15	South Amlia/Atka	MCA	1	N	Y	Y	R	Y
16	Adak & Kanaga	MCA	5	N	Y	Y	R	Y
17	Amatignak/Ulak & Tanaga	MCA	2	N	Y	Y	R	Y
18	Semisopchnoi & Bowers	MCA	2	N	Y	Y	R/O	Y
19	AI Coral Gardens	NMFS	6	N	Y	Y	R	Y
20	Zemchug & Pribilof Canyon	TOC	2	N	N	Y	R	Y
21	PWS Deepwater Canyon	TOC	1	N	N	Y	R	UNK
22	Bering Sea Soft Corals and Seamount	Oceana	3	N	N	N	R	N
23	8-fathom Pinnacle	NMFS	1	N	N	Y	R	N

## Group Members

Group leaders are presented in bold.

### Group A      Seamounts

*Proposals: 1,2,3,4,23*

Tory O'Connell (GOA PT)  
**Mike Sigler (BSAI PT)**  
Doug Pengilly (CPT)  
Gregg Rosenkrantz (SPT)  
Beth Sinclair (GOA PT)

### Group B      Deep Water Canyons

*Proposals: 20,21*

Kathy Kuletz (BSAI PT/GOA PT)  
Bill Bechtol (GOA PT)  
Beth Sinclair (GOA PT)  
**Tom Pearson (GOA PT)**  
Lou Rugolo (CPT)

### Group C      GOA Hard Corals

*Proposals: 5,6,7,8*

Jeff Fujioka (GOA PT)  
**Mike Ruccio (GOA PT)**  
Diana Stram (GOA PT/CPT/SPT)  
Ivan Vining (BSAI PT)  
Bill Clark (BSAI PT/GOA PT)

### Group D      AI Hard Corals

*Proposals: 9,15,16,17*

Kerim Aydin (BSAI PT)  
Sandra Lowe (GOA PT)  
**Jim Ianelli (GOA PT)**  
Jon Heifetz (GOA PT)  
Bob Otto (CPT)  
Jeff Barnhart (SPT)

### Group E      AI Hard Corals

*Proposals: 10, 18, 19*

Lowell Fritz (BSAI PT)  
**Sarah Gaichas (GOA PT)**  
Jack Turnock (CPT)  
David Carlile (BSAI PT)  
Herman Savikko (CPT/SP T)

### Group F      AI Hard Corals

*Proposals: 12, 14*

Grant Thompson (BSAI PT)  
**Loh-Lee Low (BSAI PT)**  
Tom Shirley (CPT)  
Wayne Donaldson (CPT)  
Gregg Rosenkrantz (SPT)

### Group G      AI Hard Corals

*Proposals: 11,13*

Bob Foy (GOA PT)  
**Grant Thompson (BSAI PT)**  
Forrest Bowers (CPT)  
Gretchen Harrington (CPT/SPT)  
Jeff Barnhart (SPT)  
Tom Pearson (GOA PT)

### Group H      Miscellaneous (BS soft corals)

Proposal: 22

Tom Pearson (GOA PT)  
Bill Clark (BSAI PT/GOA PT)  
**Bob Foy (GOA PT)**  
Shareef Siddeek (CPT)  
Bill Bechtol (GOA PT)

## Appendix

February 20, 2004

Dear Plan Team member,

As a member of one of the North Pacific Fishery Management Council's Plan Teams you have been requested to participate in a review of Habitat Areas of Particular Concern (HAPC) proposals. A meeting of all the Plan Teams to review these proposals will be held March 8-9<sup>th</sup>. This meeting will be held simultaneously in Seattle, Juneau, and Kodiak.

HAPC is a provision under the current Essential Fish Habitat measures that consider adverse effects from fishing on FMP species and habitat. HAPCs provide a mechanism to acknowledge areas within EFH where additional information is available regarding regional ecological functions and /or vulnerability.

An initial call for HAPC proposals in 2004 focussed on the following Council identified priorities:

1. Seamounts in the Exclusive Economic Zone (EEZ), named on NOAA charts, that provide important habitat for managed species.
2. Largely undisturbed, high relief, long lived hard coral beds, with particular emphasis on those located in the Aleutian Islands, which provide habitat for life stages of rockfish, or other important managed species. Nominations shall be based upon best available scientific information, and include the following features:
  - a) Sites must have likely or documented presence of FMP rockfish species.
  - b) Sites must be largely undisturbed and occur outside core fishing areas.

Additionally, the Council priorities specified that HAPC proposals would be required to meet rarity and one of the other of the HAPC considerations established in the EFH Final Rule: importance of ecological function, sensitivity, and vulnerability.

The Council received 23 proposals overall. The Plan Teams will evaluate these proposals for overall ecological merit, scientific and technical composition and acknowledge the degree to which the proposal addresses the Council's identified priorities. The proposals are included on a CD in this packet, as well as directions and materials for the review, and additional background materials as listed below. For each assigned proposal, you will need to submit completed tables and comments prior to the meeting in March as per the attached directions. During the March Plan Team meeting there will be a review and discussion of each proposal. Following the meeting, staff will provide a summary of Plan Team feedback on these proposals for the Council.

Thank you for your time,

Cathy Coon  
NPFMC

## DIRECTIONS FOR REVIEWERS

1. Check your group assignment (you may be assigned to multiple groups).
2. Review assigned proposals. Please discuss with your group or other colleagues as appropriate.
  - a. Fill out proposal lines in Table 1 or 2 as appropriate (additional directions below).
  - b. For each proposal reviewed, fill out a Proposal Merit form.
3. Submit review to group leader prior to the meeting. If you are the group leader, collect and summarize your group's proposal reviews, and be prepared to lead off the discussion at the meeting.
4. Read and/or review other proposals if possible.
5. Attend and participate in meeting.

## HOW TO FILL OUT THE TABLES

Tables 1 and 2

Evaluate proposal areas for rarity, ecological importance, sensitivity, and stress. Rarity is divided into global and local rarity. For global rarity, please note yes or no if the feature is considered globally rare. Use the scoring system listed below for the other indicators.

<b>Score</b>	<b>Local Rarity</b>	<b>Ecological Importance</b>	<b>Sensitivity</b>	<b>Stressed</b>
<b><i>EFH Final Rule:</i></b>	<i>The rarity of the habitat type.</i>	<i>The importance of the ecological function provided by the habitat.</i>	<i>The extent to which the habitat is sensitive to human induced environmental degradation.</i>	<i>Whether and to what extent development activities are or will be stressing the habitat type.</i>
<b>1</b>	Habitat common throughout the Alaska region: Bering Sea, Gulf of Alaska, and Aleutian Islands	Habitat is featureless or unknown; fish are present; reproductive associations with the habitat do not exist	Habitat or structure less sensitive	Habitat is exposed to routine fishing disturbance or natural perturbation
<b>2</b>	Habitat common in one of the Alaska regions, and occurs with less frequency in one or both of the others	Habitat exhibits some structure; fish are present within known substrates; habitat or reproductive associations may exist	Habitat or structure somewhat sensitive	Habitat is exposed to occasional fishing disturbance or natural perturbation
<b>3</b>	Habitat is common in only one of the Alaska regions	Habitat consists of highly diverse or vertical structure; substrate is notable; vulnerable life history stages of fish or habitat reproductive associations exist	Habitat or structure highly sensitive	Habitat is exposed to little or no fishing disturbance or natural perturbation

For Table 1 there are two parts. The first row (in bold box) is mandatory, and rates the overall proposal for all included seamounts. Additionally, if you are able to evaluate the proposed seamounts on an individual basis, then provide specific rankings in the appropriate row.

Table 3

The remaining columns under Council priorities will be filled out at the meeting. When reviewing the proposals, please keep in mind the degree to which the proposal meets the Council priorities of high relief coral areas, areas with rockfish present, and largely undisturbed areas.

**Plan Team members, state and agency staff and public in attendance by location and teleconference**

BSAI = BSAI groundfish Plan Team      GOA = GOA groundfish Plan Team  
 CPT = BSAI Crab Plan Team              SPT = Scallop Plan Team

<b>Seattle (Main meeting)</b>	<b>Juneau</b>	<b>Kodiak</b>
<p><b>Chair: Jim Ianelli (GOA co-chair)</b>  <i>Plan Team members:</i>                      Loh-lee Low (BSAI chair)                      Lowell Fritz (BSAI)                      Grant Thompson (BSAI)                      Bill Clark (BSAI/GOA)                      Kerim Aydin (BSAI)                      Jack Turnock (CPT)                      Diana Stram (GOA co-chair/CPT/SPT)                      Sandra Lowe (GOA)                      Sarah Gaichas (GOA)</p> <p><i>State and Agency Staff:</i>                      Earl Krygier                      Cathy Coon                      John Olson                      Matt Eagleton                      Kristin Mabry                      Mark Zimmerman                      Farron Wallace</p> <p><i>Additional Attendees:</i>                      Paul McGregor                      Donna Parker                      Ed Richardson                      John Gauvin                      Jan Jacobs                      Michelle Ridgeway                      Arni Thompson                      Thorn Smith                      Lisa Butzner                      Whit Sheard                      Ed Richardson                      Glenn Reed                      Karl Halfinger                      Bill Henkel                      Terry Leitzell                      Heather Ludmann                      Dave Wood                      Dave Benson                      Brent Payne                      Dave Fraser                      Katie Chamberlin</p> <p><i>Teleconference attendance:</i>                      Kathy Kuletz (BSAI/GOA)                      Tory O'Connell (GOA)                      David Witherell</p>	<p>Chair: Mike Sigler (BSAI)  <i>Plan Team members:</i>                      David Carlile (BSAI)                      Gretchen Harrington(CPT/SPT)                      Tom Shirley (CPT)                      Shareef Siddeek (CPT)                      Herman Savikko (CPT/SPT)                      Doug Woodby (SPT)                      Jeff Fujioka (GOA)                      Jon Heifetz (GOA)                      Tory O'Connell (GOA)                      Tom Pearson (GOA)</p> <p><i>State and Agency Staff:</i>                      Jon Kurland</p> <p><i>Additional Attendees:</i>                      Jon Warrenchuk</p> <p>Plan Team members absent                      (for all locations):</p> <p>Beth Sinclair (GOA)                      Brenda Norcross (BSAI)                      Andy Smoker (BSAI)                      Ivan Vining (BSAI)                      Jane DiCosimo (BSAI)                      Joshua Greenberg (CPT)                      Lou Rugolo (CPT)                      Gregg Rosenkrantz (SPT)</p> <p>Total of 28 PT members in                      attendance, 8 absent, 31                      additional participants by state                      and agency staff and members                      of the public</p>	<p>Chair: Doug Pengilly (CPT chair)  <i>Plan Team members:</i>                      Bob Otto (CPT)                      Wayne Donaldson (CPT)                      Forrest Bowers (CPT)                      Jeff Barnhart (SPT chair)                      Mike Ruccio (GOA)                      Bob Foy (GOA)</p> <p><i>State and Agency Staff</i></p> <p><i>Additional Attendees:</i>                      Linda Kozak</p>