

Seafood Watch® Standard for Fisheries

Introduction

The Monterey Bay Aquarium is committed to inspiring conservation of the ocean. To this end, Seafood Watch®, a program of the Monterey Bay Aquarium, researches and evaluates the environmental impact of wild fisheries and aquaculture products and shares these seafood recommendations with the public and other interested parties in several forms, including regionally specific Seafood Watch pocket guides, smartphone apps and online at www.seafoodwatch.org.

This document houses the Seafood Watch Standard for Fisheries as approved on February 25, 2020 by the Seafood Watch Multi-Stakeholder Group. The Standard allows assessment of the relative environmental sustainability of wild-capture fisheries according to the conservation ethic of the Monterey Bay Aquarium. It includes background and rationale text explaining how the assumptions and Seafood Watch values are reflected within the calculations and scoring options. Sources from aquaculture operations and wild caught salmon are evaluated with different standards. The Standard for Aquaculture, the Standard for Fisheries and the Standard for Salmon, in addition to our assessment process, assessments and recommendations, are available at www.seafoodwatch.org.

The Standard version approved on February 25, 2020 will be used for all wild fisheries assessments beginning on or after April 1, 2020. The Standard consists of:

1. Defined guiding principles
2. Science-based performance criteria that are regularly revised based on the input from fisheries experts
3. A robust and objective scoring methodology that that results in a transparent assessment of a wild-capture fishery operation against the performance criteria

The Seafood Watch Standard for Fisheries is used to produce assessments for wild-capture fisheries resulting in a Seafood Watch rating of Best Choice (green), Good Alternative (yellow), or Avoid (red). Seafood Watch uses the assessment criteria to determine a final numerical score as well as numerical subscores and color ratings for each criterion. These scores are translated to a final Seafood Watch color rating according to the methodology described in the table below. The table also describes how Seafood Watch defines each of these categories. The narrative descriptions of each Seafood Watch color rating category, and the guiding principles listed below, compose the framework on which the criteria are based, and should be considered when providing feedback on any aspect of the criteria.

Best Choice	Final Score >3.2, and either Criterion 1 or Criterion 3 (or both) is Green, and no Red Criteria, and no Critical scores	Wild-caught and farm-raised seafood on the “Best Choice” list are ecologically sustainable, well managed and caught or farmed in ways that cause little or no harm to habitats or other wildlife. These operations align with all of our guiding principles.
Good Alternative	Final score >2.2, and no more than one Red Criterion, and no Critical scores, and does not meet the criteria for Best Choice (above)	Wild-caught and farm-raised seafood on the “Good Alternative” list cannot be considered fully sustainable at this time. They align with most of our guiding principles, but there is either one conservation concern needing substantial improvement, or there is significant uncertainty associated with the impacts of this fishery or aquaculture operations.

Avoid	Final Score ≤ 2.2 , or two or more Red Criteria, or one or more Critical scores.	Wild-caught and farm-raised seafood on the “Avoid” list are caught or farmed in ways that have a high risk of causing significant harm to the environment. They do not align with our guiding principles and are considered unsustainable due to either a critical conservation concern, or multiple areas where improvement is needed.
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Seafood Watch Guiding Principles

Seafood Watch® defines “sustainable seafood” as seafood from sources, whether fished or farmed, that can maintain or increase production without jeopardizing the structure and function of affected ecosystems.

Sustainable wild capture fisheries:

1. Follow the principles of ecosystem-based fisheries management

The fishery is managed to ensure the integrity of the entire ecosystem, rather than solely focusing on maintenance of single species stock productivity. To the extent allowed by the current state of the science, ecological interactions affected by the fishery are understood and protected, and the structure and function of the ecosystem is maintained.

2. Ensure all affected stocks¹ are healthy and abundant

Abundance, size, sex, age and genetic structure of the main species affected by the fishery (not limited to target species) is maintained at levels that do not impair recruitment or long-term productivity of the stocks or fulfillment of their role in the ecosystem and food web.

Abundance of the main species affected by the fishery should be at, above, or fluctuating around levels that allow for the long-term production of maximum sustainable yield. Higher abundances are necessary in the case of forage species, in order to allow the species to fulfill its ecological role.

3. Fish all affected stocks at sustainable levels

Fishing mortality for the main species affected by the fishery should be appropriate given current abundance and inherent resilience to fishing while accounting for scientific uncertainty, management uncertainty, and non-fishery impacts such as habitat degradation.

The cumulative fishing mortality experienced by affected species must be at or below the level that produces maximum sustainable yield for single-species fisheries on typical species that are at target levels.

Fishing mortality may need to be lower than the level that produces maximum sustainable yield in certain cases such as forage species, multispecies fisheries, highly vulnerable species, or fisheries with high uncertainty.

¹ “Affected” stocks include all stocks affected by the fishery, no matter whether target or bycatch, or whether they are ultimately retained or discarded.

For species that are depleted below target levels, fishing mortality must be at or below a level that allows the species to recover to its target abundance.

4. Minimize bycatch

Seafood Watch defines bycatch as all fisheries-related mortality or injury other than the retained catch. Examples include discards, endangered or threatened species catch, pre-catch mortality and ghost fishing. All discards, including those released alive, are considered bycatch unless there is valid scientific evidence of high post-release survival and there is no documented evidence of negative impacts at the population level.

The fishery optimizes the utilization of marine and freshwater resources by minimizing post-harvest loss and by efficiently using marine and freshwater resources as bait.

5. Have no more than a negligible impact on any threatened, endangered or protected species

The fishery avoids catch of any threatened, endangered or protected (ETP) species. If any ETP species are inadvertently caught, the fishery ensures and can demonstrate that it has no more than a negligible impact on these populations.

6. Are managed to sustain the long-term productivity of all affected species.

Management should be appropriate for the inherent resilience of affected marine and freshwater life and should incorporate data sufficient to assess the affected species and manage fishing mortality to ensure little risk of depletion. Measures should be implemented and enforced to ensure that fishery mortality does not threaten the long-term productivity or ecological role of any species in the future.

The management strategy has a high chance of preventing declines in stock productivity by taking into account the level of uncertainty, other impacts on the stock, and the potential for increased pressure in the future.

The management strategy effectively prevents negative population impacts on bycatch species, particularly species of concern.

7. Avoid negative impacts on the structure, function or associated biota of aquatic habitats where fishing occurs.

The fishery does not adversely affect the physical structure of the seafloor or associated biological communities.

If high-impact gears (e.g., trawls, dredges) are used, vulnerable seafloor habitats (e.g., corals, seamounts) are not fished, and potential damage to the seafloor is mitigated through substantial spatial protection, gear modifications and/or other highly effective methods.

8. Maintain the trophic role of all aquatic life

All stocks are maintained at levels that allow them to fulfill their ecological role and to maintain a functioning ecosystem and food web, as informed by the best available science.

9. Do not result in harmful ecological changes such as reduction of dependent predator populations, trophic cascades, or phase shifts

Fishing activities must not result in harmful changes such as depletion of dependent predators, trophic cascades, or phase shifts.

This may require fishing certain species (e.g., forage species) well below maximum sustainable yield and maintaining populations of these species well above the biomass that produces maximum sustainable yield.

10. Ensure that any enhancement activities and fishing activities on enhanced stocks do not negatively affect the diversity, abundance, productivity, or genetic integrity of wild stocks
Any enhancement activities are conducted at levels that do not negatively affect wild stocks by reducing diversity, abundance or genetic integrity.

Management of fisheries targeting enhanced stocks ensure that there are no negative impacts on the wild stocks, in line with the guiding principles described above, as a result of the fisheries.

Enhancement activities do not negatively affect the ecosystem through density dependent competition or any other means, as informed by the best available science.

Monterey Bay Aquarium **Seafood Watch**[®]

Seafood Watch[®] Standard for Fisheries

Seafood Watch® Standard for Aquaculture

Introduction

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This document houses the Seafood Watch Standard for Aquaculture as approved on February 20-21, 2020 in Monterey, CA. The Standard allows assessment of the relative sustainability of aquaculture operations according to the conservation ethic of the Monterey Bay Aquarium. It includes background and rationale text explaining how the assumptions and Seafood Watch values are reflected within the calculations and scoring options. Wild seafood sources are evaluated with a different standard. The Standard for Aquaculture, the Standard for Fisheries, and the Standard for Salmon, in addition to our assessment process, assessments and recommendations, are all available at www.seafoodwatch.org.

This Standard will be used for all aquaculture assessments beginning April 1st 2020, and consists of:

1. Defined guiding principles
2. Science-based performance criteria that are regularly revised based on the input from aquaculture experts
3. A robust and objective scoring methodology that results in a transparent assessment of an aquaculture operation against the performance criteria

Assessing against the Seafood Watch Standard for Aquaculture results in a Seafood Watch rating of Best Choice (green), Good Alternative (yellow), or Avoid (red). The assessment criteria are used to determine a final numerical score as well as numerical sub-scores and color ratings for each criterion. These scores are translated to a final Seafood Watch color rating according to the methodology described in the table below. The table also describes how Seafood Watch defines each of these categories.

Best Choice	Final Score $\geq 6.665^1$ and ≤ 10 , and no Red Criteria, and no Critical ² scores	Wild-caught and farm-raised seafood on the “Best Choice” list are ecologically sustainable, well managed and caught or farmed in ways that cause little or no harm to habitats or other wildlife. These operations align with all of our guiding principles.
Good Alternative	Final score ≥ 3.335 and ≤ 6.664 , and no more than one Red Criterion, and no Critical scores.	Wild-caught and farm-raised seafood on the “Good Alternative” list cannot be considered fully sustainable at this time. They align with most of our guiding principles, but there is either one conservation concern needing substantial improvement, or there is significant uncertainty associated with the impacts of this fishery or aquaculture operations.

¹ Each criterion is scored from 1 to 10 based on sub-factor scores, as described in the document below. Criteria scoring ≤ 3.334 are considered “red” criteria.

² Very severe conservation concerns receive “Critical” scores, which result in an Avoid recommendation.

Avoid	Final Score ≥ 0 and ≤ 3.334 , or two or more Red Criteria, or one or more Critical scores.	Wild-caught and farm-raised seafood on the “Avoid” list are caught or farmed in ways that have a high risk of causing significant harm to the environment. They do not align with our guiding principles, and are considered unsustainable due to either a Critical conservation concern, or multiple areas where improvement is needed.
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Seafood Watch Guiding Principles for Aquaculture

Seafood Watch® defines “sustainable seafood” as seafood from sources, whether fished or farmed, that can maintain or increase production without jeopardizing the structure and function of affected ecosystems.

Sustainable aquaculture farms and collective industries, by design, management and/or regulation, address the impacts of individual farms and the cumulative impacts of multiple farms at the local or regional scale by:

1. **Having robust and up-to-date information on production practices and their impacts available for analysis;**
Poor data quality or availability limits the ability to understand and assess the environmental impacts of aquaculture production and subsequently for seafood purchasers to make informed choices. Robust and up-to-date information on production practices and their impacts should be available for analysis.
2. **Not allowing effluent discharges to exceed, or contribute to exceeding, the carrying capacity of receiving waters at the local or regional level;**
Aquaculture farms minimize or avoid the production and discharge of wastes at the farm level in combination with an effective management or regulatory system to control the location, scale and cumulative impacts of the industry’s waste discharges.
3. **Being located at sites, scales and intensities that maintain the functionality of ecologically valuable habitats;**
The siting of aquaculture farms does not result in the loss of critical ecosystem services at the local, regional, or ecosystem level.
4. **Limiting the type, frequency of use, total use, or discharge of chemicals to levels representing a low risk of impact to non-target organisms;**
Aquaculture farms avoid the discharge of chemicals toxic to aquatic life or limit the type, frequency or total volume of use to ensure a low risk of impact to non-target organisms.
5. **Sourcing sustainable feed ingredients and converting them efficiently with net edible nutrition gains;**
Producing feeds and their constituent ingredients has complex global ecological impacts, and the efficiency of conversion can result in net food gains or dramatic net losses of nutrients. Aquaculture operations source only sustainable feed ingredients or those of low value for human consumption (e.g., by-products of other food production), and convert them efficiently and responsibly.
6. **Preventing population-level impacts to wild species or other ecosystem-level impacts from farm escapes;**
Aquaculture farms, by limiting escapes or the nature of escapees, prevent competition, reductions in genetic fitness, predation, habitat damage, spawning disruption, and other impacts on wild fish and ecosystems that may result from the escape of native, non-native and/or genetically distinct farmed species.

- 7. Preventing population-level impacts to wild species through the amplification and retransmission, or increased virulence of pathogens or parasites;**
Aquaculture farms pose no substantial risk of deleterious effects to wild populations through the amplification and retransmission of pathogens or parasites, or the increased virulence of naturally occurring pathogens.
- 8. Using eggs, larvae, or juvenile fish produced from farm-raised broodstocks thereby avoiding the need for wild capture;**
Aquaculture farms use eggs, larvae, or juvenile fish produced from farm-raised broodstocks thereby avoiding the need for wild capture, or where farm-raised broodstocks are not yet available, ensure that the harvest of wild broodstock does not have population-level impacts on affected species. Wild-caught juveniles may be used from passive inflow, or natural settlement.
- 9. Preventing population-level impacts to predators or other species of wildlife attracted to farm sites;**
Aquaculture operations use non-lethal exclusion devices or deterrents, prevent accidental mortality of wildlife, and use lethal control only as a last resort, thereby ensuring any mortalities do not have population-level impacts on affected species.
- 10. Avoiding the potential for the accidental introduction of secondary species or pathogens resulting from the shipment of animals;**
Aquaculture farms avoid the international or trans-waterbody movements of live animals, or ensure that either the source or destination of movements is biosecure in order to avoid the introduction of unintended pathogens, parasites and invasive species to the natural environment.

Monterey Bay Aquarium Seafood Watch®

Seafood Watch® Standard for Aquaculture