



# Reduction Fisheries:

SFP Fisheries Sustainability Overview 2017

October 2017



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## KEYWORDS

$B_{MSY}$ ; certification; ecosystem-based fisheries management; fisheries; FishSource;  $F_{MSY}$ ; forage; improvement; low trophic level; reduction; stock status; supply chain; sustainability; target

## DISCLAIMER

This report was mainly prepared with information available from [FishSource.org](http://FishSource.org)<sup>™</sup>, a program of Sustainable Fisheries Partnership (SFP). The findings summarized in the report are based on information that the authors accessed from FishSource in August 2017. SFP updates FishSource regularly but the report may not capture the most recent data for all the stocks. Always check [FishSource.org](http://FishSource.org) for the most updated information SFP has for any given stock and fishery. Given the large number of existing fisheries for a given sector, this report evaluates the strategically most important stocks worldwide (based on criteria such as volume of catch or interest for SFP partners, for example). The *scoring and ranking categories* provided currently do not take into account the environmental impacts of the fisheries (i.e., are based solely on the quality of management/degree of fishers' compliance and the status of the stock). However, the main environmental issues are considered at a high resolution, based on information already captured in the respective narrative "Environment and Biodiversity" sections of [FishSource.org](http://FishSource.org), and also in other sources of information. ***The views expressed in this report are solely those of Sustainable Fisheries Partnership and in no way reflect the views of any other party.***



## EXECUTIVE SUMMARY

This briefing represents the eighth edition of the SFP global sustainability overview of the main Pacific and Atlantic fish stocks used for reduction purposes (to produce fishmeal and fish oil). As in the previous edition, the 2017 analysis covers 20 stocks from 13 species and two main groups (fish and crustaceans), rated according to the sustainability assessment presented on FishSource (<http://www.fishsource.org>), the SFP public database of fisheries information. The document covers the most recent assessment period for which comparable data is publicly available as of August 2017.

As with previous editions, this 2017 overview focuses solely on the stocks mostly used for fishmeal and fish oil from the main Pacific and Atlantic oceans—regardless of the taxonomical group. Fisheries that are used exclusively as fish trimmings are excluded from this sustainability analysis. Southeast Asian fisheries that are used mainly for reduction (mainly from “trash” fish fisheries, but also from fisheries targeting small pelagics) are also very relevant to the global catch supply for fishmeal and fish oil and agriculture fertilizers but are not covered in this report.

The fisheries evaluated are ranked into four sustainability categories (A, B1, B2, and C) according to scores on FishSource. The categorization is based on the quality of management (scores 1 to 3) and status of the target stock (scores 4 and 5). While information on the environmental impacts of fishing activities is also captured in the narrative sections of the FishSource fishery profiles, it is not currently captured by the scoring system. The categories, defined within the context of FishSource’s 10-point scoring scale, are:

Categories	Criteria
<b>Category A:</b> Very well managed fisheries	Score 8 and above across all FishSource scores
<b>Category B1:</b> Reasonably managed fisheries with stock in good condition	Score $\geq 6$ across all FishSource scores, and score $\geq 8$ in terms of biomass
<b>Category B2:</b> Reasonably managed fisheries	Score 6 or above across all FishSource scores
<b>Category C:</b> Poorly managed fisheries	At least one FishSource score is below 6

In addition, information on the current certification and improvement programs for each of these fisheries is provided.



In summary, the briefing concludes that for the 20 stocks analyzed in 2017:

- **More than fifty percent (56%)** of the catch supply for reduction purposes in the Atlantic and east Pacific oceans continues to come from South American fisheries (FAO area 87), followed by European (FAO area 27; 26% of total catch supply) and northwest African (FAO area 34; 8% of total catch) fisheries (**Appendix A**).
- Compared to last year, there was a **32% increase in the total catch supply by the reduction fisheries** included in this overview. This was related to a considerable increase in catches of the South American reduction fisheries, in particular of Peruvian anchoveta (to more than twice of the previous year)—the species with generally the highest catches in the world (FAO 2016). Other important fisheries, such as the NE Atlantic blue whiting (*Micromesistius poutassou*), also contributed to this increase in production (**Appendix B**).
- Anchoveta (*Engraulis ringens*) remains by far the most important species for reduction purposes, accounting for almost half (48%) of the total catch in this overview. The two other most captured species remain blue whiting (14%) from NE Atlantic and European pilchard (8%). **Together, these three species account for more than 60% of the total reported catches** of the fisheries analyzed in this report.
- **Catches from fisheries for reduction** purposes continue to have a **considerable contribution** to the total finfish catches. This is particularly true in areas such as the SE Pacific and the Antarctic, where reduction fisheries comprised **more than 75%** of the total marine finfish catch.<sup>1</sup> The **contribution of reduction fisheries to the total finfish catch** for each of the FAO areas covered in this overview ranged from **25% (East-Central Atlantic; FAO 34)** to **99% (Atlantic, Antarctic; FAO 48)** (**Appendix C**).
- **As in previous editions, almost all reduction fisheries in the Atlantic and Eastern Pacific continue to target low trophic level (LTL) species.** It is important that the management of these fisheries focuses on an ecosystem-based (rather than single-species) approach, given the key role of some of these species as a source of food for upper levels of the food chain.
- As in previous editions, most of the catch comes from a few very important stocks: the **top five fisheries** accounted for **almost two thirds of the total catch in this analysis (Table 4)**. With the exception of NE Atlantic blue whiting, these are all South American reduction fisheries.
- **2.2 percent** of the total catch volume of the reduction fisheries in this analysis comes from stocks in very good condition (**Category A**) (Figure 1; **Table 3**). As in the two previous editions, this corresponds to a single fishery: Antarctic krill - Atlantic Southern Ocean. This stock is managed by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), and has had MSC-certified fisheries since 2010. It is important to note, however,

<sup>1</sup> For the Antarctic Atlantic, krill catches are compared to total capture production in that FAO fishing area with the exception of aquatic marine plants and mammals (i.e., finfish, crustaceans, etc.).



that this does not mean that ecosystem monitoring should be ignored. Future ecosystem effects (such as warming of the Antarctic by anthropogenic climate change) and the relationship to fishery management are not taken into account in this overview.

- Out of the 20 stocks of this overview, 10 have fisheries that are already covered by the MSC program, 19 have fisheries that are covered by the IFFO Responsible Sourcing, and three are covered by fishery improvement projects (FIPs) that are making good progress. According to the available estimates, **more than two thirds of the production covered in this overview are coming from fisheries that are MSC certified or under full assessment (25%), or in a FIP that is making good progress (44%).**
- More than **three quarters (81%)** of the total catch volume in this analysis comes from stocks that are reasonably well managed (or better) (i.e., that score 6 or above on all five FishSource criteria). The stock with the largest contribution to this category continues to be the **Anchoveta - Peruvian northern-central stock**, which **represented around 35%** of the total catch, compared to 22% in the previous overview.
- The catch volume from reasonably managed fisheries with stock in good condition (**Category B1**) **increased by 16%** compared to last year. This was mostly due to NE Atlantic blue whiting, in which management improvements have been observed (see **Table 5** for more details).
- **Seventeen percent** (1.7 million tonnes) of the total catch for reduction purposes comes from poorly managed fisheries (**Category C**), a drop of 32% compared to last year.
  - Currently most of the **C-rated** fisheries are already relatively well managed (i.e., score 6 or above on the FishSource criteria related to management quality), but either the stock is in a seriously depleted condition, or fishing pressure remains too high. For these stocks, efforts should be made to continue adequate management in order to allow the stock and exploitation status to improve.
  - Only one fishery, Anchoveta - Chilean Central-Southern (regions V-X), remains in very bad shape both in terms of management (in this particular case the issue is fishers' compliance with set quotas) and stock status (current biomass well below the limit reference point). In this fishery, improvements are needed in the management strategy to ensure landings are in line with the set quotas, to allow stock recovery.
  - A more detailed analysis of why each of these fisheries is scoring badly (i.e., less than 6 across one or more criteria) is provided in **Appendix E**.
  - Of the 20 fisheries analyzed, **changes in sustainability categories from last year** were observed in **six fisheries** (details on the specific changes for each of the fisheries can be found in **Table 6**.
    - **Four fisheries improved** their status:
      - Blue whiting - NE Atlantic (C to B1)
      - Anchoveta - Chilean Central-Southern (regions III and IV) (B2 to B1)
      - Araucanian herring - Central-South Chile (C to B2)
      - Chilean jack mackerel - Southeast Pacific (C to B2)



- **Two fishery stocks decreased** in their sustainability category:
  - European sprat - North Sea (B1 to C)
  - Boarfish - NE Atlantic (B2 to C)
  
- The situation is still far from satisfactory in Asia. More than half the fishmeal produced worldwide is derived from fish caught in the Asian region and these fisheries are poorly documented and managed. There is a clear need for industry to play a role in supporting fishery improvement projects in this region to ensure that eventually all fishmeal and fish oil are derived from sustainably managed fisheries.



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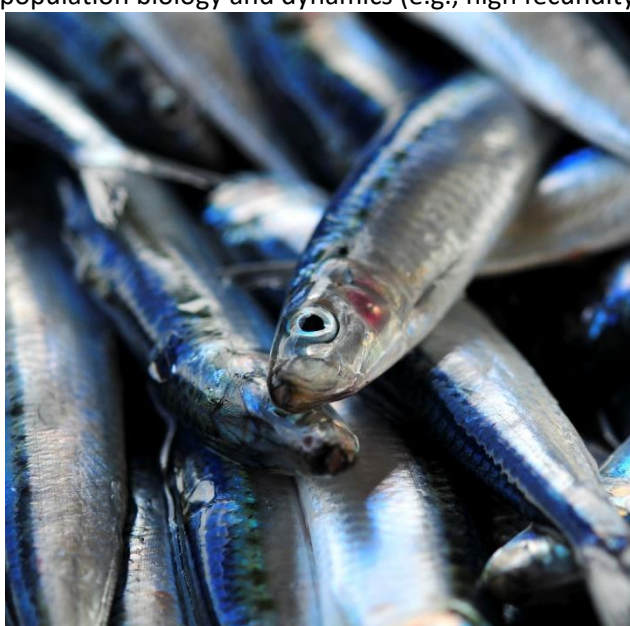


## 1 INTRODUCTION

Sustainable Fisheries Partnership (SFP) applies a sectoral approach to its mission of making actionable information available to the supply chain in order to leverage market forces to achieve improvements in fisheries. Seafood sectors may be defined in terms of the shared biological characteristics of harvested species as well as their role in defined markets (so, for instance, krill and anchovy share few biological characteristics, but they are both important in the same fishmeal and fish oil markets). Recently, SFP has announced a new sector-based initiative, called [Target 75](#) (SFP 2017a), which aims to get 75 percent of the world's seafood produced in a sustainable manner, or demonstrating improvement toward sustainability, by 2020. The reduction fisheries are one of the strategic seafood sectors covered by this initiative.

SFP has created an online database, [FishSource.org](#), to track individual stock and fishery performance within each sector against the [FishSource sustainability criteria](#) for management quality and stock status, environmental impacts, and improvement needs of individual fisheries. As of August 2017, FishSource covered 2,182 fisheries from more than 1,300 stocks or assessment units and 450 marine and freshwater wild-captured species (SFP 2017b). Since 2008, analyses of FishSource data (in the form of "sector reports") have been performed for the many strategic seafood sectors. The sector reports assess the sustainability performance of individual stocks and aggregate data in order to reflect the status of the overall sector. This information can provide useful guidance to those parts of the fishing and seafood industries that need to incorporate sustainability criteria into procurement policies. This particular report focuses on the reduction fisheries sector, with particular emphasis on fisheries from the Atlantic and east Pacific oceans.

Reduction fisheries for the fishmeal and fish oil industry in the Atlantic and east Pacific oceans are largely dominated by low trophic level species. Also known as forage species, these are small, short-lived species that occupy a low trophic level (LTL) in the ecosystem (e.g., krill, anchovy, herring, pilchard, sprat, sardine, sandeel, and menhaden) and can be found in large shoals in specific regions (e.g., southeast Pacific). Due to their specific population biology and dynamics (e.g., high fecundity, early maturity, and short life span), these species are frequently resilient to fishing pressure if catches are well managed, but overfishing is always a possibility without effective controls. These stocks are also extremely important to wider ocean ecology because they are a critical food source for many species of fish, marine mammals, and seabirds and act as the foundation for many food webs. It is of the utmost importance that these stocks are well managed with adequate safety margins and a healthy respect for the wider ecological implications of commercial exploitation.







This SFP Fisheries Sustainability Overview analyzes reduction fisheries from 20 different stocks (most targeting forage species) and assesses the sustainability of the current management regimes. As in 2016, only a subset of the global catch that is used for reduction is covered: fisheries that are used exclusively as fish trimmings are excluded from this sustainability analysis. Southeast Asian fisheries that are used mainly for reduction (mainly from “trash fish”<sup>2</sup> fisheries, but also from fisheries targeting small pelagics) are also very relevant to the global catch supply for fishmeal and fish oil and agriculture fertilizers but are not included in this report. However, a brief update on the growing importance, main challenges, and selected improvements of these Southeast Asian fisheries is provided.

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<sup>2</sup> “Trash fish” is the term commonly used for fish that have generally very low or no direct commercial value; these are generally fish that are small in size or species with very low consumer preference. Trash fisheries are of great importance in the Asian region, representing more than one fourth of the total marine capture production in several Southeast Asian countries (FAO 2005). Trash fish are mostly used as fishmeal in aquaculture, but also for human consumption (as a cheap source of animal protein in coastal areas).



## 2 SOURCES OF INFORMATION AND ASSESSMENT CRITERIA

Our overview is based on information from [FishSource.org](http://FishSource.org), SFP's online information resource about the status of fish stocks and fisheries. FishSource scores (Cannon 2006) consist of a suite of criteria to assess key aspects of management and stock status of fisheries and fish stocks. **Table 1**, below, provides a brief explanation of the five FishSource scoring criteria (full details of the FishSource scoring methodology can be found at: <https://www.fishsource.org/how/scores>).

**Table 1.** Current rationale for each of the five FishSource scoring criteria.

	Score/Criterion	Rationale	Rationale (description)
<b>Management quality</b>	<b>Score 1:</b> Is management precautionary?	$F_{at\ low\ biomass} / F_{target}$ OR $F_{current} / F_{target}$	How does the adopted limit and/or target reference point for fishing mortality rate compare to the stock's fishing mortality rate at low biomass, as an index of whether the management strategy is precautionary? The higher the ratio, the lower the score.
	<b>Score 2:</b> Do fishery managers follow scientific advice?	Set TAC / Advised TAC	How does the adopted total allowable catch (TAC) level compare to the scientific advice on measures needed to meet stock management objectives, as an index of whether fishery managers follow scientific advice? The higher the ratio, the lower the score.
	<b>Score 3:</b> Do fishers comply?	Catches / Set TAC	How did the catch level in the most current year for which data are available compare to the adopted TAC level, as an index of whether harvest control rules were met? The higher the ratio, the lower the score.
<b>Stock Status</b>	<b>Score 4:</b> Is the stock biomass healthy?	$B_{current} / B_{target}$	How does stock biomass in the most current year for which data are available compare to the biomass level that is predicted to support maximum sustainable yields, or similar biological reference point, as an index of whether the stock biomass is healthy? The higher the ratio, the higher the score.
	<b>Score 5:</b> Will the stock be healthy in the future?	$F_{current} / F_{target}$	How does the fishing mortality rate in the most current year for which data are available compare to the rate that is predicted to support maximum sustainable yields, or similar biological reference point, as an index of whether the stock will be healthy in the future? The higher the ratio, the lower the score.

Source: Cannon 2006

For profiles assessed using the FishSource quantitative criteria, FishSource scores each criterion on a scale of 0 to 10, with 0 being the lowest and 10 the highest possible score. Preserving comparability with quantitative scores, qualitative scores are obtained by using the cut-off points as used in applications of the MSC fishery assessment method, where “< 6” indicates a high risk and a negative assessment finding, “≥ 6” indicates a medium risk and that improvements are required, and “≥ 8” indicates a low risk and that the fishery meets the criterion conditions.



The scores are based on the most recently available public data as of August 2017 and generally represent a snapshot of the position in 2016/2017 with regard to management quality and stock status indicators and in 2015<sup>3</sup> for catch statistics.

FishSource scores are then used to place fisheries into one of four ranked sustainability categories (A, B1, B2, and C). The categorization is based on the quality of management (scores 1 to 3) and status of the target stock (scores 4 and 5). While information on environmental impacts of fishing activities is also captured in the narrative sections of the FishSource fishery profiles, it is not currently captured by the scoring system. **Table 2**, below, shows the criteria of the four sustainability categories used in the overview.

**Table 2.** Criteria for the four sustainability categories used in this 2017 Fisheries sustainability overview.

Categories	Criteria
<b>Category A:</b> Very well managed fisheries	Score 8 and above across all FishSource scores
<b>Category B1:</b> Reasonably managed fisheries with stock in good condition	Score $\geq 6$ across all FishSource scores, and score $\geq 8$ in terms of biomass
<b>Category B2:</b> Reasonably managed fisheries	Score 6 or above across all FishSource scores
<b>Category C:</b> Poorly managed fisheries	At least one FishSource score is below 6

Given the important role of most of the species used for reduction as forage species (e.g., Peruvian anchoveta, Antarctic krill), particular emphasis is placed on biomass for the categorization above (i.e., the split into categories B1 and B2). This reflects the crucial role of this criterion in determining the quality of management of a fishery and is closely aligned with recent developments in the Marine Stewardship Council Fisheries Assessment Methodology with regard to low trophic level (LTL) fisheries.

In addition to an overview of management quality and the current status of the stocks, we also review and summarize the involvement in specific improvement and certification standards for each of the fisheries included in this overview.

As in the two previous editions, this 2017 overview focuses solely on the stocks used for fishmeal and fish oil, regardless of taxonomic group, due to a redefinition of this seafood sector to better align with its strategic mission. For instance, in the last three editions we included the Antarctic krill stock, which is a crustacean but growing in importance as a commodity for fishmeal or krill oil purposes.

Conversely, the herring stocks from the northwest Atlantic (and, more recently, most of the northeast Atlantic mackerel and horse mackerel), where catches have been mostly for human consumption in recent times, were excluded from this year's analysis. The proportion of any given species/stock being

<sup>3</sup> Although catch data for 2016 is already available for some fisheries, most is only available through 2015, thus we have used the 2015 catch across all fisheries.



utilized for fishmeal and fish oil will be a function of market demand and can change with time. As in the 2016 edition, this 2017 overview does not include the four smaller stocks of the North Sea sandeel (lesser sandeel - Central Western North Sea, lesser sandeel - Shetland, lesser sandeel - Kattegat, and lesser sandeel - Viking and Bergen Banks). These are minor stocks and only represent a small fraction (<2% in volume) of the total sandeel catches in the North Sea. Although currently outside of the scope of this report, the evaluations for these specific fisheries are still available and can be consulted at [FishSource.org](http://FishSource.org).



### 3 RESULTS

#### 3.1 Overview of management quality and the current status of the stocks

Overall, the main results from the current assessment of the 20 reduction fisheries, in terms of management quality and stock status, are as follows:

- **More than fifty percent (56%)** of the catch supply for reduction purposes in the Atlantic and east Pacific oceans continues to come from South American fisheries (FAO area 87), followed by European (FAO area 27; 26% of total catch supply) and northwest African (FAO area 34; 8% of total catch) fisheries (**Appendix A**).
- Compared to last year, there was a **32% increase in the total catch supplied by the reduction fisheries** included in this overview. This was related to a considerable increase in catches of the South American reduction fisheries, in particular of Peruvian anchoveta (to more than twice the previous year's catch)—the species with generally the highest catches in the world (FAO 2016). Other important fisheries, such as the NE Atlantic blue whiting (*Micromesistius poutassou*), also contributed to this increase in production (**Appendix B**).
- Anchoveta (*Engraulis ringens*) remains by far the most important species for reduction purposes, accounting for almost half (48%) of the total catch in this overview. The two other most captured species remain blue whiting (14%) from NE Atlantic and European pilchard (8%). **Together, these three species account for more than 60% of the total reported catches** of the fisheries analyzed in this report.
- **Catches from fisheries for reduction** purposes continue to have a **considerable contribution** to the total finfish catches. This is particularly true in areas such as the SE Pacific and the Antarctic, where reduction fisheries comprised **more than 75%** of the total marine finfish catch.<sup>4</sup> The **contribution of reduction fisheries to the total finfish catch** for each of the FAO areas covered in this overview ranged from **25% (East-Central Atlantic; FAO 34)** to **99% (Atlantic, Antarctic; FAO 48)** (**Appendix C**).
- **As in previous editions, almost all reduction fisheries in the Atlantic and Eastern Pacific continue to target low trophic level (LTL) species.** It is important that the management of these fisheries focuses on an ecosystem-based (rather than single-species) approach, given the key role of some of these species as a source of food for upper levels of the food chain.
- As in previous editions, most of the catch comes from a few very important stocks: the **top five fisheries** accounted for **almost two thirds of the total catch in this analysis (Table 4)**. With the exception of NE Atlantic blue whiting, these are all South American reduction fisheries.

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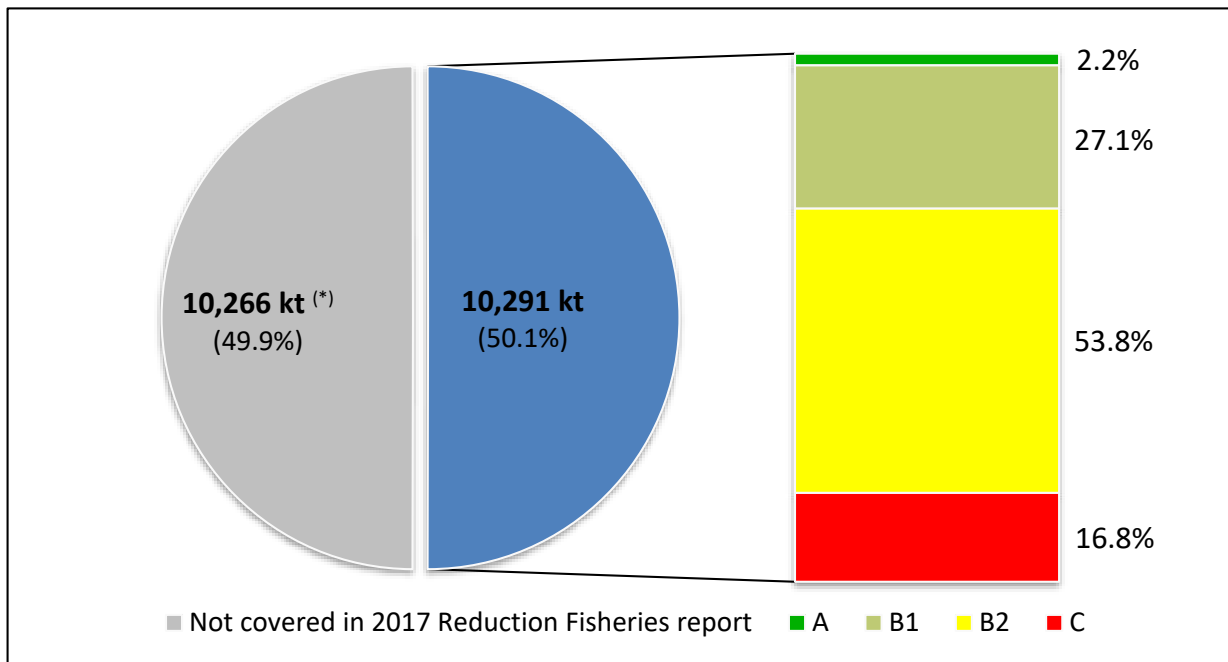
<sup>4</sup> For the Antarctic Atlantic, krill catches are compared to total capture production in that FAO fishing area with the exception of aquatic marine plants and mammals (i.e., finfish, crustaceans, etc.).



- **2.2 percent** of the total catch volume of the reduction fisheries in this analysis comes from stocks in very good condition (**Category A**) (Figure 1; **Table 3**). As in the two previous editions, this corresponds to a single fishery: Antarctic krill - Atlantic Southern Ocean. This stock is managed by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), and has had MSC-certified fisheries since 2010. It is important to note, however, that this does not mean that ecosystem monitoring should be ignored. Future ecosystem effects (such as warming of the Antarctic by anthropogenic climate change) and the relationship to fishery management are not taken into account in this overview.
- Out of the 20 stocks of this overview, 10 have fisheries that are already covered by the MSC program, 19 have fisheries that are covered by the IFFO Responsible Sourcing, and three are covered by fishery improvement projects (FIPs) that are making good progress. For more information in terms of certification and fisheries improvement projects, see **section 3.2**.
- More than **three quarters (83%)** of the total catch volume in this analysis comes from stocks that are reasonably well managed (or better) (i.e., that score 6 or above on all five FishSource criteria), **a 26% increase compared to last year**. The stock with the largest contribution to this category continues to be the **Anchoveta - Peruvian northern-central stock**, which **represented around 35%** of the total catch, compared to 22% in the previous overview.
- The catch volume from reasonably managed fisheries with stock in good condition (**Category B1**) **increased by 13%** compared to last year. This was mostly due to management improvements in the NE Atlantic blue whiting fishery (see **Table 5** for more details).
- **Seventeen percent** (1.7 million tonnes) of the total catch for reduction purposes comes from poorly managed fisheries (**Category C**), **a drop of 26% compared to last year**. This is the lowest percentage of the last five years (Figure 2).
  - Currently most of the **C-rated** fisheries are already relatively well managed (i.e., score 6 or above on the FishSource criteria related to management quality), but either the stock is in a seriously depleted condition, or fishing pressure remains too high. For these stocks, efforts should be made to continue adequate management in order to allow the stock and exploitation status to improve.
  - Only one fishery, Anchoveta - Chilean Central-Southern (regions V-X), remains in very bad shape both in terms of management (in this particular case the issue is fishers' compliance with set quotas) and stock status (current biomass well below the limit reference point). In this fishery, improvements are needed in the management strategy to ensure landings are in line with the set quotas, to allow the stock recovery.
  - A more detailed analysis of why each of these fisheries scores badly (i.e., less than 6 across one or more criteria) in one or more of the specific FishSource sustainability criteria is provided in **Appendix E**.



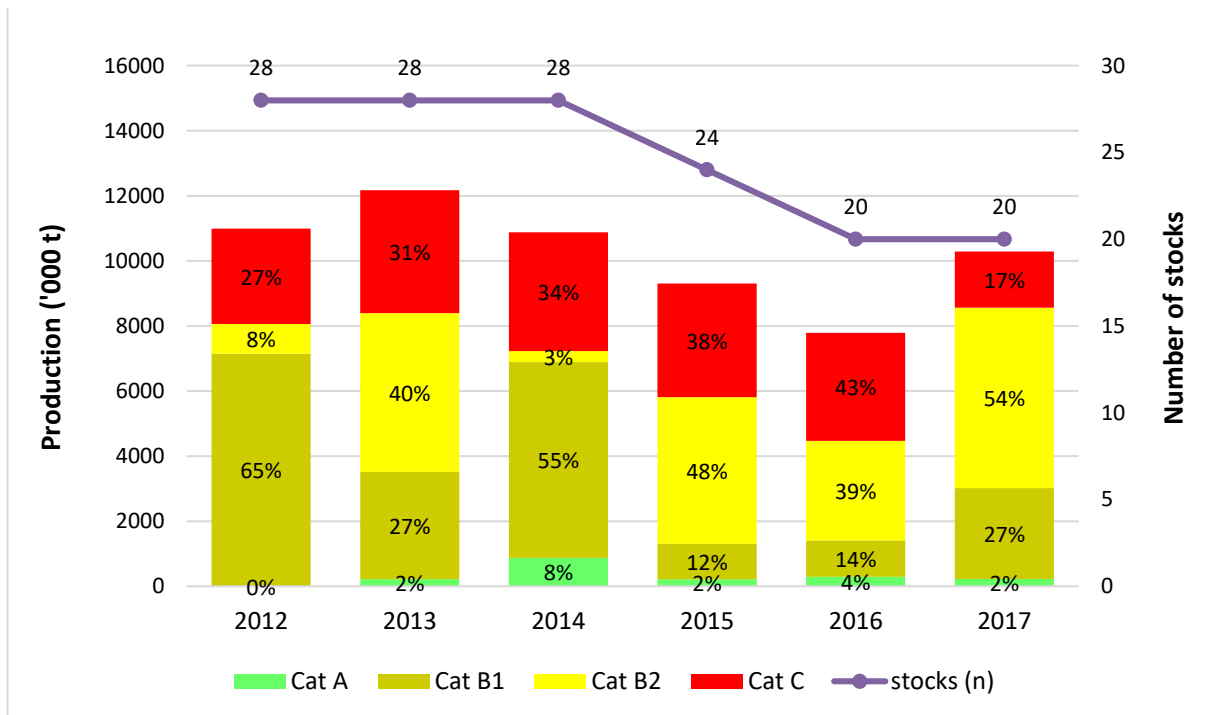
- Of the 20 fisheries analyzed, **changes in sustainability categories from last year** were observed in **six fisheries** (details on the specific changes for each of the fisheries can be found in **Table 6**).
  - **Four fisheries improved** their status:
    - Blue whiting - NE Atlantic (C to B1),
    - Anchoveta - Chilean Central-Southern (regions III and IV) (B2 to B1)
    - Araucanian herring - Central-South Chile (C to B2)
    - Chilean jack mackerel - Southeast Pacific (C to B2)
  - **Two fishery stocks decreased** in their sustainability category:
    - European sprat - North Sea (B1 to C)
    - Boarfish - NE Atlantic (B2 to C)



**Figure 1.** Catch volume ('000 t) and percentage of global reduction fisheries supply covered in this report, and percentage of catch by SFP FishSource sustainability category compared to the combined reported catch of the 20 stocks covered in this report (column chart). Notes: (\*) Includes estimated global supply from Indian oil sardine and other Southeast Asian reduction fisheries (~9.05 million tonnes) (FAO 2012; CMFRI 2015).

**Table 3.** Changes in catch volumes of fish from the four categories (A, B1, B2, C) between the 2016 and 2017 reporting periods, for the 20 stocks covered in this report.

Evaluation category	Evaluation category criteria	2017 report			2016 report			Balance 2016 – 2017
		Stocks (n)	Catch ('000 t)	% of catch	Stocks (n)	Catch ('000 t)	% of catch	
<b>A</b>	All scores ≥ 8	1	226	2.2%	1	293.0	3.8%	-1.6%
<b>B1</b>	All scores ≥ 6, and biomass score ≥ 8	7	2793	27.1%	6	1117.9	14.3%	12.8%
<b>B2</b>	All scores ≥ 6, biomass score <8	6	5542	53.8%	6	3058.4	39.3%	14.6%
<b>C</b>	One or more scores < 6	6	1731	16.8%	7	3321.7	42.6%	-25.8%



**Figure 2.** Number of stocks and percentage of the total volume per year for each sustainability category (A, B1, B2, C), for reporting periods 2012 through 2017.





**Table 4.** Current FishSource scores, sustainability category, and latest catch data for the 20 main stocks used for reduction purposes and assessed in this overview (as of 15 August 2017) (catches refer to 2015 and are in thousand tonnes).

Stock <sup>(1)</sup>	Management			Stock Status		Evaluation category	Latest Catch	% of total	Changes from last year
	Score 1	Score 2	Score 3	Score 4	Score 5				
<a href="#">Antarctic krill - Atlantic Southern Ocean</a>	≥ 8	10	10	≥ 8	≥ 8	<b>A</b>	225.6	2.2%	-
<a href="#">Blue whiting - NE Atlantic</a>	≥ 6	10	8.3	10	7.2	<b>B1</b>	1396.2	13.6%	C to B1
<a href="#">Gulf menhaden - Gulf of Mexico</a>	≥ 6	≥ 8	≥ 6	10	10	<b>B1</b>	540.3	5.3%	-
<a href="#">Sandeels nei - Dogger Bank area</a>	≥ 6	10	8.4	10	10	<b>B1</b>	164.8	1.6%	-
<a href="#">Sandeels nei - Central Eastern North sea</a>	≥ 6	≥ 8	10	10	9.8	<b>B1</b>	104.6	1.0%	-
<a href="#">Norway pout - North Sea</a>	≥ 6	10	10	10	≥ 8	<b>B1</b>	63.4	0.6%	-
<a href="#">Anchoveta - Chilean Central-Southern (regions III and IV)</a>	≥ 6	10	10	8	8.9	<b>B1</b>	20.1	0.2%	B2 to B1
<a href="#">European pilchard - NW Africa southern</a>	≥ 6	≥ 6	≥ 6	≥ 8	≥ 6	<b>B1</b>	503.8	4.9%	-
<a href="#">Araucanian herring - Central-South Chile</a>	≥ 6	8.2	10	7.6	8.0	<b>B2</b>	435.7	4.2%	C to B2
<a href="#">Atlantic menhaden - NW Atlantic</a>	≥ 6	≥ 6	10	7.2	9	<b>B2</b>	189.3	1.8%	-
<a href="#">Chilean jack mackerel - Southeast Pacific</a>	≥ 6	8.7	10	7.0	10	<b>B2</b>	394.4	3.8%	C to B2
<a href="#">Anchoveta - Peruvian Northern-Central</a>	≥ 6	≥ 8	10	≥ 6	≥ 6	<b>B2</b>	3644.0	35.4%	-
<a href="#">Capelin - Icelandic</a>	≥ 6	10	9.9	≥ 6	≥ 6	<b>B2</b>	517.0	5.0%	-
<a href="#">European pilchard - NW Africa central</a>	≥ 6	≥ 6	≥ 6	≥ 6	≥ 6	<b>B2</b>	361.4	3.5%	-
<a href="#">European sprat - North Sea</a>	≥ 6	9.5	9.3	10	3	<b>C</b>	299.0	2.9%	B1 to C
<a href="#">Capelin - Barents Sea</a>	≥ 8	10	10	< 6	≥ 6	<b>C</b>	115.0	1.1%	-
<a href="#">Boarfish - NE Atlantic</a>	≥ 8	10	10	< 6	≥ 6	<b>C</b>	17.8	0.2%	B2 to C
<a href="#">Anchoveta - Southern Peru/Northern Chile (regions XV-I-II)</a>	≥ 6	≥ 8	≥ 8	5.8	0.0	<b>C</b>	1197.0	11.6%	-
<a href="#">Sandeels nei - SE North Sea</a>	≥ 6	≥ 8	≥ 8	4.6	10	<b>C</b>	37.9	0.4%	-
<a href="#">Anchoveta - Chilean Central-Southern (regions V-X)</a>	≥ 6	8.2	0.0	3.8	8.0	<b>C</b>	64.0	0.6%	-

**Notes:** (1) Shading in stock name: white = no change from 2016; light green = rise in sustainability category; light orange = drop in sustainability category.

**Table 5.** Changes in sustainability categories across the 20 stocks evaluated.

Stock	Change in category <sup>(1)</sup>	Notes
<a href="#">Blue whiting - NE Atlantic</a>	C to B1	<b>A new long-term management plan has been proposed and is being evaluated by ICES. The agreed global catch limit for 2017 was in line with ICES advice and the MSY approach.</b> In 2015, the total catch of blue whiting exceeded the combined unilateral quotas of 1,260 thousand tonnes (by 10%). Landings for 2016 were aligned with the combined unilateral quotas, but numbers for 2016 are still preliminary.
<a href="#">Anchoveta - Chilean Central-Southern (regions III and IV)</a>	B2 to B1	<b>According to the latest assessments, stock is healthy and fishing mortality within sustainable levels. Spawning stock biomass is at the target, and fishing mortality is well below the target.</b> Reference points have been revised by external experts and were recently officially adopted.
<a href="#">Araucanian herring - Central-South Chile</a>	C to B2	<b>According to the latest stock assessment, the stock is perceived as in a better condition than in 2015, but still slightly below the biomass target.</b> Fishing mortality to remain within sustainable levels.
<a href="#">Chilean jack mackerel - Southeast Pacific</a>	C to B2	Spawning stock biomass has been gradually increasing, probably due to a decrease in fishing mortality levels in recent years, but it is still estimated at below the target biomass level.
<a href="#">European sprat - North Sea</a>	B1 to C	The North Sea sprat stock remains in a good condition, but recent fishing mortality (F) is considered too high. <b>Fishing mortality has been increasing since 2013 and in 2015 and 2016 it far exceeded the <math>F_{MSY}</math> proxy, <math>F_{cap}</math> (0.7).</b> The set TAC is now fully aligned with the scientific advice.
<a href="#">Boarfish - NE Atlantic</a>	B2 to C	Stock and exploitation status against defined reference points is unknown; however, <b>biomass indices indicate that the stock is at its lowest level of the historical series. The average of the 2015 and 2016 relative total spawning biomass (TSB) indices is well below both the average of the three preceding years (i.e., 2012–2015) and the long-term average.</b> Fishing mortality dropped sharply in 2015 compared to the previous year, and is currently below the long-term average.

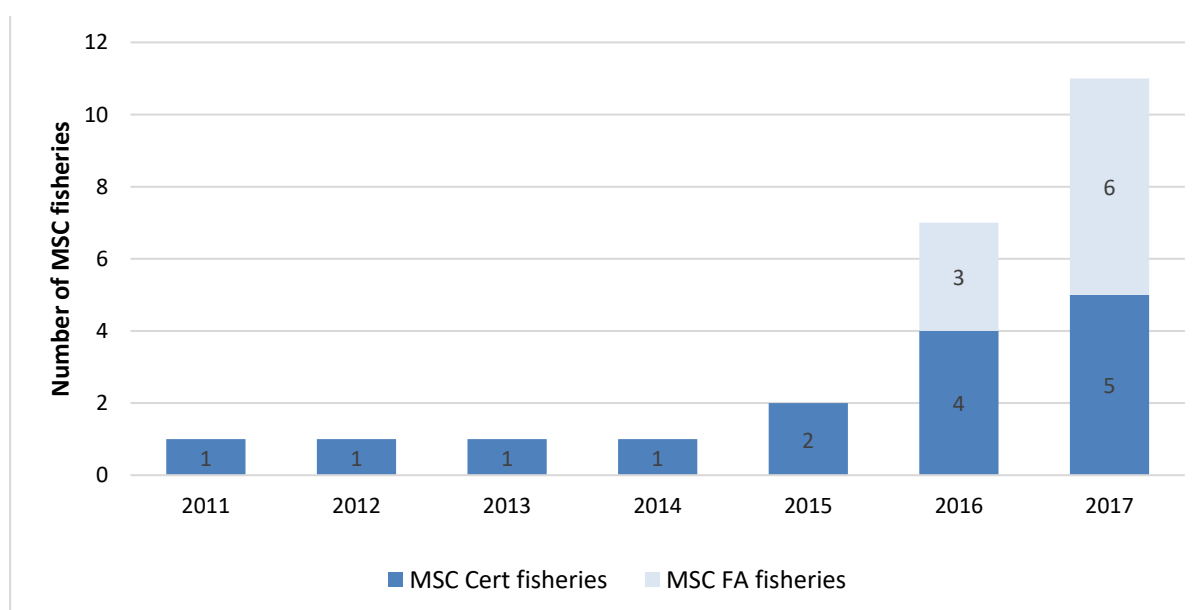
**Notes:** (1) Light green = rise in sustainability category; light orange = drop in sustainability category.



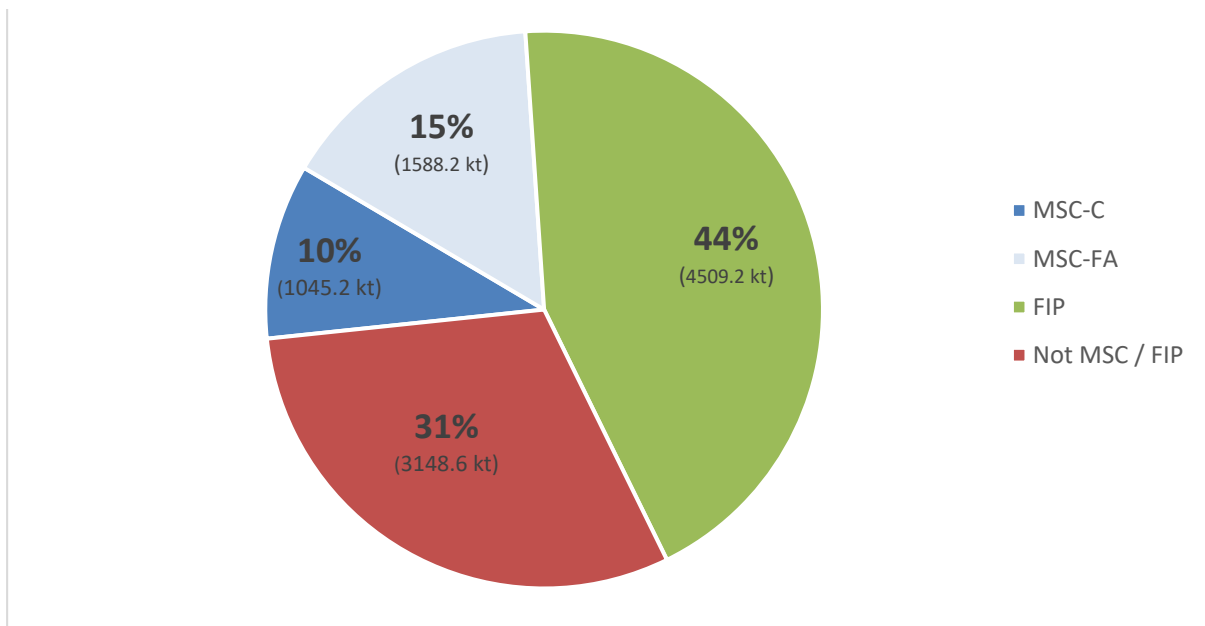
## 3.2 Certification and fishery improvement projects

### 3.2.1 Fisheries certification

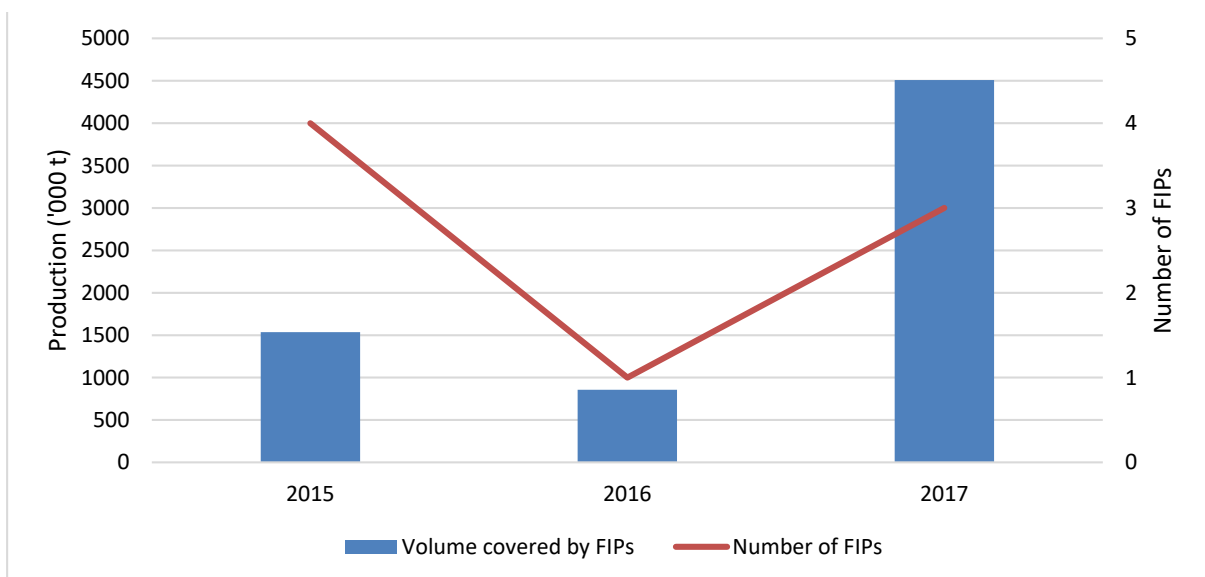
Another visible trend in this sustainability overview is the increasing number of reduction fisheries that are certified to the MSC standard and the increase in fishery improvement projects (FIPs). The number of MSC-certified fisheries has increased considerably for the period 2010–2017 (**Figure 3**), and, currently, more than two thirds (69%) of the production covered in this overview are coming from fisheries that are MSC certified or under full assessment (25%), or in a FIP that is making good progress (44%) (**Figure 4**). The volume covered by FIPs in particular has seen a considerable increase compared to 2016 (**Figure 5**). Since the last sustainability overview, we have seen the formation of two strategically important FIPs, both related to the north-central Peruvian anchovy fishery. Both of these FIPs have received significant support from the aquaculture feed industry and that industry should be given credit for taking a proactive position in improving the sustainability of source materials. In terms of production by FAO areas, for most areas more than two thirds of the production are coming already from fisheries that are MSC certified or under full assessment, or in a FIP that is making good progress (**Figure 6**). However, for the NE Atlantic, Atlantic Antarctic, and Southeast Pacific, some fisheries still have much work to do in terms of improving their sustainability performance.



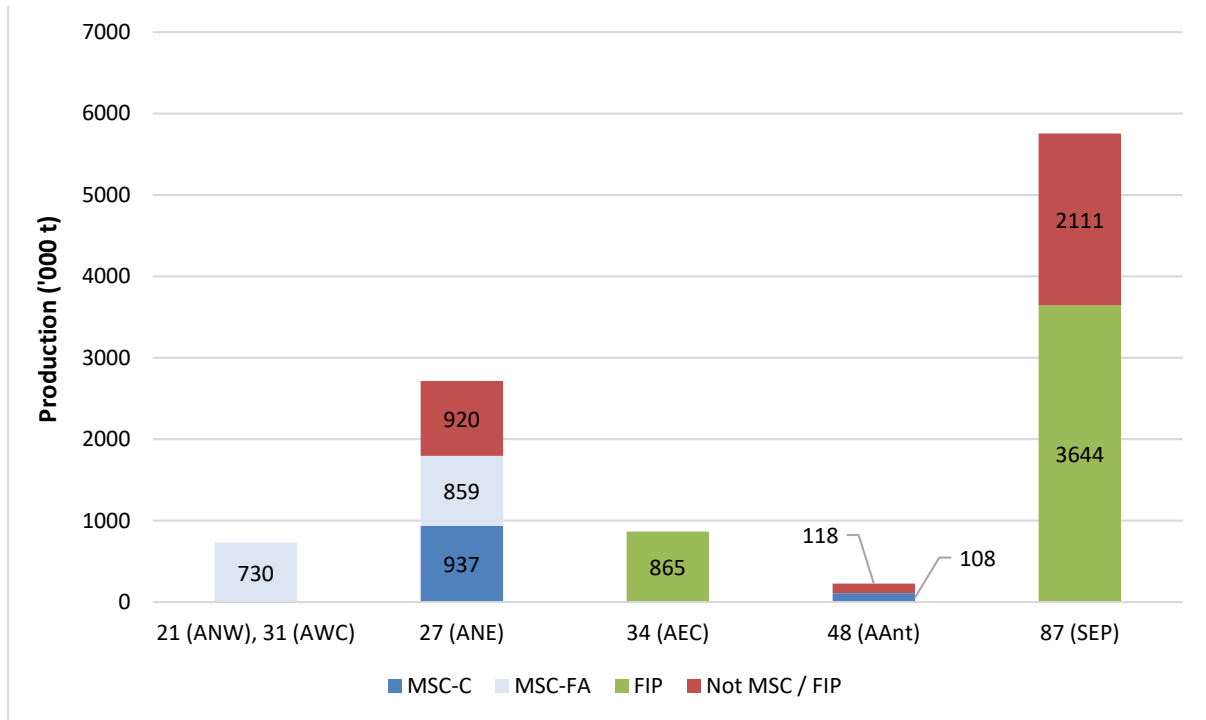
**Figure 3.** Number of fisheries in the MSC program (MSC certified and in assessment) by year from 2008, for the reduction fisheries included in the current overview. Source of data: MSC 2017.



**Figure 4.** Global production in thousand tonnes that is coming from MSC fisheries that are certified (MSC-C) and in full assessment (MSC-FA), in a FIP, and fisheries not MSC-C or in a FIP, for the 20 stocks included in this overview.



**Figure 5.** Changes in production volume (in thousand tonnes) and number of FIPs from 2015 through 2017, for the stocks covered in the current overview.



**Figure 6.** Production by FAO area that is coming from MSC-certified fisheries, fisheries in a FIP, and fisheries not MSC-C or in a FIP, for the 20 stocks included in this overview.

**Notes:** (1) Codes for FAO areas are as follows: 27 (ANE) – Northeast Atlantic, 87 (SEP) – Southeast Pacific, 21 (ANW) – Northwest Atlantic, 31 (AWC) – West-Central Atlantic, 34 (AEC) – East-Central Atlantic, 48 (AAnt) – Antarctic Atlantic. (2) For FAO area 48, the production covered by MSC-FA fisheries is underestimated, as no information is available on the catch covered by the [Deris S.A. - Pesca Chile - Antarctic krill fishery](#) (under MSC FA). Source of data: MSC 2017.

**Table 6.** Information improvement and certification programs for the 20 main stocks used for reduction purposes covered in this overview (as of 15 August 2017).

Stock	FIP information <sup>(3)</sup>			Certifications				MBAq Seafood watch (Year assessment) <sup>(7)</sup>
	FIP name	FIP start (Year)	FIP progress rating	IFFO RS	MSC <sup>(4)</sup>	Date 1 <sup>st</sup> MSC Certification	# of MSC fisheries <sup>(5)</sup>	
<a href="#">Antarctic krill - Atlantic Southern Ocean</a>	na	-	-	-	Cert, FA, Sus	June 2010	3	Good alt. (2017)
<a href="#">Blue whiting - NE Atlantic</a>	na	-	-	Yes	Cert, FA	June 2016	5	-
<a href="#">Gulf menhaden - Gulf of Mexico</a>	na	-	-	Yes	FA	-	1	Good alt.(2015)
<a href="#">Araucanian herring - Central-South Chile</a>	na <sup>(1)</sup>	-	-	Yes	-	-	-	-
<a href="#">Sandeels nei - Central Eastern North Sea</a>	na	-	-	Yes	Cert	March 2017	2	-
<a href="#">Norway pout - North Sea</a>	na	-	-	Yes	Cert, FA	March 2017	2	-
<a href="#">Anchoveta - Chilean Central-Southern (regions III and IV)</a>	na	-	-	Yes	-	-	-	-
<a href="#">European pilchard - NW Africa southern</a>	<a href="#">Morocco sardine - pelagic trawl and seine</a>	2014	B	Yes <sup>(2)</sup>	-	-	-	-
<a href="#">Atlantic menhaden - NW Atlantic</a>	na	-	-	Yes	FA	-	1	Good alt. (2015)
<a href="#">Chilean jack mackerel - Southeast Pacific</a>	na <sup>(1)</sup>	-	-	Yes	-	-	-	-
<a href="#">Anchoveta - Peruvian Northern-Central <sup>(4)</sup></a>	<a href="#">Peruvian anchovy - industrial purse-seine</a>	2017	C	Yes	-	-	-	-
	<a href="#">Peruvian anchovy - small scale purse-seine</a>	2017	C	- <sup>(6)</sup>	-	-	-	-
<a href="#">European pilchard - NW Africa central</a>	<a href="#">Morocco sardine - pelagic trawl and seine</a>	2014	B	Yes <sup>(2)</sup>	-	-	-	-
<a href="#">Capelin - Icelandic</a>	na	-	-	Yes	Cert	April 2017	1	-
<a href="#">European sprat - North Sea</a>	na	-	-	Yes	Cert, FA	March 2017	2	-
<a href="#">Sandeels nei - Dogger Bank area</a>	na	-	-	Yes	Cert, FA	March 2017	2	-
<a href="#">Anchoveta - Southern Peru/Northern Chile (regions XV-I-II)</a>	na	-	-	Yes	-	-	-	-
<a href="#">Capelin - Barents Sea</a>	na	-	-	Yes	-	-	-	-
<a href="#">Boarfish - NE Atlantic</a>	na	-	-	Yes	-	-	-	-
<a href="#">Sandeels nei - SE North Sea</a>	na	-	-	Yes	Cert, FA	March 2017	1	-
<a href="#">Anchoveta - Chilean Central-Southern (regions V-X)</a>	na <sup>(1)</sup>	-	-	Yes	-	-	-	-

**Notes:** (1) The previous improvement programs in these fisheries no longer meet the criteria for a fishery improvement project (FIP). (2) Certified by IFFO as “by-product” fishery (for more information visit the [IFFO Responsible Supply \(RS\) website](#)) (IFFO 2016). (3) For more information on the currently active FIPs please visit the respective FIP public reports. (4) MSC Status: Cert = Certified; FA = Full Assessment; Sus = Suspended. (5) Refers to the number of fisheries that are in the MSC program and that are relevant to the stock. (6) In Peru, the artisanal fishery for anchoveta must be used for human direct consumption only, thus outside of the scope of IFFO and the current overview. (7) Monterey Bay Aquarium Seafood Watch categories (MBAq 2017): Best Ch. = Best Choice; Good Alt. = Good alternative; Av = Avoid.



### 3.2.2 Aquaculture certifications

The feed requirements of aquaculture certifications have developed over recent years. For the purposes of the Global Aquaculture Alliance Best Aquaculture Practices standard, 50% of fishmeal and fish oil must come from fisheries that are certified to the MSC standard, in a credible FIP, or approved for use under the IFFO RS standard. A review of the fisheries featured in this report clearly shows that the vast majority are suitable for this purpose.

The Aquaculture Stewardship Council is currently in a state of transition with its feed requirements. The current operational requirement is that fisheries used for fishmeal and fish oil should achieve a minimum of 6 across all five FishSource scores (so effectively A-, B1-, and B2-rated fisheries are all acceptable) (ASC 2017a; ASC 2017b). The standard is understood to be changing and it is likely that a new feed standard will accept fisheries that are in FIPs, MSC certified, or approved by IFFO RS, but that there will be an obligation on aquaculture feed manufacturers to improve the sustainability of their marine ingredients over time.

Given these changes, it is not easy to construct a simple analysis that identifies those fisheries which are acceptable to aquaculture certifications and those which are not. The only easy conclusion to reach is that if a fishery is not MSC certified, and also neither approved by IFFO RS nor in a credible fishery improvement project, it will not be acceptable.

### 3.3 Southeast Asian reduction fisheries

As in previous editions, this report covers mostly the principal reduction fisheries of the eastern Pacific and the Atlantic. However, and given the importance of Southeast Asia in the global context of fisheries for reduction, we do provide a brief update on the main challenges and some selected improvements of fisheries in this region.

Asian reduction fisheries represent almost half of the global catch for the reduction sector and fall into two categories: the “trash fish” fisheries and the fisheries that target small pelagics. Trash fish are usually generated as a component of the catch from multi-species trawling where species suitable for direct consumption are separated from unpalatable, juvenile, and poorly preserved fish (used for fishmeal) after the catch has been brought aboard the fishing vessel or landed. Recent reports indicate trash fish may comprise a significant portion (e.g., > 20%) of all landings in many SE Asian countries, including more than 50% of landings in Thailand and China.<sup>5</sup>

The fisheries that target small pelagic species are potentially more discerning in catch composition, although the actual levels of bycatch remain uncharacterized. Both of these types of reduction

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<sup>5</sup> Sources: China ([https://secured-static.greenpeace.org/eastasia/Global/eastasia/publications/reports/oceans/2017/Investigation%20into%20China's%20marine%20trash%20fish%20fisheries\\_GPEA%20Media%20Briefing.pdf](https://secured-static.greenpeace.org/eastasia/Global/eastasia/publications/reports/oceans/2017/Investigation%20into%20China's%20marine%20trash%20fish%20fisheries_GPEA%20Media%20Briefing.pdf)); Thailand ([http://www.rebyc-cti.org/countries-profiles/doc\\_download/52-thailand-national-report-on-bycatch-management-and-reduction-of-discard](http://www.rebyc-cti.org/countries-profiles/doc_download/52-thailand-national-report-on-bycatch-management-and-reduction-of-discard)); other Asian countries (<http://www.rebyc-cti.org/countries-profiles>).



fishery mostly still take place in regions with low levels of governance, where fishing pressure can be very high and ecological impacts may be extreme.

SE Asian countries were 6 of the top 15 countries for fishmeal production in 2015 (SEAFISH 2016), accounting for nearly 40% of production among the top 15. The volumes of fishmeal generated by local fisheries (as opposed to other sources such as trimmings from aquaculture and tuna processing) in SE Asia can be substantial; exact figures are hard to calculate, but SFP estimates that the annual catch of fish used for reduction may represent close to half of the global catch for this sector. The fishmeal generated in SE Asia is crucial to the aquaculture industries of the region and particularly for farmed shrimp. But the data in terms of production is scarce and outdated for most countries.



The persistent challenges that reduction fisheries in Asia face include data deficiency, low governance, and severe environmental impacts. For most of these fisheries, the information on the amount of catches, species captured, size composition, main fishing grounds, and effort are scarce and not systematically collected. For most of the species known to be captured, there is no information on the stock condition or the exploitation status. There are also well-established negative social impacts from these fisheries such as labor abuses (particularly associated with Thailand).

With increasing aquaculture production, the demand for fish feed is also likely to continue rising in the future. If nothing is done, this will result in increased fishing pressure on already overexploited fish stocks in the region (FAO 2005). Reduction fisheries in SE Asia urgently need to adopt improvement programs to meet accepted global norms for fishery management and environmental/social impacts, but there has been relatively little progress so far. SFP is aware of at least seven fishery improvement projects that have been declared in the region, although only one meets the “Basic FIP” definition under Conservation Alliance guidelines (CASS 2015). This is a notable increase from 2016, but the need for more FIPs and more effective FIPs is urgent.





## 4 CONCLUSIONS

This report tells an extremely positive story about recent developments in reduction fisheries in the Atlantic and eastern Pacific. More than **three quarters (83%)** of the total catch volume in this analysis comes from stocks that are reasonably well managed (or better) (i.e., that score 6 or above on all five FishSource criteria), **a 26% increase compared to last year**. Out of the 20 stocks considered in this overview, 10 have fisheries that are already covered by the MSC program, 19 have fisheries that are covered by the IFFO Responsible Sourcing program, and three are covered by fishery improvement projects (FIPs) that are making good progress. According to the available estimates, **more than two thirds (69%) of the production covered in this overview are coming from fisheries that are MSC certified or under full assessment (25%), or in a FIP that is making good progress.**

This exceptional progress in fishery management deserves to be properly recognized and the managers of these fisheries should be congratulated. Praise is also due the aquaculture feed manufacturing industry that has played a constructive role in supporting fishery improvement projects in key reduction fisheries.

However, despite the good news from the eastern Pacific and Atlantic, it is still the case that almost half the world's fishmeal comes from fisheries in Asia that are poorly documented and managed. The next challenge for the fishmeal and fish oil industry and the users of their products will be to catalyze improvements in Asian fisheries—whether “trash fish” or targeted small pelagics fisheries. Only through creating and supporting fishery improvement projects can we expect to see the kind of progress currently experienced in the Atlantic and eastern Pacific and eventually build a fishmeal and fish oil industry that is 100% sustainable.



## 5 REFERENCES

- Aquaculture Stewardship Council (ASC). 2017a. ASC Salmon Standard. v1.1 – April 2017. Utrecht, The Netherlands. 103 pp. [https://www.asc-aqua.org/wp-content/uploads/2017/07/ASC-Salmon-Standard\\_v1.1.pdf](https://www.asc-aqua.org/wp-content/uploads/2017/07/ASC-Salmon-Standard_v1.1.pdf)
- ASC. 2017b. ASC Tilapia Standard. v1.1 – April 2017. Utrecht, The Netherlands. 44 pp. <https://www.asc-aqua.org/wp-content/uploads/2017/07/ASC-Tilapia-Standard-v1-1-Clean.pdf>
- Cannon, J. 2006. FishSource Scores, how they're calculated and what they represent, v.1. Sustainable Fisheries Partnership. 20 pp. [http://www.fishsource.org/indices\\_overview.pdf](http://www.fishsource.org/indices_overview.pdf)
- Conservation Alliance for Seafood Solutions (CASS). 2015. Guidelines for Supporting Fishery Improvement Projects. Conservation Alliance for Seafood Solutions (CASS). 22 pp.
- Central Marine Fisheries Research Institute (CMFRI). 2015. CMFRI Annual Report 2014–15. Indian Council of Agricultural Research. Cochin, India. 353 pp. <http://eprints.cmfri.org.in/10461/1/CMFRI%20Annual%20Report%202014-15.pdf>
- Food and Agriculture Organisation of the United Nations (FAO). 2005. Asian fisheries today: The production and use of low value/trash fish from marine fisheries in the Asia-Pacific region. RAP PUBLICATION 2005/16. Regional Office for Asia and the Pacific. Bangkok, Thailand. 38 pp. <ftp://ftp.fao.org/docrep/fao/008/ae934e/ae934e00.pdf>
- FAO, 2012. Regional overview of fisheries and aquaculture in Asia and the Pacific 2012. RAP PUBLICATION 2012/26. Bangkok, Thailand. 140 pp. <http://www.fao.org/docrep/017/i3185e/i3185e00.pdf>
- FAO. 2016. The State of World Fisheries and Aquaculture 2016. *Contributing to food security and nutrition for all*. Rome. 200 pp. <http://www.fao.org/3/a-i5555e.pdf>
- FAO. 2011–2017. Fisheries and aquaculture software. FishStatJ – software for fishery statistical time series. Bibliographic citation [online]. Rome. Updated 21 July 2016. [Cited 15 August 2017]. Accessed online at: <http://www.fao.org/fishery/>
- International Council for the Exploration of the Sea (ICES). 2016. ICES Advice on fishing opportunities, catch, and effort Northeast Atlantic. Book 9: Widely distributed and migratory stocks. 9.3.6. Blue whiting (*Micromesistius poutassou*) in Subareas I–IX, XII, and XIV (Northeast Atlantic). 9 pp. <http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2016/2016/whb-comb.pdf>
- International Fishmeal and Oil Organization (IFFO). 2016. “IFFO RS Approved whole fish and by-product raw material.” IFFO website. 30 June 2016. Accessed online at: <https://www.iffors.com/iffo-rs-approved-whole-fish>
- Marine Stewardship Council (MSC). 2017. Fisheries in the MSC program. MSC website. 15 August 2017. Accessed online at: <https://fisheries.msc.org/en/fisheries/>
- Monterey Bay Aquarium (MBAq) 2017. SeafoodWatch: Seafood Recommendations. MBAq website. 15 August 2017. Accessed online at: <http://www.seafoodwatch.org/seafood-recommendations>
- SEAFISH. 2016. Fishmeal and fish oil facts and figures. December 2016. 33 pp. [http://www.seafish.org/media/publications/SeafishFishmealandFishOilFactsandFigures\\_201612.pdf](http://www.seafish.org/media/publications/SeafishFishmealandFishOilFactsandFigures_201612.pdf)



Sustainable Fisheries Partnership (SFP). 2017a. Our Target 75 Initiative. June 2017. 7 pp.

<https://www.sustainablefish.org/News/SFP-launches-Target-75-initiative>

SFP. 2017b. FishSource. World Wide Web electronic publication. 15 August 2017. Accessed online at:

<http://www.fishsource.org>

## ACKNOWLEDGEMENTS

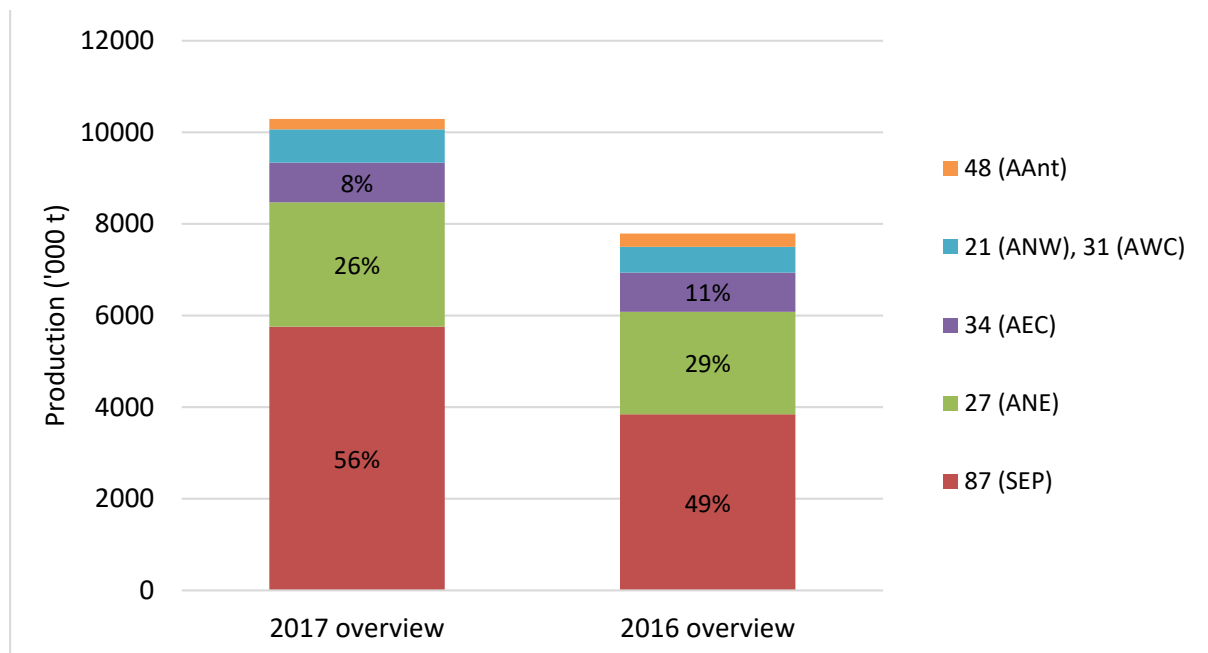
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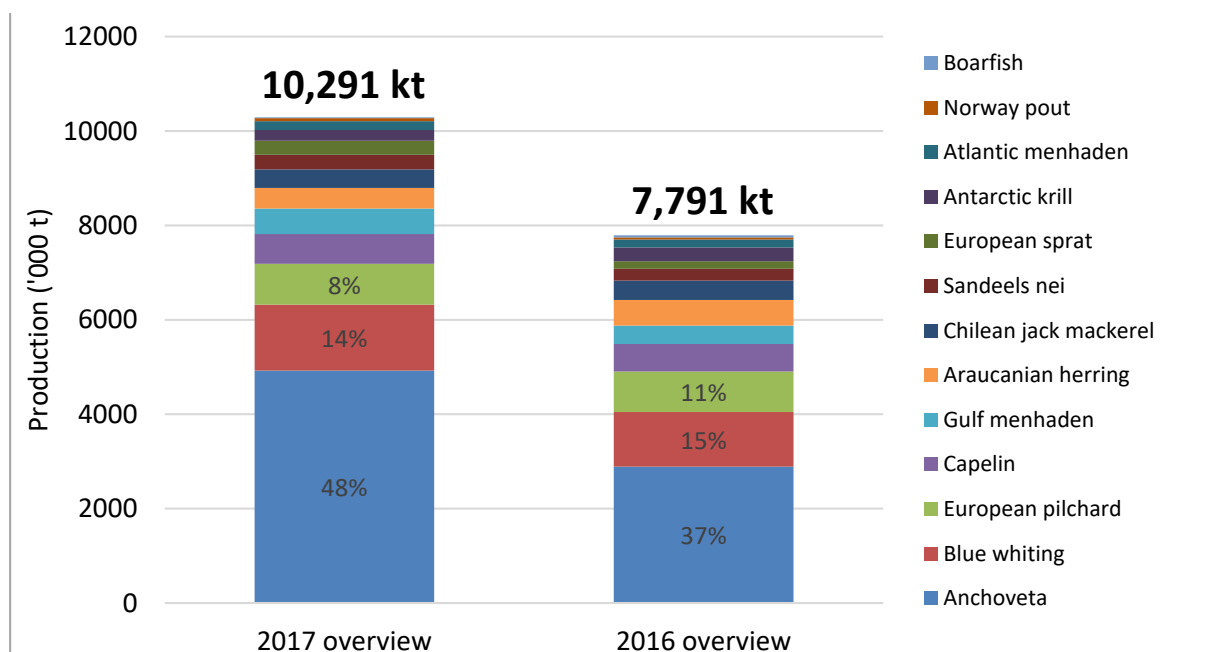
## APPENDICES

**Appendix A.** Total reported catch, catch by FAO area, and relative contribution to the total catch for the three top FAO areas, for the reduction fisheries included in the 2015 and 2016 overviews.



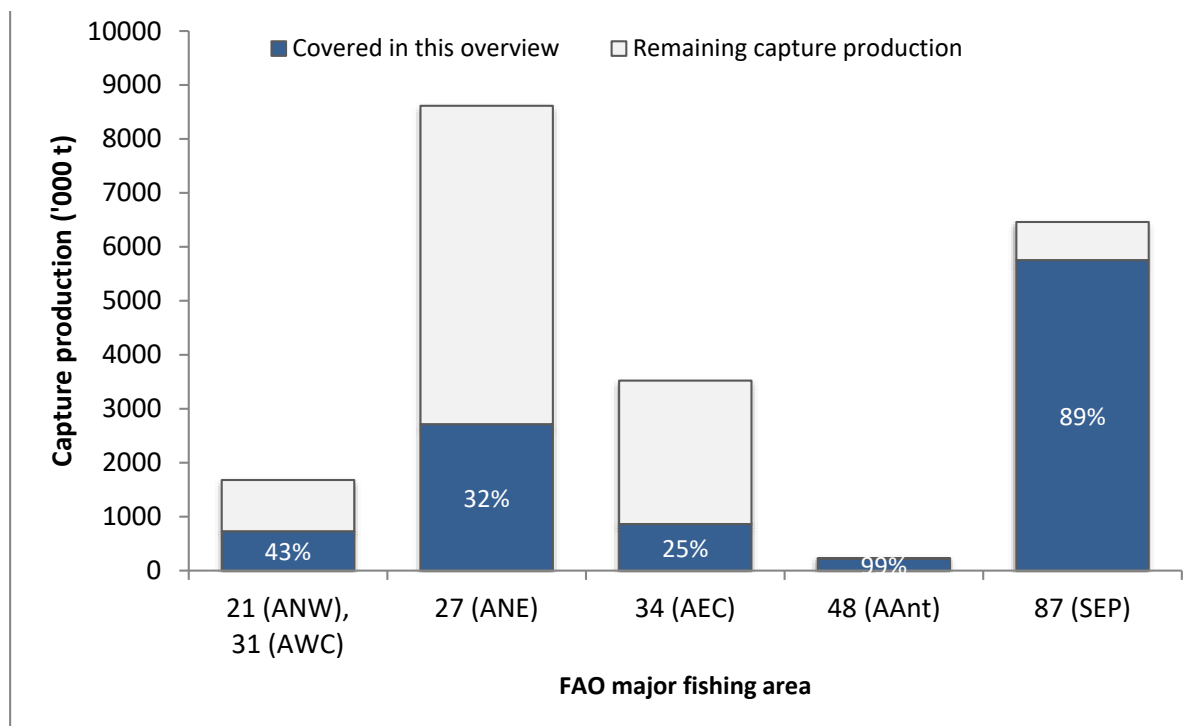
**Note:** Codes for FAO areas are as follows: 27 (ANE) – Northeast Atlantic, 87 (SEP) – Southeast Pacific, 21 (ANW) – Northwest Atlantic, 31 (AWC) – West-Central Atlantic, 34 (AEC) – East-Central Atlantic, 48 (AAnt) – Antarctic Atlantic.

**Appendix B.** Total reported catch, catch by species, and relative contribution to the total catch for the three top species, for the 20 stocks included in the 2016 and 2017 overviews.





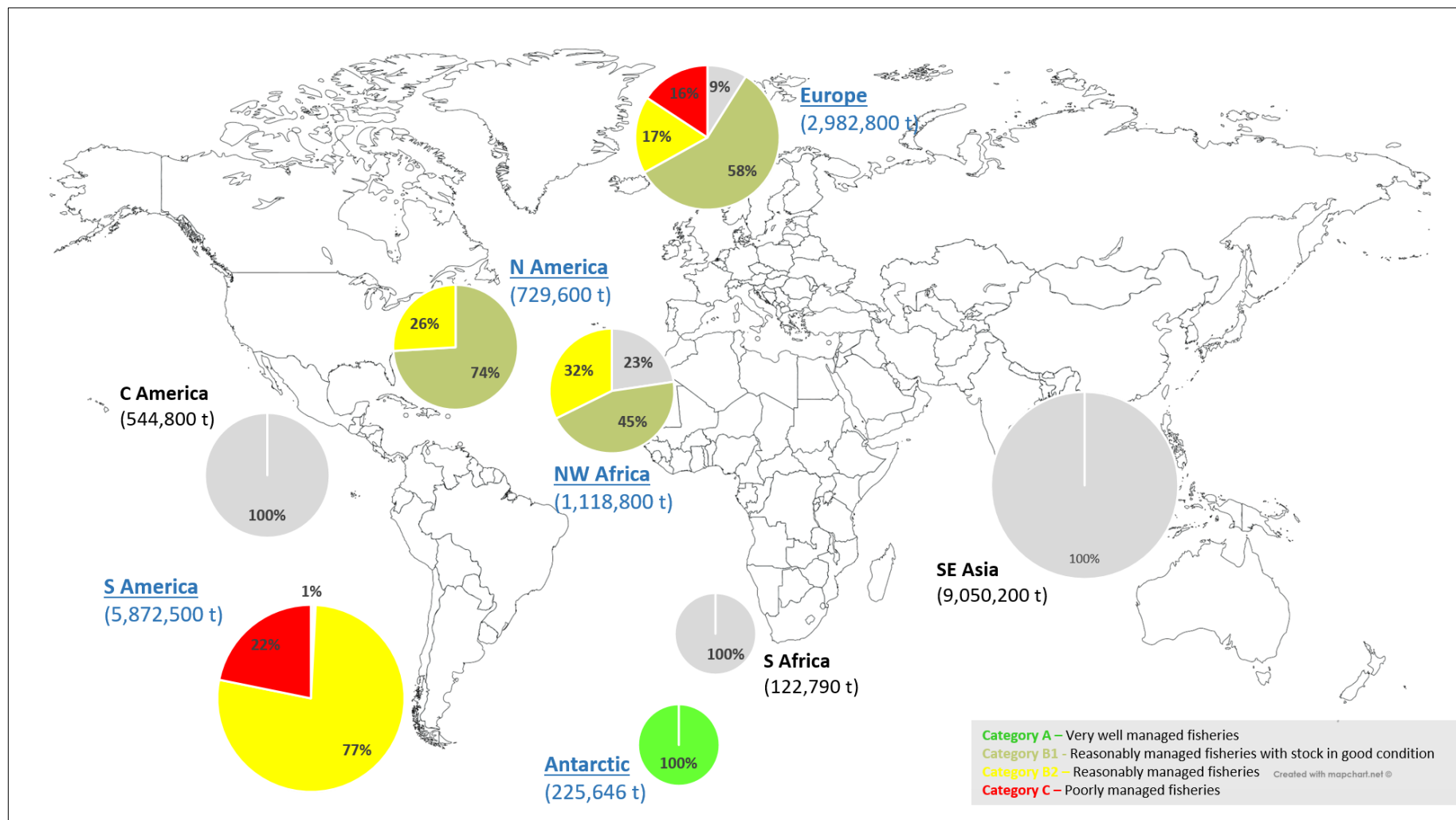
**Appendix C.** Catch from reduction fisheries per main FAO fishing area, compared to total marine finfish catch.



**Notes:** (1) Total marine fish production by FAO major area from FAO FishStatJ (FAO 2011–2017). (2) For the Antarctic Atlantic, krill catches are compared to total capture production in that FAO fishing area with the exception of aquatic marine plants and mammals (i.e., finfish, crustaceans, etc.). (3) Codes for FAO areas are as follows: 27 (ANE) – Northeast Atlantic, 87 (SEP) – Southeast Pacific, 21 (ANW) – Northwest Atlantic, 31 (AWC) – West-Central Atlantic, 34 (AEC) – East-Central Atlantic, 48 (AAnt) – Antarctic Atlantic.



**Appendix D.** Percentage of reduction fisheries supply by category rating for eight major production regions.



**Notes:** (1) Pie chart sizes are presented in a four-size scale depending on the catch class: < 500 kt (Antarctic, South Africa); 500–1,500 kt (C America, N America, NW Africa); 1,501–3,500 kt (Europe); > 3,500 kt (SE Asia, S America). (2) Regions in the scope of this overview are blue highlighted. (3) Gray refers to capture production not covered by this overview.


**Appendix E. Category C stocks in the 2017 evaluation and the reasons for scores below 6.**

Stock	Score 1	Score 2	Score 3	Score 4	Score 5	Comments
<a href="#">European sprat - North Sea</a>	≥ 6	9.5	9.3	10	3.0	The North Sea sprat stock remains in a good condition, but recent fishing mortality (F) is considered too high. <b>Fishing mortality has been increasing since 2013 and in 2015 and 2016 has far exceeded the <math>F_{MSY}</math> proxy, <math>F_{cap}</math> (0.7).</b> The set TAC is now fully aligned with the scientific advice.
<a href="#">Capelin - Barents Sea</a>	≥ 8	10.0	10.0	< 6	≥ 6	No biomass target reference point is defined. <b>Stock biomass has been decreasing and for 2017 is projected to be at historical low levels, i.e., well below <math>B_{lim}</math> (with &gt;95% probability) by the end of the fishing season.</b> Recruitment in the past two years was very low and estimated to be among the lowest in the historical series.
<a href="#">Boarfish - NE Atlantic</a>	≥ 8	10	10	< 6	≥ 6	Stock and exploitation status against defined reference points is unknown; however, <b>biomass indices indicate that the stock is at its lowest level of the historical series. The average of the 2015 and 2016 relative total spawning biomass (TSB) indices is well below both the average of the three preceding years (i.e., 2012–2015) and the long-term average.</b>
<a href="#">Anchoveta - Southern Peru/Northern Chile (regions XV-I-II)</a>	≥ 6	≥ 8	≥ 8	5.8	0.0	<b>The stock is now considered overfished and overfishing is still occurring.</b> Even under more optimistic scenarios, the spawning stock biomass remains below the limit reference point and fishing mortality above the target levels. The set TACs from Chile and Peru have generally been in line with the advice by the respective scientific institutions, and official catches have been below the unilateral set TACs. <b>However, this is a joint stock and TACs are still set unilaterally by these two countries, which has resulted in the inability to address overfishing at the stock level.</b>



<a href="#">Sandeels nei - SE North Sea</a>	≥ 6	≥ 8	≥ 8	4.6	10	<p><b>Spawning stock biomass is on a decreasing trend and currently estimated to be below both the precautionary reference point (<math>B_{pa} = MSY B_{escapement}</math>) and the limit reference point (<math>B_{lim}</math>).</b> If the advised catch levels are followed, the recent strong recruitment is expected to lead an increase in the SSB to above <math>MSY B_{escapement}</math> by 2018.</p>
<a href="#">Anchoveta - Chilean Central-Southern (regions V-X)</a>	≥ 6	8.2	0.0	3.8	8.0	<p>Due to a sharp decrease in fishing mortality (related to the recent improvements at the management level), spawning biomass has been gradually recovering from the historical low in 2011; however, <b>the stock remains in a depleted condition, below the limit reference point. Recent catches remain well above both the scientifically recommended and the set TAC.</b> In this mixed fishery of anchoveta and Araucanian herring, once one of the TACs is reached, 20% of incidental catch of the species with no remaining quota is allowed for each fishing trip. This measure has led to significant overpass of the anchoveta TAC in recent years, which has been exceeded by 80% in 2015 and 2016 by the artisanal fleet.</p>





**Appendix F.** Current SFP sustainability category and suggested improvement actions for the 20 stocks used for reduction purposes, assessed in the 2017 overview.

**Note:** Improvement actions for specific components of a stock (identified with the country and respective fishing gear) are also included.

<b>Stock</b> Year FIP started   (FIP progress rating)   FIP leadership   link to FIP public report	<b>Sustainability Category</b>	<b>Current SFP Suggested Improvement Actions</b>
<a href="#">Antarctic krill - Atlantic Southern Ocean</a>	<b>A</b>	1. Monitor fishery and management system for any changes that could jeopardize MSC re-certification.
<a href="#">Blue whiting - NE Atlantic</a>	<b>B1</b>	<p><u>Stock-level</u></p> <ol style="list-style-type: none"> <li>1. Ensure that the total allowable catch (TAC) for the entire northeast Atlantic blue whiting stock continued to be set in accordance with scientific advice and that fishing mortality is reduced.</li> <li>2. Encourage the adoption of ecosystem-based fisheries management, namely consider the importance of blue whiting as forage species when setting catch limits.</li> </ol> <p><u>Denmark, UK, Ireland, Netherlands, France   Midwater trawls</u></p> <ol style="list-style-type: none"> <li>1. Monitor the progress in closing out conditions placed upon the certification of the fishery and if agreed timelines are met. Offer assistance in closing conditions where possible.</li> </ol> <p><u>Faroe Islands (MSC-C fishery)   Midwater trawls</u></p> <ol style="list-style-type: none"> <li>1. Monitor the fishery and management system for any changes that could jeopardize MSC re-certification.</li> </ol>
<a href="#">Gulf menhaden - Gulf of Mexico</a>	<b>B1</b>	<ol style="list-style-type: none"> <li>1. Ensure the data inputs to the stock assessment (e.g., abundance survey, catch sampling, age data, bait fishery landings) are of sufficient quality (quantity, accuracy, precision and timeliness) to support a high-quality stock assessment.</li> <li>2. Companies owning vessels in the Gulf menhaden fleet obtain and release the bycatch data from the government observer program (not releasable by the government because of the low number of vessels/companies observed).</li> <li>3. Conduct outreach to the Gulf States Marine Fisheries Commission to encourage them to implement a precautionary annual quota based on scientific advice.</li> </ol>



		<p>4. Conduct outreach to the Gulf States Marine Fisheries Commission to encourage them to set biomass and fishing mortality targets that account for the ecosystem services provided by menhaden as prey for many species.</p>
<b>Sandeels nei - Dogger Bank area</b>	<b>B1</b>	<p><u>Stock-level</u></p> <ol style="list-style-type: none"> <li>1. Ensure that managers continue to set the TAC in line with scientific advice.</li> <li>2. Press national fisheries administrations and the European Commission to develop an ecosystem-based, multi-annual management plan for North Sea pelagic fisheries.</li> </ol> <p><u>Denmark   Small mesh bottom trawls</u></p> <ol style="list-style-type: none"> <li>1. Engage and support the MSC Client Group to ensure progress towards meeting the conditions attached to the certification.</li> </ol>
<b>Sandeels nei - Central Eastern North Sea</b>	<b>B1</b>	<ol style="list-style-type: none"> <li>1. Press national fisheries administrations and the European Commission to develop an ecosystem-based, multi-annual management plan for North Sea pelagic fisheries.</li> </ol>
<b>Norway pout - North Sea</b>	<b>B1</b>	<p><u>Stock-level</u></p> <ol style="list-style-type: none"> <li>1. Engage with ICES and fishery management authorities in the EU and Norway to ensure a long-term management plan with harvest control rule is developed and adopted.</li> <li>2. Work with scientists to conduct research to better understand the influence of natural factors, such as temperature and predation, on recruitment and population size.</li> <li>3. Implement monitoring to determine the direct and indirect impacts of this fishery on protected, endangered, and threatened (PET) species particularly marine mammals and seabirds.</li> </ol> <p><u>Denmark   Small mesh bottom trawls (MSC-certified fishery)</u></p> <ol style="list-style-type: none"> <li>1. Engage and support the MSC Client Group to ensure progress towards meeting the conditions attached to the certification.</li> </ol>
<b>Anchoveta - Chilean Central-Southern (regions III and IV)</b>	<b>B1</b>	<p><u>Stock-level</u></p> <ol style="list-style-type: none"> <li>1. Engage with managers and IFOP to ensure that catch recommendations and scientific reports are publicly available in a timely</li> </ol>



		<p>manner (i.e., before managers set catch limits) and should include a clearly defined methodology used to define the total allowable catch (TAC).</p> <p><i>Chilean regions III and IV</i></p> <ol style="list-style-type: none"> <li>1. Support the work of the management committee and encourage their prompt action in the development and implementation of a management plan for the fishery with a clear management strategy.</li> <li>2. Work with scientists to conduct research on and develop new stock assessment models that take into account environmental variables, and when adequately tested, ensure they form the basis of the management strategy</li> <li>3. Support the work of scientists and managers to improve reporting of catches and discards, as well as interactions with habitats and all types of bycatch.</li> </ol>
<p><b>European pilchard - NW Africa southern</b>                  Moroccan sardine   2014   B   Industry Steering Group    <a href="http://fisheryprogress.org/fip-profile/morocco-sardine-pelagic-trawl-and-seine-maroc-sardine-chalut-p%C3%A9lagique-et-senne">http://fisheryprogress.org/fip-profile/morocco-sardine-pelagic-trawl-and-seine-maroc-sardine-chalut-p%C3%A9lagique-et-senne</a></p>	<p><b>B1</b></p>	<ol style="list-style-type: none"> <li>1. Support the Sub-Regional Fisheries Commission and Morocco in their efforts to develop a strategic plan for management of the small pelagics fishery. The management plan should include species specific TACs, joint setting of TACs, and consideration of how environmental variability may affect stocks.</li> <li>2. Ask the government / regional authorities to publish fishery compliance information.</li> <li>3. Work with scientists to conduct studies to clarify the stock structure of northwest African pilchard/sardine.</li> <li>4. Press managers to implement a recovery strategy for other target species in this multi-species fishery, including Cunene horse mackerel and round sardinella.</li> <li>5. Work with scientists and managers to expand the at-sea observer programme to provide representational coverage of all components of the fishery to better understand catches and discards, as well as interactions with habitats and all types of bycatch.</li> </ol>



<p><b>Araucanian herring - Chilean</b></p>	<p><b>B2</b></p>	<ol style="list-style-type: none"> <li>1. Monitor the implementation of the recently approved Anchoveta-Araucanian herring management plan, including the development of a harvest strategy that considers the multi-species nature of the fishery, the reliance of the fishery on good recruitment, the role of the species in the ecosystem, and the recovery of the anchoveta stock.</li> <li>2. Work with scientists to conduct research on and develop new stock assessment models that take into account environmental variables, and when adequately tested, ensure they form the basis of the management strategy</li> <li>3. Support the work of scientists and managers to improve reporting of catches and discards, as well as interactions with habitats and all types of bycatch; monitor implementation of the new discarding reduction plan (July 2017).</li> </ol>
<p><b>Atlantic menhaden - NW Atlantic</b></p>	<p><b>B2</b></p>	<ol style="list-style-type: none"> <li>1. Support research to improve understanding of the role of menhaden in the food web.</li> <li>2. Encourage the Atlantic States Marine Fisheries Commission to continue considering the ecological role of menhaden as an important prey species in the food web when updating reference points and management measures.</li> <li>3. Advocate for improvement in the reporting of catches by area for the bait sector to reduce uncertainty in understanding removals.</li> </ol>
<p><b>Chilean jack mackerel - Southeast Pacific</b></p>	<p><b>B2</b></p>	<ol style="list-style-type: none"> <li>1. Work with scientists to support the continuous improvements underway in stock assessment and research on stock structure and especially the effects of environmental variability on the population.</li> <li>2. Encourage the South Pacific Regional Fishery Management Organisation (SPRFMO) to set biological reference points and harvest control rules that consider the species role in the ecosystem.</li> <li>3. Encourage SPRFMO members and cooperating non-members to fully implement and comply with SPRFMO's Conservation and Management Measures.</li> <li>4. Push the Government of Peru to set their domestic TAC within the agreed catch limit for coastal countries.</li> </ol>
<p><b>Anchoveta - Peruvian Northern-Central</b>          Peruvian anchovy - industrial purse-seine   2017   C   CeDePesca   <a href="http://fisheryprogress.org/fip-profile/peruvian-anchovy-industrial-purse-seine">http://fisheryprogress.org/fip-profile/peruvian-anchovy-industrial-purse-seine</a>          Peruvian anchovy – small scale purse-seine   2017   C   CeDePesca   <a href="http://fisheryprogress.org/fip-profile/peruvian-anchovy-small-scale-purse-seine">http://fisheryprogress.org/fip-profile/peruvian-anchovy-small-scale-purse-seine</a></p>	<p><b>B2</b></p>	<ol style="list-style-type: none"> <li>1. Advocate for the development of annual stock assessments that incorporate improved catch data and consider the effects of environmental variability on the population. Stock assessment results should be peer reviewed and publically reported.</li> </ol>



		<ol style="list-style-type: none"> <li>2. Request the government of Peru to develop a long-term management plan for the fishery with an explicit harvest strategy and reference points that take into account the key role of anchoveta in the ecosystem.</li> <li>3. Work with scientists and managers to improve reporting of catches and discards, as well as interactions with habitats and all types of bycatch.</li> </ol>
<p><b>Capelin - Icelandic</b></p>	<p><b>B2</b></p>	<ol style="list-style-type: none"> <li>1. Advocate that scientists and managers work together to establish biologically-based reference points.</li> <li>2. Work with scientific institutions to continue and expand assessment of the environmental impact of the fishery.</li> <li>3. Push managers to adopt precautionary and ecosystem-based fisheries management and, in particular, especially considering the importance of capelin as a forage species when setting catch limits.</li> <li>4. Encourage the Icelandic Marine Research Institute to commission a peer review of the stock assessment, including evaluation of the current acoustic monitoring survey to ensure optimal coverage and minimization of uncertainty.</li> </ol>
<p><b>European pilchard - NW Africa central</b>                  Moroccan sardine   2014   B   Industry Steering Group    <a href="http://fisheryprogress.org/fip-profile/morocco-sardine-pelagic-trawl-and-seine-maroc-sardine-chalut-p%C3%A9lagique-et-senne">http://fisheryprogress.org/fip-profile/morocco-sardine-pelagic-trawl-and-seine-maroc-sardine-chalut-p%C3%A9lagique-et-senne</a></p>	<p><b>B2</b></p>	<ol style="list-style-type: none"> <li>1. Push the Moroccan National Fisheries Research Institute (INRH) to provide annual scientific advice to support the implementation of TACs as part of the management plan.</li> <li>2. Push fishery managers to strengthen and fully implement the management plan.</li> <li>3. Work with scientists to conduct studies to clarify the stock structure of northwest African pilchard/sardine.</li> <li>4. Press managers to implement a recovery strategy for other target species in this multi-species fishery, including Cunene horse mackerel and round sardinella.</li> <li>5. Work with scientists and managers to expand the at-sea observer program to provide representational coverage of all components of the fishery to better understand catches and discards, as well as interactions with habitats and all types of bycatch.</li> </ol>



<p><b>European sprat - North Sea</b></p>	<p><b>C</b></p>	<p><u>Stock-level</u></p> <ol style="list-style-type: none"> <li>1. Press national fisheries administrations and the European Commission to develop an ecosystem-based, multi-annual management plan with harvest control rule.</li> <li>2. Ensure that managers continue to set the TAC in line with scientific advice.</li> </ol> <p><u>Denmark   Midwater trawls, Purse seines (MSC Certified fishery)</u></p> <ol style="list-style-type: none"> <li>1. Engage and support the MSC Client Group to ensure progress towards meeting the conditions attached to the certification.</li> </ol>
<p><b>Capelin - Barents Sea</b></p>	<p><b>C</b></p>	<ol style="list-style-type: none"> <li>1. Contact the Joint Russian-Norwegian Fisheries Commission (JRNFC) and state support for the current fishery closure, and request that they adopt ecosystem-based fisheries management, so as to consider the importance of capelin as forage species, before the fishery is reopened.</li> </ol>
<p><b>Boarfish - NE Atlantic</b></p>	<p><b>C</b></p>	<ol style="list-style-type: none"> <li>1. Contact national fisheries administrations and request the immediate formal adoption of the management plan last updated in 2015.</li> <li>2. Work with scientists to collect further biological data to allow for a robust age-based stock assessment to be developed and used to estimate biologically-based reference points.</li> <li>3. Encourage regulators to develop a management approach that better matches the spatial distribution of the stock and fisheries.</li> <li>4. Work with scientists and managers to implement a program to collect baseline data on interactions with protected species in this fishery.</li> </ol>
<p><b>Anchoveta - Southern Peru/Northern Chile (regions XV-I-II)</b></p>	<p><b>C</b></p>	<ol style="list-style-type: none"> <li>1. Push managers to reduce fishing mortality to eliminate overfishing.</li> <li>2. Advocate for the governments of Peru and Chile to establish coordinated fishery research and management plans in line with the objectives of the agreed Strategic Action Programme between both countries.</li> <li>3. Support work by the Chilean authorities for the development and implementation of the management plan for the fishery. The management plan should have a clear management strategy and consider the need of transboundary coordination and environmental variability.</li> <li>4. Work with scientists to conduct research on and develop new stock assessment models that incorporate an appropriate growth/productivity model and environmental variables, ensuring that once tested, these models form the basis of the management strategy.</li> </ol>



		<p>5. Support the work of scientists and managers in both countries to improve reporting of catches and discards, as well as interactions with habitats and all types of bycatch.</p>
<p><b>Sandeels nei - SE North Sea</b></p>	<p><b>C</b></p>	<p><u>Stock-level</u></p> <p>1. Press national fisheries administrations and the European Commission to develop an ecosystem-based, multi-annual management plan for North Sea pelagic fisheries.</p> <p><u>Denmark   Small mesh bottom trawls (MSC Certified fishery)</u></p> <p>1. Engage and support the MSC Client Group to ensure progress towards meeting the conditions attached to the certification.</p>
<p><b>Anchoveta - Chilean Central-Southern (regions V-X)</b></p>	<p><b>C</b></p>	<p><u>Stock-level</u></p> <p>1. Engage with managers and IFOP to ensure that catch recommendations and scientific reports are publicly available in a timely manner (i.e., before managers set catch limits) and should include a clearly defined methodology used to define the total allowable catch (TAC).</p> <p><u>Chilean regions V-X</u></p> <p>1. Monitor the implementation of the recently approved Anchoveta-Araucanian herring management plan, including the development of a harvest strategy that considers the multi-species nature of the fishery, the reliance of the fishery on good recruitment, the role of the species in the ecosystem, and the recovery of the anchoveta stock.</p> <p>2. Work with scientists to conduct research on and develop new stock assessment models that take into account environmental variables, and when adequately tested, ensure they form the basis of the management strategy</p> <p>3. Support the work of scientists and managers to improve reporting of catches and discards, as well as interactions with habitats and all types of bycatch; monitor implementation of the new discarding reduction plan (July 2017).</p>


**Appendix G. Fisheries in the MSC program that are relevant to the current 20 stocks included in this overview, as of August 2017.**

FAO area	MSC fishery name	Species covered <sup>(1)</sup>	Stocks covered	MSC status	Certification date	Tonnage ('000 t) (year of data)	Fishing gears	
<b>48</b> (Atlantic, Antarctic)	<a href="#">Aker Biomarine Antarctic krill</a>	Antarctic krill ( <i>Euphausia superba</i> )	Antarctic krill - Atlantic Southern Ocean	Certified	15-Jun-10	108.038 (2015)	Trawls - Midwater trawls	
	<a href="#">Deris S.A. - Pesca Chile - Antarctic krill fishery</a>	Antarctic krill ( <i>Euphausia superba</i> )	Antarctic krill - Atlantic Southern Ocean	In Assessment	na	no info <sup>4</sup>	Trawls - Midwater trawls	
	<a href="#">Rimfrost Antarctic krill</a>	Antarctic krill ( <i>Euphausia superba</i> )	Antarctic krill - Atlantic Southern Ocean	Suspended	20-Aug-15	-	Trawls - Midwater trawls	
<b>21</b> (Northwest Atlantic)	<a href="#">Omega Protein Corporation U.S. Gulf of Mexico menhaden purse seine</a>	Gulf menhaden ( <i>Brevoortia patronus</i> )	Gulf menhaden - Gulf of Mexico	In Assessment	na	540.3 (2015) <sup>3</sup>	Surrounding Nets - With purse lines (purse seines) - two boats operated purse seines	
	<a href="#">Omega Protein Corporation U.S. Atlantic menhaden purse seine</a>	Atlantic menhaden ( <i>Brevoortia tyrannus</i> )	Atlantic menhaden - NW Atlantic	In Assessment	na	189.3 (2015) <sup>3</sup>	Surrounding Nets - With purse lines (purse seines) - two boats operated purse seines	
<b>27</b> (Northeast Atlantic)	<a href="#">Faroese Pelagic Organization North East Atlantic blue whiting</a>	Blue whiting ( <i>Micromesistius poutassou</i> )	Blue whiting - NE Atlantic	Certified	15-Jun-16	211.647 (2014)	Trawls - Midwater trawls	
	<a href="#">PFA, DPPO, KFO, SPSG &amp; Compagnie des Pêches St Malo Northeast Atlantic blue whiting pelagic trawl</a>	Blue whiting ( <i>Micromesistius poutassou</i> )	Blue whiting - NE Atlantic	Certified	3-Feb-16	54.856 (2013)	Trawls - Midwater trawls	
	<a href="#">Iceland North East Atlantic blue whiting</a>	Blue whiting ( <i>Micromesistius poutassou</i> )	Blue whiting - NE Atlantic	In Assessment	na	214.870 (2015) <sup>3</sup>	Trawls - Bottom trawls, Trawls - Midwater trawls, Trawls - Other	
	<a href="#">Norway spring spawning herring</a>	Blue whiting ( <i>Micromesistius poutassou</i> )	Blue whiting - NE Atlantic	Certified with component(s) in assessment	na	489.439 (2015) <sup>(2)</sup>	Surrounding Nets - With purse lines (purse seines)...	
	<a href="#">DFPO and DPPO North Sea, Skagerrak and Kattegat sandeel, sprat and Norway pout</a>	Lesser sandeel ( <i>Ammodytes marinus</i> ), Sandeels nei ( <i>Ammodytes</i> spp)	Sandeels nei - Dogger Bank area, Sandeels nei - Central Eastern North sea, Sandeels nei - SE North Sea		Certified with component(s) in assessment	23-Mar-17	156.541 (2014)	Surrounding Nets - With purse lines (purse seines)...
		European Sprat ( <i>Sprattus sprattus</i> )	European sprat - North Sea				135.906 (2014)	
		Norway pout ( <i>Trisopterus esmarkii</i> )	Norway pout - North Sea,				28.448 (2014)	
<a href="#">Norway sandeel, pout and North Sea sprat</a>	Sandeels nei ( <i>Ammodytes</i> spp.)	Sandeels nei - Central Eastern North Sea, Sandeels nei - Dogger Bank area		In Assessment	na	100.859 (2015)	Surrounding Nets - With purse lines (purse seines)	





FAO area	MSC fishery name	Species covered <sup>(1)</sup>	Stocks covered	MSC status	Certification date	Tonnage ('000 t) (year of data)	Fishing gears
		European sprat ( <i>Sprattus sprattus</i> )	European sprat - North Sea			9.155 (2015)	
		Norway pout ( <i>Trisopterus esmarkii</i> )	Norway pout - North Sea			44.318 (2015)	
	<a href="#">ISF Iceland capelin</a>	Capelin ( <i>Mallotus villosus</i> )	Capelin - Icelandic	Certified	18-Apr-17	353.713 (2015)	Seine Nets Trawls - Midwater trawls

Source: MSC website ([www.msc.org](http://www.msc.org))

**Notes:** (1) Only species/stocks covered in this overview are included here. (2) Certification date and tonnage available in the MSC website refers to herring only; estimate for blue whiting is from ICES 2016 advice (ICES 2016) and assuming Norway's entire catch is covered by this MSC fishery. (3) No specific volume is still available for the MSC-FA fishery; we assumed the entire country's catch for this species as covered by the MSC fishery. (4) No information on the catch covered by the Deris S.A. - Pesca Chile - Antarctic krill fishery (under MSC FA).