Traceability, Targeting, and Transparency in U.S. Seafood Trade Programming

By Carolyn Gruber, Lily Schlieman, Noah Fritzhand, and Sally Yozell

December 2023

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Please Cite this Publication As

Carolyn Gruber, Lily Schlieman, Noah Fritzhand, and Sally Yozell, 2023, *Traceability, Targeting, and Transparency in U.S. Seafood Trade Programming*. The Stimson Center, Washington D.C., USA.

Cover photo: Tuna is offloaded from industrial vessels at Port Victoria, Seychelles. By Sally Yozell, Stimson Center.

Traceability, Targeting, and Transparency in U.S. Seafood Trade Programming

This report examines the existing U.S. programming that supports seafood trade monitoring and offers recommendations to improve interagency efforts to combat illegal, unreported, and unregulated fishing.

By Carolyn Gruber, Lily Schlieman, Noah Fritzhand, and Sally Yozell

The seafood trade tracking and monitoring landscape in the United States is a patchwork of programs with overlapping or duplicative mandates, confusing data collection requirements, and evolving enforcement tools. To be effective, these programs need to be more integrated. Attempts to design and implement a full seafood trade monitoring system have been hampered by data confidentiality requirements, interagency silos, and highly variable data collection requirements. To better understand these challenges—and work towards a more viable seafood traceability system—the Stimson Center engaged with experts familiar with the existing suite of enforcement tools, U.S. government laws and policies on human rights and labor standards, diplomacy efforts, sustainable fisheries management, and trade programming.

The outcomes of this research are a set of nine actionable recommendations to improve interagency efforts to combat illegal, unreported, and unregulated (IUU) fishing. The report offers a comprehensive overview of programs and policies of key federal agencies involved in seafood trade monitoring, counter-IUU fishing programming, and sustainable fisheries management. The report also highlights pathways for improved interagency connectivity on existing seafood trade monitoring programs and counter-IUU fishing efforts. With the recommendations in this report, decisionmakers can pinpoint how to standardize trade data, streamline data collection and analytics, and synchronize existing seafood trade monitoring programs.

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Acronyms

ACE	Automated Commercial Environment
AI	Artificial Intelligence
AIS	Automatic Identification System
AIDCP	Agreement on the International Dolphin Conservation Program
AMR	Antarctic Marine Living Resources Program
CBP	United States Customs and Border Protection
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CDS	Catch Documentation Scheme
COA	Certificate of Admissibility
COO	Certificate of Origin
CTAC	United States Customs and Border Patrol's Commercial Targeting and Analysis Center
CTPAT	Customs Trade Partnership Against Terrorism
EEZ	Exclusive Economic Zone
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FDA	United States Food and Drug Administration
GAO	Government Accountability Office
HSDFMPA	High Seas Driftnet Fishing Moratorium Protection Act
HTS Code	Harmonized Tariff Schedule Code
IUU Fishing	Illegal, Unregulated, and Unreported Fishing
Maritime SAFE Act	Maritime Security and Fisheries Enforcement Act, 2019
MCS	Monitoring, Control, and Surveillance
MDA	Maritime Domain Awareness
MIS	Maritime Information Sharing
MMPA	Marine Mammal Protection Act
MOU	Memorandum of Understanding
NMFS	National Marine Fisheries Service
NMIO	National Maritime Intelligence-Integration Office
NOAA	National Oceanic and Atmospheric Administration
OFAC	Department of the Treasury Office of Foreign Assets Control
OMB	Office of Management and Budget
PRC	People's Republic of China
PREDICT	Predictive Risk-Based Evaluation for Dynamic Import Compliance Targeting
PSMA	Agreement on Port State Measures
RFMO	Regional Fisheries Management Organization
SALT	Seafood Alliance for Legality and Traceability
SIMP	Seafood Import Monitoring Program
TIP	Trafficking in Persons
TTVP	Tuna Tracking and Verification Program
USAID	United States Agency for International Development
USCG	United States Coast Guard
WRO	Withhold Release Order

Executive Summary

Seafood accounts for more than $140 billion in trade each year.[1] Commercial fishing is big business, with a complex global seafood supply chain and over 59 million people working on vessels to support it.[2] The demand for seafood is greater than ever; in 2022, the United States imported 340,000 metric tons of seafood, valued at just over $30 billion.[3] This accounts for approximately 85% of all seafood consumed in the United States.[4] Seventy-two percent of American consumers support increasing the traceability of seafood, defined as the ability to track seafood throughout its journey in the supply chain.[5] However, the complexities of the seafood supply chain, coupled with the subversive nature of IUU fishing makes accurate, real time, and effective seafood traceability difficult and expensive. As a result, the International Trade Commission estimated that $2.4 billion worth of illegally harvested seafood products entered the U.S. market in 2019 alone.[6]

To better understand this challenge, as well as the complexities of the U.S. seafood trade tracking process, the Stimson Center performed desk research and conducted interviews with leading U.S. government experts from eight federal agencies tasked with addressing the multifaceted problem of IUU fishing. Interviews were conducted on deep background with individuals familiar with the existing suite of enforcement tools, U.S. government laws and policies on human rights and labor standards, diplomacy efforts, sustainable fisheries management, and imports and trade in general. The objective of this report is to clarify where the federal government's vision for seafood trade management and programming in practice is aligned, identify unnecessary duplication, and highlight where gaps exist.

Throughout the research and interview process, several foundational characteristics of a successful seafood trade system were raised: flexible, real time, actionable, and interoperable. As interviews revealed, there are opportunities that exist now that can begin to transform the existing suite of piecemeal programming into a broader, more cohesive, and holistic vision for seafood traceability in the United States. The report offers nine actionable recommendations for the U.S. government to achieve a holistic, integrated seafood traceability system.

Standardize Seafood Trade Data

▷ Widen the aperture of what is considered "risky" in the seafood supply chain, including and especially with respect to human rights abuses and forced labor.
▷ Standardize domestic and global product information and the language of key data elements.

Streamline Data Collection and Analytics

▷ Significantly expand the number of species under the Seafood Import Monitoring Program.
▷ Move to a fully digitized seafood traceability system.
▷ Leverage existing and emerging electronic data collection and processing systems.
▷ Use risk-based analytics to better target bad actors.

Synchronize Trade Systems

▷ Create common global list of species at risk for IUU fishing and mislabeling.
▷ Improve information sharing among the relevant government agencies.
▷ Hold regular public engagement sessions.

Introduction

Impacts of Illegal, Unregulated, and Unreported Fishing

IUU fishing can take many forms—from local, small-scale boats using the incorrect gear, to large-scale, industrial foreign-flagged vessels under-reporting their catch. Beyond this there are also coordinated efforts supported by flag state governments, shell corporations, and transnational criminal syndicates. IUU fishing is a "crime of convergence," and can be linked to other criminal and illicit activities such as the smuggling of guns, drugs, and wildlife; human trafficking and forced labor; as well as money laundering and tax fraud.[7]

DEFINING ILLEGAL, UNREPORTED, AND UNREGULATED FISHING
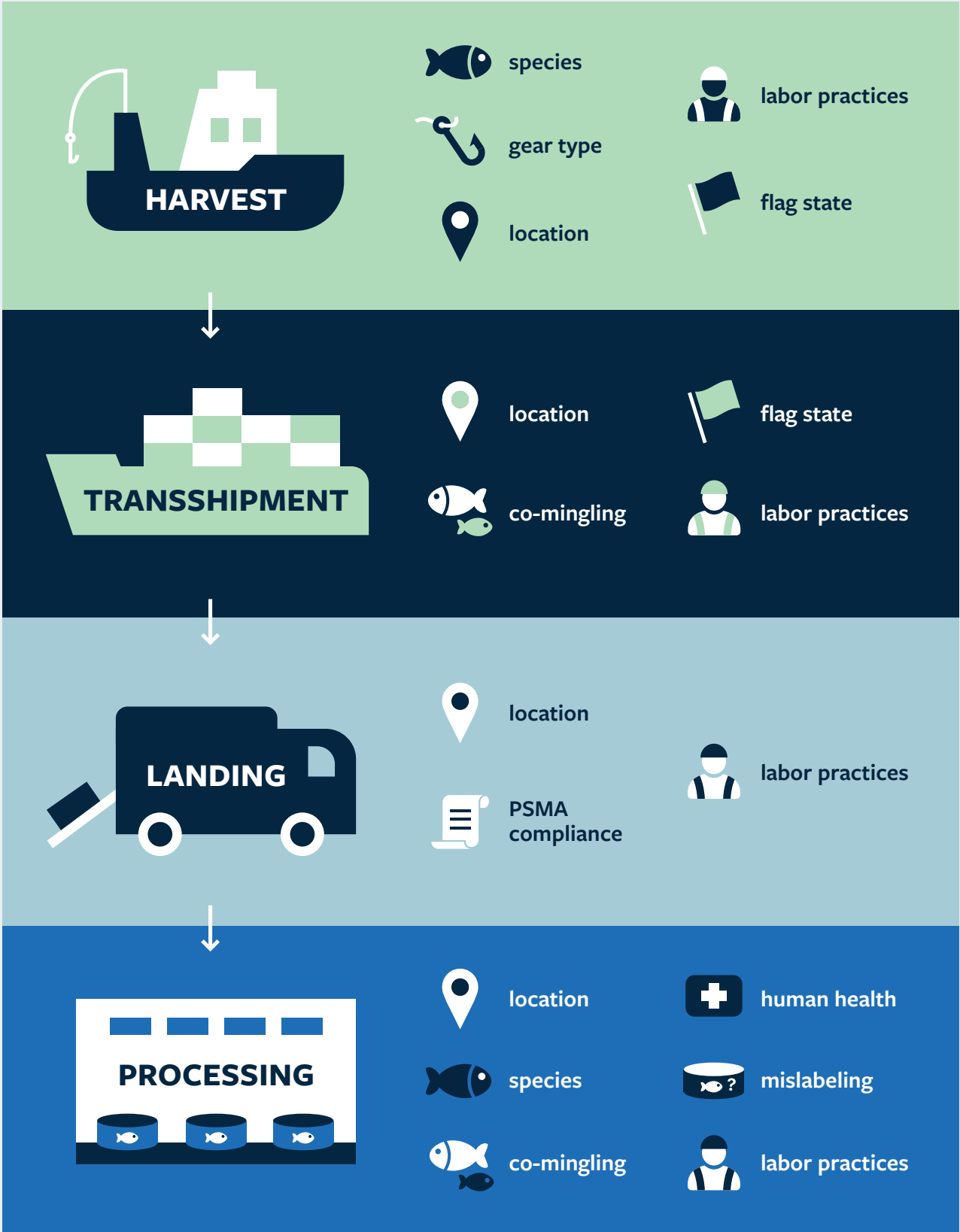
As defined by the Food and Agriculture Organization of the United Nations (FAO), illegal fishing refers to fishing activities by a national or foreign vessel in the waters of a country, or by flag state vessels that are party to a regional fisheries management organization (RFMO), in contravention of conservation and management measures. Unreported fishing refers to fishing activities that have either not been reported or have been misreported to authorities. Unreported fishing is not only fraudulent, but also undermines fisheries management by skewing the accuracy of fish stock assessments upon which regulations are based. Unregulated fishing refers to fishing activities in areas without any fisheries management or conservation measures, including the high seas and areas not managed by a RFMO.

In all its forms, IUU fishing directly contributes to overfishing, which threatens the sustainability of fish stocks and damages marine ecosystems. The consequences of IUU fishing ripple throughout increasingly complex supply chains, far beyond the point of harvest. It harms the economic, food, and environmental security of coastal countries and communities. IUU fishing also destabilizes the security of maritime states, supports organized criminal networks, fuels corruption, destabilizes good governance, distorts markets, and drives human trafficking and labor and human rights abuses in the fishing industry.

Complexities of the Global Seafood Supply Chain

The seafood supply chain is complex. Seafood is harvested all around the world in nearshore coastal waters, territorial seas, Exclusive Economic Zones (EEZ), and on the high seas. Depending on the fish, the seafood supply chain looks different. Seafood is often transshipped and processed at sea or in major facilities, many located in Asia. Aquaculture facilities are further entry points for seafood into the supply chain. In these additional steps, seafood can be commingled with other global catches and altered, which makes it difficult to distinguish its origin and also opens the potential for mislabeling and seafood fraud. This all occurs before the product moves by air or sea to wholesale suppliers, stores, and restaurants. At each point in the supply chain, new and different risks emerge.

Risks in the Global Seafood Supply Chain

HARVEST

- species
- gear type
- location
- labor practices
- flag state

TRANSSHIPMENT

- location
- co-mingling
- flag state
- labor practices

LANDING

- location
- PSMA compliance
- labor practices

PROCESSING

- location
- species
- co-mingling
- human health
- mislabeling
- labor practices

Towards Traceability in the United States

To date, the U.S. government's efforts to track and monitor seafood trade have been piecemeal and lack coordination. Over the years, programs were established on different timeframes, under various regulatory schemes, and with different goals. For example, the Section 609 program was enacted in 1989 and is a government-to-government certification system to address the problem of sea turtle bycatch in commercial shrimp fisheries around the world. In comparison, the most recent regulatory update to the Seafood Import Monitoring Program (SIMP), a program established in 2018 to prevent the import of illegally harvested and misrepresented seafood, occurred in 2022.

New developments in science, policy, and technology, coupled with a fluctuating availability of funding and interest from the U.S. Congress, have impacted agencies' ability to consider, create, and implement a cohesive, efficient, and effective whole-of-government approach to combat IUU fishing through seafood trade monitoring. This whole-of-government approach has been reinvigorated by the Maritime Security and Fisheries Enforcement Act of 2019 (Maritime SAFE Act), which created a 21-agency working group to address the many facets of IUU fishing and its impacts.[8]

# Seafood Trade Tracking and Traceability Around the World

In addition to the complex seafood trade regime that exists in the U.S. government, food and seafood traceability systems around the world also occur in various forms. Trade program can differ between countries, which adds additional layers of information that interested parties need to understand. Interviewees with the Department of State noted that international seafood traceability systems vary from country to country and collect different types of data. Countries also have inconsistent data confidentiality requirements, which can hamper the ability for governments to connect on seafood trade monitoring issues.

In 2010, the **European Union (EU)** implemented a government-to-government Catch Certification Scheme that requires all marine fishery product imports to include catch certificates validated by a competent flag state.[9] The EU-wide CATCH database allows real-time monitoring of import documentation. In November 2023, the EU announced regulations to make a full shift to electronic logbooks, stricter monitoring measures for bigger vessels, comprehensive satellite tracking for the entire EU-flagged fleet, and a more robust system for digital information sharing.[10]

The Republic of Korea's seafood tracking and traceability efforts are codified under two laws. The Distant Water Fisheries Development Act (2007) establishes the catch documentation scheme (CDS),[11] and the Fishery Products Distribution Management and Support Act (2015) establishes a seafood traceability system.[12] Twenty-four species are targeted for data collection and documentation including information on distributors, processing factories, origin, and date of import, although requirements vary across species.[13]
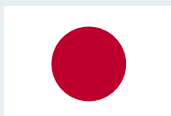
Japan's Act on Ensuring the Proper Domestic Distribution and Importation of Specified Aquatic Animals and Plants (2020) creates CDS requirement for six species, with addition of one more in 2025, at heightened risk of IUU fishing.

Currently, **Australia** lacks a targeted seafood trade monitoring program and instead uses a patchwork of legislation to monitor trade, consumers, forced labor, and imported foods.[14] Included in this is an e-monitoring initiative implemented in select government-run fisheries across the country.[15]
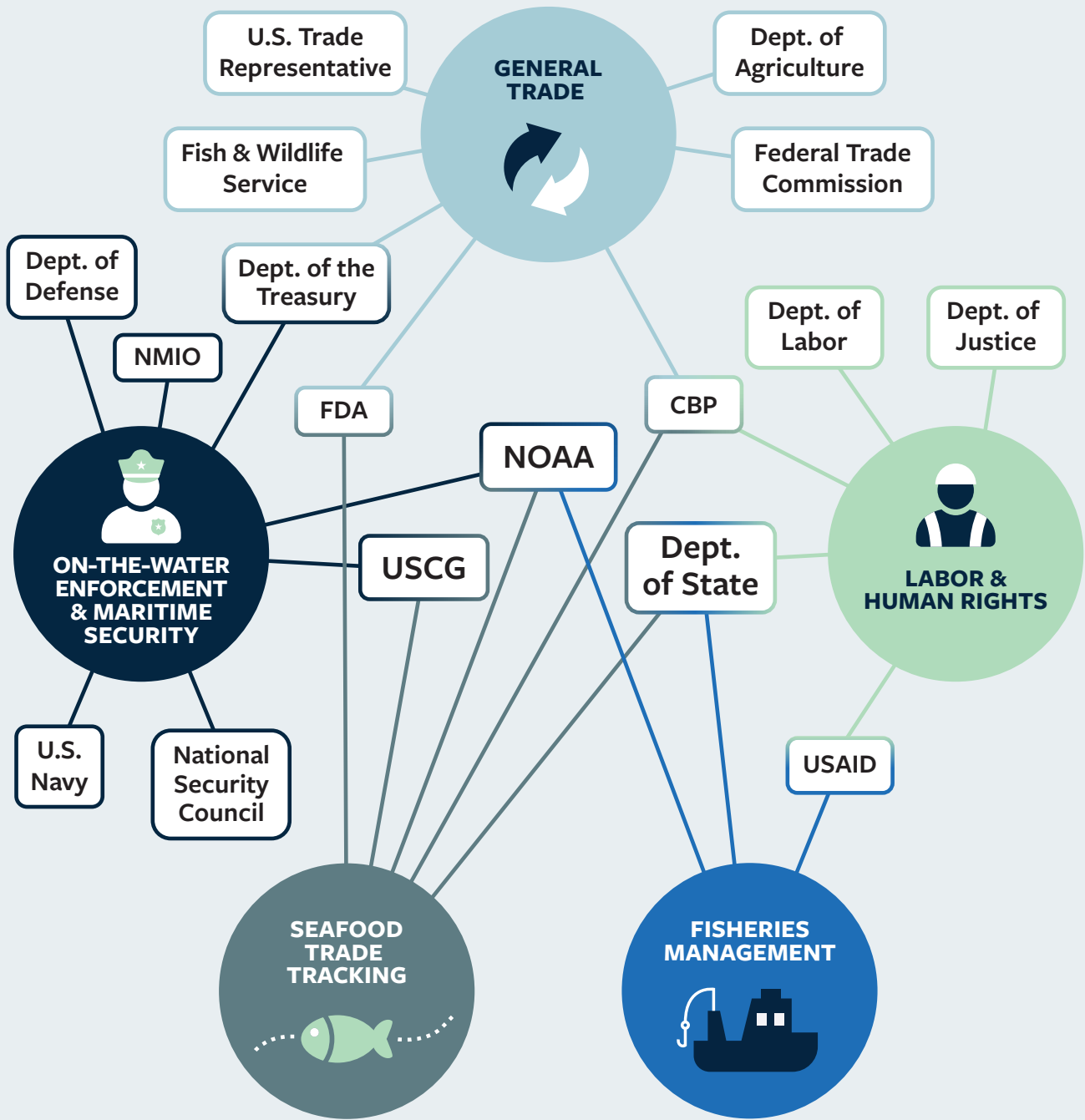
Key Players and Programs Involved in U.S. Seafood Trade

To implement the objectives of interagency counter-IUU fishing efforts, the U.S. federal government has several tools. In addition to enforcement, diplomacy, and intelligence efforts, counter-IUU fishing measures are also supported by a variety of trade monitoring programs. This network includes both initiatives that are seafood-specific, and programs that track other food products for other purposes.

The National Oceanic and Atmospheric Administration (NOAA), which is part of the U.S. Department of Commerce; the U.S. Department of State; and the U.S. Coast Guard (USCG) are the only federal agencies that have trade monitoring or information collection programs specifically designed to identify and verify **legally harvested seafood**. However, according to research and interviews, there are additional federal programs housed in other agencies that collect adjacent information which, may serve to support the broader, whole-of-government goal of ensuring all seafood entering U.S. commerce is safe, legal, and sustainably harvested.

This whole-of-government approach to trade management is operationalized by U.S. Customs and Border Protection (CBP), within the Department of Homeland Security, which requires all imports valued over $800 to submit data and records through a consolidated electronic entry filing portal.[16] This highly specialized data submission process, known as "entry filing," is executed by licensed customs brokers who work in tandem with importers. Together, brokers and importers take seafood industry records about the seafood products and translate the information into specific data requirements to meet detailed needs of different federal trade programs across various government agencies including NOAA Fisheries, the Department of State, the Fish and Wildlife Service, and the Food and Drug Administration (FDA). CBP is and will continue to be a critical player in the collection and management of trade data and is uniquely positioned to operationalize data sharing, and analytics solutions that can benefit all agencies with trade monitoring responsibilities.

Key Players and Programs in U.S. Seafood Trade

- **GENERAL TRADE**
  - U.S. Trade Representative
  - Fish & Wildlife Service
  - Dept. of Agriculture
  - Federal Trade Commission
  - Dept. of the Treasury

- **ON-THE-WATER ENFORCEMENT & MARITIME SECURITY**
  - Dept. of Defense
  - NMIO
  - U.S. Navy
  - National Security Council

- **LABOR & HUMAN RIGHTS**
  - Dept. of Labor
  - Dept. of Justice

- FDA
- NOAA
- USCG
- CBP
- Dept. of State

- **SEAFOOD TRADE TRACKING**

- **FISHERIES MANAGEMENT**
  - USAID

Trade Programming

The United States employs a diverse suite of programs and tools that govern the import of all commodities to protect national security and interests, domestic consumers, and industry while streamlining for operational efficiency.

SUPPLY CHAIN, NETWORK ANALYSIS, AND INTERNATIONAL SECURITY CONNECTIONS

A variety of U.S. agencies and programs collect information relating to criminal network analysis and general international security concerns. For example, **CBP's Customs Trade Partnership Against Terrorism** (CTPAT) is a voluntary public-private sector partnership program which strengthens international supply chains and improves United States border security. Through CTPAT, CBP receives data and information that maps cargo flow and identifies risks in supply chains, which could involve processes or partners that violate international fisheries law.

Similarly, the **Department of the Treasury's Office of Foreign Assets Control** (OFAC) issues sanctions which can impact seafood imports into the United States. OFAC collects data and information that can lead to sanctions from a variety of sources, including anonymous tips. Seafood imports from the Russian Federation are banned as part of the sanctions enacted since the invasion of Ukraine, though there has been some suggestion for improved traceability as some Russian seafood may be reprocessed in the PRC. OFAC also issues sanctions under the Global Magnitsky program which target systemic corruption and human rights abuses. However, according to an interviewee, *because IUU fishing often straddles the line between licit and illicit activity, it can be difficult to prove criminality unless there is a clear involvement in narcotics or TIP.*

GLOBAL MAGNITSKY SANCTIONS FOR FISHING VESSELS

In December 2022, OFAC sanctioned two PRC nationals, Li Zhenyu and Xinrong Zhuo and the network of entities they control, including Dalian Ocean Fishing Co., Ltd., Pingtan Marine Enterprise, Ltd., and 157 associated PRC-flagged fishing vessels. The entities were sanctioned for serious human rights abuses and forced labor occurring onboard vessels within their networks, which, after further investigation were also found to be engaged in illegal shark fishing and transshipment. The sanctions were issued pursuant to the Global Magnitsky Human Rights Accountability Act which targets perpetrators of serious human rights abuse and corruption.[17] The designation of Pingtan Marine Enterprise, Ltd. was the first time the Department of Treasury sanctioned a NASDAQ-listed entity for serious human rights abuses.[18]

HUMAN HEALTH AND FOOD SAFETY

The U.S. Food and Drug Administration, within the U.S. Department of Health and Human Services, is responsible for ensuring that all domestic and imported food, drugs, biological products, and medical devices are safe, sanitary, wholesome, and honestly labeled.[19] The FDA conducts border surveillance to prevent the entry of hazardous products to the U.S. market.[20] To review imports, including seafood, the FDA uses its Predictive Risk-Based Evaluation for Dynamic Import Compliance Targeting (PREDICT) tool. PREDICT uses data mining, machine learning, pattern discovery, and automated queries of FDA databases to create a risk score for shipments, which determines whether the shipment will be audited.[21] Under the Food Traceability List, required by the FDA Food Safety Modernization Act,[22] additional key data elements are required for certain seafood products including salmon, Alaska pollock, tilapia, catfish, grouper, tuna, swordfish, and mackerel among others.[23]

IMPORT/EXPORT INFORMATION COLLECTION

U.S. Customs and Border Protection's Automated Commercial Environment (ACE) is the system through which brokers report all commodity imports and exports to the U.S. government. ACE was launched in 2016 as a "single window" for digitized customs reporting, which provides a single platform for importers to upload data and scanned records.[24] Considering the seafood industry largely still relies on paper-based documentation, the development of the ACE system, which has the capacity to provide digitized data on harvest and landing to regulators is the first step towards a more holistic import/export tracking system. However, current seafood trade monitoring programs do not leverage the full power of ACE's capabilities, which hampers the ability to implement a fully digitized seafood trade tracking system.

Seafood Trade Programming

Detailed seafood sourcing data is required by six separate trade monitoring regulatory programs that in combination cover approximately 50% of all U.S. seafood imports. These include five programs managed by NOAA Fisheries: the Seafood Import Monitoring Program, Tuna Tracking and Verification Program (TTVP), the Atlantic Highly Migratory Species (HMS) International Trade Program, Antarctic Marine Living Resources (AMR) Program, the Certificate of Admissibility (COA) and one by the State Department: the Section 609 Program.

SEAFOOD IMPORT MONITORING PROGRAM (SIMP)

NOAA Fisheries' SIMP is the only program that was created explicitly to combat the trade of illegally harvested and misrepresented seafood products. The risk-based traceability program was initially envisioned to track seafood from harvest to entry into U.S. commerce and to prevent entry of illegal products into the supply chain.[25] This vision was created in 2015 by the now-defunct U.S. Government Task Force on Combating Illegal, Unreported, and Unregulated Fishing and Seafood Fraud.[26] SIMP, as implemented by NOAA Fisheries since 2018, applies to 13 seafood species groups that include 1,100 unique species.[27]

In addition to the normal entry filing data required by CBP, SIMP requires seafood importers to provide and report specific information about the product being imported, from its point of harvest to its entry into U.S. commerce.[28] These include details on harvest (e.g., vessel or facility, species, date, location, and gear type) and landing (e.g., weight, recipient, and location). SIMP does not require importers to submit scanned documents to the government at the time of import, but NOAA retains the right to request records that prove the physical chain of custody of seafood from wild catch or aquaculture harvest to import after the product enters U.S. commerce.

BIENNIAL REPORT TO CONGRESS ON INTERNATIONAL FISHERIES MANAGEMENT

Under the High Seas Driftnet Fishing Moratorium Protection Act (HSDFMPA), NOAA is required to identify flag states and administrations whose vessels are engaged in IUU fishing, fishing practices that result in the catch of protected species, and/or fishing activities that target or incidentally harvest sharks. Since 2009, 48 flag states and administrations have been identified. Once an entity is identified, the NOAA Fisheries Office of International Affairs, Trade, and Commerce leads consultations with the entity's government to encourage necessary measures to address the identified breaches of the HSDFMPA in advance of the next issuance of the Report to Congress. If a flag state or administration takes the necessary steps to address the issues identified, it receives a positive certification. If it does not, then the flag state or administration receives a negative certification, and its vessels are denied U.S. port privileges.[29]

TUNA TRACKING AND VERIFICATION PROGRAM

NOAA Fisheries' TTVP ensures that tuna sold in the United States using a "dolphin-safe" label was harvested according to the measures established by the Agreement on the International Dolphin Conservation Program (AIDCP). The TTVP requires all importers to declare the dolphin-safe status of all frozen and processed tuna products.

TTVP has a high degree of overlap with the data reporting requirements of SIMP. TTVP requires U.S. importers to submit a form attesting to the dolphin-safe criteria having been met per the product labeling requirements. The Certificate of Origin (COO), which lists the country where the seafood originated, must be filed with at least one of the following: signed Captain's Statement, Observer Statement, or International Dolphin Conservation Program Member Nation certificate that confirms the accuracy of dolphin safe product labeling. Brokers submit a scanned pdf of the COO through ACE to NOAA.[30] In addition to scanned documents, importers must provide seafood harvest data on the species, location of harvest, and the type of fishing gear used. NOAA Fisheries conducts periodic audits of company documentation and procedures, processor site visits, and retail market spot checks.[31]

DOLPHIN-SAFE TUNA LABELING IN THE UNITED STATES

"Dolphin-safe" labels alert consumers that tuna contained in the can was harvested in events that did not kill or seriously injure any dolphins.[32] The labeling program was implemented in 1990, following public outcry over intentional dolphin deaths during tuna harvests.[33] To prevent fraudulent labeling, the Dolphin Protection Consumer Information Act regulates labeling requirements. For tuna to qualify for the dolphin-safe label, U.S. regulations require a written captain's statement certifying that purse seine nets or other fishing gear was intentionally deployed or used to encircle dolphins during the fishing trip, and no dolphins were killed or seriously injured in the gear deployments in which the tuna was caught. Tuna canners are also required to collect data on the species, as well as the harvest date, vessel, and location for all tuna processed.[34]

ATLANTIC HIGHLY MIGRATORY SPECIES (HMS) INTERNATIONAL TRADE PROGRAM

The Atlantic HMS International Trade Program is run by NOAA Fisheries and regulates trade, including import, export, and re-export of Atlantic, Pacific, and Southern bluefin tuna, swordfish, Atlantic and Pacific bigeye tuna, and shark fins. The HMS program's data requirements have some degree of overlap with both SIMP and TTVP. In addition to scanned documents, this program requires importers to provide limited data on the species harvested, location of harvest, and fishing vessels as part of the entry filing process.

ANTARCTIC MARINE LIVING RESOURCES (AMR) PROGRAM

NOAA Fisheries' AMR program applies to fresh and frozen Patagonian toothfish (also known as Chilean sea bass, icefish, and Antarctic cod) and Antarctic krill. In 2000, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) implemented a CDS for toothfish to reduce the trade of illegally harvested toothfish.[35] The CDS monitors the international trade of toothfish by tracking the origins of imports and determining if imports caught in the CCAMLR Convention Area follow CCAMLR conservation measures. The program also provides catch data for stock assessments.[36] As a member of CCAMLR, the U.S. implements the toothfish CDS through the AMR program.

The AMR program requires U.S. importers to submit documents to CBP at the time of import that contain harvest and chain of custody information; however, the entry filing requirements are minimal, as the program relies largely on submission of scanned documents. Scanned CDS records include information also required by NOAA's other import monitoring programs including fishing dates and locations, vessel information and harvested weight by species.[37]

CERTIFICATE OF ADMISSIBILITY (COA)

NOAA Fisheries' COA aims to protect the welfare of at-risk marine mammal populations. The COA requires harvest and landing information and government attestation from specific fisheries to ensure that appropriate measures are taken by those fisheries to reduce the impact to at-risk marine mammals.

Currently, the COA is largely a scanned document submission exercise, completed at the time of import. In 2022, NOAA proposed a modernization of this process that would require digitization of some key data elements of COA forms including species, harvest type, location and date, and fishing gear type.[38] A final rule has not been published and NOAA has not provided a timeline for when this is expected. A COA is currently required for a relatively small quantity of seafood imports today, with bans applying only to specific fisheries in Mexico and New Zealand. Fish products often move through intermediary nations for processing and shipping after the point of landing but before entering U.S. commerce. Given the complexities of global seafood trade, the information required by the proposed COA should become mandatory for all seafood subject to Marine Mammal Protection Act (MMPA) or the HSDFMPA.[39] With this expansion, there will be a significant overlap between data submission requirements of SIMP and COA, plus the continued requirement to submit scanned documents for COA. If implemented effectively, COA will represent a dramatic escalation in NOAA's data collection activities on seafood sourcing, much of it duplicative of other programs.

Variability in ACE message set across NMFS trade monitoring programs

Data element	COA form	TTVP ACE message set	HMS ACE message set	AMLR ACE message set	SIMP ACE message set
Species	X	X (partial)	X (partial)		X
Harvest Type					X
Country Code		X	X		X
Harvest Location		X	X		X
Harvest Date					X
Fishing Gear	X	X			X
Vessel information	X	X (limited)	X (limited)		X (name, flag, ID)
Product Form at landing	X				X
Product Weight at landing	X				X

SECTION 609 PROGRAM

The Section 609 program is overseen by the Department of State Office of Marine Conservation. It requires commercially harvested shrimp to be caught under conditions that minimize the impact on sea turtles. Certification that the harvest practices reduce sea turtle bycatch can occur in one of two ways: (1) the government of a harvesting nation provides evidence of a successful regulatory program that governs commercial shrimp trawl harvesting that is comparable to the program of the United States, and the average rate of the incidental taking of sea turtles by the vessels of that nation is therefore comparable to that of the United States, or (2) the particular fishing environment of the harvesting nation does not pose a threat of incidental taking of sea turtles in the course of commercial shrimp trawl harvesting.

Section 609 requires the submission of scanned records and the digitization of many of the record's elements in the entry filing process. Some of the digital data elements overlap with the requirements of NOAA seafood trade monitoring programs, such as harvest location and fishery type, but most are specific to the Section 609 program including details on the exporter, government signatory for scanned records, and specific questions about gear type.[40]

Other Relevant Information Collection Programs

Several interviewees noted that while some agencies and programs do not regulate or require data for trade, they collect information that could be used by NOAA Fisheries and other agencies to better inform targeting and auditing efforts to prevent IUU-caught and mislabeled seafood products from entering U.S. commerce.

HUMAN RIGHTS AND LABOR ABUSES

The **CBP Office of Trade, Forced Labor Division** gathers information about human rights abuses and forced labor in the seafood industry. CBP collects data and information related to IUU fishing and seafood through a variety of sources, including forms submitted to ACE, partner governments, civil society reports, and anonymous tips from the online e-allegation portal,[41] as well as open-source intelligence.

CBP also implements Section 307 of the Tariff Act of 1930 through issuance of Withhold Release Orders (WRO) which allows the agency to detain products from entering the U.S. until the importer can demonstrate that forced labor was not used in the production process. They also issue findings that allow the agency to seize merchandise produced, in whole or in part, with forced labor.[42] Currently, there are five WROs and one finding that apply to fishing vessels.[43]

WITHHOLD RELEASE ORDER AGAINST THE TUNAGO 61

An illustration of the promise of interagency collaboration and digitized trade data can be found in the case of CBP's issuance of its first WRO against a fishing vessel, the Tunago 61, in 2019 for utilizing forced labor onboard.[44] CBP received a tip from an NGO that forced labor was occurring on the Tunago 61. Because SIMP requires vessel names to be entered into the ACE data system, CBP was able to identify the vessel was importing seafood to the United States and hold the shipments associated with the Tunago 61 before ultimately issuing a WRO. It would not have been possible for the agency to know this fishing vessel contributed to a U.S. import without NOAA's SIMP data. This type of collaboration could be furthered by allowing agencies with bandwidth and perhaps knowledge of additional at-risk vessels, such as the Department of Labor or Department of State, to view and screen ACE data. Engagement of the U.S. Coast Guard at an operational level in the real-time findings through trade monitoring could potentially advise their maritime domain awareness operations on the water.

Similarly, the **Department of State's Office to Monitor and Combat Trafficking in Persons** releases an annual Trafficking in Persons Report (TIP), which assesses the TIP and forced labor situation in 188 countries and steps each national governments are taking to address TIP and forced labor. Forced labor and TIP can take place throughout the seafood supply chain—onboard vessels, at ports, in aquaculture operations, in seafood processing plants, and in distribution facilities. The 2022 TIP report identified 58 countries with trafficking in persons in the fishing and aquaculture industries.[45] The annual report includes a section on accountability in supply chains, which makes specific mention of the fishing industry. Information used in the TIP Report is gathered from a variety of sources, including U.S. embassies, government officials, civil society, intergovernmental organizations, the media, and anonymous tips.[46]

ON-THE-WATER ENFORCEMENT AND MARITIME DOMAIN AWARENESS

The **United States Coast Guard** employs maritime domain awareness (MDA) assets and interagency and foreign partnerships to gather intelligence to identify the greatest IUU fishing threats from foreign flag states, criminal networks, and beneficial vessel owners. The USCG is the lead agency in the United States for at-sea enforcement of living marine resource laws, including fisheries, and works to deter, detect, and interdict bad actors within and outside of the U.S. territorial waters and EEZ (0–200 nautical miles). The USCG collects Automatic Identification System (AIS) signals from ships operating within and outside the U.S. EEZ, including those of fishing vessels. During vessel boardings, the USCG collects data and information on vessel characteristics, catch, working conditions, and other onboard activities. Data and information gathered is analyzed and distributed to USCG operational teams, U.S. government agencies and foreign partners through Maritime Intelligence Fusion Centers (MIFC).[47]

According to an expert interviewed, if co-illegalities are suspected or witnessed in international waters, including forced labor, USCG connects with other relevant U.S. government agencies through a Maritime Operational Threat Response call, who dictate the response. USCG is particularly limited in its response to forced labor on fishing vessels, and the expert interviewed suggested that *if NOAA were to require labor key data elements in SIMP, it would provide USCG with improved enforcement targeting capabilities.*

USCG also facilitates training with foreign coast guards and navies through "shiprider" agreements. These agreements support efforts to combat IUU fishing in states with limited on-the-water monitoring, control, and surveillance (MCS) and enforcement capacity.[48] USCG also oversees port security, including the implementation of the Agreement on Port State Measures (PSMA) in domestic ports, and capacity building in foreign ports through the International Port Security Program.[49] Furthermore, USCG provides legal support and policy development to inform operations and advance U.S. priorities and uphold the rules-based order at sea.

The **National Maritime Intelligence-Integration Office** (**NMIO**), an office of the U.S. Navy, leads intelligence integration for the maritime domain. NMIO uses big data analytics to identify fishing vessels suspected of IUU fishing and other maritime crimes. NMIO works with the U.S. Maritime Administration, the U.S. Department of Defense, and other agencies to safeguard trade routes and counter threats to freedom of navigation by organized crime. Through the Regional Maritime Information Sharing initiatives (MIS), NMIO works with partner states and maritime-focused U.S. agencies to leverage existing bilateral and multinational data sharing on MCS to formalize information sharing protocols on IUU fishing, transnational organized crime, and coercive at-sea behavior. Through MIS, NMIO collects country-specific information on regional "Vessels of Interest" lists and entities benefiting from illicit activity at sea.[50] There are ongoing MIS partnerships with countries in the Eastern Pacific and the Southern Atlantic.

SUSTAINABLE FISHERIES MANAGEMENT

The United States Agency for International Development (**USAID**) oversees programming working with a wide range of public and private sector partners to combat IUU fishing and promote sustainable fisheries in South and Southeast Asia, East and West Africa, and Latin America.[51] USAID has developed projects to implement electronic catch documentation and traceability schemes, prioritizing species that are both vital for food security and economic growth and threatened by IUU fishing and seafood fraud. Through the Seafood Alliance for Legality and Traceability (SALT), USAID promotes traceability and responsible fisheries. SALT offers free tools, guidance on best practices, and opportunities to share traceability lessons and experiences. An interviewee noted that USAID does not have ongoing data collection programs like other agencies, but rather receives information through ad-hoc reporting attached to their programming.

The NOAA Fisheries Office of Science and Technology collects data and coordinates research programming to support science-based fisheries management in U.S. waters. The Office of Science and Technology also supports at-sea resource surveys, fisheries observer programs, socioeconomic research, and policy development.[52] According to experts interviewed, important sources of information include commercial landings data from six regional NOAA Fisheries Science Centers, foreign trade data, per-capita consumption models, fishery permits, and the USCG's U.S. merchant vessel dataset.

The breadth of agencies with data and intelligence collection capabilities that could be used to deter entry of illegally harvested seafood from U.S. commerce is not fully covered in this report. Additional agencies including the U.S. Department of Agriculture and the U.S. Fish and Wildlife Service also play an active role in monitoring trade of seafood and marine products. The data and information collected by these agencies—profiled and not—provide insight into indicators of IUU fishing risk that are not accounted for in current seafood trade monitoring efforts.

Barriers to Efficiency in U.S. Seafood Trade Tracking and Intelligence Sharing

Agency Silos

A common refrain repeated throughout the interview process was that *the United States does not have a seafood traceability* *system*. Instead, the U.S. has a set of trade tracking and monitoring programs and intelligence programs that serve specific and separate purposes. These programs were created, often decades apart, to fulfill specific statutory mandates using unrelated authorities. The isolated nature of these programs was discussed repeatedly and at length during the interviews.

As described by NOAA Fisheries, SIMP's purpose is specific and limited: it is meant to be a screening tool which acts as a deterrent to keep illegally harvested and mislabeled seafood from entering U.S. Commerce. It places the onus on U.S. importers to exercise increased control over their supply chains. For SIMP, this translates into the brokers and importers retaining chain-of-custody information for all seafood species imports that are covered in SIMP and documenting each step of the supply chain from harvest to import into the United States. SIMP was designed to balance its mission to deter IUU fish and fish products with the directive to minimize impact on legitimate and legal trade flow.

Limited Opportunities for Multi-Level Communication

Agency and programmatic silos are reinforced by a lack of multi-level communication. As was clear through the interviews, there are infrequent opportunities for routine, staff-level communication about the day-to-day operations of the different trade tracking and intelligence programs. Even within an agency, individual offices do not have regular or even periodic opportunities to connect with their counterparts about their programs' functions, requirements, and challenges. As described by one interviewee, there are no standard protocols for this type of operational-level engagement. Instead, notes, updates, and connections are usually made via email and occur opportunistically, rather than routinely.

Mismatch Between Expectations and Reality

None of the seafood trade monitoring programs can track seafood through the supply chain in real time. These programs were not designed to serve as a mechanism by which the U.S. intercepts incoming shipments suspected of containing illegally harvested or mislabeled seafood and seafood products.

Instead, these programs rely on audits that occur after an import has already entered U.S. commerce. Throughout interviews with federal agencies, particularly those that were members of the 2014 IUU Fishing and Seafood Fraud Task Force, it became clear that the realities of the implementation of SIMP do not align with the initial vision for a U.S. government-led seafood traceability program. Several agencies lamented the constraints within which SIMP operates and the narrow scope of the program, particularly when compared to the much broader vision formulated by the Task Force, which is currently articulated in the National Security Memorandum 11: "Combating Illegal, Unreported, and Unregulated Fishing and Associated Labor Abuse" and the Maritime SAFE Act's National 5-Year Strategy for Combatting Illegal, Unreported and Unregulated Fishing 2022-2026.

NOAA manages SIMP data in a limited manner, which has unintentionally constrained the agency's enforcement efforts. For example, in the ACE system, SIMP imports "may be selected for inspection and/or the information or records supporting entry may be selected for audit, on a pre- or post-release basis, to verify the information submitted at entry."[53] However, given the fact that there are only 22 NOAA Fisheries law enforcement officers monitoring 300 ports, and there is no advanced schedule for when seafood imports will arrive, "The number of inspections is low relative to the volume of such imports, according to [NOAA Fisheries] officials."[54] NOAA also has the authority to require completion of an audit or other pre-screening measures prior to seafood product release but has yet to create a regulatory requirement for this. Additionally, NOAA Fisheries does not have a program to detect or inspect or audit SIMP imports that fall under the $800 value, which constitute a significant amount of seafood imports under the program.[55]

Further, on the entry filing side, NOAA has opted for a narrow interpretation of what fish products must abide by SIMP regulations by electing to require SIMP reporting only for Harmonized Tariff System (HTS) codes that explicitly include SIMP covered species, such as tuna, shrimp and cod, and not more generic codes where SIMP-covered species are also included, such as frozen fish fillets of an unspecified species. Many products containing SIMP species are likely imported under generic HTS codes that do not specify the species contained, so they are not subject to SIMP reporting. SIMP also has an exemption for highly processed products "for which it is not technically or economically feasible to identify the species of fish comprising the product or the harvesting event(s) contributing to the product in the shipment," such as fish oil, slurry, and sauces.[56]

Highly Variable Data Collection Requirements

Research and interviews revealed that each of the six seafood tracking programs require similar information but in different formats. Several interviewees shared their frustration with the overlap of data collection. In other cases, staff were generally unaware of the different trade programs' data collection requirements—even when trade programs were overseen by the same agency—highlighting that "data silos" are a barrier to efficiency. For example, data and technology experts with NOAA Fisheries noted that a substantial obstacle to data-sharing within agencies is that individuals and programs are focused on their own area and do not look for how others in their agency face similar data-collection and -sharing challenges. There was specific interest in bringing together a community of practice that could help build useful connections between the government programs, their staff, and the different data collection processes.

Confidential Information Constraints

Several interviewees suggested *constraints placed on data and information sharing undermines the success of their programming*. The constraints are often codified in the regulations that grant various agencies, offices, and programs the authority to collect the data they need, yet preclude sharing it across agencies and even with programs in the same agency. Public access to trade data is also sparse as it is generally exempt from disclosure pursuant to the Freedom of Information Act (5 U.S.C. 552(b)(4)) and prohibited from disclosure by the Trade Secrets Act (18 U.S.C. 1905). Information submitted under the Magnuson-Stevens Act, such as SIMP data, is subject to the confidentiality of information requirements laid out in 16 U.S.C. 1881a(b) as well.

For enforcement professionals, information sharing is especially difficult. There are legitimate challenges between existing domestic confidentiality rules and the clear need to share information more broadly between U.S. agencies charged with combating IUU fishing. For example, USCG has very strict requirements about what can and cannot be shared from boardings and inspections. Interviewees discussed the need for a system that allows for safe, secure, and fast information sharing to ensure that enforcement agencies have access to useful, timely, and reliable data to target limited resources to the areas of greatest risk. As was clear from interviews, information sharing is a fast-moving space that has evolved quickly over the past several years. The interagency is still learning what options are available and how to manage data confidentiality concerns.

To work around data sharing constraints, federal agencies can choose to engage in the laborious and complicated process of developing interagency information-sharing agreements or a memorandum of understanding (MoU). Even then, however, NOAA Fisheries officials told the U.S. Government Accountability Office (GAO) in a recent report that CBP's current data sharing process "may not always provide the information they need in a timely fashion." They said that "the amount of time it takes to receive information could undermine time-sensitive efforts to target, investigate, or identify imports of concern."[57] During our interviews, stakeholders highlighted how this time-intensive process often results in agreements with limited scope that too often do not serve the broader goal of information sharing. Each agency interviewed felt strongly that data sharing is an essential component of a successful traceability system. Overall, those interviewed supported improved data sharing practices across agencies, suggesting it would enhance their work and support their program's mission.

Beyond the logistics and legal hurdles of data sharing that can be explored in the near term, there are technical and financial challenges that will likely take years to implement. However, under the purview of the Interagency Working Group on IUU Fishing, the interagency community has an opportunity to tackle solutions to these challenges together.

Lack of Public Engagement

Effective mitigation of illegally harvested seafood in supply chains is a complex, multifaceted effort that has remained a topic of public interest for years. Over several decades, Congress and the advocacy community have pushed for funding and specific authorities which the mandate the Executive Branch to report on the effectiveness of seafood trade monitoring programs. Elected officials, the public at large, and supporters of these government efforts want to know if these investments are paying off as intended, and if not, advocate for improvements.

One of the actions articulated by the Presidential IUU Fishing Task Force Action Plan in 2015 was to "enhance collaboration with interested stakeholders on specific IUU fishing or seafood fraud concerns including through an annual, public, in-person forum of interested stakeholders and the creation of a public web portal to relevant information held by agencies."[58] This public engagement was to be complemented by regular annual progress reporting, which has yet to occur. Seven years later, there is a clear baseline against which progress can be measured. However, irregular and inconsistent public reporting on SIMP (2021 and 2022 reports to Congress) make it difficult for the public and industry to assess this progress and hold the government accountable for implementing SIMP effectively.

Many agencies interviewed highlighted the importance of public engagement in their counter-IUU fishing efforts and stressed that they are seeking greater connections with NGOs. The public is a critical source of information for several agencies and offices interviewed, including CBP, OFAC, the Department of Labor, and the Department of State Office to Monitor and Combat Trafficking in Persons. NOAA has not engaged with the public on data gathering and information collection or regular public assessment of the program which was anticipated in the original SIMP process. Further, they could benefit from wider interagency data and information collection efforts.

Towards Transparency and Traceability: Connecting U.S. Seafood Trade Monitoring Programs

Interviews revealed a variety of obstacles that may be affecting the implementation of the U.S.'s seafood trade monitoring programming, but three explicit needs were raised repeatedly by agencies charged with data collection, processing, enforcement, and auditing.

Standardize Seafood Trade Data

Verifiable, granular, and timely data is the foundation of any system that tracks a product from its origins to its destination. The current seafood tracking programs lack these attributes for several reasons: seafood products have a complex post-harvest processing component, as well as a multipart and multi-country supply chain. Choosing which data is needed to track seafood is complicated, while harmonizing this process across programs, and countries, is inherently difficult. To be successful, government experts emphasized the need for a clear—and shared—understanding of what data elements are needed to achieve the goal of preventing illegally-harvested fish and seafood products from entering U.S. commerce and ensuring that information is standardized and verifiable.

Existing seafood trade systems are not yet interoperable; the process for data collection (e.g., the forms required and the level of digitization) varies across programs and agencies; and the languages of each trade system (e.g., the formats, abbreviations, and units used to identify certain pieces of information) differ. Some federal agencies use entirely different data systems to manage and store data on the cloud (e.g., Amazon Web Services, Azure, etc.). As described by one interviewee, the federal government is missing what industry has already leveraged: shared enterprise platforms. Further, there are few opportunities to cross-reference and verify the data and information that is provided to the government, and the interagency does not have a shared understanding of what data elements are required to accurately predict if seafood was legally harvested.

Interviewees highlighted ongoing efforts to overcome these barriers, but noted the sharing of data and understanding targeted risk trends of IUU fishing and associated illicit activities is labor-intensive and slow moving. Despite the extensive effort needed to track trends in fisheries management, trade issues, policy priorities, and early warnings to combat IUU fishing, government experts do engage in the time-consuming process to holistically identify and target risk. Overall, however, interviews made clear that the systems in place are not efficient. Information is difficult to access, rarely found in a single place, and relies heavily on consistent points of contact. This hampers efforts to maintain productive and consistent connections and communication with counterparts in other agencies and governments.

Streamline Data Collection and Analytics

Throughout the government interviews, data collection experts raised concern about duplication and redundancy amongst seafood trade tracking programs. Several different programs require the collection of the same information about the same products. For example, fishing trip dates are required by several NOAA trade monitoring programs including TTVP, COA, and SIMP, but they must be entered separately for each program. Currently, no system exists to enable the data to be submitted once and shared across the various programs. Importers are therefore required to input the same data elements for the same harvest multiple times, increasing the time burden.

Removing duplicative components of the broader system may seem like an easy task but is complicated by the existing paper-based recording system. Most of the U.S. seafood trade monitoring system is still paper based. Paper-based systems are inefficient and increasingly outdated. Beyond requiring a complicated process for storage, paper-based systems are slow, offer limited cross-checking and cross-referencing capabilities, and are an easy target for falsification and fraudulent activity. Furthermore, the level of unintentional mistakes made on paper is considerable, such as choosing the wrong harvest location or, adding an extra digit, or mistyping the date of harvest. This point was highlighted in GAO's 2023 report titled *Combatting Illegal Fishing: Better Information Sharing Could Enhance U.S. Efforts to Target Imports for Investigation*, "[NOAA Fisheries] Officials noted that when they find something concerning, it is not always an indication of IUU fishing or fraud. Instead, it is more typically an issue of the importer unintentionally failing to meet the documentation and reporting requirements or an inconsistency in the information reported."

Electronic data processing systems exist and are far more efficient, secure, and can expedite data processing. Most of the current suite of U.S. seafood trade monitoring programs were created with the expectation that a government official would manually review a paper, or possibly a scanned paper form. In the past seven years, electronic data processing capabilities have grown exponentially. ACE provides regulators with access to data that can be standardized and analyzed at scale. Electronic data enables the use of risk analytics which can help prioritize information and resources for investigations and audits of high-risk imports, but this is yet to be utilized by NOAA. Adopting electronic data processing requires an investment in technology as well as working with industry and CBP to improve the quality and reliability of data in ACE. CBP's operating budget for fiscal year 2023 included a $16.2 million increase in funds to support ACE.[59] Digitized trade data reporting is still in its early years, but with sufficient sustained funding and prioritization the government's capacity to monitor trade at scale will grow.

Rapid advancements in the usability of advanced analytics offer reason to hope for more effective enforcement of seafood trade regulations in the future. In the last few years, artificial intelligence (AI) has become dramatically more accessible, which opens the possibility of much greater efficacy in combating the trade of illegally harvested seafood. According to the 2022 McKinsey Global Survey on AI, in the last five years, the number of companies using advanced AI capabilities has doubled.[60] These advancements will create an opportunity for trade monitoring to make the leap from descriptive to predictive analytics, but this is not an immediate or simple process.

Since the rollout of SIMP and ACE, other trade monitoring programs have begun to partially digitize their reporting requirements, though full digitization and the elimination of scanned forms and paper documentation remains an outstanding goal. NOAA Fisheries now faces technological challenges to effectively use trade data to do more than just manual validation for randomly selected post-import audits.

As these challenges persist, another wave of technological advancement is imminent as the broader food industry takes necessary steps to come into compliance with the FDA Food Traceability Rule by 2026 and NOAA prepares a proposed expansion[61] of the Seafood Import Monitoring Program. The federal government should be ready to fully leverage its current and future data to protect U.S. consumers and industry, empower the public sector to make responsible decisions on seafood sourcing, and leverage academia to deepen our understanding of the complexities of global seafood trade.

Synchronize Trade Systems

Each U.S. seafood trade program was designed to serve a discrete purpose. SIMP, for example, leverages a provision of the Magnuson-Stevens Fishery Conservation and Management Act authorizing NOAA to prohibit the import of fish taken in violation of foreign law or treaty. It places the onus on U.S. importers to provide information about the legal sourcing and physical chain of custody of SIMP species in their supply chains, documenting each step of the supply chain from harvest through import. The MMPA Import Provisions, as another example, utilizes a similarly structured import prohibition in the MMPA, but has been deployed by NOAA very differently. In this case, NOAA requires a signed document from the exporting government attesting that seafood was not sourced from a fishery banned from US import.

A massive overhaul of existing U.S. seafood trade monitoring programs to create a single, real-time trade tracking system is not a realistic option for the U.S. government at this time. Different information requirements for each trade monitoring program make it difficult to build natural connections and have led to a data filing landscape that is time-consuming, confusing, and burdensome to industry who are trying to abide by the seafood importation requirements. However, there is an opportunity to create clear linkages between these currently disparate programs and move towards a broader, more cohesive vision for seafood traceability in the United States.

Moving Forward:
Recommendations for Improvement

As seafood demand and the knowledge of IUU fishing impacts have grown over the last decade, so too have the efforts of the U.S. government to address import monitoring concerns. Yet, these efforts have largely failed to accomplish what they set out to do: combat IUU fishing and prevent IUU seafood from entering U.S. markets. Programs such as CBP's CTPAT and ACE, Department of Treasury's OFAC sanctions, Department of State's Section 609 program, as well as NOAA's SIMP, TTVP, AMR, and COA programs have created a lattice of siloed programs with an inability to leverage modern data technologies. That said, the U.S. government does not need to fully reinvent the wheel. These programs, while currently limited in effectiveness, have provided some tools and frameworks for charting a path toward a systematic response to a systemic challenge.

As was made clear by U.S. government experts, the inefficiencies of the current seafood import traceability programs lie in their disconnected nature. Redundancy stems from the lack of data visibility across agencies and issues compound with the use of outdated paper-based records. The path forward is a whole-of-government systematic approach to seafood traceability with increased communication on multiple levels. Interviewees expressed the need for modern solutions to data transparency issues and the importance of public engagement to counter-IUU efforts. These changes can be implemented in the form of expanded interagency working groups, increased occasions for open dialogue with interested public stakeholders, leveraging the power of ACE to fully digitize data entry fillings, and working under the purview of the Interagency Working Group on IUU Fishing to identify and overcome barriers to information sharing, among other recommendations.

The outcomes of this research are a set of clear, actionable, and realistic recommendations to improve interagency efforts to combat IUU fishing. No single agency or organization alone can solve this challenge. IUU fishing is a global problem that requires global solutions. The United States government has the opportunity—and responsibility—to chart a path towards a standardized, streamlined, and synchronized seafood traceability system.

Standardize Seafood Trade Data

▷ Widen the aperture of what is considered "risky" in the seafood supply chain, including and especially with respect to human rights abuses and forced labor.
▷ Standardize domestic and global product information and the language of key data elements.

Streamline Data Collection and Analytics

▷ Significantly expand the number of species covered under the Seafood Import Monitoring Program.

▷ Move to a fully digitized seafood traceability system.

▷ Leverage existing and emerging electronic data collection and processing systems.

▷ Use risk-based analytics to better target bad actors.

Synchronize Trade Systems

▷ Create a globally standardized list of fish species at risk for IUU fishing and mislabeling.

▷ Improve information sharing among the relevant government agencies.

▷ Hold regular public engagement sessions.

No seafood trade tracking system is perfect. As technology advances there will be new opportunities for improvement. There are some incremental changes that can be made now to achieve a broader, more holistic vision to prevent IUU-caught fish from entering our markets. Beyond providing confidence to consumers that the seafood they are buying is legally harvested, creating an effective seafood traceability system can positively impact environmental, economic, and human security around the world.

Appendix 1: Agencies Interviewed

Agency	Office
U.S. Agency for International Development	Biodiversity Division
U.S. Coast Guard	Fisheries Enforcement
U.S. Customs and Border Protection	Office of Trade
U.S. Department of State	Office of Marine Conservation
U.S. Department of State	Office to Monitor and Combat Trafficking in Persons
U.S. Department of Labor	Bureau of International Labor Affairs
U.S. Department of the Treasury	Office of Foreign Asset Control
U.S. Food and Drug Administration	Office of Food Policy and Response
National Oceanic and Atmospheric Administration, National Marine Fisheries Service	Office of International Affairs, Trade, and Commerce
National Oceanic and Atmospheric Administration, National Marine Fisheries Service	Office of Science and Technology

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