

# Monterey Bay Aquarium Seafood Watch®

## Seafood Watch® Criteria for Fisheries

### Public Consultation 2 Comment Form

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## Criterion 1 - Impacts on the Species Under Assessment

### Public Comment Guidance for Criterion 1

**Overview** – Criterion 1 is used for scoring the impacts of the fishery on the stock being assessed. It incorporates both the current abundance of the stock (i.e., whether it is overfished), and the fishing mortality (i.e., whether overfishing is occurring). The combination of scores for abundance and fishing mortality determines the score for Criterion 1. In addition, the same factors are assessed under Criterion 1 for other species caught in the fishery. Therefore, the factors detailed below have a particularly significant impact on the scoring of each fishery. These factors are also inherently complex as they take into account multiple considerations, including not just abundance and fishing mortality, but also inherent vulnerability of the species, uncertainty in the stock assessment or other data used to determine abundance and fishing mortality, and the degree to which a fishery is one of the substantial contributors to the cumulative fishing mortality experienced by a species.

Because of its significance and complexity, many of the proposed changes for this criterion review focus on the structure and language in Criterion 1.

**Specific proposals** are available under each of Factor 1.1 and Factor 1.2. Please see these respective sections.

**Feedback** for Factors 1.1 and 1.2 should be provided in the boxes under these respective factors below. Please provide any general comments or suggestions regarding the structure of Criterion 1 (not specific to either factor) below.

#### Comments

## Factor 1.1 Abundance

### Public Comment Guidance on Factor 1.1

**Overview** – Factor 1.1 scores the abundance of species caught in the fishery, including whether it is above or below limit and target reference points, if known, or classified as overfished, threatened or endangered. The score from Factor 1.1, combined with Factor 1.2 (which assesses fishing mortality), determines the score for Criterion 1 – Impact on the Species Under Assessment.

(Note that in the current criteria, the “abundance” factor was 1.2, and inherent vulnerability was assessed first in a separate factor, 1.1. Inherent vulnerability is now being incorporated into the same factor as abundance (as a separate step), and therefore “abundance” is now Factor 1.1).

### Specific Proposed Changes

We are proposing several changes to this factor in order to 1) simplify and streamline its assessment, and 2) allow for consideration of circumstances that are not well captured by the current criteria. Specific proposed changes and their rationale are described below. These additions include the incorporation of a method to determine inherent vulnerability (previously in a separate factor).

**Inherent vulnerability** – Inherent vulnerability of species caught in the fishery is currently assessed and then used in the abundance factor to determine whether a species’ abundance is considered a moderate or high concern, when stock status is unknown. We are proposing to integrate inherent vulnerability with abundance in a single factor.

In the current criteria, Inherent Vulnerability (Factor 1.1) is currently assessed for all species to determine if they are “high”, “medium”, or “low” vulnerability; however, this factor is only relevant to the scoring if the stock status of the species is unknown, and then only if it is of “high” vulnerability (i.e. “medium” and “low” vulnerability species are scored the same). This results in unnecessary work for the assessor and causes confusion in the review process. We are proposing to combine these factors and assess vulnerability only for those species with unknown stock status. In addition, we are proposing several changes to how vulnerability will be assessed.

In addition, we are proposing a change to how inherent vulnerability is calculated. Our current criteria have two methods of assessing inherent vulnerability – 1) using fishbase whenever a fishbase vulnerability score is available, and 2) using a productivity scoring table (based on Productivity-Susceptibility Analysis methodology) for invertebrates or any fish which do not have a fishbase vulnerability score. However, in practice we have found that the fishbase score often yields results that conflict with expert opinion on the vulnerability of the species. In addition, our Technical Advisory Committee recommended the use of a full PSA method (rather than considering only the “Productivity” aspects of the PSA method) in this factor. We are considering the use of various published PSA methods, including the publication by Patrick et al. 2009 (<http://spo.nmfs.noaa.gov/tm/TM101.pdf>) and the method used by the Marine Stewardship Council (available at [msc.org](http://www.msc.org)). During this comment period, we will be comparing the scores of various species using both methods to determine 1) the ease of use, and 2) the consistency in outcomes across the various methods. At the same time, we are seeking public comment on the use of either method and suggestions for alterations to either method if appropriate.

### Reducing table from five to four classification tiers (removal of “very high concern” category)

Currently, this factor has five classification tiers ranging from “very high concern” (score of 1/5) to “very low concern” (score of 5/5). Stocks classified as “overfished” are classified as “high concern”, while those that are endangered or threatened are classified as “very high concern”.

In practice, we have found that this distinction is not always as clear as it needs to be to support the differential scoring. For example, some species (e.g. Pacific bluefin tuna) are very severely depleted (e.g. below 5% of virgin biomass) but are not listed as endangered or threatened, perhaps because the information on their status is relatively new, or for political reasons. Others may be listed as endangered but new data shows that their population is recovering, yet there has not been enough time and/or enough data for delisting. These species are still of concern, but not any higher concern than severely depleted species that are not listed. Finally, differences in procedures for listing species in different states and nations, combined with the often poor fit of international classification systems (e.g. IUCN) with finfish species, further complicates the distinction. As a result, we propose combining these categories.

The change from 5 to 4 categories will streamline the assessments, but potential changes to scoring for overfished and endangered species needs to be considered. Scoring is always scaled linearly from 1 to 5, with the lowest category scored at a 1 (with the exception of critical concerns); therefore, the proposal adjusts the scoring accordingly. While this may appear to result in lower scores, we are proposing concomitant changes to the scoring of the fishing mortality factor, and the scoring must be considered together. To illuminate this complex issue, we have provided a table of examples showing how the scoring of Criterion 1 would be affected.

**Reference points for forage species** – We are incorporating the guidance from the Lenfest Forage Fish Task Force (LFFTF report) that was published since the last version of our criteria as guidelines for appropriate biomass levels for forage species. The criteria have been edited to indicate that reference points should be “appropriate given the species’ ecological role”. This is further defined for forage species in accordance with the LFFTF report. Additional guidance for other species with exceptionally important roles in the ecosystem will be added as the science to support alternative reference points develops.

**Threshold for “low concern” for stocks that are below target biomass levels** – In the current criteria, stocks that are above a limit reference point but below a target reference point are scored a “low concern”. This is to avoid overly penalizing fisheries that have rebuilding stocks, especially when rebuilding may take time but the fishery has already implemented strong management, and to account for the consideration that even in well managed fisheries, stocks will fluctuate around target reference points but should not go below limit reference points. However, we have found this structure is not always sufficiently precautionary. We are proposing that stocks in this situation are classified as a “moderate concern” if they are below 75% of Bmsy or a similar reference point, and a “low concern” above that point. This will still allow recognition for rebuilding fisheries once they reach this threshold. Adherence to rebuilding fishing mortality levels is also credited in the fishing mortality criterion, and the management criterion.

**Classifying data-poor species** – In the current criteria, species are either scored according to a full stock assessment if available, or according to their vulnerability. We have found that these criteria do not account for cases where there may be some data or evaluations regarding the stock status, but not a full stock assessment. We are proposing adding guidance to the criteria to allow for the use of data-limited assessment methods in scoring.

#### **Feedback**

Please provide feedback below on Factor 1.2. In particular, we are interested in feedback on the proposed Productivity Susceptibility Analysis, including any preference for a particular published

method, and/or suggestions for changes to any particular method (e.g. removing some factors from consideration).

**Thoughts on Proposed PSA approach:**

**We support using the published PSA studies and the method used by the MSC. The latter will provide a higher degree of consistency with that approach, which has already undergone extensive review.**

**Other Comments:**

## Factor 1.2 Fishing Mortality

### Public comment guidance on Factor 1.2

**Overview** – This factor assesses whether fishing mortality for each species caught in the fishery is at an appropriate level (currently defined as at or below maximum sustainable yield, or an equivalent proxy). Because these same criteria are used to assess not only targeted species, but also bycatch species (under Criterion 2.3 in the current criteria, Criterion 2.2 in this revision), it is necessary to provide guidance even for species that may be a relatively minor component of the catch and also are impacted by other fisheries. We distinguish between whether or not the fishery under assessment is a “substantial contributor” (which includes all target fisheries, as well as those that are one of the main contributors to fishing mortality experienced by a species; see glossary definition).

In addition to providing guidance for assessing species depending on whether or not the fishery is a “substantial contributor” to mortality, the current criteria also integrate information on whether the stock is depleted, and management is in place. One goal of this proposal is to streamline this factor by focusing solely on fishing mortality. In addition, we are proposing to combine the “low” and “very low” concern in order to further simplify assessment of this factor.

#### **Specific Proposed Changes:**

**Simplification of the fishing mortality table** – Depleted status and whether management is in place when overfishing is occurring are accounted for in other criteria (abundance and management, respectively). Including those criteria here double-counts these issues and makes this factor unnecessarily complex. We have removed the language regarding these issues in this proposal below. We have checked that these considerations are adequately addressed in the other factors. For example, a fishery that has catch of a depleted species, experiencing overfishing, without sufficient management will get a “poor” in management criterion 3.1 which functions as a “critical” (i.e. determines an overall Avoid ranking); therefore, the separate critical score here is not needed. In addition to this restructuring, some language has been simplified to remove redundancies.

**Large proportion of population is protected** – The language in the table indicating that a “large proportion of population is protected” can qualify for a low concern was removed, as our assessments have indicated that this is not always a strong indicator of low fishing mortality, and it was noted in public comment that this is a management strategy better considered in Criterion 3 rather than used for scoring fishing mortality. However, in cases where the protection is such that it provides a strong rationale for believing that fishing mortality is at a sustainable level, this can still be scored as a low concern as it would fit within the existing language.

**Combining low and very low concern categories** – Currently, the probability that overfishing is not occurring is used to distinguish “very low concern” from “low concern”. In practice, this information is often not available and it can be difficult to distinguish between “low” and “very low” concern. When they are distinguished, “low concern” species often end up scored too harshly. These species are still considered to be at a level where fishing mortality isn’t threatening the population, yet because they receive a decreased score for Factor 1.3, they may receive a low yellow or even a red score when the species is at a low abundance, but the fishery in question causes a low level bycatch mortality, which is not adversely impacting that species but still greatly lowers the overall score for the fishery. Combining the categories so that all species with fishing mortality at or below a sustainable level (i.e. FMSY or equivalent) get full credit would help rectify this scoring concern as well as simplify assessments.

Overall, however, in combination with the revised scoring proposal for the abundance factor, this suggested change does not result in less conservative scoring. See the separate comment box on Scoring of Criterion 1 for examples of how fisheries would score under the current and proposed new criteria.

**Guidance for alternative reference points and forage species** – Our current criteria are based on MSY-based reference points, and there is guidance in the appendices that reference points that are not as conservative as FMSY should not be considered equivalent. However, we felt this guidance needed to be more clearly stated in the criteria table itself to provide more consistency in the common situation that other reference points are used. We have proposed adding language to the “moderate concern” category to account for the case where F is below a reference point, but that reference point is known to be less precautionary than FMSY. In this case, whether fishing mortality is at a sustainable level must be considered unknown.

In addition, as in the abundance factor, the criteria have been edited to indicate that reference points should be “appropriate given the species’ ecological role”. This is further defined for forage species in accordance with the LFFTF report. Additional guidance for other species with exceptionally important roles in the ecosystem will be added as the science to support alternative reference points develops.

**Feedback:** please comment below on these proposed changes as well as any other comments on this factor.

**Comments:**

**We support avoiding double-counting of issues wherever possible. It is a good idea to deal with depletion and management under the more directly relevant factors.**

The assessment of indirect fishing mortality for target or species under assessment (re-catch losses, where catch dies from the fishing operation but is not brought onboard when the gear is retrieved; post-release mortality of catch that is retrieved and then released alive but later dies) should be considered under criterion 1 instead of criterion 2. (Gilman *et al.* 2013. Causes and methods to estimate cryptic sources of fishing mortality. *Journal of Fish Biology*; 83(4):766-803.

DOI:10.1111/jfb.12148)

## Criterion 1 Score and Rating

### Public Comment Guidance – Scoring of Criterion 1

Both the abundance and the fishing mortality factors contain proposals to simplify assessments by reducing the number of scoring categories and adjusting the numerical scores (which are scaled linearly from 1 to 5) accordingly. Because scores are assigned for Criterion 1 based on the geometric mean of these two factors, these proposed changes would interact to affect the score and color (red, yellow or green) rating for Criterion 1. Below we have included some examples of how hypothetical fisheries would score under the current criteria as well as with the proposed changes.

Description of hypothetical fishery	Current Criteria Rating (Score)	Proposed Criteria Rating (Score)
Bycatch species that is endangered, and is caught infrequently or at a level that does not adversely affect the species (but catch is not “negligible”)	Red (1.92)	Yellow (2.24)
Overfished species with overfishing occurring	Red (1.41)/Critical (0) depending on management	Red (1) (and critical for Criterion 3 if management is not effective)
Stock status and fishing mortality are unknown	Yellow (2.63)	Yellow (2.64)
Species that is below target but above limit reference point and 75% of target reference point, fishing mortality is unknown	Yellow (3.05)	Green (3.29)
Species that is below 75% of target but above limit reference point, fishing mortality is unknown	Yellow (3.05)	Yellow (2.63)

**Feedback:** Please provide any comments on these scoring examples in the box below.

**Comments:**

Score = geometric mean (Factors 1.1, 1.2).

Rating is based on the Score as follows:

- $>3.2$  = **Green**
- $>2.2$  and  $\leq 3.2$  = **Yellow**
- $\leq 2.2$  = **Red**



## Criterion 2 – Impacts on Other Capture Species

### Public Comment Guidance: Overview of Criterion 2

**Overview** – Criterion 2 is assessed using the same criteria as Criterion 1, but is applied to bycatch and other main species that are caught together in the fishery with the species under assessment (but see specific guidelines for marine mammals, and for cases where bycatch species are unknown).

The most challenging aspect of assessing Criterion 2 is determining which species need to be included for assessment. All “main species” are currently required to be fully assessed. This can be a very intensive effort, and the score for Criterion 2 is determined solely by the “worst case” species.

#### Specific Proposals:

**Main Species:** We have suggested simplifying the “main species” filter, as well as framing the guidelines in qualitative terms (with the same quantitative thresholds as in the current criteria still provided for guidance), to account for the fact that most fisheries lack the detailed quantitative data to allow for use of the quantitative thresholds. The only main species criterion that is being removed is, “the species is >1% of that fishery’s catch *and* the fishery causes >5% of the species’ total mortality across all fisheries”, because we found this criterion is very rarely applied in practice due to a lack of data, and the remaining criteria adequately capture the important species (which either are a major component of the catch, are impacted significantly by the fishery, or are species of concern such that even a small amount of catch is significant). Otherwise, the thresholds for the filter remain the same, and it is expected that this will not impact which species are considered for assessment, but will increase the ease of use.

**Unassessed Species:** Currently, all species that meet the “main species” filter, whether or not they are of known status, are assessed through the tables in Seafood Watch Criterion 1. For species of unknown status, this can greatly increase the time and complexity of the assessment (particularly given the proposal to assess each species with a PSA). We are proposing that unassessed (but known) bycatch species should be assessed using the scoring guidelines from the unknown bycatch matrix instead (allowing for the possibility of overriding the score where fishery-specific data indicates an override is appropriate). Revision of the unknown bycatch matrix scoring guidelines is ongoing now, to incorporate new scientific literature and expert opinion and ensure that the default scores (which depend on gear type, taxon and in some cases, region) are valid. The criteria would remain otherwise unchanged in that all species of concern (overfished, undergoing overfishing, endangered or threatened) would be assessed using the Seafood Watch criteria tables from Criterion 1, and the overall C2 score would be based on the lowest scoring species, modified by the discard rate modifier (see below).

**Discard Rate Modifier:** We are proposing changes to the discard rate modifier, most notably basing the color rating for Criterion 2 (which feeds into the decision rules for Best Choice, Good Alternative or Avoid overall recommendations) on the final score for Criterion 2 rather than the subscore, meaning that the discard rate modifier would potentially change some Criterion 2 scores from green to yellow or yellow to red, for those fisheries with  $\geq 100\%$  discard rate. See the public comment guidance for Factor 2.3 for more details.

**Feedback:** Please provide any feedback on the proposed changes regarding main species and/or unassessed species, or on the overall structure of Criterion 2, in the comment box below. Feedback on specific issues within Factor 2.1, 2.2 or 2.3 (the discard rate modifier) can be provided in the appropriate comment boxes under the public comment guidance for each factor.

**Other comments on structure of Criterion 2:  
(Appendix 3)**

**Additional guidance for unknown bycatch species**

We recommend adding to this section the following reference literature:

***Sea turtles***

Wallace, B.P., DiMatteo A.D., Bolten A.B., Chaloupka M.Y., Hutchinson B.J., *et al.* (2011) *Global Conservation Priorities for Marine Turtles*. PLoS ONE 6(9): e24510. doi:10.1371/journal.pone.0024510.

Wallace, B.P., C.Y. Kot, A.D. DiMatteo, T. Lee, L.B. Crowder and R.L. Lewison. 2013. *Impacts of fisheries bycatch on marine turtle populations worldwide: toward conservation and research priorities*. Ecosphere 4(3):40. <http://dx.doi.org/10.1890/ES12-00388.1>

***Sharks, marine mammals and seabirds***

Lewison, R.L., L.B. Crowder, B.P. Wallace, J.E. Moore, T. Cox, R. Zydelsis, S. McDonald, A. DiMatteo, D.C. Dunn, C.Y. Cott, R. Bjorkland, S. Kelez, C. Soykan, K.R. Stewart, M. Sims, A. Boustany, A.J. Read, P. Halpin, W.J. Nichols and C. Safina. 2014. *Global patterns of marine mammal, seabird, and sea turtle bycatch reveal taxa-specific and cumulative megafauna hotspots*. PNAS Early edition, 2014. [www.pnas.org/cgi/doi/10.1073/pnas.1318960111](http://www.pnas.org/cgi/doi/10.1073/pnas.1318960111)

***Sharks***

RFMO resolutions, recommendations and conservation and management measures in **Table 1** should be updated. A short summary of these can be found in *ISSF Status of Stocks report Appendix 1* (latest version: [ISSF Technical Report 2105-03](#)) and/ or [ISSF Technical Report 2015-02 Preliminary study of the relative fishery impacts on non-tuna species caught in various tuna fisheries](#).

***Seabirds***

Anderson, O.R.J., C.J. Small, J.P. Croxall, E.K. Dunn, B.J. Sullivan, O. Yates and A. Black. 2011. *Global seabird bycatch in longline fisheries*. Endangered Species Research Vol. 14, P. 91–106.

Zydelsis, R., C. Small and G. French. 2013. *The incidental catch of seabirds in gillnet fisheries: A global review*. Biological Conservation Vol. 162, June 2013, pages 76-88. [doi:10.1016/j.biocon.2013.04.002](http://doi:10.1016/j.biocon.2013.04.002).

***Purse seine and Longline, all species, tuna fisheries:***

Clarke, S., M. Sato, C. Small, B. Sullivan, Y. Inoue and D. Ochi. 2015 (Under Review). *Bycatch in Longline Fisheries for Tuna and Tuna-like Species: a Global Review of Status and Mitigation Measures*.

Hall, M. and Roman, M. 2013. *Bycatch and non-tuna catch in the tropical tuna purse seine fisheries of the world*. FAO Fisheries and aquaculture technical paper 568. Rome, 2013.

**Additional literature for ghost fishing**

E. Gilman, Status of international monitoring and management of abandoned, lost and discarded fishing gear and ghost fishing, Mar. Policy (2015),

<http://dx.doi.org/10.1016/j.marpol.2015.06.016>

## Factor 2.1 Abundance

### Public Comment Guidance for Factor 2.1

This factor is based on Factor 1.1, with additional guidance for cases where there is bycatch of unknown species.

**Unknown Bycatch Matrix.** This section includes guidance on use of the unknown bycatch matrix. Revision of the unknown bycatch matrix is in progress. In addition to revising the scoring based on new scientific literature and expert opinion, the scoring will be integrated into Criterion 2 to avoid the need to reference the appendix for scoring.

**Feedback:** Revision of the unknown bycatch matrix is in progress. If you have any comments or suggestions of specific changes for consideration when updating this matrix, please comment below. Note that our aim is that the updated unknown bycatch matrix will contain more regionally-specific information, at least for species of concern.

### Comments on the unknown bycatch matrix revision:

**The matrix needs to be revised for tuna fisheries, as the values -- especially for purse seining -- are outdated. ISSF would like to provide input into the revision that is taking place.**

### Active resolutions on sharks Table 1:

**Add Non-entangling FADs:** Resolution IOTC 13-08; IATTC C13-04; ICCAT Rec 14-01

### Other comments:

## Factor 2.2 Fishing Mortality

### Public Comment Guidance for Factor 2.2

**Overview** – Generally, Criterion 2.2 follows the structure of Criterion 1.2, and the same changes proposed there will be applicable here as well.

Minor changes to the specific guidance provided below reflect the proposed changes to Criterion 1.2 (removal of the very low concern category and critical categories).

**Unknown Bycatch Matrix.** This section includes guidance on use of the unknown bycatch matrix. Revision of the unknown bycatch matrix is in progress. In addition to revising the scoring based on new scientific literature and expert opinion, the scoring will be integrated into Criterion 2 to avoid the need to reference the appendix for scoring.

**Feedback:** Please provide any feedback on the proposed minor edits to this criterion below. If you have comments related to the update of the unknown bycatch matrix, please comment in the box provided under public comment guidance for Factor 2.1

**Comments:**

## Factor 2.3 Modifying Factor: Discards and Bait Use

### Public Comment Guidance for Factor 2.3

While the rest of Criterion 2 focuses on the population impacts on bycatch and other capture species, Factor 2.3 addresses the issue of the waste associated with high discards or bait use in capture fisheries. In our Technical Advisory Committee meeting, members generally agreed that the greater focus on population impacts rather than overall bycatch rates was appropriate. However, some members as well as some of the public comments indicated that maintaining this factor, and increasing its impact on assessments, would be valid. In addition, one goal of the criteria review, with respect to Criterion 2, was to collaborate with the aquaculture team regarding the scoring for discard rates and bait use (Factor 2.3) to ensure that there is consistency with the scoring of feed use in aquaculture reports.

In the current criteria, the score is adjusted downward based on high discards + bait use but this adjustment does not affect the color rating (green, yellow, or red) of Criterion 2, and therefore usually has little to no impact on the final overall recommendation. In this revision, we have proposed basing the color rating of Criterion 2 on the final Criterion 2 score, rather than the subscore. This change increases the weighting of this modifying factor because it will allow the discard modifier to influence the color rating of Criterion 2, therefore affecting the overall recommendation in more cases. For consistency with the aquaculture scoring, we have designed the factor so that fisheries with a (discard + bait):landings ratio greater than or equal to 100% are reduced from yellow to red (for the majority of cases where at least some of the discarded or bait species are unassessed). To achieve this, the modifying factor (0.75) is only applied to fisheries with a discard rate  $\geq 100\%$ .

Because bait use is considered in 2.3 but is rarely quantified, we aim to provide default scores for bait use, based on literature review, for a variety of fishery types (target species and gear). We will provide an opportunity to override these default scores if data specific to the fishery can be provided.

**Feedback:** Please comment on the proposed change to Factor 2.3 (specifically the decision to have this score affect the color rating of Criterion 2) below.

**Comments:**

### Criterion 3 – Management Effectiveness

#### Public Comment Guidance for Criterion 3

**Overview** – Criterion 3 (Management Effectiveness) deals with the effectiveness of the harvest strategy, implementation, enforcement and monitoring to control fishing pressure on the managed species, as well as effectiveness of bycatch management. In the current criteria, this criterion is composed of two factors – Harvest Strategy (3.1) and Bycatch Management Strategy (3.2), each of which is composed of numerous subfactors.

#### Specific Proposals for Change:

In accordance with the public comments and discussion at our Technical Advisory Committee meeting, we are proposing a restructuring of Criterion 3 to reduce the number of subfactors (the track record, scientific advice and recovery of species of concern subfactors have been combined with management strategy and implementation into Factor 3.1).

In addition, the bycatch management criterion (3.2) is included as its own subfactor with equal weighting as the management of retained species (3.1), and is assessed for all fisheries but receives a full 5/5 score for fisheries with no bycatch. This represents a change from the current criteria, in which fisheries that are highly selective (e.g. harpoon, etc.) are scored N/A for this factor as bycatch management is unneeded. When 3.2 is scored as N/A, the entire score for management (Criterion 3) is based on the score of 3.1. This has the unintended effect of producing higher scores in some cases for less selective fisheries. Here we are proposing to score highly selective fisheries as “very low concern” for bycatch management, rather than N/A. This will have the effect of putting highly selective fisheries on equal footing with fisheries that have highly effective bycatch management (with the overall management score determined/limited by effectiveness of management of retained species).

All other subfactors are weighted as before, in that low scores on the remaining subfactors (research and monitoring, enforcement, and stakeholder engagement) can serve to reduce the management score, but cannot raise the management score higher than what is indicated by the effectiveness of management strategy and implementation for retained and bycatch species.

The research and monitoring subfactor has been edited to incorporate the new guidance on data-limited assessment methods provided in Appendix 8, as determined with our data-limited assessment

working group (and also referenced in Criterion 1-2). In addition, we propose some specific language for the “very high concern” category for Factor 3.1 that would ensure that fisheries that catch species that are overfished with overfishing occurring, and do not have management in place to end overfishing and rebuild the stocks, are scored as a “very high concern”, which equates to a Critical concern for management overall (leading to an Avoid recommendation overall regardless of other criteria). This addition is considered to be equivalent to the language previously in Factor 1.3 that scored fisheries as “Critical” in these cases.

Minor edits to the language used for other subfactors have been proposed for clarity and completeness.

**Feedback:** Please comment on the proposed changes to Criterion 3 below.

**Comments on Factor 3.1:**

**Comments on Factor 3.2:**

**Comments on Factor 3.3:**

**Comments on Factor 3.4:**

**Comments on Factor 3.5:**

**Other comments:**

When using several “AND” and “OR” operators within factor scoring tables, some use of indentation would facilitate the rapid understanding of the tables. This could be applied throughout the whole document.

**Comments on Appendix 5. By-catch reduction approaches:**

Within strategies for Purse Seine, “Use of modified FAD designs” should also apply for sharks not only for turtles.

## Criterion 4 - Impacts on the Habitat and Ecosystem

### Public Comment Guidance for Criterion 4

**Overview** – Criterion 4 includes assessment of impacts on the seafloor habitat, and other indirect ecosystem impacts with a focus on food web/trophic impacts. In the current criteria, Factor 4.1 scores a fishery’s likely impact on the seafloor habitat based on gear type and substrate, while 4.2 allows the fishery to improve on that score due to mitigation efforts such as gear modification and spatial closures. Factor 4.3 focuses on food web impacts and the use of ecosystem-based management to avoid negative trophic impacts, as well as other ecological impacts not covered elsewhere (e.g. due to hatcheries or FADs).

**Specific Proposals** – 1) We are proposing a minor restructuring of Factors 4.1 and 4.2. As is, these are scored separately and each is assigned a category, but the seafloor impact is determined by the sum of the two. To emphasize that these two factors combine to create the score for impact on the habitat, we propose to rename these as Factor 4.1a and 4.1b and to assign a category (based on corresponding numerical scores) only for Factor 4.1 as a whole (the sum of 4.1a and 4.1b). Calculation of scoring would not change, therefore this would not lead to any substantive changes in ratings or reports.

2) We propose the addition (under a score of “2”) of guidelines for fisheries that use hand gear, but are known to result in trampling of coral reef habitat by fishermen. This represents a situation that has been encountered in our assessments but was not considered in the table under Factor 4.1a previously.

3) We have eliminated the “minimal mitigation” category from the table in Factor 4.1b for scoring mitigation (formerly 4.2), as this level was not found to represent a meaningful level of mitigation, and are proposing some minor language changes to Factor 4.1b in accordance with public comments received. This change would help to ensure that trawl fisheries must have a limited footprint with no expansion into untrawled areas in order to receive enough mitigation credit to score a “moderate concern”.

4) We are considering moving Factor 4.3 into a new, separate criterion (Criterion 5) as it is really a separate impact from habitat effects. We also propose some changes to Criterion 5 (formerly Factor 4.3). Details on both these changes are available under “Public Comment Guidance for Criterion 5”.

**Feedback:** Please provide comments on the proposed changes to Factor 4.1a and 4.1b in the comment box below. Feedback on the proposal to move ecosystem-based management consideration into Criterion 5 can be provided under Criterion 5.

#### Comments on 4.1a:

Impacts on the habitat could be extended to pelagic habitat, not only on the seafloor. FADs could be then considered under Factor 4.1.a due to potential impact on the surface habitat of pelagic animals (which is very difficult to assess but is under focus of scientist working on pelagic species). The phrase "other ecological impacts" is broad, vague, and leaves room for subjectivity.

#### Comments on 4.1b:

#### Other comments:

## Criterion 5 Ecosystem-based Fisheries Management

### Public Comment Guidance for Criterion 5

**Overview** – This factor assess any indirect ecological impacts not captured elsewhere in the criteria, but the focus is on potential trophic impacts, and the effectiveness of management in constraining fishing mortality to levels that are appropriate given the species’ ecological role.

**Specific Proposals** – We are proposing moving the ecosystem-based management factor from a subfactor of Criterion 4 into its own criterion (Criterion 5). This would have potentially significant effects on rankings, especially due to the decision rule that one red criterion results in a Good Alternative at best and two red criteria result in an Avoid ranking. Currently, averaging of the habitat and ecosystem factors often results in a yellow for Criterion 4 overall, whereas if these two factors were assessed separately, in many cases one of them would be red. Therefore, this change would likely result in downgrades for some fisheries. This proposal was generally viewed favorably at the Technical Advisory Committee meeting and in the public comments. However, the final decision as to whether this separation of the habitat and ecosystem criteria is appropriate will also depend on the outcome of pilot testing that we will undertake concurrently with the second public consultation period.

The initial goal of this revision (as proposed for the first public consultation period) was to incorporate guidance for forage fisheries from the Lenfest Forage Fish Task Force (LFFTF). Due to overwhelming support for incorporating the specific thresholds suggested by the LFFTF into Criterion 1 and 2 instead, we have proposed to do so (see Criteria 1 and 2 for details). To avoid double counting, and because the consensus of the Technical Advisory Committee was that detailed guidance for the management of other species of exceptional importance to the ecosystem beyond forage species was not yet scientifically determined, we have proposed slight changes to the focus of this factor. Rather than focus on management strategies for species of exceptional importance to the ecosystem, the language in this factor is now designed to focus on more comprehensive ecosystem-based management strategies, which apply to all fisheries regardless of whether there are “exceptional species” caught.

The changes proposed herein also represent a slight adjustment to the bar for ecosystem-based management, reflecting the fact that both science and management best practices have advanced significantly in the four years since developing the current criteria. Whereas the current criteria provide significant credit to fisheries for having plans or commitments to implement ecosystem based management strategies, this iteration focuses on policies that are currently in place.

Language specific to hatcheries and FADs has been removed from this draft. Hatchery-supplemented fisheries are now addressed in a separate standard.

**Feedback:** Please provide feedback below pertaining to the proposal to consider ecosystem-based management in its own Criterion 5, as well as to specific proposals for changes to this criterion, in the comment box below.



**Comments on the proposal to move ecosystem-based management into its own Criterion 5:**

**Other comments:**

## Overall Score and Final Recommendation

### Public comment guidance for Overall Scoring System

**Overview** –The final scoring system combines the individual criterion scores to produce a numerical final score from 0-5, but also applies decision rules based on the number of “high concerns”, i.e. “red” scoring criteria as outlined below.

**Specifics** – The following sections show how the final score and final recommendation are calculated from the individual criterion scores. It is the current philosophy of the SFW criteria that regardless of the final numerical score, if there is one red criterion (with a numerical score  $\leq 2.2$ ), then the highest possible final recommendation is a yellow “Good Alternative”. If there are two red criteria, then the overall final recommendation will be red “Avoid” regardless of the numerical score. If there is one or more “critical concerns” then the final recommendation is red “Avoid” regardless of the numerical score.

**Proposed Changes** – We are proposing one new decision rule to affect the overall recommendation determination. In the current criteria, a fishery scores a “Best Choice” if the overall score is above 3.2 and there are no red or critical criteria. In some cases, this occurs for fisheries that are yellow for both stock status and management (perhaps due to unassessed or poorly known stock status combined with only moderately effective management), but receive high greens because the nature of the fishery results in little to no bycatch or habitat damage. However, fisheries with poorly known stock status and management that is not highly effective do not necessarily reflect the intent of the “Best Choice” category even when the ecosystem impacts are minimal. Therefore, we are proposing a new decision rule that a fishery must score a green in either Criterion 1 or Criterion 3 (or both) in order to be a “Best Choice” overall. This rule will also be examined in pilot testing.

Finally, Seafood Watch recognizes the growing importance of social issues and is working to understand how we can include the most critical social issues as part of our recommendations. We are currently trialing some options that would allow us to recognize the work of others in

our process. While social issues are not incorporated into this draft proposal, we welcome feedback on whether and how to consider critical social concerns (e.g. slavery).

**Feedback:** Please provide feedback below, particularly pertaining to the new proposed decision rule for “Best Choice” fisheries and ideas for incorporation of social criteria.

**Comments on the new proposed decision rule for “Best Choice” fisheries (i.e. that a green is needed in either C1 or C3 for an overall “Best Choice” rating:**

**Comments on social issues:**

**Other comments:**