



Marine Stewardship Council

# Global Impacts Report 2013

Monitoring and Evaluation



Our vision is of the world's oceans teeming with life, and seafood supplies safeguarded for this and future generations.

Our mission is to use our ecolabel and fishery certification program to contribute to the health of the world's oceans by recognising and rewarding sustainable fishing practices, influencing the choices people make when buying seafood and working with our partners to transform the seafood market to a sustainable basis.



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## Foreword



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I'd like to take this opportunity to welcome you to the MSC's first formal Monitoring and Evaluation (M&E) report. This is the first time that the MSC has published a formal, quantitative evaluation of its performance, which has been produced by a dedicated M&E team within the Standards Department. The MSC believes in the critical importance of science-based, data-driven monitoring and evaluation – both for its fisheries and for itself.

A natural expectation of many stakeholders involved in the MSC program, particularly consumers and retailers making positive decisions over purchasing of fish from MSC certified sustainable fisheries, is that their actions are contributing to improving the status of the marine environment. Our aim is that this report should inform all stakeholders and commentators about the efforts that fishers involved in the program are making to ensure that their performance meets the high standards of sustainability demanded by the MSC, and the positive changes that result.

Over the 14 years since its inception in 1999, the MSC has periodically released studies of the performance of MSC certified fisheries. The first of these was in 2006, and at the time of the study only ten fisheries had been certified for more than one year. The conclusions from the report were therefore necessarily tentative but it did identify 89 environmental improvements arising in those ten fisheries, and it showed that major improvements were generated by fisheries. In 2009, the MSC released a qualitative report called Net Benefits, which examined the changes that had occurred around certification, or as a result of certification, in 32 fisheries, and presented views from fishers and other stakeholders involved in these fisheries.

In 2011, a comprehensive report Researching the Environmental Impacts of the MSC Certification Program was published. This report extended previous analyses to investigate the improvements being made in fisheries prior to entering MSC full assessment. The report found that 'on the water' improvements in the status of fisheries were delivered both before and after certification. The report was complemented by two publications that came out in 2012, Gutiérrez et al. (2012) and Martin et al. (2012), which

strongly supported the assumption that fisheries in the MSC program are healthy and showed improvements in environmental performance. This report builds on these precursors, but for the first time generates indicators of both program performance and program strategy. The indicators were developed through a public consultation process, were designed to show whether the program is meeting its objectives and follow the ISEAL Impacts Code. Furthermore, in contrast to previous studies, all 188 fisheries that have been certified up to December 2012 are included in the analysis.

This is an exciting period in the MSC's history. The period 2008-2012 saw a large number of fisheries come forward for assessment and the report clearly shows that these fisheries are making significant progress in their performance across the board. Improvements are being made 'on the water' for both target and non-target species, supported by improved management and information. The indicators also show that strategies used by the MSC are contributing significantly to providing the drivers – the market and access incentives – for fisheries to come forward for MSC assessment, and make the improvements necessary to meet the MSC standard requirements. The number of MSC certified fisheries, products and companies continues to grow.

But the MSC is no more than a catalyst of this change. It is the fishers themselves, the administrations under which they operate, and their stakeholders that make change happen. It is the supply chain and retailers who have made commitments to the MSC that provide the market driver that encourages fisheries to seek MSC certification. Past studies have all shown that MSC stakeholders – fishers, administrations, environmental NGOs, scientists, supply chain,

## Foreword continued

retailers – believe the MSC system fosters the collaboration necessary to deliver sustainable fisheries. The MSC owes an enormous debt of gratitude to its stakeholders and partners in helping it to achieve its mission.

This report is the first in a series of Monitoring and Evaluation reports that the MSC intends to publish regularly. In the future the number of indicators will be expanded to cover other anticipated impacts of the program that partners have a keen interest in. Our expectation is that these reports will provide a valuable resource for all stakeholders in understanding how the MSC program is operating, and will help us all create a program that delivers the vision that we jointly have for the oceans.



Dr David Agnew, Director of Standards



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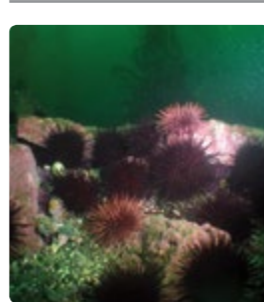
## Executive summary

In 2011, the MSC established its Monitoring and Evaluation program and began to develop extensive databases. This is the first report from that program, utilising a wide range of data sourced from existing fishery and chain of custody certifications and additional data held by the MSC.

The objective of this report, and the Monitoring and Evaluation program in general, is to increase the understanding of the environmental and organisational impacts of the MSC program, and to provide the scientific foundation for a transparent, impartial and consistent evaluation of the MSC's effectiveness in delivering its mission.

Key findings from this report are as follows:

- The MSC standard assesses fishery performance using 31 indicators of stock status (Principle 1), impact on the ecosystem (Principle 2) and management effectiveness (Principle 3). Across all 31 MSC Performance Indicators (PI), the proportion of fisheries that meet or exceed the MSC required 'best practice', reaching a score of 80 (on a scale of 60-100), has been generally increasing since 2008.
- Fisheries performing on an individual PI level below a score of 80 (best practice) but still greater than the minimum acceptable level of 60, are required to improve their performance to the 80 level within a five year period, which they do by completing an agreed action plan. Around 50 per cent of action plans for improvement have been completed by the third surveillance audit. The rate of completion of action plans has slightly increased since 2008.
- There are now 188 certified fisheries, with 106 more in different stages of the assessment process. Almost 1100 action plans have been developed and almost 400 have been completed since 1999, delivering improvements across 101 fisheries.
- For fisheries certified against the 'default assessment tree' (N=124), the key attribute that has generated the highest number of improvement plans across all fisheries is the creation of robust harvest control rules, which determine how a management system should respond in different situations (41 per cent of fisheries). A substantial number of improvements have also been generated in the information on the impacts of Endangered, Threatened and Protected (ETP) species (35 per cent of fisheries), and in reduction of the impact of fisheries on seabed habitat (27 per cent of fisheries).
- The rate of objections to certification accepted by Independent Adjudicators has remained constant, mostly due to an active and balanced stakeholder engagement during both the assessment process and the policy development cycle.
- MSC certification is still gaining importance as a market-based tool as shown by an increase in number of certified fisheries (390 per cent), chain of custody certificates (180 per cent), and ecolabelled products in the market (710 per cent) since 2008.
- MSC certified fish represents around 7 per cent of the global wild-capture. Chain of Custody certification is held by companies in 57 countries and ecolabelled products are available in 106 countries.
- Whilst increasing in number, the proportion of certified fisheries from developing countries is still low (8 per cent). The MSC is currently engaging in several additional projects to improve accessibility for these fisheries.
- The MSC program is gaining recognition from consumers. Logo recognition and recall has generally increased between 2010 and 2012. Purchasing behaviour in some countries has also seen a boost, reflecting consumers' positive response to seafood sustainability claims.
- The MSC's Chain of Custody program provides a high level of integrity and assurance related to labelling of seafood products. DNA testing conducted in 2012 (N=381 samples) indicated an overall mislabelling rate for MSC ecolabelled products of less than 1 per cent, based on both population and species-level tests.



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## Introduction

### The Marine Stewardship Council (MSC)

Around the world, more than 350 million people rely on fishing for their livelihoods and one billion depend on seafood as their main source of protein (FAO, 2012). A global, sustainable approach to fishing is required to safeguard our fisheries for future generations. If fishing is carried out unsustainably it will have major implications for our marine environment and the long-term sustainability of fish stocks worldwide. Sensitive habitats, endangered species and the marine food chain need to be maintained to keep the oceans healthy and productive. When fisheries are poorly managed, environmental impacts may go unchecked and fish stocks can lose productivity. The impacts of fishing are complex, hard to measure and vary from one fishery to another. Nonetheless, environmental sustainability can, and is, being achieved by many fisheries through the implementation of good management practices. The MSC's mission is to encourage more fisheries to implement best practices and to become sustainable, and to reward these fisheries, when certified, with the ability to use the MSC ecolabel.

The creation of the MSC in 1997 was a result of two global organisations, WWF and Unilever, wanting to tackle the issue of seafood sustainability. Together they founded the MSC – an international non-profit organisation set up to help transform the seafood market to a sustainable basis.

Between 1997 and 1999, the MSC consulted over 200 scientists, environmentalists and stakeholders to establish a worldwide certification system for fisheries using environmentally sustainable practices. Currently, the MSC runs the only certification and ecolabelling program for wild-capture fisheries consistent with the ISEAL Code of Good Practice for Setting Social and Environmental Standards and the United Nations Food and Agricultural Organisation Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries (FAO, 2009).

The MSC works with fishers, seafood companies, scientists, conservation groups and the public to promote fisheries best practices through its certification program and seafood ecolabel. When any buyer chooses to purchase MSC labelled fish, certified fisheries are rewarded for their sustainable practices through that market preference. MSC and its partners encourage processors, suppliers, retailers and consumers to give priority to purchasing seafood from MSC certified fisheries and to demonstrate this through use of the MSC ecolabel.

#### How things looked at the start

There's a place off the coast of Newfoundland in Canada, known historically for its bountiful seas and tales of fish so plentiful, a scoop through the water with a fishing basket was enough to catch a few cod. Word of this abundance got around and by the 1950s factory fishing had arrived. By 1968, the cod catch peaked with an annual catch of 810000 tonnes, three times the annual catch in previous years. Twenty years later, by the early 1990s, the fishery collapsed, and remains closed. The story of the Grand Banks in Newfoundland is now a cautionary tale.

#### How things look now

It wasn't just cod affected by overfishing in the Newfoundland Grand Banks. The story of the yellowtail flounder, however, is quite different. In 1994, a fishing moratorium on this species went into effect. Three years later, that moratorium made way for a conservative quota of 4000 tonnes. As stocks returned to previous healthy levels, in 2010 the quota was back to its prior peak of 17000 tonnes, due to a new emphasis on sustainable management. Ocean Choice International (OCI) owns over 90 per cent of the Grand Banks yellowtail flounder quota and was instrumental in supporting its recovery. The company sought recognition through MSC certification, which has provided a growing customer base as more companies look to sell products bearing the ecolabel.

## The MSC Standard

### The MSC's standard recognises and rewards sustainable fishing practices.

The MSC's standard for sustainable fishing is comprised of three core Principles:



Principle 1  
Health of the target fish stock



Principle 2  
Impact of the fishery on the environment



Principle 3  
Effective management of the fishery

These benchmarks correspond to levels of quality and certainty of fisheries management practices and their likelihood to deliver sustainability, and were derived from the experience of fisheries managers, scientists and other stakeholders worldwide. Based on this standard, the MSC assessment process involves 31 specific indicators about a fishery's performance and management to determine its sustainability. These Performance Indicators (PIs) are grouped under each of the MSC's three main Principles described above.

Each of the 31 PIs (shown in Appendix 1) is scored on a 1-100 scale, with the 60, 80 and 100 levels defining key sustainability benchmarks (Figure 1). The final overall score will result in a pass –

which requires that the average score for each Principle is greater than or equal to 80, and that each Performance Indicator is greater than 60 – or a fail. A fishery can pass with some indicators scoring more than 60 and less than 80, in which case the fishery receives a 'condition' requiring improvements so that the score can be raised to an 80 level or above, normally within five years. The fishery must implement an agreed action plan that will deliver these improvements with time-bound milestones. Assessing a fishery's sustainability is complex but the concept is simple – fishing operations should be at levels that ensure long-term fish populations, and the ecosystems on which they depend remain healthy and productive for today's and future generations' needs.

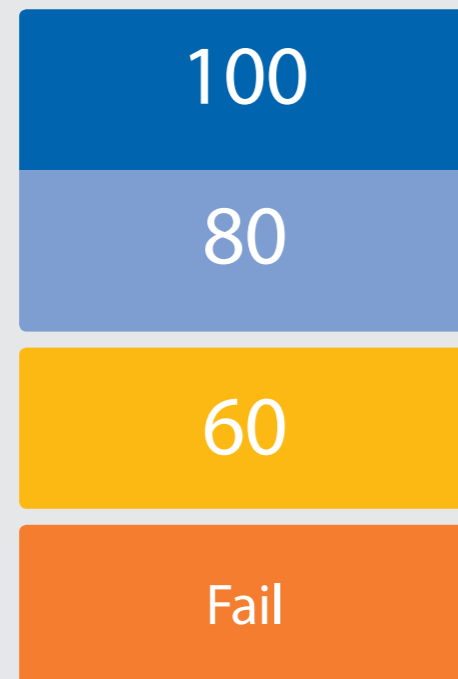
A 'fishery' in the MSC program is named after the client's group and may include one or more 'Units of Certification' defined by the target fish species and stock, the geographic area of operations, the fishing method, gear and/or vessel type. Each Unit of Certification within a fishery, including the whole fishery, can either pass or fail MSC assessment. Only seafood from approved Unit(s) of Certification can carry the blue MSC ecolabel.

Figure 1 – Key sustainability benchmarks

A score of 100 represents the performance expected from a 'near perfect' fisheries management system; one that has high levels of certainty about a fishery's performance and a very low risk that current operations will result in detrimental impacts to the target stocks, non-target species and supporting ecosystem.

A score of 80 conforms to the sustainability outcomes expected from fisheries management systems performing at 'global best practice' levels and confers increased certainty about the fishery's long-term sustainability.

A score of 60 represents the 'minimum acceptable limit' for sustainability practice that is established in the MSC's fisheries standard. This limit provides assurance that the basic biological and ecological processes of all components impacted by the fishery are not compromised now or into the future.



## Independent and objective assessments

The MSC adheres to the most rigorous international standards applicable to certification programs, including the use of third parties to assess fisheries against the standard and decide whether to award certification. Whilst the MSC sets the standard, the assessments are done by independent, accredited Conformity Assessment Bodies (CABs). These companies are held accountable and monitored by a separate organisation, Accreditation Services International (ASI).

To ensure rigour and objectivity, the assessment process is highly transparent and is open to the scrutiny of anyone with an interest in the fishery. Relevant parties are notified of the assessment and invited to provide information and comments. The assessment is undertaken by a team of highly-qualified and independent scientists who are hired by the CAB. The selection of the team cannot be concluded until public comment is sought on the suitability of the proposed candidates. The assessment results are described in a series of reports produced by the CAB and the scientific team. Once certified, a fishery is subject to annual surveillance audits, and undergoes a full re-assessment every five years.

Supporting this thorough evaluation process, random inspections of seafood products bearing the MSC ecolabel are undertaken using DNA testing. This proves both that the fish actually comes from a certified fishery and that the species is, in fact, the one it claims to be on the label. In the most extensive DNA testing of MSC labelled products carried out to date, 381 samples were taken from retail packed products, fresh fish counters and catering restaurants in 14 different countries during 2012. Results showed that, overall, the mislabelling rate for MSC certified products was less than one per cent, or just three mislabelled samples.

Complementing the MSC standard for sustainable fisheries is the Chain of Custody standard. This standard ensures that, as MSC certified fish travels through the supply chain from the fishery to the consumer, it does not become substituted for non-MSC certified fish. Every link in the supply chain must be independently certified against the MSC's Chain of Custody standard. MSC takes integrity of the supply chain very seriously, so that consumers can trust the MSC ecolabel and be sure that the fish that they buy really does come from MSC certified fisheries.

## The MSC Monitoring and Evaluation Program

The objective of the Monitoring and Evaluation (M&E) program is to gain a clear understanding of the environmental and organisational impacts of the MSC's certification and ecolabelling program.

In order to assess how well the MSC is achieving its aims, the M&E program collects empirical data that can be evaluated against the MSC's sustainability and strategy outcome objectives.

The Global Impacts Report 2013 introduces 22 monitoring and evaluation indicators that provide specific measurements to determine whether the MSC's sustainability and strategy outcome objectives are being achieved. The indicators were developed in consultation with stakeholders and measure the quantity and quality of short, medium and long-term effects of the MSC program on certified fisheries, target resources, associated ecosystems and other areas of strategic activities.

The report uses graphic icons to represent each of the 22 indicators. These are grouped as either 'environmental' or 'program', depending on their related outcome objective, as outlined below.

### Environmental indicators

The environmental indicators relate to the MSC sustainability outcome objectives and track the scores of the MSC certification program's Performance Indicators through fishery assessment and successive surveillance audits, examining the underlying reasons given for changes in scores and trends. Positive trends in scores are indicative of improvements in fishing practices with potential environmental impacts on the target species, non-target species and associated habitat and ecosystems. These environmental indicators use primarily MSC fishery assessment data contained in reports authored by third party Conformity Assessment Bodies (CABs) and are publicly available on the MSC website.

Environmental indicators are grouped against the MSC's three core Principles:



Principle 1  
Health of the target fish stock



Principle 2  
Impact of the fishery on the environment



Principle 3  
Effective management of the fishery

### Program indicators

The program indicators relate to the MSC's strategy outcome objectives and measure the performance, impact and reach of the program. These indicators consider the number of fisheries engaged with the MSC and how well each part of the sustainability assessment, certification process and ecolabelling scheme is performing. The program indicators also measure consumer awareness of the MSC.

Program indicators are grouped under essential MSC assessment components:



Fisheries



Chain of Custody



Certification process



Ecolabelling



Consumer awareness

### MSC Sustainability and Strategy Outcome Objectives

Sustainability outcome objectives – based on fishery health and the MSC's core aim:

- 1.1. The MSC program should encourage fisheries to make such improvements as necessary to meet the MSC's sustainability standard.
- 1.2. The MSC system should be accessible to all fisheries worldwide.

Strategy outcome objectives – how the program is working to deliver the sustainability outcome objectives:

- 2.1. The MSC program should be rigorous, credible, effective and efficient and the supply chain have high integrity.
- 2.2. The MSC program should grow the demand for and supply of MSC certified fish to reward sustainable fishing practices.

### Indicator key

#### Environmental indicators



Environmental Indicator

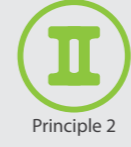


All Principles

Tier 3



Principle 1



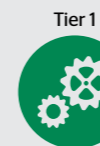
Principle 2



Principle 3



#### Program indicators



Program Indicator



Fisheries

Tier 3



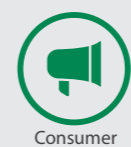
Chain of Custody



Certification process



Ecolabelling



Consumer Awareness



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## How to interpret the Global Impacts Report

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- When a fishery is assessed against the MSC standard requirements, a 'fishery', named after the client's name, is scored against its defined 'Units of Certification'. A 'fishery' may have multiple 'Units of Certification' in varying combinations of target fish species and stock, geographical area of operations, and fishing method, gear and/or vessel type. As a result, each 'Unit of Certification' carries its own scores for each Performance Indicator. To deal with the duplication of a fishery's scores due to multiple 'Units of Certification' for indicators 4 to 13, the definition of a 'fishery\*' is based on the assumption that PI scores relating to Principle 1 are represented by client x stock only, Principle 2 are represented by client x gear only and Principle 3 represented by the client only. An asterisk (\*) on 'fishery\*' is used to indicate where this methodology has been applied. Thus the sample size of fisheries\* is different in analyses of Principles 1, 2 and 3. For details see Appendix 2.
- The construction of the indicators 4-13 is based on the scores that are delivered in fishery assessments. From 2000 to 2008, fisheries were assessed by third party certifiers against the published MSC Principles and Criteria using specific Performance Indicators (PIs) that each certifier defined itself. In 2008 the MSC collated information from all earlier assessments and published a single set of Performance Indicators and scoring guidelines (at the 60, 80 and 100 levels – see earlier section) that all certifiers were to use. Most certifications since 2008 have used these default indicators – called the '2008 default assessment tree' and published at the time of the fishery assessment methodology (FAM). Appendix 1 presents the default assessment tree.
- Fisheries certified prior to the publication of the 2008 default assessment tree used different Performance Indicators (PI). In producing this report, we 'mapped' the older PIs against those in the 2008 default assessment tree. Some PIs were not possible to match and were therefore excluded from the analysis. This resulted in a slightly different sample of fisheries\* being available for analysis for each PI, and consequently a different sample size for many of the indicators in this report. For more information on mapping methodology see Appendix 2.
- 'Fishery' in all other indicators (excluding indicators 4-13) represents the MSC defined number of fisheries by their 'Unit of Certification'.
- All X-axes labelled 'Year' represent calendar years not financial years.
- It is important to note that conclusions on improvements are related to increasing trends in PI scores assigned by Conformity Assessment Bodies (CABs) to each specific fishery during the assessment process. These are associated with the completion of the action plans for improvement that are required whenever a PI does not meet the best practice score of 80. Previous studies (MRAG 2011; Martin et al. 2012) show the presence of a statistically robust link between changes in scores and the underlying improvements 'on the water'. In addition, the participatory nature of the assessment, which includes external certifiers, independent peer reviewers, regular stakeholder engagement, fourth party accreditation and the objections procedure, assures a rigorous, robust, and consistent scoring process.

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## Indicators

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## 1. Average principle scores of MSC fisheries



### Description

The MSC fisheries standard identifies 31 Performance Indicators (PI; Appendix 1) over three Principles: (1) healthy fish stocks; (2) environmental impacts of fishing; and (3) effective management systems. Each PI is assessed based on a scoring system where 60 is the minimum acceptable sustainable standard, 80 is global best practice, and 100 is near-perfect performance.

### Technical construction

Before 2008, (i.e. prior to the fishery assessment methodology; FAM) different PIs under the same three Principles were used to assess the fisheries sustainability. To allow for long-term understanding of MSC certified fisheries performance, pre-FAM fisheries assessments have been mapped to the 31 PIs within the current default assessment tree (Appendix 1). Box plots represent the first and third quartile of scores (box), median (line), maximum (upper dashed line) and minimum (lower dashed line) of scores.

### Outcome

The average scores for Principle 1 have been declining since 1999 due to the entry of large numbers of new fisheries, with lower scores, set against the improvements generated by a smaller number of existing fisheries. Average scores for Principle 2 have shown the opposite trends mostly due to improvements in ecosystem indicators. Averages for Principle 3 have been stable. However, scores for all Principles for fisheries assessed under the default assessment tree have remained constant since 2009. Trends in average scores could also be due to changes in assessment requirements used to calculate the overarching Principles scores 1, 2 and 3.

### Definition

Average scores for Principles 1, 2 and 3 of MSC certified fisheries.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

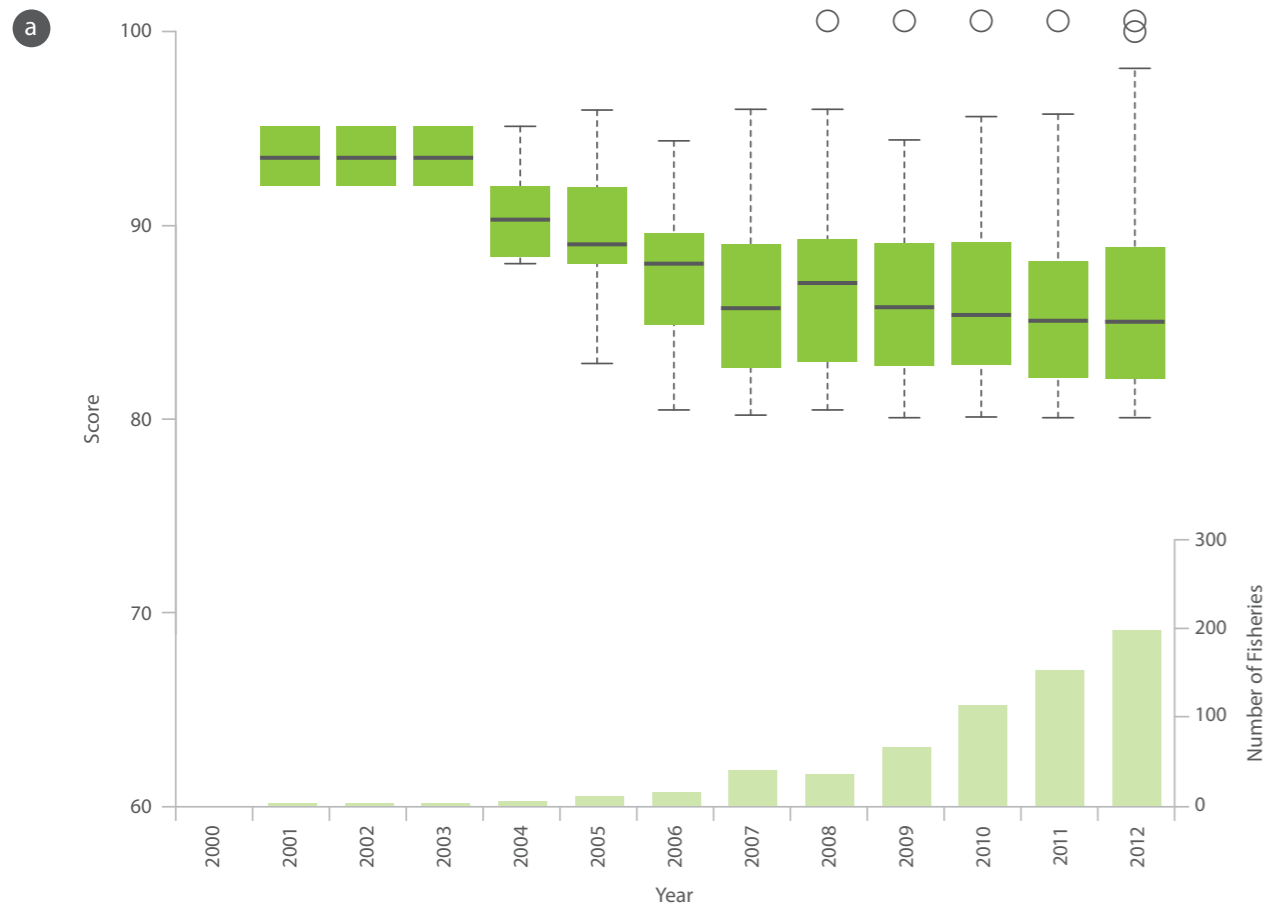
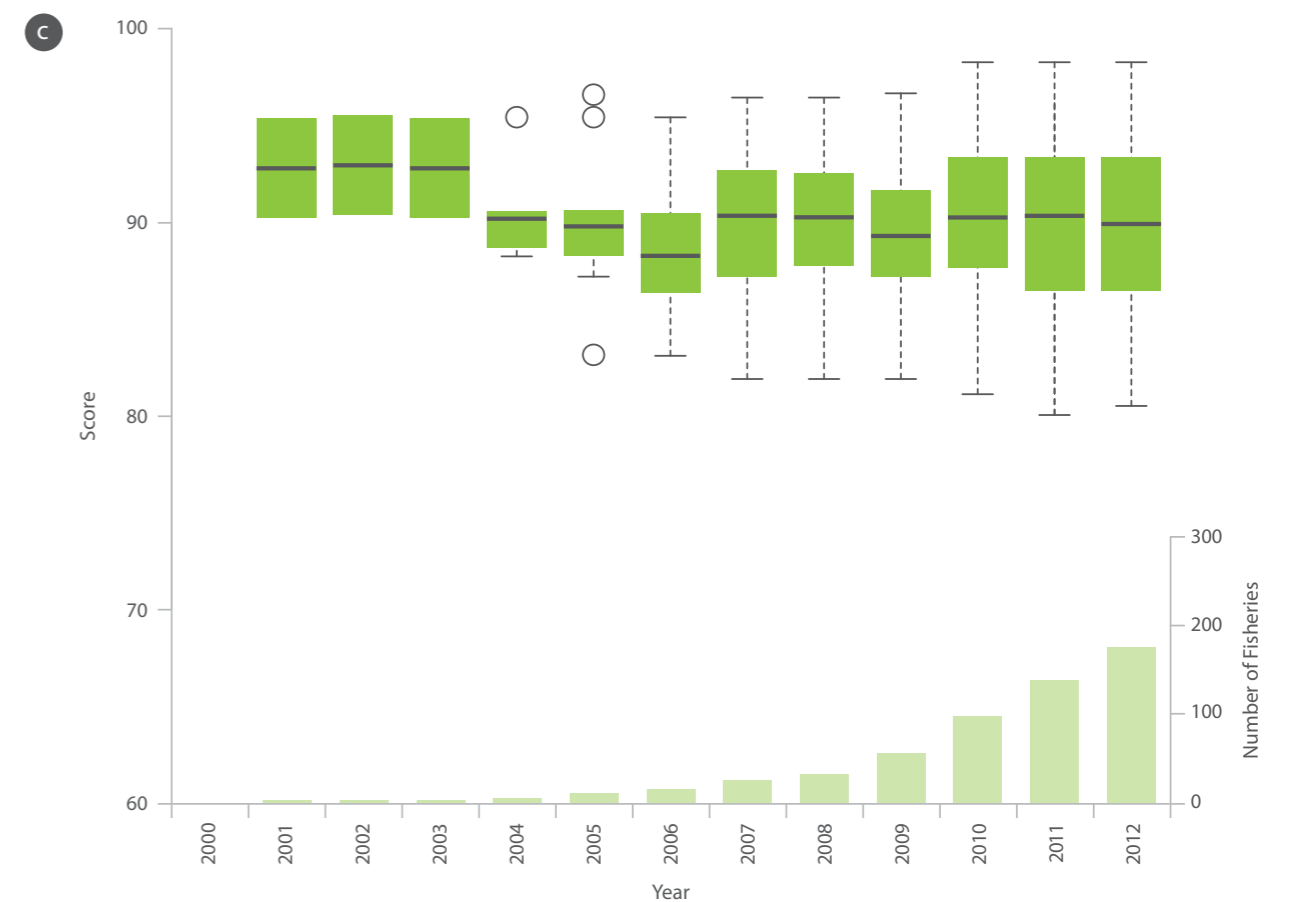
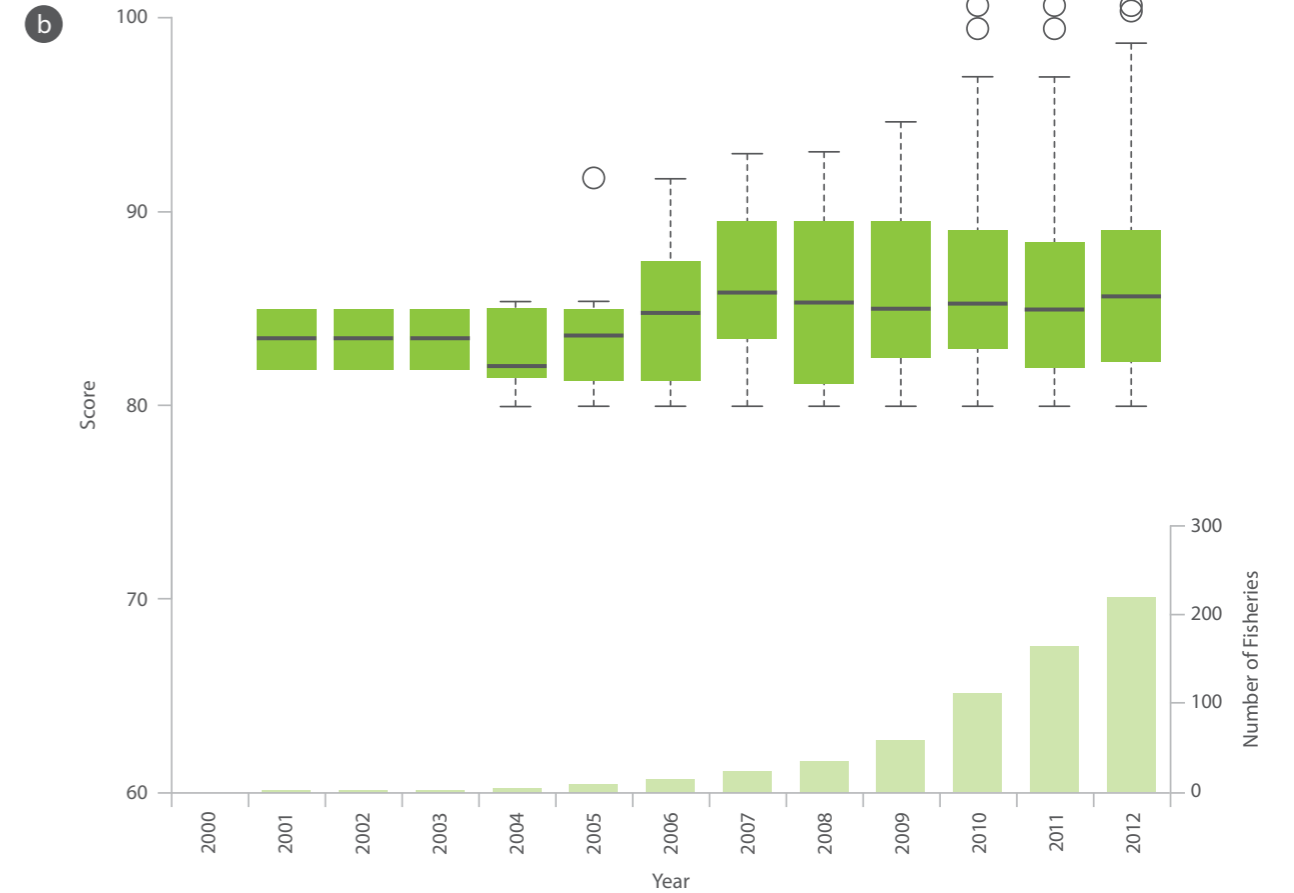


Figure 1.1  
Median, quartiles, maximum and minimum scores of certified fisheries (at time of certification) for (a) Principle 1 – health of stock status; (b) Principle 2 – limited environmental impacts; and (c) Principle 3 – comprehensive governance and fishery management. Pale green bars represent the number of fisheries\* scored by Principle and by year.





## 2. Action plans for improvement



### Description

A critical aspect of the MSC program is to allow those fisheries that are sustainable and meet the standard but are required to improve in certain areas to be certified if they commit to, and demonstrate progress toward, delivering an action plan that results in an improvement in that area. When a fishery achieves a score between 60 and 80 for any individual Performance Indicator (PI), it is required to improve its performance to the 80 level within 5 years (longer periods can be allowed in exceptional circumstances). To do this, each fishery implements an agreed action plan with time-bound milestones. Through this process, MSC fisheries commit to improvements to meet the global best practice for sustainable fisheries.

This indicator tracks the number of action plans developed for each PI since 2010, when the default assessment tree came into effect. Note that fisheries are re-certified every five years and may attract new requirements for improvement at any point during their certification history if their performance should drop below the 80 level, or if the requirements of the standard change. This indicator reports the number of action plans developed at first certification only.

### Technical construction

Action plans developed prior to the default assessment tree were more specific in application and purpose, due to the greater number of PIs in these early assessment trees. For the purposes of this indicator, these fisheries were not mapped to the default assessment tree. For some fisheries, a single action plan was developed to address two or more PIs. The current default assessment tree requires that each PI with scores less than 80 have its own action plan. Therefore, the indicator was constructed by counting the number of PIs scoring less than 80 using fisheries assessed against the default assessment tree only.

### Outcome

The PI generating the highest number of action plans for improvement is related to effective harvest control rules (1.2.2), with 51 action plans. The PI with the lowest number is related to legal and/or customary frameworks (3.1.1), with only two action plans raised. This result suggests that, even though fisheries entering assessment have a minimum appropriate system of rules designed to implement catch restrictions once the stock is departing from management targets, fully implemented harvest control rules are still not in place. Across all Principles, Principle 2 has the most requirements for action plans, with 287 applied to 95 fisheries, suggesting fisheries will make most improvements related with non-target species, habitat and ecosystem components.

### Definition

Number of fisheries on which action plans for improvements were implemented on first certification, sorted by Performance Indicator (PI).

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

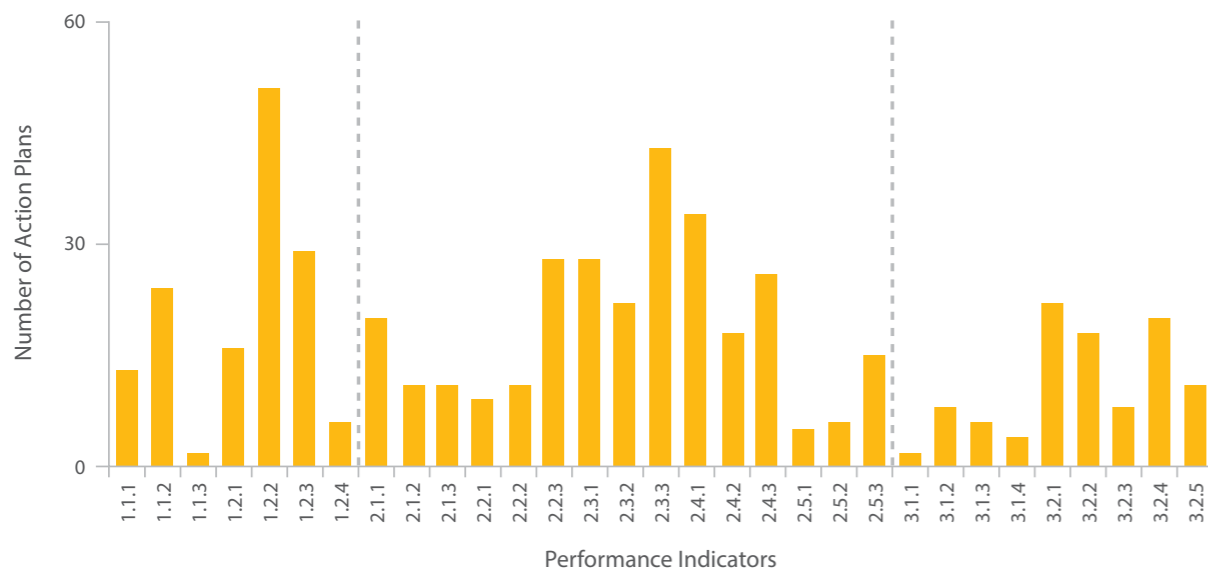


Figure 2.1  
Number of action plans for improvements developed for each Performance Indicator (Appendix 1). Only fisheries assessed against the default assessment tree since 2008 were used for this analysis. Dashed lines separate each Principle. Number of total fisheries included in this analysis = 124. Number of fisheries with action plans in Principle 1 = 89; in Principle 2 = 95; and in Principle 3 = 70.

## 3. Annual improvements through completed action plans



### Description

Action plans are required to improve performance against the MSC Principles and Criteria and may include a reduction in uncertainty, improvement in processes or outcomes and/or reduction in management risks. Although the MSC is not prescriptive on the actions to be taken to generate the required improvements, the standard requires clear and defined time-bound milestones for each action agreed by the fishery and that they result in an improvement in the score of a Performance Indicator to the 'best practice'. The rate and speed by which action plans are completed gives an indication on how fast fisheries can cope with changes in outcomes, management and governance to achieve a level of best practice.

This indicator tracks the proportion of action plans completed annually within the five year term of a certificate. Although the MSC requires improvements to be completed within this period, in exceptional circumstances a longer timeframe is allowed. Examples of this are where a fish stock will increase in size only slowly, taking longer than five years to reach Maximum Sustainable Yield (MSY) levels.

### Technical construction

Due to changes in the MSC standard since its inception, and the fact that some action plans apply to multiple Performance Indicators (PIs), following the completion of action plans over time required careful analysis of individual actions and PI mapping (see Appendix 2). However, current versions of the MSC standard require that each PI below a score of 80 have a unique improvement action plan, making tracking through time more straightforward and accurate.

### Outcome

As expected, fisheries certified in 2004 and 2005 have completed all their improvement action plans by the end of 2012. A high proportion (more than 50 per cent) of action plans are completed in the third to fourth year after the initial assessment. Data from 2007 are not presented in Figure 3.2 due to the very small number of certifications in this year.

### Definition

Number of action plans completed each year and their rates of completion grouped by year of certification.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

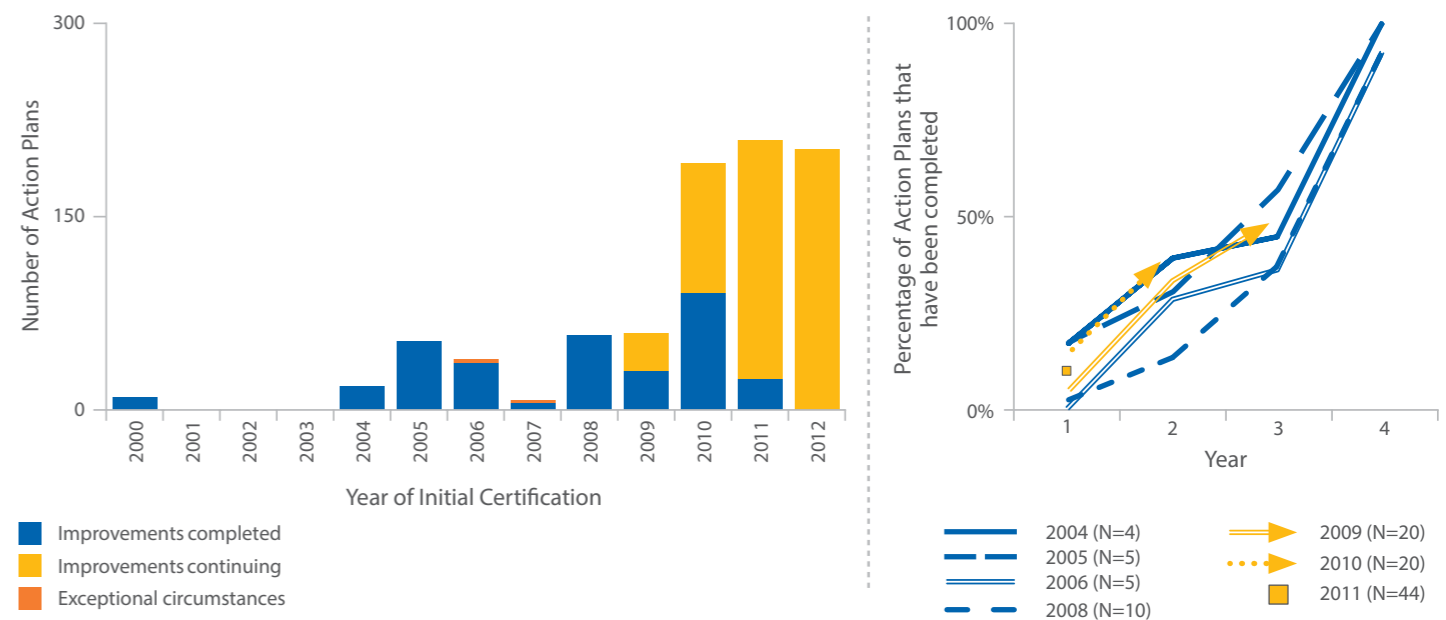


Figure 3.1  
Number of action plans for improvement that had been completed by the end of 2012, grouped by fisheries certified within the same year.

Figure 3.2  
Rate of completion of action plans by fisheries in the four years following the initial assessment, grouped by fisheries certified within the same year. Yellow lines represent fisheries still within the five year period of certification, and for which completion of the action plan is not yet required. The number of fisheries in each group is represented in brackets after the legend date.

## 4. Target stock status



### Description

Within the MSC's standard, a fishery resource must be extracted no faster than the level at which it can replace itself for it to be considered sustainable. According to international agreements and many national laws, fish stocks should be managed at the level that can support MSY (Gutiérrez et al. 2012).

For a fishery to be MSC-certified, the fish stock should be at or fluctuating around MSY-based reference points or similar in intent and outcome, receiving a score of 80. Those targeting populations below MSY levels can be certified as long as they are still within biological limits (above the level where recruitment could be compromised) and they commit to, and demonstrate recovery of, the stock in specified timelines. This is the MSC's minimum acceptable level of sustainability performance. These fisheries will receive a score between 60 and 80, and are required to develop an action plan for improvement of stock status to MSY levels. A completed action plan means there has been an improvement in stock health within the certification period. If a fishery is performing at a higher level than MSY, it will attract a score higher than 80, up to 100.

### Technical construction

Proportion of fisheries with Performance Indicator Stock Status 1.1.1 more than or equal to 80 (fluctuating around MSY levels), or with 1.1.1 less than 80 (stocks within safe biological limits and increasing towards MSY levels). \*See Appendix 2 for Technical Methodology. 'Fishery unit' in Principle 1 = client x stock.

### Outcome

The proportion of fisheries in the program that are maintained at or above MSY levels is increasing (from 77 per cent in 2007 to 89 per cent in 2012), and this is due to two factors: an increase in the number of healthy fisheries in the program; and an improvement in the status of fisheries in the program, due to completed action plans (13 fisheries by 2012). Action plans included stock rebuilding measures and strategies that have allowed the target stock to recover above MSY levels.

### Definition

Number and proportion of MSC certified fisheries at or above Maximum Sustainable Yield (MSY) levels, and those which are within biological limits and improving their status towards MSY levels.

### Source

MSC Scoring Data

### Relevance

Sustainability Objective 1.1

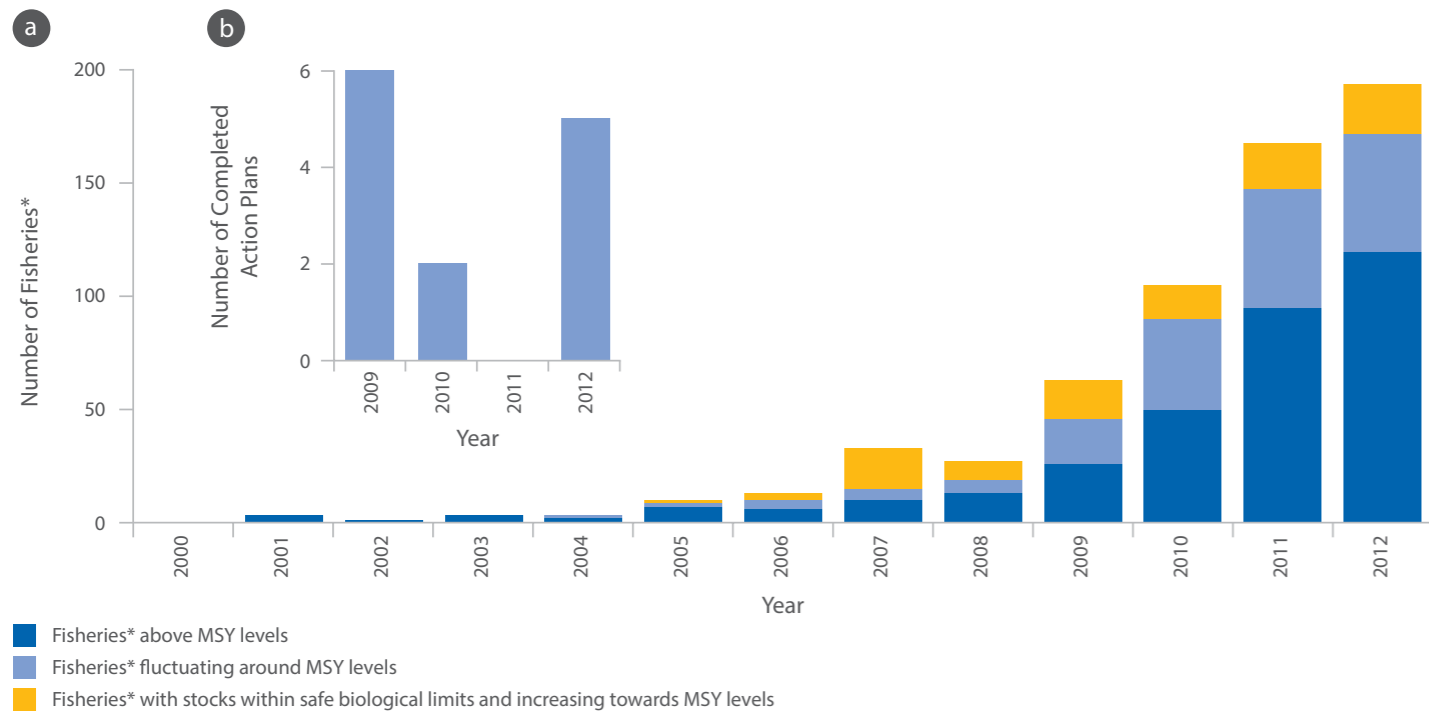


Figure 4.1  
(a) Number and proportion of MSC fisheries\* with stock status scores at or above 90 (above MSY levels), between 80 and 90 (fluctuating around MSY levels), and below 80 (stocks within safe biological limits and increasing towards MSY levels) by year;  
(b) Number of action plans for the improvement of target stock status that were completed by year.  
(N<sub>2012</sub> = 194; not all fisheries could be mapped against the 2008 default assessment tree.)

## 5. Target stock management



### Description

Comprehensive and precautionary management is needed for a fishery to be responsive to the status of the target stock, and usually entails robust and effective harvest strategies and harvest control rules to ensure the sustainability of the stock. A harvest strategy sets out the management actions necessary to achieve defined biological and economic objectives. A harvest control rule is a set of rules that define how the amount of fishing will be adjusted in response to the size of the stock.

This indicator tracks management harvest strategies and harvest control rules and tools. Fisheries with weaknesses in these areas must still meet the MSC's minimum acceptable level for sustainability, and must additionally develop action plans for improvement resulting in comprehensive and precautionary management.

### Technical construction

Proportion of fisheries with Performance Indicator harvest strategy (1.2.1) more than or equal to 80 (the fishery is highly likely<sup>1</sup> to have an effective harvest strategy to manage the health of fish stock) and harvest control rules and tools (1.2.2) more than or equal to 80 (the fishery is highly likely<sup>1</sup> to have effective harvest control rules and

tools to manage the health of fish stock). If either harvest strategy or/and harvest control rules score less than 80, fisheries are regarded as needing improvements in target stock management. \*See Appendix 2 for Technical Methodology. 'Fishery unit' in Principle 1 = client x stock.

### Outcome

The proportion of fisheries with comprehensive harvest strategies and harvest control rules and tools decreased from 92 per cent in 2006 to 75 per cent in 2012, due to new fisheries with weaker management entering the program. The requirement in the MSC standard that fisheries have effective harvest control rules has led to 37 per cent of fisheries certified since 2008 developing action plans for improvement of their harvest control rules or harvest strategies. By the end of 2012, 30 target stock management action plans had been completed. These improvements have led to clearly defined harvest strategies being put in place, new management arrangements and collaboration with fishery assessment scientists, and clear evidence that the harvest control rules are appropriate and responsive to the state of the stocks.

<sup>1</sup> Highly likely (Principle 1) means greater than or equal to the 80th percentile

### Definition

Number and proportion of MSC certified fisheries with comprehensive and precautionary target stock management, and those improving it.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

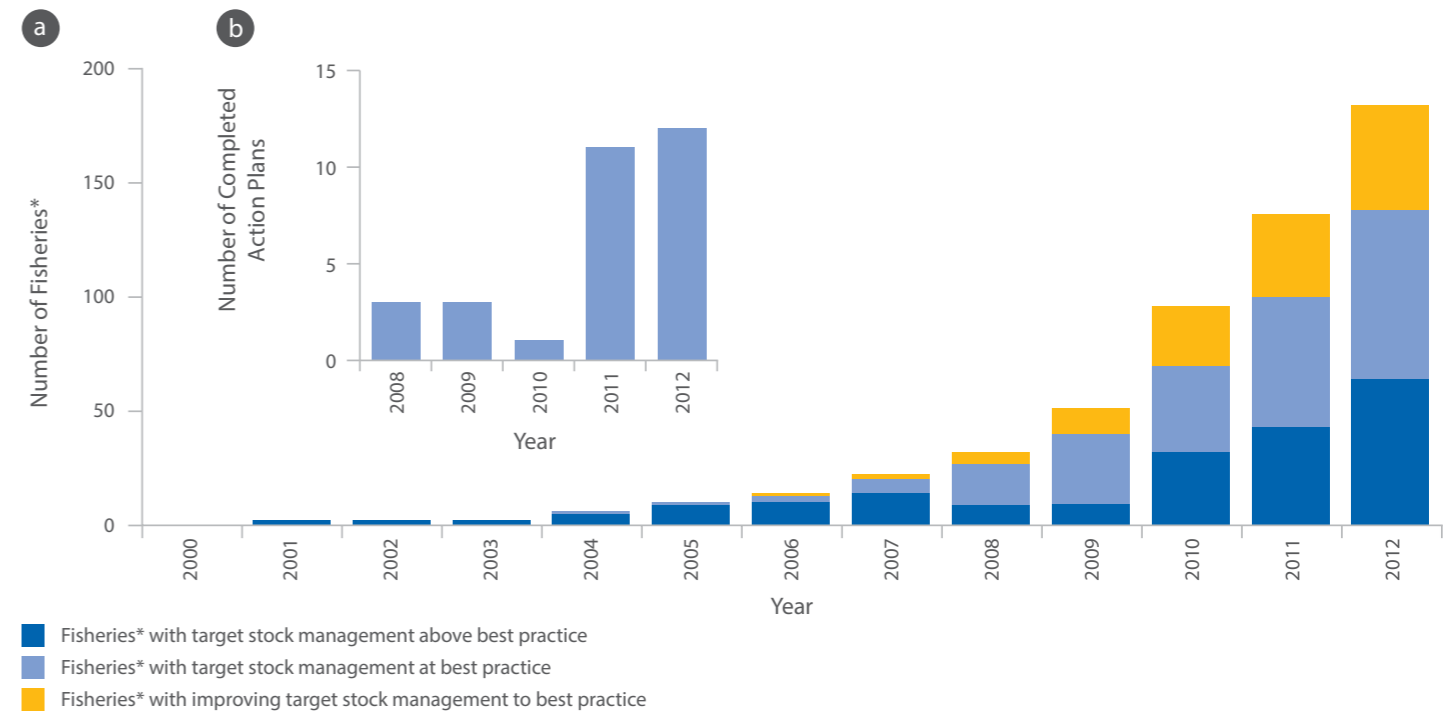


Figure 5.1  
(a) Number and proportion of MSC fisheries\* with scores at or above 90 for both PIs 1.2.1 and 1.2.2 (with target stock management above best practice), between 80 and 90 (with target stock management at best practice) and below 80 (with improving target stock management to best practice) by year;  
(b) Number of action plans for the improvement of target species management completed per year.  
(N<sub>2012</sub> = 184; not all fisheries could be mapped against the 2008 default assessment tree.)

## 6. Information on the target stock



### Description

Information is vital when it comes to assessing the health of a fish stock and to provide evidence of the effectiveness of the harvest strategy. The MSC standard requires detailed and accurate information on stock structure and productivity, fleet composition and all fishery removals as well as a peer reviewed stock assessment that takes uncertainty into account. This indicator tracks fisheries with comprehensive information and assessment of target stock, highlighting also those fisheries that have action plans for improving such information.

### Technical construction

Proportion of fisheries with Performance Indicator (PI) harvest strategy information and monitoring (1.2.3) more than and/or equal to 80 and assessment of stock status (1.2.4) more than and/or equal to 80. Only if both PIs score more than or equal to 80 are they regarded as having comprehensive information on the fish stock. \*See Appendix 2 for Technical Methodology. 'Fishery unit' in Principle 1 = client x stock.

### Outcome

86 per cent of fisheries have high-quality information on the target stock, with only 14 per cent of fisheries needing improvements. 101 action plans for improvement applied to information, monitoring and assessment of stock status have been completed since 2006 with 34 in 2012. Improvements included the establishment of observer or tagging programs, and other monitoring systems in support of the harvest strategy and harvest control rules. Improvements in the information needed for stock assessment have been generated through improved logbook data, electronic monitoring, community-based data collection programs and external peer-review of data and methods.

### Definition

Number and proportion of MSC certified fisheries with comprehensive information on stock assessment and harvest strategy, and those that are improving their information.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

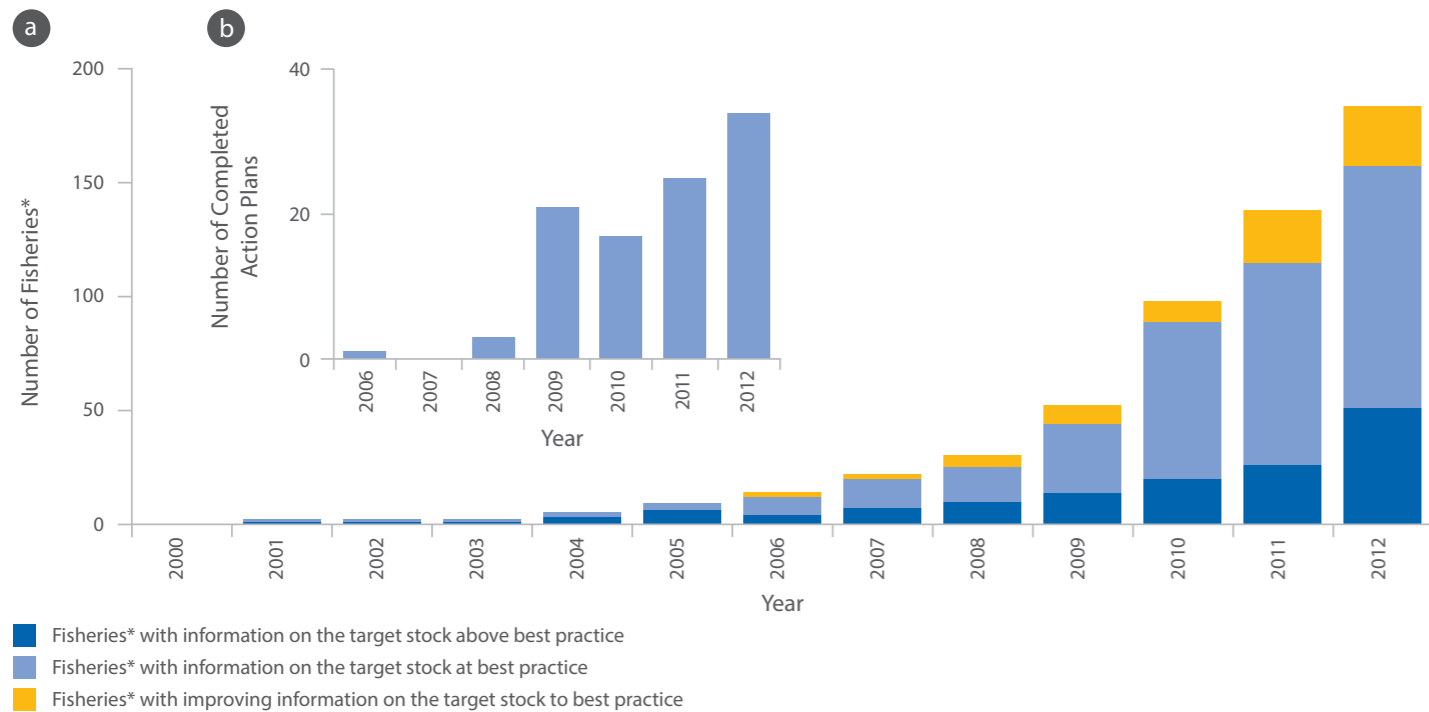


Figure 6.1  
(a) Number and proportion of MSC fisheries\* with scores at or above 90 for both PIs 1.2.3 and 1.2.4 (with information above best practice), between 80 and 90 (with information at best practice) and below 80 (with information meeting the minimum acceptable limit and improving towards best practice) by year; (b) Number of action plans for the improvement of target species information and assessment completed by year. (N<sub>2012</sub> = 184; not all fisheries could be mapped against the 2008 default assessment tree.)

## 7. Status of non-target species



### Description

As part of any fishing operation, several organisms other than target species are being captured and either retained or discarded (here called bycatch). It is important that fishing does not pose a risk of serious or irreversible harm to these retained or bycatch species, and does not hinder their recovery when depleted.

This indicator tracks the number of fisheries meeting MSC requirements for non-target species to be within biologically based limits (i.e. above the point where recruitment is impaired) or, if they are not, for the fishery to have demonstrably effective management or mitigation measures that do not hinder recovery of those species. Such measures might be a switch to more selective gears, introducing turtle excluder devices, or streamer lines to minimise seabird mortality. An action plan requires the fishery to make specific changes to its operation to reduce impacts or to undertake additional research to confirm that its actions are not significantly impacting non-target species.

### Definition

Number and proportion of MSC certified fisheries with non-target species above biological limits, and those with measures to improve their status.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

### Technical construction

Proportion of fisheries with Performance Indicator (PI) retained species (2.1.1) and bycatch species (2.2.1) all scoring more than and/or equal to 80. If any of the bycatch or retained species outcome PI score less than 80, fisheries are regarded as needing improvements. Due to changes in the assessment structure since the MSC inception, many of the prior PIs are unrelated to retained and bycatch species specifically, and could not be mapped effectively thus excluded from this analysis. 'Fishery unit' in Principle 2 = client x gear.

### Outcome

The proportion of fisheries with non-target species above biological limits has decreased from 33 per cent in 2010 to 23 per cent in 2012 due to new fisheries with lower performance in non-target species entering the program. Four action plans to improve non-target species status have been completed by 2012, including improvements in data collection, development of comprehensive analysis of retained species, improvement in management to avoid irreversible harm, and changes in gear selectivity. Many more improvements were generated for non-target species status but could not be mapped against the default assessment tree.

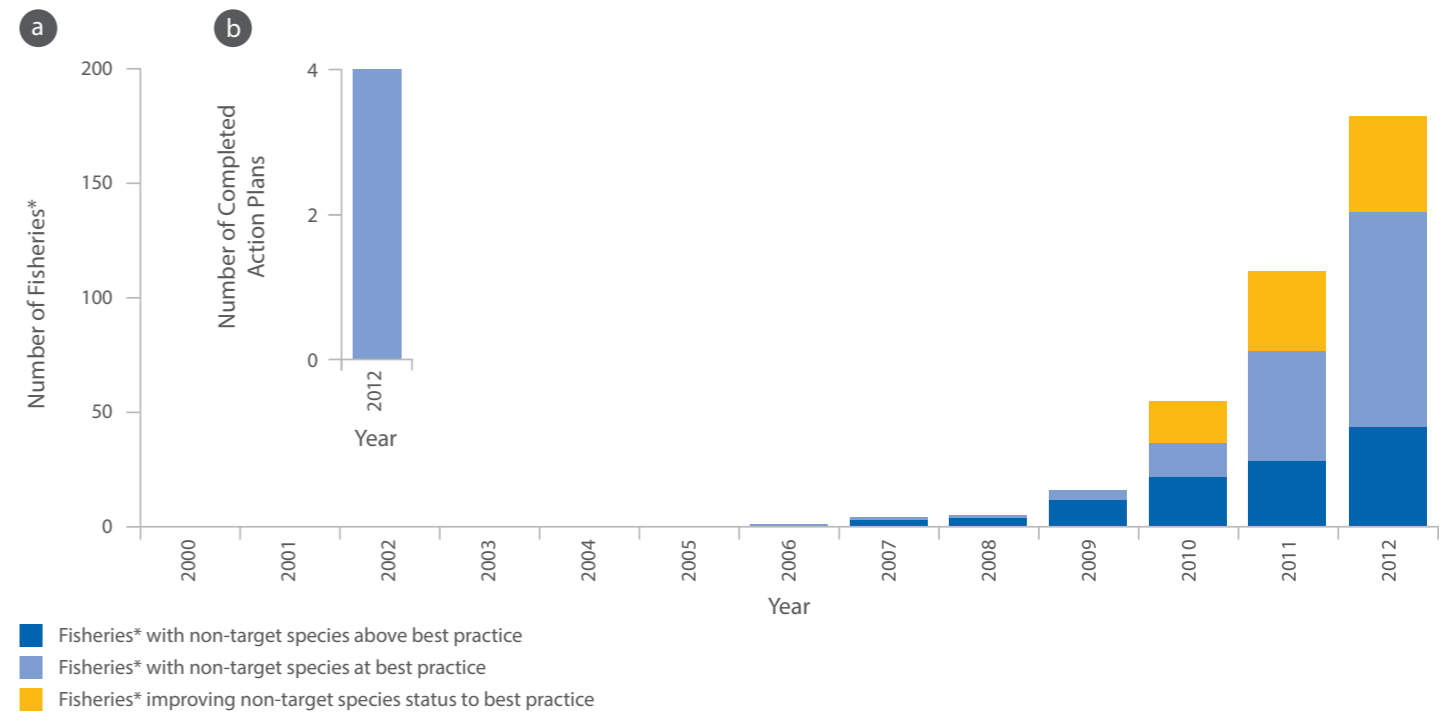


Figure 7.1  
(a) Number and proportion of MSC fisheries\* with scores at or above 90 for both PIs 2.1.1 and 2.2.1 (with non-target species status above best practice levels), between 80 and 90 (with non-target species status at best practice) and below 80 (with non-target species status above minimum acceptable limits, and improving to best practice) by year; (b) Number of action plans for the improvement of non-target species status completed by year. (N<sub>2012</sub> = 184; not all fisheries could be mapped against the 2008 default assessment tree.)

## 8. Status of Endangered, Threatened and Protected species (ETP)



### Description

Fishing gear can accidentally capture Endangered, Threatened and Protected (ETP) species, such as marine mammals, seabirds and turtles. This could be a serious threat to their recovery and conservation. The MSC standard therefore requires that fishing does not pose a risk of serious or irreversible harm to ETP species and does not hinder their recovery.

This indicator tracks the number of fisheries that meet best practice, and those that are improving to that level. For a fishery to score 80 on this Performance Indicator (PI), the effects of the fishing operations should be known and be highly likely<sup>1</sup> to be within limits of national and international requirements for protection of ETP species, and direct and indirect effects to be highly unlikely to create unacceptable impacts to these species. The minimum acceptable sustainability level requires that the effects on ETP species are unlikely to cause serious or irreversible harm. An action plan for improvement for this PI could require that the fishery make changes to its operation to minimise impacts on ETP species or, if the impact of the fishery is currently uncertain, to undertake research to confirm that the impacts are highly unlikely to cause serious or irreversible harm.

### Technical construction

Proportion of fisheries with Performance Indicator Endangered, Threatened and Protected species (2.3.1) outcome both scoring more than and/or equal to 80. If either ETP species outcomes score less than 80, fisheries are regarded as needing improvements. \*See Appendix 2 for Technical Methodology. 'Fishery unit' in Principle 2 = client x gear.

### Outcome

The proportion of fisheries for which it is highly unlikely that serious or irreversible harm will be caused to ETP species has increased from 67 per cent in 2006 to 83 per cent in 2012. Eleven action plans for improvement on ETP species have been closed since 2008, by improving data collection and research on ETP species, developing comprehensive analysis of these species, and implementing changes in fishing operations and gear to avoid unacceptable impacts.

<sup>1</sup> 'Highly likely' (Principle 2) means greater than or equal to the 70th percentile in the distribution.

### Definition

Number and proportion of MSC certified fisheries with ETP species above biological limits, and those with measures to improve their status.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

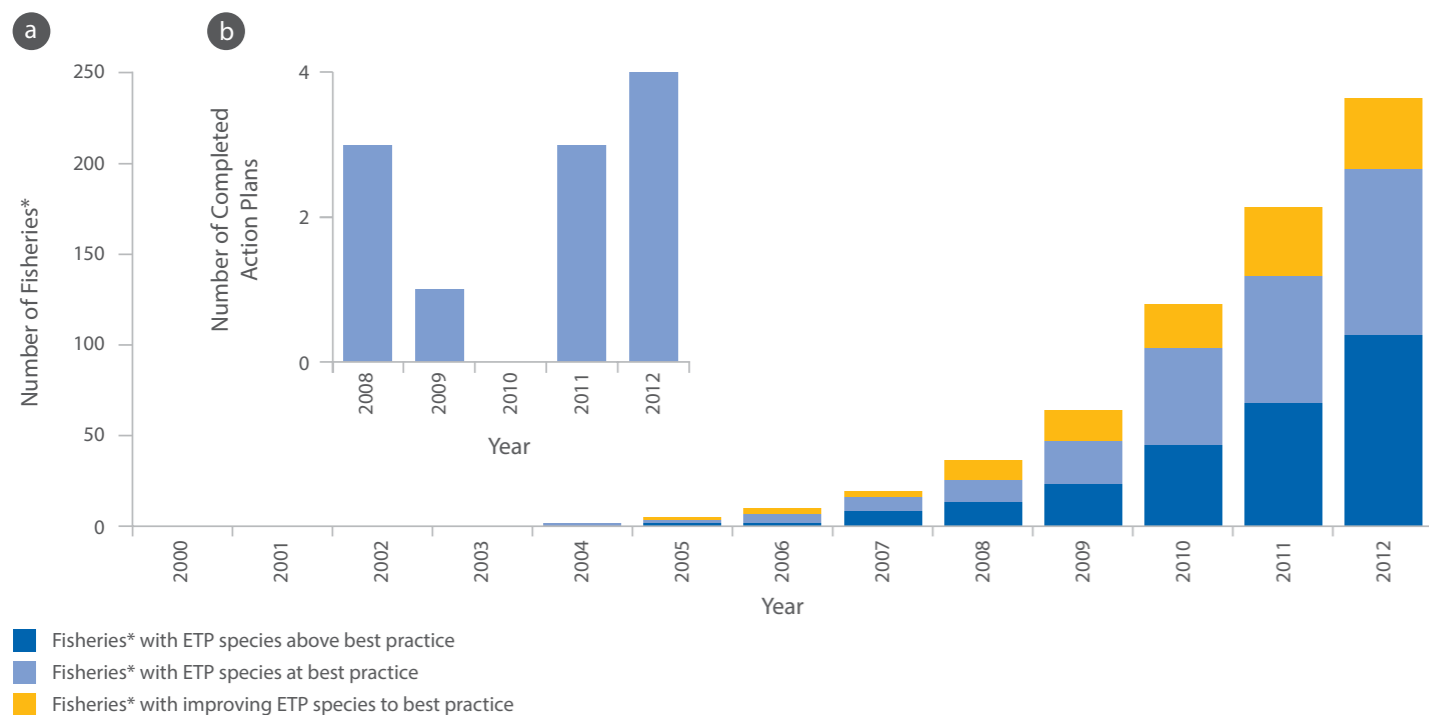


Figure 8.1  
(a) Number and proportion of MSC fisheries\* with ETP scores at or above 90 (with ETP species status above best practice), between 80 and 90 (with ETP species status at best practice), and below 80 (with ETP species status above minimum acceptable limits, and improving to best practice) by year; (b) Number of action plans for the improvement of ETP species status completed by year. (N<sub>2012</sub> = 236; not all fisheries could be mapped against the 2008 default assessment tree.)

## 9. Status of habitats and ecosystems



### Description

Healthy marine habitats, particularly benthic ones, are important for maintaining populations of fish and other organisms, but can be sensitive to change and disruption caused by certain types of fishing. Areas fished with bottom contact gears will have differing levels of impact on benthic habitat structure, depending on the biophysical environment. Fishing may also affect ecological processes at a large scale, modifying the interactions among species and flows of energy through an ecosystem.

The habitat and ecosystem components of the MSC standard consider the broad ecological community and ecosystem in which the fishery operates and require no serious or irreversible harm results from fishing. When impacts are less certain, or improvements are needed, the fishery will receive a score between 60 and 80 and be required to develop an action plan for improvement. These include making changes to fishery operations or undertaking additional research to be confirmed as meeting the MSC's requirement of best practice. A completed action plan means there has been an improvement in habitat and/or ecosystem impact mitigation and/or in information related to such impacts.

<sup>1</sup> Species such as anchovy or krill that form the same ecosystems, and on which a very large number of predators depend.

### Definition

Number and proportion of MSC certified fisheries without significant habitat and ecosystem impact, and those which are making improvements to minimise levels of habitat or ecosystem impact.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

For key low trophic level species<sup>1</sup> that play a critical role in their wider ecosystem, the MSC requires more precautionary management to maintain higher stocks, protecting the needs of other species in the ecosystem. This is not scored in the ecosystem impacts area of the default assessment tree, but in relation to the target species (indicator 4, above).

### Technical construction

Proportion of fisheries with Performance Indicator Habitat Outcome 2.4.1 and Ecosystem Outcome 2.5.1 more than or equal to 80 (the fishery is highly unlikely to impact habitat or ecosystem structure and function), and with either 2.4.1 or 2.5.1 less than 80 (the fishery is unlikely<sup>2</sup> to reduce habitat or ecosystem structure and function). Fishery in Principle 2 = client x gear.

### Outcome

The proportion of fisheries in the program with habitat and ecosystem impacts at or above best practice has increased from 66 per cent in 2006 to 77 per cent in 2012. The 22 completed action plans have improved monitoring and reporting of habitat impacts, increased the research on gear impacts, and resulted in the mitigation of impacts through changes in gear use and the creation of closed or reduced impact areas of seabed.

<sup>2</sup> There should be no more than 40 per cent probability that the true status of the component is within the range where there is risk of serious or irreversible harm.

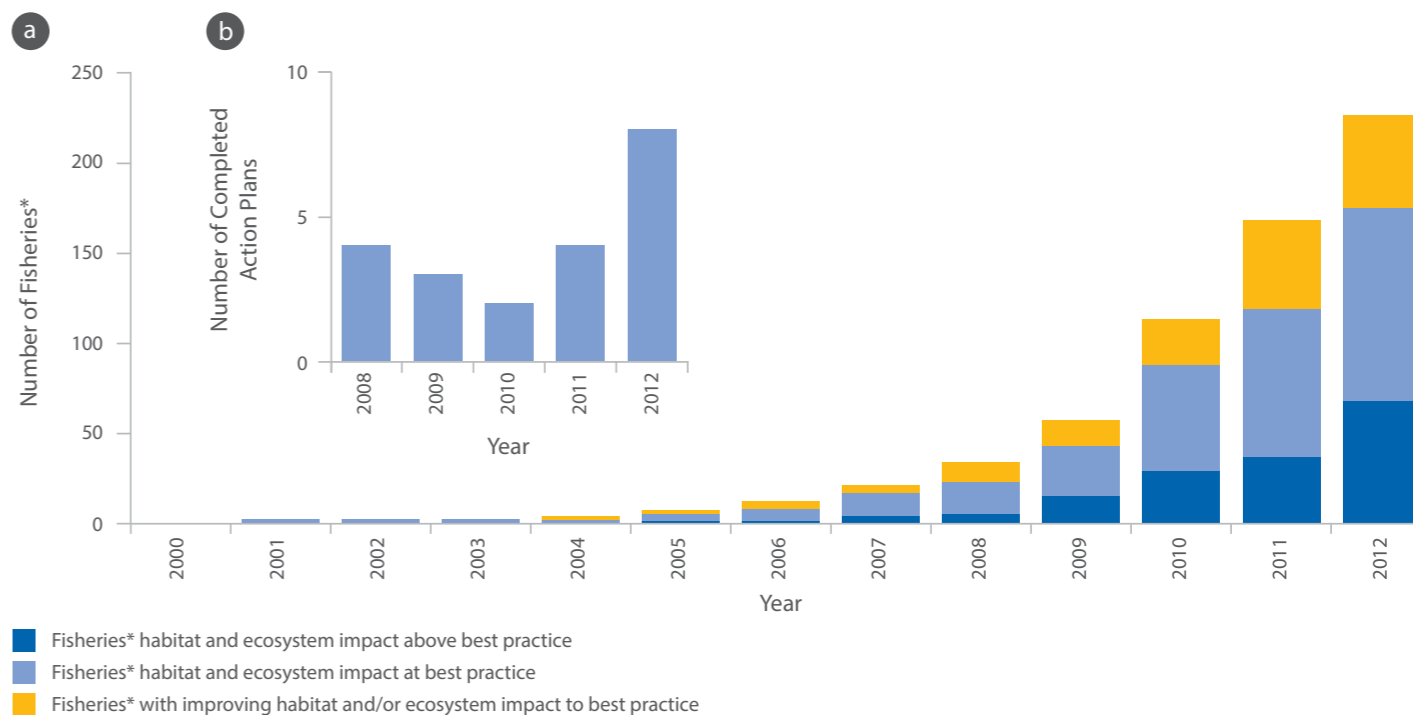


Figure 9.1  
(a) Number and proportion of MSC fisheries\* with habitat and ecosystem outcome scores at or above 90 (with habitat and ecosystem impact above best practice), between 80 and 90 (with habitat and ecosystem impact at best practice), and below 80 (impacts on habitat and/or ecosystem improving towards best practice) by year; (b) Number of action plans for the improvement of habitat and ecosystem status completed by year. (N<sub>2012</sub> = 217; not all fisheries could be mapped against the 2008 default assessment tree.)

## 10. Management of non-target and Endangered, Threatened and Protected species (ETP), habitat and ecosystem impacts



### Description

Fishing activities impact a variety of species, habitats and ecosystems. The MSC standard requires that fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

This indicator tracks the number of fisheries where there are effective strategies in place to manage retained species, bycatch species, Endangered, Threatened and Protected (ETP) species, habitat and ecosystems and are designed to ensure the fishery does not pose a risk of serious or irreversible harm.

### Technical construction

Proportion of fisheries with Performance Indicator (PI) retained (2.1.2), bycatch (2.2.2), ETP species (2.3.2), habitats (2.4.2) and ecosystems (2.5.2) management scoring more than and/or equal to 80 for each and all PIs. If any of these management PIs score less than 80, the fisheries are considered as needing improvements in management strategies. Due to differing assessment structures

prior to the default assessment tree, many of the prior PIs cannot be matched directly and were therefore excluded from this analysis. \*See Appendix 2 for Technical Methodology. Fishery in Principle 2 = client x gear.

### Outcome

The proportion of fisheries in the program with effective and comprehensive ecosystem management slightly decreased after 2008, with the implementation of the default assessment tree which includes habitat and ecosystem components in addition to non-target species components. This is partially due to new fisheries with greater weaknesses in such areas entering the program in the last two years. However, the number of fisheries with comprehensive ecosystem management has increased from 85 to 141 fisheries. Twenty-two improvement action plans have been completed since 2006 with 11 being completed in 2012. These resulted in improvements in stock assessments for non-target species, information and monitoring on ETP species, bycatch mitigation measures and implementation of management plans at the government level.

### Definition

Number and proportion of MSC certified fisheries with comprehensive management of impacts in all components of the ecosystem, and the number of fisheries improving some aspect of their management of impacts in all components of the ecosystem.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

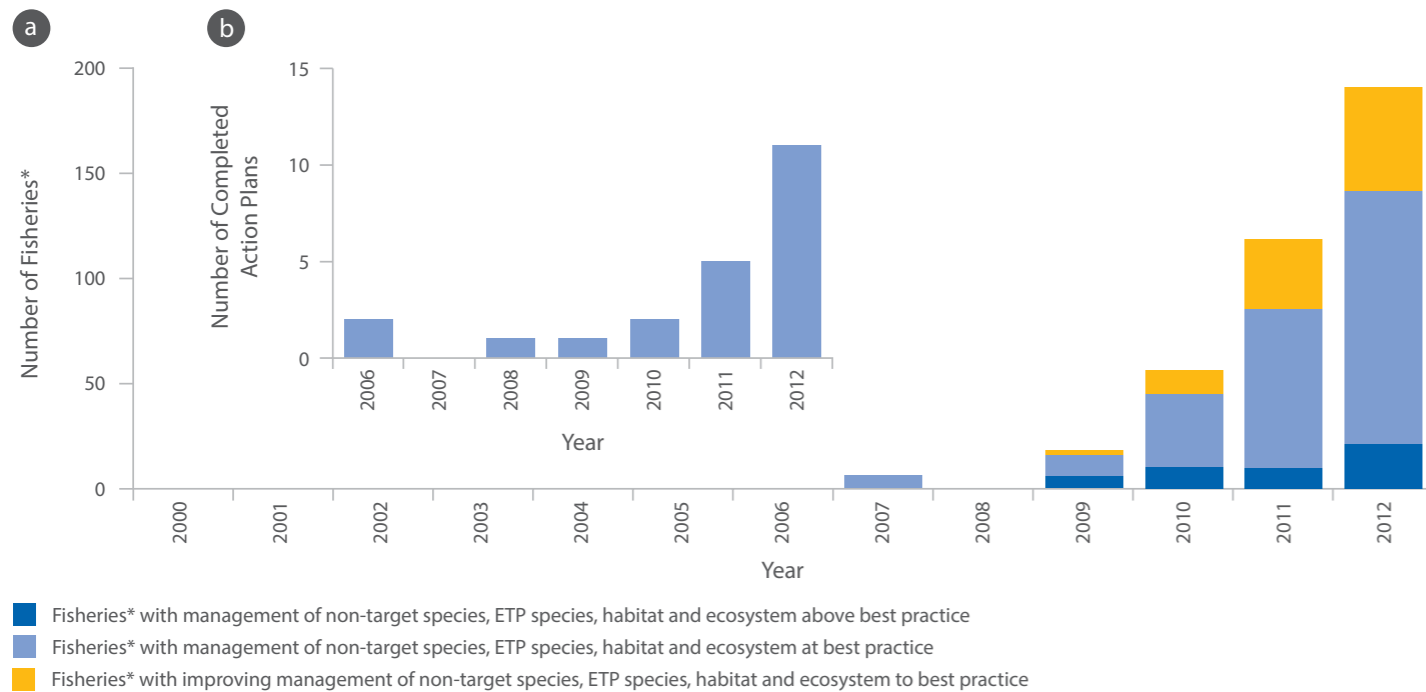


Figure 10.1  
(a) Number and proportion of MSC fisheries\* with all management scores for non-target species, ETP species, habitat and ecosystem scores at or above 90 (with management of non-target species, ETP species, habitat and ecosystem above best practice), between 80 and 90 (with management of non-target species, ETP species, habitat and ecosystem at best practice), and below 80 (management of non-target species, ETP species, habitat and/or ecosystem improving towards best practice) by year;  
(b) Number of action plans for the improvement of non-target species, ETP species, habitat and ecosystem management completed by year. (N<sub>2012</sub> = 190; not all fisheries could be mapped against the 2008 default assessment tree.)

## 11. Information on non-target and Endangered, Threatened and Protected species (ETP), habitat and ecosystem



### Description

In the past decade, requirements for marine resource ecosystem-based management have grown considerably. Yet, our knowledge of ecosystem attributes remains limited; hence our ability to predictably manage fisheries in a sustainable manner is uncertain. Lack of adequate information on all components of the ecosystem (i.e., non-target and ETP species, habitat and ecosystem) often leads to uncertain assessments of impact. The first hurdle for managers, therefore, is to ensure that all relevant information is available for assessment and information gaps are identified. The MSC standard requires all certified fisheries to have adequate knowledge and understanding of these components to enable best practice management of fishery impacts.

This indicator shows the number and proportion of MSC certified fisheries with comprehensive understanding of the non-target species, ETP species, habitats and ecosystem structure and functioning. Those fisheries where information quality, fishery impacts, understanding and/or monitoring of any of these components are not clearly understood or not at best practice will have an action plan for improvement.

### Definition

Number and proportion of MSC certified fisheries with comprehensive information on non-target species and ETP species as well as information on habitat and ecosystems, and those that are improving their information.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

### Technical construction

Proportion of fisheries\* with PI retained (2.1.2), bycatch (2.2.2), ETP species (2.3.2), habitats (2.4.2) and ecosystems (2.5.2) information scoring more than or equal to 80 for each and all PIs. If any of these information PIs score less than 80, the fisheries are considered as needing improvements in information. Due to differing assessment structures prior to the default assessment tree, many of the prior PIs were excluded from this analysis. \*Fishery in Principle 2 = client x gear.

### Outcome

In order to reflect an increasing trend towards ecosystem-based management of fisheries, MSC implemented within the 2008 default assessment tree an additional PI which requires certified fisheries to have adequate information on the structure and functioning of their associated ecosystem and to monitor all impacts. Since then, 16 fisheries have made improvements on information for non-target and ETP species, habitats, and ecosystem structure and function. Although these improvements resulted in an increase in proportion of fisheries performing at the level of best practice, the proportion and number of fisheries above best practice has not increased in the last three years, which reflects the difficulty of acquiring high quality information on ecosystem impacts of fishing.

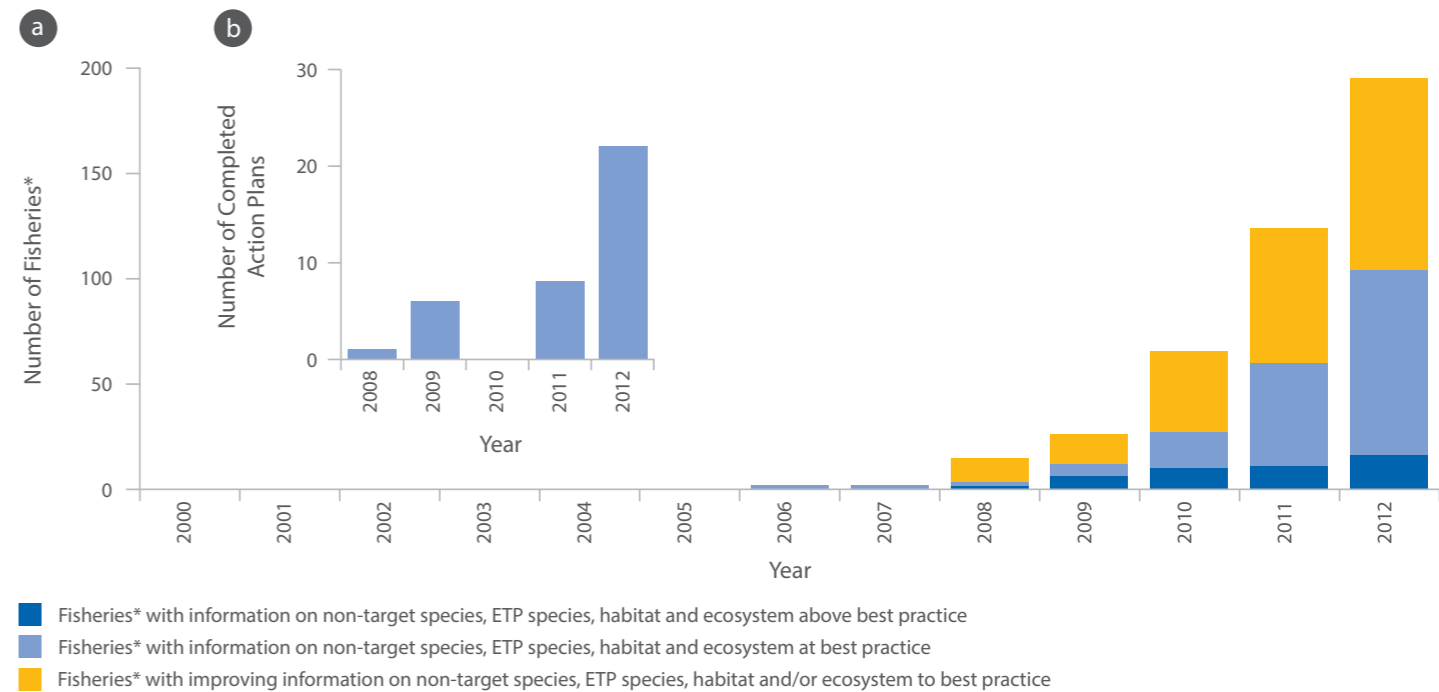


Figure 11.1  
(a) Number and proportion of MSC fisheries\* with all information scores for non-target species, ETP species, habitat and ecosystem scores at or above 90 (with information above best practice), between 80 and 90 (with information at best practice), and below 80 (with information meeting minimum acceptable limits and improving towards best practice) by year;  
(b) Number of action plans for the improvement of non-target species, ETP species, habitat and ecosystem information completed by year. (N<sub>2012</sub> = 195 fishery\* units; not all fisheries could be mapped against the 2008 default assessment tree.)

## 12. Governance and policy



### Description

Governance and fishery policy are essential components of fishery management that are required to ensure that a fishery is now, and remains, sustainable. This indicator tracks the performance of a fishery's governance arrangements, legal status, the use of positive incentives and the avoidance of negative incentives for sustainability, such as some subsidies, and long term objectives of the management system.

### Technical construction

Proportion of fisheries\* with Performance Indicators (PI) on governance and policy including legal and/or Customary framework (3.1.1), Consultation, Roles and Responsibilities (3.1.2), Long-term Objectives (3.1.3), Incentives for sustainable fishing (3.1.4) scoring more than and/or equal to 80 for all PIs. Fisheries with any of the governance and policy PIs with scores less than 80 are regarded as being required to improve effective governance and policy. \*See Appendix 2 for Technical Methodology. Fishery in Principle 3 = client.

### Outcome

The proportion of fisheries in the program with effective governance and policy has increased from 83 per cent in 2006 to 90 per cent in 2012. The proportion of fisheries being required to make improvements in these areas has remained under 30 per cent since MSC inception. A total of 17 action plans relating to governance and policy have been completed, resulting in improvements to long-term management plans, improvements in the incentives for sustainable behaviour, and promotion of better consultation mechanisms.

### Definition

Number and proportion of MSC fisheries with comprehensive performance across all MSC governance and policy requirements, and those making improvements in governance and policy.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1

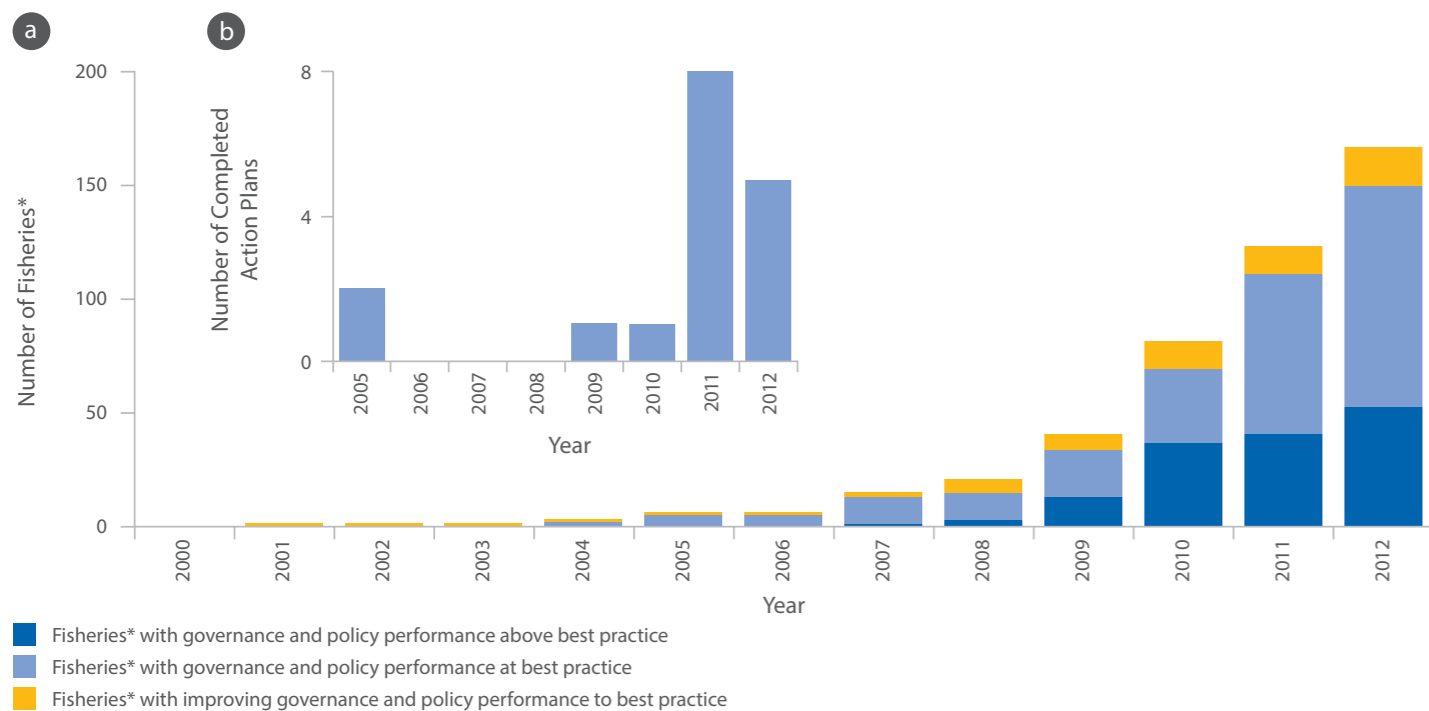


Figure 12.1  
(a) Number and proportion of MSC fisheries\* with all governance scores at or above 90 (with governance above best practice), between 80 and 90 (with governance at best practice), and below 80 (with governance performance improving towards best practice) by year;  
(b) Number of action plans for the improvement of governance completed by year.  
(N<sub>2012</sub> = 168; not all fisheries could be mapped against the 2008 default assessment tree.)

## 13. Fishery specific management



### Description

Effective fishery specific management objectives are essential not only for maintaining healthy stocks but also to implement corrective measures when stocks are reduced. Key aspects of these objectives include effective decision-making processes, monitoring, control and surveillance mechanisms, the development of comprehensive research plans and a system for monitoring, evaluating and reviewing the performance of fishery specific management. The MSC standard requires all these components to be present for a fishery to be certified without an action plan for improvements.

### Technical construction

Proportion of fisheries\* with Performance Indicators (PI) on fishery specific management including fishery specific objectives (3.2.1), clear decision making processes (3.2.2), compliance and enforcement (3.2.3), research plan (3.2.4) and management performance evaluation (3.2.5) scoring more than and/or equal to 80 for all PIs. If any of the fishery specific management PIs score less than 80 the fisheries are considered to need improvements for effective fishery specific management. \*See Appendix 2 for Technical Methodology. Fishery in Principle 3 = client.

### Outcome

The proportion of fisheries with effective fishery specific management has decreased from 88 per cent to 65 per cent. This is primarily due to the introduction, in 2008, of the default assessment tree, and a more stringent requirement in this tree for performance against four PIs that assess the fishery specific objectives, decision-making processes, research planning and management performance evaluation. 64 action plans for improvements have been completed since 2005, with 23 completed in 2012. Improvements made include the introduction of regular internal and external reviews of management plans, formalisation of fishery specific objectives at the national and international levels, strengthening of compliance and enforcement systems, and development of scientific surveys and research plans.

### Definition

Number and proportion of MSC certified fisheries with comprehensive fishery specific management systems and those improving their fishery specific management systems.

### Source

MSC scoring data

### Relevance

Sustainability Objective 1.1



Figure 13.1  
(a) Number and proportion of MSC fisheries\* with all fishery specific management scores at or above 90 (with fishery specific management above best practice), between 80 and 90 (with fishery specific management at best practice), and below 80 (meeting the minimum acceptable level and improving to best practice) by year;  
(b) Number of fishery specific management action plans completed by year.  
(N<sub>2012</sub> = 162; not all fisheries could be mapped against the 2008 default assessment tree.)

## 14. Number and landings of MSC fisheries



### Description

This indicator reveals trends in the number of fisheries (and associated landings) that are certified and in assessment, that have exited the program and are suspended. The number of fisheries in assessment refers to fisheries at different stages of the assessment process, not pre-assessments or those that have dropped out.

Calculating the number of fisheries in the MSC program in a given year is surprisingly complex. Certified fisheries may withdraw voluntarily at any time if they no longer wish to be certified or be reassessed if they wish to maintain the certificate after 5 years. A number of certified fisheries may combine their certificates if they are able to. For example, four similar fisheries could become a single fishery with a unique fishery certificate. Certified fisheries may also be suspended at any time if they no longer meet the requirements of the standard. Suspended certificates may be re-instated if a fishery comes back into compliance with the requirements, but only if the certificate is still within the five years term. All these events are taken into account when calculating the indicator presented here.

### Technical construction

Number of fisheries (annual and cumulative) engaged with the MSC. A 'fishery' in the MSC program is named after the client's group and may include one or more 'Units of Certification' defined by the target fish species and stock, the geographic area of operations, the fishing method, gear and/or vessel type. This indicator uses the definition of fishery = client. The indicators presented earlier (indicators 4-13) used variable definitions of fishery\*, which differs from the definition of fishery used in this indicator, and which are explained in full in Appendix 2.

### Outcome

The total number of MSC certified fisheries by the end of 2012 was 188, with 106 more in different stages of the assessment process and total certified landings equivalent to 6500000 tonnes. In the last five years, the number of MSC certified fisheries has shown a three-fold increase, currently corresponding to about seven per cent of the global wild-capture. In 2012, 22 new fisheries entered the MSC program. A greater variety of species was introduced to the market with these new certifications, which is helping commercial partners reach their commitments to source from MSC certified sustainable fisheries.

### Definition

Number of fisheries engaged in the MSC program by year.

### Source

MSC certificate data

### Relevance

Sustainability Objective 1.2 and 2.1

Figure 14.1  
Number of fisheries becoming certified, being recertified, entering assessment, entering reassessment, being withdrawn, and failing assessment in each year.

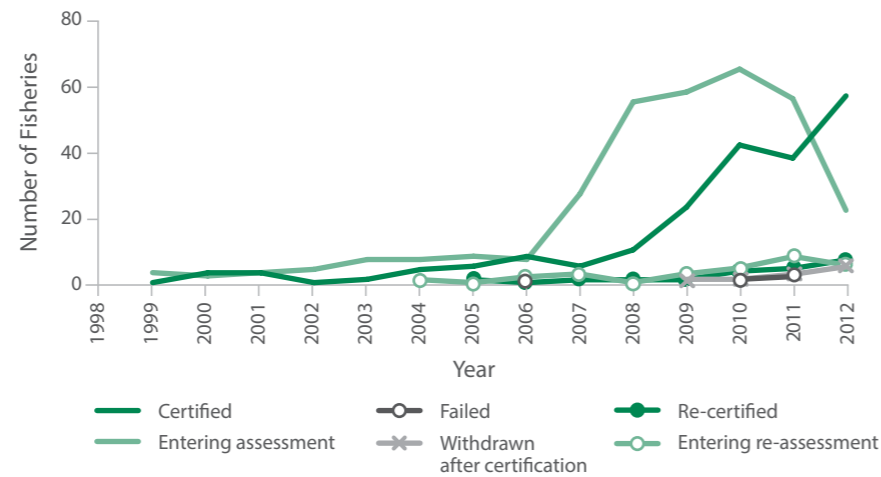
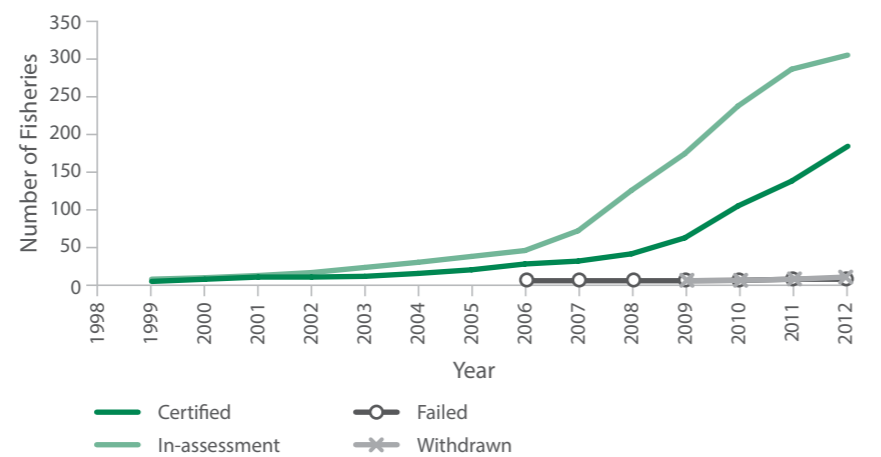


Figure 14.2  
Cumulative number of certified fisheries, fisheries entering assessment, failing assessment and withdrawn from the program each year.



## 15. Program uptake in fisheries from developing countries



### Definition

Number of developing country fisheries engaged in the MSC program; total and by region.

### Source

MSC certificate data

### Relevance

Sustainability Objective 1.2

### Description

Fishing plays a key role in developing world countries, providing the basis for economic activity, food security and livelihoods. The MSC aims to ensure that fisheries in Africa, Asia, Oceania, Latin America and the Caribbean remain healthy, productive and profitable to the millions that rely on them. The MSC's Developing World Fisheries Program seeks to raise awareness and increase certification of fisheries from developing countries. MSC engages with these fisheries to provide information and advice on the benefits of MSC certification, and actively develops tools to improve accessibility of the program to developing world and small-scale fisheries. The MSC helps governments and non-governmental organisations, the fishing industry, seafood businesses and other stakeholders work together to increase fishery participation of fisheries from developing countries in the program.

### Technical construction

Number of fisheries in developing and developed countries engaged with the MSC. Country classifications were taken from the publication of the United Nations statistics division: <http://unstats.un.org/unsd/methods/m49/m49regin.htm>.

### Outcome

Fisheries from developing countries account for 8 per cent of the total of MSC certified fisheries. The number of these fisheries that are certified remains low. However, seven fisheries from developing countries have become certified in 2012 and more are expected to enter assessment due to a continued development of accessibility tools.

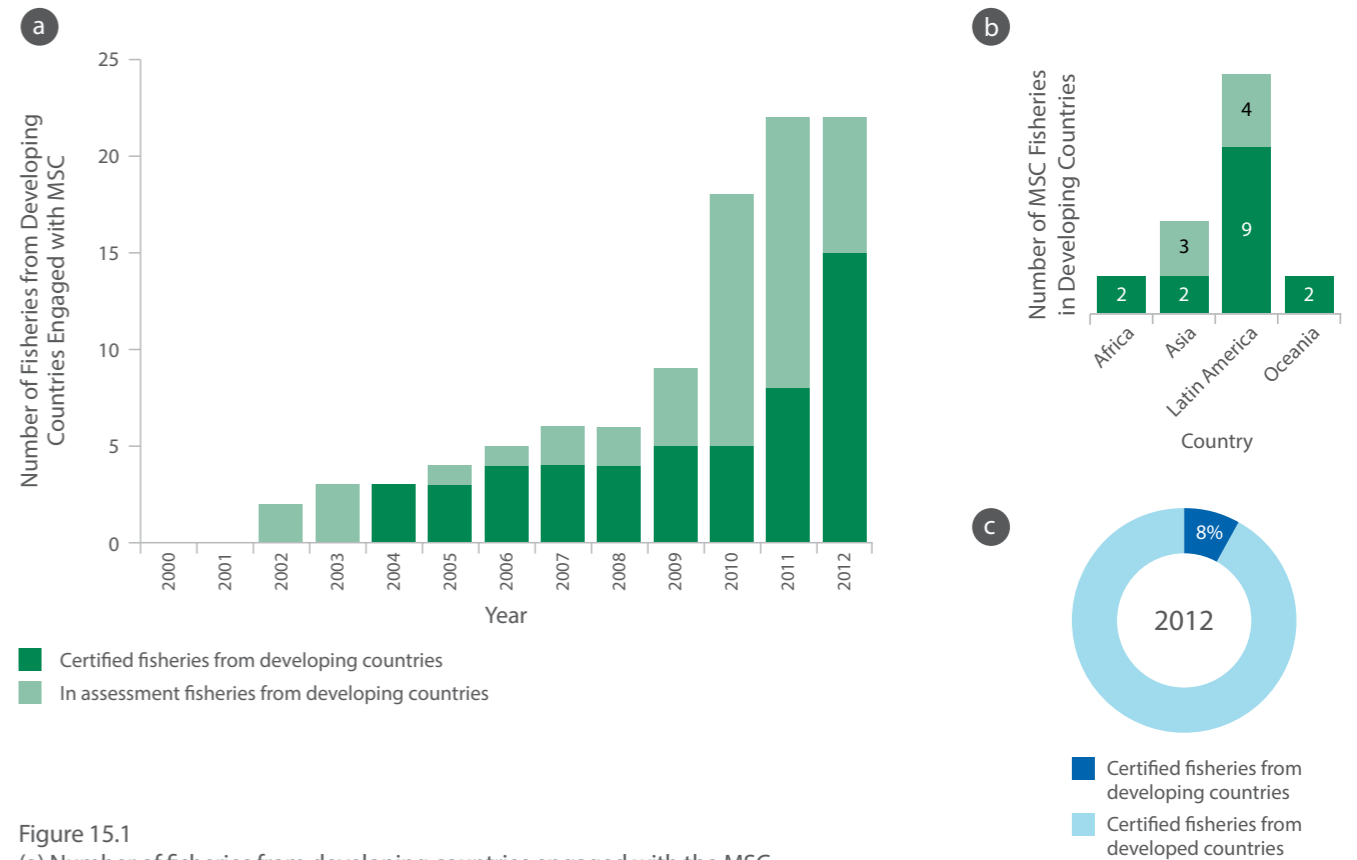


Figure 15.1  
(a) Number of fisheries from developing countries engaged with the MSC; (b) Totals by region in 2012; and (c) Proportion of certified fisheries from developing countries in 2012.

## 16. DNA testing of MSC certified fish

16

### Introduction

MSC is currently developing a formal monitoring and evaluation indicator to monitor the integrity of the supply chain. MSC certified fish can only be sold with the MSC ecolabel if every company in the supply chain carries an MSC Chain of Custody (CoC) certificate. Each CoC certified company must ensure that all MSC products they handle are fully traceable, from raw material input through to point of sale to their customer. The MSC monitors the integrity of the supply chain by tracing individual products back to the MSC certified fishery that they originated from, and by undertaking DNA testing of MSC certified products.

In March 2013, the MSC completed the third round of DNA testing on products sold to consumers as MSC certified. The sampling of products for DNA testing was first carried out in 2009, then in 2011 and most recently in 2012. In each round different products were sampled and additional DNA tests were used. Due to the variation in DNA tests, products and supply chains sampled, there is no comparable Performance Indicator (PI) at this point.

In 2011, 196 products were tested and 98 per cent were found to be correctly identified. In 2012, 381 products were tested and 99 per cent were found to be correctly identified. Cases of misidentification are referred to the Conformity Assessment Bodies (CABs) for further investigation.

### Methodology

Two methods were used in the MSC testing process in 2012. The first method extracted the entire DNA sequence (called DNA sequencing), while the second looked for a perfect match of a particular part of the DNA sequence (this is called single-nucleotide polymorphism, or 'SNP'). The process used depended on the scale of tests needed, the extent of genetic differences between populations / species, and the relevant genetic markers or coding already developed by scientists.

DNA tests were applied at different levels, as outlined below:

- Species level tests: These can validate the species (or in some cases, the genus) of a seafood sample. However, in most cases species level tests cannot distinguish between MSC and non-MSC certified samples of the same species; therefore the MSC has also been developing population level tests where feasible.
- Population level tests: These tests can identify a fish at the level of its population or stock, and can therefore link a sample of fish to a specific geographical location (often referred to as a catch area). Population level tests are only relevant for the MSC where there are genetic differences between the stock covered by an MSC certified fishery, and the stock not covered by an MSC certified fishery area. Normally population tests can only give a result to a certain degree of probability.

The development of population level tests depends on whether these tests are possible from a biological perspective. For example, some populations are so closely mingled that they do not have sufficient genetic differences to develop a population level tests.

For the 2012 DNA testing, the MSC used the following set of DNA tests:

#### Species level tests

- Hake species: *Merluccius capensis*, *Merluccius paradoxus* or *Merluccius productus*.
- Plaice: *Pleuronectes platessa*
- Walleye pollock: *Gadus chalcogrammus*
- Sole species: *Lepidopsetta* spp.
- Saithe: *Pollachius virens*
- Hoki (to genus): *Macrurus* spp.
- Pacific salmon species: *Oncorhynchus* spp.
- Pacific cod: *Gadus macrocephalus*

#### Population level tests

- Atlantic cod: *Gadus morhua* – population of origin
- Toothfish: *Dissostichus eleginoides* – differentiation between South Georgia and Falkland populations

Relevance  
Sustainability  
Objective 2.1

### Results from 2012 testing



In the most extensive testing of MSC labelled products carried out to date – 381 samples taken from retail packed products, fresh fish counters, and catering restaurants in 14 different markets – the MSC found that the overall mislabelling rate for MSC certified products was less than one per cent, or just three mislabelled samples. Once identified those supply chains were immediately investigated.

The two mislabelled samples were from a single supplier and found to be Atlantic cod, labelled as Pacific cod. Further investigation found that the fish was from an MSC certified Atlantic cod fishery. Although mislabelling has occurred, the substitution was of one certified species by another. Continued reference sampling and product sampling on Atlantic cod will be used in the forthcoming rounds of testing to further investigate this and other supply chains.



© RZSS

### On-going investment in supply chain oversight and support for partners

The MSC continues to expand its supply chain monitoring and investment in the following ways:

- On-going commitment to annual DNA testing
- Supporting research and development to expand the range of species and population level tests available
- Extending the DNA sampling strategy to permit certifiers to collect samples from within supply chains, rather than (as now) only at the end of the chain
- Increasing transparency in supply chains through developing a pilot project for an online transaction database. This will allow verification of purchases and sales transactions of MSC certified seafood products between buyers and sellers and can be used to alert auditors to any potential discrepancies in advance of an audit
- Increasing the use of product trace-backs and supply chain reconciliations (comparing purchase and sales volumes across an entire supply chain) to monitor high risk areas and investigate concerns raised.

<sup>1</sup> Two mislabelled products were identified using species tests so we can be relatively confident the product is a different species from that labelled; one mislabelled product was identified using a population test with a 60 per cent probability it is from a population which is not caught by an MSC certified fishery.



## 17. Conformity Assessment Bodies (CABs) involved in MSC fishery assessments



### Description

Under the MSC program, fisheries and businesses can become certified if they meet the MSC standard for sustainable fishing. To maintain impartiality, the MSC operates a third-party certification program. This means that the MSC itself does not issue certificates; these are issued by Conformity Assessment Bodies (CABs) which are independently accredited by Accreditation Services International (ASI). All CABs are regularly audited by ASI to ensure that they comply with MSC requirements. This ensures the MSC program remains robust, credible and meets best practice guidelines for standard-setting organisations as set out by ISEAL and FAO.

### Technical construction

Number of public certification reports produced by CABs accredited to assess fisheries by year.

### Outcome

The number of assessments and the geographical scope of the MSC program have increased substantially since 2007. This has led to an increase in the number of MSC accredited CABs from 5 in 2007 to 23 in 2012. While many CABs have assessed only one or two fisheries per year, there are a substantial number (6) of CABs that have assessed and certified at least three fisheries per year. The growing number of CABs has fostered competition, increasing the rigour and robustness of the assessment as well as the geographical representation of certifiers.

### Definition

Number of Conformity Assessment Bodies involved in MSC fishery certifications per year.

### Source

MSC scoring data

### Relevance

Sustainability Objective 2.1

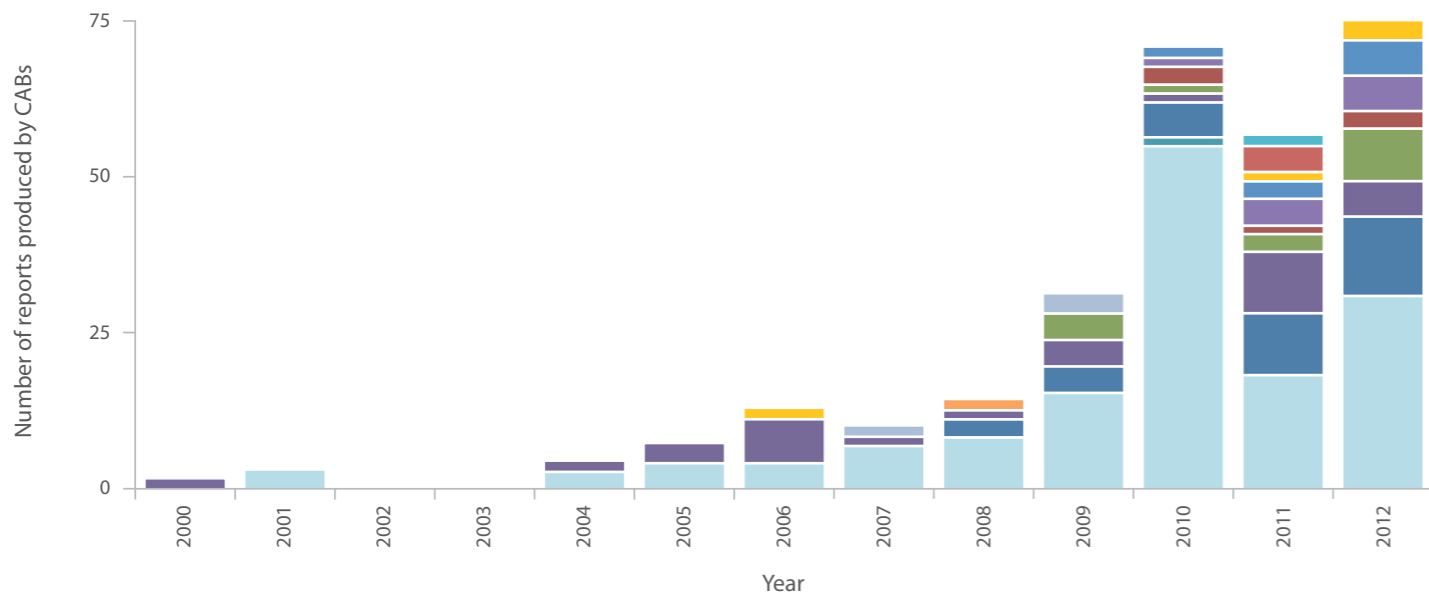


Figure 17.1  
Number of public certification reports produced by CABs per year. Bar colours represent individual CABs. For reasons of confidentiality the individual CABs are not identified on this figure.

## 18. Objections to MSC certification



### Description

The MSC certification process allows stakeholders to file an objection to the final report produced by the Conformity Assessment Body (CAB). The objectives of the MSC's Objections Procedure are to provide a structured framework by which specific concerns about certification decisions can be formally reviewed and resolved, fairly and transparently; and to provide for a review of contested certifier decisions that is independent of the certifier, objector and the MSC, to ensure that such decisions on certification meet the MSC standard. While allowing for such dispute resolution, the MSC's assessment system requires extended and detailed stakeholder consultation throughout the assessment itself, such that objections should be rare.

To ensure independence and remove the potential for any conflict of interest in this process, the MSC appoints Independent Adjudicators to make decisions on whether an objection will be accepted and formally reviewed. If the Independent Adjudicator deems the objection is not likely to succeed, or considered to be 'spurious or vexatious', the objection will be dismissed and the objector will be notified. If the objection is accepted, the Independent Adjudicator will notify

all parties, and issues will be resolved either by consultation, or oral hearing and adjudication. To be compliant with FAO guidelines for Certification and Ecolabelling, objection costs should be paid by objectors. However, objection fees are capped and can be waived entirely if an objector can demonstrate financial hardship.

### Technical construction

Number of accepted objections, divided by the number of fisheries being certified.

### Outcome

The proportion of fisheries receiving objections has been stable, other than for 2003 when the only certified fishery received an objection (rate = 1). Since that time fewer than 20 per cent of fisheries gaining certification each year have received objections. The total number of objections accepted in 2011 was ten, in 2012 one, with a total of 22 since 1999.

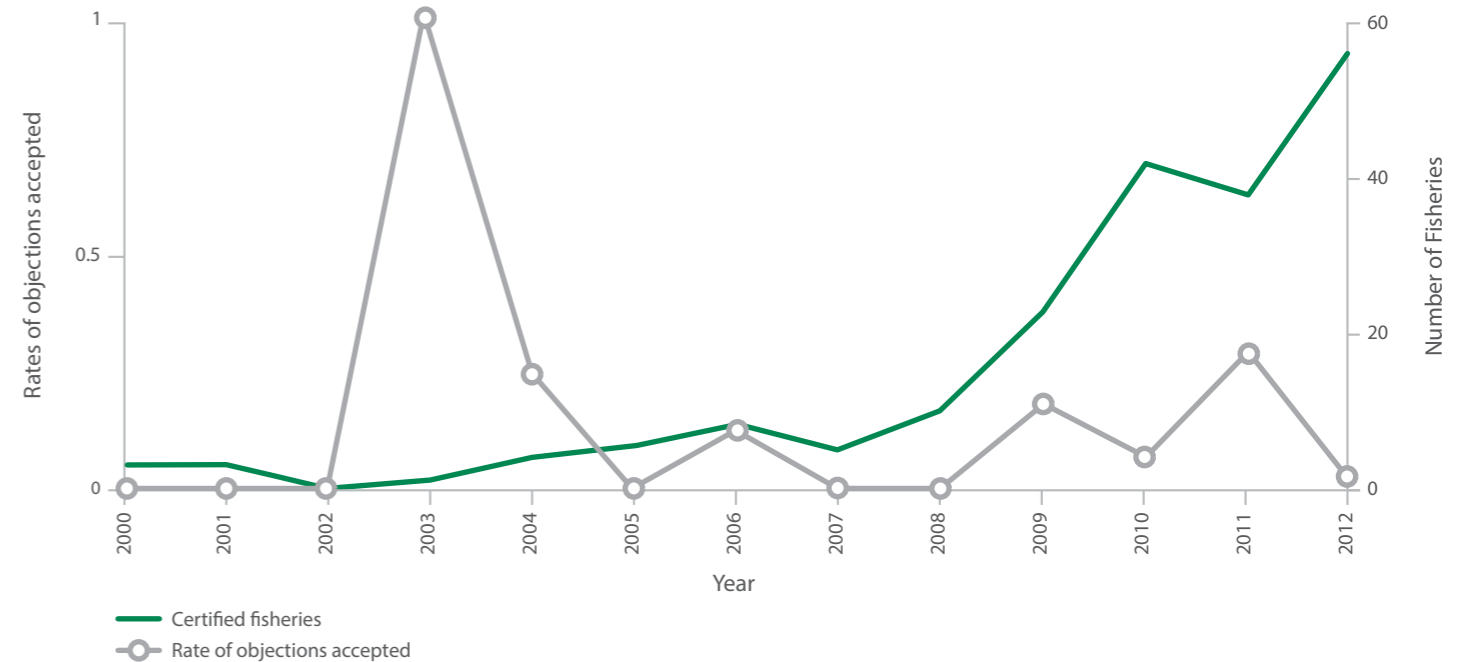


Figure 18.1  
The proportion of fisheries that received an objection each year, expressed as a proportion of the total number of fisheries certified in that year. The number of fisheries certified in any particular year is also given.

## 19. Extent of the Chain of Custody program



### Description

The MSC Chain of Custody (CoC) standard ensures that the MSC ecolabel is only displayed on seafood from an MSC certified sustainable fishery. The standard requires that organisations handling MSC certified seafood have a management system capable of maintaining records that allow any product or batch of products sold as certified to be traced from its sales invoice to a certified source, and that ensures that there is no possibility of substitution of certified products with uncertified products within the CoC.

Use of the MSC ecolabel on seafood products is permitted only where there has been independent verification that the product originated from a certified fishery. A CoC certificate for each company in the supply chain provides this verification. All companies that take ownership in the supply chain must have CoC certification for the product to bear the MSC ecolabel (Note: The number of CoC certificates does not equate to the number of sites covered by CoC certification, as a single group certificate may represent many sites).

### Technical construction

Annual total number of CoC certificates by country and trends in the number of certificates globally.

### Outcome

In the last 12 months, the number of MSC Chain of Custody certificates has increased from 1985 to 2300, a growth of 16 per cent. The US, Germany and China continue to have the largest number of CoC certifications, representing the global nature of the seafood industry, with a mixture of processing and supply chain companies through to retailers and consumer-facing outlets. Growth continues to be strong in China (224 certificates), where much of the primary processing of the world's seafood takes place.

### Definition

Number of Chain of Custody certificates by country and year.

### Source

MSC certificate database

### Relevance

Sustainability Objective 2.2

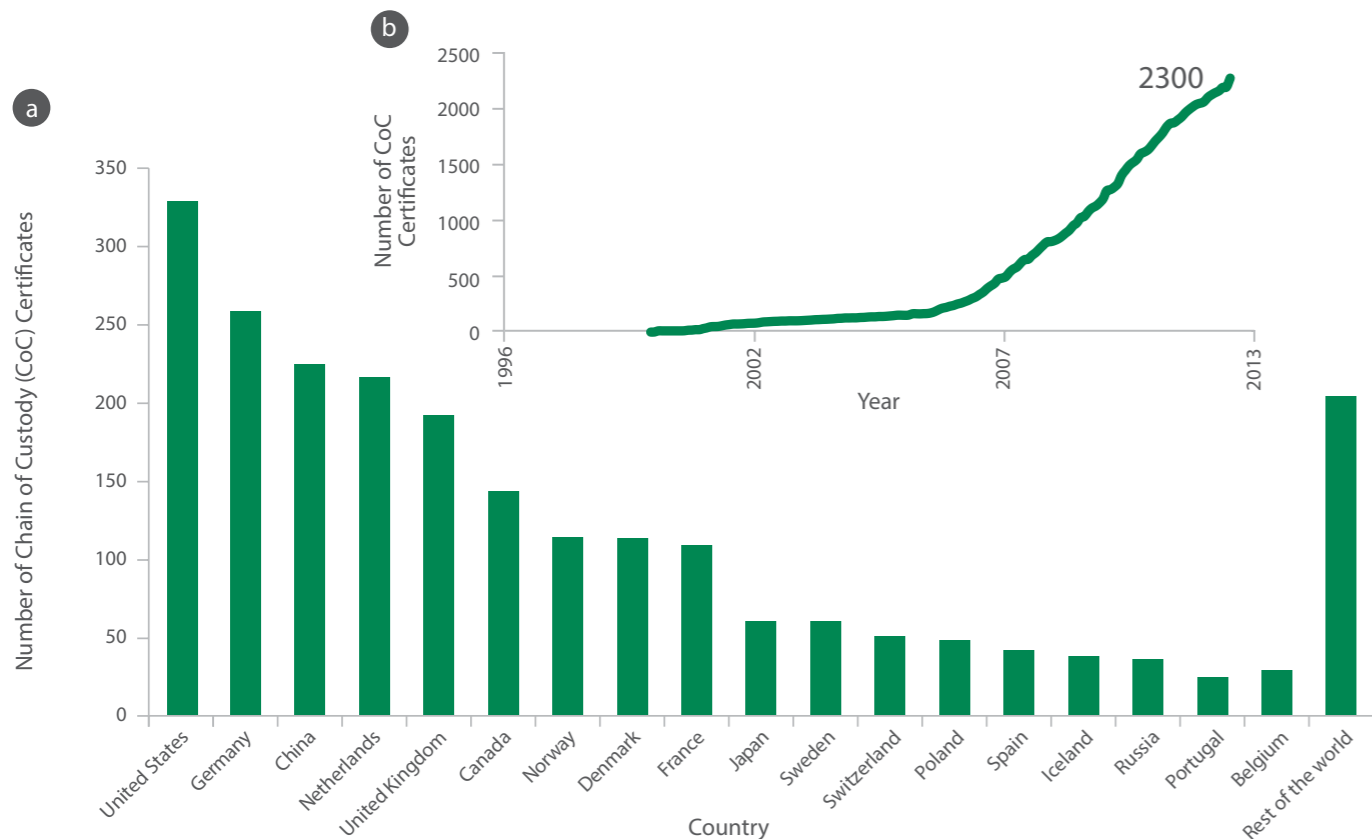


Figure 19.1  
(a) Total Chain of Custody (CoC) certificates by country in 2012; and  
(b) the total number of Chain of Custody certificates by year.

## 20. MSC ecolabelled products in the market



### Description

The MSC is what is termed a 'B to C' program, i.e. one that operates by 'businesses' targeting and selling a product to 'consumers', rather than a 'B to B' program, in which businesses target other businesses. The MSC uses a consumer-facing ecolabel to allow identification of MSC products by consumers. However, not all MSC certified product ends up being sold with the MSC ecolabel. The MSC also licences independent use of its ecolabel not on products, but as promotional material for companies.

As a certification mark and trademark, strict rules govern the display of the MSC ecolabel: only organisations that have signed a formal written agreement with the MSC – the Ecolabel Licence Agreement (ELA) – may display the MSC ecolabel on a seafood product or menu item, and associated promotional materials.

### Technical construction

Total numbers of ELAs by country and trends in numbers and volume of ecolabelled products.

### Definition

Number of MSC Ecolabel Licence Agreements (ELAs) by country and trends in number of ecolabelled products.

### Source

MSCI data

### Relevance

Sustainability Objective 2.2

### Outcome

Since 2007, with the support and active engagement of many partners, the MSC has experienced a period of robust growth. The number of MSC licence holders has grown linearly (more than doubling in the last three years, and growing 22 per cent in the last year) to the current 1050 licensees. The number of MSC ecolabelled products has grown almost twenty-fold from January 2007 to date. At the end of 2012, there were 18438 MSC ecolabelled products on sale in 106 countries globally; the countries in which MSC licence holders are based now include Suriname, Malaysia, Ecuador and Costa Rica among others. In 2012, there has been a strong growth in the number of ecolabelled products in all of our top markets: in Germany alone they grew by over 1000 to almost 5000; France, the US, Sweden, the UK and the Netherlands now all count over 1000 MSC ecolabelled products.

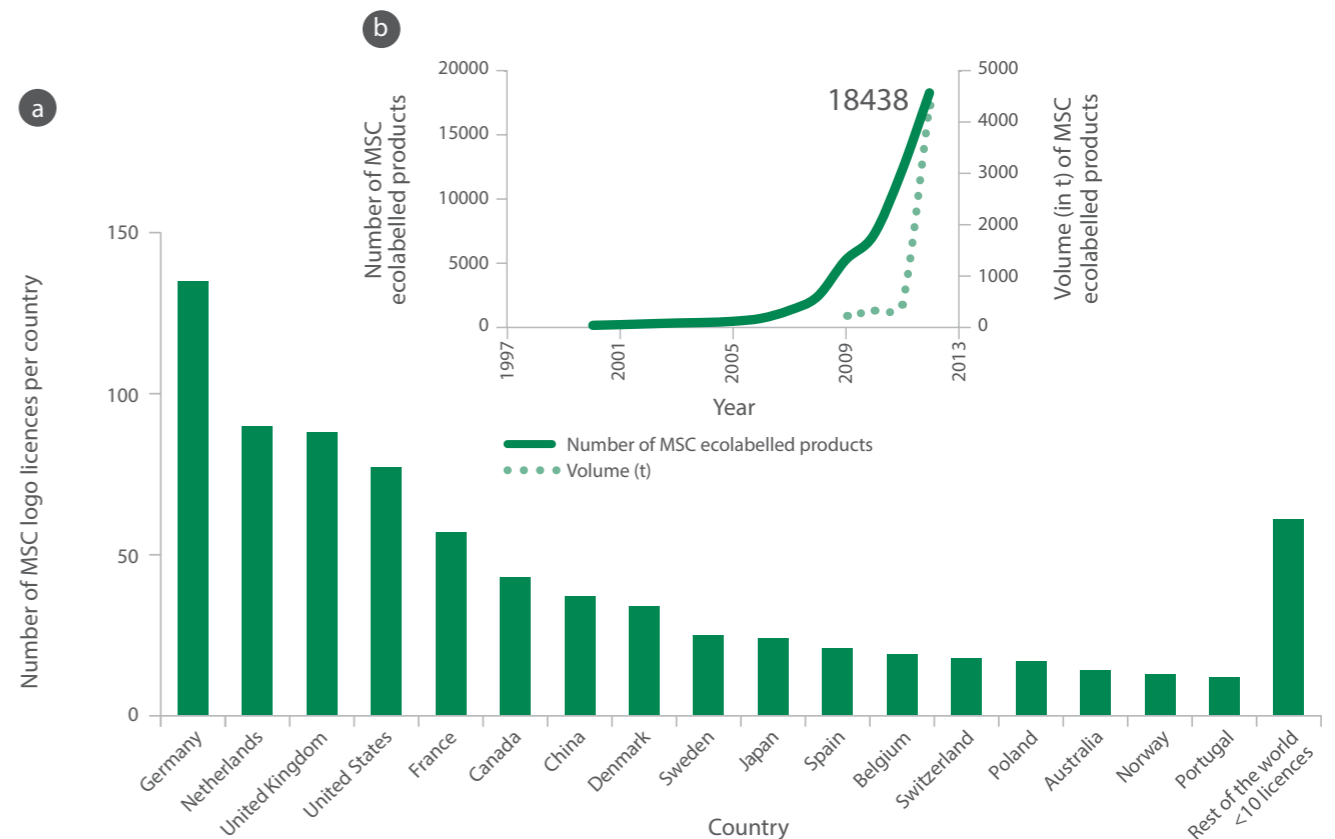


Figure 20.1  
(a) The number of MSC logo licenses by country in 2012; and  
(b) the total number and volume (t) of MSC ecolabelled products by year.

## 21. Consumer recognition and recall of the MSC ecolabel



### Description

In general, consumers respond positively to environmental claims – and ecolabelling is an effective and credible way to communicate a product's sustainable credentials. However, the success of such ecolabelling schemes depends partly on consumer recognition of the ecolabel and their appreciation of its meaning. The MSC reaches out to consumers by joining forces with brands and retailers to help promote MSC ecolabelled products and certified fisheries in store.

This indicator measures recognition of the MSC ecolabel by consumer familiarity with the debranded ecolabel (recognition: "Have you seen this logo before?") and recall of the MSC ecolabel by consumer awareness of what the MSC logo stands for (recall: "What does it mean to you?").

### Technical construction

Seafood consumer surveys were independently conducted to assess the attitudes and awareness of seafood consumers towards the MSC in selected countries (2010: 6 countries, 3516 interviews; 2012: 10 countries, 5977 interviews). Respondents to the online interview were responsible for buying food for themselves / their families and bought fish products at least once every two months.

The results at country level are nationally projectable to the adult population of regular buyers of seafood in the major retailers (statistically valid at 95 per cent confidence level +/- 4 per cent). Interview details are given in Appendix 2.

### Outcome

In 2012, 30 per cent of consumers in surveyed countries who bought fish at least once every two months, were aware of the MSC ecolabel for sustainable and well managed fisheries, up from 23 per cent in 2010. When shown the MSC ecolabel without text, 30 per cent of respondents (with variations across the ten countries surveyed) said they had seen it before (recognition) and over nine per cent were able to accurately describe what the MSC ecolabel stands for (recall). The UK and Germany show a substantial percentage change in consumer recognition of the MSC ecolabel between 2010 and 2012, whereas Canada and United States recognition has remained stable.

### Definition

Proportion of seafood consumers recognising the debranded MSC ecolabel and proportion recalling information about the MSC after seeing the debranded MSC ecolabel.



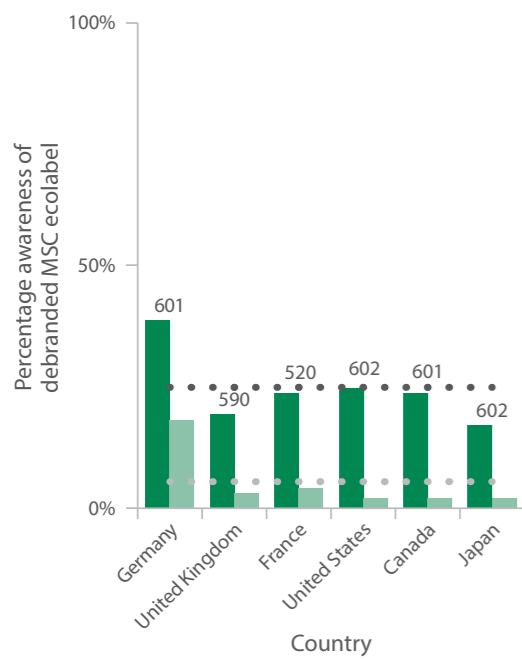
### Source

Independent surveyor's data (Albemarle Marketing Research)

### Relevance

Strategy Outcome Objectives 2.2

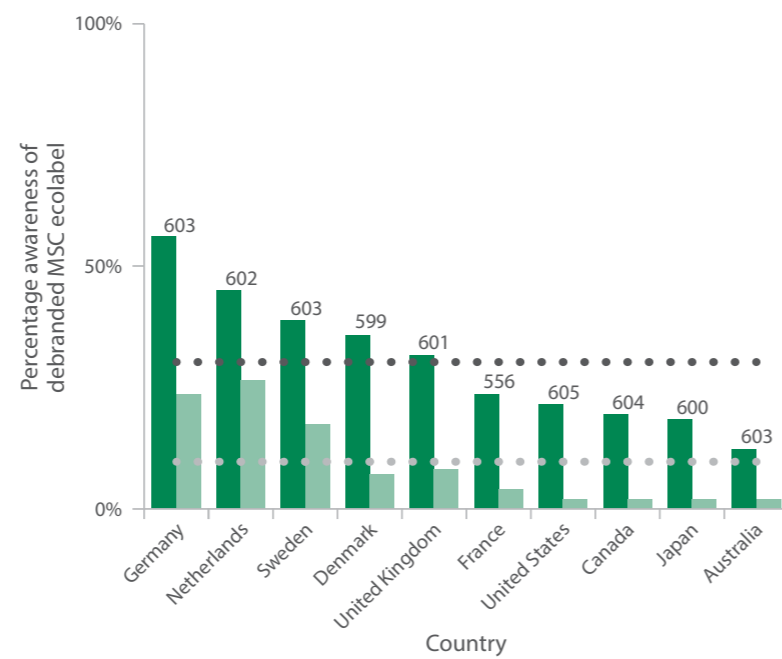
2010



■ Recognition of the debranded MSC ecolabel (%)  
■ Recall of the debranded MSC ecolabel (%)  
●●● Average Recognition (%)  
●●● Average Recall (%)

Figure 21.1  
The percentage of recall and recognition of consumer awareness by country in 2010 (N<sub>2010</sub>=3516).

2012



Numbers on top of bars represent the respondent sample size per country.

Figure 21.2  
The percentage of recall and recognition of consumer awareness by country in 2012 (N<sub>2012</sub>=5977).

## 22. Consumer purchasing of MSC ecolabelled products



### Description

Significant fishery and commercial commitments in recent years have greatly contributed to the visibility of the MSC ecolabel in stores. Increased media coverage and joint-marketing partnerships around the world have also boosted consumer awareness and understanding of the MSC ecolabel on packaging. This indicator shows purchasing attitudes towards the MSC ecolabel by measuring consumers' understanding and awareness of the MSC.

### Technical construction

Seafood consumer surveys were independently conducted to assess attitudes and awareness of seafood consumers towards the MSC ecolabel in selected countries (2010: 6 countries, 3516 interviews; 2012: 5977 interviews in 10 countries). Interview details in Appendix 2.

### Definition

Proportion of seafood consumers who currently buy products with the MSC ecolabel.

### Source

Independent surveyor's data (Albemarle Marketing Research)

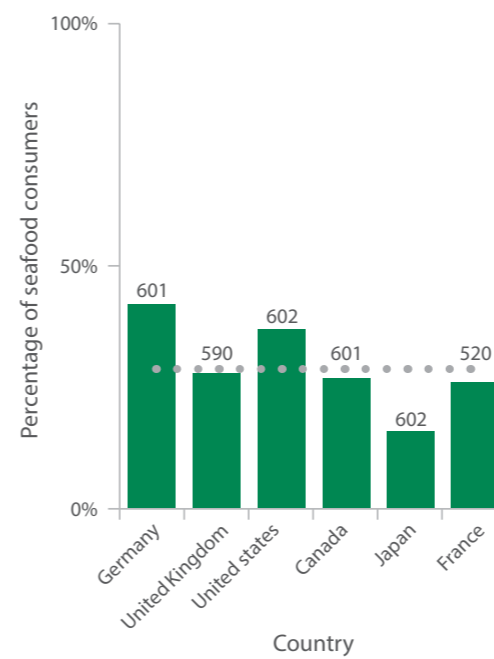
### Relevance

Strategy Outcome Objectives 2.2

### Outcome

In 2012, across all countries surveyed, on average 34 per cent of seafood consumers were purchasing MSC products while an average of 63 per cent of the seafood consumers were intending on purchasing more MSC products in the future. Between 2010 and 2012, Germany had a substantial percentage increase of 16 per cent in the number of seafood consumers currently purchasing MSC ecolabelled products. Whilst this is a study of consumer attitudes rather than actual behaviour, the trends clearly demonstrate a growing number of consumers worldwide choosing to recognise and reward sustainable fishing practices and who are willing to play their part in helping to safeguard fish supplies for this and future generations.

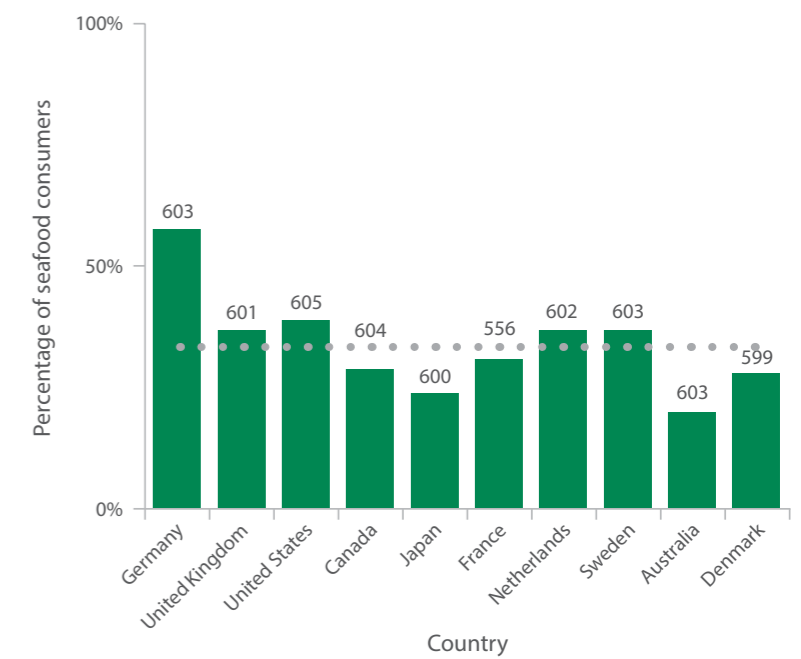
2010



■ Purchasing behaviour (%)  
●●● Average purchasing behaviour (%)

Figure 22.1  
Percentage of seafood consumers currently purchasing MSC ecolabelled products by country in 2010 (N<sub>2010</sub>=3516).

2012



Numbers on top of bars represent the respondent sample size per country.

Figure 22.2  
Percentage of seafood consumers currently purchasing MSC ecolabelled products by country in 2012 (N<sub>2012</sub>=5977).

## Stories behind MSC certification

The indicators presented in the earlier part of this report allow an evaluation of the effectiveness of the MSC program, both in terms of incentivising positive environmental changes in fisheries and in terms of encouraging a demand for sustainable fish from the consumer and supply chain.

Clearly change is happening in many different areas of fisheries and supply chains. But the story is more complex than can be described simply by the production of statistics and indices. Here we take the opportunity to tell some of the stories behind the certifications, stories that reveal the breadth of change that is often seen across the MSC program.

## Changes prior to certification

The MSC expects that fisheries currently unable to meet the MSC's standard will make changes in their operations prior to entering certification. Tracking these changes quantitatively is complex because comprehensive, analytical data are often lacking from fisheries at this stage in their evolution. Nevertheless, we present here two case studies: in the case of Gambia sole, changes are being made to a developing world fishery with the assistance of USAID and a European retail partner among others prior to entering certification; and in the case of Oregon pink shrimp, changes were made during the assessment which resulted in a successful certification.

**“The great value of the MSC pre-assessment is that it provides a route-map for achieving sustainable management.”**

**Dr. Kathy Castro of URI**

### Gambia tonguesole fishery

The Ba Nafaa project is a partnership of individuals and organisations which are working towards achieving MSC certification for the Gambian tonguesole fishery. The project is funded by USAID and implemented by the University of Rhode Island (URI) in partnership with WWF West Africa Marine Eco-Regional Programme, the Government of Gambia, the Gambian Artisanal Fisheries Development Agency (GAMFIDA) and Atlantic Seafood (a main exporter of sole from Gambia).

‘Kaufland’ is one of the biggest food retailers in Germany. It has been engaged with the MSC program for some years and continuously expands its MSC labelled offer. In October 2011, Kaufland ran a three-week point of sale campaign in over 100 of its shops throughout the country to raise awareness for sustainable fishing and the MSC ecolabel. As part of the campaign, Kaufland donated 50 cents of a Euro per kilo of MSC labelled fish (sold at its fresh fish counters) to the Ba Nafaa project.

With stakeholder support, the tonguesole fishery has introduced various measures to improve the sustainability of the fishery. Among those measures is the development of a management plan for the fishery, the implementation of a research plan and data collection for stock assessments.

The Kaufland donation, with the support of Atlantic Seafood, will also contribute to projects that will make the fishers' daily lives easier, such as buying rescue boats, cool boxes and pushcarts. Those measures will also help improve the quality of the fish, thus potentially leading to higher prices for the fishers.

Kaufland also aims to promote Gambian tonguesole among German consumers as an alternative fish to be available in the counter. It's hoped that, if the fishery eventually becomes certified to the MSC standard, Kaufland will offer tonguesole from this community-based fishery to its customers in Germany.



**“Our Sole, Our Wealth, Our Lives.”: This is the vision of the Gambian Sole Fishery Co-management Plan.**



© Oregon Trawl Commission

### Oregon Pink Shrimp

The Oregon pink shrimp fishery operates off the coast of Oregon in the western United States and approximately 60 vessels are covered under the existing MSC certification. The primary fishing method is otter trawling and by-catch reduction devices are mandatory. The annual catch landed at Oregon ports averages about 11000 tonnes, with an average shrimp size of approximately three inches. The shrimp are sold primarily into US west coast retail and food service markets.

As the first shrimp fishery in the world to achieve MSC certification in 2007, it was re-certified in early 2013. After the first 5-years period, considerable improvements have been made in obtaining more and better information for stock assessment, including more comprehensive logbooks to improve total catch and discards estimates, expanded observer coverage, and electronic reporting. The journey of recertification has also strengthened the management partnership of the fishing fleet and Oregon Department of Fish and Wildlife (ODFW). During this process, the fishery took significant positive steps to meet the new requirements of the MSC default assessment tree, and agreed to adopt reference points and implement harvest control rules. This process required the ODFW to formally vote and approve such a change. Until that point, the management system relied mostly on qualitative information to identify overfishing and to take appropriate action to address it.

However, the MSC re-certification required the fishery to adopt a more robust, sustainable and less uncertain system to measure stock status as well as defined limit and target reference points. These agreed changes will allow a better understanding of the fishery dynamics and hence a more precautionary and less uncertain management. The Oregon pink shrimp fishing fleet and ODFW government agency have demonstrated how effective partnerships can deliver positive change for the environment as well as secure seafood stocks for the future.

**“Having the distinction of being the first shrimp fishery in the world to achieve MSC certification is a source of tremendous pride for our fishermen; equally important, certification confirms to the public, retailers, the conservation community and our government officials that the Oregon pink shrimp fishery is managed to the highest standards in the world.”**

Brad Pettinger, Director of the Oregon Trawl Commission



© Oregon Trawl Commission

## Multiple changes

Ninety per cent of fisheries develop at least one action plan for improvement at the time of their first certification and most develop several. The improvements that they make are spread across all three MSC Principles (target stock; ecosystem; management) and comprise improvements in environmental status, management and information. Two examples show the wide-ranging impacts of these changes.

### European plaice

European plaice (*Pleuronectes platessa*) are bottom dwelling flatfish that inhabit the cold, shallow, saline waters of the North Sea. The North Sea is one of the most utilised marine areas in the world. Over the last ten years, around 43 per cent of the plaice landed was by fishing vessels from the Netherlands, followed by the United Kingdom (UK) with 24 per cent and Denmark with 17 per cent.

The Ekofish Group is one of several plaice fisheries in the North Sea. The fishery was required to implement several action plans for improvement, including additional information on the harvest strategy, retained non-target species and discarded species, with the ultimate

goal of attaining a less uncertain and more precautionary management. In addition to working towards those specific action plans to improve management and minimise impact on non-target species, this fishery went a step further by partnering with other fisheries and local NGOs to support the creation and avoidance of new no-take zones as a new measure to reduce fisheries' impact.

Ekofish was also the first North Sea plaice fishery to get certified, triggering the full assessments of Osprey Trawlers plaice fishery, the Danish fishery and the Dutch CVO plaice and sole fishery. All these fisheries have now introduced a comprehensive catch sampling program to get a better picture of the entire catch composition including discards.



© Marcel Coster

## Patagonian Scallop

In 2006, the Patagonian scallop (*Zygochlamys patagonica*) fishery was the first scallop fishery in the world to receive MSC certification. In 2012, the fishery was re-certified.

In many cases, the MSC certification process can bring together new partnerships, new ideas and positive collaborative approaches to fisheries management. The process of certification requires fishers, management, researchers and government to come together to identify challenges, opportunities and agree priorities.

During the re-assessment of the Patagonian scallop fishery, stakeholder engagement revealed the need for more bycatch, habitat and ecosystem-related research. It identified gaps in available information on larval development and modelling the biomass production under different scenarios of exploitation. Participants identified the habitat types, decided which activities were of most risk to the epibenthic fauna and agreed which was the most vulnerable species group affected by the fishing activity.

Although better and more comprehensive information and additional stock assessments have been identified as important improvements to maintain the fishery at best practice levels, the enhanced and broad stakeholder engagement in the fishery and fisheries management processes have been one of the most significant positive results of this certified fishery.

In a recent paper, Perez-Ramirez et al. (2012) conclude that “the certification process actively engaged stakeholders in the fishery management debate and it may increasingly involve stakeholders in areas that are not their specific concern; which can create wider understanding”. The authors report that stakeholders’ participation is considered an indirect positive consequence of the certification process, since it can encourage effective access to fishery information, increased communication among actors, and reaching consensus. They conclude that the stakeholder engagement process, which informed certification of the Patagonian scallop fishery, has spread knowledge among authorities, researchers, and industry about what the MSC is.



© Mario Lasta

## Consumer awareness

MSC certification represents an important step towards promoting best practices in fishery management; an additional critical aspect is to develop education and awareness campaigns about seafood sustainability that will result in increased market for sustainable products. Academic institutions like Cornell University have a unique ability to play a key role in increasing consumer awareness in seafood sustainability among young generations.

### Cornell University

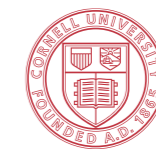
Situated in New York state, USA, Cornell University was the first Ivy League university to gain MSC chain of custody certification. This enables their on campus food service operation to serve MSC certified sustainable seafood to its students, faculty, staff, and guests.

The MSC certification forms part of Cornell’s commitment to sustainability and responsible sourcing of their food. Across the university there are 32 food service outlets serving more than 27000 customers a day. In addition, the university’s commitment to sustainability includes tray-less dining in select locations, sourcing fair trade coffee served in reusable mugs, biodegradable packaging in grab-and-go items, and even transforming over 450 tonnes of food scraps and organic waste into compost. Cornell Dining coordinates with the School of Agriculture to harvest more than 50000 lbs. of potatoes and 1200 bushels of corn every year from campus farms. Fresh yogurt and ice cream is produced during the school year at the Cornell Dairy.

MSC certification forms part of the package of positive and responsible actions which Cornell University have taken to demonstrate their commitment to sustainability and in turn educate future generations. Several other universities have also demonstrated their commitment to sourcing sustainable seafood through MSC certification, including the University of California Berkeley and University of Notre Dame in the USA, McGill University in Canada, and Oxford Brookes and the University of Nottingham in the UK.

“We see our MSC Chain of Custody certification as the logical next step in our commitment to running a truly sustainable food service operation at Cornell and sourcing seafood that’s certified sustainable is important to our students, staff, and faculty.”

Steven W. Miller, CEC, CCA, Senior Executive Chef for Cornell Dining



Cornell University

## The domino effect

The MSC's approach is to reward fisheries for performing at a sustainable level through use of the ecolabel, thereby incentivising to make the necessary changes to become and stay certified. Although individual fisheries usually make substantial improvements to their individual operations – as the balance of this report has shown – the MSC system can work to create change across whole species / product types and jurisdictions. This is due to the domino effect; when one fishery becomes certified, and others see the rewards that flow to it, they too seek to benefit in the same way. The rewards could be better knowledge about the fishery and the associated ecosystem, improved cooperation within the industry and between industry and managers, higher sales, price premiums, better or new market penetration or simply through pride and reputation of being MSC certified.

### Toothfish fisheries

One example of this effect is the certification of Patagonian and Antarctic toothfish (*Dissostichus eleginoides* and *D. mawsoni*) fisheries around the world. Currently 69 per cent of the world catch of toothfish of both species is either certified or under MSC assessment. The first fishery to be certified was the South Georgia Patagonian toothfish fishery (entered assessment 2001, certified 2004), which was re-certified in 2009. The success of this certification, and the benefits that it brought to the fishery, acted as a catalyst for all the major toothfish fisheries except for the Chilean fishery to enter the MSC program:

- Ross Sea Antarctic toothfish (part of the fishery entered assessment 2007, certified 2010);
- Kerguelen Island Patagonian toothfish (entered assessment 2009, not yet certified);
- Heard and Macdonald Islands Patagonian toothfish (entered assessment 2010, certified 2012);
- Macquarie Island Patagonian toothfish (entered assessment 2011, certified 2012);
- Falkland Island Patagonian toothfish (entered assessment 2012, not yet certified);
- Argentine Patagonian toothfish (entered assessment in 2013, not yet certified)

All toothfish certified fisheries have needed to develop some action plans for improvement on certification (24 in total). These improvements have resulted in better information on bycatch and benthic impacts, improvements to the management of habitats and ecosystems, some new closed areas to protect benthic habitat, better assessments of the status of bycatch and toothfish, changes to gear and fishing practices that have virtually eliminated the incidental mortality of birds, and continued reductions in illegal fishing.

In 2012, an independent study of MSC certified toothfish fisheries, which was prepared for the Monterey Bay Aquarium (MBAQ)<sup>1</sup>, demonstrated that they continued to make environmental improvements. As a result of the collective environmental improvements, MBAQ's Seafood Watch consumer guide has upgraded the ratings of all MSC certified fisheries to 'Best Choice' or 'Good Alternative'.

This independent, scientific study confirms the MSC program is working exactly as intended, by harnessing market forces, including access and price, to reward sustainable fishery practices and encourage other fisheries to make improvements, as appropriate.



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<sup>1</sup> Monterey Bay Aquarium Seafood Watch: Chilean Seabass. Available at [www.montereybayaquarium.org/cr/cr\\_seafoodwatch/content/media/MBA\\_SeafoodWatch\\_ChileanSeabassReport.pdf](http://www.montereybayaquarium.org/cr/cr_seafoodwatch/content/media/MBA_SeafoodWatch_ChileanSeabassReport.pdf)

### The North Sea herring fisheries

Herring (*Clupea harengus*) is a pelagic species distributed widely throughout the North Sea where they lay eggs attached to gravelly areas on the seabed. They are plankton feeders and an important food source for various demersal fish, birds and marine mammals. Fishing for herring in the North Sea has taken place for centuries by a variety of fleets, resulting in a major collapse in the 1970s, and a minor one in 1990s, followed by full recovery of the stock some years later.

Since 2006, North Sea herring fisheries from Denmark, Sweden, The Netherlands, Norway and the United Kingdom have made a commitment to sustainability and became MSC certified. The total number of action plans developed by five fisheries targeting this stock was 24, which has an important impact on the resource since their combined catch represents almost the entire North Sea herring landings.

The first certification of the Swedish Pelagic Federation Producers Organisation fishery showed some areas where information was below the best-practice level required by the MSC standard. To fill this gap, a condition required the fishery to collect extra data on incidences of slippage and interaction with Endangered, Threatened or Protected (ETP) species. The data collected were subsequently analysed, allowing this fishery to demonstrate that it operates with minimal slippage and interaction with ETP species was practically null. Further, this fishery has also demonstrated that substantial improvements in catch data have been achieved.

The collaborative management approach by these herring fisheries has delivered numerous measurable environmental improvements in the North Sea. Since the first big pelagic North Sea herring fishery was certified in 2006, this stock has increased in more than 15 per cent and rebuilt to above target levels due to a successful rebuilding plan and improved information and enforcement on discards.

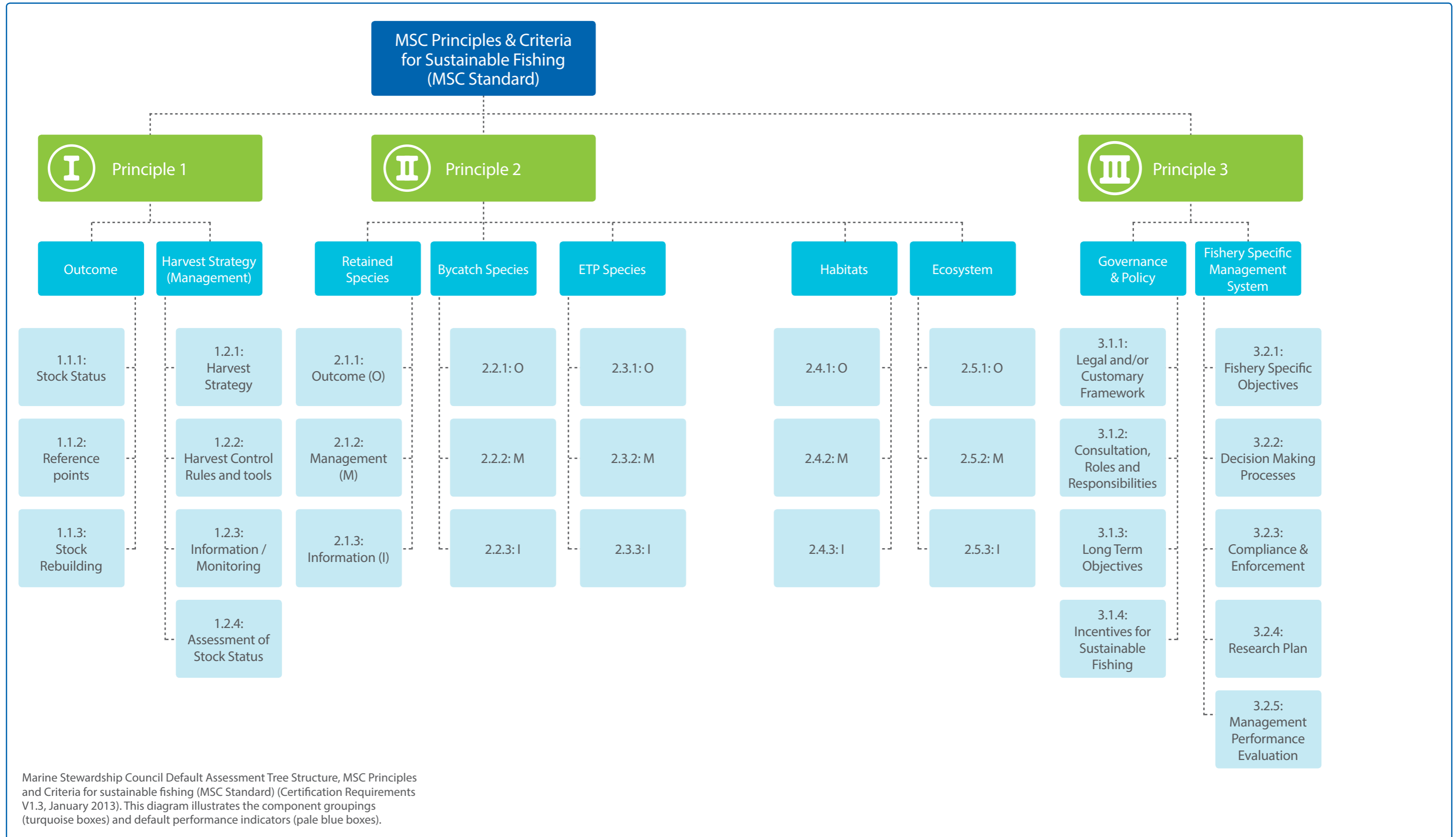
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# Appendix 1

## 1. MSC Principles and Criteria for Sustainable Fishing (MSC Standard)





## Appendix 2

### 2. Technical methodology

#### 2.1 Performance Indicator Mapping (Indicators 4 to 13)

The Marine Stewardship Council (MSC) Standard for sustainable fisheries is represented by three high-level Principles. Over the 14 years since it was developed in 1999, the MSC has had to maintain and adapt its Standard at the level of global best practice, keeping up with developments in the science and management of fisheries. In the initial stages of the MSC development, between 1999 and 2008, Conformity Assessment Bodies (CABs) scored fisheries by developing their own assessment tree structures. In order to improve consistency among assessments, in 2008 the MSC published a major restructure of its Certification Requirements in the 2008 default assessment tree, which contains 31 Performance Indicators (PIs) nested under the three core Principles. The MSC engaged widely with multiple stakeholders to develop the 2008 default assessment tree, and has consulted widely since to make small changes to the 2008 default assessment tree.

Before 2008 (pre-FAM), different PIs were scored under each of the three Principles. For this report it was therefore necessary to examine whether these PIs could be matched up to the current default assessment tree to allow for a longer time series examination of MSC environmental indicators. To do this we compared descriptions for every PI for each different tree with descriptions of the PIs in the current default assessment tree to see whether content, outcomes, and scoring guideposts were similar enough to be matched up.

Where such matching could be achieved it was undertaken, but in many cases an acceptable match could not be made. Some of the older Performance Indicators were not mapped to the default assessment tree due to:

- pre-FAM PIs not being relevant to any current default assessment tree PI.
- Differences in the pre-FAM PI intent compared to the default assessment tree PI intent.
- On the rare occasion where the current default assessment tree PIs could not be matched with pre-FAM PI / PIs they were left blank.

If multiple pre-FAM PIs corresponded to a unique default assessment tree PI, the average of the pre-FAM PI scores were taken and represented in the default assessment tree PI as one score (this step was only done for those PIs where their average did not compromise the integrity, validity and outcome of the individual PIs).

On the rare occasion where a single pre-FAM PI was used to represent two default assessment tree PIs, that score was only used once in an individual indicator analysis.

PI mapping is based on matching the pre-FAM PIs to the default assessment tree PIs and is therefore somewhat subjective and based on MSC monitoring and evaluation team perceptions and experience. Fisheries certified in and after 2009 using the FAM or default assessment tree are not affected by PI mapping and averaging, and thus more accurately represent indicators trends.

#### 2.2 Performance Indicator mapping example

This example shows how four different pre-FAM structures for the PI related to health of the target stock relative to reference points have been mapped to the current default assessment PI 1.1.1 (Stock status). Both intent and outcome and scoring guideposts (scale) were checked to assure scores meant the same level of sustainability among matched PIs (e.g., all PIs were scored the same when stock was at target reference points).

Default assessment tree PI	Default assessment tree description	pre-FAM PI	pre-FAM PI description
1.1.1	Stock status	1.1.6.1	Is the stock(s) at or above reference levels?
		1.1.5.1	Current stock size is above limit reference point.
		1.1.4.1	Is there evidence that stock status is consistent with that providing long-term productivity?
		1.F.1	Is the stock(s) at or above reference levels?

### 2.3 Performance Indicator methodology

#### 2.3.1 Background of Performance Indicator methodology (Indicators 4-13)

There are 22 monitoring and evaluation indicators. Indicators 4-13 are based on analysing particular Performance Indicators. See the following table.

Principle	Indicator or No.	Indicator name	Performance Indicator analysis*	Details
I	4	Target stock status	1.1.1 < 80	Based on number of stock and/or species scores for 1.1.1 scoring less than 80
			1.1.1 ≥ 80 < 90	Based on the number of stock and/or species scores for 1.1.1 scoring more than and/or equal to 80 and less than 90
			1.1.1 ≥ 90	Based on the number of stock and/or species scores for 1.1.1 scoring more than and/or equal to 90
	5	Improvement in fishery management	Either 1.2.1 < 80 or 1.2.2 < 80	Based on number of stock and/or species which scores for either 1.2.1 and 1.2.2 less than 80
			Both 1.2.1 and 1.2.2 ≥ 80 but both are not ≥ 90	Based on the number of stock and/or species which scores for 1.2.1 and 1.2.2 are both more than and/or equal to 80 but both are not equal to and/or above 90
			Both 1.2.1 and 1.2.2 ≥ 90	Based on the number of stock and/or species which scores for 1.2.1 and 1.2.2 are both more than and/or equal to 90
	6	Information on target stock	Either 1.2.3 < 80 or 1.2.4 < 80	Based on number of stock and/or species which scores for either 1.2.3 and 1.2.4 less than 80
			Both 1.2.3 and 1.2.4 ≥ 80 but both are not ≥ 90	Based on the number of stock and/or species which scores for 1.2.3 and 1.2.4 are both more than and/or equal to 80 but both are not equal to and/or above 90
			Both 1.2.3 and 1.2.4 ≥ 90	Based on the number of stock and/or species which scores for 1.2.3 and 1.2.4 are both more than and/or equal to 90
II	7	Status of non-target species	Either 2.1.1 < 80 or 2.2.1 < 80	Based on number of gears which scores for either 2.1.1 and 2.2.1 less than 80
			Both 2.1.1 and 2.2.1 ≥ 80 but both are not ≥ 90	Based on the number of stock and/or species which scores for 2.1.1 and 2.2.1 are both more than and/or equal to 80 but both are not equal to and/or above 90
			Both 2.1.1 and 2.2.1 ≥ 90	Based on the number gears which scores for 2.1.1 and 2.2.1 are all more than and/or equal to 90
	8	Status of endangered, threatened and protected species	2.3.1 < 80	Based on number of gears which scores for 2.3.1 are less than 80
			2.3.1 ≥ 80 < 90	Based on the number of stock and/or species scores for 2.3.1 scoring more than and/or equal to 80 and less than 90
			2.3.1 ≥ 90	Based on the number of gears which scores for 2.3.1 are more than and/or equal to 90
	9	Status of habitats and ecosystem	Either 2.4.1 < 80 or < 2.5.1	Based on number of gears which scores for either 2.4.1 or 2.5.1 are less than 80
			Both 2.4.1 and 2.5.1 ≥ 80 but both are not ≥ 90	Based on the number of stock and/or species which scores for 2.4.1 and 2.5.1 are both more than and/or equal to 80 but both are not equal to and/or above 90
			Both 2.4.1 and 2.5.1 ≥ 90	Based on the number of gears which scores for 2.4.1 and 2.5.1 are more than and/or equal to 90
	10	Management of non-target species, endangered, threatened and protected species, habitat and ecosystem impacts	Any of the scores (2.1.2, 2.2.2, 2.3.2, 2.4.2, 2.5.2) < 80	Based on number of gears which scores for any of 2.1.2, 2.2.2, 2.3.2, 2.4.2 or 2.5.2 are less than 80
			All scores (2.1.2, 2.2.2, 2.3.2, 2.4.2, 2.5.2) are ≥ 80 but not all are ≥ 90	Based on the number of gears which scores for 2.1.2, 2.2.2, 2.3.2, 2.4.2 and 2.5.2 all are more than and/or equal to 80 but not all are more than and/or 90
All scores (2.1.2, 2.2.2, 2.3.2, 2.4.2, 2.5.2) ≥ 90			Based on the number of gears which scores for 2.1.2, 2.2.2, 2.3.2, 2.4.2 and 2.5.2 all are more than and/or equal to 90	
11	Information on non-target species, endangered, threatened and protected species, habitat and ecosystem	Any of the scores (2.1.3, 2.2.3, 2.3.3, 2.4.3, 2.5.3) < 80	Based on number of gears which scores for any of 2.1.3, 2.2.3, 2.3.3, 2.4.3 or 2.5.3 are less than 80	
		All scores (2.1.3, 2.2.3, 2.3.3, 2.4.3, 2.5.3) are ≥ 80 but not all are ≥ 90	Based on the number of gears which scores for 2.1.3, 2.2.3, 2.3.3, 2.4.3 and 2.5.3 all are more than and/or equal to 80 but not all are more than and/or 90	
		All scores (2.1.3, 2.2.3, 2.3.3, 2.4.3, 2.5.3) ≥ 90	Based on the number of gears which scores for 2.1.3, 2.2.3, 2.3.3, 2.4.3 and 2.5.3 all are more than and/or equal to 90	

\*Only fisheries where the relevant PIs have scores according to the rule highlighted in this column were included in each Indicator (e.g., for Indicator 1 only fisheries with 1.1.1 scoring equal or greater than 80 were included as fisheries with Stocks at / above / fluctuating around their management targets).

Principle	Indicator or No.	Indicator name	Performance Indicator analysis*	Details
III	12	Governance and policy	Any of the scores (3.1.1, 3.1.2, 3.1.3, 3.1.4) < 80	Based on the number of clients which scores for 3.1.1, 3.1.2, 3.1.3 or 3.1.4 are less than 80
			All scores (3.1.1, 3.1.2, 3.1.3, 3.1.4) are ≥ 80 but not all are ≥ 90	Based on the number of clients which scores for 3.1.1, 3.1.2, 3.1.3 and 3.1.4 all are more than and/or equal to 80 but not all are more than and/or 90
			All scores (3.1.1, 3.1.2, 3.1.3, 3.1.4) ≥ 90	Based on the number of clients which scores for 3.1.1, 3.1.2, 3.1.3 and 3.1.4 all are more than and/or equal to 90
	13	Fishery specific management	Any of the scores (3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5) < 80	Based on the number of clients which scores for 3.2.1, 3.2.2, 3.2.3, 3.2.4 or 3.2.5 are less than 80
			All scores (3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5) are ≥ 80 but not all are ≥ 90	Based on the number of clients which scores for 3.2.1, 3.2.2, 3.2.3, 3.2.4 and 3.2.5 all are more than and/or equal to 80 but not all are more than and/or 90
			All scores (3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5) ≥ 90	Based on the number of clients which scores for 3.2.1, 3.2.2, 3.2.3, 3.2.4 and 3.2.5 all are more than and/or equal to 90

### 2.3.2 Inclusion and exclusion of data

The following rules were used to include or exclude data from the analyses:

- Individual 'Units of Certification' that have failed the MSC assessment were excluded from analysis
- All fisheries that have been certified were included in the analysis even if they are now withdrawn, suspended, in-assessment or have any other status
- PI mapped scores were included for successfully mapped pre-FAM scores to the default assessment tree
- The first three assessments performed during the early stages of MSC development were omitted due to lack of scores (these assessments simply provide a pass / fail conclusion for the fisheries)
- Scores have been taken from the justification table in the reports not the summary tables.

### 2.4 MSC Consumer Attitude and Awareness study

In February 2012, a total of 5977 interviews were completed in the UK, Germany, Netherlands, Denmark, Sweden, France, Canada, USA, Australia and Japan. The survey was previously carried out in 2010 in the UK, Germany, France, Canada, USA and Japan. Denmark and Australia were first surveyed in 2012. Online interviews of approximately 25 minutes' duration were conducted.

Respondents were (a) mainly or jointly responsible for buying food for themselves / their family and (b) have bought a fish product at least once every two months from their main store.

Respondents identified the main store where the majority of grocery shopping is done. This provided at least 100 respondents per store. The results at country level are nationally projectable to the adult population of regular buyers of seafood in the major retailers (statistically valid at 95 per cent confidence level +/- 4 per cent).

### 2.4.1 Indicator 21-Consumer Recognition and recall of MSC ecolabel

- Consumer recognition and recall of the MSC ecolabel were shown by interviewees responding to the following questions.
  - Question: "Have you seen this logo before?"
    - The text was removed from the MSC ecolabel



- The ecolabel was described as a 'logo' instead of an 'ecolabel'
- No clues were given to respondents during recruiting of what the survey was testing.
- First questions asked before any others in the survey.
- If the respondent said "Yes", this acts as an awareness measure of consumers' knowledge of the brand's existence, representing consumer recognition of the MSC ecolabel.
- Question: "Can you describe it in your own words?"
  - This represents the customers' ability to retrieve specific information from memory to understand what the interviewee knows about the brand. Responses represent unprompted recall of the significance of the MSC ecolabel on pack by consumers.

\*Only fisheries where the relevant PIs have scores according to the rule highlighted in this column were included in each Indicator (e.g., for Indicator 1 only fisheries with 1.1.1 scoring equal or greater than 80 were included as fisheries with Stocks at / above / fluctuating around their management targets).

### 2.4.2 Indicator 22-Consumer Purchasing behaviour towards MSC ecolabel

- Current consumer purchasing behaviour were shown by interviewees responding "Yes" in response to the following question.
  - Question: "Do you currently buy products that carry the MSC ecolabel?"
    - If respondents replied "Yes every time I buy fish" or "I've brought it once or twice before" they were included as interviewees currently buying MSC ecolabelled products.

### 2.5 Valid dates

- This report examines MSC data from 1999 to 31st December 2012. Data after this date were excluded from analysis.

## Appendix 3

### 3. References

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## Appendix 4

### 4. Glossary

Term	Definition
ASI	Accreditation Services International GmbH, provider of accreditation services for the MSC program.
Assessment	A process that connects knowledge and action regarding a problem. Review and analysis of information derived from research for the purpose of informing the decision-making process. It may not require new research and involves assembling, organising, summarising, interpreting and reconciling existing knowledge, and communicating it to the policy-maker or other actors concerned by the problem. Assessment is used to refer to the initial certification and re-certifications of fisheries.
Assessment Methodology	The methodology followed by CABs when assessing conformity against standards.
Assessment Tree	The hierarchy of Principles, Components, Performance Indicators and Scoring Guideposts that is used as the basis for assessment of the fishery for conformity with the MSC Principles and Criteria for Sustainable Fishing. See: Default Tree.
Biologically Based Limit	In the Scoring Guideposts for Principle 2 refers, at a minimum, to the point of serious or irreversible harm.
Bycatch Species	Organisms that have been taken incidentally and are not retained (usually because they have no commercial value).
CAB	See Conformity Assessment Body.
Certificate	A formal document issued by a CAB or accreditation body as evidence that the party(ies) named on the certificate is in conformity with the standard(s) noted on the certificate for the scope given.
Certification	Procedure by which a third party gives written or equivalent assurance that a product, process or service conforms to specified requirements.
Certification Body	See Conformity Assessment Body, CAB.
Certification Requirements (CR)	Mandatory requirements applicable to CABs.
Certification Scheme	Certification system related to specified products or services, to which the same specified requirements, specific rules and procedures apply.
Certified	Certificate of conformity to an MSC standard granted by an accredited certification body.
Certified Fishery	A fishery that has been granted a certificate of conformity to the MSC Principles and Criteria by a CAB.
Certifier	See CAB.
Chain of Custody (CoC)	The procedures implemented by a fishery and subsequent entities handling fish and fish products to ensure that products from a certified fishery are not mixed with products from any other fishery and remain fully traceable during processing, storage, distribution and sale.
Chain of Custody Certification Methodology	An MSC certification scheme document: the rules and procedures to be followed by CABs when assessing and certifying entities against the MSC Chain of Custody Standard.
Chain of Custody Standard (CoC)	The MSC International Standard applied for all Chain of Custody audits.
Action plan	A requirement to complete outcomes in order to achieve a score of 80 or above. In MSC terminology, an action plan results from a condition on a particular Performance Indicator.
Conformity Assessment Body (CAB)	Body that performs conformity assessment services and that can be the object of accreditation.
Criterion (Criteria)	A sub-division of an MSC Principle.
Default assessment tree	The standard assessment tree used as a starting point to develop an assessment tree for each fishery assessment.
Depleted	In the context of the Performance Indicators Scoring Guideposts, means a stock that is consistently below the target reference point, and which may be approaching the point at which recruitment is impaired. Stocks below the point at which recruitment is impaired are not considered to be eligible for MSC certification.
Discard	"Discards, or discarded catch is that portion of the total organic material of animal origin in the catch, which is thrown away, or dumped at sea for whatever reason. It does not include plant materials and post-harvest waste such as offal. The discards may be dead or alive" (FAO, 1996).

Term	Definition
Ecolabel	A label that conforms to the Principles described in ISO 14020:2000 Environmental labels and declarations: General Principles.
Endangered, Threatened or Protected Species (ETP)	Species recognised by national legislation and/or binding international agreements to which the jurisdictions controlling the fishery under assessment are party. Species listed under Appendix I of CITES shall be considered ETP species for the purposes of the MSC assessment, unless it can be shown that the particular stock of the CITES listed species impacted by the fishery under assessment is not endangered.
Fisheries Assessment Methodology (FAM)	See Fisheries Certification Methodology.
Fish Stock	The living resources in the community or population from which catches are taken in a fishery. Use of the term fish stock implies that the particular population is a biological distinct unit. In a particular fishery, the fish stock is often referred to a particular species in a geographic location.
Fisheries Certification Methodology	An MSC certification scheme document: the rules and procedures to be followed by CABs when assessing and certifying fisheries against the MSC Principle & Criteria that has been superseded by Part C of the MSC Certification Requirements.
Fishers	Individuals who take part in fishing conducted from a fishing vessel, a floating or fixed platform, or from shore. Does not include fish processors or traders.
Fishery	A unit determined by an authority or other entity that is engaged in raising and/or harvesting fish. Typically, the unit is defined in terms of some or all of the following: people involved, species or type of fish, area of water or seabed, method of fishing, class of boats and purpose of the activities.
Fluctuation	Variability over time around the target reference point.
Harvest Control Rule (HCR)	A set of well-defined pre-agreed rules or actions used for determining a management action in response to changes in indicators of stock status with respect to reference points.
Harvest strategy	The combination of monitoring, stock assessment, harvest control rules and management actions, which may include a Management Procedure or a Management Procedure (implicit) and be tested by Management Strategy Evaluation.
International Standard	Standard that is adopted by an international standardising / standards organisation and made available to the public.
ISEAL Alliance	International Social and Environmental Accreditation and Labelling Alliance.
Limit Reference Point	The point beyond which the state of a fishery and/or a resource is not considered desirable and which management is aiming to avoid.
Maximum Sustainable Yield (MSY)	The highest theoretical equilibrium yield that can be continuously taken (on average) from a stock under existing (average) environmental conditions without affecting significantly the reproduction process.
Method of Catch	The fishing method(s) employed in the fishery.
MSC	The Marine Stewardship Council.
MSC Accredited Certification Body	A CAB which is accredited by ASI to undertake certification audits of applicants for the MSC certification scheme, issue MSC certificates and then conduct surveillance within the scope set by ASI.
MSC Certification	See Certified.
MSC Certification Standards	All MSC requirements as amended and re-issued from time to time in relation to the certification of fisheries or of chain of custody operators.
MSC Data	A collection of records on the fishery and Chain of Custody Certification programme held by the MSC.
MSC Ecolabel	The Type III Environmental Label trademarked by MSC and licensed for use on products and to promote products certified by a certification body accredited to the MSC certification scheme. An 'ingredient brand' that reassures customers that independent, third party certification has been carried out to demonstrate the product comes from a sustainable fishery.
MSC Principles and Criteria	The MSC Principles and Criteria for Sustainable Fishing.
MSC Requirement	An element mandated by MSC for CABs or for certified entities.
MSC Standard	Either the MSC's Principles and Criteria for Sustainable Fishing or the Chain of Custody Standard.
MSC-certified fish	Whole fish or products that are, or are derived from, any aquatic organism harvested in a certified fishery, as defined in the Unit of Certification of a valid MSC certificate.
MSCI	Marine Stewardship Council International Ltd.
Overfished	A stock is considered "overfished" when exploited beyond an explicit limit beyond which its abundance is considered "too low" to ensure recruitment is not impaired. The stock may remain overfished (i.e. with a biomass well below the agreed limit) for some time even though fishing pressure might be reduced or suppressed.

Term	Definition
P1	Principle 1 of the MSC Principles and Criteria.
P2	Principle 2 of the MSC Principles and Criteria.
P3	Principle 3 of the MSC Principles and Criteria.
Performance Indicator (PI)	The lowest level of sub-criterion of an MSC Criterion in the decision tree; the level at which the performance of the fishery is scored by the team.
Pre default assessment tree PI equivalents	Prior to the use of the default assessment tree (FAM v1) CABs developed their own trees unique to each fishery. Each tree had Performance Indicators which can be considered similar to those in the default assessment tree.
Principle	A fundamental element, in the MSC's case, used as the basis for defining a well-managed and sustainable fishery.
Public Certification Report	The report of the fishery assessment accepted by the MSC for publication on the MSC website; includes the final report and any written decisions by the CAB and/or independent Objections Panel arising from any objections raised about the fishery assessment outcome or process.
Re-assessment	Assessment of a fishery within two years of the expiration of a valid fishery certificate.
Retained Species	Species that are retained by the fishery (usually because they are commercially valuable or because they are required to be retained by management rules).
Scoring Guidepost (SG)	The benchmark level of performance established by the team in respect of each numeric score or rating for each indicator sub-criterion.
Stakeholder	Any person or group (including governmental and nongovernmental institutions, traditional communities, universities, research institutions, development agencies and banks, donors, etc.) with an interest or claim (whether stated or implied) which has the potential of being impacted by or having an impact on a given project and its objectives. Stakeholder groups that have a direct or indirect "stake" can be at the household, community, local, regional, national, or international level.
Standard	A document established by consensus and approved by a recognised body that provides for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context.
Stock Assessment	An integrated analysis of information to estimate the status and trends of a population against benchmarks such as reference points.
Stock Name	A textual description of the biological unit stock exploited by the fishery, as commonly used in management and assessment reports.
Surveillance	Set of activities, except re-assessment, to monitor the continued fulfilment by accredited CABs of requirements for accreditation, or of certificate holders of requirements for certification.
Surveillance Audit	The periodic or random review and assessment of a certificate holder's activities in order to determine on-going conformity with standards and compliance with action plans and/or non-conformities raised.
Surveillance Report	The report of a Surveillance Audit.
Target Reference Point	The point which corresponds to a state of a fishery and/or resource which is considered desirable and which management is trying to achieve.
Target Stock(s)	Those fish stocks which have been assessed under Principle 1 of the MSC Principles and Criteria for Sustainable Fishing.
Tools	Mechanisms for implementing strategies under Principles 1 or 2. For example, total allowable catches, mesh regulations, closed areas, etc. could be used to implement harvest control rules.
Traceback or Tracing	The activity to identify the origin of a specified unit and/or batch of product located within the supply chain by reference to records held by individuals or companies that hold MSC Chain of Custody certification. In the MSC's context a specified unit and/or batch of product are fish, fish materials or fish products from a certified fishery.
Unit of Certification	The target stock(s) combined with the fishing method / gear and practice (including vessel/s) pursuing that stock.
Withdrawal Certification	Process of terminating a certification, in full or for part of the scope.
Withdrawn	Tier 1, 2 & 3 MSC certification scheme documents that are no longer in force and are not to be used.

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Scoring Database:  
Peter Hair, Emily Day, David Stelfox.

Acknowledgements:  
Dan Averill, Brad Ack, Ali Barbari, Matt Beccaria,  
Maggie Beaton, Jodi Bostrom, Charlotte Connell,  
Debbie Costello, Mike De Cesare, Camiel Derichs,  
Andrew Easton, Anyes Estay, Gerlinde Geltinger,  
Dan Hoggarth, Rupert Howes, Yan Shen Liow,  
Will Martin, Conor Okane, Oluyemisi Oloruntuyi,  
Chelsea Reinhardt, Alison Roel, James Simpson,  
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Participation in the MSC's certification program  
changes over time; all details within this  
document are accurate at time of publication.

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© Marine Stewardship Council, 2013  
ISSN 2052-8876

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100% recycled and FSC® certified paper.  
Printed using vegetable oil based inks.