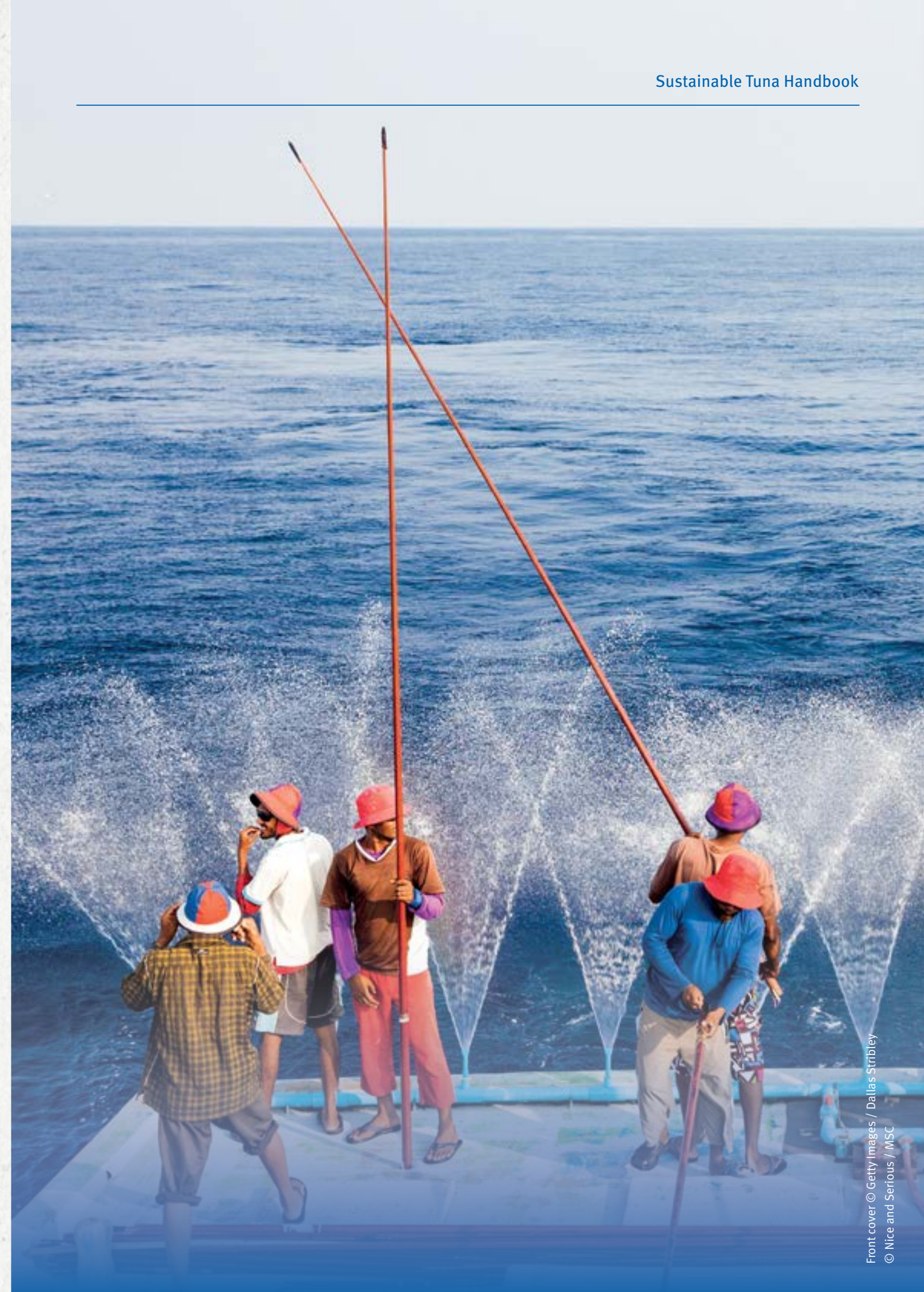


A close-up photograph of several fresh tuna fish, showing their silvery scales, large eyes, and dorsal fins. The fish are arranged in a row, with the focus on the fish in the foreground.

Sustainable Tuna Handbook OCEANIA EDITION

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EXECUTIVE SUMMARY

Welcome to the MSC Sustainable Tuna Handbook. This handbook aims to discuss some of the complexities of sustainable tuna fishing and increase the reader's understanding of global tuna fisheries and the global tuna supply chain. It explains how MSC certified tuna fisheries have achieved a high bar of sustainability, defined by the MSC Fisheries Standard.

This handbook comes at a critical time: with the global demand for tuna increasing over recent decades, the pressure on local populations and ecosystems has also intensified. At the same time, the diversity in the sector has fuelled questions related to gear type and fishing methods, species, sustainability, and environmental impact, to name a few.

For tuna populations to thrive, the sector requires robust and coordinated management, effective enforcement, elimination of forced labour and illegal fishing, reduction in mislabelling, and reductions in catches of Endangered, Threatened and Protected (ETP) species. These issues are prevalent in many tuna fisheries and present sourcing risks that can prove challenging. Furthermore, a lack of information available on tuna fisheries, conflicting sustainability credentials, and powerful NGO campaign messaging combine to further complicate sourcing decisions. This handbook hopes to bring clarity to these issues and demonstrate how MSC certification can help mitigate these risks, essential to fulfilling sustainable

sourcing policies. It is aimed at anyone involved with sourcing sustainable tuna as a reference guide for the various aspects of tuna sourcing.

Sixty-five percent of consumers believe that to save the oceans we should consume seafood only from sustainable sources¹. The supply chain needs to respond to this demand and ensure that environmental and social threats related to tuna fishing are minimised through sourcing from verifiably sustainable fisheries.

The blue MSC label can help fulfil these commitments by ensuring sustainability against a rigorous and demanding standard and providing traceability from ocean to plate. It is an opportunity to deliver on sustainable sourcing commitments and to ensure a sustainable supply for these iconic species.

While MSC certification provides a solution to sustainable seafood sourcing requirements, we recognise that due to the complex and diverse

nature of the global tuna supply chain, coupled with an increase from pressure groups on the sourcing of both non-certified and MSC certified tuna, further information would benefit those operating within the tuna supply chain to help provide greater clarity and knowledge on the global tuna landscape.

In addition to examining fishing gears and methods, species, impacts and issues, this handbook also profiles a range of MSC certified tuna fisheries illustrating how different types of fisheries can meet the MSC Standard, even with varied gear types, fishing methods, species and management approaches. It examines how these fisheries gained their sustainability credentials, including the actions they have taken over time, to achieve and maintain their certification. Common themes include:

- Improved observer coverage
- Improving management to protect tuna stocks in the long term
- Minimising fishery impacts on other species, including overfished stocks and Endangered, Threatened and Protected (ETP) species

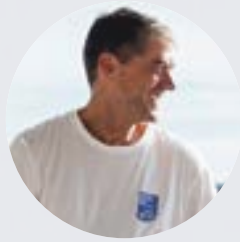
While the MSC Standard sets the bar for sustainability of fisheries, it is important to recognise Fishery Improvement Projects (FIPs) as an important aspect of the path to sustainability. As such, this handbook also provides an example of a successful FIP that has progressed to become an MSC certified fishery.

However, please note that this handbook is not a guide to FIPs, nor a FIP sourcing handbook.

While it takes time to advance fisheries to the MSC Standard, there is reassuringly ample variety and diversity in the commercial range of MSC certified fisheries to start to satisfy the demand for sustainable, certified tuna. But there is always room for improvement. While around 49% of all commercially important tuna fisheries are already engaged with the MSC program (by landed volume) and an additional 20% in a FIP (by landed volume), nearly a third are left without any measure for how they are performing or verification of their sustainability.

Our vision is to see more fisheries enter MSC assessment at a level at which they can achieve certification. Those already certified to the MSC Standard are leading the way and have made – often considerable – changes to achieve their certification. These leaders are helping support global tuna sustainability. Your support in this movement, and action at the national and international level, is crucial to ensure these fisheries are protected for future generations. By sourcing MSC certified tuna, you are not only investing in ensuring stable supplies of fish for the future with secure supply chains, but also incentivizing healthy oceans and coastal communities. This handbook will help you navigate this complex and fascinating world.

INTRODUCTION TO SUSTAINABLE TUNA SOURCING



Bill Holden, MSC Senior Tuna Fisheries Outreach Manager

Tuna are some of the world's most popular fish, sold in nearly every country in the world. From the tuna sandwiches I grew up with, to the sushi I love today, we see the global tuna market segmented into different areas based on species, food preferences and culture. But change is constant: one of the biggest trends in the past few years has been the growth of the fresh and frozen market in North America and in Western Europe, while canned tuna is gaining ground even in the Middle East – not exactly a traditional tuna market.

The global tuna market reached a value of US\$11.6 billion in 2018², driven by increasing demand for processed/ready to cook tuna, rising disposable incomes and increasing per capita consumption.

Once tuna is canned or frozen, it becomes a shelf-stable and easily traded commodity³. But there are complex issues in tuna fisheries, due to the impacts of gears used to harvest tuna and their highly-migratory nature.

Over the past ten years, the MSC has built up a wealth of experience in tuna fisheries, their supply chains and their unique challenges. This handbook is a distillation of some of that experience and I hope it will help retailers and other commercial interests navigate the complex, and fascinating world of this remarkable fish.

Healthy Stocks

With increased demand for tuna comes increased pressure on tuna stocks and associated ecosystems. At the moment, most tuna stocks are at healthy levels⁴, but there are significant variations and stocks can change. Retailers seeking to buy from tuna with healthy stocks can rely on MSC certified tuna fisheries, which ensure that the stocks are healthy or are in a robust and demonstrably credible rebuilding plan.

Environmental Impacts

Tuna fisheries can be associated with significant bycatch problems, catching and entangling seabirds, sharks and marine mammals. Different fisheries have vastly different impacts depending on how the fishing gears are used (see page 16) and where the tuna is fished.

Retail buyers play a pivotal role in reducing these impacts by sourcing sustainable tuna. Some environmental groups have pressured buyers to source from pole and line fisheries because the bycatch of non-tuna species from this fishing gear is considered minimal. However, focussing on a single attribute, such as fishing gear, is too simplistic: tuna stocks may still be overfished or poorly-managed and particular fisheries, irrespective of gear type, may face other challenges such as the catch of juvenile tuna.

Management

Tuna are managed at the international level by Regional Fisheries Management Organisations (RFMOs) (see page 14), but management at this level, involving as many as fifty member countries, can be slow. Retailers can support sustainable tuna by backing strong conservation measures through the adoption of measures such as Harvest Strategies and Harvest Control Rules (HCRs), by RFMOs (see case study on page 31).

Sourcing from overfished stocks, or from fisheries that have significant bycatch of non-target species or environmental impacts, creates business and supply chain risks. Businesses therefore have a vested interest in helping to ensure strong conservation measures are adopted.

Labour

In addition to these environmental issues, there are also concerns about the scale of forced labour and human rights issues in tuna supply chains. The MSC condemns forced labour and although we were built as an environmental standard, we have taken steps to keeping forced labour out of the MSC certified supply chain (see page 38).

Reducing Risk

The best way for tuna buyers to significantly reduce exposure to the above risks is to choose MSC certified tuna. A certified fishery ensures that the stocks are healthy or are in a robust and demonstrably credible rebuilding plan, the impact on the ecosystem is minimal and the fishery is well-managed. What is more, by choosing MSC, you are incentivizing global fisheries to become more sustainable, thereby safeguarding livelihoods and healthy oceans for the future.



THE MSC FISHERIES STANDARD

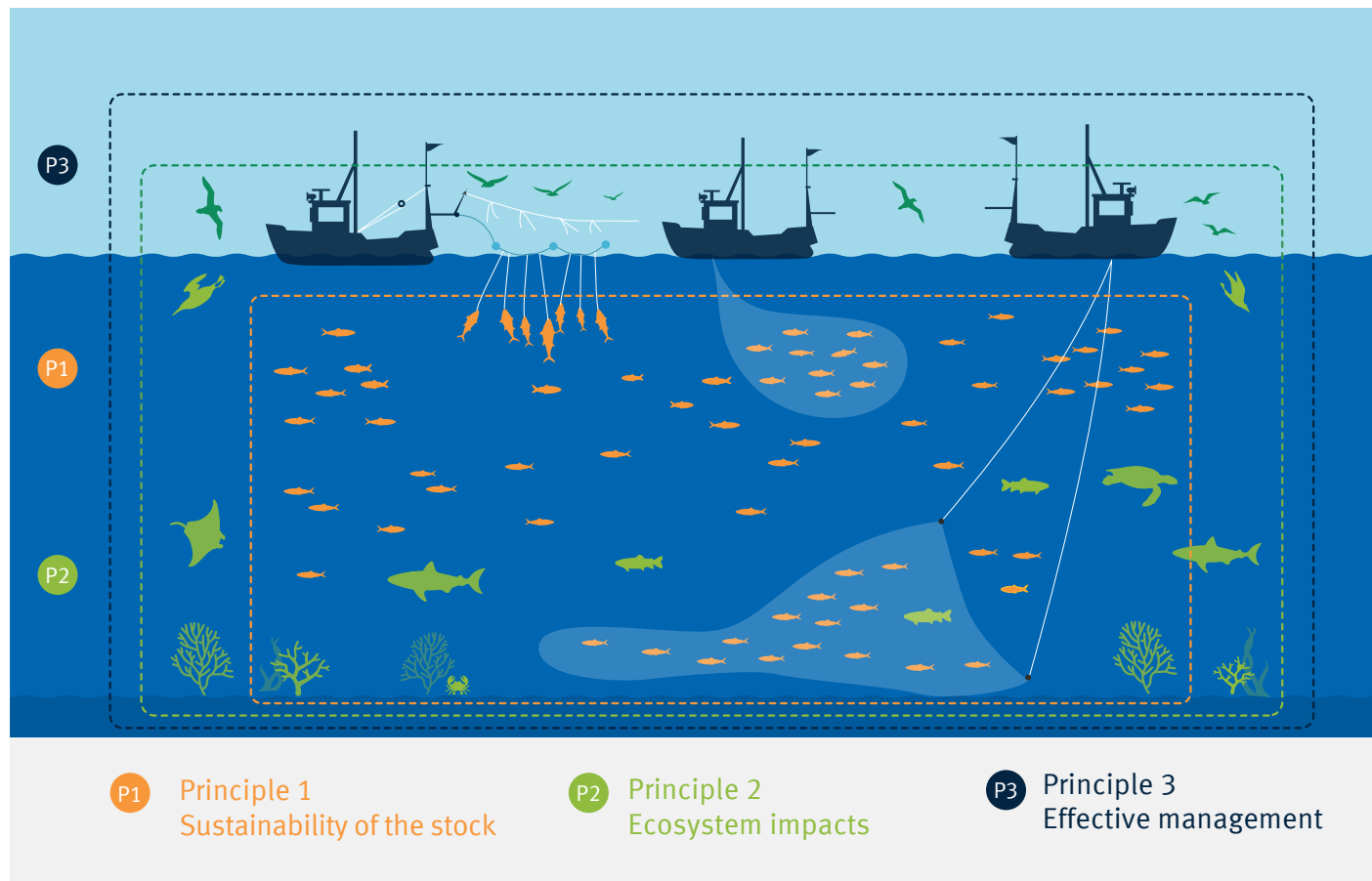
The MSC Fisheries Standard brings together over 20 years of collaboration with scientists, the fishing industry and conservation groups. It reflects internationally accepted fisheries science and best practice management.

The three principles of the MSC Fisheries Standard

Principle 1: Sustainability of the stock: Fisheries must operate in a way that allows fishing to continue indefinitely, without over exploiting the resource.

Principle 2: 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: Effective management: All fisheries need to meet all local, national and international laws and have an effective management system in place.



HOW DOES THE SCORING PROCESS WORK?

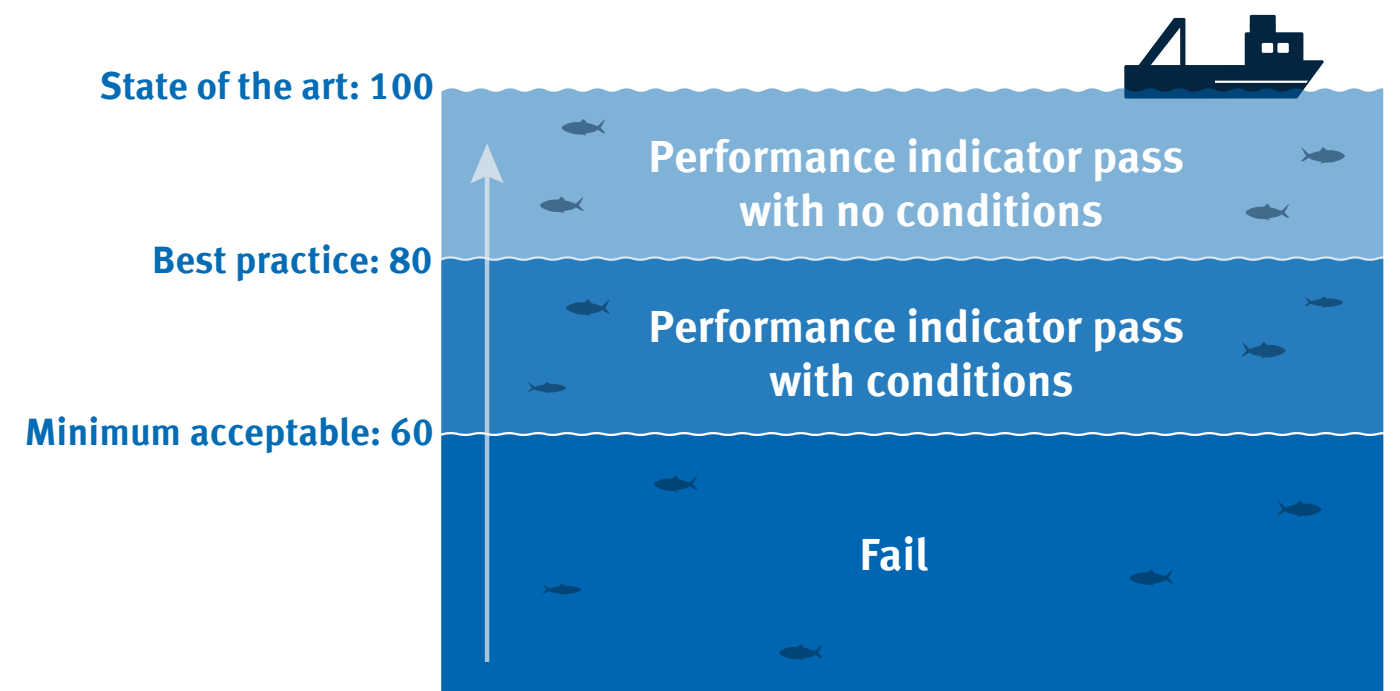
There are 28 performance indicators in the Fisheries Standard that sit under the three principles.

Your fishery is assigned a score for each performance indicator where 60 is the minimum acceptable performance, 80 is global best practice and 100 is near perfect performance.

To be certified, your fishery must score:

- **At least 60 for each of the 28 performance indicators**
- **An average score of 80 across all performance indicators under each of the three principles**

If your fishery scores between 60 and 79 for any performance indicator, you are required to improve your fishery's performance against that indicator so that it scores 80 or above within five years. This improvement is called a condition.

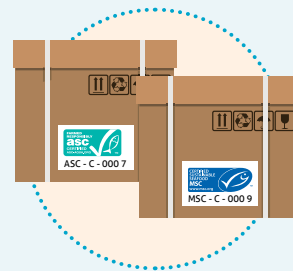


THE CHAIN OF CUSTODY STANDARD: DEFAULT VERSION HAS FIVE PRINCIPLES



Principle 1:

Companies must purchase certified product from a certified supplier



Principle 2:

Certified products are clearly identifiable



Principle 3:

Certified products are separated from non-certified



Principle 4:

Certified products are traceable, and volumes are recorded



Principle 5:

Your management system addresses the requirements of the Chain of Custody Standard

DO I NEED CHAIN OF CUSTODY CERTIFICATION?

The Chain of Custody Standard is a traceability and segregation standard that is applicable to the full supply chain – from a certified fishery or farm, to final sale.

Examples of businesses eligible for Chain of Custody certification:

- A fishmonger serving final consumers and caterers
- A seafood company with a trading office, processing facility and storage unit

When Chain of Custody certification is not needed:

- Your company buys pre-packed, labelled certified products that will be sold to the end consumer without being opened, re-packed or re-labelled. Such items are known as consumer-ready tamper-proof products. Retail packages of frozen fish fingers or tins of smoked mackerel fillets are examples of consumer-ready tamper-proof products
- Your company buys certified products but does not wish to sell these on as certified. In this case the chain of custody is broken and your customers may not make any claims about the product being certified
- Your company does not take legal ownership of certified seafood. This may be the case if your company provides contracted services for certified companies and therefore can be covered by your customer's Chain of Custody certificate as a subcontractor

Businesses not eligible for Chain of Custody certification:

- A company that has been successfully prosecuted for a forced or child labour violation in the last two years
- A company whose certificate was withdrawn for a breach of Chain of Custody in the last two years
- A company whose certificate was suspended in the last six months
- Enhanced fishery or farm operations that are out of scope of the MSC Fisheries Standard or the ASC Farm Standard

TUNA SPECIES

Worldwide there are 23 stocks of the major commercial tuna species: 5 skipjack, 4 yellowfin, 4 bluefin, 6 albacore, and 4 bigeye stocks. A recent report from the International Seafood Sustainability Foundation (ISSF) showed that 65% of tuna stocks were at healthy levels, 13% were overfished and 22% were at an intermediate level⁴. This page shows important differences between the five major commercial tuna species (in alphabetical order). Their differences not only impact their susceptibility to overfishing, but also their taste, price and availability.

Albacore tuna



Albacore (*Thunnus alalunga*) grows more slowly than other tunas such as skipjack and yellowfin and matures later at around 5 years. It is typically caught in deeper waters, around 400m deep and is found in the Pacific, Indian and Atlantic Oceans, the Mediterranean and even in UK waters⁵.

Albacore represents 4% of the world's tuna catch and is also known as 'white tuna' due to its light flesh⁴. It is ideal for canning, due to its dryer texture but is also sold as fresh steak or in jars with olive oil. Albacore is significantly more expensive than skipjack.

Bigeye tuna



Bigeye (*Thunnus obesus*) is a large tuna that also grows more slowly than yellowfin or skipjack, but matures relatively young, around three years. It is found in the Indian, Pacific and Atlantic Oceans and represents 7% of the world's tuna catch⁴. Because bigeye typically live at deeper depths, compared to yellowfin and skipjack, they have a thick layer of fat to insulate them from the colder water. This fat adds moisture, that makes bigeye attractive for sashimi markets.

Bluefin tuna



There are three bluefin species in four stocks: Western Atlantic, Eastern Atlantic and Mediterranean (*Thunnus thynnus*), Pacific (*T. orientalis*), and Southern (*T. maccoyii*). Atlantic bluefin is the largest tuna species, and they take a long time to grow and reproduce. Eastern Atlantic bluefin are thought to be 100% mature by the age of five, while those from the Western Atlantic stock are about nine years old before they reach adulthood⁷. Bluefin represent just 1% of the world's tuna catch⁴. Due to their higher fat content, they are normally eaten as sashimi⁶. Bluefin are highly-prized and regularly set new sales records in Japanese auctions – one fish sold for 333.6 million Yen (over 3 million US dollars) in Tokyo's fish market in early 2019⁷.

Skipjack tuna



Skipjack (*Katsuwonus pelamis*) is the smallest and most abundant of the commercial tuna species. They reproduce quickly and are highly productive, maturing around 1-2 years of age. Skipjack are caught in the tropical waters of the Pacific, Atlantic and Indian Oceans⁵.

It is the most popular and generally the most affordable of the tuna species, representing 60% of the world's tuna catch⁴. Its small size provides small loins and chunks, which make them a popular fish for canning⁶.

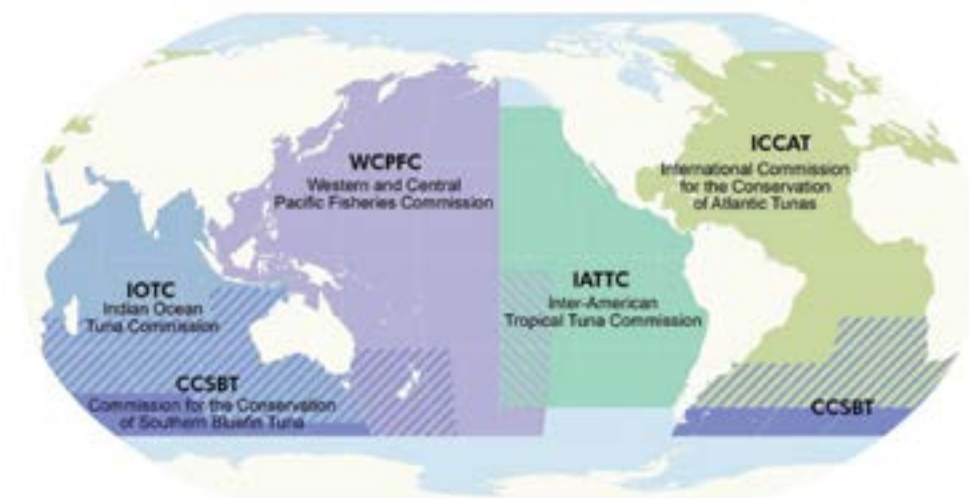
Yellowfin tuna



Yellowfin (*Thunnus albacares*) are a similar sized tuna to bigeye but mature at around 2 years old⁴. They reproduce throughout the year making them highly productive. They are found throughout the Pacific, Indian and Atlantic Oceans⁵ and represent 28% of the world's tuna catch⁴. Yellowfin meat is firm with a mild taste and can be canned or sold as fresh or frozen fillets⁶.

THE TUNA CHALLENGE: INTERNATIONAL TUNA GOVERNANCE AND MANAGEMENT

Tuna are highly-migratory fish and swim thousands of miles each year between multiple jurisdictions. Their culinary popularity, and decades of exploitation by multiple nationalities, have created high pressure on these valuable stocks and – despite their overall healthy status – caused some tuna populations to decline.



Source: Pew Charitable Trusts

In an effort to bring coordinated international management to tuna stocks and ensure sustainable fisheries, five tuna Regional Fisheries Management Organisations (RFMOs)⁵ were established around the world in the 1990s and 2000s. These organisations each comprise between 21 and 50 member countries, which are the countries historically involved in catching the tuna and those in whose waters the tuna live.

While RFMOs were designed so that member states could jointly develop and set sustainable management measures to prevent overfishing of tuna, in many cases these bodies have struggled to deliver on their sustainability commitments. A key reason is that most decisions in RFMOs require consensus. Finding agreement amongst as many as 50 member states – with conflicting priorities and interests – is incredibly challenging.

The need for consensus makes decision-making slow and tends to lower the bar to the lowest level of management accepted by all members⁸. This can be especially problematic when there is an urgent need to reduce fishing pressure on a tuna stock that is being overexploited. Management by consensus can, at times, provide a veto to any individual member state.

One way to ensure an appropriate response to declining tuna stocks is the agreement, implementation and enforcement of robust Harvest Control Rules (HCRs). HCRs are pre-agreed actions in response to changes of stock status. Agreeing HCRs is politically challenging given the varied perspectives and priorities of the participating coastal states. However, consensus can be achieved more readily when stocks are healthy, so it is important to have HCRs in place even

when stocks are perceived as healthy, so any management action can be applied quickly when needed. For example, if a stock falls below a certain level, the total allowable catch can be reduced by a pre-defined amount to ensure future harvests are set at sustainable limits.

To date, four of the five tuna RFMOs have agreed HCRs for particular tuna stocks:

- In 2016, the IOTC agreed a landmark HCR for skipjack (see case study on page 31)
- The IATTC has agreed on an HCR for yellowfin and bigeye in the Eastern Pacific Ocean
- The CCSBT agreed an HCR for southern bluefin
- In 2018, ICCAT adopted an HCR for North Atlantic albacore

Movement towards HCRs on other stocks remains slow, but most RFMOs have plans to deliver these important management measures within the next five years.

Along with our partners, the MSC is pushing for stronger action from RFMOs including coordinating timelines for certification conditions. The adoption of robust, well defined HCRs is a requirement for the ongoing certification of MSC certified tuna fisheries. Therefore, as more fisheries have become MSC certified, increasingly, RFMOs are being encouraged to adopt and implement responsive harvest strategies that include well-defined HCRs. Retailers can help RFMOs to adopt HCRs by encouraging the member delegations to support their adoption in RFMO meetings.

MSC requires the adoption of HCRs to move from ‘generally understood’ HCRs to ‘well defined’ HCRs.

HARVEST CONTROL RULES

To prevent overfishing, the MSC program requires the adoption of Harvest Control Rules (HCRs), moving from ‘generally understood’ HCRs to ‘well defined’ HCRs, within an agreed timeframe. HCRs are a set of pre-agreed, well-defined actions used to determine how much fishing can occur, based on the health of a tuna stock. When stock levels reach certain thresholds, the HCR would inform the RFMO response to prevent overfishing, before the population declines further. Agreeing ‘well defined’ HCRs in advance is considered best practice as it allows the management bodies to avoid overfishing by acting in a timely and agreed way. In early 2019, the HCR conditions for all MSC certified tuna fisheries were aligned, so that multiple certified fisheries in the same region can work to the same timeframes and can coordinate their efforts for the adoption of robust harvest strategies supported by well-defined HCRs.

See pages 30 and 31 on Harvest Control Rules and to read about how the Indian Ocean Tuna Commission agreed to implement HCRs.



© Anthony J Rayburn

TUNA FISHING GEARS

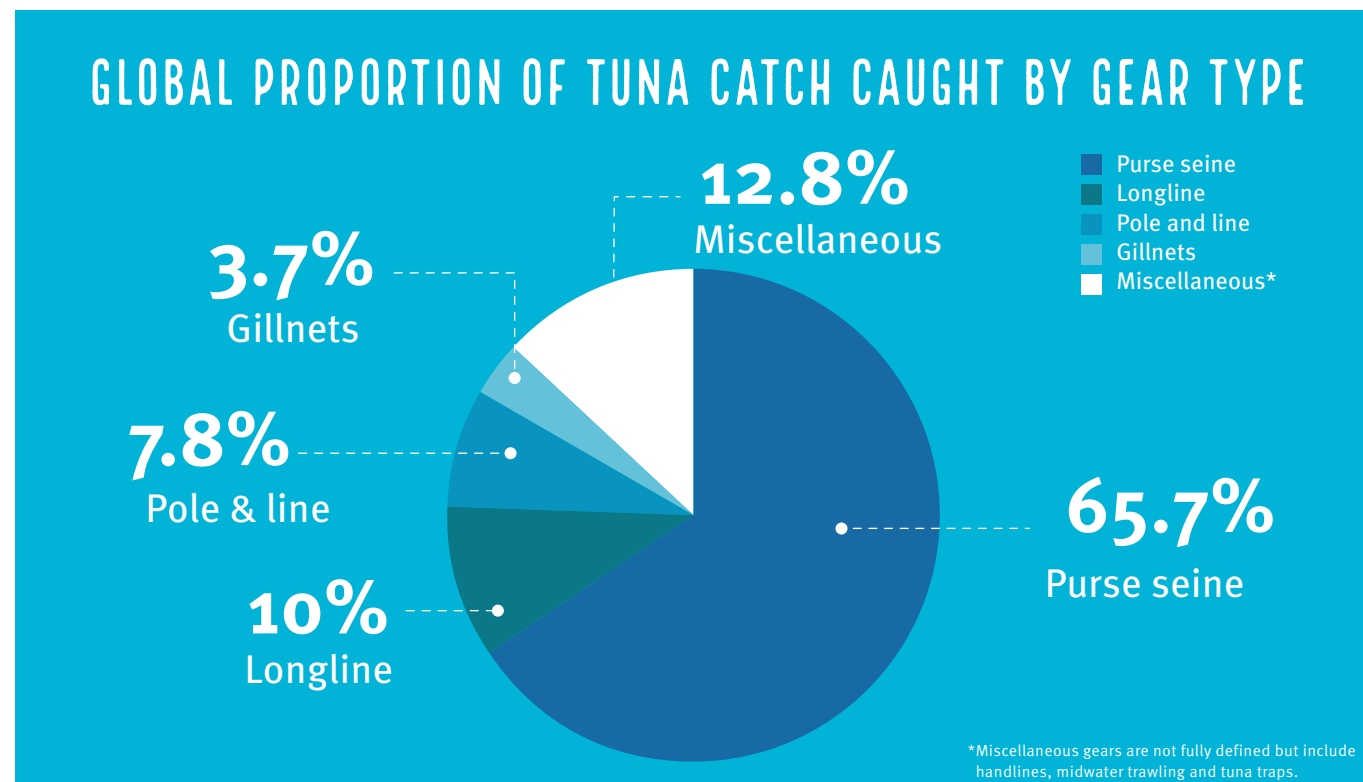
The various gear types used to catch tuna have different impacts and impacts are also specific to individual regions. The impacts depend on the species, habitats and the natural environment of a given area and how the fishing gears and fishing operations are modified to reduce their impacts. Even gear types that are seemingly benign can have negative impacts on the environment.

Due to the varied nature of tuna fisheries, every fishery needs to be individually assessed, taking into account fishing gear impacts on the ecosystem, stock status and management practices. The MSC Fisheries Standard requires rigorous monitoring and management programs for certified fisheries, to ensure both the target stock and the ecosystem remain healthy.

In line with United Nations Food and Agriculture Organization (UNFAO) guidelines, the MSC program is open to all types of wild-capture fisheries regardless of their size, fishing technique or

location. The impact of a fishing gear should be based on evidence for that specific fishery, rather than its perceived challenges or benefits. The only exceptions are fishing with explosives or poisons, which are excluded from the MSC program.

Tuna are caught by a variety of gear types and fishing methods (see page 18). Purse seine, gillnet, and pole and line are used to catch tuna near the surface e.g. skipjack and small yellowfin, albacore and bluefin. Deep-set longlines are used to catch tuna in deeper waters e.g. larger bluefin, bigeye, yellowfin and albacore⁹.

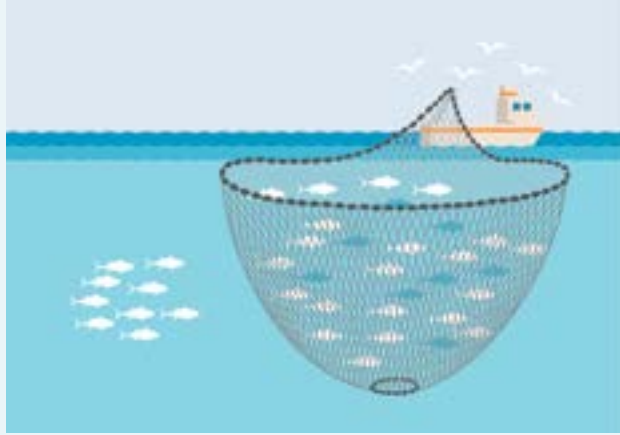


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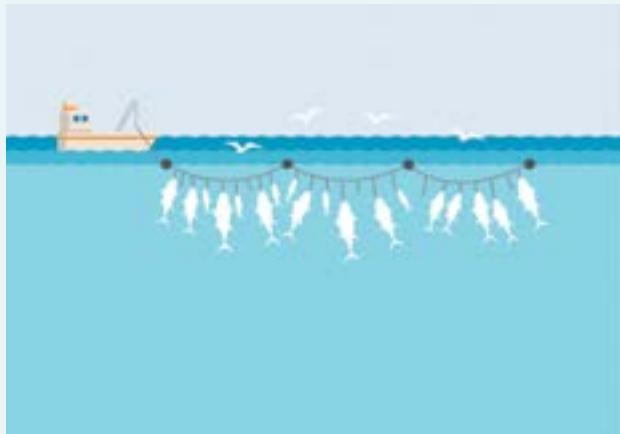
© istock.com / Aleksander Kamas

PURSE SEINE



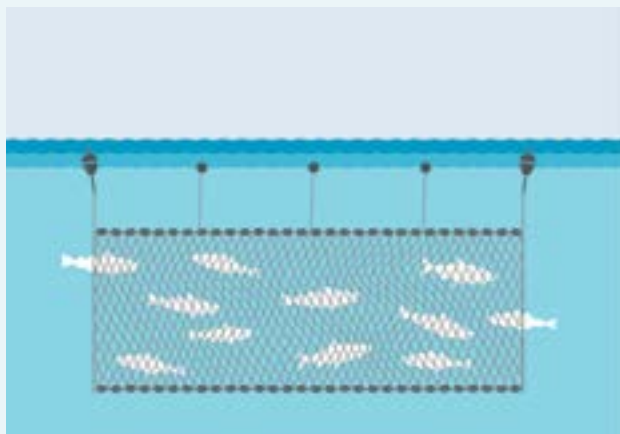
Fishermen locate a school of tuna and set a net around it in a circle. The bottom of the net is pulled closed – like a purse – and the fish are brought on board. Purse seines can be used to catch fish congregating around fish aggregating devices (FADs)¹⁰ or on ‘free schools’ of tuna (see page 20-25). Purse seine fishing represents 66% of global tuna catches but they are used for catching 95% of Eastern Pacific yellowfin and 79% of Western and Central Pacific skipjack⁴.

LOGLINE



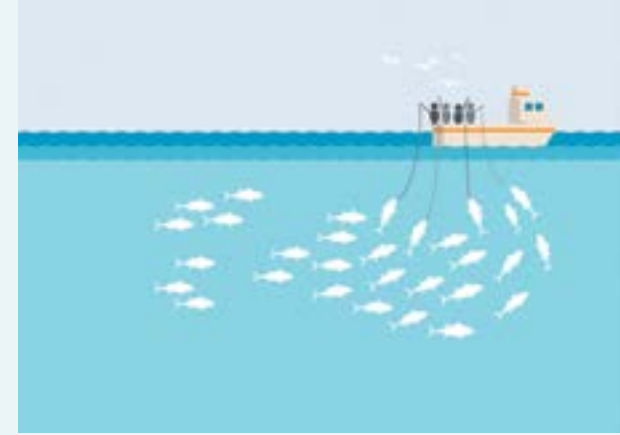
Longline fisheries trail a main line behind a boat. Baited hooks are attached at regular intervals to attract the target species¹³. The line can be between 1 and 30 miles long, with up to 3,000 hooks per line¹⁴. Longline fishing represents 10% of global tuna catches but they are used for catching 34% of Eastern Pacific Ocean bigeye and 96% of South Pacific Ocean albacore⁴.

GILLNETS



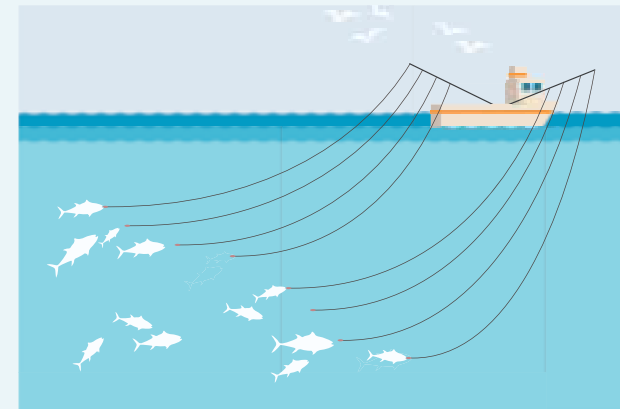
A gillnet is a ‘curtain’ of netting that hangs in the water¹⁵. Fish swim into the net and get caught by their gills. Gillnets represent just 4% of global tuna catches but they are used for catching 19% of Indian Ocean skipjack and 20% of Indian Ocean yellowfin⁴.

POLE & LINE



In pole and line fishing, fishermen locate a school of tuna, then may scatter small live bait fish and spray water onto the sea surface. This creates the illusion of an active school of prey, sending the tuna into a feeding frenzy, where they will bite anything they see. Fishermen then line up, equipped with hand-held poles with barbless hooks. Once a tuna bites, the fisherman flicks it up over their head and onto the deck¹⁶. Like in purse seine fishing, pole and line fishing can also be used to catch fish that congregate around FADs, or on ‘free schools’ of tuna (see page 20-25). Pole and line fishing represents 8% of global tuna catches but they are used for catching 29% of North Pacific albacore and 19% of Indian Ocean skipjack⁴.

TROLLING



Trolling is a type of handline fishing. A slow-moving boat tows multiple (10 to 20) fishing lines that are baited with hooks used to lure in the fish. The lines can be hauled in by hand or mechanically. Whilst trolling represents less than 12% of tuna catches worldwide, it is used to catch 16% of Atlantic Ocean northern albacore and 19% of North Pacific albacore⁴.

“Different fisheries have vastly different impacts depending on how the fishing gears are used and where the tuna is fished.”

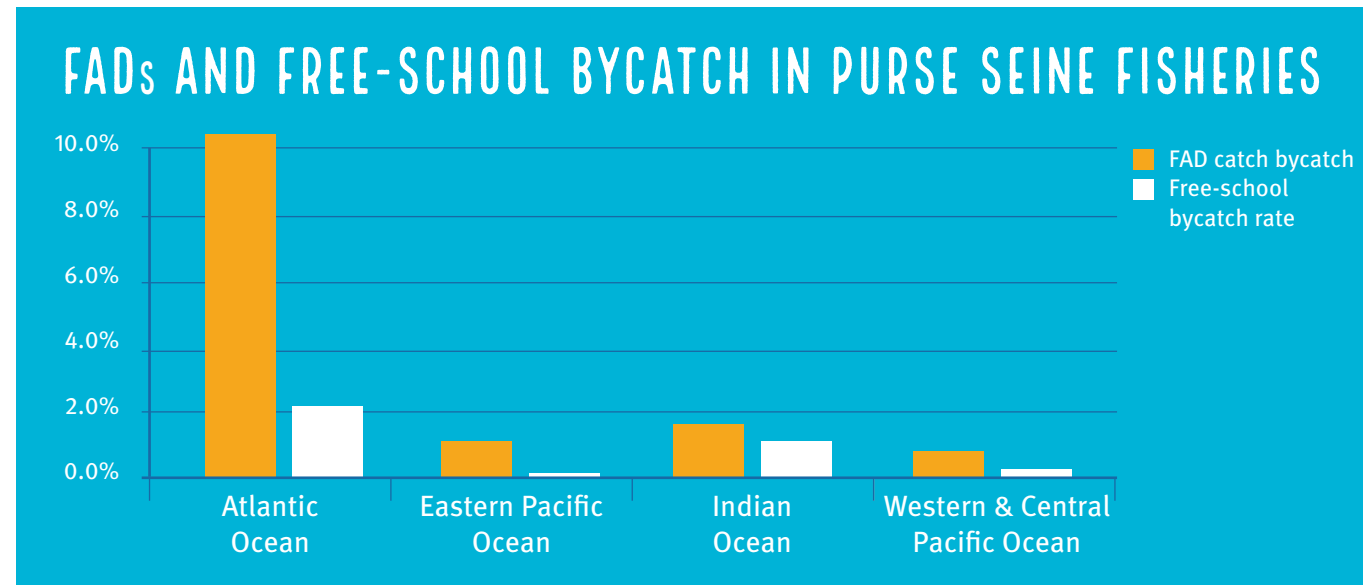
Bill Holden, MSC Senior Tuna Fisheries Outreach Manager

FISHING METHODS: FISH AGGREGATING DEVICES AND FREE-SCHOOL FISHING

Tuna are highly migratory, ranging over thousands of miles. Some fishermen track tuna or follow these migrations to catch the tuna schools, this is called ‘free school’ fishing. Other fishermen use objects to help them locate and catch the tuna more easily, called Fish Aggregating Devices (FADs). This section discusses both of these methods and any associated environmental impacts.

Purse seine nets and poles and lines are set and deployed on free-swimming schools of tuna, which are not associated with floating objects or other marine life. This can result in lower bycatch, but also smaller catches, compared to nets or lines that are set on schools of tuna associated with FADs¹⁷.

The following graph shows differences in average bycatch rates found between the FAD and free-school tuna fisheries. Data is not available on the differences in bycatch rates for specific gear types.



Source: 18

Various environmental NGOs, including Greenpeace, have campaigned to support free-school fishing because of the lower levels of bycatch. While free-school sets do have a range of benefits, there are also some drawbacks, including:

- Given the time needed to find the tuna schools, it is expensive, so fishing boats typically also fish using FADs on the same trip

- There is no internationally-accepted distance that a fishing boat has to be from a FAD to count as ‘free-school’ fishing, but distances can range from 1 to 5 nautical miles. This could result in fishing being conducted on a FAD-associated school of tuna even though the fishery purports to be fishing using free-school methods

After consulting the industry, environmental NGOs and fishing experts, the MSC recently updated its requirements so that from March 2023 purse seine tuna fisheries catching free-school tuna and tuna associated with fish aggregating devices (FADs) will need to seek certification for their entire catch (see page 41 Unit of Assessment). The new certification process will take effect for fisheries

entering assessment for the first time from 25 September 2020. The MSC is already working with the International Sustainable Seafood Foundation (ISSF), tuna fisheries and scientists to support these fisheries to improve the use and management of FADs to meet the high bar for sustainable fishing set by the MSC Standard.



FISH AGGREGATING DEVICES (FADs)

Due to their highly-migratory nature, it can be extremely difficult for fishermen to locate a tuna school.

Many fish species including tuna, are attracted to, and aggregate around, floating objects in the ocean. Firstly, small fish are attracted to the structure of the FAD, and in turn, this attracts bigger pelagic fish such as tuna. As a result of this natural behaviour, the fishing industry developed Fish Aggregating Devices (FADs) to make finding and fishing tuna easier.

FADs are modified natural or man-made floating objects, often floating wooden structures with hanging nets, used to attract fish¹⁸. Once the fish are aggregated, the fishermen deploy nets or cast fishing lines close to FADs to catch the tuna. FADs can be drifting or anchored, entangling or non-entangling, and can be made from biodegradable materials. All have different impacts on the environment depending on where and how they are used. FADs are used in 65% of purse seine sets¹⁸ and in 40% of the world's skipjack catch¹⁹.

Impacts of FAD Use

FADs, particularly those that are left to drift on the high seas, are highly controversial because of their potential impact on the marine environment. This poses a risk to the sustainability of tuna fisheries because marine life can become entangled in the nets that are attached to some designs of FADs.

The aggregation of species other than tuna beneath FADs also makes them more likely to be caught as bycatch in the same nets or lines used to catch tuna. This causes concern among NGOs, creates apprehension about sourcing from fisheries that use FADs and therefore requires greater assurances of the sustainability of tuna caught in association with FADs.

Other issues with drifting FADs include their potential effects on tuna migration and the materials they are made from: if a FAD becomes lost or derelict, it can damage corals or contribute to ocean plastic. This is problematic because there are an estimated 90,000-120,000 FADs worldwide²⁰ so their cumulative impact can be damaging if not managed effectively.

FAD Improvements

Some segments of the tuna fishing industry – in partnership with research institutions – are developing measures to reduce the impact of FADs through technological improvements in FAD design, which have advanced considerably over recent years. For example, some fisheries are adopting the use of biodegradable and non-entangling drifting FADs to reduce their persistence in the marine environment and reduce the entanglement of non-target species.

These efforts, combined with improved tracking and data collection, licensing and registration of FADs, monitoring and retrieval of old FADs, and purse seine gear modifications, have enabled fisheries using FADs to reduce their non-target bycatch to levels at which MSC certification is a possibility.

These improvements led to the first tuna fishery using drifting FADs to achieve MSC certification in 2018. Working with the Indian Ocean Tuna Commission and Seychelles authorities, the Echebatar purse seine tuna fishery has actively sought to reduce bycatch of non-target species by reducing numbers of FADs, deploying only non-entangling FADs and ensuring the rapid release of non-target species. These efforts demonstrate leadership within the tuna fishing industry. Now certified, this fishery will also be required, as a condition of its certification, to invest in research and practices to further reduce the potential impacts of FADs and better understand their impacts (see case study, page 64).

40% of the world's skipjack is caught using FADs

There are an estimated 90,000-120,000 FADs in the oceans today

With advances in FAD design, monitoring and management, and new requirements for a purse seine tuna fishery's entire catch to be MSC certified, we expect to see more tuna fisheries using FADs to achieve MSC certification in the next few years. The MSC is working with fisheries and other organisations to help them to understand what needs to happen to ensure the long-term sustainability of these fisheries.



FADs EXPLAINED

MSC certification is based on comprehensive assessment of the impacts of a fishery and the environment within which it operates. Following UNFAO guidelines any fishing gear, except explosives and poisons, is eligible to be assessed under the MSC program. Therefore, the MSC does not explicitly exclude fishing vessels that set on FADs from being certified. However, any fishery with high non-target bycatch or impacts from lost FADs will need to make improvements to meet the MSC Standard's minimum criteria for environmental impact (Principle 2) and achieve certification.

Natural FADs

Some tuna fisheries target natural structures or floating objects, including free-floating logs (tree trunks) and large marine animals, such as whale sharks, around which fish congregate. This is referred to as 'natural-associated' or 'object-associated' fishing¹⁷.

Risks: Because gear set on natural FADs may be close to large marine animals, it can result in their bycatch.

Mitigation: Due to the impact on whale sharks in the Parties to the Nauru Agreement tuna fishery (see case study on page 72), the fishery banned setting purse seine nets on whale sharks in 2012²¹. Other fisheries require a set distance between the natural FAD and where fishing gear can be deployed.

Used In: No MSC certified fisheries set on whale sharks.

Anchored FADs

The FAD is a raft – often made of bamboo – fixed to an anchored buoy, usually in coastal waters. Anchored FADs (often referred to as aFADs) can be either non-entangling or entangling. They are used by both commercial and subsistence fisheries and are most commonly associated with pole and line fishing. The FAD stays in the same position and doesn't drift, reducing the risk of it getting lost or damaging reefs.

Risks: These FADs can be anchored in vulnerable habitats, such as corals and can be associated with catching juvenile yellowfin. Some anchored FADs also include entangling nets which can result in non-target species being caught in the FAD nets.

Mitigation: Anchoring in vulnerable habitats can be avoided. Fishermen can relocate their fishing if too many juveniles are being caught in a particular area.

Used in: MSC certified fisheries in the Maldives, the Solomon Islands, Papua New Guinea and Indonesia.

DRIFTING FADs (dFADs)

Non-entangling dFADs

Non-entangling dFADs drift with ocean currents and winds. Non-entangling dFADs use ropes or rolled up nets to avoid entangling marine creatures. Each dFAD has a buoy with a reference number and a GPS unit so the fishermen can find them²².

Risks: Evidence is still needed to fully determine the impact of lost dFADs.

Mitigation: Non-entangling dFADs can be designed to reduce the risk of entangling animals²². The first certified fishery to use dFADs in 2018 uses 100% non-entangling dFADs.

Used in: MSC certified Echebatar purse seine skipjack fishery.

Entangling dFADs

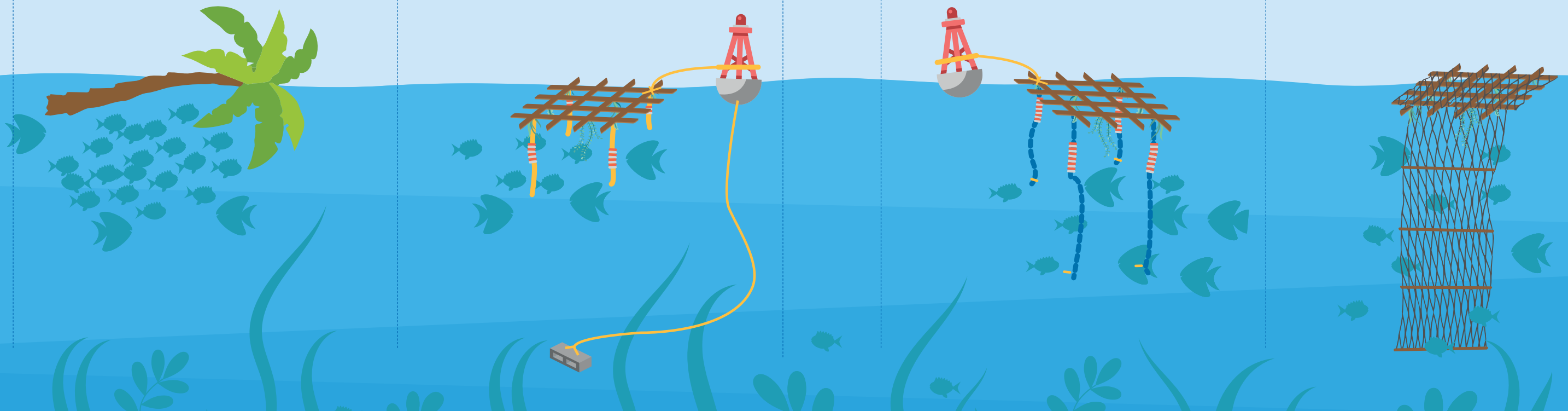
Entangling dFADs have nets that hang in the water column from a floating structure.

Risks: The nets serve to attract a greater variety of animals and can result in them being caught. The dFADs can be constructed using a variety of materials. The ones that have open nets hanging from the raft tend to have the highest rates of entanglement²².

Mitigation: Entangling dFADs can be modified e.g. by rolling the nets up into 'sausages', to reduce the risk of entangling other animals.

Biodegradable FADs

Several companies have begun using non-entangling, biodegradable FADs to reduce the impact of discarded FADs on coral reefs and to reduce the rate of plastics entering the ocean.



FISHING METHODS: LONGLINE FISHING

Roughly 10% of the world's tuna catch is harvested using longlines⁴. Of the 63 tuna fisheries currently engaged in the MSC program, 25 use longlines. These include the Cook Islands, Federated States of Micronesia and Marshall Islands longline fisheries (see page 60) and the Australian Eastern Tuna and Billfish Fishery (see page 58).

As the name suggests, longline tuna fisheries set a longline behind a boat in the midwater or pelagic zone. Baited hooks are attached to the lines at intervals to attract tuna. Longlines are ideal for catching tuna species that inhabit deeper waters, such as albacore, bigeye and yellowfin.

Without careful management, longline fisheries can have unintended interactions with non-target fish, seabirds, and other marine life. In order to become certified, fisheries are required to demonstrate that impacts on non-target species are low. Once certified, fisheries are often required to make improvements to their monitoring programs, and to implement measures that further mitigate interactions with non-target species.

Mitigation measures

Bycatch mitigation measures minimise interactions between fishing gear and non-target species such as seabirds, turtles and sharks. In longline fisheries,

measures include the use of tori-lines which scare away seabirds, prohibiting the use of shark gear and wire leaders to reduce the catch of sharks and rays, and circle hooks to prevent the incidental capture of sea turtles. MSC certified longline tuna fisheries have introduced a range of mitigation measures to minimise their interactions with non-target species.

Tori lines and bycatch release

Fiji's longline albacore, yellowfin and bigeye first became certified in 2012. To meet the requirements of MSC certification, the fishery introduced tori lines to scare seabirds away from the lines, as well as turtle release gear. The fishery also trained all of its onboard crew in the use of dehooking devices and other methods for bycatch release. As a condition of certification, an onboard bycatch monitoring system was put in place, along with greater observer coverage. As a result of mitigation measures, interactions with ETP species are very low in this fishery.

Circle hooks

The Australian Eastern Tuna and Billfish Fishery (see page 58) is one of many certified longline fisheries that uses circle hooks to reduce sea turtle capture. Circle hooks can prevent sea turtles from becoming captured if they eat bait from the longline⁶. Instead of a J-shaped hook, the sharp tip of a circle hook points inwards like a capital letter G creating a flat surface that is still effective at catching target species but prevents turtles from becoming captured.

As a requirement of certification, the fishery has also introduced tori lines and weighted lines to prevent interactions with seabirds as well as prohibiting the discharge of offal during setting and hauling to reduce incidental sea bird captures.

Increased observer coverage

In addition to mitigation measures, MSC certified tuna fisheries have made improvements to their understanding of ETP interactions by improving their

monitoring methods. For example, the Australian Eastern Tuna and Billfish Fishery (see page 58) has 100% electronic monitoring on all vessels.

New technologies

Certified fisheries are required to regularly review the ETP mitigation measures that they have in place to see if improvements can be made or if newer technologies are available. For example, the SATHOAN longline bluefin tuna fishery (see page 62) is developing an app to monitor interactions with ETP species, and is working to develop pingers that deter sharks and rays from their longline gear, minimising incidental mortalities.



CONSIDERATIONS IN SOURCING TUNA

STOCK STATUS

Worldwide there are 23 stocks of the major commercial tuna species (6 albacore, 4 bigeye, 4 bluefin, 5 skipjack and 4 yellowfin stocks). A recent report from the ISSF shows that 65% of tuna stocks are at a healthy level of abundance, 13% are overfished and 22% are at an intermediate level⁴.

How MSC certification addresses stock challenges

Principle 1 of the MSC Fisheries Standard asks: Are enough mature fish left in the ocean to breed? Fishing must be managed at a level that ensures it can continue indefinitely and the fish population can remain productive and healthy. For those stocks that are depleted, fishing must be conducted in a manner that demonstrably leads to their recovery.

One of the six questions in Principle 1 looks at the size of the total fish stock. For a fishery to be certified without conditions, the target fish stock – the amount of mature fish in the stock – must be at (or around) a level consistent with Maximum Sustainable Yield (MSY).

What is MSY?

In population ecology MSY is the largest average yield (catch) that can theoretically be taken from a species' stock over an indefinite period under constant environmental conditions. It is usually measured in tonnes²³. To have a viable and thriving fishing sector, the size of fish stocks must be at, or above, levels where they can produce the maximum sustainable yield over an indefinite timeframe.

The state of stocks in MSC certified fisheries

An analysis of stock data from nine regions of the world shows that MSC certified fisheries target stocks with healthy biomass. In nearly all regions, stocks targeted by certified fisheries have higher biomass in the years following certification²⁴.

A smaller group of stocks targeted by certified fisheries were below the MSY level, but above the biological limit for recovery, i.e. the minimum amount of fish needed for a stock to be able to rebuild to healthy levels. Fisheries on these stocks are required to show that stocks are rebuilding in order to remain MSC certified.

For example, the North Atlantic albacore stock reduced catches by setting a conservative Total Allowable Catch to rebuild the stock back toward sustainable levels. Following the rebuilding, the stock now has a well-defined HCR in place to maintain it at a sustainable level, consistent with MSY.

THE HEALTH OF TUNA STOCKS AROUND THE WORLD⁴

Species	Indian Ocean (IOTC)	Atlantic Ocean (ICCAT)	Western-Central Pacific (WCPFC)	Eastern Pacific (IATTC)	Southern Hemisphere (CCSBT)
Skipjack		East and West		◇	n/a
Yellowfin					n/a
Bigeye					n/a
Albacore		North and South Atlantic	North and South Pacific		n/a
		Mediterranean			
Bluefin (three species)	n/a	East and West	Pacific Bluefin		

Source: 4

- Stock is at or above B_{MSY}^*
- Stock below B_{MSY} but it has been stable, increasing, or fluctuating around SSB_{MSY}^{**} because the stock is being managed at F_{MSY}^{***} . Yellow is also used in the absence of a stock assessment
- Stock is below B_{MSY} and it has not been stable, increasing or fluctuating around B_{MSY}

◇ The Eastern Pacific skipjack stock status is subject to high uncertainty. The last stock assessment was in 2012 and this species is managed through the measures in place for bigeye and yellowfin.

According to ISSF, skipjack stocks, which make up more than half of global catches, are generally healthy. The Pacific bluefin stock is overfished, with evidence of recovery existing for the Southern bluefin. For both eastern and western stocks of Atlantic bluefin, while there is uncertainty on the status of the two stocks there is evidence of a strong recovery and overfishing is not occurring. Albacore stocks are generally healthy, with uncertainty in the Mediterranean stock assessment resulting in a yellow rating, but some yellowfin stocks are declining or overfished. 15% of the

total tuna catch comes from stocks where fishing is not well managed.

Global catch of tuna has tended to increase consistently, from less than 0.6 million tonnes in 1950, to more than 6 million tonnes today (UN FAO). With these trends continuing there is an urgent need not only to reduce fishing pressure on those stocks already overfished, but to protect and effectively manage those currently in a healthy state.

* B_{MSY} is the biomass associated with the Maximum Sustainable Yield (MSY), where the biomass is simply the body weight of all the fish of one specific stock in the water. Biomass is measured in tonnes. MSY is the largest yield of fish that can be caught from a specific fish stock over an indefinite period under constant environmental conditions.
 ** SSB_{MSY} is the Spawning Stock Biomass (SSB) associated with the MSY.
 *** F_{MSY} is the fishing mortality rate consistent with achieving the MSY.

HARVEST CONTROL RULES

Harvest strategies and Harvest Control Rules (HCRs) define how catches should be reduced if a fish stock declines. HCRs are recognized as best practice in fisheries management. They are tied to scientifically derived reference points and are incorporated in the MSC Fisheries Standard.

A fish stock usually declines because the number of young fish coming into the population has been low or catches have been too high. This is like a business that finds itself with lower sales than expected, or higher expenditures. Either circumstance can damage the company’s balance sheet and put it at risk. If the board of a business does not react rapidly, the business can go bankrupt. The business needs to respond quickly to save the business, and likewise, RFMOs need to respond quickly when stocks decline.

HCRs that are pre-agreed, well defined and scientifically tested can be triggered much faster, and with more reliable effect, than simply asking the management authority to consider

each situation independently. This is particularly important with tuna and other highly migratory stocks managed by RFMOs since the decision-making body is made up of many independent states, and a consensus is needed. This situation can delay decision making by many years, and when fish stocks start to drop, delays in adopting conservation measures almost always lead to further decline.

The assessments of most tuna fisheries to the MSC Fisheries Standard have identified the need for improvements to, or adoption of, well-defined harvest strategies and HCRs.

Responding to the need for well-defined HCRs, and pressure from some fisheries wishing to achieve or maintain MSC certification, RFMOs are intensifying their efforts to develop HCRs for many stocks. As a result, all tuna RFMOs now have the delivery of HCRs and harvest strategies for most stocks set within their work plans by the early 2020s.

TUNA STOCKS WITH HCRs AND STOCKS WHERE MSC CERTIFIED FISHERIES HAVE COMMITTED TO DELIVERING HCRs

Species	Indian Ocean (IOTC) ^I	Atlantic Ocean (ICCAT) ^{II}	Western-Central Pacific (WCPFC) ^{III}	Eastern Pacific (IATTC) ^{IV}
Skipjack	HCR in place	2022	2022	Managed by the HCR of YFT and BET
Yellowfin		2022		HCR in place
Bigeye				HCR in place
Albacore		HCR in place	2022 (South Pacific stock) 2023 (North Pacific stock)	2023
Bluefin		2024		

Empty cells are those stocks where there is no HCR.

To date, four of the five tuna RFMOs have agreed HCRs for particular tuna stocks. Other tuna fisheries in the MSC program aligned their HCR conditions in spring 2019, accelerating some, and extending others, so that multiple certified fisheries in the same region could coordinate their efforts.

At present, the majority of MSC certified tuna fisheries have a condition to adopt well-defined

HCRs (see previous page). Therefore, as more fisheries become MSC certified, increasingly, RFMOs are being encouraged to adopt HCRs.

Along with our partners, the MSC is pushing for stronger action from RFMOs. Retailers can encourage RFMOs to adopt harvest strategies and HCRs by encouraging the member delegations from each country to support them in RFMO meetings.

CASE STUDY: ADOPTING HCRs FOR SKIPJACK IN THE INDIAN OCEAN TUNA COMMISSION (IOTC)

The Maldives pole & line skipjack tuna fishery became MSC certified in 2012 with key conditions that the fishery would have effective HCRs by the fourth annual audit in 2016. To make this happen, the HCRs had to be developed and passed through consensus by the IOTC. To aid this process, the Maldivian Government proposed the development of interim Harvest Control Rules for adoption at the 2014 Commission meeting.

There followed months of meetings and collaboration among fishers, industry groups, NGOs and retailers to gain support for HCRs in between IOTC meetings.

The IPNLF hosted a workshop, supported by the MSC, WWF, the International Seafood Sustainability Foundation (ISSF), Sainsbury’s, Marks and Spencer and World Wise Foods, helping to build support for the Maldivian proposal. In the months before the 2016 IOTC commission meeting, retailers and brands also added their voice to calls for the HCR. Their commitment to sustainably sourced tuna provided further incentive for international agreement on the protection of tuna stocks for the future.

These actions resulted in a final resolution that was passed by all but one of the IOTC members, demonstrating their collective commitment to tuna sustainability. Adoption of the HCR is a core component of maintaining the fishery’s certificate and ensuring long-term sustainability.

Dr David Agnew, then MSC Science and Standards Director said: **“The MSC’s requirements for well-defined harvest control rules have been a catalyst for this decision. We applaud the efforts of the Maldivian fishers who, along with the IPNLF and other industry and NGO groups, have shown strong leadership in finding a consensus on this vitally important issue.”**

^I Indian Ocean Tuna Commission
^{II} International Commission for the Conservation of Atlantic Tunas
^{III} Western Central Pacific Tuna Commission
^{IV} Inter-American Tropical Tuna Commission



BYCATCH AND ENDANGERED, THREATENED AND PROTECTED (ETP) SPECIES

Fish live in multi-species communities, so wherever there is fishing it is always possible there could be some incidental capture of non-target species i.e. those species that the fishery did not intend to catch.

It is also common for fisheries to target more than one species at a time due to market demands, profitability and the availability of different species. This is especially common in mixed fisheries, where many species are caught in one area or type of fishery e.g. trap fisheries.

To be MSC certified, fishing activity must not have a long-term detrimental impact on the population of any marine species.

Non-target species that are caught may be considered as 'bycatch' (because they are not the main target species), but they may still be retained if they are

considered valuable (either for commercial reasons, or for subsistence). Either way, it is important that all species, including non-target species, are managed effectively and there is good information about their population status and impacts.

MSC certified fisheries are required to investigate and minimise bycatch wherever possible. This is especially true for interactions with Endangered, Threatened and Protected (ETP) species, such as turtles and some shark and seabird species.

To date, 22 conditions set for MSC certified tuna fisheries have been met, resulting in significant reductions to the level of bycatch and interactions with ETP species. For example, the Fiji albacore tuna fishery has implemented measures to reduce bycatch of sharks; the Australian Eastern Tuna and Billfish Fishery conducted an ecological risk assessment to

demonstrate it was having no impacts on turtle and shark populations, and the Usufuku bluefin tuna fishery changed the bait it used to avoid depleting squid populations.

A fishery's impact on ETP species should always be minimised. Catching these species should be avoided (by implementing measures to minimise the chance of their capture). When they are accidentally caught, handling practices should be implemented to ensure their safe release and to maximise their chance of survival. Certified fisheries have made improvements to train crew in species identification as well as improving handling and release protocols to maximise survival of released bycatch including turtles (e.g. Fiji's longline albacore, yellowfin and bigeye), rays (e.g. Talleys New Zealand skipjack tuna purse seine) and sharks (e.g. Cook Islands, see page 60).

These fisheries provide example of the MSC's Theory of Change, where even certified fisheries are required to continue making improvements to address conditions identified during the assessment process. The MSC certification process promotes the adoption of best practice measures to reduce interactions with ETP species.

A new requirement was added to the most recent version of the MSC Fisheries Standard (version 2.0, effective from 2015) for fisheries to regularly review alternative bycatch mitigation measures and implement them wherever appropriate.

SHARK FINNING

Shark finning is the practice of removing any of the fins of a shark (including the tail) while at sea and discarding the remainder of the shark at sea (MSC-MSCI Vocabulary v1.3 (2020)). It is prohibited within MSC certified fisheries.

Because sharks are slow-growing, long-living fish that usually produce few offspring, many species are at high risk of overfishing. It is estimated that 97 to 100 million sharks²⁵ are killed every year for the shark market, with many of these ending up in the shark fin trade.

Requirements to demonstrate that shark finning is not taking place in a certified fishery were introduced

into the MSC Standard in 2013. We have seen a dramatic decline in incidents of shark finning within MSC certified tuna fisheries. For example, the MSC certified PNA purse seine skipjack fishery achieved a 99% reduction between 2013 and 2019²⁶ (see case study on page 72).

Our current requirements mean the vessel of any company or fisher convicted of shark finning will not be eligible for MSC certification for at least two years. If evidence of shark finning is detected during an audit or assessment, the fishery faces suspension unless it can show the offending vessel has been expelled from the certificate.

This strengthens the MSC's commitment that certified fisheries are not engaged in shark finning whilst ensuring that a whole fleet does not lose its MSC certification because of the actions of one member.

Shark finning is also being considered as part of the Fisheries Standard Review. This will look at the measures that fisheries have in place to ensure that shark finning is not occurring, including how widely

Fins Naturally Attached policies have been adopted and if the MSC's requirements need to change in order to continue to reflect global best practice.

The Review will conclude in 2022, following stakeholder consultation and impact testing of possible changes to the MSC Fisheries Standard.

Find out more and contribute to the MSC Fisheries Standard Review at [msc.org/fsr](https://www.msc.org/fsr)



ILLEGAL FISHING

Illegal, unreported and unregulated (IUU) fishing is where fishing is conducted counter to the management measures in that jurisdiction. It includes vessels fishing without a licence for a particular area, vessels with a licence but fishing in excess of their established quotas or using prohibited gear types or fishing methods.

As part of the MSC's commitment to the UN Sustainable Development Goals (SDGs), the MSC is committed to eliminating IUU fishing in certified fisheries to the point where: it is non-existent, or where IUU does exist, it is at such a low level that the fishery management, including assessments and the estimation of IUU impacts on harvested species and the ecosystem, can maintain affected populations at sustainable levels.

IUU fishing:

- Depletes fish stocks
- Destroys habitats
- Disadvantages honest and legitimate fishermen
- Weakens coastal communities (particularly in developing countries)
- Undermines legal markets and reinforces illegal ones (IUU is estimated to be worth US\$10-23.5 billion annually)²⁷

Tuna species are vulnerable to IUU fishing: tuna can be an extremely highly-prized and valuable species, caught in high seas where they are difficult to monitor. Once tuna enters international trade it is essentially a commodity, and illegally-caught fish can be easily concealed if traceability systems are not in place²⁸. Of course, there are huge variations in monitoring and visibility and the risk of IUU fishing varies enormously by flag state and even by fishing gear.

TRANSSHIPMENT

Transshipment is the transfer of seafood catch between a fishing vessel and a carrier vessel at sea or in port. Transshipment is an important part of fishing supply chains, enabling fishing vessels to spend their time fishing at sea, rather than transporting fish to what may be distant ports, allowing the fishing activity to be more efficient²⁹.

Since tuna account for around 61% of the total high seas catch (by volume)³⁰ and they are one of the more popular species for transshipping on the high seas³¹, a considerable proportion of tuna may undergo transshipment. Longlines are one of the gear types more likely to be involved in transshipment, as the vessels often lack the deep-freezing facilities to maintain the high-quality products³².

However, transshipment can be associated with IUU fishing, as it can be a means of concealing the true origin of catches. It is estimated that in the Western and Central Pacific Ocean alone, at least US\$142 million worth of tuna and tuna-like species are moved in illegal transshipments each year³³.

To prevent this, some RFMOs have restricted tuna transshipment to ports or have prohibited certain vessels from transshipping³³ and there are controls required for high seas fisheries e.g. observers on vessels, agreed transshipment locations and controls by flag states. However, to prevent illegal transshipments, the transfer of tuna needs to be

documented throughout the supply chain (at-sea and in port), collecting data on the catch, the catch method and information about the transshipment. Whilst these documents are usually found to be available when the fish are landed directly into ports, the documents are often found to be less precise or incomplete when the fish are transshipped, particularly in long supply chains. These data gaps can complicate sustainable sourcing decisions and, therefore, the MSC requires that certified seafood is traceable in all steps of the supply chain³³.

The MSC's requirements for traceability both at sea and on land and in relation to IUU fishing help to mitigate these issues. MSC certified fisheries must not be involved IUU fishing, certified catch must be clearly documented and segregated from non-certified catch and certified fish must not be purchased from or carried on vessels that have been blacklisted by international fisheries management bodies for engaging in IUU fishing.

Many NGOs have also expressed concern that, by removing the need for fishing vessels to return to land, transshipment increases the risk of forced and bonded labour violations. Since 2014 any organisation prosecuted for forced labour violations in the last two years has been ineligible for MSC certification, and since 2018 all certified fisheries have been required to detail measures on their actions to mitigate the presence of forced or child labour.



FORCED LABOUR

“Around the world, more than 150 million children and 25 million adults are involved in forced labour. We recognise the urgency in addressing forced and child labour violations and have put measures in place to tackle this issue in the supply chain for certified seafood.”

Dr Yemi Oloruntuyi, MSC Head of Accessibility

Labour abuse in the seafood supply chain has become an increasing area of focus with media reports exposing exploitative labour practices, including slavery and human trafficking³⁴. Forced labour is a particular concern in the catching sector, where vessels and their crews can spend long periods at sea, beyond the reach of enforcement agencies, without the applicable worker protection legislation and where crew members have limited access to communication methods and external support³⁴. This is an industry-wide issue with no quick or easy solution.

The MSC condemns the use of forced or child labour. While our focus is on environmental sustainability, we recognise concern for this issue and have worked with other organisations focused on this problem to help develop practical solutions.

In 2014, the MSC Board made a commitment to include a clear policy on forced labour and entities prosecuted for forced labour violations in the previous two years were excluded from the MSC program. The MSC went on to hold multi-stakeholder consultations with more than 300 organisations on this topic between 2016-2018.

The MSC has since introduced further measures to its Chain of Custody and Fisheries Standards to provide greater assurance on labour conditions within the MSC certified supply chain, and to contribute to improved understanding of this complex issue.

As of August 2019 all fisheries in the MSC program are required to complete a template detailing the measures they have in place to mitigate the presence of forced or child labour. These declarations are publically available on MSC’s website to buyers, governments and NGOs looking for further information of worker welfare within responsibly managed fisheries.

In September 2019, new auditing requirements came into place for all Chain of Custody certificate holders. All MSC Chain of Custody certificate holders will now be required to undergo an independent labour audit unless they can demonstrate that they are at ‘lower risk’ of practising forced or child labour.

To determine if a labour audit is necessary, auditors will assess supply chain companies to see what level of risk there is of labour violations occurring during processing, packing or repacking, and manual offloading in the country or countries they operate in. If a country is considered ‘lower risk’, according to two or more of the following indicators, then the site does not require a labour audit:

- Country Risk Assessment Process for SA8000
- International Trade Union Confederation Global Rights Index
- Ratification of five or more UN conventions on forced or child labour, human trafficking or seafood/fishing
- US Department of Labor List of Goods produced by forced or child labour

These indicators are globally recognised, transparent and commonly used in the seafood industry and were carefully selected through a multi-stakeholder consultation process.

Where required, labour audits must be on-site, conducted by an independent third-party social auditor and use one of three labour audit programs recognised by the MSC: amorfi BSCI audit; SEDEX – Sedex Members Ethical Trade Audit; and SA8000 Certification from Social Accountability International. Certified companies that fail to address identified labour violations within 30 days will have their MSC certificates suspended.



TRACEABILITY

Traceability goes hand-in-hand with sustainability: a traceability system is the best method to prevent fraud and illegal products from entering the supply chain as certified product³⁵. It helps protect consumers and the efforts of everyone working hard to keep our oceans healthy³⁶.

A traceable supply chain is key to delivering the MSC’s vision of healthy oceans and providing its consumers with sustainable seafood they can trust²⁴.

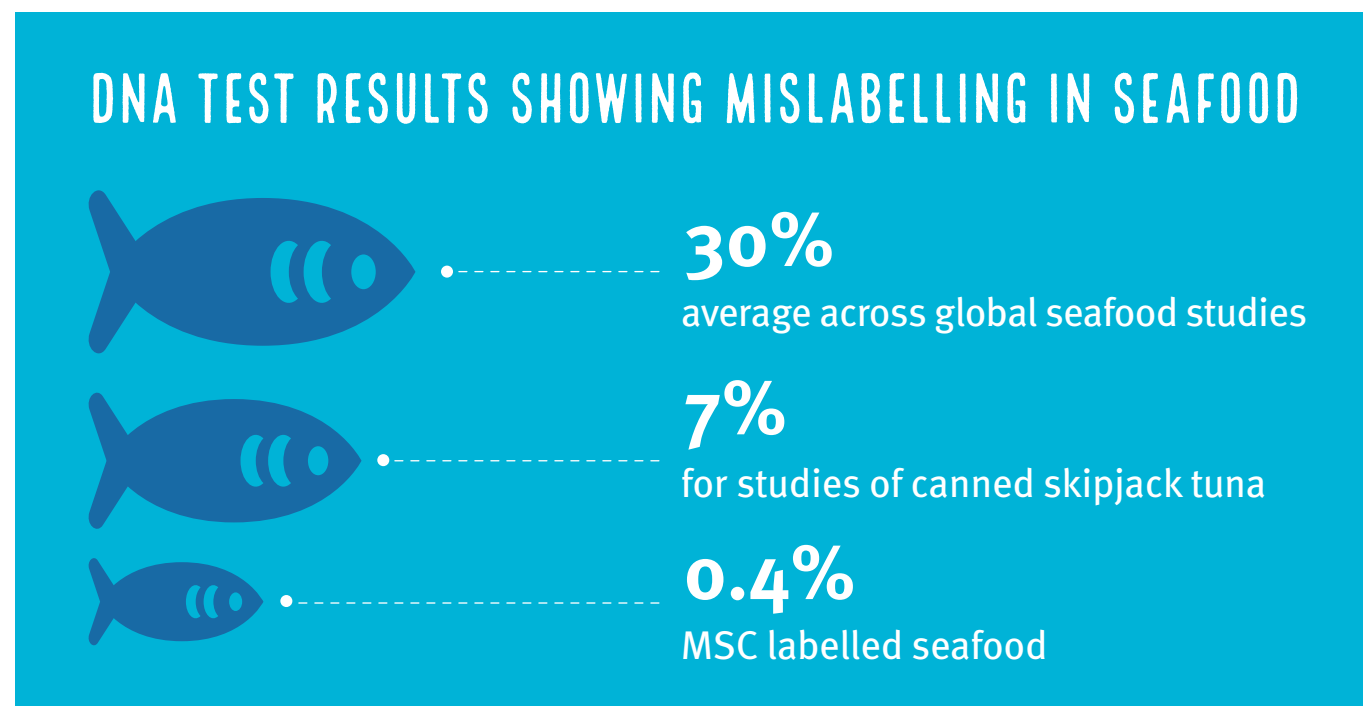
The MSC program is the only certification program of its kind to offer ocean-to-plate traceability through supply chain certification. The MSC Chain of Custody Standard requires that MSC certified seafood is kept separate from other seafood, and can be traced through the entire supply chain, thereby ensuring its certified sustainable origin³⁵.

MISLABELLING

Mislabelling is where incorrect information is applied to a product. Mislabeled seafood may involve the substitution of other species, including lower-value or even endangered species³⁷.

Higher rates of mislabelling have been identified among premium foods (where the potential gains are higher) and in restaurants or take-away outlets (where labelling on the final product may be sparse³⁶).

Of the tuna species, mislabelling is highest for bluefin (between 50% and 100% is mislabelled), due to its high value³⁷. In the UK, for example, mislabelled skipjack has been recorded as being substituted with yellowfin and bigeye, to hide illegally-caught fish³⁷. DNA testing has revealed that MSC labelled seafood has almost no cases of species mislabelling³⁸.



Source: Figure produced from information in 38.

UNIT OF ASSESSMENT

In an MSC assessment, a unit of assessment is defined by the target stock, fishing method and practice, vessel type or gear and fishing fleet. It defines the catch that will be assessed and that may subsequently enter the supply chain as MSC certified.

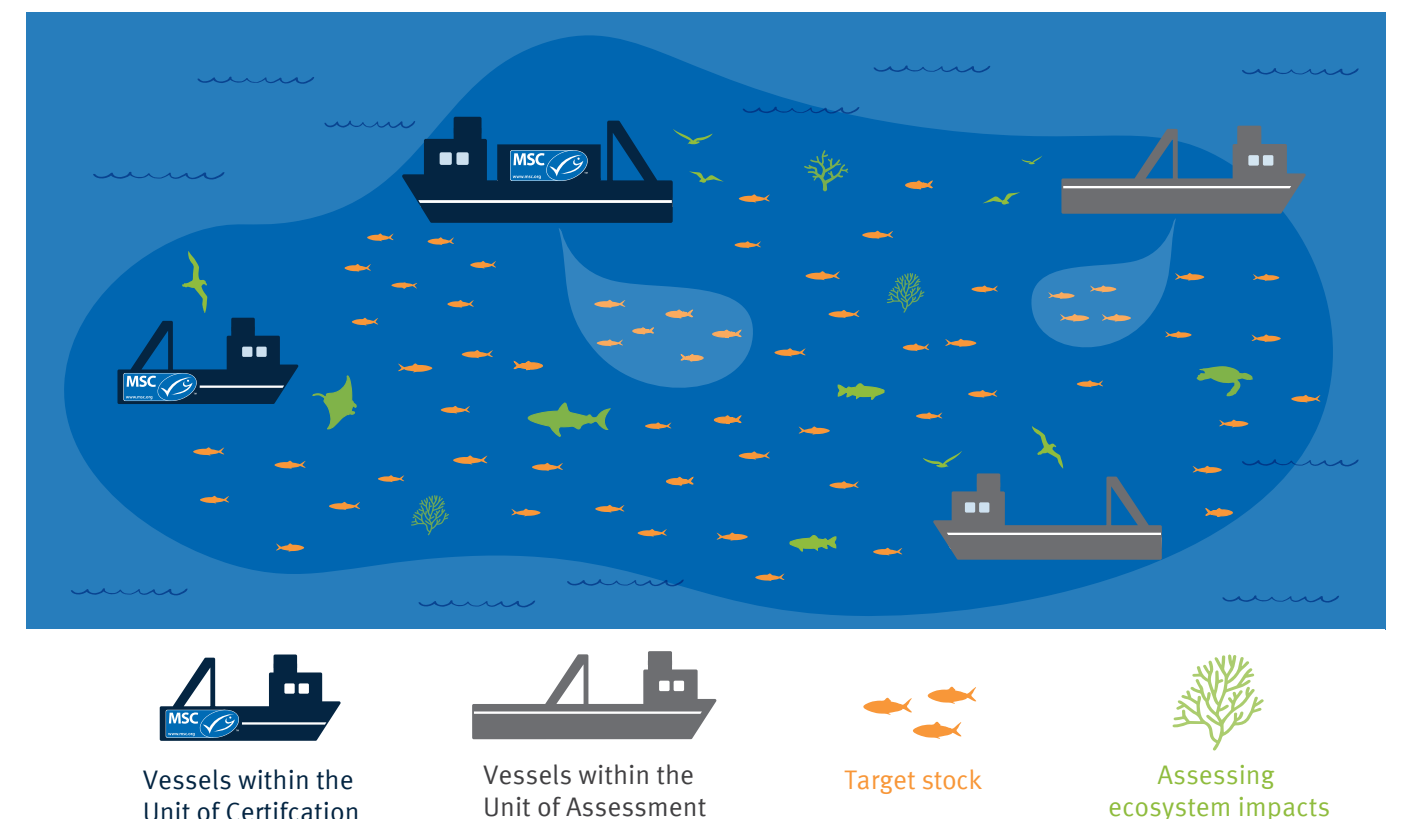
The MSC’s current requirements, valid until 25 September 2020, allow fishing vessels to catch both certified and uncertified catch of the same species during the same fishing trip, provided catches are carefully separated, documented and verified – known as ‘compartmentalisation’³⁹.

Most market-based programs allow compartmentalisation with the intent that over time, market demand for sustainable products will result in producers favouring certified production, making improvements to their overall operations.

However, stakeholders expressed concerns that these requirements could undermine the overall

sustainability of a fishery, particularly in relation to purse seine tuna fisheries catching both MSC certified free school tuna and non-certified tuna around dFADs. Listening to these concerns, the MSC recently reviewed its requirements relating to compartmentalisation.

Following consultation with fisheries, NGOs and conformity assessment bodies, in March 2020, the MSC announced a change to its definition of a unit of assessment, resolving this issue. The terms ‘fishing practice’ and ‘fishing method’ have been removed from the definition. This means that all individual fishing practices or methods using the same gear type will now need to be assessed as part of the unit of assessment. Purse seine tuna fisheries catching free-school tuna and tuna associated with fish aggregating devices (FADs) will need to seek certification for their entire catch. The new requirements apply for all new fishery assessments from 25 September 2020, and from 25 March 2023 for already certified fisheries and assessments that started before 25 September 2020.



RESPONSIBLE AND SUSTAINABLE SOURCING CLAIMS: A UK CASE STUDY

Buyers can minimise risks in their supply chain by examining individual fisheries and choosing fisheries to source from based on a comprehensive assessment of all aspects of the sustainability, management and potential environmental impacts of the fishery. However, with the variety of challenges and complexity in fisheries, it can be difficult for the buyers to understand and investigate all potential risks. Supply chain organisations have measured 'sustainability' using different metrics, which has resulted in inconsistent consumer-facing claims. For example, in the UK terms such as 'sustainably sourced' and 'responsibly sourced' have been used with different definitions and frameworks behind them, creating an inconsistent consumer message.

To show the difference between responsible and sustainable sourcing, and to make sourcing strategies more robust, organisations such as the Sustainable Seafood Coalition (SSC) based in the UK produced guidelines and codes of conduct for sourcing and labelling to align sourcing requirements and to create common definitions. Similar schemes are in development in other parts of the world.

According to these codes, responsible and sustainable are not the same thing. Responsible sourcing requires assessments to be conducted by the purchaser, to trace the fish to its origins and establish the risk profile of the species including: legality of fishing operations, status of the stock, management practices and wider environmental impacts. This determines a low, medium or high-risk rating of the species and fishery. From there, sourcing and claiming decisions need to be made according to the risk rating and whether improvements are needed within the source fishery. Only when this process has been completed, can a responsible sourcing claim be made.

Sustainable sourcing claims are backed up by certification to a third-party standard, such as MSC. They do not require the same self-completed

risk assessment, as the source fishery has already demonstrated and been certified as sustainable. Providing that traceability or chain of custody is in place, then sustainably sourced claims can be made on the final product.

In the UK, the majority of the retailers are members of the SSC. Under the SSC codes of conduct, members can only claim a wild-caught product is sustainable if it meets the principles of a recognised international standard and there is an independently audited chain of custody in place. In effect that means it requires either an independent third-party audit or certification and that fully audited traceability is in place to claim a product is 'sustainable'. Most commonly this is MSC certified product. Products without an independently audited chain of custody cannot be described as sustainable.

The SSC code of conduct also allows for claims of responsible sourcing, where for example the product is sourced from a Fishery Improvement Project (FIP), so long as a risk assessment has been conducted of that source fishery and it meets key criteria as laid out by the SSC sourcing codes of conduct.



FISHERY IMPROVEMENT PROJECTS (FIPs)

Fishery Improvement Projects (FIPs) are a vital step towards sustainability. They are aimed at assessing and improving a fishery's sustainability and potentially achieving MSC certification using the MSC Fisheries Standard as a performance benchmark. With a growing demand for sustainable seafood and a need to ensure our oceans are healthy, the MSC recognises this important contribution and the role FIPs play in improving fisheries' health.

FIP	MSC Certification
Working towards sustainability	Meets best practice in sustainability criteria
Less robust process of assessment – self-reporting	Independently assessed through an open process
No specific traceability system	Traceability assured along the supply chain

Many seafood companies choose to source from fisheries in FIPs when buying tuna and are also directly involved to help improve the sustainability of the fishery. Fisheries in FIPs are not MSC certified and seafood sourced from these fisheries must not make MSC claims or use the MSC ecolabel. Significant support and investment for these fisheries have encouraged the use of better management practices and data collection. Much of the investment has also been focused on delivering practical improvements in fisheries, such as modifications in fishing gear, operating procedures to reduce unwanted catch, and observer coverage programs to provide reliable data.

Recognising the need for long-term sustainability in these fisheries, some retailers have now included sourcing from FIPs in their tuna purchasing strategies to incentivise sustainable tuna fishing and meet responsible sourcing commitments. The MSC welcomes these commitments and has provided tools and guidance to support fisheries making real progress and improvements on their journey to MSC certification.

Comprehensive FIPs (see box) with action plans often still have significant sustainability challenges to overcome and can provide a route for fisheries to overcome these. For example, through significant investment as part of a FIP, the Cook Islands albacore and yellowfin longline fishery subsequently became MSC certified in 2015 (see page 56).

However, the effectiveness of FIPs can vary and when sourcing fish from a FIP, it is important to ensure that they meet minimum criteria: that their actions are transparent, that they clearly show improvement in fishery performance, and that these fisheries ultimately demonstrate this through a robust, independent assessment process.

TRACKING FIPs

FisheryProgress (fisheryprogress.org) is an excellent way of tracking active FIPs, rating them according to their progress and providing transparency.

COMPREHENSIVE FIPs

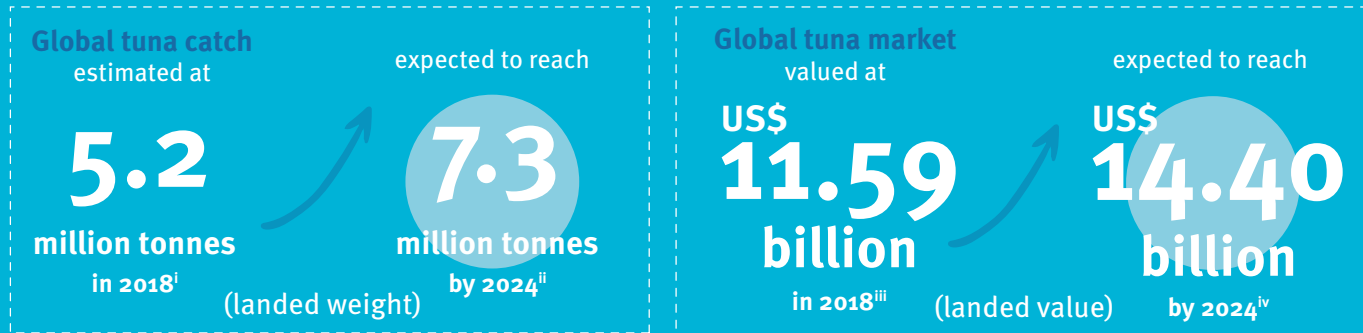
FisheryProgress defines Comprehensive FIPs as FIPs that "...aim to address all of the fishery's environmental challenges necessary to achieve a level of performance consistent with an unconditional pass of the Marine Stewardship Council Fisheries Standard. Comprehensive FIPs engage a party experienced with applying the MSC Standard to complete an MSC pre-assessment to understand the challenges in the fishery and must have independent, in-person audits of progress against the MSC Standard every three years."

The MSC's Chain of Custody certification does not apply to FIPs. Therefore, any claims that tuna has been sourced from a FIP will need some form of alternative verification.

The MSC has provided a definition of a credible FIP and a toolkit for FIPs that incorporates these principles. Find out more about FIPs at msc.org/fips

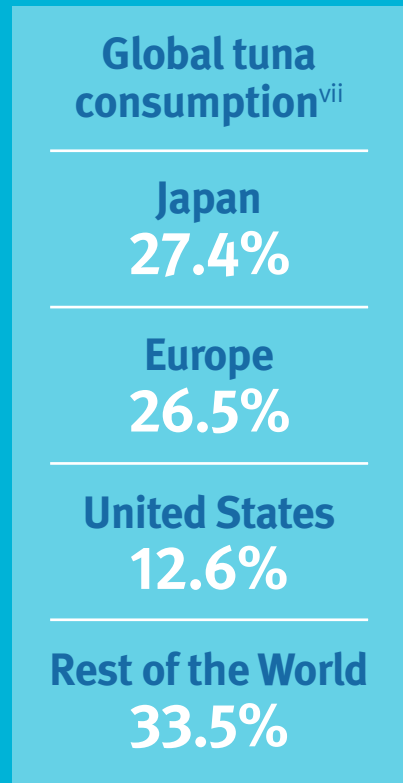
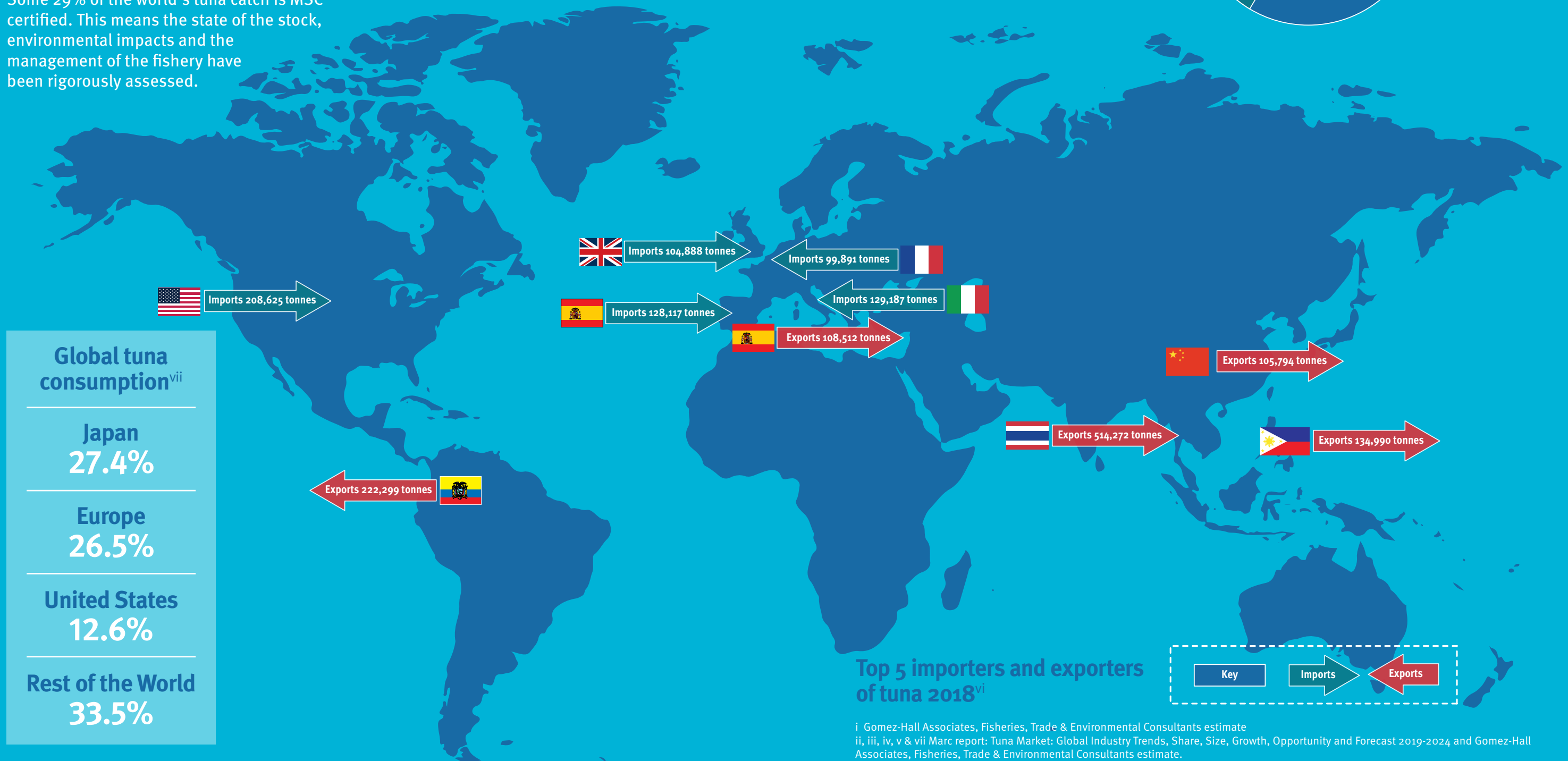
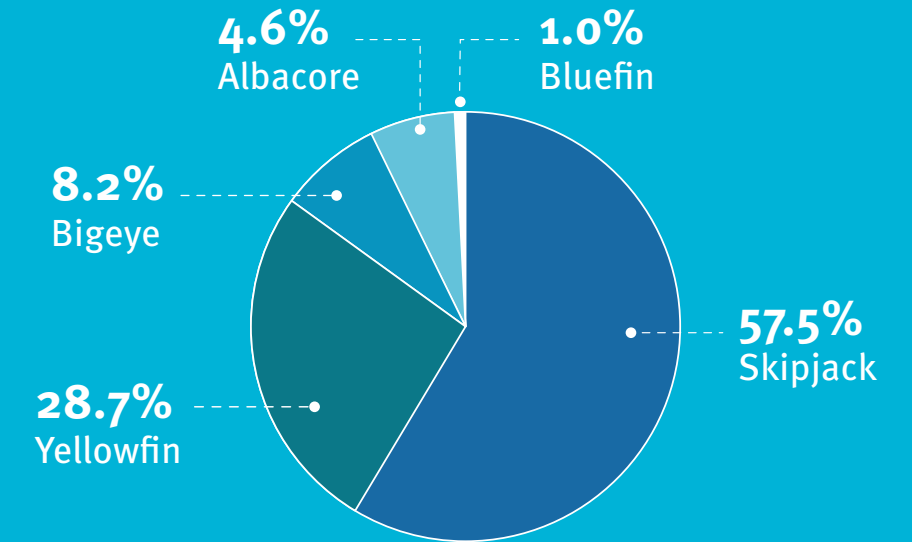


GLOBAL TUNA MARKET DATA



Some 29% of the world's tuna catch is MSC certified. This means the state of the stock, environmental impacts and the management of the fishery have been rigorously assessed.^{vii}

Species landings^v

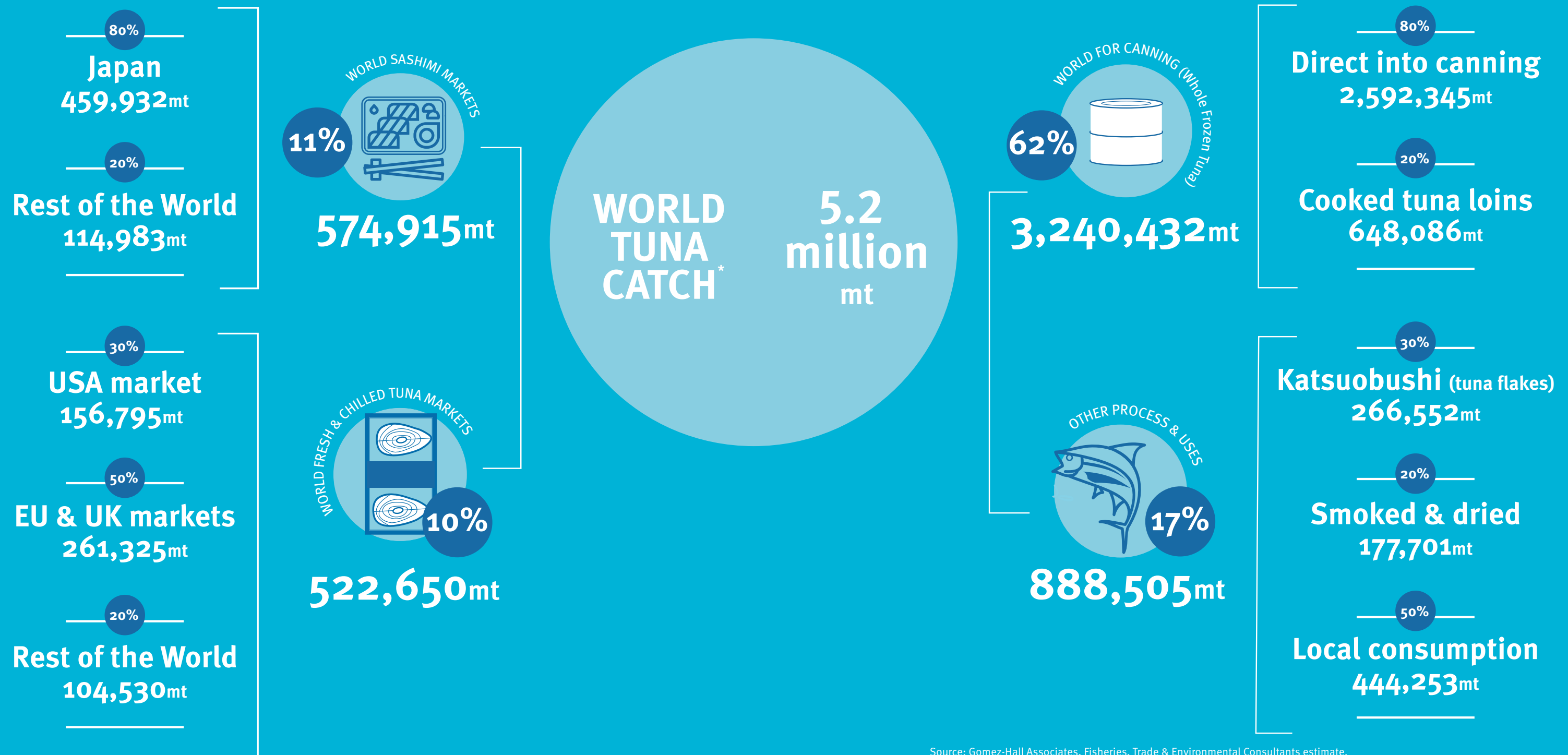


Top 5 importers and exporters of tuna 2018^{vi}



i Gomez-Hall Associates, Fisheries, Trade & Environmental Consultants estimate
 ii, iii, iv, v & vii Marc report: Tuna Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2019-2024 and Gomez-Hall Associates, Fisheries, Trade & Environmental Consultants estimate.
 vi <https://www.atuna.com/pages/trade-statistics>

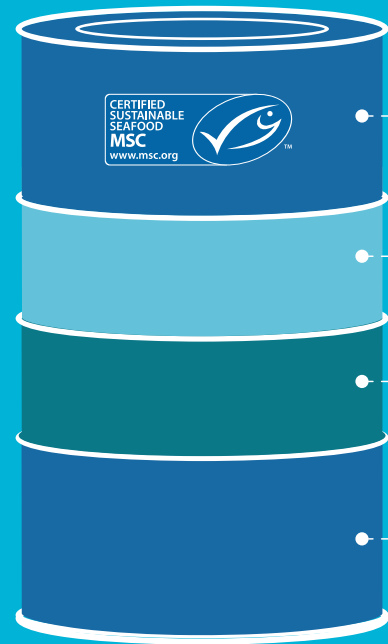
UTILIZATION OF WORLD TUNA CATCH ACCORDING TO MARKET DESTINATION 2018



Source: Gomez-Hall Associates, Fisheries, Trade & Environmental Consultants estimate. Using 2018 catch data from Tuna Regional Fisheries Management Organizations: IATTC, ICCAT, WCPFC, IOTC, and CCSBT. Market allocation based on multiple trade sources such as Globefish, Infish, Atuna, and other industry sources.

*Includes Major Market Species: Albacore, Bluefin, Yellowfin, Bigeye and Skipjack tunas.

MSC CERTIFIED TUNA GLOBALLY



- 28.89%** of global tuna catch is MSC certified*
- 20.40%** of global tuna catch is currently in assessment to the MSC Standard**
- 19.54%** of global tuna catch is currently in a FIP (basic or comprehensive)***
- 31.17%** of global tuna catch is neither MSC certified, in assessment or in a FIP****

* 63 certified tuna fisheries ** 35 tuna fisheries in assessment *** Based on all Fishery Improvement Projects (FIPs) solely targeting tuna listed on Fishery Progress **** Data as of 31 March, 2021

Volume of Tuna in the MSC Program or in a FIP

1,666,512
metric tonnes Certified

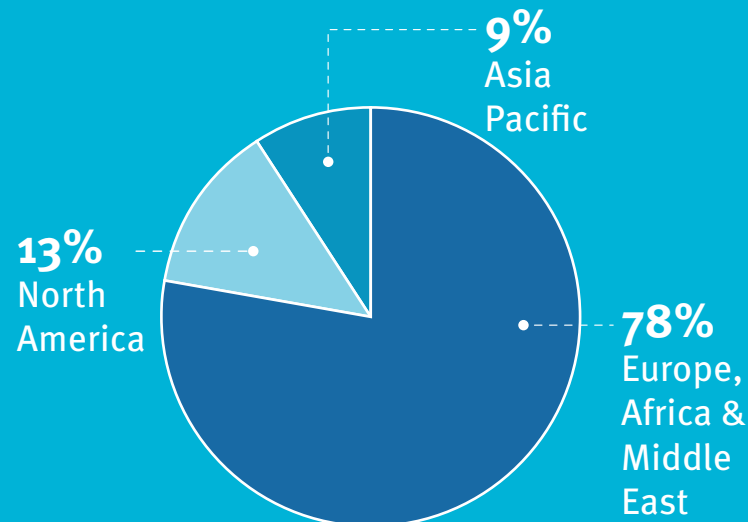
1,176,925
metric tonnes in Assessment

1,126,850
metric tonnes in FIPs

As of 31 March 2021. FIP data from Fishery Progress



Distribution of MSC tuna volume sold in 20/21 by region*



* 20/21 figures include year-end forecast data

TUNA MARKET DATA: OCEANIA

Consumers can look for the MSC's blue fish ecolabel to know that their tuna is sustainable. From sandwiches to salad and sushi, shoppers have a wide range of MSC labelled tuna product to choose from in Oceania.

Tuna consumption:

In 2019/2020
Oceania shoppers bought
6,995
tonnes of MSC
labelled tuna

In Australia

59%
of seafood consumers
purchase tuna on a regular basis

In 2019/2020

MSC tuna represented
19% value
32% volume
of MSC sales in Oceania

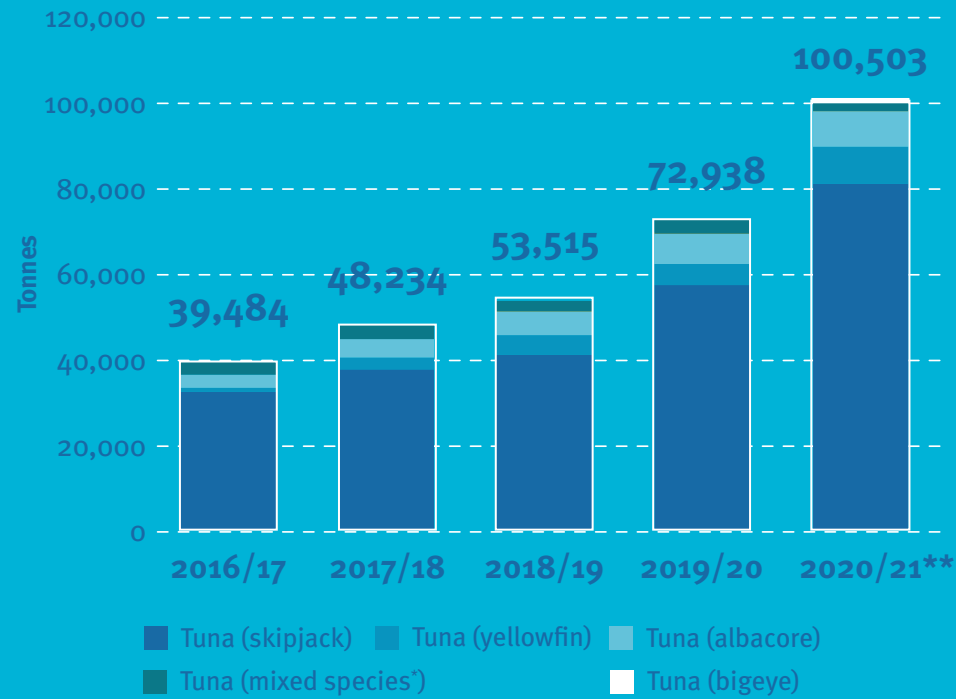
Top 5 MSC Species in Oceania:



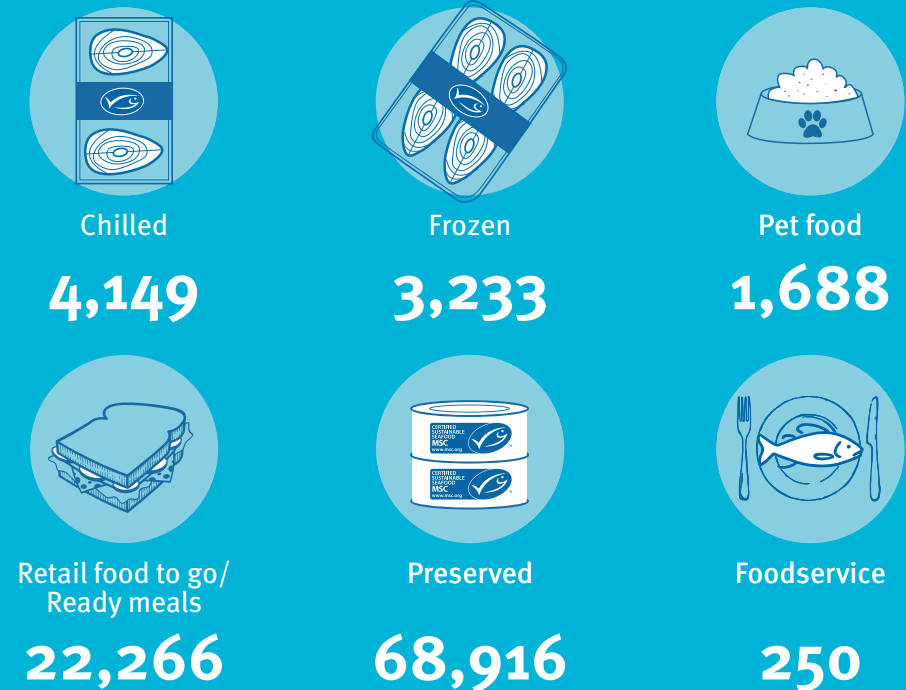
Oceania is
one of the
Top 5 markets
for MSC labelled tuna

MSC LABELLED TUNA PRODUCTS GLOBALLY

Volume of MSC labelled tuna sold by species global



MSC labelled tuna by format in tonnes (2020/21**)



Top 6 markets for MSC labelled tuna products (tonnes) in 2020/21**



In 2020...



154 brands sold MSC labelled skipjack tuna up from 49 in 2015

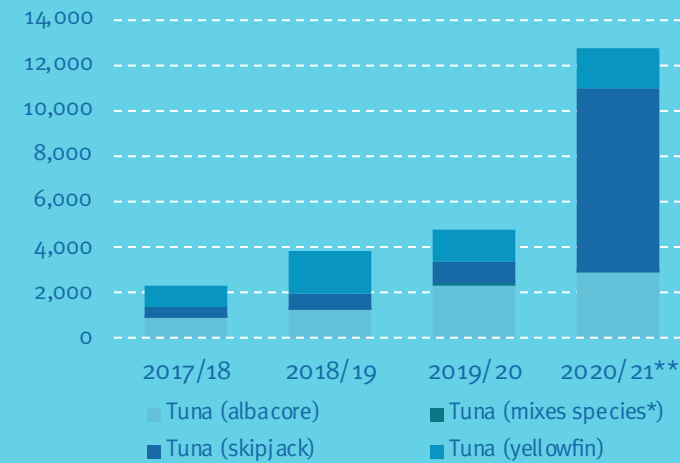


65 brands sold MSC labelled yellowfin tuna up from 1 in 2015

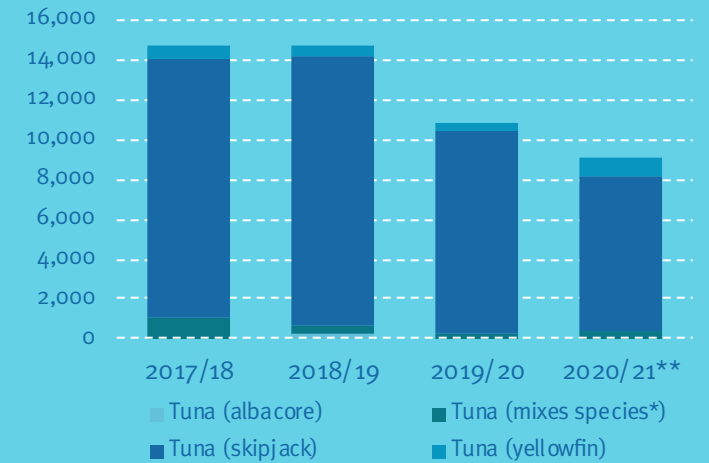


114 brands sold MSC labelled albacore tuna up from 76 in 2015

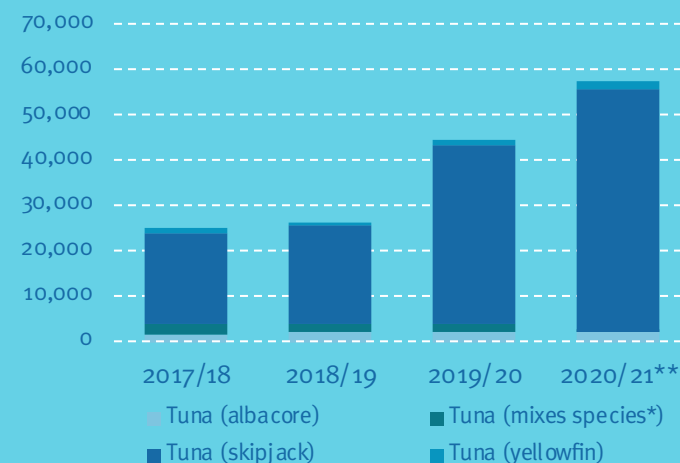
Volume of MSC labelled tuna sold by species America (tonnes)



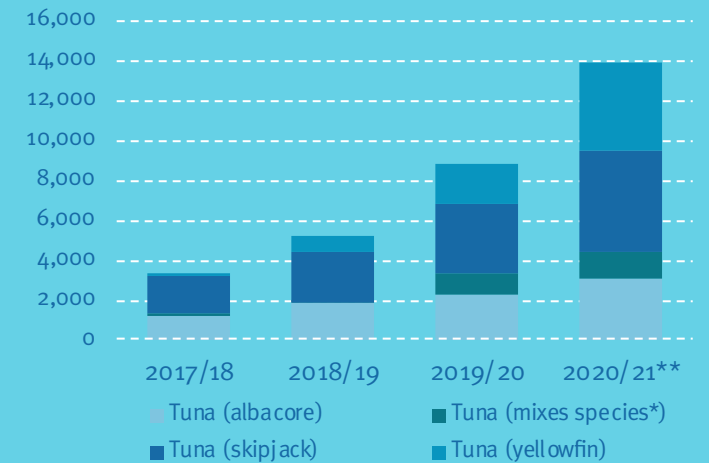
Volume of MSC labelled tuna sold by species Asia-Pacific (tonnes)



Volume MSC labelled tuna sold North & Central Europe (tonnes) (25 countries)



Volume of MSC labelled tuna sold Southern Europe & AMESA (tonnes) (10 countries)



* Mixed species includes products with multiple species, such as pet food, pates, pastes. ** 20/21 figures include year-end forecast data

MSC CERTIFIED TUNA FISHERIES – CASE STUDIES

The following case studies demonstrate the diversity of MSC certified tuna fisheries.

They comprise a mixture of tuna species and gear types and demonstrate a range of issues faced by tuna fisheries. Each example illustrates how the fishery has overcome its main challenges and how the fishery plans to keep improving through its certification.

The case studies are:

- AAFA & WFOA North & South Pacific albacore
- Australian Eastern Tuna and Billfish Fishery, albacore, yellowfin, bigeye and swordfish
- Cook Islands, Micronesia and Marshall Islands longline fisheries
- Eastern Atlantic bluefin
- Echebatar Indian Ocean skipjack
- Indonesia pole-and-line and handline, skipjack and yellowfin tuna of Western and Central Pacific archipelagic waters
- Maldivian skipjack
- North Atlantic albacore artisanal fishery
- PNA skipjack and yellowfin
- PT Citraraja Ampat, Sorong, skipjack and yellowfin
- Solomon Islands albacore, skipjack and yellowfin
- Tri Marine Western & Central Pacific skipjack and yellowfin

These fisheries represent a subset of those found in the MSC program and a full list of all MSC certified tuna fisheries is available at fisheries.msc.org

MSC SCORING SYSTEMS

When a fishery is assessed against the MSC Fisheries Standard, it receives a score for each of 28 sustainability indicators.

Scores of 100 = Near-perfect

Scores of 80-99 = Global best practice

Scores of 60-79 = Acceptable performance

Scores of below 60 = Fail

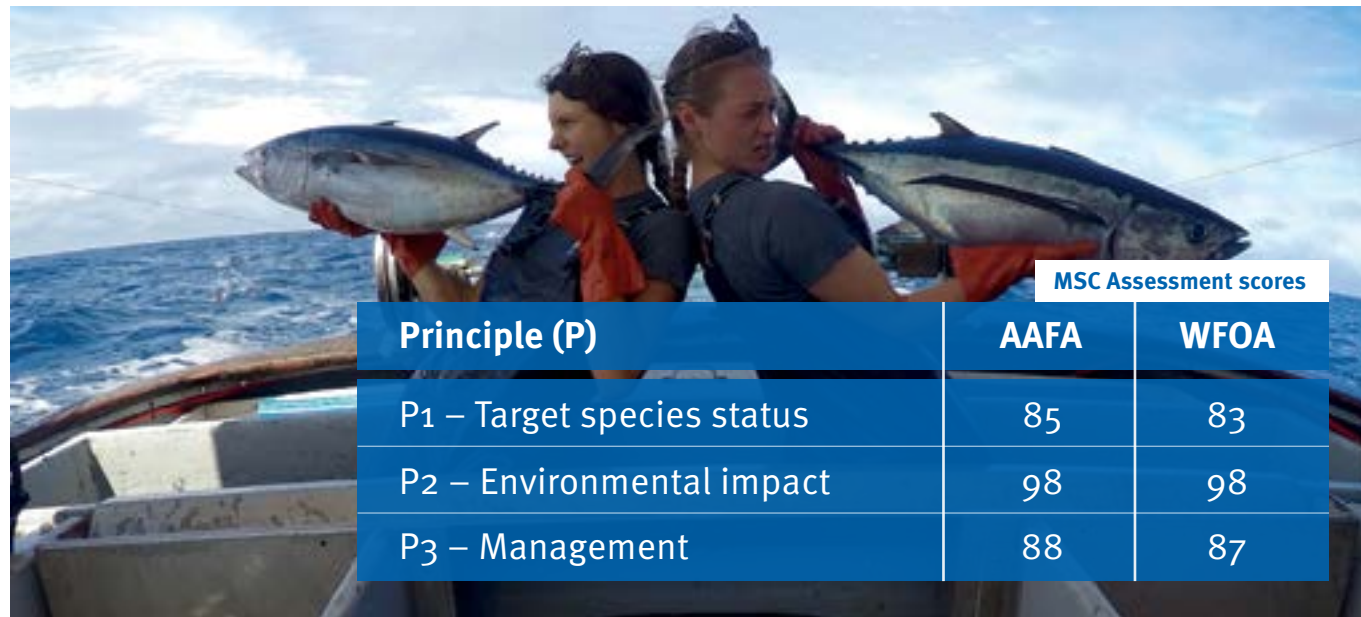
If a fishery scores 60-79 for any indicator, it must improve its performance within a specified time frame – normally the five-year duration of the certificate – in order to retain certification. Certified fisheries must score an average of at least 80 for indicators within each of the three Principles of the MSC Fisheries Standard.



CASE STUDY

AAFA & WFOA NORTH & SOUTH PACIFIC ALBACORE

Gear type: Pole and line or troll and jig | **Tonnage:** North Pacific: 7,738 tonnes; South Pacific: 332 tonnes (2018) | **First certified:** 12th July 2016



© WFOA

Background

The American Albacore Fishing Association (AAFA) was the first tuna fishery to be certified in 2007. They started sharing certificates with the Western Fishboat Owners Association (WFOA) in 2014. They are non-profit associations and many of the vessels have been operated by the same families for generations³⁹.

There are distinct stocks of albacore in the North and South Pacific and these associations fish both stocks⁴⁰.

The fisheries use both trolling and pole and line fishing gears. Both methods are very selective as they catch the tuna one-by-one and monitor catches in real-time, so catch of non-target species is very low (less than 0.5% in both fisheries). The fisheries monitor their bycatch and implement management measures to reduce it. For example, if the fishermen are catching too many juveniles in a particular area, they move fishing location⁴¹.

Selected conditions and improvements

The AAFA and WFOA fisheries have adopted a number of major improvements and addressed conditions to ensure long-term sustainability.

Stock Status

Through its original certification, AAFA and WFOA have established robust monitoring programs and management measures to protect the albacore stock e.g. by setting a tuna catch limit annually and carrying out monitoring and research programs to address areas of uncertainty.

However, neither of the fishery’s Regional Fisheries Management Organisations have yet adopted appropriate Harvest Control Rules to ensure the long-term health of the stocks, and this is a condition of certification. The fishery is on-track for achieving this and will pursue the adoption of HCRs over the coming years. In addition, the South Pacific fishery is required to implement a harvest strategy at the Western and Central Pacific Fisheries Commission (WCPFC) over the certification period.

Environment

Both the North and South Pacific albacore fisheries score highly because of their low impact on the environment: the fishery operates multiple measures to protect non-target and Endangered Threatened and Protected (ETP) species, such as marine mammals, turtles or seabirds. For example, the gear types used are very selective and they use barbless hooks for quick and safe release of any bycatch (see picture below). As such, the amount of unwanted catch is low (<0.5%) and interactions between ETP species and the fishery are deemed ‘highly unlikely’.

Management

Throughout its initial certification, the fisheries have implemented both domestic and international management policies for albacore, with robust short- and long-term objectives. Going forward, the South Pacific fishery will need to demonstrate that the WCPFC decision-making processes respond to the state of the albacore stock through an appropriate harvest strategy (condition 3).



© Carey Schumacher

The hooks are specifically designed to reduce bycatch. Hooks are un-baited and barbless, enabling the quick and safe release of bycatch and vulnerable species.

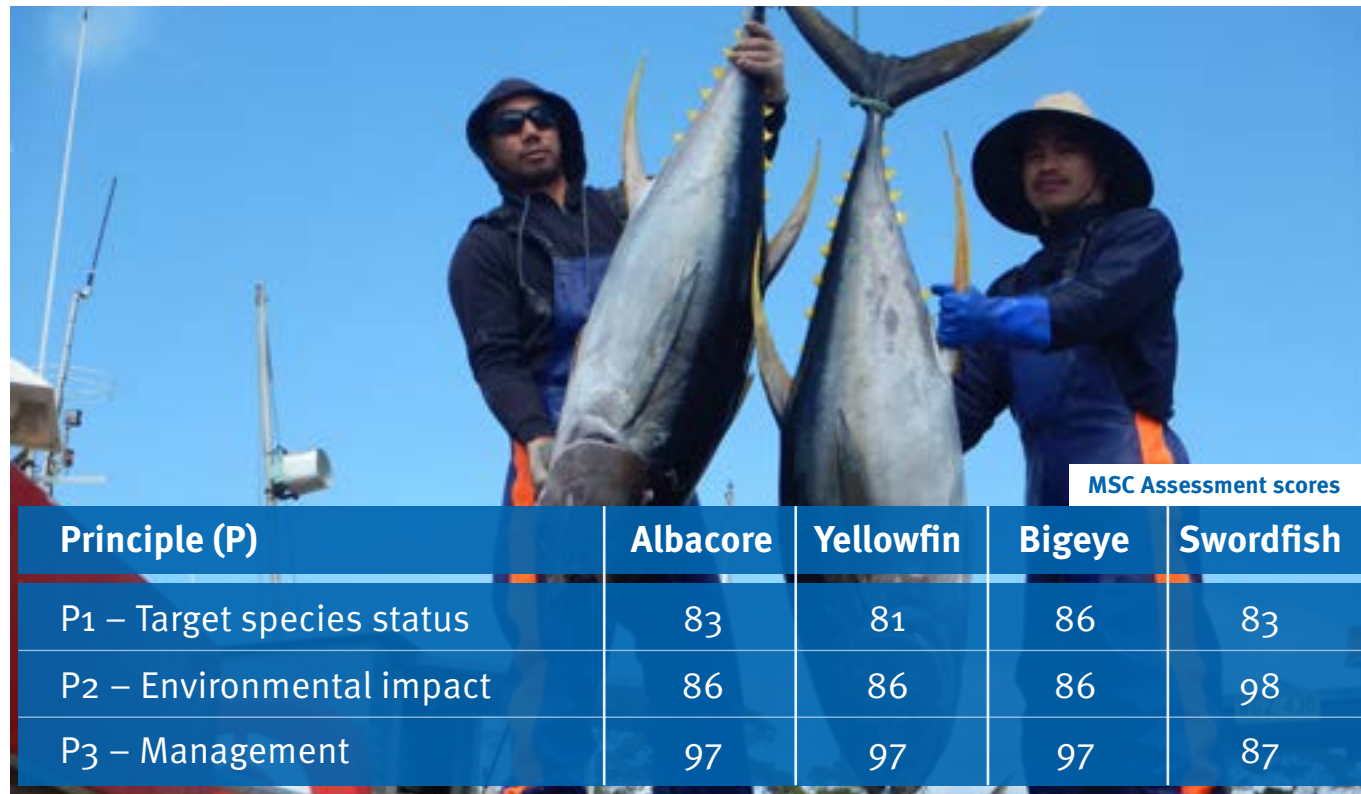


© Carey Schumacher

CASE STUDY

AUSTRALIAN EASTERN TUNA AND BILLFISH FISHERY

Gear type: Hooks and Lines – Longlines | **Tonnage:** 4,563 (2018)
First certified: 27th August 2015 | **Re-certified:** 24th August 2020



MSC Assessment scores

Principle (P)	Albacore	Yellowfin	Bigeye	Swordfish
P1 – Target species status	83	81	86	83
P2 – Environmental impact	86	86	86	98
P3 – Management	97	97	97	87

© Millstream Productions

Background

The Australia Eastern Tuna and Billfish Fishery (ETBF) spans the entire eastern seaboard of Australia, from the top of Cape York to the South Australian-Victorian border. Its fleet of 34 vessels use pelagic longlines to target four species: yellowfin tuna, bigeye tuna, albacore tuna and broadbill swordfish.

Product is predominantly exported to premium markets overseas, primarily the USA, Japan, and Europe. Lesser volumes are also sold direct to consumers in port towns along the East Coast, through wholesalers to restaurants, food service outlets and supermarkets and fish shops across Australia. Due to the COVID pandemic in 2020 leading to the closure of many restaurants, some components of the fishery recently pivoted to sell a

higher proportion of sashimi-grade tuna domestically through retail, including a partnership with Coles Supermarket.

Selected conditions and improvements

Stock Status

The fishery is managed using a quota system based on a very conservatively set Total Allowable Commercial catch (TACC). This TACC is informed by a number of management processes, consultative forums, scientific stock assessments and research projects. As these stocks are highly migratory through the Western and Central Pacific, the fishery is also subject to relevant WCPFC catch allocations and Conservation Management Measures.

The latest stock assessments for these target species in the Western Central Pacific Ocean (WCPO) shows stocks are healthy and being fished at a sustainable rate. However, in order to ensure that the fishery can respond to any future changes in the health of these tuna stocks, certification is conditional upon the adoption of harvest strategies including harvest control rules by all member states of the Western Central Pacific Fisheries Commission (WCPFC) by 2022.

Environment

The fishery’s original assessment revealed a lack of data around the impact of the fishery on ETP species including turtles and mako sharks, leading to two conditions. However, an ecological risk assessment conducted in 2019 demonstrated that the impact of the fishery on these species was low risk, meaning that populations of these species were highly unlikely to be impacted by the fishery. Both conditions were subsequently closed.

Management

The fishery met the one original condition around management by demonstrating that processes were in place to respond to declining catch rates of South Pacific Albacore, in a transparent, timely and adaptive manner. No further management conditions were set during recertification.

TUNA AUSTRALIA INCREASES VOLUME OF CERTIFIED AUSTRALIAN TUNA BY A FACTOR OF FIVE

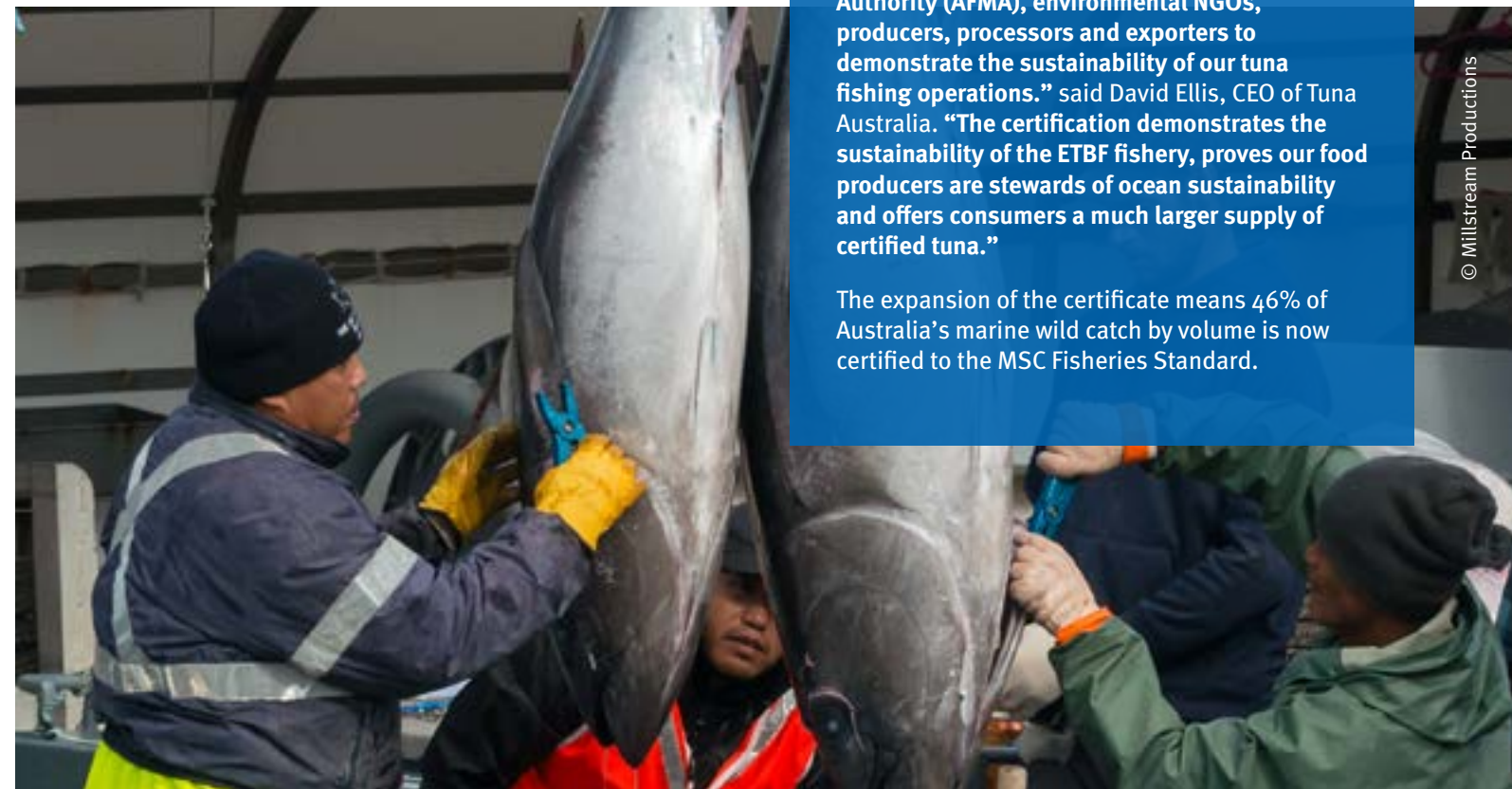
The fishery was originally certified in August 2015 for longline caught albacore tuna, yellowfin tuna, and swordfish, with a single operator – Walker Seafoods – as the certificate holder.

However the recertification in 2020 saw Tuna Australia become the certificate holder, adding bigeye tuna and the wider Tuna Australian member fleet to the certification. The change increased the volume of Australian tuna catch eligible to carry the MSC blue ecolabel by a factor of five.

The project to pursue MSC certification across the wider Australian tuna fleet was funded by the Australian Government’s Our Marine Parks grant program which supports Commonwealth efforts to maintain a sustainable seafood industry.

“Over the 12 months leading up to the certification, we worked with fishery managers from the Australian Fisheries Management Authority (AFMA), environmental NGOs, producers, processors and exporters to demonstrate the sustainability of our tuna fishing operations.” said David Ellis, CEO of Tuna Australia. **“The certification demonstrates the sustainability of the ETBF fishery, proves our food producers are stewards of ocean sustainability and offers consumers a much larger supply of certified tuna.”**

The expansion of the certificate means 46% of Australia’s marine wild catch by volume is now certified to the MSC Fisheries Standard.

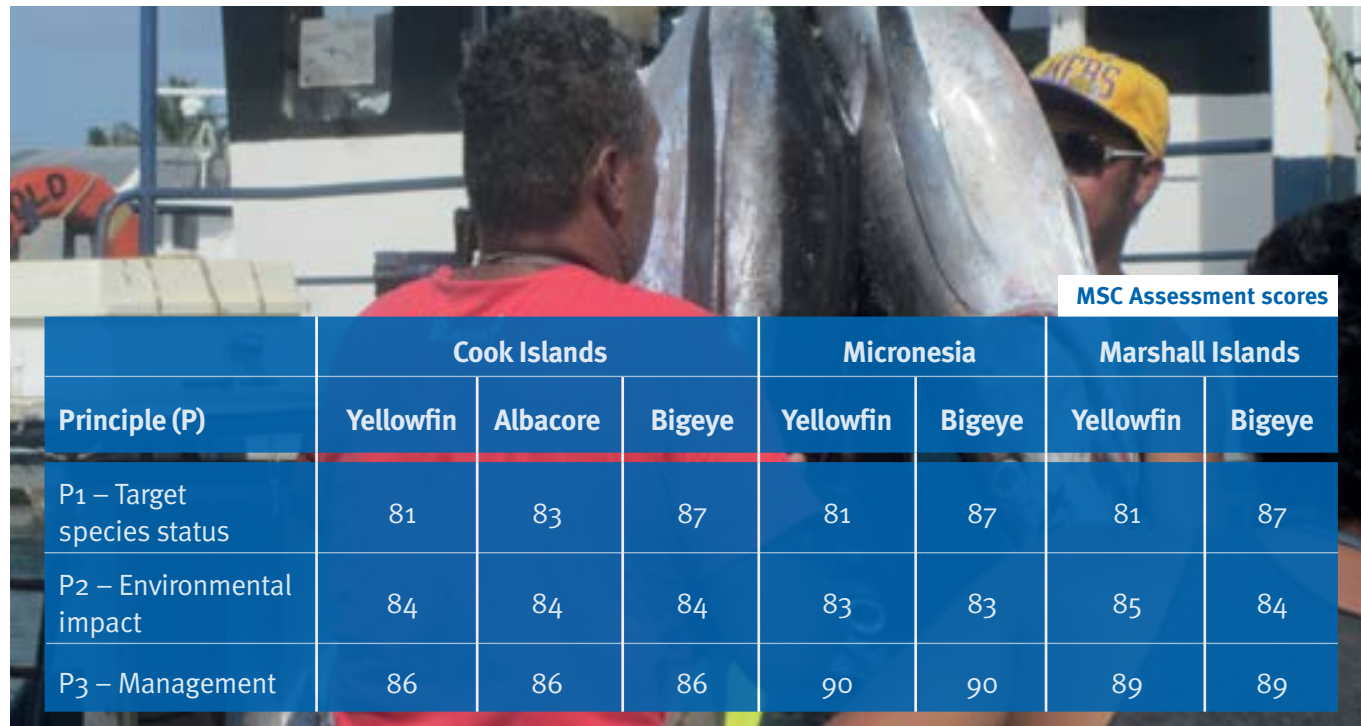


© Millstream Productions

CASE STUDY

COOK ISLANDS, MICRONESIA AND MARSHALL ISLANDS LONGLINE FISHERIES

Gear type: Longline | **Tonnage:** 7,885 (2018) | **First certified:** 9th June 2015 (Cook Is); 5th October 2018 (FSM); 7th October 2019 (RMI)



MSC Assessment scores							
Principle (P)	Cook Islands			Micronesia		Marshall Islands	
	Yellowfin	Albacore	Bigeye	Yellowfin	Bigeye	Yellowfin	Bigeye
P1 – Target species status	81	83	87	81	87	81	87
P2 – Environmental impact	84	84	84	83	83	85	84
P3 – Management	86	86	86	90	90	89	89

© Bill Holden / MSC

Background

The Cook Island’s longline fishery for yellowfin and albacore was first registered as a Fishery Improvement Project (FIP) on Fishery Progress in July 2013. It initially scored poorly on several attributes, particularly for its impact on the populations of the target stocks and of other species. The fishery worked hard over the following years to determine the health of the stocks, developed practices to prevent impacts on Endangered Threatened and Protected (ETP) species and implemented data collection programs for non-target species. The fishery was MSC certified in 2015 and since then has addressed several of the conditions of certification. The SZLC CSFC and FZLC fishing companies from the Cook Islands fishery then went on to certify their

yellowfin and bigeye fisheries in the Federated States of Micronesia (FSM) in 2018, and in the Republic of the Marshall Islands (RMI) in 2019 (through the Marshall Islands Fishing Venture, a subsidiary of SZLC), and have now added bigeye to the recertification process in the Cook Islands.

The Micronesia fishery was the first time that bigeye had been certified to the MSC Standard, representing a turning-point for this previously overfished species⁴². To maintain the certification, important management measures will need to be agreed to safeguard bigeye tuna stocks – as a result, this certification could influence the sustainability of bigeye fishing across the entire WCPO.



© Bill Holden / MSC

Selected conditions and improvements

All these fisheries achieved certification as the result of fishery improvement projects and had already implemented a number of improvements prior to certification. As part of their certification, they will be making further progress to address specific conditions.

Stock Status

The most recent stock assessments show that stocks are at or above the MSY level. The certifications are all conditional upon the adoption of harvest strategies including HCRs, by all member states of the WCPO by 2021. These certifications therefore provide significant momentum for members to support the adoption of such measures, which are under development. There are effort constraining measures in place throughout the WCPFC area.

Environment

The fishery uses circle hooks to minimise bycatch of ETP species such as sharks and turtles, and ‘shark lines’ and wire leaders are banned.

The Marshall Islands’ observer coverage and information demonstrated that the fishery does not have significant impacts on any of the ecosystem components considered. In the Cook Islands, significant improvements have been made in the reporting of interactions with ETP species, and the FSM fishery is working towards a similar condition. An electronic monitoring system is being trialled on several boats.

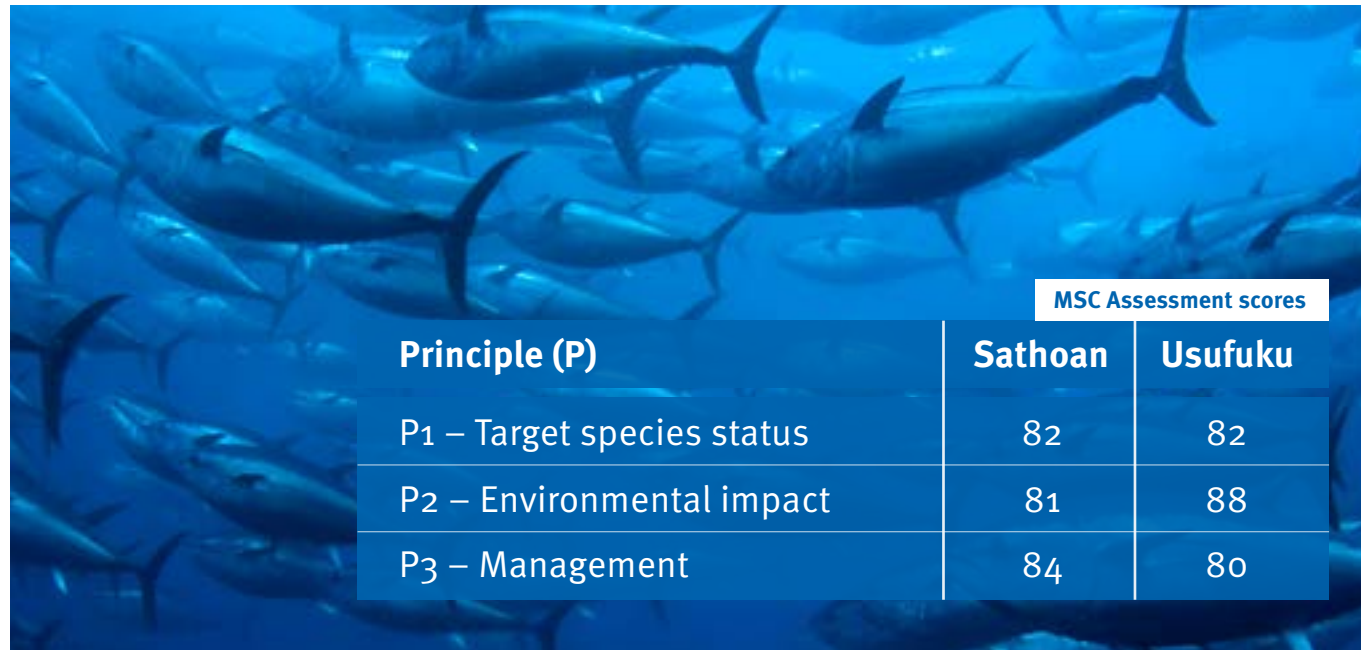
Management

The fishery is managed internationally through the WCPFC and nationally in each EEZ. In FSM, the robust management framework with clearly defined roles and responsibilities at national and regional level was regarded as a key strength. The Cook Islands’ fishery is on track to meet conditions around decision-making processes to ensure they are effective, transparent, inclusive and responsive, and take into account stakeholder concerns. The Marshall Islands is working towards strengthening its dockside inspection activities.

CASE STUDY

EASTERN ATLANTIC BLUEFIN TUNA

Gear type: Longline (both) and handline (Sathoan) | **Tonnage:** 246 (Sathoan); 57 (Usufuku) (2017) | **First certified:** 23 Oct 2020 (Sathoan); 10 Aug 2020 (Usufuku)



© iStockphoto / DeepAqua

Background

In August 2020, the Japanese Usufuku Honten Northeast Atlantic longline bluefin tuna fishery became the first bluefin tuna fishery in the world to achieve MSC certification. Its certification will allow Japanese consumers to purchase sustainable bluefin tuna as top-quality sashimi, however the overall volume available will be relatively small as the fishery entered just a single longline vessel for the certification assessment. Based in the Canary Islands, Spain, the fishery caught just 55 tonnes of Eastern Atlantic bluefin tuna in 2018 - out of 28,200 tonnes of total allowable catch that year for the area.

Just a few months later in October 2020, the French Mediterranean Bluefin tuna artisanal longline and handline fishery, gathering members of the SATHOAN fishermen's cooperative, was the second ever bluefin tuna fishery to receive MSC certification. The fishery, based in Sète in the South of France, catches between 200 to 300 tonnes of Eastern Atlantic bluefin

tuna each year. Aside from one handline vessel, its fleet of 24 small-scale vessels use longlines to harvest bluefin tuna from the Mediterranean.

Eastern Atlantic bluefin tuna's path to certification is all the more significant as its future was in doubt just 15 years ago. A multi-year recovery plan led by the regional fishery management organisation, ICCAT, and backed by conservationists, agreed on a reduction in the number of tuna caught and greater scrutiny and reporting of catches which put the Eastern Atlantic bluefin population on a path to recovery. By 2014, ICCAT scientists found that bluefin tuna numbers were increasing more quickly than expected; by 2017 assessments indicated the Eastern Atlantic stock was no longer being overfished; and in 2018, the recovery plan was changed to a management plan.

Selected conditions

Stock Status

The Usufuku fishery went through a two-year assessment process that required it to resolve formal objections from environmental NGOs. Issues largely related to how the stock is managed by ICCAT. The NGOs argued, among other things, that it was premature to certify the stock and that it risked the long-term recovery of bluefin. However, the independent adjudicator found that this had been adequately addressed through a set of actions the fishery and ICCAT must complete by 2025.

Those actions include working with the Japanese Fishery Agency to ensure that Eastern stocks of bluefin tuna are maintained around MSY as well as promoting the improvement of management measures and harvest strategy within the certification period.

Ecosystem management

The assessments identified improvements both fisheries must meet within the next five years, such as managing impacts on ETP species, like blue shark and stingrays.

The Usufuku fishery has already taken steps to minimise impact on non-target species. For example, they have stopped using Japanese flying squid (*Todarodes pacificus*) as bait due to concerns over

the depletion of the squid stock. They also use circle hooks and tori lines to minimise interactions with ETP species such as seabirds, sharks and sea turtles.

The French SATHOAN bluefin fishery has already implemented several measures to limit its interactions with other species in the ecosystem. They include a reduced area of operation, spatial monitoring of each vessel's activity, quotas, minimum catch sizes and release protocols to limit accidental catch of rays, sharks, swordfish or seabirds. The fishery is also developing an app to monitor interaction with ETP species and is working to develop pingers to deter sharks and rays from fishing gear.

As conditions of certification, both fisheries are required to continue monitoring interactions with ETP species to ensure that the actions that they are implementing are effective, to demonstrate thorough recording by crews and to review whether existing bycatch mitigation measures could be improved.

Management

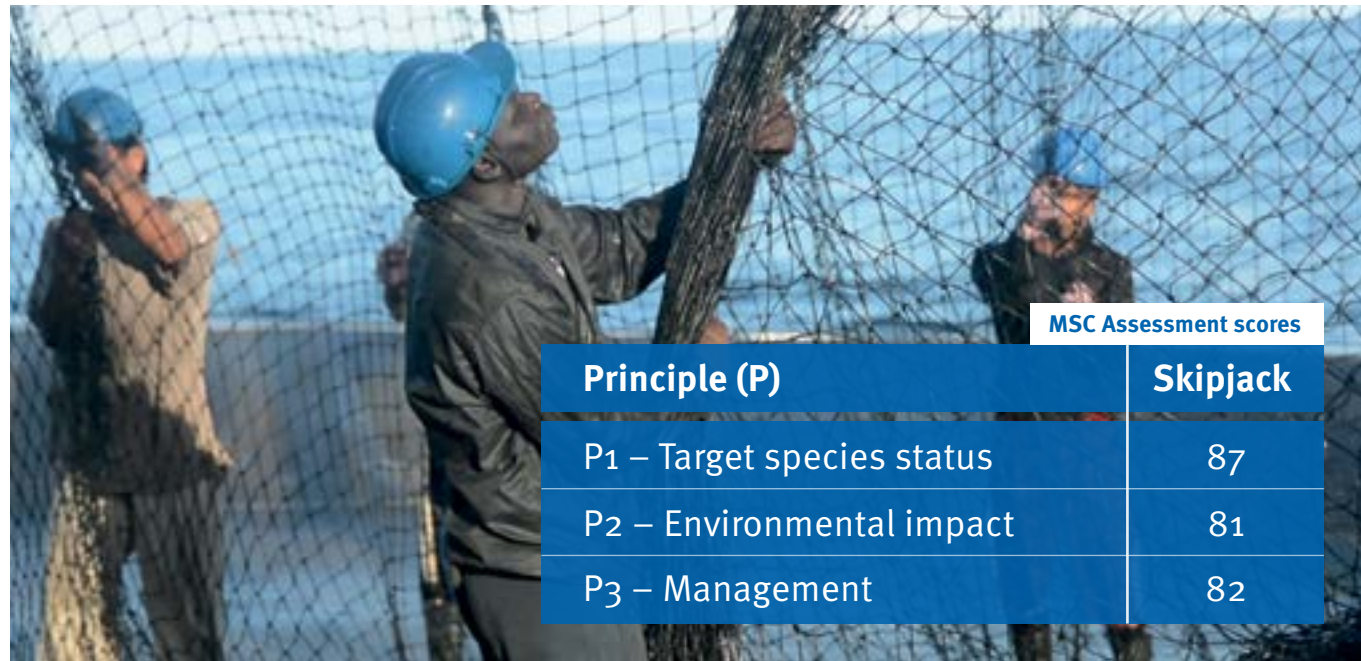
Both fisheries scored well for their management protocols and collaboration efforts with ICCAT. The fishery scored especially well for its collaboration efforts at the ICCAT, and have no conditions related to management.

Paulo Oliveira / Alamy Stock Photo

CASE STUDY

ECHEBASTAR INDIAN OCEAN SKIPJACK

Gear type: Purse seine (both non-entangling drifting FAD and free-school)
Tonnage: 30,682 tonnes (2019) | **First certified:** 9th November 2018



MSC Assessment scores	
Principle (P)	Skipjack
P1 – Target species status	87
P2 – Environmental impact	81
P3 – Management	82

© Pesqueras Echebatar

Background

The Echebatar fishery was the first drifting Fish Aggregating Device (dFAD) fishery to achieve MSC certification. It was certified on its second attempt following management improvements in the Indian Ocean including new FAD regulations.

The Echebatar fishery catches skipjack using purse seine nets that are set on free schools, and on non-entangling dFADs. Drifting FADs increase fishing efficiency, keeping operational costs low, but this can result in the bycatch of other species that are attracted to the FADs, making it harder for these fisheries to achieve MSC certification. However, the Echebatar certified fishery has substantially reduced catches of non-tuna species and of Endangered, Threatened and Protected (ETP) species to 3% and 0.38% of catches, respectively⁴³ The Echebatar fishery worked with the Indian Ocean

Tuna Commission and Seychelles authorities to reduce bycatch by⁴⁴:

- Reducing numbers of FADs over the last 3 years
- Using only non-entangling FADs
- Ensuring the rapid release of non-target species

The fishery has also added second conveyor belts to three of its five vessels to rapidly release any unwanted catch directly back to the sea to increase survival rates. It also has 100% observer coverage, providing high-quality data about the fishery and ensuring compliance with regulations and certification requirements. While the Covid-19 pandemic has made it challenging to ensure 100% coverage recently, the fishery remains committed to maintaining 100% observer coverage when it is safe to do so. These efforts demonstrate leadership within the tuna fishing industry.

Selected conditions and improvements

The Echebatar fishery has made major improvements and committed to deliver conditions of certification to ensure long-term sustainability. Following the first surveillance audit, all conditions were either on target or ahead of target.

Stock Status

The Echebatar fishery received top scores for stock status and monitoring. The Indian Ocean skipjack stock is at a healthy level with Harvest Control Rules in place to ensure its future sustainability⁴⁵, and stock assessments are regularly conducted to inform management. New conditions were raised in the latest surveillance report to strengthen the harvest strategy and ensure catch limits are not exceeded.

Environment

Before their first assessment, the fishery had implemented 100% observer coverage, providing a high level of assurance of compliance and data quality.

The Echebatar fishery has already reduced the number and impact of its FADs (see box) and has also committed to addressing further conditions to allow environmental impacts to be measured:

- Collecting further evidence about the impact of FADs on ETP species and on vulnerable marine ecosystems, to sufficiently measure their impacts

and demonstrate that dFADs are highly unlikely to reduce structure and function of coral reefs to a point where there would be serious or irreversible harm⁴⁶. The fishery is already making progress on improving the efficiency, quality and quantity of observer data and makes it publicly available

- Using this evidence to establish a precautionary strategy to ensure that it is highly unlikely that derelict dFADs could reduce structure and function of the coral reefs to a point where there would be serious or irreversible harm
- Collecting sufficient evidence to allow for identification of the main impacts of derelict dFADs on coral reefs, and ensuring there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear

Management

There is a strong basis for management through the IOTC, EU management and Seychelles national measures. While information is available on the fishery’s performance and management actions, there is a lack of transparency for actions and decision-making for private deals in the fishery. Therefore, through condition 8, the Echebatar fishery must ensure that any management decisions including private agreements are appropriately explained and available for stakeholders.



The Echebatar fishery is a pioneering dFAD fishery when it comes to reducing its impacts on the ecosystem, while maintaining high catches of skipjack. The fishery has a FAD Management Plan⁴⁶ and has implemented the following measures:

- Reduced the number of FADs that may be deployed at one time to a maximum of 300 per vessel
- From 2015, implemented 100% non-entangling FADs, which use ropes (rather than nets), significantly reducing the risk to marine life, and implemented a Good Practices Manual to improve fishery impacts when using FADs⁴⁶
- Actively working to test and deploy biodegradable FADs to reduce the risk of damage to corals by derelict FADs
- Cooperating with stakeholders to recover derelict FADs through the FAD Watch program

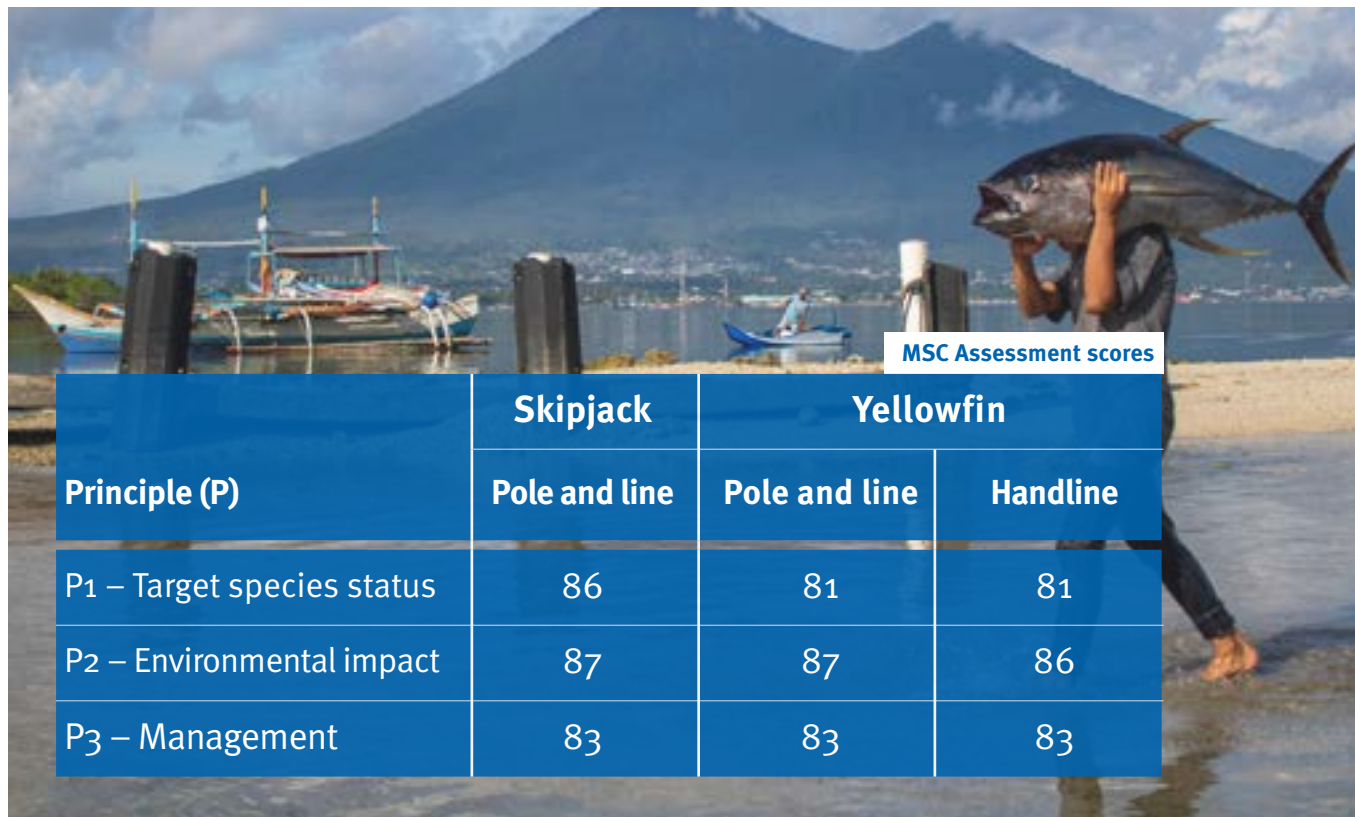
© Pesqueras Echebatar

CASE STUDY

INDONESIA POLE AND LINE AND HANDLINE

Gear type: Handlines and pole-lines (hand-operated) | **Tonnage:** 11,894 (2019)

First certified: 26 January 2021



MSC Assessment scores

Principle (P)	Skipjack	Yellowfin	
	Pole and line	Pole and line	Handline
P1 – Target species status	86	81	81
P2 – Environmental impact	87	87	86
P3 – Management	83	83	83

© AP2HI

Background

In 2019, the MSC signed a Memorandum of Understanding (MoU) with the Indonesian Ministry of Marine Affairs and Fisheries (MMAF) demonstrating their joint commitment to strengthening collaboration on sustainable fishing in the country. In January 2021, the Indonesia pole-and-line and handline, skipjack and yellowfin tuna of Western and Central Pacific archipelagic waters became the third tuna fishery in Indonesia to be certified against the MSC Fisheries Standard in just over three years.

Eight fisheries make up the MSC certificate, consisting of 380 fishing vessels, scattered throughout the Indonesian archipelago from North Sulawesi and North Maluku to the Banda Sea, and East and West Flores. The client group is the

Indonesia Pole and Line and Handline Tuna Fisheries Association (AP2HI) and the International Pole and Line Foundation (IPNLF) who have implemented a fishery improvement project since 2014, in part supported through the MSC’s Fish for Good project. AP2HI was established in 2012 and membership includes the entire pole and line caught tuna processing chain in Indonesia, from fishermen and fishing companies to the processing industry with MSC certification as the end goal.

Around 60% of the 11,000 tonnes caught by the certificate holders is yellowfin tuna, distributed as loin, poke (pronounced poh-keh) and saku (sushi block), while the certified skipjack will be sold to export markets in the UK and US.



© AP2HI

Selected conditions and improvements

The fishery was certified with six conditions relating to harvest strategies and stock management that must be met within five years to retain the certificate, as well as two recommendations.

Stock status

The tuna stocks being targeted by the fishery are subject to regular stock assessments by the Science Service Provider for the Western and Central Pacific Fisheries Commission (WCPFC) with recent assessments showing both stocks are at healthy levels, fluctuating around Maximum Sustainable Yield.

Recent observer and dock-side monitoring data provide strong confidence that fishing is highly selective and that the stock is not being adversely impacted by fishing activity. However, over the certification period the fishery must demonstrate that it has put in place a harvest strategy that is responsive to the state of the stock as well as implementing a set of harvest control rules that ensure that the exploitation rate is reduced as PRI is approached and that is expected to keep stock fluctuating at or around target level and be robust to uncertainties.

Environment

Pole and line operations use hooks which are barbless, unweighted, and unbaited meaning the method is highly selective for the target species

and as such is highly unlikely to adversely impact ETP species and do not interact with wider habitats. Based on the information available from observer and port sampling data and information from other MSC assessments of pole and line fisheries in the region, interactions between pole and line and ETP species can be considered to be either non-existent or so infrequent as to be negligible.

Management

Management conditions in the assessment relate to the lack of a finalised Harvest Strategy and Harvest Control Rules for skipjack and yellowfin tuna in the Western and Central Pacific Ocean. The Indonesian Archipelagic Waters tuna Harvest Strategy is still at an interim stage. The strategy sets out five potential management measures which should be considered as priorities when it is determined. These include catch or effort need to be limited such as FAD limits, spatial/temporal closures, vessel day limits for larger vessels, capacity limits (number of licensed vessels) and including TACs.

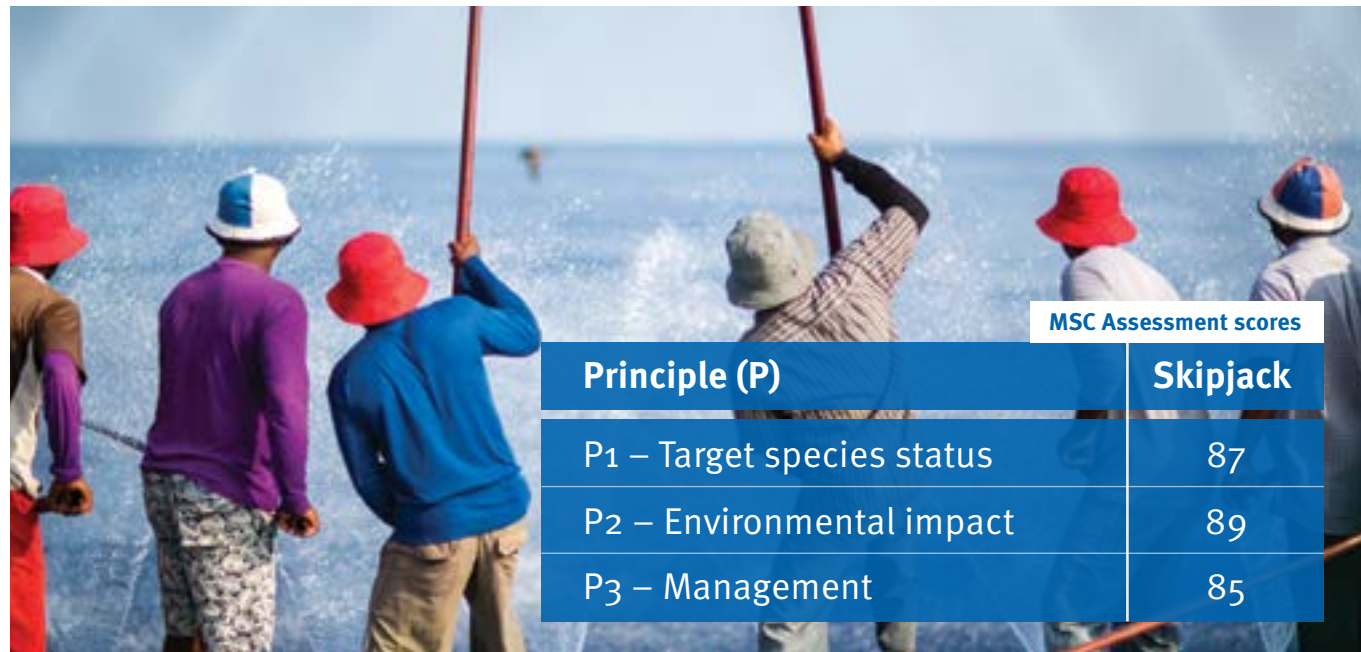
APH2I and IPNLF will continue to work with MMAF, other members of WCPFC and other stakeholders to encourage and support the development of a Harvest Strategy and Harvest Control Rules which are responsive to the state of the stock.

CASE STUDY

MALDIVIAN SKIPJACK

Gear type: Pole and line | Tonnage: 99,886 (2018)

First certified: 29th November 2012 | Re-certified: 16th November 2017



MSC Assessment scores	
Principle (P)	Skipjack
P1 – Target species status	87
P2 – Environmental impact	89
P3 – Management	85

Background

Fishing is central to the Maldivian culture, economy and heritage: the country celebrates its fishing heritage each year on 10th December, the National Fishermen’s Day. Tuna are the Maldives’ primary export and support 30,000 livelihoods⁴⁷.

Fishing began on *masdhonis*, wooden boats – powered by sails and oars – with an open deck to land the fish and carry live bait. Mechanisation of the fleet started in 1974, when a single *masdhoni* was equipped with a small diesel engine. By 1981, over 800 *masdhonis* were mechanised and accounted for 92% of the *masdhonis* tuna catch.

To go tuna fishing, around 10-18 fishermen⁴⁸ leave the port in Malé (or from any one of 200 or so inhabited islands) on an overnight trip. The fishermen use the centuries-old pole and line technique, which is believed to have been invented in the Maldives⁴⁹ and contributes more than 70% of the total tuna landings in the Maldives.

The fishery is highly selective, yielding very low levels of non-target bycatch (0.65%)^{49,50}. However, the fishery increasingly required more bait per trip as pole and line vessels became larger and trips started to last longer than the traditional one day. To ensure that bait stocks remain at a healthy level the Maldives have successfully implemented a management plan to ensure bait species are monitored and sustainably managed.

The Maldives skipjack fishery was re-certified in 2017 after the Indian Ocean Tuna Commission (IOTC) implemented Harvest Control Rules (HCRs). The certification covers 100% of Maldivian pole and line skipjack tuna, representing a strong commitment to sustainable fishing on a national level.

The certification previously covered both the skipjack and yellowfin fisheries, but the yellowfin certification was suspended in December 2017 after Indian Ocean populations fell below sustainable levels due to overexploitation by other gear types. Unlike skipjack there is no HCR in place yet to protect them⁵¹.

Selected conditions and improvements

The Maldives fishery has implemented major improvements to ensure long-term sustainability. The fishery fulfilled all the conditions required under its initial certification. Under its current certification, it only has one condition.

Stock Status

The skipjack population is healthy and is subject to research, monitoring and stock assessments on a regular basis. An HCR is in place through the IOTC – there are no conditions.

Environment

Using pole and line, fishers can target specific species and only land those that they actively seek to catch, avoiding unwanted bycatch – interactions with ETP species are negligible. The bait species used by pole and line fisheries need to be properly managed. In 2013, the Maldives fishery addressed conditions from its initial certification to ensure that baitfish fisheries are sustainable through a live bait management plan, which included: objectives on bait use; strengthening data capture – training the

fishermen to report bait use; and carrying observers to corroborate fishermen’s logbook data.

Management

The Maldives’ initial certification was criticized by WWF in 2012 because they felt the IOTC did not have adequate HCRs to pass an MSC assessment. The fishery had committed to achieving well-defined HCRs at the IOTC. The Maldives, supported by other Indian Ocean coastal states and the International Pole and Line Foundation (IPNLF), led the efforts to ensure that a framework was put in place for improved management of skipjack stocks. This commitment, combined with intervention by the retail sector, encouraged the IOTC to adopt formal HCRs for skipjack in 2016. This was a significant success for both the Maldives fishery and the MSC program. By adopting this measure, the IOTC protects the health of the Indian Ocean skipjack stock for the future.

Logbooks are an important part of data collection, showing population trends for tuna, bycatch, bait and endangered species. The Maldives fishery has committed to improving compliance with logbook returns, which are now mandatory and must be provided prior to catch being landed⁵². As a result, the fishery is ahead of target on its only condition.



CASE STUDY

NEW ZEALAND ALBACORE TROLL FISHERY

Gear type: Troll | **Tonnage:** 3,082 (2019/20)

First certified: 16th May 2011 | **Re-certified:** 14th February 2017



© Talleys

Background

This fishery is found on the western coasts of the North and South Islands of New Zealand and was certified in 2011. The fleet comprises approximately 165 vessels but the number of vessels participating in the albacore troll fishery is variable from year-to-year as the albacore season is short (December – April) and vessels are also active in other fisheries.

Albacore tuna is a highly migratory pelagic species. Mature fish spawn in tropical and sub-tropical waters between about 10°S and 25°S during the austral summer. Juveniles appear in surface fisheries in New Zealand at 1 year of age, from where they appear to gradually disperse to the north. Subsequently, there are regular migrations between tropical and

subtropical waters. Albacore migrate south during early summer and north during winter.

Commercial albacore trollers in New Zealand tow 12-18 lines simultaneously from the vessel’s stern and from long outrigger poles mounted amidships. The line lengths or depths are adjusted to permit hauling of any one line without tangling or interfering with the others. The lines are either braided polypropylene, dacron or monofilament nylon and are hauled in by hand or by hydraulic haulers. Fish are hauled directly to the stern of the vessel where they are quickly taken from the water and unhooked before being stored whole in ice.



© Talleys

Selected conditions and improvements

The initial assessment of the fishery raised three conditions. A number of improvements have been made on the basis of these conditions and the fishery demonstrates best practice in several areas. Currently there are two open conditions relating to Harvest Strategy and Harvest Control Rules.

Stock Status

South Pacific albacore is widely distributed throughout the South Pacific Ocean. The stock status is assessed by the Western Central Pacific Fisheries Commission (WCPFC) and has remained stable during recent years. The stock biomass in 2018 is above MSY, thus not overfished and is not subject to overfishing.

Environment

The fishery is highly selective (over 98% of catches are of the target species) and evidence indicates negligible levels of interactions between the tuna troll fishery and ETP species within New Zealand waters. The troll gear used in the fishery, towed, un-baited artificial lures, are seldom lost during fishing and are likely to have very limited impacts in post-loss (ghost) fishing.

Management

The albacore tuna in this UoA are caught in the New Zealand EEZ. They are part of the South Pacific albacore tuna stock. The key components of governance and fisheries management relevant to this troll fishery include the WCPFC and the New Zealand Government.

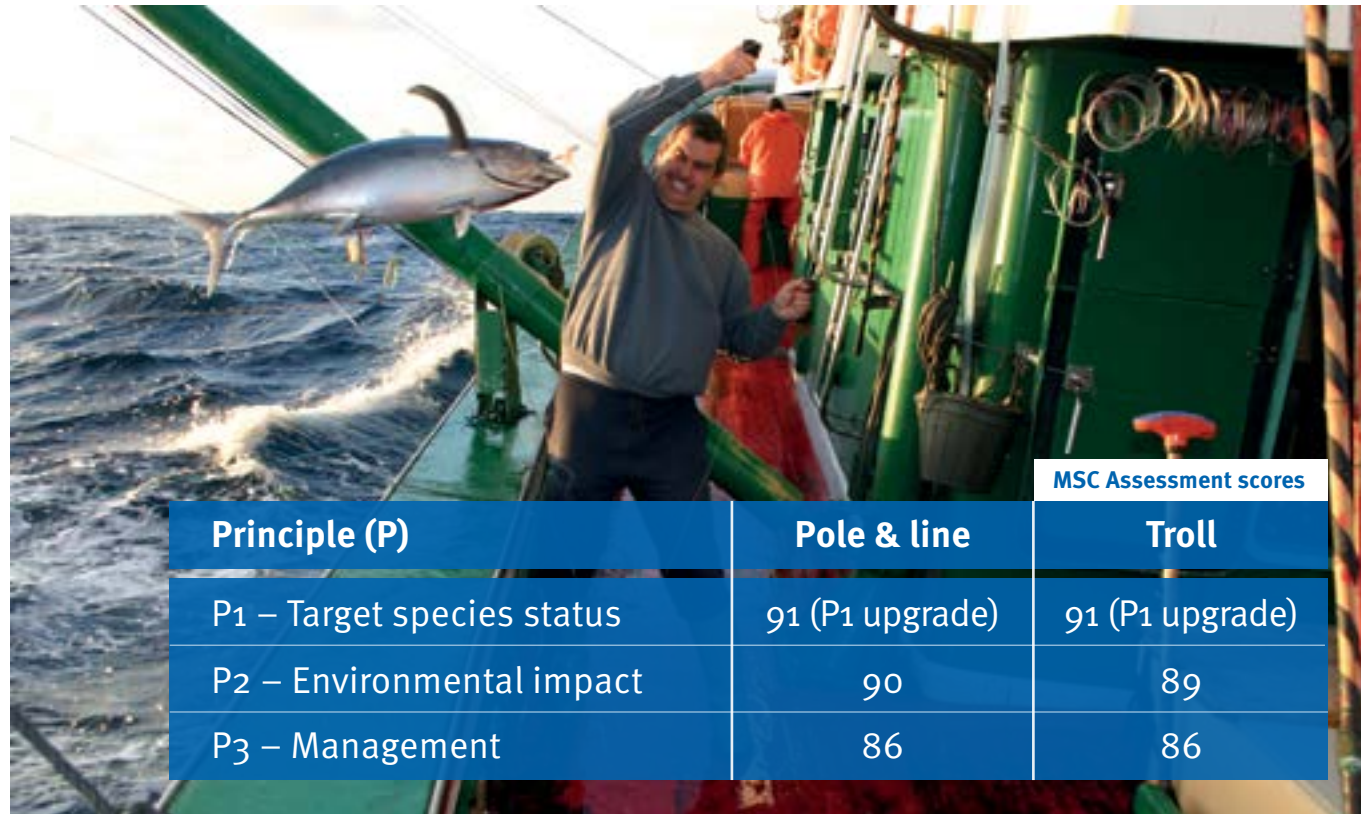
As a member of the WCPFC, New Zealand is responsible for ensuring management measures applied within NZ fisheries waters are compatible with those of the WCPFC, and fishing by NZ flagged vessels both within and beyond the NZ EEZ is carried out in accordance with any measures put in place by WCPFC.

Albacore is not managed as a QMS species in New Zealand. Therefore, no total allowable catch (TAC) applies in New Zealand fisheries waters or on the high seas. However, CMMs set by WCPFC do place binding effort controls on the albacore fishery in New Zealand fisheries waters.

CASE STUDY

NORTH ATLANTIC ALBACORE ARTISANAL FISHERY

Gear type: Pole and line or troll | **Tonnage:** 11,266 (2020) | **First certified:** 7th June 2016



MSC Assessment scores

Principle (P)	Pole & line	Troll
P1 – Target species status	91 (P1 upgrade)	91 (P1 upgrade)
P2 – Environmental impact	90	89
P3 – Management	86	86

© AZTI / MSC

Background

The fishery targets albacore in the Bay of Biscay and adjacent waters using pole and line and trolling fishing techniques. These are traditional methods that keep the fish in good condition and result in almost no bycatch.

The fishery was first certified in 2016, and the certification subsequently extended to additional fleets in 2019. 167 vessels⁵³, fishing from the regions of Cantabria, Guipuzcoa, Vizcaya and Asturias in Spain, are involved in the fishery.

Selected conditions and improvements

The initial assessment of the fishery raised three conditions for both gear types, and two additional conditions for the troll unit of certification. A number

of improvements have been made on the basis of these conditions and the fishery demonstrates best practice in several areas.

Stock status

Albacore is a temperate tuna widely distributed throughout the Atlantic Ocean and Mediterranean Sea. The stock status is assessed by ICCAT, and has been improving in recent years. The stock biomass in 2015 was above the MSY level. The fishery proactively contributed to the development and adoption of a regional set of harvest control rules by ICCAT, and has fully implemented them, addressing two conditions. This was reflected in the recent P1 upgrading audit in which every indicator scored over 80 and no conditions were set.

Environment

Two conditions were established for the troll fleet to improve information to ensure that the direct effects of the fishery on any Endangered, Threatened and Protected (ETP) species are highly unlikely to create unacceptable impacts on these species. These conditions have been also resolved in the 4th surveillance audit. The fishery is highly selective (98% of catches are of the target species) and no or very low levels of interaction with ETP species have been recorded by observers⁵⁴.

Management

Compliance within the fishery is very strong and new fishery-specific regulations have been introduced that establish objectives for the fishery. In 2017, ICCAT adopted an interim HCR for albacore, which will ensure the stock status is maintained in the future. The certified fleet has adopted a code of conduct that sets out action to be taken in the case of interactions with cetaceans, birds or turtles to ensure their safe release and maximise survival.

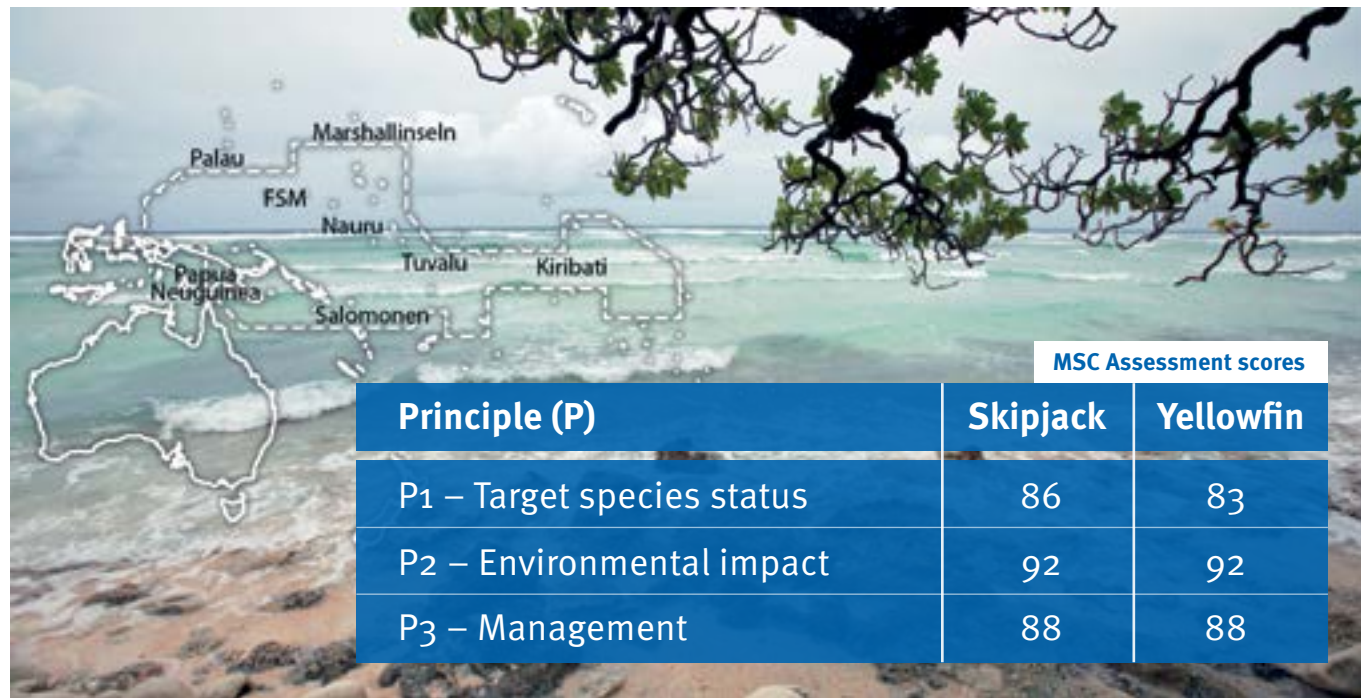
The fishery closed all the conditions of improvement at the 4th surveillance audit in February 2021 and is now facing the re-certification process.

© AZTI-Technalia / MSC

CASE STUDY

PNA SKIPJACK AND YELLOWFIN

Gear type: Purse seine free-school | **Tonnage:** 1,031,497 tonnes (2019)
First certified: 21st December 2011; **re-certified:** 23rd March 2017



Background

The Parties to the Nauru Agreement (PNA) are a group of eight island countries in the Pacific (see map above).

They formed The Nauru Agreement in 1982 to harmonise fisheries management in their Exclusive Economic Zones. The first agreement mandated members to implement minimum fisheries management measures. This has developed over time. They now limit the number of days that vessels can fish and they have negotiated agreements with other nations including the United States.

PNA successfully restricted and reduced tuna exploitation, enabling the fishery to achieve MSC certification in 2011. It is the world's largest independently certified tuna supplier. A quarter of the world's tuna and half the global population of skipjack live in PNA waters⁶². By taking collective control of

their waters, ensuring sustainable fisheries and using a geographic indicator through the Pacificall platform, they have been able to sell their product with the MSC ecolabel, giving a significant economic boost to these small island states⁶³.

In December 2020, PNA announced that it would be seeking to extend the scope of the fishery to include bigeye as well as to cover all set types (FAD and non-FAD sets). The assessment process is currently ongoing.

Selected conditions and improvements

The PNA fishery has implemented significant improvements to ensure its long-term sustainability.

Stock Status

Both tuna stocks are healthy and the PNA has developed thresholds for further protection. Stock

assessments are regularly carried out and there is an extensive program of research. The PNA will need to ensure its harvest strategy is responsive to both stocks' status (conditions 1 and 3) and will need to demonstrate that well-defined Harvest Control Rules are in place (conditions 2 and 4) through the Western and Central Pacific Fisheries Commission (WCPFC).

Environment

The PNA fishery has delivered on its goals to reduce unwanted bycatch and Endangered, Threatened and Protected (ETP) species catch: many PNA members banned shark finning (see box) and setting purse seine nets on whale sharks in 2012²¹. The fishery has minimal bycatch – 98.5% of the catch is of the target species.

The fishery adopted 100% observer coverage and a Good Practice Guide for handling ETP species.

Going forward, the fishery will implement a strategy to ensure the fishery does not hinder the recovery of manta rays and devil rays (conditions 5 and 6).

Additionally, the retention of Silky and Oceanic white tip sharks is prohibited.

Management

The PNA has implemented a fishery-specific management system with effective decision-making processes²¹. The fishery scored especially well for its collaboration efforts at the WCPFC, and has no conditions related to management. There is a comprehensive monitoring, control and surveillance system in place.

CHALLENGES

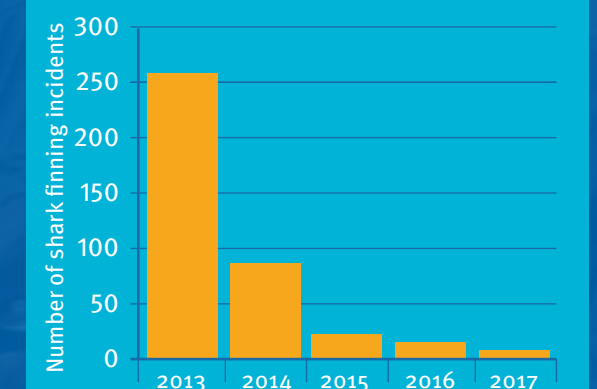
Compartmentalisation

Like other free-school purse seine fisheries, boats fish both on free-school tuna and FADs and fish within and outside the certified EEZ area. The MSC-eligible fish are kept separate on-board and 100% observer coverage ensures they are not mixed. The fishery has implemented satellite tracking and batch coding (ensuring traceability)⁶⁴. Only the MSC-eligible free-school tuna is MSC certified on landing. PNA uses the MSC premium as an economic incentive to compliment other measures to limit FAD sets and promote sustainability. This has been described as “the MSC theory of change in practice”. Following concerns raised by stakeholders about the sustainability of fishing activities which carry out both certified and uncertified fishing practices in a single trip, the MSC is introducing changes which will require all fishing practices used within the fishery (both free-school and FAD-associated purse seine sets) to be certified by March 2023 (see page 39). The MSC is working with the PNA fishery and others to support the more sustainable use of FADs.

Shark finning

Shark finning has historically taken place in the PNA fishery. On average around 185 incidents were reported per year in 2012 and 2013²¹. Since 2013, the MSC Fisheries Standard has required fisheries to demonstrate the likelihood that shark finning is not taking place at the point that they are first certified, or recertified. Ahead of this requirement, the PNA governments were already taking robust action to ban shark finning. The WCPFC also has conservation and management measures in place to prevent shark finning. Following these regulations, shark finning has been virtually eliminated from the fishery, with just 3 instances reported in 2017 (0.05% of the total catch)⁶⁵. Following new requirements for shark finning effective from September 2020, the fishery will need to take further steps to remove any organisation or company found to have undertaken shark finning from its certificate (see page 34).

NUMBER OF INCIDENTS

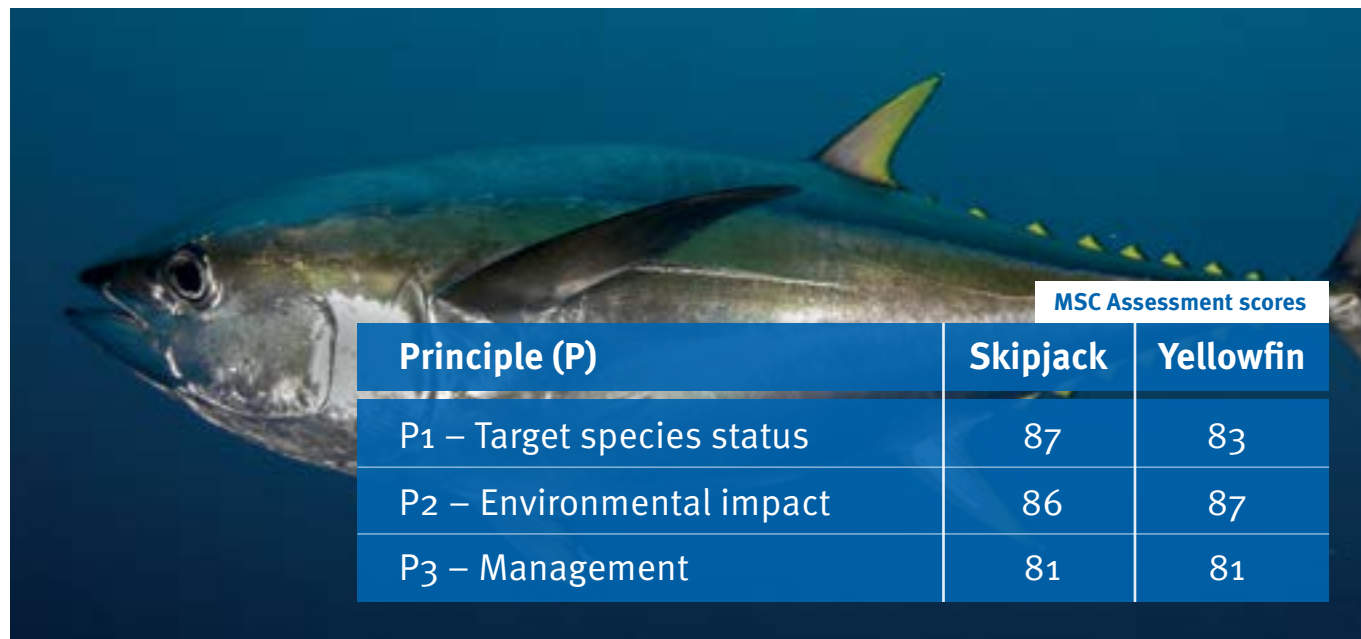


CASE STUDY

PT CITRARAJA AMPAT, SORONG, SKIPJACK AND YELLOWFIN

Gear type: Pole and line | **Tonnage:** 2,186 tonnes (2019)

First certified: 22nd November 2018



MSC Assessment scores		
Principle (P)	Skipjack	Yellowfin
P1 – Target species status	87	83
P2 – Environmental impact	86	87
P3 – Management	81	81

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Background

This was the first fishery in Indonesia to become MSC certified⁶⁶ – a significant development since Indonesia is the world’s leading tuna producer and second largest seafood producer. The skipjack and yellowfin stocks in the Western Central Pacific Fisheries Commission (WCPFC) represent 60% of the world’s tuna catch⁶⁷. The fishery is also important for the local economy, employing 750 local fishermen⁶⁰.

PT Citraraja Ampat Canning (PT CRA) is a fish packing, processing and exporting company, based in Indonesia and founded in 1992. One of its main products is canned Indonesian tuna, which it sources from pole and line fisheries.

It works with local traditional pole and line fishermen in Sorong, who use the centuries-old tradition of pole and line fishing.

Tuna is integral to Indonesia’s fishing economy and illegal fishing costs Indonesia US\$4 billion in lost profits each year, harming the health of Indonesia’s seas and food security. Indonesia’s Government has demonstrated a clear commitment to end illegal fishing by sinking illegal fishing boats. While successful in severely reducing the yields of illegal fleets, destroying vessels does not alone achieve sustainability. Crucially, sustainable fishing requires effective management (see box).

To catch the tuna, anchored Fish Aggregating Devices (aFADs) and live bait first attract tuna to the boat. Fishermen use poles and lines to catch the tuna one by one⁶⁰. Tuna are then swung on board and immediately put into holds on ice. The fishery catches virtually no Endangered, Threatened or Protected species, and any unwanted catch is released safely⁶⁰.

Selected conditions and improvements

The fishery has implemented a number of improvements to ensure long-term sustainability.

Stock Status

Both stocks are healthy and are subject to regular stock assessments. The fishery will work with the WCPFC to ensure that the harvest strategies are responsive to the state of both stocks and well-defined Harvest Control Rules (HCRs) are implemented.

Environment

There are no conditions relating to environment: the fishery is very selective, using barbless, unweighted and un-baited hooks; there is 100% observer coverage; and there is a National Plan to ensure no shark finning occurs.

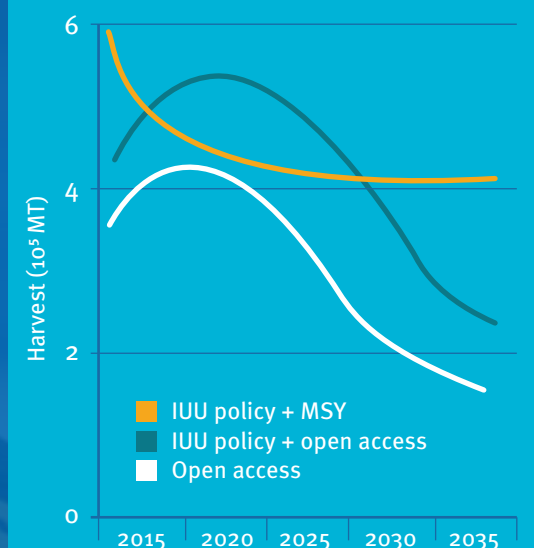
Management

National and international laws are in place to protect the stocks and decision making, consultation and compliance at a local level are good. Indonesia cooperates with the WCPFC, however, both parties need to work together to implement harvest strategies with HCRs, and Indonesia needs stronger management objectives to deliver outcomes and consistently implement RFMO requirements at the national level.

REDUCING ILLEGAL FISHING IS NOT ENOUGH

Legal fishing needs to be well-managed to ensure sustainability. Illegal fishing represents over 30% of the total catch of the WCPFC, costing Indonesia US\$4 billion in profits every year⁶⁸. To tackle illegal fishing, Indonesia’s Government seized and sank 488 (mostly foreign) illegal vessels between October 2014 and August 2018⁶⁹, and as well as banning foreign fishing in their EEZ, leading to a 30% reduction in vessel numbers. However, Indonesia’s future skipjack yields do not just rely on reducing illegal fishing, but also on effective management of legal fishing. If illegal fishing is reduced, but management is open access, both the harvest and profits will decrease in the future. Conversely, with appropriate management, stable and improved future harvests and profits are projected. Therefore, regional cooperation and effective management in Indonesia’s tuna fisheries have an opportunity to play a crucial role in its future sustainable development⁶¹.

ILLEGAL FISHING MODELLED AGAINST MANAGEMENT OPTIONS



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CASE STUDY

SOLOMON ISLANDS ALBACORE, SKIPJACK AND YELLOWFIN

Gear type: Purse seine (anchored FAD and free school), pole and line, longline
Tonnage: 28,812 (2018/19) | **First certified:** 12th July 2016



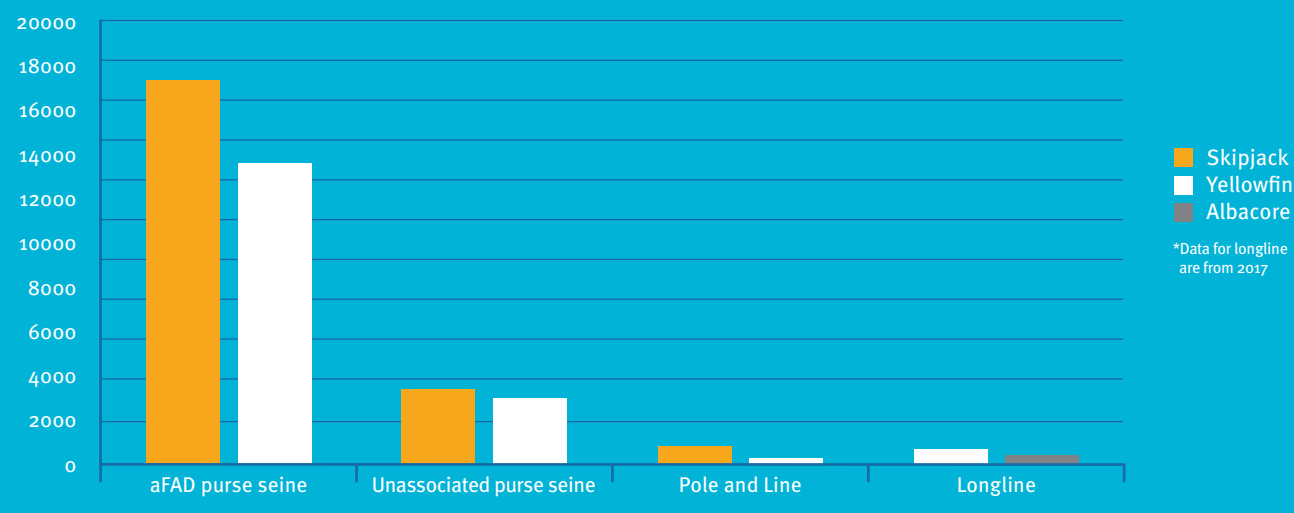
Principle (P)	Skipjack			Yellowfin				Albacore
	aFAD	FS/PS	P&L	aFAD	FS/PS	P&L	LL	LL
P1 – Target species status	87	87	87	84	84	84	81	84
P2 – Environmental impact	87	91	91	87	91	91	87	87
P3 – Management	86	86	86	86	86	86	82	82

MSC Assessment scores

© Tri Marine

aFAD = Purse seine on anchored FAD; FS/PS = Free-school purse seine; P&L = Pole and line; LL = Longline

CERTIFIED SOLOMON ISLANDS FISHERY CATCH DATA FOR ALBACORE, SKIPJACK AND YELLOWFIN, 2018*



Background

The Solomon Islands tuna fisheries target skipjack, yellowfin and albacore in the Solomon Islands' Exclusive Economic Zone and archipelagic waters.

These certified tuna fisheries are extremely important to the economy, employing over 2,000 Solomon Islanders, and are one of the country's largest private sector employers⁷⁰.

Pole and line fishing is very selective with minimal bycatch. Pole and line fishing uses baitfish, and the fishery monitors its bait use. However, most of the tuna from this area is caught using purse seines deployed on free-schools and anchored Fish Aggregating Device (FADs) (see pages 18-25). Unwanted bycatch is discouraged as the fishery retains everything they catch.

Having certified its purse seine and pole and line tuna fleets in 2016, National Fisheries Development in the Solomon Islands went on to achieve certification for its longline fleet as well, providing coverage of all the main tuna gear types in its waters.

Selected conditions and improvements

The Solomon Islands' fishery has adopted major improvements and addressed conditions to ensure long-term sustainability.

Stock Status

The stocks are healthy and regular stock assessments are carried out. The Solomon Islands, as part of the WCPFC, has no formal Harvest Control Rules (HCRs) in place for skipjack, yellowfin or albacore. Therefore, the fishery has been working with the Western Central Pacific Fisheries Commission (WCPFC) to develop harvest strategies and HCRs (conditions 1-4). The fisheries are on target to achieve these conditions for skipjack and yellowfin. The recent certification of the longline fleet means HCRs will also be pursued for albacore.

Environment

In 2014, the fishery implemented a policy to retain all its catch. This went beyond the compliance requirements of the WCPFC. Although non-target species form a very small part of the catch, they provide an important protein source for the local population and landing them improves data collection in the fishery⁷¹. The fisheries follow regulations to protect Endangered, Threatened and Protected (ETP) species, including prohibiting shark finning⁶⁴, avoiding fishing near marine mammals, and safely handling any caught sea turtles. To corroborate information from logbooks, the fishery operates 100% observer coverage on purse seine trips⁶⁴ and their compliance rates are proven to be high.

The Solomon Islands' anchored FAD fishery scores particularly highly in relation to habitats. The fishery tries to recover old and lost FADs to reduce marine debris⁶⁴, anchors FADs away from reefs to protect corals and is developing an anchored FAD management plan.

The recently-certified longline fishery will be working towards meeting conditions on information on the bait used in the fishery and levels of observer coverage to ensure ETP species are being protected.

Management

Since its certification, the fishery has achieved one of its main conditions, to make decision-making more transparent. It has achieved this through increased participation and appropriate representation in meetings and increased liaison with Government departments⁶⁴. The fishery is also limited by the number of days fishing allowed annually, and there is a baitfish management plan in place as well as monitoring, compliance and surveillance requirements. Effort limitation was introduced for longline vessels in 2016.

“This is the first time that all three major gear types for tuna have been certified in the same fishing grounds, demonstrating a rare example of well-balanced management.” Bill Holden, MSC Senior Tuna Fisheries Outreach Manager

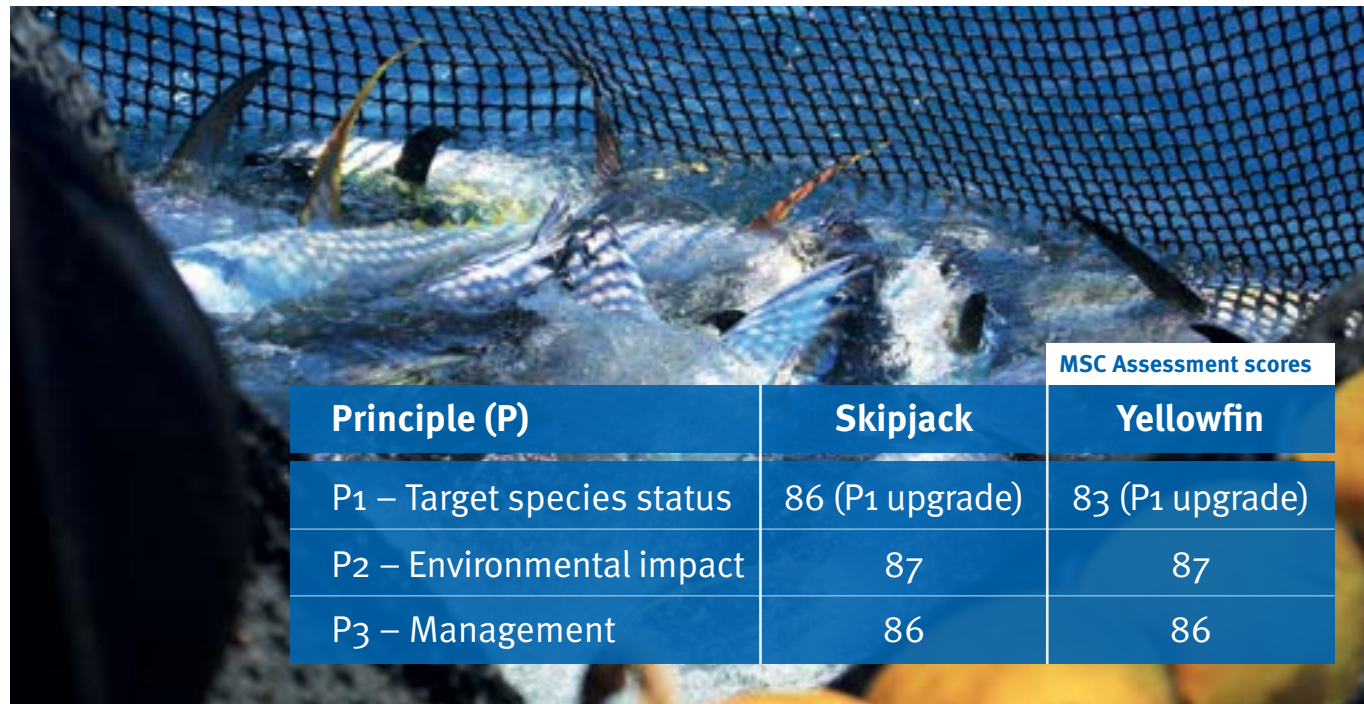
© Tri Marine

CASE STUDY

TRI MARINE WESTERN & CENTRAL PACIFIC SKIPJACK AND YELLOWFIN

Gear type: Purse seine (free school) | **Tonnage:** 9,939 tonnes (2019)

First certified: 2nd June 2016



Principle (P)	MSC Assessment scores	
	Skipjack	Yellowfin
P1 – Target species status	86 (P1 upgrade)	83 (P1 upgrade)
P2 – Environmental impact	87	87
P3 – Management	86	86

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Background

The Tri Marine fishery was first certified in 2016. The fishery covers a wide expanse of the Pacific Ocean, extending beyond the waters of the Parties to the Nauru Agreement area to include the waters of the United States’ territorial waters, several Pacific Islands Forum Fisheries Agency member countries, and the high seas, within the Convention Area of the Western Central Pacific Fisheries Commission (WCPFC) RFMO.

The certified part of the fishery targets free-swimming schools of mature tuna, which helps to reduce the incidental bycatch of non-target species. Skipjack and yellowfin comprise almost 100% of the total catch so there is virtually no unwanted bycatch⁷².

In September 2020 the fishery announced that it was seeking to extend the scope of its certificate. While the initial certification only covered US vessels owned by Tri Marine, a total of fourteen Units of Assessment (UoAs) are now in assessment. This includes FAD UOAs and all vessels licensed by the USA, select vessels licensed to Chinese Taipei, Solomon Islands, Vanuatu, New Zealand, Cook Islands and the Federated States of Micronesia (FSM) using purse-seine gear (all set types).

Selected conditions and improvements

The Tri Marine fishery has implemented major improvements and addressed conditions, to ensure long-term sustainability.



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Stock Status

The WCPFC has been slow to implement Harvest Control Rules for both stocks but has committed to implement these over the coming years⁶⁵. However, the fishery, through the WCPFC, has developed reference points for skipjack and limits for the number of days that vessels can fish.

Environment

A key achievement is the introduction of 100% observer coverage in the fishery to provide assurance around shark finning claims. Observer records have demonstrated that there have been zero shark finning incidents from 2013-2018. The efficacy of observer coverage is currently being tested by installing cameras on vessels. Shark finning is prohibited under United States legislation and the fishery complies with the Shark Conservation Act (requiring that any sharks are landed with fins naturally attached)⁷³. By committing to all these measures, the fishery has successfully addressed condition 5 of its certification.

The fishery has implemented management

measures to reduce the impact of Fish Aggregating Device (FADs) on the environment. The fleet complies with WCPO-mandated FAD closures i.e. three-month closure in the entire WCPO Convention Area, plus an additional two-month FAD closure in the high seas. Non-entangling FAD designs have been employed and the fleet is in the process of testing biodegradable FADs. The revision of the MSC requirements in relation to compartmentalisation (see page 41) means that in the future the fishery will need to seek certification for their entire catch.

Management

The Tri Marine fishery has developed transparent non-compliance procedures – including charges, penalties and enforcement decisions – to deal with fishing infringements. The working group on compliance reviews and recommends compliance measures in the fishery using data supplied through logbooks, licences, vessel monitoring systems and observer reports. By adopting these procedures, the fishery has addressed condition 6, ahead of schedule.

SUMMARY OF CONDITIONS

February 2021

Performance Indicator with Conditions	Performance Indicators with Conditions													
	Performance Indicator	AAFA & WFOA	Australian ETBF	Cook, FSM & RMI	Echebatar	Indonesia pole-and-line	Maldives	N Atl albacore artisanal	PNA	Sorong	SATHAON	Solomon	Tri Marine WCPO	Usufuku
Stock Status	Stock status						🐟			🐟				🐟
	Stock rebuilding/reference points													
	Harvest strategy	🐟	🐟	🐟	🐟	🐟	🐟		🐟	🐟		🐟	🐟	
	Harvest Control Rules and tools	🐟	🐟	🐟	🐟	🐟	🐟	🐟	🐟	🐟	🐟	🐟	🐟	🐟
	Information and monitoring										🐟			🐟
Environment	Retained/primary species outcome													
	Retained/primary species management		🐟										🐟	🐟
	Retained/primary species information										🐟			🐟
	Bycatch/secondary species outcome											🐟		
	Bycatch/secondary species management			🐟							🐟	🐟		
	Bycatch/secondary species information										🐟	🐟		
	ETP species outcome			🐟				🐟			🐟			
	ETP species management			🐟					🐟		🐟	🐟		🐟
	ETP species information			🐟	🐟			🐟			🐟	🐟		🐟
	Habitats outcome				🐟									
	Habitats management				🐟									
	Habitats information				🐟									
	Ecosystem information				🐟									
Management	Legal and customary framework					🐟				🐟				
	Consultation, roles and responsibilities				🐟							🐟		
	Long-term objectives													
	Fishery-specific objectives				🐟	🐟		🐟		🐟				
	Decision making process	🐟			🐟							🐟		
	Compliance and enforcement						🐟					🐟	🐟	
	Monitoring and management													

WHY SHOULD I CHOOSE MSC CERTIFIED TUNA?

- ✓ **Buy with confidence**
Traceability from ocean to plate, preventing illegal fishing and mislabelling.
- ✓ **Assurance**
Independent certification bodies regularly check the fishery against the MSC Standard, which is developed by experts and with international consultation.
- ✓ **Safeguarding livelihoods**
Tell the stories of people involved in fisheries; certified tuna supports livelihoods for the future.
- ✓ **Protecting our Blue Planet**
Certified fisheries support healthy ecosystems, with low levels of non-target catch.
- ✓ **Recognising the importance of transparent, comprehensive FIPs**
A global network of NGOs and tuna supply chain representatives driving tuna fisheries towards sustainability by taking a collaborative partnership approach helping lay the foundation for future MSC certified fisheries.
- ✓ **Meeting global commitments**
Certified fisheries support global food security, contributing to the UN Sustainable Development Goals.
- ✓ **Fish for the future**
Sustainability based on science; strong management and good governance helps to ensure supplies of tuna for the future.
- ✓ **Being innovative**
Research and innovation in sustainable fishing, driving improvements in global fishing.
- ✓ **Availability**
Around 29% of the global tuna catch is MSC certified.
- ✓ **Drive change**
More fisheries want to become sustainable. Support them in their journey.

Performance Indicators with Conditions

- 🐟 Condition that the fishery is working towards
- 🐟 Condition which has been addressed by the fishery

CONSUMER INSIGHTS: OCEANIA



Over 25,000 consumers (of which 20,876 were seafood consumers) in 23 countries took part in the research, which ensured a statistically representative sample in each country.

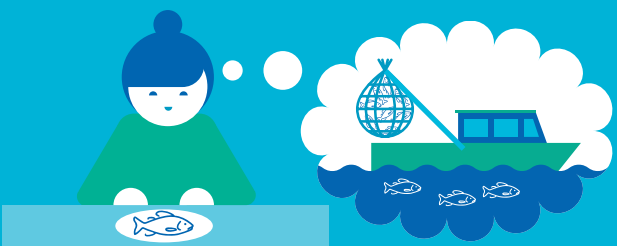
69%

of those surveyed said there is a need for brands and supermarkets to independently verify their claims about sustainability.



88%

of seafood consumers say they'd like to hear more from companies about the sustainability of their seafood products.



81%

believe that seafood needs to be protected for future generations.



38%

of seafood consumers in Australia recognise the blue MSC label.

83%

of seafood consumers who recognise the MSC logo say they trust the claims of the organisation.

As the world's most recognised seafood labelling and certification program, consumers are positive that the MSC, and the thousands of organisations committed to using the blue MSC label, are contributing to the health of the world's oceans.



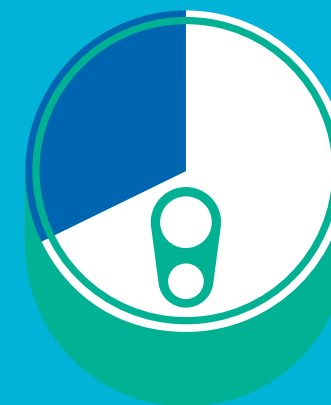
81%

of consumers rate the MSC highly for helping to ensure seafood availability for future generations



79%

agree that the MSC label helps to identify sustainable seafood quickly and easily



64%

of seafood consumers agree that in order to save the ocean, we have to consume seafood only from sustainable sources.

Data from: GlobeScan. 2020. Demand for independent labelling of seafood is increasing globally. Consumers surveyed were in Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Italy, Japan, The Netherlands, New Zealand, Norway, Poland, Portugal, Singapore, South Africa, Spain, Sweden, Switzerland, UK and USA. China was surveyed for the first time in 2018. Available at: <https://www.msc.org/understanding-seafood-consumers>.

CONCLUSION

Tuna are among the most commercially valuable fish on the planet. To ensure their productive and stable future supply, tuna need to be responsibly managed and sustainably fished. This handbook comes at an important time. It aims to unpack the complex and diverse nature of the global tuna supply chain by providing information on issues related to tuna fishing such as gear types, fishing methods, species, sustainability, and environmental impact. Retailers and buyers can help support sustainable tuna fishing by ensuring they source from certified sustainable fisheries and by encouraging fisheries to make improvements to safeguard their sustainability.

Tuna fisheries can be associated with major supply chain risks such as overfishing, the bycatch of threatened and endangered species, shark finning and forced labour practices. Minimising these risks requires rigorous and regular checks on compliance at every point along the supply chain. As highlighted in this handbook, simple approaches, such as sourcing from or avoiding particular fishing methods, do not sufficiently reduce the full range of potential environmental impacts associated with tuna fishing, and importantly, do not necessarily prevent overfishing of stocks.

Fishery Improvement Projects (FIPs) are a vital step towards delivering sustainable tuna fisheries. Comprehensive FIPs that operate transparently and that are making measurable progress are a crucial tool to help fisheries work towards becoming sustainable and achieving MSC certification.

The best way to reduce risk and ensure tuna is sustainable is to source from MSC certified tuna fisheries. The MSC has developed a universal seafood certification standard that is recognised as the most credible and robust standard for environmentally sustainable fisheries. It assures that the stocks are healthy, the impact on the ecosystem is minimised and the fishery is well-managed, driving improvements over time. Coupled with the Chain of Custody Standard for traceability, this provides credible assurance for buyers and retailers that the tuna they are sourcing originates from a sustainable fishery.

MSC certified fisheries are helping to secure healthy tuna stocks around the world, which are essential for the health of the marine environment and global fishing economies. The MSC program is also helping to meet the UN Sustainable Development Goals for global food security and equality including SDGs 2, 8, 12, 14 and 17.

Consumers' appetite for MSC certified seafood is increasing. Consumers believe that safeguarding our seas is vital for our future, and across 21 countries, consumers rate sustainability more highly than price and brand⁷⁴.

The MSC is helping satisfy this demand by delivering sustainable, healthy and tasty solutions to our partners and consumers. Nearly 29% of global tuna is now MSC certified and 76% of consumers who know the MSC brand, say they trust it¹. By sourcing MSC certified tuna, you are not only investing in ensuring stable supplies of fish for the future, but also incentivizing healthy oceans and coastal communities.

29% of global tuna is now MSC certified **76%** of consumers who know the MSC brand, say they trust it¹.

KEY ACTIONS

- For confidence in the sustainability and traceability of tuna, choose tuna from MSC certified fisheries
- Retailers, NGOs and fishing companies need to work together to influence RFMOs to adopt the measures needed to maintain MSC certification. Contact your Fisheries Minister or RFMO delegation in the coastal state where you source your tuna, and encourage them to support the adoption of Harvest Control Rules at the RFMO meetings
- Exercise caution over the use of single-issue claims such as FAD-free, particularly when they are not backed by traceability programs
- Stay up-to-date and take part in our consultation processes: we are continually developing our Standard to ensure that it tackles key issues in fisheries and continues to reflect widely accepted international best practice
- Share your sustainability credentials with your customers, whether they are supermarkets or a consumer
- Join the following groups that are supporting improvements in tuna fisheries: Global Tuna Alliance, International Seafood Sustainability Foundation (ISSF), RFMO working groups or scientific committees, Seafood Business for Ocean Stewardship (SeaBOS), NGO Tuna Forum, Global Dialogue on Seafood Traceability (GDST), ProActive Vessel Register
- Ask your supplier questions about the fishery you are sourcing from, for example, regarding catches of non-target species in the fishery. There is always room for improvement to ensure sustainability within tuna fisheries

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