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How to End Illegal Fishing

From coastal waters to the high seas, criminals are robbing the oceans and hurting economies

Overview

Every time wild-caught fish is bought at a restaurant, store, or waterfront dock, there is a 1 in 5 chance that it was caught outside of the law. Illegal and unreported fishing worldwide accounts for up to 26 million metric tons of fish annually, worth up to $23.5 billion. This equates to more than 1,800 pounds of wild-caught fish stolen from the seas every second. With nearly 90 percent of the world's fisheries fully exploited or overexploited, it is more critical than ever that steps be taken to address illegal, unreported, and unregulated (IUU) fishing.

Illegal fishers cheat coastal communities that depend on healthy fish populations for income, deceive consumers who trust that the fish they purchase comes through legal supply chains, skew scientific stock assessments that rely on accurate reporting, and undermine law-abiding

fishers who play by the rules. The impacts have monumental consequences that can lead to collapsed fish stocks for generations.

Governments and regional fisheries management organizations (RFMOs) have put regulations and monitoring systems in place to combat IUU fishing, but these steps have proved inadequate given the scale of this global problem. To tackle an issue as far-reaching and complex as illegal fishing, a comprehensive global system of enforcement is needed.

Challenges in combating illegal fishing

The ocean is vast, and monitoring it for illegal fishing and enforcing laws that criminalize this activity continue to be big challenges. Many countries have insufficient resources for patrols at sea and remote surveillance, leaving much of their 200-nautical-mile exclusive economic zones (EEZs) vulnerable to illegal operators. Many also lack sufficient regulations, oversight, or inspections at ports.

In the search for protein and profit, many fishers from developed countries are traveling farther and farther from their own shores. The more unscrupulous operators of these distant water fleets seek out the EEZs of coastal states that lack adequate patrols—or the high seas. These areas beyond national waters remain easy to exploit, even when RFMOs have set fishing policies. Only those countries that are members of an RFMO are bound by its rules, and vessels registered, or flagged, in nonmember countries remain outside the jurisdiction of an RFMO. For example, if owners of vessels flagged to a member country do not want to abide by an RFMO's quota, they can reflag their vessel to a nonmember state and avoid this requirement. Ultimately, flag states have authority over the vessels they register, and they can address the concerns of an RFMO or not. Unfortunately, many flag states shirk their commitments. Poor communication and information sharing between flag, port, and coastal states and fisheries management bodies also undercut enforcement efforts.

In the absence of an authority with the resources and mandate to police the world's oceans—or a standardized, global vessel identification and locator system—fishers can operate largely unfettered. And with advances in technology, trawlers and other ships previously limited by geography can now reach the most remote marine areas. Vessels have also grown in size and number, and methods to catch fish have become even more effective.

Simply put, too many fishing vessels are chasing and catching fewer fish, and too many owners and hired operators—and the countries that license them—are not playing by rules created to ensure that fisheries are sustainable. Stopping illegal fishing will require a broad, long-term, persistent, coordinated, and ever-evolving effort.

Pew's approach

Recognizing the escalating risks to our oceans and the vital marine life they harbor, The Pew Charitable Trusts has developed an international conservation program aimed at ensuring a sustainable ocean legacy for generations. Ending illegal fishing is a significant piece of this program.

Pew's project on ending illegal fishing is working around the world to develop an international fisheries enforcement regime that will significantly reduce IUU fishing. This work focuses on industrial-scale fishing, cooperation among key partners for policy change and implementation, due diligence by seafood buyers, and ensuring that authorities have the tools they need to crack down on this activity. Our objective is to put a global system in place that would provide a cost-effective way to identify, monitor, deter, and prosecute the operators and those ultimately benefiting from and supporting illegal fishing.

This maritime enforcement system would enable access to clear, up-to-date, actionable information for even the most resource-limited fisheries officials. It would allow an official to access data needed to decide whether to permit or deny port entry to a vessel or, if needed, to begin infringement proceedings against its owners. To be effective, the system should be dynamic and flexible, and have the support of national enforcement officials; provide seafood buyers with sufficient information to be confident they are not buying IUU fish; and enough transparency to ensure that those acting outside the law are easily identifiable.

Accomplishing this will require:

- A globally consistent means of identifying and tracking fishing vessels and their history.
- Reliable, near-real-time, and transparent information sharing among port, flag, and coastal states.
- Political will.
- Trained and ready enforcement personnel willing and able to act.
- States to take responsibility for the vessels they flag and a mechanism to assess their compliance.
- Robust regional and international policies with adequate legal frameworks to carry them out.
- Effective implementation of the Agreement on Port State Measures to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing (PSMA)[1] to prevent illegally caught fish from entering ports.
- Awareness and requirements by seafood markets to hold sellers accountable for implementing policies aimed at eliminating IUU fishing.
- Strict regulation of transshipment on the high seas and in port.

Goals

Effectively fighting IUU fishing requires flexibility to match illegal operators' changing tactics. Those committed to ending this problem must be ready to change course as conditions evolve, but each of the following actions is necessary to tackle the problem worldwide.

Make vessels and their locations easily identifiable

Require unique vessel identification numbers and satellite transponders on all fishing vessels that operate in waters beyond national jurisdiction. This will expedite vessel identification and tracking, and give authorities a concrete way to discern the bad actors.

Close avenues to illegal catch

Ensure that countries implement port state controls consistent with the PSMA. This international treaty—the first to target IUU fishing—requires commercial, foreign-flagged vessels involved in fishing-related operations to give ample notice when approaching a port and empowers port officials to deny access to port services or to inspect vessels suspected of illegal fishing. The agreement is instrumental in ensuring that port state measures are strengthened and harmonized, and that ports prevent illegally caught seafood from entering the supply chain.

Engage and align the seafood industry

Ensure that seafood buyers have and understand the information they need to prevent illegally caught fish from entering global markets. Encourage seafood retailers, wholesalers, and international processors to amend their sourcing policies and buying practices to help verify the origin of their products and ensure that they have been caught legally. A key component is technology that allows buyers to audit their own supply chains.

Assess compliance with international instruments

Develop a tool to assess and evaluate flag states' adoption and implementation of the most important international instruments devised to eliminate IUU fishing. This will give nations and supply chains valuable information on what areas need improvement and which states are shirking their responsibilities.

Boost policing abilities through regional pilot projects

Create a globally replicable model for improving fisheries enforcement. With Pew's support, countries in East Africa created FISH-i Africa, an initiative to improve information sharing, training, and enforcement. This partnership has resulted in denial of fish landings at multiple ports and the assessment of millions of dollars in fines. With the success of this project, Pew is working to extend the concept to other regions and flag states with distant fleets operating in the waters of the FISH-i Africa member states.

Leverage technology and fisheries intelligence

Develop advanced technology platforms that combine data sets and sources, including satellite remote sensing data with machine learning algorithms that are reviewed by expert fisheries analysts. Making the platforms available for all countries and supply chains will improve the identification, monitoring, enforcement, and prosecution of IUU fishing.

Assess the role of transshipment

Understand the extent of transshipment, especially where it occurs at sea, and its relationship to illegal fishing, and develop best practices to ensure that transshipping does not allow illegally caught fish to be laundered through legitimate supply chains.

Transshipment is a common practice in the fishing industry that involves the transfer of catch from the fishing vessel to a refrigerated cargo ship that can carry it to a distant port. Such transactions, which can occur in port or at sea, are not subject to the same levels of scrutiny as a fishing vessel that offloads its catch on shore. This is a weak link in the supply chain that can impair accurate tracking and regulation of the transport of fish from catch to port.

Develop new techniques to measure IUU fishing's global impact

Identify data sources and a methodology to establish a baseline for IUU fishing and regularly assess it on a global or regional basis.

Meeting these goals

The policing tools to stamp out IUU fishing are available and continually improving. But it is critical that they be supported by adequate laws and policies at the national, regional, and international levels; that authorities remain nimble; and that strategies are developed to create a globally responsible and sustainable fishing industry.
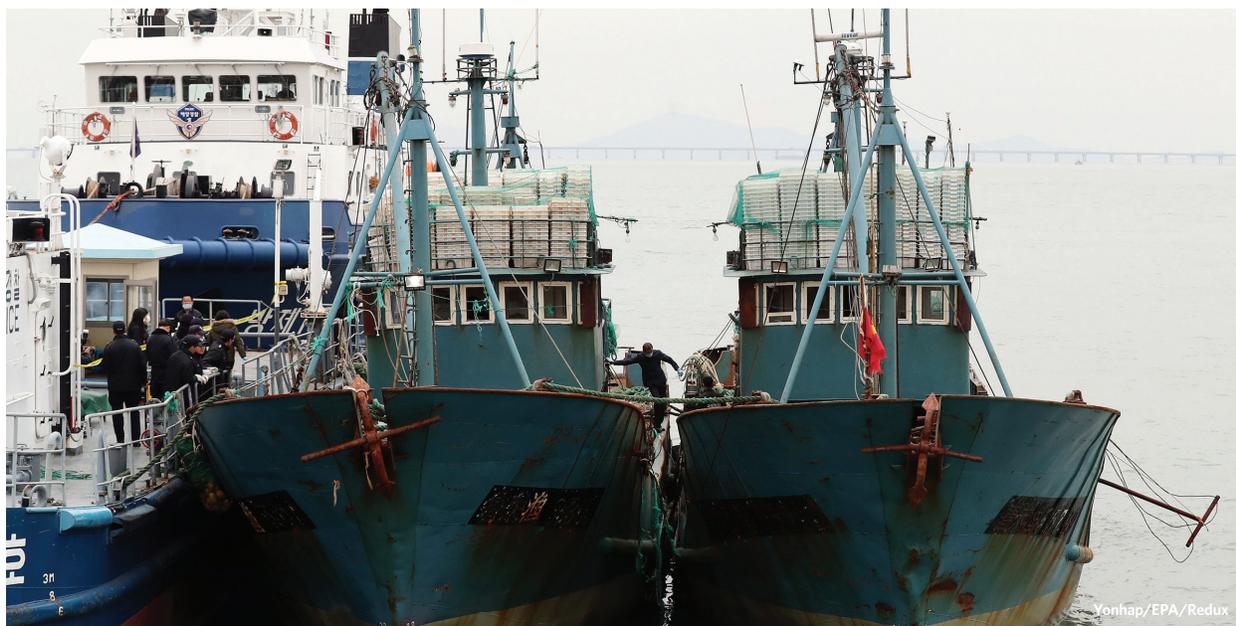
South Korea's coast guard accused two Chinese vessels of fishing illegally in South Korean waters. No IMO numbers are visible on the hull of either ship.

Policy

Require fishing vessels to have unique ID numbers

Identifying vessels is a straightforward and effective way to improve transparency in industrial fishing. Every vessel 40 feet (12 meters) or longer that is authorized to operate in waters outside of national jurisdiction should be required to have a unique identification number and a global tracking system. These will help prevent vessels suspected of illegal fishing from avoiding detection by changing their identities or disappearing from radar.

The International Maritime Organization (IMO) ship numbering scheme—or IMO number— is the gold standard in unique identifying numbers. This number is allocated to the vessel during construction and stays with it through scrapping. IMO numbers can also be issued to eligible vessels after construction. These identifiers, which work like the vehicle ID numbers on automobiles, are required for cargo and passenger vessels of certain sizes. However, no global requirement exists for IMO numbers on fishing vessels.

Another way to monitor fishing vessels is through the use of vessel monitoring systems (VMS) or automatic identification system (AIS), two global tracking technologies. VMS is a secure system often mandated by flag states and RFMOs to track fishing vessels. AIS is commercially

available to both management authorities and the general public. It collects vessel positions from ships that are subject to the International Convention for the Safety of Life at Sea, and is compulsory for oceangoing vessels over 300 gross tons. While fishing vessels are exempt, many flag states choose to mandate AIS for their fleets as well as a secondary means of monitoring.

Mandatory IMO numbers and global tracking systems would help authorities and fisheries managers monitor vessel activity at sea and in port, allow flag states to accurately manage vessels under their authority, help national authorities police their waters more effectively, bring clarity and consistency to RFMO records, and help authorities ensure that they are accepting only legally caught fish. In addition, requiring ID numbers and global tracking systems would allow for stronger supply chain standards for the fishing industry at a time when demand for transparency and accountability in consumer goods has never been greater.

One way Pew is working to achieve this is through its support for amendments to the Cape Town Agreement, an IMO treaty that sets standards on the design, construction, and equipment (including safety equipment) of fishing vessels that are 79 feet (24 meters) and longer and operate on the high seas. It also outlines provisions for crew and onboard observer protection, and harmonized port inspections across maritime, fisheries, and labor administrations.

However, the agreement has not entered into force and cannot be amended until it has. This will occur once 22 states with a total of 3,600 eligible fishing vessels agree to be bound by it.

Increase effective implementation of port state measures

Ports of landing with lax enforcement or limited inspections have traditionally been a weak point in the global fight against IUU fishing, but this is changing. With adoption of the PSMA at the Conference of the Parties to the Food and Agriculture Organization of the United Nations in November 2009, and its entry into force in June 2016, parties have committed to exerting greater port controls on commercial foreign-flagged vessels. The PSMA promotes sustainable fishing by requiring crews to operate legitimately in order to obtain access to port services and, as a result, helps keep IUU catch out of the world's markets. It also boosts cost-effective fisheries management and enforcement, increases transparency and information sharing among fisheries authorities, and helps states improve IUU monitoring and enforcement.

With this commitment comes the critical need for implementation. Pew is helping parties to comply with the agreement's provisions, starting with identifying the ports in which the PSMA would have the greatest impact. Parties are working together, and with international governmental organizations and nongovernmental organizations (NGOs), to bridge gaps in their legal, institutional, and operational capacity that prevent the treaty from being fully applied. This includes aligning national legislation to PSMA provisions and setting up institutional mechanisms that allow for follow-up action and sanctions when illegal fishing is detected. It also includes facilitating joint port controls, establishing port inspection standards, training port inspectors, and facilitating information exchanges nationally, bilaterally, and regionally.

Assess the role of transshipment

The extent of transshipment and its relationship to illegal fishing is not fully understood and therefore not accurately quantified. For this reason, Pew is working to collect and analyze data

to find common threads that drive the practice. Pew is also examining the network of suppliers, operators, processors, distributors, traders, customers, and government agencies involved in every stage of transshipment. The results will boost understanding of the role transshipment plays in IUU fishing operations and lay the groundwork for recommendations for enhancing vessel and catch monitoring and verification that would deter this illicit activity.

Based on the findings, Pew will develop best practices to ensure that transshipments are legal and verifiable.

Assess compliance with flag state responsibilities

A vessel's flag state is the country in which it is registered. Accordingly, flag states are responsible for the activity of the technical, social, and administrative matters of its fishing vessels. However, it has been difficult to determine the degree to which flag states have complied with the rules and regulations to which they agreed.

To help address this challenge, Pew will develop a flag state performance assessment tool that would serve to evaluate a state's compliance with international policies and laws related to IUU fishing, especially those related to the fishing vessels they flag, as well as its enforcement of conservation and fisheries management measures. This tool would be available to flag, coastal, and market states; RFMOs; the seafood industry; auditors/evaluators; and others to enable assessments and a full audit of specific flag states on a regular, ongoing basis.

Develop new techniques to measure the global impact of IUU fishing

No repeatable method exists to determine the full extent of IUU fishing worldwide, which makes it hard to identify priorities for enforcement or assess the effectiveness of current policies. Establishing a common methodology for measuring IUU fishing globally and regionally would be a major contribution to Pew's goal of creating a sustainable system for ending illegal fishing. It would create a credible way to track changes in IUU activity, including its growth or decline globally or in specific regions. This metric would also provide an important tool that the broader fisheries community could use to measure IUU fishing.

Pew is working to identify accessible and reliable data sources, and to determine how they could be used to create a baseline that reflects current IUU fishing globally. Establishing a consensus among credible parties on this baseline would enable international bodies such as the FAO and Interpol, individual nations, commercial retailers and the seafood industry, and Pew and other NGOs to monitor and assess progress toward eliminating this activity.

Market engagement

The role of seafood markets

Seafood, from wild and farmed sources, is the most valuable food commodity in the world, accounting for a nearly $150 billion[2] in annual global trade, a figure that has risen by 8 percent a year since 1976.

A recent study[3] by the Stockholm Resilience Centre estimated that up to 40 percent of trade in the largest and most valuable seafood stocks is controlled by only 13 corporations, so it is clear

that reducing illegally caught seafood in the supply chain could lead to significant reductions in IUU fishing. Essentially, if the market rejects ill-gotten fish, criminals won't be able to sell it. And that will force them to fish legally or quit.

Pew works with seafood companies to stop illegally caught fish from entering the supply chain. By engaging with retailers, processors, and the food service sector, we hope to build consensus among those businesses on how to keep illicit catch off the shelf.

Enforcement

Stronger law enforcement against fisheries crime

Historically, fisheries conservation and related enforcement efforts have been conducted primarily by the agencies that are directly responsible for these activities. These entities are underfunded, understaffed, and underresourced. Despite several decades of effort and the creation of global and regional instruments that support effective monitoring, control, and surveillance, illegal fishing continues on a global scale. This reflects limited political and financial support in many countries for efforts to counter the practice and an absence of formal interagency coordination.

IUU fishing isn't the only activity that has thrived in that vacuum. Many sources, including a Pew-commissioned report from the Royal United Services Institute in London, the world's oldest think tank on defense issues, have found that in addition to undermining fisheries management, IUU fishing is a security risk.[4] According to the U.N. Office on Drugs and Crime, illegal fishing is linked to many other illicit activities, including human trafficking (such as forced labor on fishing vessels) and weapons and drug smuggling.[5]

To tackle this problem, coastal and island nations should put fisheries protection on par with other strategic national interests. Doing so would likely spur support for more operational resources and interagency cooperation to meet their international fisheries obligations, such as the PSMA, IMO numbering, and RFMO conservation and management measures—ultimately performing as a responsible flag state.

Our efforts to end illegal fishing will continue to focus on helping countries improve their monitoring, control, and surveillance efforts. We will pursue greater collaboration and information sharing among government officials and maritime enforcement authorities, in particular the navies and coast guards of coastal and island nations where IUU fishing is thought to be concentrated.

Targeting illegal fishing hot spots

Illegal fishing is a problem in every ocean but disproportionately affects coastal states with limited resources or capacity to respond. Those countries need an enforcement model that allows them to take effective action without considerable long-term costs. FISH-i Africa is that model. It has been tested under real-world conditions and is designed to be replicated in other regions with similar conditions. Launched in December 2012, FISH-i Africa is a Pew-supported partnership of eight African nations—Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, and Tanzania—for sharing information and coordinating responses to suspected illegal fishing in each other's waters.

The western Indian Ocean is one of the world's hot spots for IUU fishing, and regional governments, fisheries organizations, and NGOs have demonstrated a strong commitment to tackle it. Within weeks of its launch, FISH-i Africa produced results. Several partner countries shared information that led to the denial of fishing licenses and port entries for the Premier, a South Korean-owned tuna vessel strongly suspected of fishing illegally off the Indian Ocean and Atlantic Ocean coasts of Africa.

As the project continues, Pew will work with partner countries to spur high-level engagement, develop data sharing and enforcement training, and put technical tools in place, including vessel databases and monitoring software, to provide a more accurate picture of illegal fishing. Pew will also work to replicate the successes of Fish-i Africa in other regions of the world.

Michael DeChant/The Pew Charitable Trusts

Fisheries analysts provide expert analysis and dissemination of vessel activity data to the public and private sectors.

Technology

21st-century technology and fisheries intelligence

Traditionally, efforts to clamp down on illegal fishing have relied on aircraft and patrol vessels. But they are often prohibitively expensive for even the richest nations, and the ocean is too vast for surveillance and enforcement at sea alone to be truly effective. In 2015, Pew partnered with the British firm Satellite Applications Catapult to launch Oversea Ocean Monitor. This state-of-the-art platform combines satellite monitoring and imagery data with fishing vessel databases and oceanographic data to help authorities to monitor, detect, and respond to illicit fishing activity across the oceans.

The platform will continue to develop new fishing algorithms and integrate new data sources and other emerging technologies to respond to evolving needs. The fisheries analysts behind Oversea Ocean Monitor will continue to provide expert analysis and dissemination of vessel activity data to the public and private sectors. Government agencies can use the platform to effectively monitor marine protected areas and other sanctuaries and reserves, and seafood businesses can use it to verify the legality of the products they buy. Use of the system to monitor the Pitcairn Islands was instrumental in the U.K. government's decision to designate them as a fully protected marine reserve, the world's second-largest marine protected area.

Conclusion

Illegal fishing threatens the sustainability of the world's fisheries and the economies of many coastal nations. The partnerships that Pew has built over its many years in ocean conservation have positioned it well to work with governments and NGOs to end this criminal activity.

Endnotes

1   U.N. Food and Agriculture Organization, "Agreement on Port State Measures to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing" (2009), http://www.fao.org/3/a-i5469t.pdf.

2   U.N. Food and Agriculture Organization, "The State of World Fisheries and Aquaculture" (2016), http://www.fao.org/3/a-i5555e.pdf.

3   Henrik Österblom et al, "Transnational Corporations as 'Keystone Actors' in Marine Ecosystems," *PLOS ONE* 10, no. 5 (2015): e0127533, http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0127533.

4   Cathy Haenlein, "Below the Surface: How Illegal, Unreported and Unregulated Fishing Threatens Our Security," Royal United Services Institute (2017), https://rusi.org/publication/occasional-papers/below-surface-how-illegal-unreported-and-unregulated-fishing-threatens.

5   U.N. Office on Drugs and Crime, "Transnational Organized Crimes in the Fishing Industry" (2011), http://www.unodc.org/documents/human-trafficking/Issue_Paper_-_TOC_in_the_Fishing_Industry.pdf.

For further information, please visit:

pewtrusts.org/endillegalfishing

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