



Sustainable Fisheries Partnership

Generic Metrics System

(v.1, 2010)

1. An Overview of the Generic Metrics Systems

The Sustainable Fisheries Partnership (SFP) has developed a Metrics Systems to provide retailers and seafood buyers with a tool to monitor the sustainability of their seafood sources and guide procurement decisions.

The Metrics System packages, referred to as Generic Metrics Systems (GMSs) are flexible and can be customized to best suite individual corporate needs. However all GMSs include a seafood supplier interface and a Dashboard that displays the information queried by the corporate user.

To begin, each GMS is populated with a list of the company's relevant source fisheries. Because it is a secure, web-based application the company's seafood suppliers are then able to access a specific section of the GMS and upload information on a regular basis (to be determined by the company – but can be weekly, monthly, quarterly, etc).

When seafood suppliers access the GMS, they simply toggle from a drop-down list the source fisheries or fish farms of the product sold during that period. Reporting of additional information such as volume can also be required.

Then, the GMS automatically retrieves sustainability information about the source fisheries from FishSource (www.fishsource.org), SFP's online clearinghouse of science-based, publically available information (see Section 2.4). If a source is not already profiled on FishSource, the company or supplier simply completes a request form - and the SFP research team is mobilized to respond.

SFP acknowledges that different companies have specific needs and sustainability commitments that guide their seafood procurement. Therefore, we have developed three GMS packages that we feel meets most of these needs. Although "generic", these packages are flexible and may better serve as a point of departure to build a more comprehensive system.

GMS

- Dashboard display provides snapshots on the three components of sustainability as they related to the source(s) in question: Governance Quality, Target Stock and Environment.
- Assigns color-coded indicators (green, amber, red) to convey the level of risk in procuring from that particular source (low, medium, high, respectively). See more detail in Section 2 of this document.

GMS2

- Same as GMS, but is well suited for companies that have made a commitment to source only MSC certified products by a certain deadline.
- Assigns grades to fisheries based on certification progress:
 - A+ grade for fisheries that are already certified.
 - A grade for fisheries that are:
 - Likely to earn MSC certification
 - In full assessment
 - Are on schedule to exceed the company's deadline
 - B+ grade for fisheries that will likely miss the deadline, but are engaged with the MSC and making good progress
 - B grade for fisheries that are not yet engaged with the MSC, but are making good improvement progress in the water
 - C grade for fisheries that are showing evidence of improvement, but have a significant work that is yet to be done
 - D grade for fisheries that are showing no signs of improvement
 - D- grade for fisheries where the suppliers are not yet engaged in efforts to improve the fishery

GMS3

- Well suited for companies that are applying a diverse set of criteria to guide their procurement and/or have commitments to and partnerships with environmental non-governmental organizations (NGO).
- Assigns color-coded indicators determine whether to "buy," "not buy," or "buy but improve" based on criteria important to the company (and their NGO partner). The actual criteria or "decision tree" is developed in coordination with the company. An example includes (also see Annex 1):
 - Buy if:
 - MSC certified.

- NGO green rating and FishSource profile indicates no problems.
- No MSC certification or NGO green rating, but FishSource profile indicates no problems.
- Buy but support improvements if:
 - NGO yellow rating, FishSource profile indicates no critical problems, and the fishery is demonstrating progress in the water.
 - NGO yellow or red rating, FishSource profile indicates no critical problems, and fishery is demonstrating some progress on improvements.
 - NGO red rating, FishSource profile indicates a critical problem, but fishery is demonstrating improvement in the water.
- Don't buy if:
 - NGO red rating, FishSource profile indicates no critical problems or unavailable and available information confirms critical problems, and no progress on improvements.
 - NGO yellow or red rating, FishSource profile indicates critical problem, and no progress on improvements.
 - Classified as endangered or critically endangered by the International Union for Conservation of Nature (IUCN).

SFP has devised a set of criteria to track the progress of improvement projects (both those run by SFP and by other entities). This information is housed behind-the-scenes on FishSource where we also track the status of MSC eco-certification and can house relevant NGO ratings. This allows the GMSs to automatically retrieve information from a single, reliable and well-maintained information source.

Companies can request access to an online demonstration of the GMS to explore both seafood supplier data interface and the Dashboard display (ask your SFP staff liaison).

The following section provides an overview of the standards developed by SFP that inform the GMS's "low," "medium," or "high" risk ratings.

2. GMS Standards

This technical section describes the GMS standards (hereafter referred to as *standard*) by which fishery ratings are derived, hereafter referred to as *outcomes*. This section does not address the standards for aquaculture, interface design, nor any aspects of GMS2 and GMS3 for which separate documents shall be prepared.

2.1. Outcomes

Fisheries rated by the GMS shall obtain one of three possible outcomes, in increasing order of quality: "High Risk" (red), "Medium Risk" (yellow) and "Low Risk" (green). Reference to colors should be regarded only as an aid to differentiate fisheries undergoing distinct sustainability conditions and should not be framed into any other publicly available system. Section 3 provides guidance on how the outcomes may be used on sourcing decisions.

2.2. Components and Decision Rules

The standard relies on three main components:

- **Governance Quality**
- **Target Stock**
- **Environment**

Each fishery shall obtain a separate outcome at each component. The criteria of evaluation for each component are described in Section 2.4. The way the three outcomes combine into the *Final* overall outcome for the fishery obeys the following “least outcome” rule:

- A “High Risk” (red) *Final* outcome results if a red outcome on any component is observed, regardless of the outcomes of the other two components;
- A “Medium Risk” (yellow) *Final* outcome results if a yellow outcome on any component is observed provided that no red outcomes exist at the component level and regardless of the outcomes at the other two components;
- A “Low Risk” (Green) *Final* outcome results if green was the outcome observed for all components.

2.3. Source of information

The information source for GMS is FishSource (www.fishsource.org). FishSource is an online resource available to the public about the sustainability status of fisheries and fish stocks. FishSource consolidates and summarizes the main science-based, fishery-related information needed by seafood buyers to evaluate the sustainability of fisheries and guide their procurement decisions. Each fishery has a separate profile on FishSource which provides different depths of information, among which are a Summary Page and Scores Page.

The FishSource scores are used to generate the outcomes for the Governance Quality and Target Stock components of the GMS. The outcome for the Environment component is derived from parameters stored on each fishery profile which are derived from the Summary page and Sustainability Info sections of the FishSource profile. The FishSource scores currently relate to the Marine Stewardship Council (MSC) standards, in that a score of 8 is parallel to that of an 80 MSC rating on the related criterion – i.e., “unconditional passing” according to the MSC standard. To learn more about how scores were derived or how they relate to the MSC system refer to the FishSource website (http://www.fishsource.org/indices_overview.pdf).

2.4. Evaluation criteria

The tables below describe the evaluation criteria by component – Governance Quality (Table 1), Target Stock (Table 2) and Environment (Tables 3 and 4). The Environment component has five different criteria of evaluation: (i) Protected, Endangered and Threatened Species, (ii) Bycatch, (iii) MPA [Marine Protected Area] Network, (iv) Habitat Impact and (v) Ecosystem Impact. The Environment standards for “Low Risk” (green) on criteria (iii) and (iv) were developed such that GMS goes beyond the “unconditional pass” requirements of the MSC (i.e., score ≥ 80) by explicitly highlighting existent risks and required improvements.

Table 1 – Governance Quality: outcomes at Component level and interpretation.

Outcome at Component level	Interpretation	FishSource Scores (FSS) conditions
High Risk	There is significant illegal fishing (i.e., catches are > 25% over quota)	FSS # 3 < 6
	Management is not precautionary, and managers ignore scientific advice	FSS # 1 < 6 AND FSS # 2 < 6
Medium Risk	Management is not precautionary or managers ignore scientific advice	FSS # 1 < 6 OR FSS # 2 < 6
	Management is not adequately precautionary or managers don't adequately follow management advice or compliance is not adequate	$6 \leq \text{FSS \# 1} < 8$ OR $6 \leq \text{FSS \# 2} < 8$ OR $6 \leq \text{FSS \# 3} < 8$
Low Risk	Management strategy is precautionary, managers follow scientific advice, and catchers comply	FSS #1 ≥ 8 AND FSS #2 ≥ 8 AND FSS# 3 ≥ 8

Table 2 – Target Stock: outcomes at Component level and interpretation.

Outcome at Component level	Interpretation	FishSource Scores (FSS) conditions
High Risk	Stock is depleted	FSS # 4 < 6
	Stock is below target levels and fishing mortality is above the limit point	$6 \leq \text{FSS \# 4} < 8$ AND FSS # 5 < 6
Medium Risk	Stock is below target level and fishing mortality is below the limit point	$6 \leq \text{FSS \# 4} < 8$ AND FSS # 5 ≥ 6
	Stock is above target level but fishing mortality is above the limit point (> 50% above target)	FSS # 4 ≥ 8 AND FSS # 5 < 6
	Stock is above target and fishing mortality is between target and the limit point	FSS #4 ≥ 8 AND $6 \leq \text{FSS \# 5} < 8$
Low Risk	Stock is at or above target level and fishing mortality is at or below the target level	FSS #4 ≥ 8 AND FSS #5 ≥ 8

Table 3 – Environment: outcomes at Component level and interpretation.

Outcome at Component level	Interpretation
High Risk	One or more of the criteria (i) to (v) on Table 4 is “High Risk” rated
Medium Risk	None of criteria (i) to (v) are “High Risk” rated
Low Risk	All criteria (i) to (v) are “Low Risk” rated

Table 4 – Environment Component: criteria (i to v) for evaluation. An outcome is obtained after evaluating one or more sub-conditions described in the table body.

Criterion	Outcome at criteria level		
	Red	Yellow	Green
(i) PET Species	The fishery is directly (i.e., by fishing gear) OR indirectly (i.e. by means of food-web interactions and ecosystem structure) impacting protected, endangered or threatened species AND their populations are failing to rebuild.	No Red condition is met; meets some but not all Green sub-conditions.	All significant fishery interactions with the marine environment are understood, monitored and managed to fall within agreed management targets AND there's evidence that both direct and indirect impacts of fishing on PET species are not significant.
(ii) Bycatch	Bycatch is high AND is unrecorded, OR a bycatch species is depleted and the bycatch mortality is preventing rebuilding.	No Red condition is met; meets some but not all Green sub-conditions.	Meets green criteria for (i) PET species AND all currently known proven best practices and best technologies are being used to minimize and manage fishing impacts (i.e., low impact fishing gears are being used, and management measures such as seasonal closures, fishing seasons, surveillance and monitoring are maximizing selectivity and minimizing discarding).
(iii) MPA network	The fishery is having an impact on PET species or habitat AND no spatial protection measures are in place.	No Red condition is met; meets some but not all Green sub-conditions	The fishery is taking place in a marine ecosystem where ecosystem functions and biodiversity have been protected in a representative network of MPAs.
(iv) Habitat impact	The fishery is negatively impacting known high-conservation-value-habitats.	No Red condition is met; meets some but not all Green sub-conditions	Meets green criteria for both (ii) Bycatch AND (iii) MPA network.
(v) Ecosystem impact	The fishery is causing irreversible or significant ecosystem change (i.e., predator populations declining to unacceptably low levels, in the case of fisheries on low trophic level species, or trophic cascades as a result of fisheries on top predators).	No Red condition is met; meets some but not all Green sub-conditions	Meets green criteria for (i) PET species AND ecosystem modeling (i.e., Ecosim, Ecopath, and ideally multi-species VPA) OR ecosystem research during historic lows in biomass exist and show permanent significant changes in the ecosystem did not occur, or are highly unlikely to occur.

Dealing with uncertainty: “Undefined” (grey) ratings

There might be fisheries for which some information is available but not enough to determine one of the three ratings at the component level. While all the relevant available information shall be reflected on the GMS, an “Undefined” (grey) rating shall be attributed at the component level. If all three components are “Undefined” then the final evaluation for the fishery shall be “Undefined”; if there's a mix of “Undefined” and ratings other than “High Risk” (red) at the component level then the fishery shall be rated “Medium Risk” (yellow); any “High Risk” rating at the component level shall trigger a “High Risk” rating for the fishery regardless of ratings on other components, including “Undefined”.

3. Using the outcomes to inform sourcing decisions and engaging suppliers in FIPs

Final outcomes should be interpreted as information for deciding which steps should be taken at procurement levels, not as the steps themselves. For example, a Final “High Risk” (red) outcome should not be seen as ‘stop sourcing’ advice. The causes for this outcome should be analysed by the company (under the advisement of SFP) and framed into their own, internal procurement policies. For example, a Final “High Risk” outcome on a high volume, important source fishery may encourage engagement in, or stimulate development of, a fishery improvement project. In such a case, the company may choose to continue sourcing from the “High Risk” fishery to provide a market incentive for improvements – especially if progress is being made.

There are nonetheless some situations where a Final “High Risk” outcome resulted because the fishery is so severely depleted (Table 2), that a company may decide to stop sourcing. But if such Final outcome has derived from a situation where fishing mortality, despite being too high, is close to the point where an outcome upgrade would take place then a company may decide to continue sourcing, but prioritise that fishery for urgent improvement work through its supply chain.

4. When global perception should prevail upon automatically generated outcomes and why – fine-tuning the GMS

Although the evaluation criteria in Tables 1 to 4 provide an unbiased perception in the majority of situations, there might be instances in which fine-tuning of the process is required to factor in variables that are not already, or can't currently be, captured. A non-exhaustive list of such variables includes:

- Recruitment trends over time and, especially, recent trends and recent estimates as compared to historical patterns (low recruitment is a potential risk factor);
- Age structure of the populations (a population composed to a large extent by young fish is a potential risk factor);
- Trends of biomass and fishing mortality (a decreasing, steep, consistent – for example, over more than 4 years - trend of biomass is a risk factor, regardless of what the levels are in comparison to biological reference points; the same applies to an increasing trend of fishing mortality, regardless of biomass status);
- Differences and trends over time of those differences between total biomass (all fish) and spawning biomass (mature fish);

- Environmental phenomena that have known and described impacts upon fish populations (e.g., the El niño event);
- Changes on directly related species on the food-webs (predator-prey interactions).

Should any such fine-tuning be required the issue shall be raised and explained in the Dashboard display, available to the GMS user.

For more information about the GMSs please contact:

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