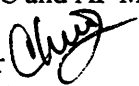


MEMORANDUM

TO: Council, SSC and AP Members
FROM: Chris Oliver 
Executive Director
DATE: September 24, 2009
SUBJECT: Management issues – HAPC evaluation criteria

ESTIMATED TIME 2 HOURS (all D-2 items)
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ACTION REQUIRED

(e) HAPC evaluation criteria (SSC only)

BACKGROUND

Under the Council's existing Habitat Areas of Particular Concern identification process, the Council will periodically issue a call for proposals for candidate areas that encompass specific, priority habitat types to be identified as HAPC. The sites proposed under this process are then sent to the Plan Teams for scientific review to determine whether they have ecological merit, and are also reviewed for socioeconomic and management and enforcement impacts. During the last HAPC proposal cycle, in 2003-2004, the Council received feedback from the public and the Plan Teams criticizing the criteria established to evaluate the HAPC site proposals. The Council has asked the SSC to revise the criteria.

In April 2009, the SSC created a work group, comprising SSC and Plan Team members, and staff, led by Sandra Lowe (GOA Groundfish Plan Team). Item D-2(e)(1) is a working document that summarizes the proposal evaluation criteria used in the 2004 HAPC process, concerns about the 2004 criteria expressed by the Joint Plan Teams and the SSC, and proposed revisions to the criteria. In September 2009, the Joint Crab and Groundfish Plan Teams were also consulted about the revised criteria, and their minutes on this issue are excerpted below.

Excerpt on HAPC proposal evaluation criteria from the Joint Groundfish and Crab Plan Teams Report

September 16, 2009, AFSC, Seattle, WA

Sandra Lowe presented a proposed new method for scoring HAPC proposals, for Plan Team review. The SSC and the Plan Teams both raised concerns about the criteria that were used to evaluate proposals during the 2004 HAPC process. The Council has identified that they will consider whether to set HAPC priorities, thus initiating a call for proposals for HAPC, in conjunction with the EFH 5-year review.

The proposed new method adds an additional option to rank a proposal as "0" for any of the four criteria, and tries to better define the scores within each criteria. Additionally, the new method changes the way data certainty is characterized in the proposal, using a red/green flagging system. The plan team suggested that 'structure', in the ecological importance column, be clarified as

referring to three-dimensional structure. The Team also recommended that the data certainty system adopt an approach similar to that used by the National Standard 1 working group on vulnerability, and assign a data certainty rank to each individual criterion, but then use an average of the data certainty scores to assign color coding to the proposal. Finally, the Team also suggested that it might be worth going back and scoring the 2004 proposals with the new scoring method. The group discussed the rarity criterion, and whether it would be appropriate to distinguish whether a habitat type was rare globally. Sandra pointed out that HAPC is supposed to be a subset of EFH in Alaska so that the global consideration of rarity does not really apply here.

Draft working document of SSC/Plan Team workgroup to refine the HAPC proposal rating criteria

Context

Essential Fish Habitat (EFH) provisions provide a means for the Council to indentify HAPCs [50 CFR 600.815(a)(8)] within Fishery Management Plans (FMPs). HAPCs are those areas of special importance that may require additional protection from adverse effects. 50 CFR 600.815(a)(8) provides that FMPs should identify specific types or areas of habitat within EFH as habitat areas of particular concern based on one or more of the following considerations:

- (i) The importance of the ecological function provided by the habitat.
- (ii) The extent to which the habitat is sensitive to human-induced environmental degradation.
- (iii) Whether, and to what extent, development activities are, or will be, stressing the habitat type.
- (iv) The rarity of the habitat type.

The NPFMC HAPC process is initiated by a public call for HAPC sites that address a specific priority set by the Council. The previous Council HAPC identification process (which occurred in 2004) focused on two specific priority areas:

1. Seamounts in the exclusive economic zone (EEZ), named on National Oceanic and Atmospheric Administration (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.

Additionally, nominations were to be based on best available scientific information and included the following features:

1. Sites must have likely or documented presence of Fishery Management Plan (FMP) rockfish species.
2. Sites must be largely undisturbed and occur outside core fishing areas.

The 2004 HAPC process resulted in the designation of Bowers Ridge HAPC, Alaska Seamount HAPCs, and GOA coral HAPCs.

2004 proposal evaluation criteria

Based on the four considerations listed above, the Plan Teams evaluated HAPC proposals using the following criteria:

Score	Local Rarity	Ecological Importance	Sensitivity	Stressed
EFH Final Rule:	<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>
1	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
2	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
3	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

The following concerns were raised by the Plan Teams and the SSC as a result of the 2004 HAPC process.

General concerns with 2004 evaluation criteria:

1) *Concern:* The proposals deal with habitat *areas*, but the criteria 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.

2) *Concern:* 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.

3) *Concern:* 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.

4) *Concern:* 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.

5) *Concern*: 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.

Specific Concerns Relative to the 4 Considerations (Local Rarity, Ecological Importance, Sensitivity, Stressed)

Under each of these considerations specific concerns with the definitions and/or criteria indentified in the last HAPC process are listed.

Local Rarity

6) *Concern*: The usage of the word “common” in the locally rare criteria presents conflicts for interpretation.

7) *Concern*: Under “local rarity,” the criteria for ratings of 2 and 3 are logically equivalent.

Ecological Importance

8) *Concern*: Refinement of the current definition or interpretation of Ecological Importance which is “The importance of the ecological function provided by the habitat”. The following definition was put forward for discussion: “Ecological Importance is species habitat dependency to reproduce or rear young. (Ecological Importance is not to be all waters or substrates.)”. Note: because the definitions are in the EFH final rule, it is not clear that we can change the definition, but we can refine our interpretations.

9) *Concern*: 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.

Sensitivity and Stressed

(These 2 considerations are related and are addressed together)

10) *Concern*: A higher level of fishing pressure implies a lower “stressed” rating.

11) *Concern*: The definition of “stress” was particularly troubling for the Plan Teams. The Plan Teams interpreted “stress” to be a measure of “relative disturbance”. If disturbance is interpreted as density of bottom contact fishing, then an effort must be made to numerically evaluate effort by gear for each site in contrast to the spatial distribution of the fishery overall. The SSC recommends that the definition for “stress” include a consideration of the frequency of disturbance, habitat recovery time and how natural and human disturbances influence habitat form and function. A kelp forest, for example, is subject to natural perturbation from storms and biota has adapted to a relatively fast regeneration time in contrast to slow growing corals found in deeper waters.

The SSC has requested further definition of item iii on page 1 of this document: “(iii) Whether, and to what extent, development activities are, or will be, stressing the habitat type. Specifically the SSC requests information from the definitions provided in the EFH rule and guidelines on the definition of “development” and whether fishing or non-fishing impacts or both were intended to be the focus.

12) *Concern*: Under “stressed,” the criteria for ratings of 1 and 2 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 1 is expressed in terms of *regularity* of fishing).

13) *Concern:* Given the above concerns (4-6), it is clear that a great deal of refinement and clarification of the criteria for “Sensitivity” is needed. This is a broad category which makes it unwieldy for reviewers.

Proposed revisions to the proposal evaluation criteria

The work group proposes the following revised HAPC Criteria Scoring Table as a means to address many of the concerns listed above, to the extent practical.

Factor →	Rarity	Ecological Importance	Sensitivity	Level of Disturbance (applicable to activities other than fishing)
<i>EFH Final Rule Consideration</i>	<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>
Score 0	Habitat ¹ common throughout the Alaska regions: Gulf of Alaska, Bering Sea, Aleutian Islands, and Arctic.	Habitat does not provide any ecological associations ² .	Habitat resilient (not sensitive).	Habitat not subject to developmental stress.
1	Habitat less frequent and occurs to some extent in 2 or more regions.	Habitat provides little structure ³ or refugia. Foraging and spawning areas do not exist.	Habitat somewhat sensitive and quickly recovers; 1- 5 years. Effects considered temporary.	Habitat is or will be exposed to minimal disturbance from development.
2	Habitat unique, less frequent, and occurs to some extent in 1 or 2 regions.	Habitat exhibits structure and provides refugia or substrates for spawning and foraging.	Habitat sensitive and recovery is within 10 years. Effects considered temporary, however may be more than minimal.	Habitat is or will be stressed by activities. Short term effects evident.
3	Habitat unique and occurs in discrete areas within only one region.	Complex habitat condition and substrate serve as a refugia, concentrate prey, and/or are known to be important for spawning.	Habitat is highly sensitive and slow to recover; exceeds 10's of years. Effects will persist and more than minimal.	Habitat is or will be severely stressed or disturbed by development. Cumulative impacts require consideration from long term effects.

¹ Habitat includes living (infauna, epifauna, megafauna, etc.) and non-living substrate (rock, cobble, gravel, sand, mud, silt, etc.).

² Ecological associations are those associations where the habitat provides for reproductive traits (i.e. spawning and rearing aggregations) and foraging areas; areas necessary for survival of the species. Associations include habitat complexity (features, structures, etc.) and habitat associations (provide refugia, spawning substrates, concentrate prey, etc.). Ecological importance is not to be applied across all waters or substrates.

³ 'Structure' refers to three-dimensional structure.

Data Certainty Factor

The Data Certainty Factor (DCF) determines the level of information known to describe and assess the HAPC. The DCF is used to determine if information is adequate prior to taking further action. Thus, a HAPC proposal with a high criteria score and a low DCF is to be highlighted (flagged) as a potential candidate for HAPC and for further consideration as a research priority. The DCFs are color coded according to their weight to provide a visual way of informing the criteria scores, i.e., proposal scores with a DCF of 3 are color coded green, scores with a DCF of 2 are color coded yellow, and scores with a DCF of 1 are color coded red

Weight	Data Certainty
	Site-specific habitat information is available.
2	Habitat information can be inferred or proxy conditions allow for information to be reliable.
	Habitat information does not exist; neither by inference or proxy.

HAPC Proposal Rank

HAPC ranking formula provides a color coded score (sum of criteria scores) to further the proposal along within the immediate HAPC Process. A high ranked HAPC with a DCF of 3 (score color coded green) has a high criteria score and information exists to assess the site.

HAPC Proposal Rank = Additive HAPC Criteria Score supplemented with Data Certainty Factor

Example evaluation of HAPC proposals:

HAPC Evaluation	Proposal A	Proposal B	Proposal C
Rarity	0	2	3
Ecological Importance	2	1	3
Sensitivity	2	3	3
Stress	n/a	n/a	2
Criteria Total(+)	4	6	11
Data Certainty Factor	3	3	
HAPC Proposal Rank (=)	7	9	
Research Priority Flag			

The top scoring proposals within each color category could then be forwarded for further consideration with the additional information that red high criteria scores may warrant consideration as a research priority and may not be an appropriate candidate for HAPC until further research is conducted.