

# FISHERY IMPROVEMENT IN THE ARCTIC

**How the Marine Stewardship Council  
ecolabelling program contributes to the  
UN Decade of Ocean Science for  
Sustainable Development**



**2021** United Nations Decade  
of Ocean Science  
**2030** for Sustainable Development

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# Foreword

Our ocean is vital to life on earth. Covering over 90% of the habitable space on our planet, it is home to up to 10 million marine species. It regulates our climate and sustains the health and prosperity of billions of people worldwide. But our ocean is under threat. Overfishing, habitat destruction and pollution threaten the health of our ocean. These threats are being exacerbated by climate change, which is pushing ocean ecosystems closer to tipping points and causing the movement of fish stocks into new jurisdictions.

Addressing these issues requires a whole-system approach. To ensure a healthy ocean we also need to mitigate and adapt to the impacts of climate change, develop sustainable food systems and ensure decent and sustainable work for the people who rely on the ocean for their livelihoods. Therefore, while we focus on delivering Sustainable Development Goal (SDG) 14 to safeguard 'Life Below Water', we must consider these commitments in the wider context of the 2030 Agenda for Sustainable Development, a blueprint for peace and prosperity for people and planet.

Businesses, including the fishing industry, play a vital role in delivering this ambition. Many have made commitments towards the SDGs, but struggle to measure and demonstrate the impacts of these. For fisheries, certification to the Marine Stewardship Council (MSC) Fisheries Standard not only provides an assurance of sustainable practices, but also a set of performance indicators against which a fishery can measure its sustainability and deliver improvements.

In this context, we are immensely proud to present this impact report showcasing three MSC certified fisheries in the Arctic Ocean. The report tracks their improvements over time, demonstrating the impact of the MSC program in encouraging and incentivising change as well as the commitment of these fisheries to ongoing improvement to ensure healthy fish stocks, ecosystems and habitats.

The Greenland lumpfish fishery, for example, has invested in new research and regulation to ensure long term sustainable catches and to better understand the impacts of fishing on vulnerable seabirds. The Norway North East Arctic saithe fishery has worked with the Institute of Marine Research to understand the distribution of cold-water coral reefs. And the Icelandic Sustainable Fisheries capelin fishery has ensured sustainable quotas are shared with fishers in Norway and Greenland.

These fisheries are leaders in sustainability. They demonstrate how sustainable management can help fisheries to detect and then respond to potentially harmful impacts on the environment, ensuring their long-term viability. Their attention to detail and care for the environment is particularly important in a changing climate where fish stocks and populations of other important marine species are shifting in response to wider changes in temperature, nutrients and oxygen. The impacts of climate change will be particularly striking in the Arctic Ocean, but sustainable management gives these fisheries the best chance of adapting to future changes. The MSC is committed to supporting these fisheries into the future, as we have done for the past 25 years.

This report is the MSC's first contribution to the UN Decade of Ocean Science. If you're inspired by the efforts of the fisheries in this report, we encourage you to get in touch to understand how you can work with the MSC to support sustainable fishing or to embark on your own journey towards certification.

*Maria Damanaki, Marine Stewardship Council  
Board of Trustees and  
Rupert Howes, Chief Executive  
Marine Stewardship Council, June 2022*

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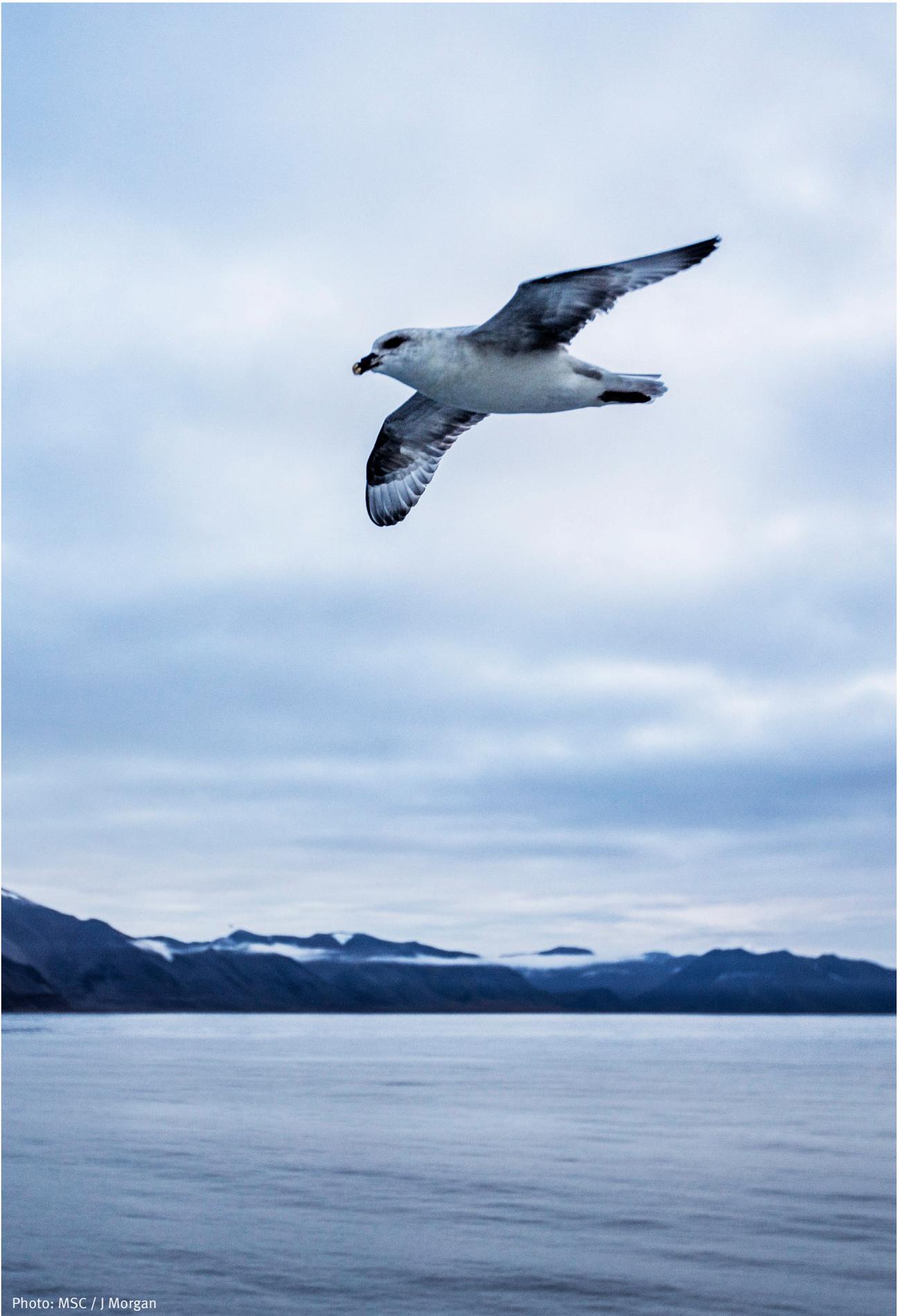


Photo: MSC / J Morgan

# 1. Summary

This report shows how the Marine Stewardship Council (MSC) and its certification program contributes to the UN Decade of Ocean Science for Sustainable Development (Ocean Decade hereafter) by driving sustainable fishing. Unsustainable fishing is a major global challenge and pressure on our oceans is increasing. At the same time greenhouse gas emissions and climate change are having a severe impact on our oceans, not least in the Arctic region where ocean warming is happening three times faster than the global average. These changes are expected to have profound effects. However, if we manage the oceans carefully and fish responsibly, we can still enjoy marine resources in the future.

Many fisheries around the globe have already shown that they operate sustainably and have achieved MSC certification following the MSC Standard for sustainable fishing. But many more fisheries have yet to demonstrate their sustainability. They are invited to enter the MSC program to document their sustainability and to continuously improve their performance in line with best practice in fisheries management.

To achieve the MSC Standard, fisheries must demonstrate a level of performance consistent with internationally accepted scientific knowledge and fisheries management best practice. Through the process, the MSC program ensures that fisheries continuously develop towards global best practice and encourages them to further develop new ways of conserving marine resources for future generations. This supports the UN Ocean Decade vision of *“The science we need for the ocean we want.”*

The MSC sets globally recognised standards for fisheries’ sustainability and supply chain assurance, based on the Code of Conduct for Responsible Fisheries from the United Nations Food and Agriculture Organization (FAO). By working with and rewarding sustainable fisheries, the MSC program contributes to the challenge of feeding the world’s population under changing environmental, social and climate conditions. This major goal is also in line with aims of the Ocean De-

cade to *“support sustainable food supply and a sustainable ocean economy.”* At the same time the MSC program follows rigorous, systematic and transparent methods, making the process, data and results of the independent evaluation publicly available and open for stakeholder engagement. This supports the Ocean Decade aim of achieving *“an accessible ocean with open and equitable access to data, information and technology and innovation.”*

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, the MSC program contributes to securing the productivity and health of the ocean, supporting sustainable food supply and a sustainable ocean economy.

Certified fisheries not only contribute to more transparency and accessibility, but also drive and support changes in the ocean. The Arctic fisheries highlighted in this report exemplify how fisheries continued their sustainability pathway even after being certified.

- The identification of **knowledge gaps** during the certification process initiates better data provision. In the case of the Greenland lumpfish fishery, knowledge of the lumpfish stock structure and geographical differences in population productivity greatly improved after certification, which paved the way for better management (chapter 5.1).
- MSC certified fisheries support mapping of **vulnerable marine habitats** so that they can be better protected in the future, as in the Norway North East Arctic saithe fishery (chapter 5.2).
- **Sustainable exploitation of stocks** is fundamental for certified fisheries. Examples of important steps initiated by the certification process include the development of harvest control rules for Greenland lumpfish (chapter 5.1), and clearer biological data for assessing stocks of Norway North East Arctic saithe (chapter 5.2).



Photo: Jóhann Pétur

- Data is the key to understanding the effects of fishing. **Improved data collection** for ling and tusk in the Norway North East Arctic saithe fishery (chapter 5.2) helped strengthen monitoring of bycatch species and was used as input for the two species.
- **Bycatch** can often be minimised through better knowledge. In the Norway North East Arctic saithe fishery, improved sampling programs (chapter 5.2) demonstrated the low risk of the fishery for bycatch stocks. The ISF Iceland capelin fishery is an example of a fishery that was certified without conditions (chapter 5.3) thanks to functioning **harvest control rules** and an effective **coastal states agreement** to take care of the species' pivotal role in the ecosystem.

Through the improvements made by fisheries, the collaboration between stakeholders to reach sustainable solutions, and the extensive and transparent documentation and data collection,

the MSC program can be seen as an important tool to reach the goals of the UN Ocean Decade. The certified fisheries represent examples of what sustainable fishing can look like. However, less than a fifth of global seafood catch is certified. To secure the future of our ocean and seafood supplies, we need many more fisheries to work towards sustainable practice.

The ocean belongs to us all. To solve the major problems of the ocean, such as overfishing and the negative impacts of fishing and poor management on the marine environment, a joint effort is essential. We need fishers to seek sustainable solutions, politicians and managers to drive effective management, consumers and companies to choose sustainable seafood, NGOs to keep pushing the agenda, and a continued focus on data collection and research to support development. And we need collaboration between all parties, with our sights set on a sustainable ocean future.

## 2. The contribution of the MSC ecolabelling program to the UN Ocean Decade

Our oceans are under pressure. To reverse the ongoing deterioration and secure the ocean's future balance, everybody needs to take responsibility and action to safeguard marine life, habitats and natural resources.

Unsustainable fishing is a major global challenge. However, it is possible to fish responsibly and to manage fisheries carefully so that stocks can replenish and to minimise impacts on other species and habitats to ensure ecosystems remain healthy.

Many fisheries around the globe have already shown that they operate sustainably by achieving MSC certification. These fisheries meet international standards for sustainability and currently represent 17% of global seafood catch. Among them are the Arctic fisheries presented as case studies in this report (chapter 5).

Even though many fish stocks are currently overfished or depleted, it is still possible to maintain and restore the health of our ocean. Depleted fish stocks can recover and replenish if they are strictly managed. An example is the recovery of the Spanish anchovy, depleted due to years of overfishing. Fishing was banned, but stocks recovered after only five years and the fishery was able to continue based on improved management.<sup>1</sup> The

Patagonian toothfish<sup>2</sup> in the Southern Ocean and the Namibian hake fishery<sup>3</sup> are other examples. Both were heavily depleted due to severe overfishing by foreign fleets, exacerbated by illegal fishing, but the stocks recovered after implementation of an effective management system and the fisheries are today MSC certified.

Moreover, research shows that well-managed and sustainably harvested fish stocks are more productive. Latest estimates suggest that if global fisheries were better managed, 16 million tonnes more seafood could be harvested every year, helping to feed a global population which is set to reach 10 billion by 2050.<sup>4</sup> With effective monitoring and management to secure the health of their target stocks and reduce their impacts on the marine environment, fisheries can balance economic and environmental priorities to safeguard our ocean and seafood supplies. However, many more fisheries will need to adopt sustainable practices if our ocean is to maintain this equilibrium for future generations.

The MSC is an international non-profit organisation that recognises and rewards sustainable fishing. Its certification process demands constant development towards sustainability in line with the latest science and research. Fisheries voluntarily get assessed against the MSC Standards, which

1 <https://cantabrian-stories.msc.org>

2 <https://patagonian-toothfish-story.msc.org>

3 <https://www.msc.org/media-centre/news-opinion/news/2020/11/17/a-sustainable-and-bright-future-for-namibian-hake>

4 Costello, C. et al. (2016). Global fishery prospects under contrasting management regimes. *Proceedings of the National Academy of Sciences (PNAS)* 113(18): 5125-5129, doi: 10.1073/pnas.1520420113

“Do the best you can until you know better, and when you know better – do better.” *Maya Angelou*

are globally recognised standards for fisheries sustainability and supply chain assurance, based on the FAO Code of Conduct for Responsible Fisheries.<sup>5</sup> Fisheries are assessed by a third-party conformity assessment body which evaluates if the fishery meets the MSC Standard. This Standard has developed over 25 years in collaboration with scientists, NGOs, the fishing industry and other stakeholders, with the goal of being able to keep harvesting seafood while having healthy and productive oceans, both today and in the future.

Our program requires science-based solutions and fisheries management, which means that fisheries continue to improve once they have become MSC certified. They make a long-term

commitment to sustainability and to keep up with global best practice to keep fish stocks healthy and safeguard seafood supplies.

The present report is one of MSC’s contributions to the UN Ocean Decade. It supplements other global and regional activities, such as MSC education projects, capacity building tools, funding marine research and sharing data.<sup>6</sup> The report is addressed to anyone with an interest in fisheries and in learning how fishing can be conducted sustainably. Based on more than two decades of experience gathered in the MSC program, we present examples of certified Arctic fisheries and how they meet the rigorous requirements of the MSC Fisheries Standard (chapter 5).

## The UN Ocean Decade and the challenges<sup>7</sup>

The United Nations has declared 2021-2030 the Decade of Ocean Science for Sustainable Development. The Ocean Decade provides a common framework to ensure that ocean science can fully support countries to achieve sustainable development. Ten key challenges have been identified:

- Challenge 1) Understand and beat marine pollution.
- Challenge 2) Protect and restore ecosystems and biodiversity.
- Challenge 3) Sustainably feed the global population.
- Challenge 4) Develop a sustainable and equitable ocean economy.
- Challenge 5) Unlock ocean-based solutions to climate change.
- Challenge 6) Increase community resilience to ocean hazards.
- Challenge 7) Expand the Global Ocean Observing System.
- Challenge 8) Create a digital representation of the ocean.
- Challenge 9) Skills, knowledge and technology for all.
- Challenge 10) Change humanity’s relationship with the ocean.

<sup>5</sup> FAO (2009). Guidelines for the ecolabelling of fishes and fishery products from marine capture fisheries. Food and Agriculture Organization of the United Nations. <http://www.fao.org/docrep/012/i1119t/i1119t00.htm>

<sup>6</sup> <https://www.msc.org/what-we-are-doing/un-decade-of-ocean-science-for-sustainable-development>

<sup>7</sup> <https://www.oceandecade.org/challenges/>

This report contributes to the UN Ocean Decade by illustrating how the MSC program builds capacity and drives innovations in fisheries. The mission of the MSC is to use our 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. This contributes to the aim of achieving a productive ocean that supports sustainable food supplies and a sustainable ocean economy (**Ocean Decade outcome 3**).

## The seven Outcomes that support the UN Oceans decade vision of the Ocean We Want:<sup>8</sup>

Outcome 1) A clean ocean where sources of pollution are identified and reduced or removed.

Outcome 2) A healthy and resilient ocean where marine ecosystems are understood, protected, restored and managed.

Outcome 3) A productive ocean supporting sustainable food supply and a sustainable ocean economy.

Outcome 4) A predicted ocean where society understands and can respond to changing ocean conditions.

Outcome 5) A safe ocean where life and livelihoods are protected from ocean-related hazards.

Outcome 6) An accessible ocean with open and equitable access to data, information and technology and innovation.

Outcome 7) An inspiring and engaging ocean where society understands and values the ocean in relation to human wellbeing and sustainable development

### 2.1. HOW MSC CONTRIBUTES TO MEETING THE UN OCEAN DECADE CHALLENGES

This report illustrates how the MSC program incentivises collaboration between scientists, fisheries, NGOs and other stakeholders to carry out science and research that supports sustainable fishing and improves fisheries' performance. To help develop the ocean economy (**Challenge 4**) in a fair way, MSC supports fisheries at all stages on their pathway to sustainability and helps those in fisheries improvement projects with tools and training. We ensure the benefits of our program are open to all fisheries, regardless of size or location, including small-scale fisheries and fisheries in developing economies. Our science-based fishery improvement tools enable fisheries to assess their sustainability and measure progress towards achieving the requirements of the MSC Fisheries Standard.

MSC supports capacity development and equitable access to data, information and knowledge for all stakeholders (**Challenge 9**), including through its monitoring and evaluation framework. Compulsory annual surveillance audits of fisheries in the program follow rigorous, systematic and transparent methods; the process, data and results of the independent evaluation are made publicly available. Our Track a Fishery website<sup>9</sup> provides transparent and comprehensive information on all MSC certified fisheries, as well as details of those entering assessment. Stakeholders are invited to give input and raise possible concerns, which need to be considered by the independent assessment team. The multistakeholder set-up invites discussion and collaboration to identify challenges and solutions for all fisheries developments.

<sup>8</sup> <https://www.oceandecade.org/vision-mission/>

<sup>9</sup> <https://fisheries.msc.org/en/fisheries/>



Photo: Helle Torp Christensen

# 3. MSC's theory of change

The MSC theory of change uses market forces to drive positive ecological change in our ocean. MSC’s approach is that when a consumer buys a product with the blue MSC label, they help to protect the productivity and health of our ocean. It works like this: Fisheries that meet the MSC Standard are independently certified as sustainable. Retailers and restaurants choose MSC certified sustainable seafood. A traceable supply chain assures consumers that only seafood from an MSC certified fishery is sold with the blue MSC label. Consumers, acting on their preference for fisheries to be well managed with seafood supplies safeguarded for future generations, purchase seafood with the blue MSC label. Market demand for MSC certified seafood increases. More fisheries choose to improve their practices and volunteer to be assessed to the MSC Standard. This continuously drives wider environmental improvements in the oceans. Figure 1 further describes the different steps.



Figure 1. MSCs theory of change.

The theory of change is supported by research,<sup>10</sup> with studies showing that market-based incentives like the MSC’s have an important role to play in the sustainable seafood movement. MSC certification can deliver social and economic benefits to seafood industry partners, providing an incentive to also improve environmental outcomes.

10 Anderson, C.M. Himes-Cornell, A., Pita, C., Arton, A., Favret, M., Averill, D., Stohs, S. and Longo, C. (2021). Social and economic outcomes of fisheries certification: Characterizing pathways of change in canned fish markets. *Frontiers in Marine Science* <https://doi.org/10.3389/fmars.2021.791085>

## The MSC Standard for sustainable fisheries

The MSC Fisheries Standard builds on three principles:

- Principle 1) Sustainability of the stock
- Principle 2) Ecosystem impacts
- Principle 3) Effective management.

A fishery is evaluated against 28 indicators within the three principles and scored according to its performance. The performance of the fishery is followed up in annual audits. Fisheries can be certified with conditions to improve. A condition relates to a specific improvement the fishery needs to fulfil within the certification period. A certification period is five years. If a fishery has met all conditions within the certification period, it can apply for a reassessment to achieve certification for another five-year period. Read more about the MSC standard in the annex.

### 3.1. ECOLABELING AS A DRIVING FORCE FOR CHANGE

For more than 25 years, fisheries, scientists, consumers and industry have been part of a collective effort to make sure our ocean is fished sustainably. The fishing industry is one of the most complex food sectors due to the intrinsic relationship between nature and humanity. So, what are the driving forces behind change? Regulations? Consumer power? The science? The retailers?

Truth be told, it's a mixture of all the above, and more. In a recently published article in *Marine Policy*<sup>11</sup> researchers discussed the role of ecolabelling in enabling change towards sustainable fishing. Three key areas are highlighted below:

- **Ecolabels can influence consumer purchasing power.** Researchers have found that the greater the awareness of overexploitation, the more consumers will prefer sustainable seafood, increasing their willingness to pay. Another study also showed that when consumers were informed regarding the reasoning behind an ecolabel, their willingness to pay increased by 20%.<sup>12</sup>

- **Sustainable ecolabels are a stimulus towards multi-actor cooperation.** The researchers identify the adoption of collaborative models (between stakeholders) linked to ecolabels as an important factor of enabling change.
- **Being sustainable is a prerequisite to market survival.** Demand for MSC certified seafood from larger retailers is a major factor in fisheries becoming certified: This market-driven choice is positively perceived by fishermen whose certification not only reinforced their presence in markets but also was a stimulus towards more sustainable systems.

The choices of the retailers, restaurants and hotels, public policy, scientific research, NGO lobbying, consumer choices, the commitment of fishers: all these actions are brought together through the MSC program to drive positive change for the ocean.

11 Giacomarra, M., Crescimanno, M., Vrontis, D., Miret Pastor, L. and Galati, A. (2021). The ability of fish ecolabels to promote a change in the sustainability awareness. *Marine Policy* 123: 104292, doi: 10.1016/j.marpol.2020.104292

12 Uchida, H., Onozaka, Y., Morita, T. and Managi, S. (2014). Demand for ecolabeled seafood in the Japanese market: a conjoint analysis of the impact of information and interaction with other labels. *Food Policy* 44: 68-76, doi: 10.1016/j.foodpol.2013.10.002

# 4. Productive oceans supporting sustainable food supplies and a sustainable ocean economy in the Arctic

Greenhouse gas emissions and climate change are having a profound impact on our ocean. The ocean absorbs a third of all carbon dioxide and regulates the climate by taking in more 90%<sup>13</sup> of the excess heat created by our greenhouse gas emissions. But the cup is getting full, leading to irreversible changes in the marine ecosystem, acidification and a warmer climate.

Historical records and future predictions show that the distribution of the world's fish populations is changing. In the Arctic, ocean warming is happening three times faster than the global average.<sup>14</sup> At the same time, this valuable ecosystem is home to some of the most vulnerable habitats and communities. Climate change is already having a profound impact: reducing sea ice coverage, melting the Greenland ice sheet and increasing sea temperature, just to mention a few physical changes.

To mitigate climate change, we need healthy oceans with balanced ecosystems. Responding to the challenge of climate change will require the fishing industry and fisheries managers to collaborate on an international scale, to take a precautionary approach to catch levels and to evolve their practices to reflect changing scientific advice and migration patterns. This will not be

easy. Globally, governments and fisheries managers are struggling to achieve consensus on how to manage ocean resources in a way that benefits both their economies and the environment. But it can and must be done if we are to continue to enjoy plentiful seafood and preserve marine life.

Fishing in the Arctic has a long history. Small-scale coastal fisheries such as the Greenland lumpfish fishery (chapter 5.1) have for centuries supported and secured the lives and survival of local Indigenous societies. Large-scale offshore fisheries have developed since the beginning of the 19th century and peaked in the 1970s and 80s. The Norway saithe fishery (chapter 5.2) is an example of this type of fishery.

The highly productive Arctic Ocean is on the front-line of climatic changes. Fish stocks change their distribution due to changing water temperatures and changing ice coverage, leading to changes in fishing patterns. Habitat resilience can also be impacted by ocean warming. While all these changes may open new opportunities, they also call for adaptations of fishing practices, exploitation patterns and fisheries management to secure a sustainable use of resources under a changing environment.

13 Zanna, L., Khatiwala, S., Gregory, J.M., Ison, J. and Heimbach, P. (2019). Global reconstruction of historical ocean heat storage and transport. PNAS 116: 1126-1131, doi: 10.1073/pnas.1808838115

14 AMAP (2021). [https://oarchive.arctic-council.org/bitstream/handle/11374/2621/MMIS12\\_2021\\_REYKJAVIK\\_AMAP\\_Arctic-Climate-Change-Update-2021-Key-Trends-and-Impacts.-Summary-for-Policy-makers.pdf](https://oarchive.arctic-council.org/bitstream/handle/11374/2621/MMIS12_2021_REYKJAVIK_AMAP_Arctic-Climate-Change-Update-2021-Key-Trends-and-Impacts.-Summary-for-Policy-makers.pdf)

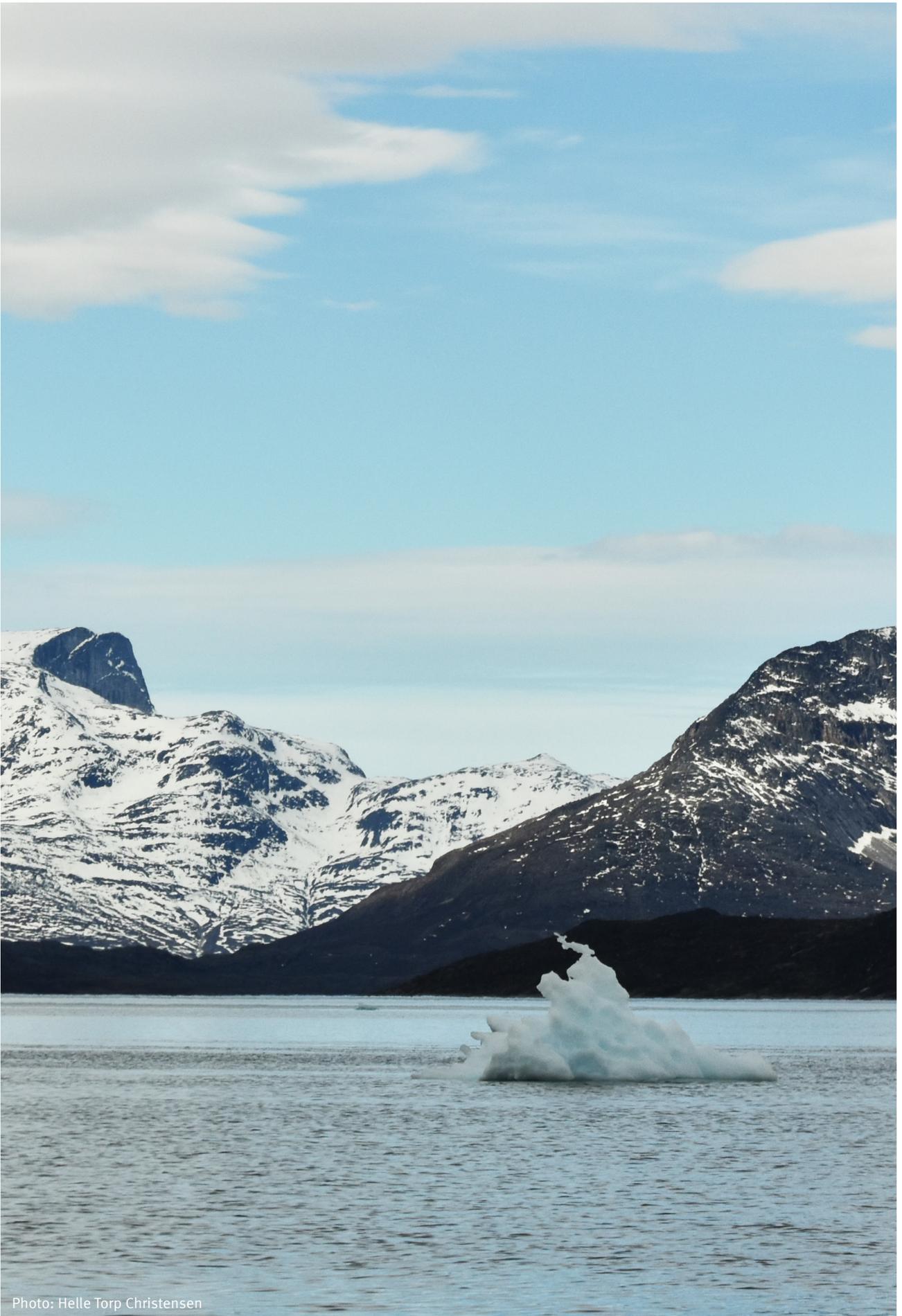


Photo: Helle Torp Christensen

# 5. Sustainable Arctic fisheries - three case studies

Numerous Arctic fisheries are certified under the MSC program. Through the program, comprehensive data and information regarding fisheries performance over time is collected and made publicly available. Most fisheries have already made changes in their management methods to reduce their environmental impact before entering the certification program. Based on 25 years of experience gathered in the MSC program, we present case studies of three certified Arctic fisheries and how they meet the rigorous requirements of the MSC Fisheries Standard. These examples show how sustainable fishing can be conducted and how the fisheries have adopted and improved their performance. Taking these best practice case studies as an example, we demonstrate

how the MSC program works and how it supports the UN Ocean Decade goals.

The three case studies are:

- The **Greenland lumpfish fishery**, a small-scale fishery that supports the local community and involves a large number of small dinghies (chapter 5.1)
- The **Norway North East Arctic saithe fishery**, the first Arctic fishery to become certified in 2008 (chapter 5.2)
- The **ISF Iceland capelin fishery**, the first Atlantic fishery to be certified under the MSC's requirements for key low trophic level species (chapter 5.3).

## 5.1. The Greenland lumpfish fishery

Fishery name	Greenland lumpfish fishery
Species	Lumpfish ( <i>Cyclopterus lumpus</i> )
Area	West Greenland coastal waters, FAO area: 21 (Northwest Atlantic), Local fisheries management area: NAFO Subarea 1A-1F, Greenland fishing zone
Certified since	August 2015
Fishing gear	Gillnets with large meshes ( $\geq 260$ mm)
Catch	1,137 tonnes roe* (2021)
Vessels	About 600 vessels, typically 4.9–6.4 metres in length
Markets	The main commercial markets for salted roe are Germany, France, Sweden and Denmark. A small volume of whole fish is consumed in the domestic market, probably amounting to less than 5 tonnes per year.

\*Lumpfish are targeted for their roe. The fish are gutted at sea, and only the roe recorded at landing.

The Greenland lumpfish fishery is a small-scale fishery with high socioeconomic importance in the Arctic region. Alternative sources of income can be scarce in this region and sustainable management needs to take both livelihood and biological resources into account. This means finding a balance between securing an income today and ensuring the long-term sustainability of a fishery for the future.

Greenland lumpfish is an example of a small-scale fishery that has greatly improved its performance during certification. The initial certification in 2015 highlighted the limited knowledge of the stock status, and the fishery had to be assessed by means of a data-limited approach offered by the MSC Fisheries Standard, the so-called risk-based framework. However, at recertification in 2021, the increased knowledge on the stock

“The initial certification prompted novel work on stock assessment and greatly advanced the implementation of a management plan. Subsequently, there have been gradual improvements in several areas as a direct result of the certification; most noticeably concerning bycatch.”

*Rasmus Hedeholm, project manager, Sustainable Fisheries Greenland*

status and population dynamics meant the stock could be evaluated based on the default MSC approach, using the new scientific stock assessment and the management plan.

#### **About the fishery**

The lumpfish (*Cyclopterus lumpus*) is an exceptional fish with an almost round body and a large sucker disk on its underside. By attaching itself to rocks or seaweed with the disc, it avoids being carried off by currents. The species is distributed in both the Eastern and Western Atlantic Ocean. They migrate long distances in an annual cycle between open water in winter and the coastal waters in spring. The homing migration is triggered by spawning and the species is mainly fished for its luxury roe during the spawning season. Data on the lumpfish fishery in Greenland is available from the late 1980s, but landings were low until around 2003. The fishery is conducted along the west coast of Greenland from the beginning of April to the end of May. Prior to the year 2000, reported roe landings were below 500 tonnes, but in the last two decades landings have steadily increased to a peak of more than 2,100 tonnes in 2013. Since then, catches have decreased and stabilised at around 1,200 tonnes. The fishery used to be unregulated, but in 2015 a management plan was implemented that operates with a total allowable catch (TAC) and restricted number of fishing days.

The certified fleet comprises about 600 small open dinghies that operate in shallow water with gill nets that typically fish for 24-48 hours. Due to the large mesh size (260 mm), the nets are highly selective and catch predominantly female lumpfish. The roe is stored in large barrels, before being processed at land-based facilities.

**Incentive to achieve certification:** The fishery chose to enter the MSC program because of a pronounced market demand for certified lumpfish roe. With the certification of other lumpfish fisheries, it was a simple choice. Due to certification the fishery was able to maintain market shares for Greenland lumpfish roe and keep the prices high throughout the supply chain.

#### **Highlights and improvements**

The most urgent improvement required to achieve certification was to develop the scientific framework needed to set annual harvest control levels transparently and sustainably and to get this incorporated into a management plan which ensures that the exploitation rate is reduced. Moreover, regulations have been revised to minimise bycatch, a research plan has been developed, and more data is now recorded and assembled regarding stock structure.

In 2015, the Greenland lumpfish fishery was certified with six conditions. The conditions were related to knowledge gaps about the fishing pressure on the target lumpfish stock and bycatch. The fishery was required to develop a research plan to obtain more knowledge on the stock and the effects of the fishery. The conditions were successfully met within their timeframe.

From 2019 to 2021, the fishery successfully went through a reassessment. What was in the initial assessment described as a main weakness of the fishery – the (non)existence of a management plan – was resolved in the first certification cycle, and the fishery’s management plan is now highlighted as a main strength. The fishery was reassessed against an updated version of the MSC Fisheries Standard which led to new conditions, mainly concerning effects on the ecosystem.

### **Fishing pressure within safe limits**

When the fishery was certified, a basis for the management of the lumpfish fishery was still under development. Since then, several scientific studies have been conducted that fed into the development of a management plan, which was a direct effect of certification.<sup>15</sup> Independent reviews of the assessment methodology<sup>16</sup> and the status of the lumpfish population in west Greenland confirmed the high quality of the methodology and showed that the population is healthy. In 2019, the Greenland Institute of Natural Resources conducted a study of the performance of the management plan and concluded that the rules are appropriate to secure the health of the lumpfish stock. Work was also conducted to include reference points in the management plan that ensure fishing pressure will be reduced if the stock falls below reference points (so-called harvest control rules). These activities confirm that fishing pressure on the lumpfish stock is within safe limits.

### **Securing data on bycatch**

Brünnich's guillemot, a seabird species of the auk family listed as vulnerable on Greenland's red list, was initially reported as a common bycatch species in the gillnet fishery for lumpfish. However, existing studies found that these are more likely hunted birds misreported as fishery bycatch, and that the actual numbers caught in lumpfish gillnets is in fact negligible. The fishery had to resolve this conflicting information. Consequently, the reporting regulation was revised, information from the fishers was collected and the reporting system

was improved and upgraded. These changes have together with further studies on mitigation measures funded by the Oceans Stewardship Fund<sup>17</sup> improved the understanding of the impact of the lumpfish fishery considerably.

### **Initiating further research**

Knowledge of the lumpfish stock and fishery was at a minimum acceptable level when the fishery achieved certification. While a survey plan was outlined in the lumpfish management plan, this was not strategic in terms of addressing specific lumpfish management needs. The fishery was required to develop a research plan providing a strategic approach to research and reliable and timely information. This plan was presented one year after the certification. By the second year, scientific research results on the lumpfish stock structure and geographical differences in the population productivity were published in scientific journals and an international working group on lumpfish biology had begun its work. Further research on bycatch and genetics in relation to stock affiliation is ongoing.

### **Ready for reassessment**

During the first certification cycle the fishery achieved significant improvements and was ready to go into reassessment, which was successfully completed in 2021. The work to further improve the fishery continues, this time with focus on protection of endangered, threatened and protected species and documentation on compliance with the management system.

15 Kennedy, J., Durif, C.M.F., Florin, A., Fréchet, A., Gauthier, J., Hüsey, K., Jónsson, S., Ólafsson, H.G., Post, S. and Hedeholm, R.B. (2018). A brief history of lumpfishing, assessment, and management across the North Atlantic. *ICES Journal of Marine Science* 76(1), 181-191.

16 Pinngortitaleriffik (2019). Assessment of lumpfish (*Cyclopterus lumpus*) in West Greenland based on commercial data 2010-2019. Greenland Institute of Natural Resources, Nuuk.

17 Reducing bycatch of diving birds in Greenland lumpfish gillnets | Marine Stewardship Council (msc.org)



Photo: Sustainable Fisheries Greenland

## 5.2. The Norway North East Arctic saithe fishery

Fishery name	Norway North East Arctic saithe fishery
Species	Saithe ( <i>Pollachius virens</i> )
Stocks	Northeast Arctic saithe*
Area	Norwegian EEZ ICES Sub-Areas 1 and 2 (aka Barents Sea and Norwegian Sea)
Certified since	June 2008
Fishing gears	Demersal trawls, purse seines, gill nets, Danish seines, handlines
Catch	151,516 tonnes (2020)
Vessels	The entire Norwegian fleet
Markets	Most saithe is exported – to Western and Eastern Europe, the Caribbean and South America

\*The initial assessment also included the North Sea saithe stock, but this stock is now covered under a different MSC certificate.

The Norway North East Arctic saithe fishery was initially certified in 2008 as the first Arctic fishery in the MSC program and recertified in 2013 and 2018. The fishery has experienced a variety of challenges during its long history in the MSC program. The certificate covers a broad range of gear types targeting saithe within Norwegian waters, at depths up to about 300 metres. The example of this fishery demonstrates how fisheries can support the protection of vulnerable marine habitats by providing valuable habitat data.

### About the fishery

Saithe (*Pollachius virens*) is a schooling fish of the cod family, inhabiting the North Atlantic. Six individual saithe stocks exist in the Northeast Atlantic. The Northeast Arctic stock in the Barents Sea and Norwegian Sea is the target stock of this fishery.

Saithe usually enter coastal waters in spring and return to deeper offshore waters in winter. Migration of Northeast Arctic saithe towards their Barents Sea spawning grounds off the west coast of Norway starts in autumn. The larvae drift northwards, settle in inshore areas and migrate to the coastal areas which large numbers of juvenile saithe occupy in summer and autumn. In summer, mature saithe from the Norwegian coastal banks spread far into the north-western and central Barents Sea, where they remain until spawning the next season.

The stock is managed by Norway through the Norwegian Fisheries Directorate facilitated by control and enforcement by the Norwegian Coastguard. Management is informed by ICES advice,

supported nationally by the Norwegian Institute of Marine Research.

One of the drivers for the fishery to enter certification was a marked demand for MSC certified whitefish from large EU-based buyers. The fishery also wanted to document its sustainability. Impacts by the bottom trawl fisheries on vulnerable habitats were a potential barrier for certification. Prior to certification, the fisheries directorate, the research institute and the vessel owners' association (including captains) came together to draw up maps of key sensitive areas and agreed to no longer fish in these areas. The agreement included all gear types.

After certification, several companies reported that they found easier access to the whitefish (block) market, and some also experienced preferential pricing. The certification led to collaboration with the science institute to better map the juvenile saithe abundance in the coastal zone and to improve understanding of the stock and recruitment, reducing scientific uncertainty.

### Highlights and improvements

In 2008, the fishery was certified with four conditions. These related to uncertainties in the assessment of the saithe stock, a lack of detailed bycatch data, the rebuilding of the North Sea cod stock, and a potential impact of the fishery within the coral protection areas. Since the initial certification, the total allowable catch has been reduced to a precautionary level, and understanding of bycatch and interaction with endangered, threatened and protected species has further

“It is the view of the Norwegian Fishermen’s Association that MSC certification has catalysed – and is catalysing- several concrete improvements, even in fisheries that have a long-standing history of sustainable management. This includes incremental improvements in certified fisheries, pre-certification improvements, and an overall improved “ownership and responsibility” in fisheries management.”

*Norwegian Fishermen’s Association*

evolved. Special attention was given to the depleted coastal cod stock and North Sea cod stock, and a stock rebuilding plan was set in action. The fishery has been assisting in protecting and identifying cold water coral reefs and protected marine areas, and an electronic application has been developed for gillnet vessels to keep an accurate record of all interactions between fishing gear and marine mammals.

For the jiggers and longline fleets, a new condition was raised at recertification to direct more research to two bycatch species, ling (*Molva molva*) and tusk (*Brosme brosme*). A management plan for these species was subsequently developed, and the condition was successfully closed at the surveillance audit in 2016. At the second recertification in 2018, the assessment team raised three conditions regarding the bycatch of coastal cod in fisheries with Danish seine, hooks and lines, gillnets and demersal trawls, and the impact of the fishery on endangered, threatened and protected species such as golden redfish.

#### **Reducing uncertainty in the stock assessment**

When the fishery was initially certified, there were uncertainties in the scientific stock assessment: the recruitment of juveniles to the stock was poorly estimated and the effect of fish migration in and out of the stock area could not be determined with sufficient accuracy. To support the work to reduce these uncertainties, the fishery has been active in increasing dialogue between fishers and scientists. At the second surveillance audit, the harvest

control rule for the saithe stock was shown to be robust to uncertainties. These developments led to the closure of the condition.

#### **Sampling programs for bycatch and discards**

The certification process identified a need for more detailed data on bycatch species, including estimates of discards and slipping (i.e., the release of the catch in the water without being taken on board the vessel), and a condition was raised to initiate sampling programs. The Norwegian Directorate of Fisheries introduced a new regulation that prohibits the discarding of fish, known as the Norwegian discard ban, in 2009.<sup>18</sup> The new legislation provided the statistically robust sampling system required. Implementation of the new legislation was tested through the Norwegian ‘reference fleet’. The fishery client introduced a recording scheme for endangered, threatened and protected species across the entire fleet to strengthen the data collected by the Institute of Marine Research. Based on the active participation of the fishery clients, both the Institute of Marine Research and the Directorate of Fisheries confirmed that the fishery was highly compliant and there were no specific concerns with respect to bycatch or ecosystem interactions. The condition was closed at recertification in 2013.

#### **Preventing impacts on coral reefs**

To eliminate potential impacts within the coral protection areas, the fishery collected data on cold-water coral reef distribution and fed the mapping into the national MAREANO program,<sup>19</sup> run

18 Gullestad, P., Blom, G., Bakke, G. and Bogstad, B. (2015). The “Discard Ban Package”: Experiences in efforts to improve the exploitation patterns in Norwegian fisheries. *Marine Policy* 54: 1-9.



Photo: MSC / J Morgan

by the Institute of Marine Research to safeguard coral reefs and other vulnerable marine habitats. The client also required its members to be fully compliant with the regulations in relation to lost and abandoned fishing gear. At recertification, the assessment team concluded that the fishery was complying fully with the terms of the condition which was therefore closed.

#### **Improving data on bycatch species**

At the recertification in 2013, a new condition was placed on the fishery to improve data availability on the bycatch of ling and tusk in the jig and longline fleets. This called for research efforts aimed at estimating biological reference points to develop a management plan for both species. In the following years, the Institute of Marine Research, with support from the client, made significant progress in data collection and the sampling program for tusk and ling. Scientific surveys did not cover the main habitats for these species, so the stock situation needed to be monitored through data provided by the fishery.

The Norwegian longline fleet was subject to large restructuring and effort change from 2000 to 2006, and the data series failed to account for this. This led to an incorrect conclusion on the status of the ling stock and a classification of “near threatened” on the Norwegian red list in 2006. This incorrect classification was corrected based on a major revision of the database for the longline fleet. All available logbooks for the years 2000-2013 are now in the database and have

been subject to extensive quality control procedures. Consequently, the condition was closed in 2016.

#### **Improving the state of bycatch stocks**

The fishing area of some fleet segments within the North East Arctic saithe fishery overlaps with the distribution of the depleted Norwegian coastal cod stock. It is, however, not possible to distinguish catches of coastal cod visually from healthy North East Arctic cod. In recognition of this uncertainty, the fishery needs to demonstrate that its activity does not hinder recovery of depleted coastal cod stocks. A similar condition applies to golden redfish (*Sebastes norvegicus*).

Recovery of both stocks has been a long-standing priority for Norwegian management authorities as well as for the fishery. However, while rebuilding measures until now have succeeded in halting the decline in the stocks, they are yet to show definitive signs of leading to consistent recovery. ICES’s perception of the Norwegian coastal cod stock changed in 2021, with a split of the stock into a (data-rich) northern component and a (data-limited) southern component.<sup>20</sup> This change will allow the development of more targeted management measures in future. The implications for the North East Arctic saithe fishery will be evaluated at its next surveillance audit. For redfish, the fishery is now taking the initiative to establish a new working group to strengthen data collection, science and regulations to rebuild the stock.

<sup>19</sup> <https://www.mareano.no/en>

<sup>20</sup> <https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2021/2021/cod.27.1-2coastN.pdf>;

<https://www.ices.dk/sites/pub/Publication%20Reports/Advice/2021/2021/cod.27.2.coastS.pdf>

## 5.3. The Iceland Sustainable Fishery (ISF)

### Iceland capelin fishery

Fishery name	ISF Iceland capelin
Species	Capelin ( <i>Mallotus villosus</i> )
Stocks	Capelin in Sub-Areas 5 and 14 and Division 2.a west of 5°W
Area	Northeast Atlantic: Iceland and Faroes waters, East Greenland and Jan Mayen areas
Certified since	18 April 2017
Fishing gears	Pelagic trawls and purse seines
Catch	70,726 tonnes (2021)
Vessels	55 vessels (most within the category 501-2000 gross tonnage)
Markets	Prior to 2000, most of the catches were used for fishmeal. This has changed, and the catches are now used for human consumption. There are also Eastern European markets for frozen whole capelin, and Japanese markets for roe and frozen capelin with roe.

Capelin (*Mallotus villosus*) became a commercially important species for Iceland's pelagic fleet after the collapse of the Atlanto-Scandian herring stock in the late 1960s. Until 2004, when the value of herring catches again surpassed that of the capelin, the capelin fishery was Iceland's most important pelagic fishery. The annual catch was often as much as all other species combined, with a record catch of about 1.5 million tonnes in 1996/1997. The stock size of this short-lived, schooling species is characterised by strong seasonal and annual fluctuations and their distribution is highly effected by change in climatic conditions.

#### About the fishery

The capelin is a small pelagic fish, usually between 15 cm and 18 cm in commercial catches. Its distribution is mainly in cold waters from Newfoundland and Greenland in the west to the Barents Sea and along northern Russia in the east. Capelin spawn in late winter along the south and southwest coast of Iceland. The eggs drift north, and the larvae gradually migrate further north and spend the time before maturity in the Iceland Sea, feeding on zooplankton. Maturity is usually reached at the age of three. When mature, they condense into large schools and migrate around Iceland, usually clockwise to the spawning grounds in the south. After spawning all the males and most of the females die. Capelin rarely lives longer than five years.

Capelin is mainly caught during its spawning migration from January to March. The species is an important commercial fishery for the fishmeal industry, but also supplies whole fish and roe to

global markets, especially in Eastern Europe and Japan. Capelin roe is a vital ingredient for producing masago, used in sushi in Japan and Europe. Masago are the delicate orange eggs served on the top of rice in masago nigiri. There are only two weeks per year when capelin can be frozen for the Japanese market, followed by three to four weeks when the roe can be extracted. As a result, Icelandic capelin is a highly seasonal fishery.

#### Highlights and improvements

The Iceland Sustainable Fisheries capelin fishery was the first capelin fishery in the world to become MSC certified. The fishery was certified without conditions, with all performance indicators achieving the unconditional pass of 80 or higher under the MSC scoring system (chapter 7). The fishery achieved high marks because understanding of the general biology and population dynamics of the capelin stock is good. The stock management plan is accepted by all coastal states involved and the management plan is effectively implemented. Stock assessment methods are well developed. The stock assessment is based on scientific surveys and provides an accurate estimate of the stock status and the fishable biomass. The fishery is highly selective with negligible levels of bycatch of non-target species, including endangered, threatened and protected species. Capelin are caught with a pelagic trawl and purse seine applied high in the water column with no interaction with the seabed. The fishery operates within a well-established management framework, with effective decision-making procedures, consultation mechanisms, and an effective monitoring, control and surveillance system.

“For decades Icelandic fisheries have been moving strongly towards sustainability, since before sustainability was a word. The simple truth is that the Icelandic economy, the welfare, and quality of living is built on the ocean’s resources.”

*Kristinn Hjálmarsson, project manager, Iceland Sustainable Fishery*

Capelin has a key role in the food web and the MSC assessment included close consideration of the species’ pivotal role in the ecosystem. The Icelandic capelin fishery was the first Atlantic fishery to be certified under the MSC’s requirements for key low trophic level species.

#### **Recognising the capelin’s key role in the ecosystem**

The capelin is possibly the most ecologically important fish in Icelandic waters. It has a key role in the food chain, feeding on small planktonic crustaceans and itself being important prey for larger fish. As such, the species promotes an important energy transfer into the ecosystem. Most groundfish species in the Arctic food web feed on capelin at some stage in their life, and it is estimated that capelin may be more than one-third of the total food intake of Atlantic cod. In addition, capelin is important prey for other endangered, threatened and protected species such as whales, seals and sea birds.

The MSC has defined specific requirements for species holding such a key role in the ecosystem. To account for the importance of these key low trophic level species, their stock size must be at a higher level than other low trophic level species to be rated as healthy. This is to ensure that catches of the fishery are not having detrimental impacts further up the food web. In the fishery, the biomass reference point is set at a precautionary level where recruitment does not appear to decline at low spawning stock biomass. The role of capelin as a key forage species has been considered through a predation model which assesses the requirements of the three main demersal predator species: cod, haddock and saithe. This way the strategy is responsive to stock status and clearly designed to achieve the stock management objectives for a key lower trophic level species.

#### **Precautionary long-term management plan in place**

The capelin stock is well managed, with a precautionary long-term management plan in place. This implements appropriate reference points to manage the exploitation rate in the fishery. The harvest control rule aims at leaving at least 150,000 tonnes of mature capelin at the time of spawning in March. The main objective of the harvest strategy is to leave enough fish in the water to ensure adequate reproduction of the stock in the next year. The strategy also considers the impacts of the fishery as well as predation of fish, birds and marine mammals on the capelin stock.

The management plan is based on the results of annual surveys and involves setting the total allowable catch in steps; a preliminary, an intermediate and then a final total allowable catch. The total allowable catch is adjusted throughout the fishing season as information on the status of the fish stock increases. The plan has already demonstrated its effectiveness when the stock recovered from an all-time low in 2009. Better management of the fishery and a rebuilding plan resulted in the stock increasing. More recently, after two years with the fishery closed because the capelin stock was at a very low level, fishing was reopened in the 2020/2021 season.

#### **Effective coastal states agreement in place**

Part of the capelin stock migrates seasonally into the jurisdiction of Greenland and Norway. The capelin is therefore a shared stock but, through a coastal states agreement<sup>21</sup> with these two countries, Iceland determines the annual total allowable catch to be shared between the three countries. As well as this, 5% of the Icelandic quota is transferred to the Faroe Islands in a bilateral quota exchange. The stock management plan and the sharing agreement is accepted by all three coastal states and the plan has been in place for over 20 years.

<sup>21</sup> Framework arrangement between Greenland/Denmark, Iceland and Norway on the Conservation and Management of Capelin. London, June 2018



Photo: Örn Rosmann

# 6. Conclusion: How does the certification process contribute to climate mitigation and the UN Ocean Decade challenges?

The identification of **knowledge gaps** during the certification process initiates better data provision. In the case of the Greenland lumpfish fishery, knowledge about the lumpfish stock structure and geographical differences in population productivity greatly improved after certification, which paved the way for better management (chapter 5.1).

To protect **vulnerable marine habitats**, mapping of their distribution is essential. MSC certified fisheries support mapping of sensitive habitats so that they can be better protected in the future, as in the case of the Norway North East Arctic saithe fishery (chapter 5.2).

**Sustainable exploitation of stocks** is fundamental for a fishery's continued viability. Examples of important steps initiated by certified fisheries that contribute to better management include the development of harvest control rules for Greenland lumpfish (chapter 5.1), and reduced uncertainty in biological data feeding into stock assessments for Norway North East Arctic saithe (chapter 5.2).

Data is the key to understand the effects of fishing. **Improved data collection** for ling and tusk in the Norway North East Arctic saithe fishery (chapter 5.2) contributed to improved monitoring of bycatch species and helped develop a management plan for the two species.

**Bycatch** is a well-known issue in fisheries but with sufficient knowledge, the impact can often be minimised. In the Norway North East Arctic saithe fishery, improved sampling programs (chapter 5.2) demonstrated the low risk of the fishery for bycatch.

The ISF Iceland capelin fishery (chapter 5.3) is an example of a fishery that was certified without conditions. With a functioning **harvest control rule** and an effective **coastal states agreement**, the management takes care of the species' pivotal role in the ecosystem.

Certified fisheries not only contribute to more transparency in the fishery, but they also drive and support changes on the water. The MSC program supports capacity development and equitable access to data, information and knowledge for all stakeholders (**Challenge 9**) through its monitoring and evaluation framework. To help develop the ocean economy (**Challenge 4**) in a fair way, MSC supports fisheries at all stages on their sustainability pathway.

The Arctic fisheries highlighted in this report show how certified fisheries continue their sustainability journey even after being certified. This contributes to the aim of achieving a productive ocean, supporting sustainable food supply and a sustainable ocean economy (**Ocean Decade outcome 3**).



Photo: MSC / J Morgan

# 7. ANNEX: The MSC Program

This report focuses on the MSC Fisheries Standard, which independent auditors use as a benchmark to assess if a fishery is well-managed and operates sustainably. To ensure that MSC certified products are traceable and separated from non-certified products we also have an MSC Chain of Custody Standard, which provides assurance of product integrity at all levels of the supply chain.

## 7.1. MSC CERTIFICATION IS SCIENCE-BASED - WHAT DOES THAT MEAN?

The MSC Fisheries Standard is a science-based way to measure the environmental performance of a fishery. Science-based means that the standard builds on best available scientific knowledge. Our Fisheries Standard brings together 25 years of collaboration with scientists, the fishing industry, conservation groups and other stakeholders. It is intended to reflect the most up-to-date understanding of internationally accepted fisheries science and best practice fisheries management.

## 7.2. WHAT DOES THE MSC FISHERIES STANDARD INCLUDE?

In an assessment against the MSC Fisheries Standard, a fishery must demonstrate that it achieves at minimum the passing score under each of the three principles (Figure 2):

**Principle 1 (P1), Sustainability of the stock:** Fisheries must operate in a way that allows fishing to continue indefinitely, without overexploiting the resource.

**Principle 2 (P2), Ecosystem impacts:** Fishing operations need to be managed to maintain the structure, productivity, function and diversity of the ecosystem upon which the fishery depends, including other species and habitats.

**Principle 3 (P3), Effective management:** All fisheries need to meet all local, national and international laws and have an effective management system in place to fulfil objectives outlined in principles 1 and 2.

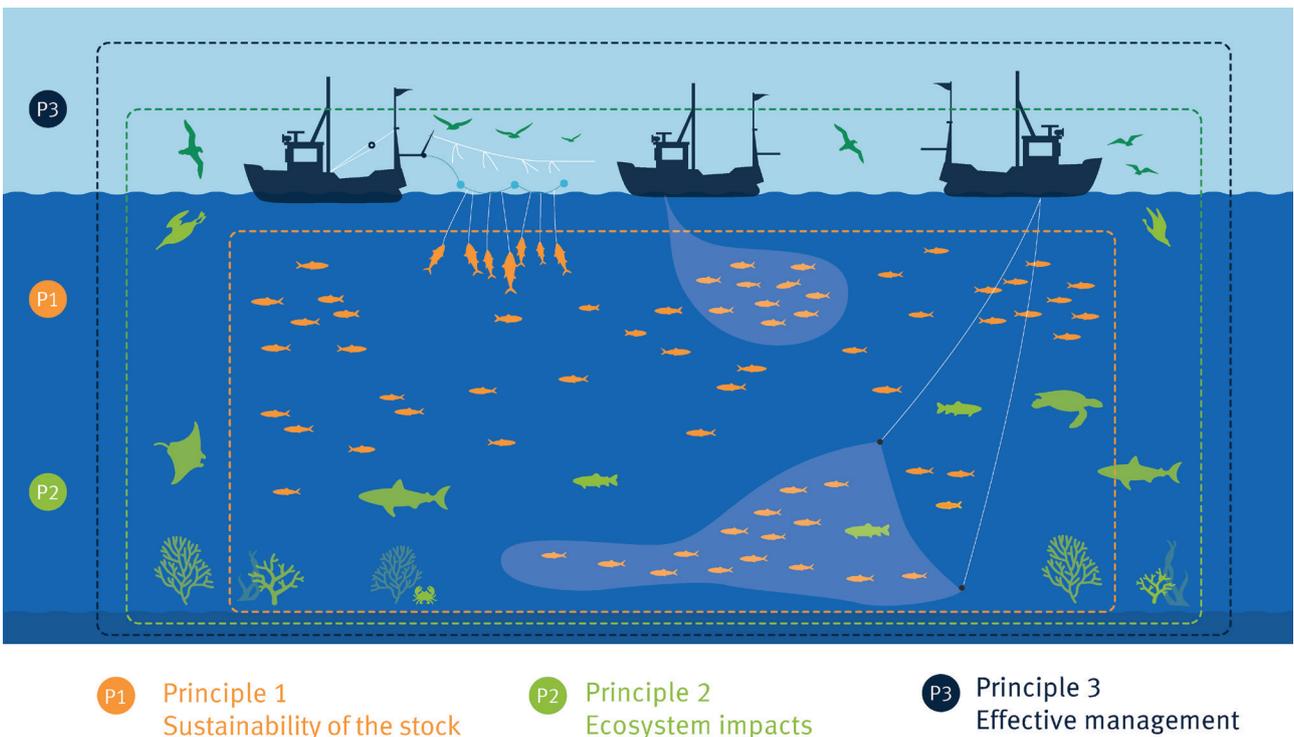


Figure 2. The three principles of the MSC Fisheries Standard.

## HOW ARE THE FISHERIES ASSESSED?

There are 28 performance indicators in the Fisheries Standard that sit under the three principles (Figure 3).

### A guide to the MSC Fisheries Standard

**Principle 1: Sustainable fish stocks**

**Stock evaluation**

- There is a sustainable population of a fishery’s main catch or the population is rebuilding.

**Harvest management strategy**

- There is a precautionary harvest strategy and no shark finning.
- There are harvest control rules, so if the population drops below sustainable levels, the fishery will reduce its catch.
- There is reliable information and the main catch is regularly monitored.
- There is a robust assessment of the main catch population.

**Principle 2: Minimising environmental impact**

**What else does the fishery catch, and is it sustainable?**

- There are sustainable populations of any other species regularly caught.
- There is a management strategy and a way to reduce unwanted death for these species.
- There is reliable information about these species.

**What else does the fishery catch? Does it catch any birds, reptiles, amphibians or mammals?**

- There is no threat to the populations of these species.
- There is a management strategy and reduction of unwanted death for these species.
- There is reliable information on the risk of the fishery on these species.

**Impact on endangered, threatened or protected (ETP) species**

- There is no threat to ETP species populations.
- There is a management strategy to minimise effect on ETP species.
- There is reliable information on the risk of the fishery on these species.

**Impact on habitats**

- The fishery causes no serious or irreversible harm to habitats.
- There is a strategy to minimise fishery impact on habitats.
- There is information on vulnerable habitats and the impacts of the fishing gear.

**Impact on the ecosystem**

- The fishery causes no serious or irreversible harm to the ecosystem.
- There is a management strategy to protect ecosystems.
- There is reliable information on ecosystem function and impact.

**Principle 3: Fishery management**

**Governance and policy**

- There is an effective legal or customary framework that supports achieving Principle 1 (P1), Principle 2 (P2) and recognises rights of people dependent on fishing for food or livelihood.
- There is an effective consultation process with stakeholders.
- There are long-term management objectives that are consistent with the Fisheries Standard.

**Fishery specific management system**

- There are clear fishery specific objectives for achieving P1 and P2.
- There are effective decision-making processes.
- There are compliance and enforcement systems.
- There is performance evaluation of fishery management.

Figure 3. Overview of the 28 performance indicators MSC certified fisheries are evaluated against.

The independent assessment team (conformity assessment body, CAB) assigns a score to each performance indicator where 60 is the “minimum acceptable performance”, 80 is “global best practice” and 100 is “state of the art” performance (Figure 4). To be certified, a fishery must score at least:

- 60 or more for each of the 28 performance indicators.
- On average 80 or more across all performance indicators under each of the three principles.

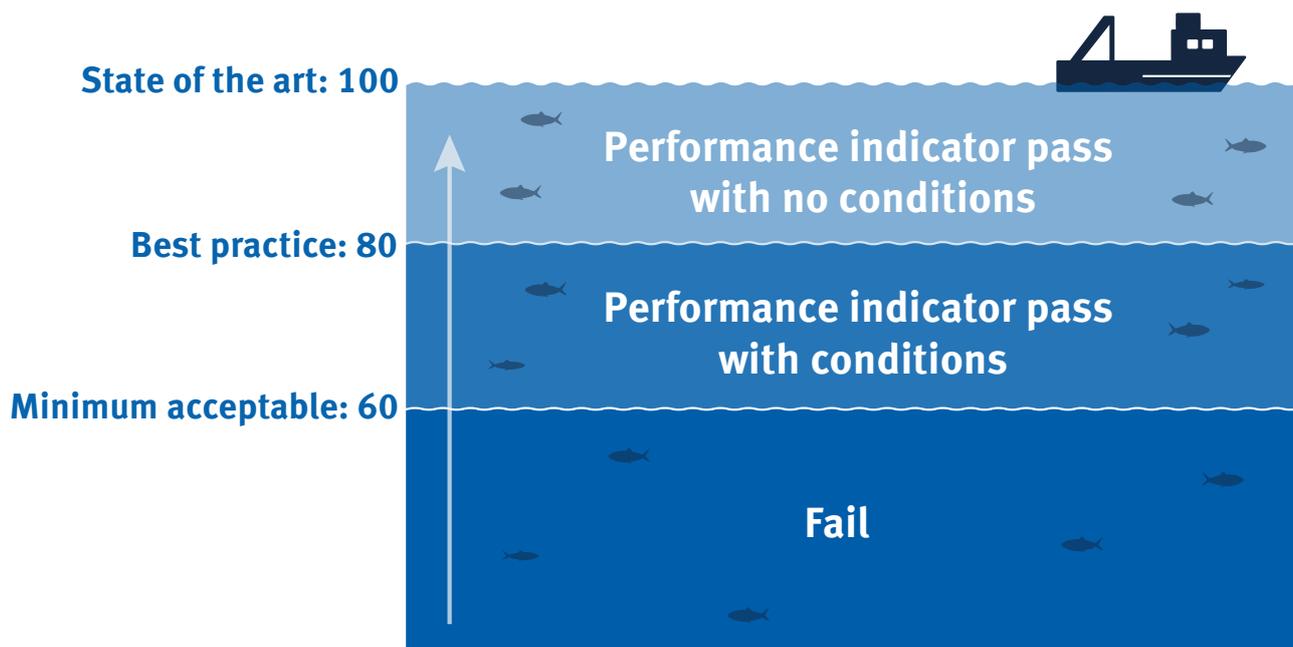


Figure 4: The scoring process for the 28 performance indicators.

#### 7.4. WHAT IS INCLUDED IN THE CERTIFICATION PROCESS?

Getting evaluated against the MSC Fisheries Standard is voluntary. When a fishery chooses to enter the program, it contacts an accredited third-party certifier which employs a team of scientists to independently score the fishery. The certification process is described in Figure 5.

Interested stakeholders can contact the certification body responsible for the specific fishery to get invited to comment on a fishery assessment.

The certification body will then keep all stakeholders informed during the certification period. A fishery assessment happens in a series of six stages. Stakeholders can provide input at four of these stages (Figure 5).

Stakeholders need to get involved in the early stages of a fishery assessment to be able to provide input or objections later in the process. This includes providing input on the Announcement Comment Draft Report or meeting with the assessment team during the site visit.

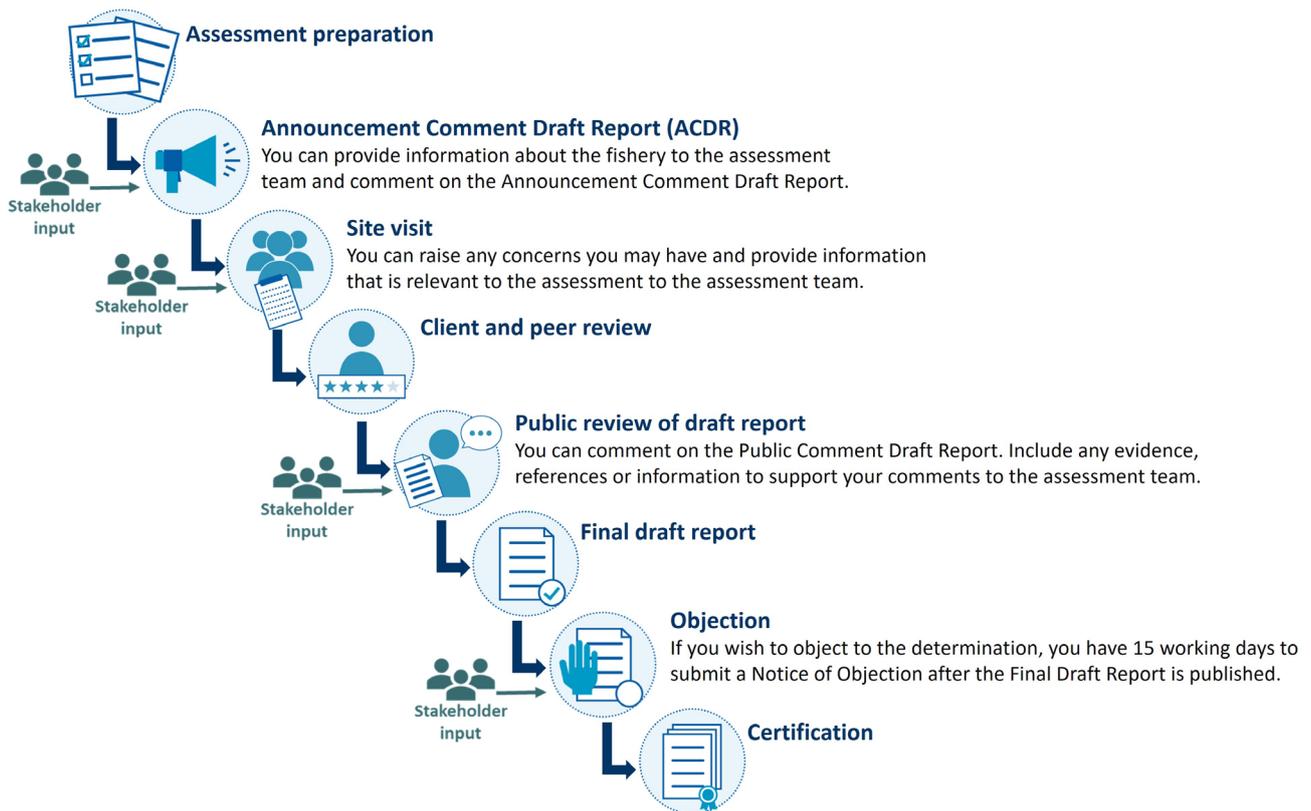


Figure 5: The MSC certification process.

### 7.5. WHY DOES THE MSC NEED A THIRD-PARTY INDEPENDENT ASSESSMENT?

Third-party assessments are independent, unbiased and offer the highest level of assurance that standards are being adhered to. This maintains impartiality in the certification process since the MSC itself neither assesses nor certifies fisheries. Moreover, an objective third-party assessment process is a requirement of the UN FAO's internationally agreed set of principles for ecolabelling of wild-caught seafood.<sup>22</sup> Certificates are issued by certifiers who are independently accredited to perform assessments of fisheries against our standards. To ensure complete independence, a third organisation, Accreditation Services International (ASI), manages the accreditation of certifiers to conduct MSC assessments.

### 7.6. DOES MSC ALLOW PUBLIC PARTICIPATION IN THE ASSESSMENT PROCESSES?

Stakeholder input is a key part of the MSC certification process and a requirement of the international benchmarks for credible certification and ecolabelling to which the MSC standard conforms (i.e., FAO Conduct of Responsible Fishing, the Global Sustainable Seafood Initiative (GSSI), and ISEAL, the global membership organisation for credible sustainability standards). The independent certification bodies which conduct assessments are required to carefully consider all comments received. If they choose not to take comments and input on board, they must document their rationale. This ensures that all input is transparently and thoroughly considered by the assessment team. All parties can get involved in a fishery assessment as a stakeholder if they have an interest in the fishery being considered for certification, are or will be affected by a certification decision on a particular fishery, have information that will be relevant in informing an assessment decision or want to comment on a certifier's decision.

22 FAO (2009). Guidelines for the ecolabelling of fishes and fishery products from marine capture fisheries. Food and Agriculture Organization of the United Nations. <https://www.fao.org/apfic/publications/detail/en/c/419734/>

**7.7. WHAT ARE CONDITIONS OF CERTIFICATION?**

Conditions are time-bound actions for the fishery to act upon to improve its sustainability further. Some 94% of all MSC certified fisheries received conditions from their independent assessment team. Through the conditions process the MSC program aims at driving continual improvements towards global best practice in fisheries sustainability. Scientific knowledge also constantly improves, and fisheries are encouraged to develop new ways of conserving marine resources for future generations.

Fisheries must be performing at a high level to achieve certification. However, there is often room for improvement on specific issues. Fisheries can be certified without meeting the 80 (best practice)

level for all performance indicators as long as the aggregated performance level for each principle is at or above 80. If a fishery scores between 60 (minimum sustainability requirement) and 79 for any performance indicator, the fisheries clients are required to improve the performance of the fishery against that indicator so that it scores 80 or above, i.e., at least at global best practice. Fisheries must make these improvements in the timeframe specified in the condition which is typically the five-year certification period or less. Progress toward fulfilling the conditions is assessed during the annual surveillance audits (Figure 6). If a fishery fails to make the improvements that are set out in a condition, they will be suspended from the MSC program.

**FIVE YEAR ASSESSMENT CYCLE**

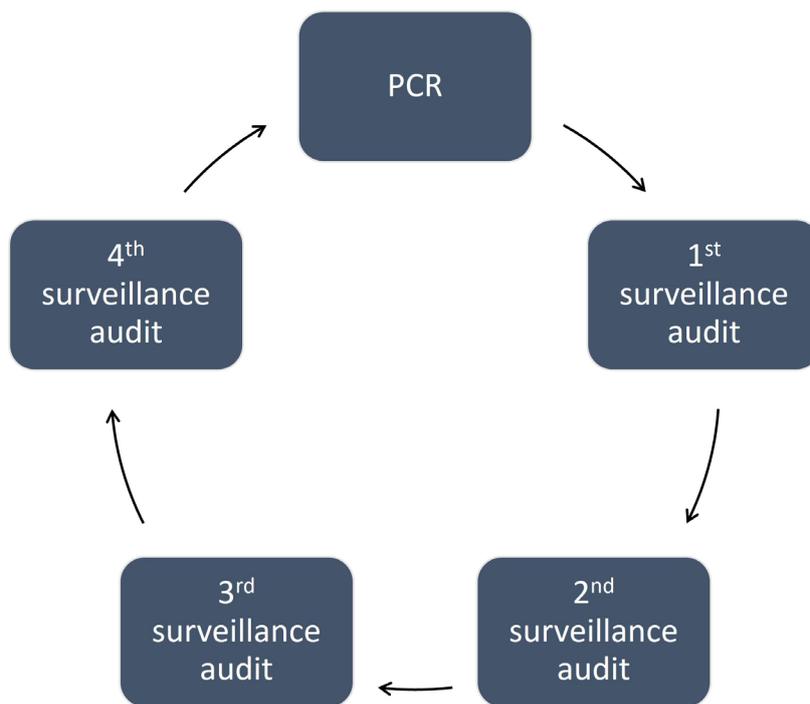


Figure 6. Certification cycle.

**7.8. WHICH STAKEHOLDERS ARE INVOLVED?**

Stakeholders are an essential source of information and play a very important role in the certification process. Whether you are a scientist, a fishery manager, a seafood processor, a government representative, a community member or

other stakeholder with an interest in an assessment outcome, your information contributes to a thorough assessment. In Figure 7 all stakeholder groups and their interaction in the certification process is shown.

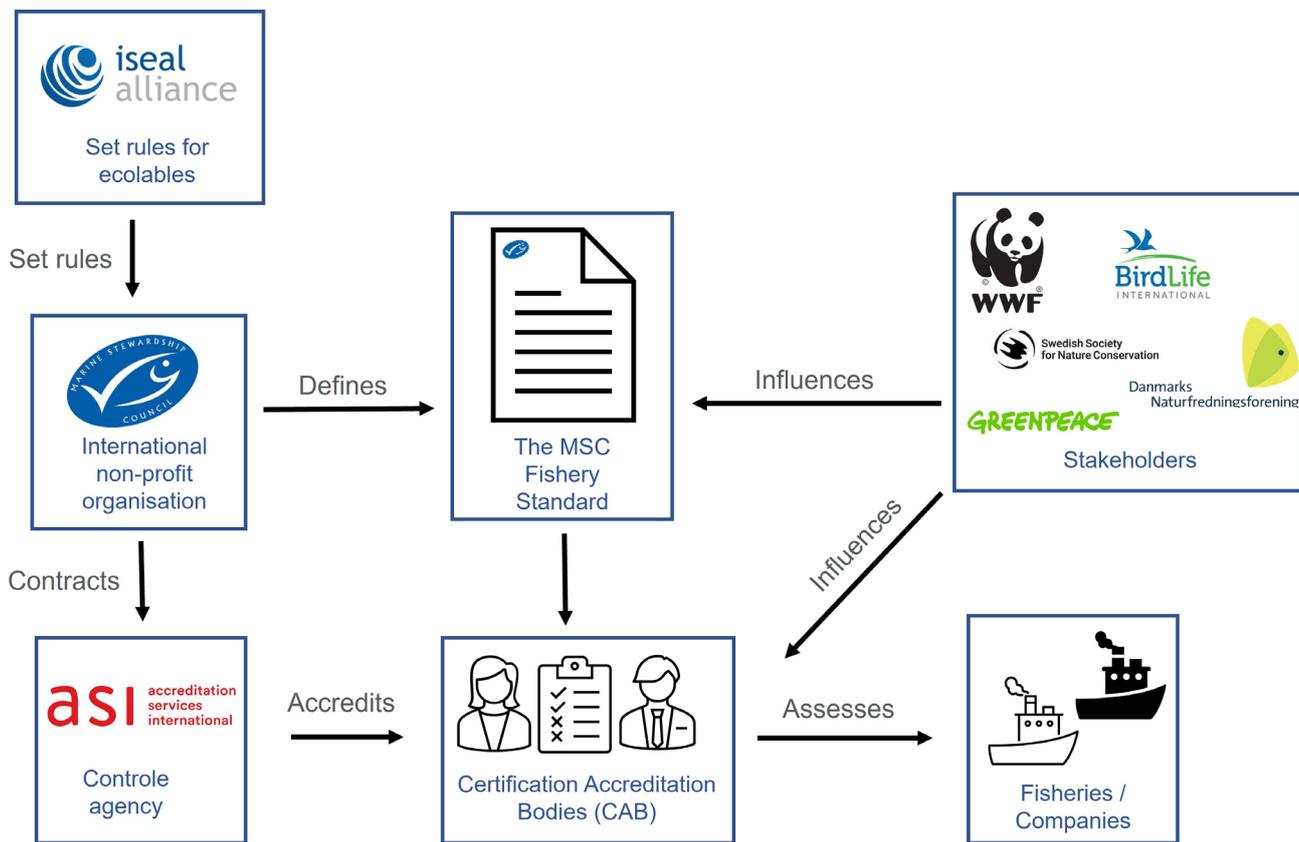


Figure 7. Stakeholders and interactions in the certification process.

**7.9. WHAT IS THE OCEAN STEWARDSHIP FUND?**

The Ocean Stewardship Fund<sup>23</sup> aims to increase the number of sustainable fisheries worldwide. We are accelerating progress by funding innovative research and supporting fisheries at all stages on the path to sustainability. We have committed 5% of all royalties from MSC certified product sales to the Ocean Stewardship Fund. The Ocean Steward Fund has five target groups:

- Our Transition Assistance Fund helps fisheries that are making good progress. Funds can be used to support the cost of improvements that are necessary for fisheries in the Global South and any small-scale fisheries that are committed to achieving MSC certification to become sustainable.

- Our Science and Research Fund supports projects that benefit one or more MSC certified fisheries to meet conditions and achieve best practice.
- Our Recertification Assistance Fund supports fisheries that have maintained MSC certification for at least 10 years by contributing to the cost of recertification.
- The MSC Student Research Grants support post-graduate students who carry out research with fisheries engaged or working toward the MSC Standard.
- The Innovation Fund supports research that is a strategic priority for the MSC.



Figure 8. How fisheries can be supported through MSC’s Ocean Stewardship Fund.

23 <https://www.msc.org/what-we-are-doing/our-collective-impact/ocean-stewardship-fund>



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