Sustainable Fisheries PARTNERSHIP

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Protecting Marine Wildlife in ASDA's Seafood Supply Chain

FISHERIES AND BYCATCH

Bycatch, the unintended catch of non-target species, is one of the most significant issues affecting the biological sustainability of marine fisheries. The type of bycatch associated with individual fisheries depends on several factors, including gear design (e.g., hook type), fishing method (e.g., time and day of setting), and the spatial overlap between fishing effort and individual species distribution.




Sharks, seabirds, marine mammals, and sea turtles, all of which are ecologically important in ocean habitats, are highly susceptible to unintended capture in most forms of commercial fisheries. Many of these species are distributed across large geographic areas and have a significant overlap with many fisheries.

The bycatch of these species is of great concern, because many populations are already at very low levels:

- The International Union for Conservation of Nature (IUCN) lists 74 shark species as threatened, ranging from Critically Endangered (11), Endangered (15), and Vulnerable (48).
- Of the 22 species of albatross, 15 are threatened with extinction, with fishing bycatch identified as a key risk factor for the majority of species.
- Of the 13 Critically Endangered cetacean populations, 11 are declining due to bycatch in gillnets.
- Green sea turtles and Kemp's ridley sea turtles are listed by the IUCN as Endangered and Critically Endangered, respectively.

In addition, many of these species have life-history characteristics that make them especially vulnerable to fishing-related mortality, such as late age of sexual maturity, long reproductive cycles, and production of small numbers of offspring.

RETAILERS HAVE A KEY ROLE IN REDUCING BYCATCH

It is imperative that retailers take action to identify bycatch problems in their own supply chains and promote measures that will eliminate lethal impacts on marine ETP species.

The bycatch of endangered, threatened, and protected (ETP) species in fisheries presents a major challenge to retailers that sell seafood and have commitments on sustainable sourcing or biodiversity protection. Participating in production that leads to the decline of vulnerable marine wildlife will breach these commitments, as well as generate significant concern among seafood consumers who do not wish to be associated with these kinds of impacts.

ASDA AND SEAFOOD SUSTAINABILITY

Asda Stores Ltd. (Asda) is the second largest supermarket chain in the United Kingdom, and is a wholly owned division of Walmart, the world's largest retailer. Asda has been a leader in addressing issues of marine sustainability, including participation in the Ocean Disclosure Project (ODP). Through the ODP, Asda publicly discloses the wild fisheries that supply the seafood sold in its stores. The company's ODP profile indicates if the sources are certified to a recognized standard or are in an improvement project, and includes sustainability ratings and comments on environmental impacts.

Asda is now focusing on addressing issues around the impacts of seafood production on marine wildlife, including sharks, seabirds, marine mammals, and sea turtles. And, specifically if the supply chains that provide seafood to the business can be mobilized to reduce the impacts of fishing on endangered, threatened, and protected species.

OVERVIEW OF STUDY

At Asda's request, Sustainable Fisheries Partnership (SFP) conducted a study to assess the risk to endangered, threatened, and protected species from the fisheries that supply its seafood, and identify the changes needed in these fisheries to reduce their impacts on ocean wildlife. The research was carried out by SFP, in collaboration with Birdlife International and Whale and Dolphin Conservation.

The study represents the first time that a major retailer has systematically assessed the impacts of their seafood business on marine wildlife. This new research answers the key question: Which of Asda's source fisheries pose the greatest risks to sharks, seabirds, marine mammals, and sea turtles?

METHODOLOGY

Scientists and fisheries experts from SFP, Birdlife International, and Whale and Dolphin Conservation collaborated to develop criteria to identify fisheries that should be considered high-risk for interactions with endangered, threatened, and protected (ETP) species of sharks, seabirds, marine mammals, and sea turtles.

These criteria include:

- The conservation status of the relevant bycatch species, as determined by the International Union for Conservation of Nature (IUCN).
- Bycatch/rate and evidence of impact at a population level (or high likelihood of bycatch, based on gear type and overlap with susceptible species).
- Scale of the specific bycatch problem, e.g., across the world versus limited to one fishery.
- If the fisheries impact species with a very small range.
- If the fisheries include cross-taxa bycatch.
- If Marine Stewardship Council (MSC) certification has been suspended due to non-compliance with elements of Principle 2 in the standard.

SFP reviewed and assessed all of the fisheries disclosed by Asda in the Ocean Disclosure Project against the criteria. Based on this analysis, SFP identified the fisheries in Asda's portfolio that represent the greatest risk for each of the four types of wildlife (sharks, seabirds, marine mammals, sea turtles). At least one, and up to three, fisheries were selected in each category.

KEY FINDINGS

The following are the key findings from the study. These describe the highest bycatch risks from fisheries in Asda's supply chain to sharks, seabirds, marine mammals, and sea turtles:

- Longline fisheries for tuna in the Indian and Pacific oceans present serious risks to albatrosses, sharks, and sea turtles through the hooking of these species when they try to take bait from fishing lines or become entangled.
- Gillnet fisheries for cod and haddock in the northeast Atlantic Ocean present a significant risk to seabirds and marine mammals, including porpoises, seals, and humpback whales.
- American lobster pot and trap fisheries pose an entanglement risk to whales, such as the north Atlantic right whale, with their buoy lines at the surface.

More detailed information on these findings and the related fisheries is provided in the following sections of the report.

SHARKS

Sharks are primarily caught as bycatch in pelagic longline fisheries. However, large numbers are also caught in purse seine fisheries, where they can become entangled in fish aggregating devices (FADs), as well as in gillnets, particularly in some regions such as the Indian Ocean.

High levels of shark bycatch have been reported in pelagic longline fisheries that target tuna and swordfish, and this is considered a major source of mortality for many shark species worldwide. Up to one-quarter of the total catch in some pelagic longline tuna fisheries are shark species.

Shark bycatch in purse seine fisheries can be substantial in both the Indian and Pacific oceans, and this mortality is negatively impacting their populations. Many species of sharks can be captured in gillnet fisheries because of the indiscriminate way gillnets are used. Information on shark bycatch in gillnet fisheries is often limited, due to poor data collection. However, analysis from some fisheries has shown sharks to be a large component of gillnet bycatch.

The loss of sharks has also been shown to negatively impact ecosystems. For example, the loss of sharks can lead to changes in the abundance of their prey species, triggering a cascade of other trophic-level impacts in the ecosystem.

1. Yellowfin tuna longline fishery
Indian Ocean (South Korea)

South Korea has reported interactions with several species of sharks in its yellowfin tuna fishery in the Indian Ocean. These include blue, mako, and porbeagle sharks. Information on shark catches in the Indian Ocean is sparse, and stock assessments have only been conducted for a few species, meaning the status of most species is unknown. There is very low observer coverage, below mandated levels. The Indian Ocean Tuna Commission (IOTC), the international management body that oversees the tuna fisheries, also has no shark bycatch mitigation measures in place.

Priority recommendations:

- ***Increase observer coverage on vessels to at least the minimum of 5 percent now, with a goal of achieving 100 percent (human and electronic) coverage within the next three years.***
- ***Adopt best practice bycatch-mitigation measures for vessels.***
- ***Require that all vessels collect and provide accurate data on shark captures to the IOTC, according to IOTC guidelines.***
- ***Require that vessel captains and crews attend shark identification workshops and workshops on best practices for safe handling and release.***

2. Yellowfin tuna longline fishery
Western and Central Pacific Ocean (Indonesia)

Indonesia has reported the capture of various shark species in its yellowfin tuna fishery in the western and central Pacific Ocean. There are significant issues with the collection and dissemination of data in this fishery. There is very low observer coverage, below mandated levels, and limited information on the status of sharks that are released. There is also no mandate for the use of best practice mitigation measures to reduce shark interactions.

A national longline tuna fishery improvement project (FIP) was initiated in 2019, but only includes vessels with licenses from the national government and not small (<30 GT) vessels licensed under the provincial governments.

Priority recommendations:

- ***Request vessels <30 GT to participate in the Indonesian National Longline Tuna FIP.***
- ***Increase observer coverage on vessels to at least the minimum of 5 percent now, with a goal of achieving 100 percent (human and electronic) coverage within the next three years.***
- ***Require vessels to adhere to the measures in the Western and Central Pacific Fishery Commission's WCPFC shark management plan.***
- ***Require best practice bycatch mitigation measures be adopted by vessels.***

3. Skipjack tuna purse seine fishery
Indian Ocean (Mauritius)

Mauritius has reported the capture of sharks in its fleet. Mauritius has a National Plan of Action (NPOA) in place, but it needs monitoring to ensure compliance. The NPOA includes improved data collection, but does not appear to push for increased bycatch mitigation measures.

The country reports about 15 percent observer coverage on its purse seine fleet, but fleets in other regions typically have 100 percent observer coverage rates. The Indian Ocean Tuna Commission (IOTC), the international management body, also has no shark bycatch mitigation measures in place.

Priority recommendations:

- ***Increase observer coverage on vessels to 100 percent (human and electronic) coverage within the next three years.***
- ***Require best practice bycatch mitigation measures be adopted by vessels.***
- ***Require compliance with measures outlined in the NPOA for sharks.***
- ***Require that all vessels collect and provide accurate data on shark captures to the Commission, according to IOTC guidelines.***
- ***Continue providing shark identification workshops and workshops on best practices for safe handling and release.***

SEABIRDS

Seabirds are vulnerable to bycatch impacts from a range of fishing gears.

Gillnet fisheries, in the form of driftnets, were among the first to be recognized as problematic for diving seabirds. Bycatch in longline fisheries has been identified as a key driver in the decline of albatrosses since the late 1980s and 1990s. Longlines continue to drive albatross declines and also catch smaller petrel and shearwater species. Of particular concern for seabird bycatch are those fisheries that operate south of 20 degrees latitude.

A global estimate of seabird bycatch in trawl fleets is not presently available, but is likely to be of a similar order of magnitude to longline fisheries. And similarly, fisheries operating south of 20 degrees latitude are of particular concern.

In recent years, seabird mortality in purse seine fisheries has been receiving increased attention, though it has not been quantified on a global scale.

1. Cod and Haddock gillnet fisheries
Northeast Atlantic Ocean (Iceland and Norway)

In a recent review of performance against the Marine Stewardship Council (MSC) standard in relation to bycatch, the Iceland Sustainable Fisheries (ISF) cod fishery received an "amber" rating, because, despite having been through at least two MSC certifications, bycatch had not been adequately considered. Between 2014 and 2016, the total number of seabirds caught in cod nets was estimated at around 2,500 individuals. Northern fulmar is the most commonly captured bird, followed by common guillemot and common eider.

In the same review of MSC performance in relation to bycatch, the Norway Northeast Arctic cod/haddock gillnet fishery received a "red" rating, as it had failed to implement bycatch-reduction measures. The total number of seabirds caught in the cod fishery is about 3,100 to 3,400 individuals per year, dominated by auk species.

Priority Recommendations:

- ***Increase observer coverage on vessels to at least 5 percent now, with a goal of achieving 100 percent (human and electronic) coverage within the next three years, and annual presentation of bycatch data to calculate a bycatch rate from each fishery.***
- ***Require implementation of best practice mitigation measures and demonstrate continual reductions in the bycatch rate.***
- ***Consider changing gear types and avoiding gill nets if this delivers an overall reduction in bycatch incidents.***

2. Salmon (chum, pink, and sockeye) gillnet fishery
North Pacific Ocean (Alaska/Pacific Canada)

The species of most concern for this fishery are diving seabirds, which are known to be particularly at risk of bycatch in gillnets. This includes species such as the marbled murrelet, which is listed under the US Endangered Species Act and listed as Endangered on the IUCN Red List.

Overall, the data used in the MSC assessment for this fishery are highly variable, both in time and space, and do not specifically address the different fishing practices nor question the data accuracy of the test fisheries that were used to predict bycatch levels. Some data used in the assessment were not exploited to their full extent and/or contained limitations, which may have resulted in an underestimation of bycatch.

Priority recommendations:

- ***Increase observer coverage on vessels to at least the minimum of 5 percent now, with a goal of achieving 100 percent (human and electronic) coverage within the next three years (including lower-cost alternatives for small vessels).***

- ***Ensure research and mitigation trials to reduce bycatch are conducted. The fishery does have a new MSC condition to do this, but it will be important to ensure that it is delivered in a satisfactory fashion.***

3. Albacore tuna longline fishery
Southern Indian Ocean (South Korea)

There is a need for Korea to start using electronic monitoring (EM) on its vessels, to demonstrate use/compliance with seabird bycatch mitigation measures. Korea reports that vessels are using bird-scaring lines and line weights, and reported seabird bycatch rates are low, but this relies on data collected by observers, which only has about 4 percent longline coverage.

Priority recommendations:

- ***Increase observer coverage on vessels from at least the minimum of 5 percent now, with a goal of achieving 100 percent (human and electronic) coverage within the next three years, with a specific aim of being able to determine compliance with seabird mitigation measures.***

MARINE MAMMALS

The latest scientific assessment of marine mammal bycatch (2016) calculated that many hundreds of thousands of marine mammals are killed in fisheries each year. However, as marine mammal bycatch data is poor in most fisheries, this is likely to be a significant underestimate.

Static rope gear using pots and traps is a problem for a range of marine mammals, particularly baleen whales and especially the endangered North Atlantic right whale and humpback whale. Lethal entanglements of baleen whales are one of the most devastating forms of human-caused mortality in any wild animal, often lasting for long periods of time and causing immense suffering.

Purse seine fisheries can also incidentally capture marine mammals. Population-level impacts have been associated with the deliberate setting of purse seine nets around dolphins in tuna fisheries in the eastern tropical Pacific Ocean since the 1960s. However, despite reduced mortality rates of dolphins in recent decades, the populations of dolphins are not showing signs of recovery, and the rate of calf production has been declining since the 1980s.

Marine mammals can become entangled by trawl gear when swimming to forage or migrate, with risks differing widely among species. Species that forage on or near the seafloor are at risk of being captured or entangled in netting or tow lines.

Longline fisheries have very poor data on marine mammal interactions, but have been noted as a concern by some studies.

1. American lobster fishery, pots and traps
North Atlantic Ocean

The North Atlantic right whale population, in its range off the US and Canadian east coast, is estimated to number approximately 400 individuals. Now there are now only about 95 breeding-age females in this small population. Since 2010, the population has been in decline due to entanglement or ship strike.

Since April 2017, 30 dead stranded whales have prompted an "Unusual Mortality Event." Any fishing gear that is fixed in the water column and is marked or hauled using a vertical line poses a risk to right whales.

The highest risk comes from these fisheries, given the high volume of trap/pot and gillnet fisheries in the waters where right whales feed, calve, and transit. This is supported by the evidence collected from right whales that have been observed or disentangled.

Priority recommendations:

- ***Require robust gear marking to identify lines, regionally and by fishery.***
- ***Adopt measures that reduce risk to right whales, including substantial reductions in the number of traps, gear modifications, and the adoption of closed areas, such that the cumulative effect reduces right whale entanglement to zero.***
- ***Conduct pilot projects with ropeless technologies to establish alternative fishing methods that present zero risk to whales, with a view to rolling out such gear fleet-wide.***

2. Cod and Haddock gillnet fisheries
Northeast Atlantic Ocean (Iceland and Norway)

In the recent review of MSC performance in relation to bycatch (see seabird section above), the Norway Northeast Arctic cod/haddock gillnet fishery received a "red" rating, as it had not implemented bycatch reduction measures, and the Icelandic Sustainable Fisheries (ISF) cod gillnet fishery received an "amber" rating, because bycatch has not been adequately considered in the certification.

Harbour porpoises are the most common marine mammal bycatch in the Norwegian fishery. The cod fishery also catches harp seals, harbour seals, and ringed seals. Humpback whales have been recorded with scarring linked to entanglements in gillnets in Icelandic waters.

Priority recommendations:

- ***Increase observer coverage on vessels to at least 5 percent now, with a goal of achieving 100 percent (human and electronic) coverage within the next three years.***
- ***Require an annual presentation of bycatch data to calculate a bycatch rate from each fishery.***
- ***Require implementation of best practice mitigation measures (alongside evidence of efficacy, e.g., spatio-temporal closures for both seabirds and cetaceans, where appropriate and evidence-based), to demonstrate continual reductions in the bycatch rate.***
- ***Consider changing gear types and avoiding gill nets.***

SEA TURTLES

Sea turtles are restricted to temperate and tropical seas, with loggerhead and leatherback turtles ranging into high latitudes in northern Europe and along the northern coastline of the United States. Leatherbacks are also found in Canadian waters.

All sea turtles are considered ETP species. Fisheries bycatch is considered to be the most significant threat to all seven species of sea turtles, and they can be caught and killed in most types of fisheries. However, bottom trawls, gillnets/trammel nets, demersal gear, and pelagic longlines are the biggest contributors to sea turtle bycatch.

There is no robust estimate for sea turtle bycatch worldwide, because of the global paucity of data, specifically observer information. Bycatch reviews have been done to assess the relative importance of global fisheries bycatch on sea turtles. These reviews highlight the eastern Pacific Ocean, northwest and southwest Atlantic Ocean, and Mediterranean Sea as the regions with the most sea turtle captures.

Most of the fisheries used by the Asda supply chain are outside of these regions of greatest concern for sea turtle bycatch. As a result, the study identified the pelagic longline fisheries of East and Southeast Asian countries as Asda's most high-risk fisheries. In these fisheries, there is considerable concern about sea turtle captures in the central, northern, and western Pacific Ocean. These are described in more detail below.

1. Yellowfin tuna longline fishery
Western and Central Pacific Ocean (Indonesia, Japan, South Korea)

The western and central Pacific region supports a high number of sea turtle Regional Management Units (RMUs). RMUs are distinct marine turtle sub-populations, individually assessed based on the risk of extinction and threat levels.

Depending on the area of operation, 13 to 20 endangered, threatened or protected sea turtle species overlap in this region and could be interacting with tuna longline fisheries. These include: 1) loggerhead turtles of the northern Pacific, which are considered to be under high risk and high threat; 2) western Pacific olive ridley turtles, which are under high threat; and 3) leatherback sea turtles in the western Pacific, which are under high risk.

In addition, these fisheries have low observer coverage rates (~5 percent), which makes it difficult to accurately estimate sea turtle interactions.

Priority recommendations:

- ***Require the use of fish rather than squid as bait.***
- ***Require the use of wide circle hooks to reduce the proportion of caught turtles that are deep hooked, to improve their chances for post-release survival.***
- ***Train crew and put procedures in place for safely bringing turtles on board, handling them, and removing hooks, while minimizing damage. There are many guideline documents and training materials available that are generally transferable between fisheries. Equipment (e.g., scoop net, steel cutters/dehookers/line cutters) must be maintained and ready to use.***
- ***Require that vessels adhere to the Western and Central Pacific Fisheries Commission (WCPFC) management measures for sea turtles.***
- ***Increase observer coverage on vessels to at least 5 percent now, with a goal of achieving 100 percent (human and electronic) coverage within the next three years.***

2. Albacore tuna longline fishery
Northern Pacific Ocean (South Korea)

These fisheries operate in the range of a number of sea turtles species of particular concern, including: 1) loggerhead sea turtles in the northern Pacific, which are considered to be under high risk and high threat; 2) olive ridley sea turtles in the western Pacific, which are under high threat; and 3) leatherback sea turtles in the western Pacific, which are under high risk. In addition, these fisheries have low observer coverage rates (~5 percent), which makes it difficult to accurately estimate sea turtle interactions.

Priority recommendations:

- ***Increase observer coverage on vessels to at least 5 percent now, with a goal of achieving 100 percent (human and electronic) coverage within the next three years.***

GENERAL RECOMMENDATIONS

While the study found a wide range of potential bycatch impacts to marine wildlife from the fisheries that supply Asda, a number of common and important themes emerged from this analysis that require broader, collective action. These include:

- Levels of bycatch monitoring are generally poor, and there is a need to adopt higher levels of observer coverage.

- There is an urgent need for a significant increase in the levels of bycatch incident reporting. This should be regular, detailed, and standardized. Data on bycatch needs to be placed in the public domain, available to all stakeholders.

- More needs to be done to address bycatch. There is minimal effort to continuously improve bycatch reduction. Bycatch mitigation activities, such as they are, are focused on achieving minimum requirements.

- There is a clear need for a systematic examination of alternative gear options in fisheries where there are high bycatch risks.

(September 2020)

Please click to read the full analysis of the report.

For more information, please also visit:

Asda • www.asda.com
Sustainable Fisheries Partnership (SFP) • www.sustainablefish.org
Royal Society for the Protection of Birds (RSPB) • www.rspb.org.uk
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