



Seafood Traceability Practitioner's Workshop:
Exploring Programs from Design to Implementation

Summary Report

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STIMSON



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The participants' statements and workshop recommendations presented in this report do not necessarily reflect the views of NOAA, The Stimson Center, or WWF.

Introduction and Overview

Illegal, unreported, and unregulated (IUU) fishing continues to plague the world's marine resources, threatening the long-term viability of fish stocks while damaging efforts to conserve and sustainably manage marine ecosystems despite increased attention and initiatives like the UN's Sustainable Development Goals (14.4), the Port State Measures Agreement, and various other efforts. This activity has contributed to an alarming decline in ocean resilience at a time when adaptation to climate change is an urgent priority. The consequences of IUU fishing are broad based and leave law-abiding harvesters at a competitive disadvantage. Additional important impacts include reduced revenues, threats to maritime security, food insecurity, degradation of the ocean environment, harm to vulnerable coastal communities, and connections to transnational organized crime.

The European Union, the United States, and Japan account for more than half of all internationally traded seafood. Together, these three markets have the power to drive change across fisheries globally. Over the past decade, these major market states and trade blocs have targeted the economic drivers of IUU fishing through import control programs designed to deny market access to illegally sourced fish and fish products, incentivize strengthened traceability practices and promote the sustainable management of fisheries around the world. The European Union first established traceability and catch documentation requirements for imported seafood in 2010, while the United States expanded its requirements in 2016. Most recently, Japan has passed similar legislation and is developing a program.

Many market states lack traceability schemes. When they exist, there are inconsistencies in how the schemes operate, what information is required across the various systems, as well as poor data collection and information exchange across governments and industry. These challenges have made it difficult for the information to be used effectively, resulting in supply chain loopholes, and delays in program implementation that IUU fishing operators exploit. The poor data exchange and the lack of information flow also create compliance problems for those who must work with multiple global systems. IUU fish and fish products continue to be trafficked in many supply chains throughout the world and the need for stronger international cooperation grows increasingly vital.

On September 14 – 15, 2021, NOAA Fisheries, the Henry L. Stimson Center, and the World Wildlife Fund (WWF) hosted a practitioner's workshop on seafood traceability. The workshop presented a unique opportunity to gather practitioners and technical experts from both importing and exporting states to discuss the establishment, management, and implementation of seafood traceability programs around the world.

The workshop was designed to bring together creative minds and best practices from practitioners in government, industry, and NGOs. The overall goal was to facilitate the exchange of practical information and innovative ideas for solutions designed to improve seafood traceability and ultimately prevent IUU fish and fish products from entering the global seafood supply chain. Through this exchange, it was hoped that relationships would be fostered and participation would advance the dialogue on international cooperation on seafood traceability.

Panel Summaries

Components of Existing Traceability Schemes

This panel focused on the fundamentals of the regulatory systems used in major market states: the Key Data Elements (KDEs), improvements being considered, verifications, and challenges for small scale fishers. Panelists included representatives from governments, an NGO, and a representative from an international intergovernmental organization.

The first panelist discussed the establishment of the EU Catch Certificate Scheme, which went into force in 2010 to help enforce the application of international measures governing fisheries in source countries and regional fisheries management organizations (RFMOs). The scheme relies on a catch certificate with verification by a vessel's flag state. Panelists noted that the primary vulnerability in this program is that it is paper-based, which facilitates increased errors and the use of fraudulent documents. To remedy that issue, there are plans to build a single IT platform for data exchange and catch certificate documentation, with a focus on interoperability of data systems within the EU, that has been named CATCH. [CATCH](#) is a real-time database that will assist in the management of the large quantities of data that are collected. The EU will require compulsory submission of the catch certificates digitally into the CATCH platform by importers two years after the adoption of revised legislation that is expected to be passed in 2022. New KDEs will also be added to current documentation requirements, including gear type, more precise location information on the area of catch, and port of landing.

The second panelist provided an overview of the U.S. Seafood Import Monitoring Program (SIMP). SIMP was fully implemented in 2018. Currently, the program covers 13 target species and species groups comprising more than 1,100 unique species. KDEs required under SIMP were specifically designed to align with data collection requirements of RFMOs. Unlike the EU system, the U.S. system does not rely on catch certificates, and is not paper-based but instead uses an audit system. Audits are key to the NOAA program, and responsibility is placed on importers who are liable instead of placing responsibility on the exporting state. Currently, it is the responsibility of an importer to comply with SIMP requirements. U.S. Customs and Border Patrol (CBP) conducts automated screenings to check product filings for imports. NOAA may conduct post-import audits and additional checks. More analysis of the data is needed to establish the complete supply chain and identify the origins of the catch or harvest. During the discussion, several workshop attendees highlighted the need for further automation of data analysis as the next step to identify anomalies, gaps in data, inconsistencies, and falsification of records along the seafood supply chain. Future goals for SIMP implementation include additional data analysis (including automated data analysis), as well as the development of a repository of foreign laws and regulations to encourage harmonization and standardization of traceability monitoring programs. NOAA released a [report on SIMP implementation](#) in May, 2021.

The third panelist discussed elements of verification within traceability programs and noted that the basic elements of verification must answer: what information is being verified; what kind of evidence is acceptable - what are the "authoritative" sources of information; and how can users of traceability systems and regulators access that evidence. Panelists noted that reliable information is the ultimate goal of verification, and that to best achieve this goal, data should be collected digitally, potentially allowing for automation and faster verification. It was also noted

that creating and relying on paper documentation is time and labor intensive and often minimizes the ability to really understand what is occurring in the supply chain. The panelist noted the lack of interoperability of systems is the key obstacle to digital traceability and verification of information. They further commented that authoritative data sources designed to identify a government licensed registry are needed, and these data sources should be digital to facilitate access to the information and interoperability between different systems. The panelist explained that interoperability allows for the data/information to flow digitally, and allows users to quickly access that information. They noted that the goal is to move towards greater integration of government requirements and databases with industry systems.

The panelist also highlighted that the FAO has developed [guidelines](#) for adopting best practices on the adoption of KDEs and critical tracking events (CTEs) to define the necessary data, that recognizes the critical role of governments - especially flag states - as authoritative sources, and enables verification through data access based on harmonized best practices. The panelist highlighted the need for new digital standards, greater interoperability, and improved verification in seafood traceability. The panelist also concluded by noting that the future of verification is digital interoperability combined with KDEs and CTEs that are checked against government authoritative sources.

The fourth panelist addressed challenges to small-scale fishers, such as unequal access to capital, markets, infrastructure, and technology. The panelist noted that inclusivity, visibility, and verifiability are key, as is a strong regulatory framework. Small-scale fishers often struggle to comply with traceability requirements, which can put them at a disadvantage compared to larger businesses. Additionally, the panelist highlighted that the financial benefits that can come from traceability requirements are not well understood by small scale fishers. Lack of access to technology, and the significant time and costs needed to comply with traceability requirements also forms a major challenge for small-scale fishers, according to the panelist. This led to a discussion on the need to reduce operational costs, provide a common understanding of KDEs, and make the value chains less complicated.

Questions for the panel reflected concerns about the changing technological requirements for traceability programs. Several participants reiterated a desire to bridge the technological gap as a way to remove barriers to access for small-scale fishers and to promote interoperability between national systems, as well as to increase clarity on transparency requirements for all stakeholders.

Program Design Lessons Learned

This panel showcased lessons learned on program design from the perspective of public and private sectors which have experience in the implementation of traceability programs. By examining the lessons learned by experts who know the challenges of program implementation, governments and industry can better understand how to design future traceability programs to be more effective and efficient. The panelists for this portion of the workshop were made up of representatives from several national governments and an NGO.

The first panelist discussed the challenges of implementing a traceability program within the confines of statutory authority as well as the importance of integrating technology into monitoring programs. Successful implementation of an import control program can be difficult to

accomplish given the complexities of monitoring seafood imports and the many factors that must be evaluated.

The second panelist reiterated the call for the use of technology in traceability monitoring, but stressed the need for flexibility, and highlighted the fact that data collected as part of this process must be readily standardized and harmonized through a common data language to avoid an “IT jungle”. The panelist discussed how technology offers opportunities for programs to be electronic, secure, interoperable, and based on international standards or common data language. The panelist suggested that potential future IT international standards could help move away from paper and provide less of an administrative burden for compliance. The panelist concluded that dialogue with exporting and importing governments and importers will help facilitate trade.

The third panelist provided an overview of the new fisheries regulation enacted in Japan in 2020, noting that its two components focused on both domestic regulations and international regulations. Japan is in the process of holding extensive stakeholder outreach with regulations finalized by December 2022. More details will be published later this year.

The fourth panelist spoke about the implementation of traceability monitoring programs in the European Union, stating that each Member State implementing a traceability program, along with RFMOs, should make sure that their goals and program structures are aligned as closely as possible to make the global traceability system clearer for all stakeholders. This panelist further highlighted how standardization and harmonization, digitization, interoperability and authoritative data sources are key to the successful implementation of any traceability program.

The post-panel discussion included the following points:

- Digitizing data and making technology accessible and data available in cloud systems are of major importance, as well as making sure these technologies are readily available to developing nations, perhaps through open-source technology and programs, since open-source platforms do not require licensing and come at a significantly lower cost.
- Labor-related KDEs should be added to future versions of traceability monitoring programs, alongside a common data language, and standardization/harmonization of data points that are included in monitoring reports.
- Communication with all stakeholders on expectations early in process development is key so that stakeholders fully understand the purpose and application of traceability programs. This includes a clear understanding of the legal requirements.
- Digitization needs to be present throughout the supply chain monitoring process, but should be implemented thoughtfully and effectively. Technology plays a key role in the implementation of any traceability program, but it needs to be used effectively and appropriately from the beginning. Care should be taken to ensure it is accessible to all stakeholders, including developing nations and members of industry.

Implementation: What works and why?

The moderator began this panel by reiterating an important question raised earlier: how do we measure success in the context of seafood traceability programs? Technology was invoked repeatedly as the solution to several long-standing problems, but it cannot resolve every problem facing the traceability world. The main theme of this panel was to examine what success looks like within global supply chains.

The first panelist to speak on the subject, an industry representative, asserted that data was not the solution to every problem, but rather that the problem remains ensuring the integrity of that data as well as its timely submission. The panelist noted it is important to know if a product is legal at the beginning of the supply chain, or well before it enters a market state. They noted it was difficult to validate catch given the opacity in the supply chain. Non-compliant products should be identified before entering trade and supply chains. Many traceability programs require labor intensive data entry for each import. Other programs may offer a more streamlined approach to traceability and practitioners should seek technology-enabled solutions to common problems.

The second panelist, a representative of an NGO, spoke to the group on the efforts of the Fisheries Agency of Japan to formulate a traceability scheme. This panelist speculated that they are discussing new import control measures and data elements with planned implementation in 2022. The Fisheries Agency of Japan will have a public comment period when further details are finalized. The panelist emphasized that cooperation with the United States and EU is essential.

The third panelist, a government representative, provided the perspective of an exporting nation that has had to adopt multiple domestic regulations in order to comply with U.S. and EU traceability requirements. This panelist stated that their region is particularly vulnerable to the effects of IUU fishing, and has been working with organizations like the United States Agency for International Development (USAID) to confront challenges with small scale fisheries. The panelist underscored that more investment is needed to optimize and refine current systems.

The post-panel discussion included the following points:

- A participant informed the workshop that Taiwan currently collects 41 KDEs, and that standardized requirements are of great interest to Taiwanese exporters.
- A panelist commented that building partnerships with industry and communication with small scale fisheries has been key to success in Indonesia.
- Several participants collectively posited that resistance to data requirements would lessen significantly if such data was collected automatically and without human labor.
- Several panelists and participants laid out various pilot programs within the United States to expand access to traceability systems and expressed the need to enhance coordination.

- Other panelists commented that they experience challenges regarding privacy and data laws, which can limit access to key information and hinder Agencies' efforts to work together to verify information.
- A participant posited that success in traceability is realized when exporting nations change laws and regulations to confront IUU fishing in global supply chains.
- One participant posited that industry should not be able to purchase fish or have it enter the market if it is not verified that it is not IUU fish or fish products.

Looking to the Future: Roadmap

The final panel discussed advances in technology and data, global capacity building, and industry experiences within regulatory schemes and traceability systems. The discussion explored how governments can work together to review and validate data, engage in virtual capacity building, and other efforts to make improvements in these systems.

The first panelist presented an overview on technology and data developments in government traceability requirements and noted that there is a great amount of experimentation happening across U.S. agencies and various other countries. These forays into traceability include NOAA's SIMP, USDA's organic labeling program requirements, Foreign Supplier Verification Program (FSVP), and many others. The panelist suggested that FSVP is a paradigm for the trusted trader model, which places the onus on the government to do regular checks and audits, including validation and verification of information in other countries.

The panelist also noted that there are many U.S. Government programs that collect enormous amounts of data on imports through the Customs' Automated Commercial Environment (ACE), and that it is clear that the technology and political will isn't lacking, but that data confidentiality laws are preventing greater coherence. U.S. Customs is currently working to develop a 21st Century Framework to reimagine how the import entry process could work. The panelist noted that the intent is to remove the burden of data collection at entry and to distribute the requirements across the supply chain, and to make supply chain data that is collected and needed for reporting requirements, available and accessible for Government as well as industry. (For more information on the U.S. Customs 21st Century Customs Framework see <https://www.cbp.gov/trade/21CCF> and <https://www.cbp.gov/document/guidance/21st-century-customs-framework-overview>)

The panelist further noted that access to information and data collection and sharing of data is already happening within industry across the supply chain; and, that the key and next step is to have the Government be able to access that data. U.S. Customs is working to develop and chart a roadmap that lays out how that might look. One issue to address revolves around data storage. Several questions are raised, including: if we allow data to flow when it first becomes available, how do we store that data? Does the data actually need to be stored by the Government? Is there some other way for access to work? The panelist remarked that these are open questions.

Some pilots are underway that have been designed to help answer these questions, and whether the results can be scaled and applied to other products. One example discussed is a

pilot project that U.S. Customs, NOAA and Texas A&M's Center for Cross-Border Threat Screening are conducting on [blockchain traceability for tuna](#).

The panelist also shared U.S. Government work on the Global Business Identifier (GBI) Initiative, an interagency project to develop a single identifier solution to improve the U.S. government's ability to effectively identify high-risk shipments and facilitate legal trade; create a "common language" between industry and the government; and, to improve data quality and efficiency for identification, enforcement, and risk assessments. The GBI aims to uniquely identify the main legal entity and ownership, the specific business and its global locations, and the supply chain roles and functions to enable greater precision for supply chain management. The panelist noted that GBI plans to launch a pilot project in April 2022 to look at what industry is already doing to identify business entities and the ultimate authoritative sources for business transactions.

The second panelist discussed efforts to build capacity around the world, particularly in major source and exporting countries. The U.S. Government has engaged on these issues through its [Oceans and Fisheries Partnership](#) and through the [Seafood Alliance for Legality and Traceability \(SALT\)](#). SALT was formed as a platform for bringing stakeholders together on issues of traceability with a focus on the beginning of supply chains in harvesting countries. SALT has prioritized incentivizing electronic catch documentation and traceability (eCDT) to develop comprehensive principles that address ecological, economic, and social goals and promote benefits across those issues in developing countries.

The panelist noted that a key question is how to get countries to comply with traceability requirements in import markets and industry demands, to improve fisheries management, and to reduce the risks of labor abuses. The panelist remarked that SALT's comprehensive eCDT Principles is an online tool that aims to address this question. The eCDT Principles are aimed to use data to inform decision-making; to create a program that is electronic, interoperable, and data secure; to be inclusive and collaborative with stakeholders; to build a lasting and scalable program; and to maximize ecological, social, and economic benefits; and address data and verification needs across fisheries and supply chains.

The panelist stated that the pathway to applying those principles is to initiate the dialogue, design the systems, and then work with partners to implement them. The panelist remarked that SALT has collected learning from many of its projects – in the Philippines where it has been working on blockchain traceability in the tuna sector¹; in Peru where the Health Agency is working to coordinate traceability efforts across agencies; in Indonesia where the U.S. Government is working with industry to share data and establish interoperability; in Mexico, where Smartfish is working to create new regulations for traceability; and across projects, addressing how to mitigate social risks and develop eCDT that can respond to labor and social issues by identifying key labor-related data indicators that can be collected.

The final panelist described industry's experience with government requirements and traceability regulations. The panelist discussed a company that works as a wholesaler and distributor in the middle of the supply chain, active in 34 countries throughout Europe and Asia.

¹ <https://www.saltraceability.org/story-hub/unpacking-the-blockchain-a-seafood-perspective-on-blockchain-technology/>

The panelist noted that the company needed a traceability approach that could comply with various traceability requirements in the EU while also working in all the countries it operates in. The company has embraced traceability in order to comply with the EU directives, ensure food safety and security and to provide customers with real time information about their products.

The panelist remarked that digitization is the future, and customers want information in real-time and to ensure the sustainability of each resource. The company utilized PROTRACE, which started in 2013 as a digital traceability system, as the solution for its digital traceability needs. The panelist noted that [product identifiers](#) are key. For the system, a standard barcode is used because it is an essential link to information, enabling access to data from the cloud.

The panelist noted that systems must be flexible and simple – the less manual input of data the better, reducing the overall risk of error. The panelist further commented that supplier commitment is important. A willingness to share relevant data and commitment to deliver high-quality data are crucial for success; alignment in the sector is needed regarding attributes and systems; interoperability is necessary; continuous data exchange is crucial; and cooperation is key. The panelist suggested that following the [Global Dialogue on Seafood Traceability \(GDST\) Standard](#) will ease the way to transparency in supply chains by standardizing the set of KDEs, assuring interoperability between systems, and increasing the number of participating supply chain partners.

The post-panel discussion included the following points:

- Blockchain was raised as a potential solution to data privacy issues within supply chains, as pilot programs in countries like Indonesia have indicated.
- Participants raised the possibility of innovation challenges to spur traceability technology, also noting that such efforts are already underway and should be synthesized to increase effectiveness. The U.S. FDA, for example, has created a low-cost to no-cost tech challenge for companies to meet new traceability requirements. One panelist suggested that the Government should also look to the public and citizens, civil society and NGOs for new ideas and innovations in addition to tech solutions, but that there needs to be a better way to engage with the public to develop new ideas on better incentives and disincentives in challenges. The panelist recommended thinking broadly about where to locate knowledge and lessons learned, but that technology isn't often the limiting challenge - it is often governance, political will, and human barriers that are the challenge. The panelist noted that collaborations, such as SALT, have been helpful to overcome these and having alliances to think through and address the challenges is key. A final question raised the prospect of adopting more specific harmonized tariff schedule (HTS) codes for imported products as a way to more distinctly *identify what species are entering trade*. One participant noted that their industry association sought and obtained further breakouts of the U.S. 10-digit HTS codes for warm-water shrimp imports to improve monitoring. There is a petition process that can be filed with the U.S. International Trade Commission (ITC). It was noted that for some products, like shrimp there is a problem with distinguishing between wild-caught and farmed imports or with blue crab, where the HTS codes are too general. But it is possible to break-out HTS codes for greater specificity. Another panelist noted that there was a USDA hack-a-thon to improve the usefulness of HTS-US codes to identify products that are organic,

because current HTS codes are useless when trying to identify organic products. The panelist noted that NOAA's use of ASFIS codes to identify species was an innovative hack to get around HTS code limits, and that GS1 standards are a potential alternative to HTS codes – perhaps that is key there as well.

Common Themes Raised

Participants noted that the continued engagement amongst practitioners, experts, and stakeholders working together to discuss issues and challenges will encourage open dialogue and progress, and support more of these forums.

Some of the key ideas raised in many of the panels are the following:

- Standardized, secure, electronic data throughout the seafood supply chain is key to managing the chain-of-custody, facilitating compliance with legal requirements, and improving enforcement cases. Understanding trade patterns throughout the seafood supply chain can help target IUU fish and fish products and improve enforcement, and any changes, for example if certain products are dropping out of the market.
- More countries are adopting new traceability schemes and requirements which lends itself to standardization of KDEs, data collection and data sharing and interoperable data systems,
- A common understanding of KDEs for catch documentation and traceability requirements across different market states could increase the effectiveness of seafood traceability.
- Ensuring the integrity of the data and establishing systems to accurately verify the information is key.
- Ending the reliance on paper-based systems, which can be falsified in the supply chain, and increasing the interoperability of traceability systems and government databases would improve efforts to verify compliance of catch documentation and traceability requirements.
- Technologies, such as blockchain, that are able to link and store records in networks online, are a way to help deal with the massive amounts of data and information that are collected.

Conclusion

NOAA Fisheries, the Stimson Center, and World Wildlife Fund would like to extend their gratitude to all who participated in the Seafood Traceability Practitioners' Workshop, especially to those who graciously presented their specialties to the group at large. This workshop has proven to be a success primarily because of the spirited and thoughtful contributions made by its participants. Over two days, practitioners from around the world were presented with a rare opportunity to relate the challenges they face in their respective fields, as well as to offer innovative solutions to their counterparts. The resulting dialogue was far-reaching, positive, forward-looking, and productive.

The post-workshop survey of participants confirmed that this sentiment was widely-held. Asked to rate the workshop, survey takers gave an average rating of 5/5, asserting that both the duration and size of the workshop were optimal. The survey also showed that future workshops would be improved by inviting an even more diverse array of experts. Being the first workshop, organizers sought to cover a wide breadth of topics in the field of seafood traceability; survey results show an appetite for future workshops with more specific objectives and actionable outcomes. Overall, respondents expressed a desire for transition from theoretical dialogue to pragmatic and tangible implementation of seafood traceability schemes.

For those who planned, coordinated and hosted this event, the principal lesson of this experience could not be more clear: meetings like this traceability workshop should be a regular occurrence moving forward. Open communication and collaboration will be fundamental as practitioners the world over seek to implement or optimize their own traceability schemes. In the fight against IUU fishing, practitioners should seek to better utilize the greatest resource at their disposal: the insight and experience of their global colleagues.

Appendix - Participating Organizations

A.N. Deringer, Inc.

At-Sea Processors Association

Catch Certificate Norway

Directorate of Fisheries - Vietnam

Directorate-General for Maritime Affairs and Fisheries - European Commission

Directorates of Fisheries - Iceland

Embassy of Mexico

Environmental Justice Foundation (EJF)

Fisheries Agency of Japan

Fisheries and Oceans Canada

FishWise

Global Dialogue for Seafood Traceability

Marine Stewardship Council

METRO AG

Ministry of Industry and Innovation - Iceland

Ministry of Marine Affairs and Fisheries - Indonesia

Ministry of Trade, Industry and Fisheries - Norway

National Customs Brokers and Forwarders Association of America

NOAA Fisheries

Norwegian Seafood Federation

Oceana

Oceans 5

Pacific Seafood Processors Association

Picard Kentz & Rowe LLP / Southern Shrimp Alliance

Russian Federal Agency for Fisheries

Seafood Legacy

SmartFish Mexico

The Nature Conservancy

The Norwegian Directorate of Fisheries

The Stimson Center

UN Food and Agriculture Organization (UN FAO)

United States Agency for International Development (USAID)

United States Trade Representative (USTR)

US Customs and Border Protection (CBP)

US Department of Labor

World Wildlife Fund

Appendix – Acronym List

ACE	Customs' Automated Commercial Environment (U.S.)
ASFIS	Aquatic Sciences and Fisheries Information System
CTE	Critical Tracking Events
eCDT	Electronic Catch Documentation and Traceability
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FSVP	Foreign Supplier Verification Program
GBI	Global Business Identifier (U.S.)
GDST	Global Dialogue on Seafood Traceability
HTS	Harmonized Tariff Schedule
IT	Information Technology
ITC	International Trade Commission
IUU	Illegal, Unreported, and Unregulated Fishing
KDE	Key Data Elements
NGO	Non-governmental Organization
NOAA	National Oceanic and Atmospheric Administration
RFMO	Regional Fisheries Management Organization
SALT	Seafood Alliance for Legality and Traceability
SIMP	U.S. Seafood Import Monitoring Program
USDA	U.S. Department of Agriculture
USAID	U.S. Agency for International Development
US CBP	U.S. Customs and Border Protection
US FDA	U.S. Food and Drug Administration
UN	United Nations
WWF	World Wildlife Fund