
# Poorly Regulated Squid Fisheries Are Jeopardizing Global Commitments to Safeguard the Ocean

## Unchecked fishing undermines governments' pledge to protect biodiversity

## Overview

In Bangkok's Chinatown, at the street grills of Busan and in the bustling markets of Osaka, squid hits the fire sizzling. In Tokyo, it arrives raw and gleaming as ika sushi or lightly charred as ikayaki. The same catch can just as easily end up as calamari in New York or Naples. Yet behind these familiar flavors is a murkier story: Much of the squid flowing through Asia-Pacific supply chains comes from unregulated fisheries of hidden origins and limited accountability. For the region that dominates the global squid trade, the challenge is not appetite but accountability.

Squid is one of the most widely-traded global seafood commodities, derived from a number of fisheries catching different species across the ocean. But unlike a meal of tuna, beef or chicken – or high-value products like coffee and chocolate – finding out where your squid came from and how it was caught can be very difficult.

Although they are worth billions of dollars each year, most squid fisheries are part of an opaque supply chain, with a large share falling under the "unregulated" category of a classification known as illegal, unreported and unregulated (IUU) fishing. Although much progress has been made in recent years to combat illegal and unreported activities, little attention has been paid to those that are unregulated and what that means for the ocean, biodiversity and even labor. The United Nations Food and Agriculture Organization (FAO) and its International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing define unregulated fishing in two ways.[1]

One category involves fishing in an area managed by a regional fisheries management organization (RFMO) in a manner that contravenes the management measures of that organization. The other covers activities conducted by vessels in areas, or for fish stocks, that have no applicable conservation and management measures, and where fishing is done in a way that's inconsistent with the requirements of international law.

Population and habitat health and even the safety and security of fishers are at stake in a fishery without rules. But that is the current challenge. Unregulated fishing creates an enormous gap in the management of the world's ocean, with squid fisheries, among others, falling through the cracks. Furthermore, without regulations in place, it is difficult to assess the potential damage of squid fishing, and the threat it poses to ocean sustainability and biodiversity. But as consumers become better educated about the potential damage caused by the lack of regulations, they can pressure governments to help fulfill the many commitments they previously made to protect the ocean.

**Despite global commitments, governance is not keeping pace**

Unregulated fishing was not historically a huge threat to ocean health. And that would still be true if governments could ensure that all fish populations remain healthy and sustainable. But as the size, power, range and technical sophistication of industrial fishing fleets increase, finding squid and other fish becomes easier and depletion of stocks more of a risk. For decades, governments have adopted numerous goals to remedy this problem and protect the world's ocean. But they frequently come up short.

The most recent efforts to strengthen the frameworks that regulate fisheries started within the last 10 years. In 2015, the United Nations adopted 17 Sustainable Development Goals (SDGs), including SDG 14, which focuses on life below water and aims to "conserve and sustainably use the oceans, seas and marine resources for sustainable development" by 2030, with a 2020 deadline to end overfishing and IUU fishing, including for squid.[2] This 2020 deadline was not met. Moreover, SDG 14 has the lowest amount of funding of any of the 17 goals despite other major efforts to further that goal's progress. After the goals were set, in 2022, the 196 member governments of the United Nations Convention on Biological Diversity adopted the ambitious Kunming-Montreal Global Biodiversity Framework (GBF) to halt and reverse biodiversity loss and protect and conserve at least 30% of the global ocean by 2030.[3] Several of the GBF's 23 action-oriented targets to tackle biodiversity loss are relevant to fisheries managers, and two specifically aim to minimize harm to fisheries and marine habitat.

While the framework and goals are important commitments, existing international law – if implemented properly – should have precluded the need for these actions. Most of the world's nations are parties to the United Nations Convention on the Law of the Sea (UNCLOS), which entered into force in 1994.[4] This is the overarching international agreement to guide the equitable and sustainable use of marine resources. The Convention includes key conservation measures for the protection and preservation of marine biodiversity and the marine environment – measures that should have helped preserve squid fisheries. Specifically, it mandates that States cooperate with each other on the conservation and management of living resources on the high seas, but most have failed to take appropriate, much-needed action to collaborate effectively.

The United Nations developed a second treaty in order to elaborate on how the provisions of UNCLOS should work for fisheries conservation and management. There are now nearly 100 parties to the 1995 United Nations Fish Stocks Agreement (UNFSA), which outlines the "conservation and sustainable use" of shared fish stocks and aims to ensure sustainability.[5] Through its governance tools, including 17 regional RFMOs, governments with a practical or financial interest in managing and conserving fish stocks in a region of the ocean should work together and by consensus limit overfishing and keep fish populations healthy. But RFMOs do not cover all species or fisheries and often do not prioritize short-lived and relatively low value (by unit) species such as squid. These unregulated and underregulated fisheries have experienced an exponential rise in fishing in recent years.

UNFSA also establishes a number of requirements for flag States, which license fishing vessels, authorize them to fish and have primary responsibility for policing their vessels, no matter where they are in the world. These flag State obligations are critical to ending IUU and ensuring that international law is followed. Through monitoring, control and surveillance of their fleets, enforcement of conservation and management measures, and international cooperation, flag States can contribute to the success of global fisheries management.

Finally, in 2009, the FAO adopted the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, or the PSMA.[6] The treaty, which entered into force in 2016 and includes the European Union and China among its members, is the only legally binding treaty specifically focused on IUU. It aims to stop illicitly caught fish from being landed and sold on the international market by requiring authorities to implement more stringent controls at port. Among the PSMA's benefits is its emphasis on international cooperation and information-sharing. In 2019, its parties agreed to develop a Global Information Exchange System that gives governments an easy way to share information about vessels suspected of IUU and those they denied access to port.[7] When fully implemented, any country that is a party to the PSMA will know which vessels to keep away from their docks, effectively banning them.

According to the FAO, which issues regular, detailed assessments of global marine fisheries, more than 35% of all fish stocks are overfished.[8] And that percentage has increased, according to recent surveys. This is despite the combined promise of globally recognized commitments and UNCLOS, UNFSA, the PSMA, SDG 14, and the GBF. This increasing amount of overfishing has a growing negative effect on the ocean's biodiversity and the future of the seafood industry, the economy of coastal communities, and the millions, if not billions, of people who rely on fisheries for food each day.

However, there are some bright spots in the most recent FAO report, and governments should look to them as a path forward for better management of all species, including squid. Specifically, where science-based management and effective monitoring and compliance measures are in place, such as for many of the world's tunas and tuna-like species (including wahoo and bonitos), sustainability is on the rise and once-depleted fisheries are rebuilding to healthy levels. Just a few years ago, many tuna stocks – including Atlantic, Pacific and southern bluefin tunas – were near commercial collapse. These recoveries are in part due to RFMOs moving away from traditional management and lax controls in the water and adopting harvest strategies (or management procedures) that set long-term objectives for a fishery based on the health of the target species, coupled with controls that ensure that they are met in the water, as well as adoption of measures that help prevent IUU fishing.

The lesson of better tuna management is clear: When governments adhere to their commitments and work together to enforce the rules and ensure sustainability, healthier fish populations – and a healthier ocean – can be achieved. Now it's time to turn to unregulated fisheries, such as many of those targeting squid, and commit to the best practices outlined in international law.

**Lack of basic management for squid fisheries highlights the gap between international law and its implementation**

Squid fishing is part of a growing multibillion-dollar industry whose worth has ranged from an estimated US$8.2 billion in 2019 to US$11.8 billion in 2023.[9] And these fisheries are projected to grow to at least US$16.5 billion by 2032. Although much of this economic boom is driven by increased consumer demand, the fishery itself is also growing rapidly. According to research published in *Science Advances* in 2023, fishing effort for squid increased 68% from 2017 to 2020, with more than 85% of this fishing occurring in unregulated areas.[10] And because so much of this fishing takes place without defined rules, the consequences are largely unclear, making it difficult for countries to achieve their fisheries and biodiversity targets.

Unregulated squid fishing often occurs inside or right beside jointly regulated areas or adjacent to coastal States' 200-nautical-mile exclusive economic zones (EEZs). For example, while squid fishing may be managed in the waters of coastal States like Argentina and Ecuador, once these transboundary species leave for areas beyond national jurisdiction (also known as the high seas), where rules to govern catch don't apply, vessels are free to target the squid in biodiversity-rich areas without limits, compromising the status of the entire population and the sustainable management of associated fisheries. Unregulated fisheries can also potentially undermine the effectiveness of protected areas where activities such as fishing may be prohibited. Without effective oversight of these vessels, it is difficult to determine whether they are fishing in areas designated for conservation.

Unfortunately, the few regulations that do exist for squid fisheries are insufficient. The South Pacific Regional Fisheries Management Organisation and the North Pacific Fisheries Commission – two of the only RFMOs with any squid measures – have poorly enforced rules and lack the fundamental basics of good management. For example, there are few data-sharing requirements or catch limits in place in these regions, and more than a decade after their founding, the two organizations are still in the process of developing stock assessments for squid species, a baseline needed to determine species' health and catch limits. So, although it's commendable that these two RFMOs are taking some action, it isn't enough. All RFMOs where squid fisheries exist should have effective management measures in place, and by neglecting them over the years, they have not fulfilled their mandates under UNFSA and other treaties.

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**Squid play an essential role in the ocean ecosystem and seafood supply chain**

Squid are more than an economically important fishery product, and their potential depletion affects more than their individual stock. Across the ocean, squid are prey species for important predators such as whales and other highly valuable commercial fisheries, such as tuna and salmon. They are, in fact, essential to the long-term profitability and sustainability of big sections of the global seafood market.

If squid fishing is unregulated or poorly regulated, accurate stock assessments are impossible to make, a situation that affects the fishing practices of communities that rely on small-scale fisheries. If squid species are fished enough to change the balance of an ecosystem, then the species that depend on them may also experience declines.

Furthermore, consumers are increasingly seeking sustainable choices. More than 50% state that tuna sustainability is important to them, which suggests that they probably feel similarly about other fish products.[11] Because little information is shared about where squid comes from, how it was caught or where it was processed, import States, wholesalers and consumers can have little to no confidence in the provenance of the squid they are receiving. Moreover, the global data that exists does not typically distinguish between unregulated and regulated catches, making it difficult for a purchaser to ensure that the product is harvested sustainably. This massive hole in the supply chain could leave consumers open to the inadvertent consumption of products rife with fraud, waste and, in some cases, poor labor practices and human rights abuses.

**The failings of squid management are symptomatic of a larger global problem**

Unregulated squid fishing is an acute problem. However, it is also symptomatic of a bigger underlying problem. Today, the default for management is an absence of all governance until safeguards are actively-sought and agreed by consensus, rather than proactive efforts to ensure healthy fisheries.

For years on end, fisheries managers and governments with a stake in high seas fisheries have repeatedly allowed expanded fisheries, such as those for squid, to begin as unregulated or to remain badly regulated. This can cause large-scale ecosystem and economic damage. Coastal fishers often share stories of how their local fish stocks are depleted and how industrial vessel activities cause them to fish farther from shore in more dangerous waters for smaller and smaller amounts of catch. IUU fishing vessels can have dangerous working conditions. By operating outside of the authorities, crews are often subject to forced labor and abuse, or are working on vessels without proper safety equipment. The cascading effects of unregulated fisheries can tear through the ocean environment for years until the negative consequences cannot be ignored.

This puts fisheries managers and fishers on the back foot from the time any regulations are actually adopted. Instead of managing, or fishing for, an already healthy species, they must start from a place of decline and work on rebuilding fish stocks, sometimes over many years. Strict catch limits or even fishery closures are the consequences of a system that fails to take needed action in time. And, after these reactive rules are in place and working, focus will again shift to other species or regions with unregulated fisheries, starting the cycle all over again.

The status quo cannot, and should not, hold.

**The tools to bring sustainability to unmanaged fisheries are here and ready for use**

In light of the world's shared squid governance failings and the growing risks of unregulated fishing around the world, managers have several tools at their disposal to bring these fisheries into more effective regulation. The Pew Charitable Trusts, which is working to advance squid management globally, recommends that:

1. **Flag States fishing for squid fulfill their obligations.** Improvements to oversight and control of fishing vessels will remain an urgent priority as long as unregulated fisheries continue to contribute to the global market for squid products. Flag States for squid fishing vessels on the high seas, or those in EEZs through arrangements with other countries, must fulfill their responsibilities and obligations and work together to ensure that bad actors are held accountable.
2. **Port States include consideration of unregulated fishing in their risk assessments for permissions to land catch.** The States that receive squid into their ports to ultimately enter the seafood marketplace have a responsibility to ensure that landings are not tainted by IUU-caught fish. Understanding where any fish was caught, by whom, and when and under what authorization is key to preventing IUU-caught fish from entering the market.
3. **RFMO members prioritize stock assessments, collaboration and data-sharing for squid.** It is essential that RFMO member States ensure that managers are not operating in the dark on advancing squid management measures. Scientists are working on stock assessment methodologies for short-lived species like squid, but they need the commitment and funding from policymakers to get the job done. Likewise, RFMO members need information-sharing agreements – both between individual countries and the RFMOs – to ensure that vessels follow the rules and do not take part in illicit activities. Market actors and States that receive squid products fished from RFMO regions should speak in support of improved management, as well as ways to share information on where squid is caught and how. This scientific information is critical to setting fair, sustainable rules throughout an RFMO management area.
4. **RFMOs move towards harvest strategies for squid species.** As noted above, the RFMOs that have adopted harvest strategies for tuna species are reaping the rewards, and tunas managed sustainably are among the few bright spots in the FAO's assessment of the world's fisheries. Harvest strategies would also work for squid. As RFMOs continue to adopt these management plans for highly migratory species, they should do so for transboundary squid and ultimately bring all unregulated fisheries under this type of management.

If action is taken at the RFMO, flag and port State levels, consumers will be reassured that distant water fleets and high seas fisheries for squid are not operating with impunity and bringing unacceptable levels of danger to fishers or to the sustainability of squid and marine wildlife.

Applying basic fisheries management tools to squid would also go a long way towards helping governments fulfill their many commitments to biodiversity. As 2030 approaches and the SDGs and GBF targets come due, countries have a unique opportunity. Rather than wait for further depletion of these valuable fisheries, they can take proactive action now. They should work together to quickly fill the regulatory gaps that put a major component of the global seafood supply chain – and ocean sustainability as a whole – in jeopardy.

# Endnotes


1 "International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing," Food and Agricultural Organization of the United Nations, 2001, https://openknowledge.fao.org/handle/20.500.14283/y1224e.

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11 Polaris Market Research, "Canned Tuna Fish Market: Market Analysis & Segment Forecast to 2034," 2024, https://www.polarismarketresearch.com/industry-analysis/canned-tuna-fish-market.

*A version of this piece was first published in INFOFISH International's November-December 2025 issue.*

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