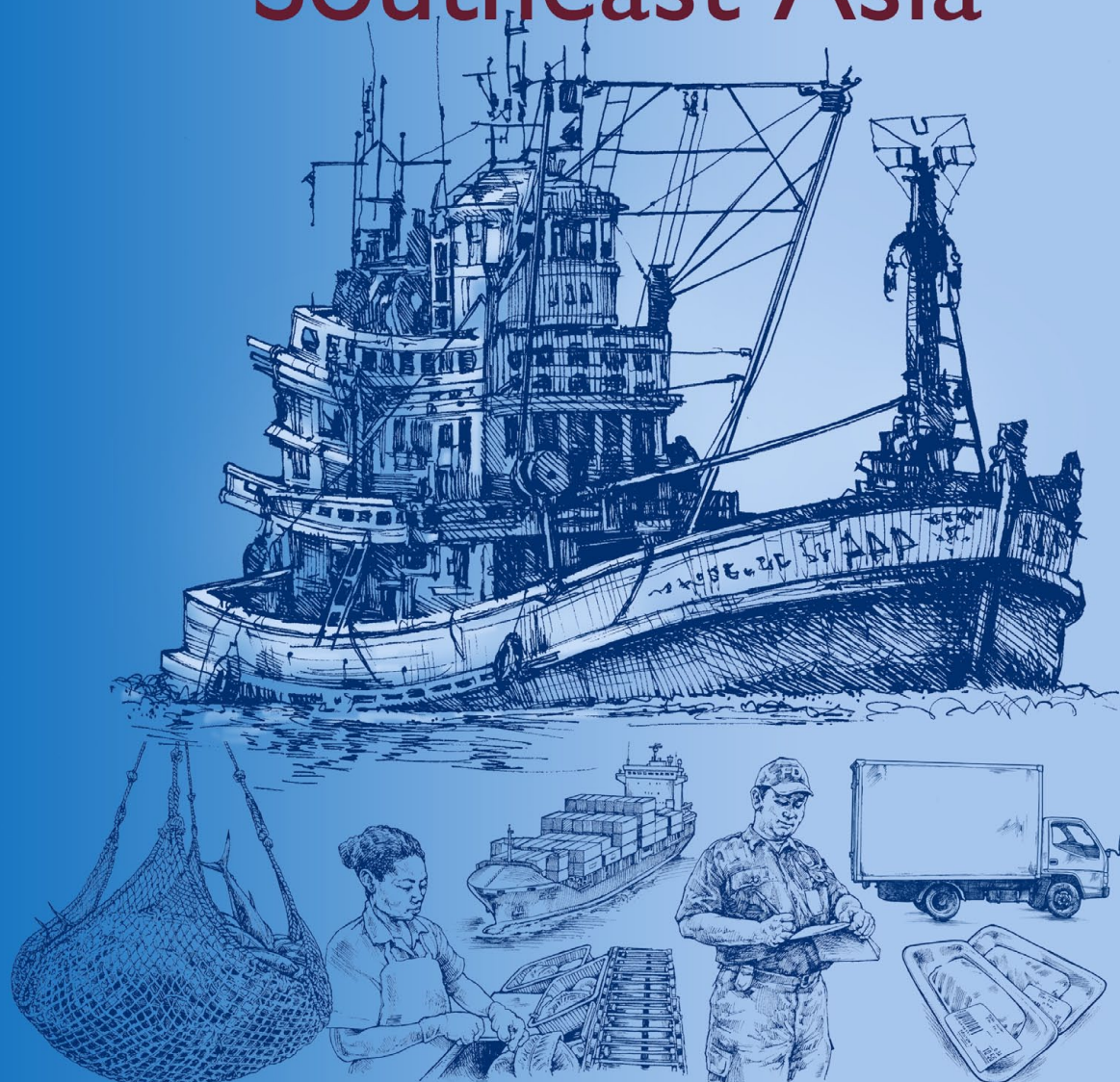




**USAID**  
FROM THE AMERICAN PEOPLE



# Data Requirements for Catch Documentation and Traceability in Southeast Asia



***Critical Tracking Event and Key Data  
Element Framework and Glossary***

**THE USAID OCEANS AND FISHERIES  
PARTNERSHIP**

## **About USAID Oceans**

The United States Agency for International Development Oceans and Fisheries Partnership (USAID Oceans) works to both strengthen regional cooperation to combat illegal, unreported, and unregulated (IUU) fishing and promote sustainable fisheries in order to conserve marine biodiversity in the Asia-Pacific region. USAID Oceans is implemented through a partnership between USAID's Regional Development Mission for Asia (RDMA) and the Southeast Asian Fisheries Development Center (SEAFDEC), and works in collaboration with other regional and U.S. government agencies, including the Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security (CTI-CFF) and the United States National Oceanic and Atmospheric Administration (NOAA).

## **About this Document**

This document presents a framework and glossary for the critical tracking events (CTEs) and key data elements (KDEs) that are being proposed/suggested for capture during the demonstration and testing phase of the USAID Oceans Catch Documentation and Traceability (CDT) System. This document is intended to outline the terms, definitions, and intended uses of all relevant and required KDEs within a traceable, wild-caught seafood supply chain for Southeast Asia, in alignment with the ASEAN Catch Documentation Scheme (ACDS). This 'KDE Guide' has been written as a resource for participating and interested private sector, technical, and academic partners under the regional testing of the CDT System supported by USAID Oceans. This guide may be updated as lessons learned out of the testing and demonstration of the CDT System progresses through support by USAID Oceans, and/or as regional (e.g., ACDS) or international (e.g., U.S. seafood importing requirements) evolve.

### **THE USAID OCEANS AND FISHERIES PARTNERSHIP**

Data Requirements for Catch Documentation and Traceability in  
Southeast Asia: *Critical Tracking Event and Key Data Element Framework  
and Glossary*

Prepared for the U.S. Agency for International Development  
by Tetra Tech ARD under Contract No. AID-486-C-15-00001

**DECEMBER 2017 (version 1)**

The views expressed in this document do not necessarily reflect the views of  
the United States Agency for International Development or the United States  
Government.

# TABLE OF CONTENTS

---

<b>1.0 INTRODUCTION</b> .....	<b>4</b>
1.1 BACKGROUND .....	4
1.2 THE USAID OCEANS AND FISHERIES PARTNERSHIP .....	4
1.3 OVERVIEW OF THE USAID OCEANS' APPROACH FOR ELECTRONIC CATCH DOCUMENTATION AND TRACEABILITY .....	4
1.4 PURPOSE OF THIS DOCUMENT .....	5
<b>2.0 TERMS AND DEFINITIONS</b> .....	<b>6</b>
2.1 GLOSSARY OF KEY TERMS.....	6
2.2 GLOSSARY OF CRITICAL TRACKING EVENTS .....	10
2.3 GLOSSARY OF KEY DATA ELEMENTS.....	12
<b>3.0 A FRAMEWORK FOR TRACEABILITY</b> .....	<b>20</b>
3.1 MOVING TOWARDS SEAFOOD TRACEABILITY .....	20
3.2 TRACEABILITY SCOPE UNDER USAID OCEANS.....	20
3.3 CHALLENGES AND LIMITATIONS.....	21
3.4 CTE-KDE REQUIREMENTS FRAMEWORK.....	22
<b>4.0 APPLYING THIS GUIDE</b> .....	<b>28</b>
4.1 PRODUCERS.....	30
4.2 RECEIVERS; AT-SEA (TRANSSHIPMENT).....	40
4.3 BUYERS/RECEIVERS; AT-PORT .....	51
4.4 PROCESSORS .....	60
4.5 BROKERS/WHOLESALERS .....	67
4.6 TRANSPORTERS (INCLUDING EXPORT).....	73
<b>ANNEX I. RECOMMENDED KEY DATA ELEMENTS</b> .....	<b>80</b>
A1.1 PRODUCER KDEs: POINT-OF-CATCH.....	80
A1.1 BUYER/RECEIVER KDEs: AT-SEA (TRANSSHIPMENT) .....	83
A1.3 BUYER/RECEIVER KDEs: AT-PORT .....	86
A1.4 PROCESSOR KDEs.....	88
A1.5 BROKER/WHOLESALERS (SELLERS) KDEs.....	90
A1.6 TRANSPORTER KDEs (INCLUDING DOMESTIC AND EXPORT).....	92
<b>ANNEX II. HUMAN WELFARE KEY DATA ELEMENTS</b> .....	<b>94</b>
A2.1 GLOSSARY OF HUMAN WELFARE KDEs.....	94
A2.2 HUMAN WELFARE REQUIREMENTS FRAMEWORK .....	97
A2.3 APPLICATION OF HUMAN WELFARE KDEs: PRODUCERS.....	98
A2.4 APPLICATION OF HUMAN WELFARE KDEs: RECEIVERS AT SEA.....	103
A2.5 APPLICATION OF HUMAN WELFARE KDEs: BUYERS/RECEIVERS AT PORT.....	108
A2.6 APPLICATION OF HUMAN WELFARE KDEs: PROCESSORS.....	113
<b>ACKNOWLEDGEMENTS</b> .....	<b>117</b>
<b>REFERENCES</b> .....	<b>118</b>

## LIST OF TABLES

---

Table 1: Glossary of key terms.....	6
Table 2: Glossary of critical tracking events (CTEs).....	11
Table 3: Glossary of key data elements (KDEs).....	13
Table 4: A framework of all proposed data requirements, by CTE. ....	23
Table 5: The proposed “minimum set” of KDEs required for capture, by CTE.....	25
Table 6: The proposed “minimum set” of KDEs required for capture by small-scale fishers, by CTE.....	27
Table 7: Theory versus reality relating to the collection of the proposed KDEs.....	29
Table 8: Proposed data requirements for traceable seafood producers.....	30
Table 9: Proposed data requirements for traceable receivers at sea.....	40
Table 10: Proposed data requirements for traceable buyers and receivers at port.....	51
Table 11: Proposed data requirements for traceable seafood processors.....	60
Table 12: Proposed data requirements for traceable seafood brokers/wholesalers.....	67
Table 13: Proposed data requirements for traceable seafood transporters.....	73
Table 14: Glossary of human welfare KDEs.....	94
Table 15: A framework of proposed human welfare data requirements, by CTE.....	97
Table 16: Proposed human welfare data requirements for traceable seafood producers.....	98
Table 17: Proposed human welfare data requirements for traceable receivers at sea.....	103
Table 18: Proposed human welfare data requirements for traceable buyers and receivers at port.....	108
Table 19: Proposed human welfare data requirements for traceable seafood processors. ....	113

## LIST OF FIGURES

---

Figure 1: The flow of traceability data throughout the seafood production chain. ....	13
Figure 2. The current versus future process of seafood data collection along the production chain. ....	29

## ACRONYMS

---

ACDS	ASEAN Catch Documentation Scheme
ASEAN	Association of Southeast Asian Nations
ASFIS	Aquatic Sciences and Fisheries Information System
ASSP	ASEAN-SEAFDEC Strategic Partnership
BOL	Bill of Lading
CBP	Customs and Border Protection
CDT	Catch documentation and traceability
CDTS	Catch documentation and traceability system
CTE	Critical tracking event
CTI-CFF	Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security
DEX	Data exchange server
DHS	Department of Homeland Security (US)
ERP	Enterprise Resource Planning
EU	European Union
FAD	Fish Aggregating Device
FAO	Food and Agricultural Organization
FIS	Fisheries Information System
GFTC	Global Food Traceability Center
GPS	Global Positioning System
GTIN	Global Trade Item Number
GTS	Global Traceability Standard
IMO	International Maritime Organization
IUU Fishing	Illegal, unreported, and unregulated fishing
KDE	Key data element
MCS	Monitoring, control, and surveillance
NGO	Non-governmental organization
MSC	Marine Stewardship Council
NOAA	National Oceanic and Atmospheric Administration (US)
PO	Purchase Order
POS	Point-of-Sale
RDMA	Regional Development Mission for Asia
RFMO	Regional fisheries management organization
SEAFDEC	Southeast Asian Fisheries Development Center
TWG	Technical Working Group
TP	Trading Partner
UN	United Nations
US	United States
USAID	United States Agency for International Development
USAID Oceans	USAID Oceans and Fisheries Partnership
WO	Work Order

## 1.0 INTRODUCTION

---

### 1.1 Background

Seafood is the most widely traded animal protein on Earth (Holland 2015). It plays a critical role in global food security, accounting for nearly one-fifth of humanity's protein intake. With the waters of the Asia-Pacific region being home to the most biologically diverse and productive marine ecosystems on Earth, it is no surprise that Southeast Asia's commercial fisheries supply one of the largest and most active seafood markets in the world, exporting products daily to international markets, including the United States (U.S.), the European Union (EU), and China, Japan, Korea, and Russia. Importers rely heavily on Southeast Asia's seafood products, with the US importing approximately 90 percent of the seafood it consumes (NOAA 2015).

The marine ecosystems of Southeast Asia are a vital source of daily food and income for people living in the region. Similar to global trends, capture fisheries' production in Southeast Asia has risen steadily during the past several decades (FAO 2014). A continued demand for seafood from the region's fisheries has impacted the productivity and health of the region's marine ecosystems, and is degrading or destroying native marine species and the habitats that they depend upon. Chief among the threats to the region's marine resources and habitats is illegal, unreported, and unregulated (IUU) fishing and unsustainable fishing practices, along with unsustainable rates of extraction; that is, taking more of a fishery population than will allow the population to optimally replenish itself. Cumulatively, these threats negatively impact marine biodiversity, food security, and livelihoods in the region.

Additional challenges include unethical and illegal labor practices, engaged in by some fishery operators in the region, which may include unfit working conditions, labor rights violations, and the use of indentured servitude and slave labor. These issues have gained traction in the media, garnering attention from international news outlets and prompting human welfare initiatives and demand for increased traceability. Additional concerns calling for enhanced traceability include recent studies that suggest that a significant proportion of seafood products being imported by the U.S. are illegally caught and/or mislabeled (Pramod *et al.* 2014; Oceana 2013). Insufficient fisheries management and a lack of transparency in terms of how, where, and by whom seafood products are being caught threaten to perpetuate such challenges.

### 1.2 The USAID Oceans and Fisheries Partnership

The United States Agency for International Development Oceans and Fisheries Partnership (USAID Oceans) works to both strengthen regional cooperation to combat IUU fishing and promote sustainable fisheries in order to conserve marine biodiversity in the Asia-Pacific region. USAID Oceans is implemented through a partnership between USAID's Regional Development Mission for Asia (RDMA) and the Southeast Asian Fisheries Development Center (SEAFDEC), and works in collaboration with other regional and U.S. government agencies, including the Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security (CTI-CFF) and the United States National Oceanic and Atmospheric Administration (NOAA). The USAID Oceans initiative is regionally supported through the ASEAN-SEAFDEC Strategic Partnership (ASSP).

### 1.3 Overview of the USAID Oceans' Approach for Electronic Catch Documentation and Traceability

Core to the Activity's objectives is combating IUU fishing, enhancing fisheries management, and improving human welfare through enhanced catch documentation and traceability (CDT). To this end, USAID Oceans supports the design, development, implementation, and testing of electronic Catch Documentation and Traceability Systems (CDTS) that harness cutting edge technology and leverage global expertise.

USAID Oceans works with information technology partners to leverage and bridge existing technologies to cultivate an environment of innovation and solution-building for a financially- and technically-sustainable CDTS,

and with government and non-government partners in Southeast Asia to support the development and testing of the CDTS to help ensure that fisheries resources from Southeast Asia are legally caught and properly labeled. The electronic CDTS will be integrated into the host country's broader fisheries information system (FIS) to encourage the collection and analysis of ecological and economic data related to seafood products throughout the seafood supply chain, so that they are traceable from their point of catch to the importer and end-retailer. The integrated system will provide an important opportunity to support effective national fisheries monitoring, control, and surveillance (MCS), as CDT remains one of the most valuable and comprehensive methods for collecting fisheries statistics at a reasonable cost. Catch documentation is also valuable for fisheries management, particularly for stock assessment and marine spatial planning efforts. The conceptual overview of USAID Oceans' CDT approach can be found in [Fisheries Catch Documentation and Traceability in Southeast Asia: A Conceptual Overview](#), and the technical concept and specifications in its *Technical Overview*.

USAID Oceans' approach to electronic CDT has been harmonized with SEAFDEC's ongoing efforts of enhancing regional capacity for fisheries sustainability, specifically under the ASEAN Catch Documentation Scheme (ACDS). The ACDS was developed to provide a common regional catch documentation scheme, serving as a tool for combating IUU fishing and enhancing international and intra-regional trade of fish and fisheries products from the Association of Southeast Asian Nations (ASEAN) Member States. The draft ACDS was developed in 2014, and has been subsequently reviewed and updated during 2015 and 2017 by ASEAN member countries. USAID Oceans' CDTS seeks to align with and directly supports the ACDS, as well as other regional CDT efforts.

## **1.4 Purpose of this Document**

This document presents a framework and glossary for the critical tracking events (CTEs) and key data elements (KDEs) that are recommended for capture during the demonstration and testing phase of the USAID Oceans-supported Catch Documentation and Traceability Systems. This document is intended to outline the terms, definitions, and intended uses of relevant KDEs within a traceable wild-caught seafood supply chain for Southeast Asia, in alignment with the ACDS to encourage regional harmonization between CDT-related guidance. Annex I provides a full outline of USAID Oceans' KDEs, as compared with the requirements of other traceability schemes, including the ACDS, WWF, and international recommendations (including those of the European Union). By releasing this document, USAID Oceans hopes to clearly and transparently share its proposed technical approach and specifications relating to the scope, definition, and collection requirements of KDEs by actors participating in the testing and demonstration of an electronic CDTS within specified seafood supply chains of Southeast Asia.

This 'KDE Guide' has been written as a resource for USAID Oceans' private sector, technical, government, and non-government partners. In particular, this guide was design for (but not limited to): commercial companies and stakeholders operating within the seafood supply chain across the wider region; private sector information and technology partners; international fishing and shipping industry partners; regional partners SEAFDEC and CTI-CFF; US government counterparts, including NOAA, the Department of Homeland Security and Customs and Border Protection, and the Department of the Interior; national fisheries agencies; national regulators; seafood certification organizations; technical and scientific organizations; and academia.

## 2.0 TERMS AND DEFINITIONS

Within an electronic CDTs, a standardized ontology is critical for encouraging clear and consistent communications relating to the seafood supply chain. Through the use of common terms and definitions, best management practices and standards can be promoted within the seafood supply chain. This not only enables traceability and transparency, but also an increased understanding and communications between the supply chain actors involved.

Building from the existing, accepted lexicon, USAID Oceans offers the following terms and definitions associated with the electronic CDTs. This section presents three, interrelated glossaries of terms and definitions: (1) a glossary of key terms relating to traceability and the seafood supply chain; (2) a glossary of critical tracking events; and (3) a glossary of key data elements.

All three glossaries presented in this section have been adapted from: Bhatt *et al.* (2016); Future of Fish (2016); GFTC (2015); GFTC (2016); GSI (2014); GSI (2015); McEntire *et al.* (2010); Olsen and Borit (2013); and Zhang and Bhatt (2014).

### 2.1 Glossary of Key Terms

The following section presents an alphabetical listing of key terms with associated definitions commonly used in relation to seafood catch documentation and traceability (Table 1). Most of these terms relate either to: (1) generic actors within the seafood supply chain; (2) characteristics within the seafood supply chain or its structure; or (3) traceability concepts and theory.

*Table 1: Glossary of key terms*

<b>Term</b>	<b>Definition</b>
<b>Actor</b>	Key parties involved in transforming or moving a seafood product along the various points of the seafood supply chain, from wild capture to consumption.
<b>Batch</b>	A defined quantity of seafood product that has undergone production or transformation at the same time and place, and under the same, uniform conditions. A batch may represent a single unit (fish), a specific volume or weight of seafood product, or based on a set production time (e.g., hour, day). Related to batch, see “lot” (below).
<b>Bycatch</b>	A fish (or other seafood) product that is caught unintentionally while harvesting a certain target species/sizes. Bycatch may include harvested seafood products that are of a different species, sex, size, or maturity than the intended target.
<b>Catch Certificate</b>	A document that is uniquely issued to a specific catch being unloaded from a fishing vessel. Although it varies by country, the catch certificate is often provided to the first buyer or processor taking ownership or possession of the associated catch, or to the fishing vessel owner/company making the catch. A duplicate certificate is often required by and provided to a government agency or other designated party (e.g., a Regional Fisheries Management Organization) for the purpose of validating the origin and harvest process associated with the specific catch. Both catch certificates and trade certificates are linked sequentially via their document numbers, ensuring a hard traceability link between transactions along the supply chain. Whereas small-scale fishers will likely only be required to submit a single aggregated or simplified catch certificate, commercial fishing operations may be required to submit multiple catch certificates, depending on the relevant regulations.



<b>Term</b>	<b>Definition</b>
<b>Chain of Custody</b>	The complete path of a product from its harvest to its final destination. In the scheme of USAID Oceans, the chain of custody runs from the catch of a seafood product to its import or point of final sale.
<b>Cold Chain</b>	Those parts of the seafood supply chain that also serve to maintain products at or below a particular temperature through refrigerated storage and transport services.
<b>Competent Authority</b>	Any person or organization that has the legally delegated or invested authority, capacity, or power to perform a designated function, i.e., authorize the validity of information along the chain of custody. Competent authorities may be present at the national and local levels, each with designated chains of command and specified jurisdictions.
<b>Consumer</b>	The person who ultimately purchases a seafood product. The consumer marks the end of the seafood supply chain. Typically, the consumer purchases the seafood product from a retailer or restaurant, although some buy direct from producers. Purchase decisions may differ between men and women based on their perceptions on and knowledge of quality, cost, origin and traceability of the seafood product.
<b>Crew</b>	Those who catch seafood and transport it in bulk to the first buyer or processor.
<b>Critical Tracking Event (CTE)</b>	A point in the supply chain where a seafood product is moved between actors, premises, or is transformed, or at a point which is determined to be where data capture is necessary to maintain traceability. Common CTEs within the wild-caught seafood supply chain include: production (i.e., the at-sea harvest event); landing (at port or to transshipment vessel); transportation (i.e., an exchange of goods; includes both shipping and receiving); transformation (i.e., the creation or manipulation of the seafood product(s), both inputs and outputs; includes processing, aggregation, and packaging); depletion (i.e., exit of seafood product from the supply chain; includes sale to and consumption by the end consumer, as well as disposal).
<b>Disaggregated Supply Chain</b>	Supply chain structure wherein seafood products are sourced from multiple suppliers. Vessel owners/aggregators decide who to sell to on a daily basis, based on price and may entail mixed gear sourcing.
<b>Distributor</b>	A person or business that sells seafood products to retailers, restaurants, or consumers. Most distributors buy seafood products from processors or wholesalers, though some distributors buy direct from producers or at auction.
<b>Exporter</b>	A person or business shipping seafood out of the country in which it was caught, landed, and/or processed. Typically, the export will be to a wholesaler who receives the product in a different country.
<b>Fish Aggregating/Aggregation Device (FAD)</b>	A device used to attract wild-caught pelagic fish. FADs come in many (including natural) forms, but commonly include drifting or buoyed devices. Drift FADS may be used in association with towing and do not operate in a fixed location. Buoyed (or float) FADs are typically tethered to the ocean floor with concrete blocks, thus operate in fixed locations.
<b>Human Welfare</b>	The health, safety, and well-being of a person, group, or organization, with due consideration to differences in gender needs and associated factors. Human welfare is one determinant of human prosperity, happiness, and quality of life, a driver in achieving sustainable development goals, and is influenced by surrounding economic, social, political and environmental factors.

<b>Term</b>	<b>Definition</b>
<b>Importer</b>	A person or business that brings seafood in from another country for the purpose of resale, usually to a distributor, retailer, or wholesaler. <sup>1</sup>
<b>Interoperability</b>	The ability of different information technology systems and software programs to communicate seamlessly for the purpose of exchanging and using data. True interoperability requires both semantic (i.e., a common meaning) and syntactic (i.e., a common format) communications between/among systems and programs used.
<b>Key Data Element (KDE)</b>	Critical data <sup>1</sup> that are required to successfully ‘trace’ a seafood product and/or its ingredients through all relevant CTEs within the supply chain. KDEs usually focus on information relating to the ‘who’, ‘what’, ‘when’, ‘where’, and ‘links’ of a seafood product as it moves through different CTEs within the supply chain.
<b>Lot</b>	A defined quantity of seafood produced under specific, uniform conditions. The lot usually represents the smallest quantity of the product for which records are kept. Related to lot, is “batch” (above) as a larger quantity of the product (often comprised of many lots).
<b>Point-of-sale</b>	The location where a consumer can purchase a seafood product. Point-of-sale (POS) systems refer to a retail checkout process where bar code symbols are scanned in order to expedite the sales and checkout process and digitally account for the transaction.
<b>Processor</b>	A person or business that receives seafood in bulk from a fishing vessel, factory-fishing ship, or at auction, and then cleans and transforms the fish into a new form of product. Processors may pack and ship the transformed product to a distributor.
<b>Processor, primary</b>	A person or business that performs the first step of seafood processing. Primary processing often includes: heading, gutting, scaling, and/or deboning finfish; or shucking, shelling or holding shellfish live in tanks.
<b>Processor, secondary</b>	A person or business that receives seafood from a primary processor or other secondary processor in order to process a seafood product further prior to sale. Secondary processing may involve activities such as: filleting, portioning, cooking, smoking, canning, and/or adding additional ingredients; or merely thawing, refreezing and repackaging the seafood product.
<b>Producer</b>	An actor who conducts fishing operations to capture and land seafood. A fisher is an example of a producer.
<b>Retail</b>	The process of selling seafood products in supermarkets, shops, or through other informal means, such as street-based food vendors or market stalls.
<b>Retailer</b>	A person or business that sells seafood products to consumers, as opposed to another business or wholesaler. Retailers receive products from a distributor or supplier.
<b>Shipment</b>	A grouping of logistical and transport units of seafood products that are assembled and identified by the seller (sender) to travel under dispatch to a customer (recipient).

<sup>1</sup> Sector/industry-wide agreement has not yet been achieved regarding which KDEs should be required for capture under a traceable fishery.

<b>Term</b>	<b>Definition</b>
<b>Supplier</b>	A person or business that buys seafood products from a wholesaler or producer <sup>2</sup> with the intent of re-selling these products to restaurants or retailers who serve consumers. Suppliers also include the buyers, broker/s, traders or middle men that sell seafood products to the processor.
<b>Supply Chain</b>	The system of people, businesses, operations, information and resources involved in the production, processing, brokering and distribution of seafood products from producer (wild capture) to consumer. Seafood products may be transformed multiple times along the supply chain as the product changes hands from one actor within the supply chain to another.
<b>Traceability</b>	<p>The ability to track information about the origin and journey of seafood products as they pass through a supply chain. This ability includes both: (a) tracking the forward movement of a seafood product through specified stage(s) of the extended supply chain; and (b) tracing the backward history, application or location of the product at specified point(s) within the supply chain. Traceability results in the ability of actors within the seafood supply chain to access any or all information relating to a seafood product throughout its entire production cycle, by means of recorded information uniquely identifiable to the specified product. Traceability is often supported through the measurement of multiple, specified KDEs across relevant CTEs.</p> <p>Requires that the people and businesses in the supply chain have: (a) systems to capture, manage and share data; (b) mechanisms for physically linking products and data (such as tags or barcodes); (c) internal processes for tracking products and information about products as they undergo transformation, aggregation, disaggregation and packaging within a facility; (d) supply chain visibility; and (e) the ability to verify that data are accurate and remain intact from origin to consumer.</p>
<b>Trace (back)</b>	The ability for any actor within the supply chain to identify the origin, attributes or history of a specified seafood product for all previous nodes within the supply chain based on access to and reference of information and records held that are uniquely identifiable to the specified product.
<b>Track (forward)</b>	The ability to follow the forward movement of a seafood product as it moves between parties throughout the stages of the supply chain, toward the end consumer. This is useful for various business reasons (sales tracking, etc.), and for certification activities, such as tracking chain of custody.
<b>Traceability Data</b>	Any information regarding the origin, attributes, history or current location of a seafood product subject to a traceability scheme. Traceability data includes KDEs.
<b>Trade Certificate</b>	A unique document that is issued for a specific seafood product each time that it is acquired within the supply chain, particularly for export, import or re-export. Trade documents can be issued many times as a seafood product moves through the supply chain. Catch certificates and trade certificates (paper or electronic) are linked sequentially via their document numbers, ensuring a solid traceability link between transactions along the supply chain.
<b>Transporter</b>	A person or business responsible for moving seafood from one point in the supply chain to another. Transporters are often a third party between two points/actors in the supply chain that specialize in the cold transport of seafood and other products. While transporters do not transform the seafood

<sup>2</sup> This is particularly applicable within artisanal/small-scale fisheries.

<b>Term</b>	<b>Definition</b>
	products that they transport, they may provide cold storage services for the shipper (outgoing) and/or receiver (incoming) trading points within the supply chain that they are transporting products between. Transporters physically handle trade products (often in packages, cases or pallets), maintain sanitary conditions and temperature control, and provide accountability information (e.g., temperature, distance and time of transport) that are important for maintaining traceability within the seafood supply chain. Refrigerated vessels involved in transshipment, individuals and small-scale transporters are included in this category.
<b>Transshipment</b>	To transfer seafood products from one vessel to another while at-sea or at port. Typically, from a fishing vessel to a refrigerated carrier vessel (also known as a reefer), but can also involve movement of fish between fishing vessels. Transshipment is a CTE.
<b>Vertically Integrated Supply Chain</b>	Supply chain structure where in the entire chain is owned by one company, with all vessels and crew under the control of the processor/exporter.
<b>Vessel (fishing)</b>	An ocean vessel that has been equipped to catch seafood. It may also perform basic/initial seafood processing tasks and/or segregate or aggregate various products.
<b>Vessel (processing)</b>	A large ocean vessel with extensive on-board facilities for processing and freezing captured seafood. Such vessels may significantly shorten the supply chain by catching, grading, processing, packing and/or freezing seafood products in retail-ready packaging ready to be landed and distributed at port.
<b>Wholesaler</b>	A person or business that purchases seafood for the purpose of resale to another business within the supply chain. Wholesalers often receive seafood products from a single distributor in order to ship them to multiple retailers or restaurants. Such wholesale operations are sometimes referred to as 'foodservice distributors.'

## 2.2 Glossary of Critical Tracking Events

A critical tracking event (CTE) is defined as a point in the supply chain where a seafood product is moved between actors, premises, or is transformed or at a point that is determined to be where data capture is necessary to maintain traceability. Common CTEs within the wild-caught seafood supply chain include: production (i.e., the at-sea origin/harvest event); landing (at port or to transshipment vessel); transportation (i.e., an exchange of goods; includes both shipping and receiving events); transformation (i.e., the creation or manipulation of the seafood product(s), both inputs and outputs; includes processing, aggregation and packaging events); and depletion (i.e., exit of seafood product from the supply chain; includes sale to and consumption by the end consumer, as well as disposal). CTEs will serve as critical data points within the USAID Oceans CDTS, including when a seafood product is caught, when it moves from one position to another within the seafood supply chain and when the product is processed and repackaged. CTEs play a central role in the design of how and when key data elements are collected within the system. The following section presents a listing of CTE terms and definitions that are commonly used in relation to catch documentation and traceability (Table 2).

In recent decades, the concept of using CTEs to support the tracking of food products has gained increased international attention, catalyzed by a number of large, nationwide foodborne illness outbreaks between 2005 and 2010 that were associated with commercially (and often internationally) distributed food products (e.g., E.

*coli* infections; *Salmonella* outbreaks). CTEs are events that are recorded in order to allow for effective traceability of products throughout the supply chain.

*Table 2: Glossary of critical tracking events (CTEs)*

<b>Term (event)</b>	<b>Definition</b>
<b>Consumption</b>	An event where a traceable seafood product becomes available to consumers. <sup>3</sup> Commonly captured key data elements (KDEs) relating to a consumption event include: the product identification (ID) number; the supplier ID; the associated batch/lot number; the location, date and time that the product both became available to consumers and was sold to a consumer.
<b>Creation</b>	An event where a traceable seafood product is generated. Creation events include production (capture/wild harvest) and landing (at port or at sea).
<b>Disposal</b>	An event where a traceable seafood product is destroyed, discarded or otherwise handled in such a manner that the product can no longer be made available retail customers or restaurant consumers. <sup>4</sup> Commonly captured KDEs relating to a disposal event include: the product ID number; the retailer ID; the associated batch/lot number; and the location, date, and time that the product was removed from the supply chain prior to being purchased by a consumer.
<b>Depletion</b>	An event where a traceable seafood product is removed from the supply chain. Depletion events include both consumption and disposal events.
<b>Landing</b>	An event where a traceable (wild-caught) seafood product is off-loaded from the fishing vessel that captured the product at-sea. <sup>5</sup> Landing events typically occur at a port, but can also occur at-sea during transshipment, where a seafood product is off-loaded onto a different vessel.
<b>Production</b>	The (at-sea harvest) event where the wild capture of the seafood product occurs.
<b>Receiving</b>	An event where a traceable seafood product is received at a defined location from another defined location. Receiving CTEs typically occur: (a) immediately following the completion of a transport event; and (b) as the consequence of shipping event.
<b>Shipping</b>	An event where a traceable seafood product is dispatched from one defined location to another defined location. A shipping CTE is typically followed by a receiving event. Shipping often occurs by road, ship, rail and/or air transport. Usually is supported by formal shipping documents such as product invoice, packing list, bill of lading, certificate of origin and cargo manifest.
<b>Transformation</b>	An event where any change is made to a traceable seafood product that alters the characteristics and/or identity of the product. Transformation involves the manipulation, processing, aggregation, disaggregation and/or packaging of a seafood product. Common transformation events include: (a) processing (primary) of a seafood product from the original form when it was captured into an altered form <sup>6</sup> ; (b) processing (secondary) of a

<sup>3</sup> Examples of a consumption event include: (a) when a crate of seafood is unloaded, packaged, and placed into self-service bins at a retail grocery store or local market stall; (b) when a packaged seafood product is sold at a point-of-sale (POS) register at a retail grocery store; and (c) when a crate of seafood is opened for use in preparing menu items at a restaurant.

<sup>4</sup> An example of a disposal event is when packaged seafood being sold at a retail grocery store passes its expiration date and is therefore discarded.

<sup>5</sup> Note that the “landing site” is different from the “catch origin.” The catch origin is the location at sea where the product was harvested. Both the landing site and the catch origin are important data for verifying source information regarding a seafood product and ensuring traceability throughout the supply chain.

<sup>6</sup> Examples include: heading, gutting, scaling, deboning and/or filleting or portioning.

<b>Term (event)</b>	<b>Definition</b>
	seafood product into a value-added product <sup>7</sup> ; and (c) packaging (e.g., canning, plastic wrap) or re-packaging (grouping, splitting, or mixing) of seafood products. Transformation events usually occur within the physical structure of a specified company within the seafood supply chain.
<b>Transformation, input</b>	An event where one or more ingredients or materials (inputs) from one or more sources or suppliers are combined and/or processed to create a new traceable seafood product, prior to it entering back into the seafood supply chain. <sup>8</sup> Commonly captured KDEs relating to an input transformation event include: the product ID number; the supplier ID; the production unit of all ingredients or materials used to create the new product; and the location, date and time that the new product was transformed.
<b>Transformation, output</b>	An event where the output of a traceable seafood product (such as a finished product) is packaged and labeled for entry into the seafood supply chain. Commonly captured KDEs relating to an output transformation event include: the product ID number; the supplier ID; the batch/lot number; and the location, date and time that the new product was packed and labeled.
<b>Transportation</b>	An event where a traceable seafood product moves from one point in the supply chain to another. <sup>9</sup> The transportation event typically involves a transportation company that moves a seafood product from a company that is shipping the product (the sender) to a different company where the product is to be delivered (the receiver). However, a transportation event can also occur between two separate locations within a single company. Transportation of seafood products often occurs by road, ship, rail and/or air between companies. Separation or aggregation of lots may occur during transportation.

## 2.3 Glossary of Key Data Elements

Key data elements (KDEs) are defined as critical data that are required to successfully ‘trace’ a seafood product and/or its ingredients through all relevant CTEs within the supply chain. Because KDEs are linked to CTEs, they are often used to support the tracking of products through the supply chain. In this respect, KDEs usually focus on information relating to the ‘who,’ ‘what,’ ‘when,’ ‘where’ and ‘links’ of a seafood product as it moves through different CTEs within the supply chain. Figure 1 illustrates the movement of KDEs throughout CTEs within a generic seafood supply chain.

Common characteristics captured by KDEs along each position within the supply chain include:

- Product information (species, product type)
- The physical location of where the product resides at any point of time;
- The movement of the product in or out of a CTE (including an associated batch or lot number);
- The amount or quantity (e.g., the volume and/or weight) of the product;
- The individual who handles, processes or provides a service to the product; and
- The date and time of when the product was received into or shipped out of a CTE.

Similar to CTEs, KDEs serve as critical data collection points within a CDTS. Because of this, KDEs play a central role in the design of how and when data are collected within the system. This section presents a list of common KDEs terms and definitions relating to the USAID Oceans CDTS, listed by corresponding CTE type (see Table 3).

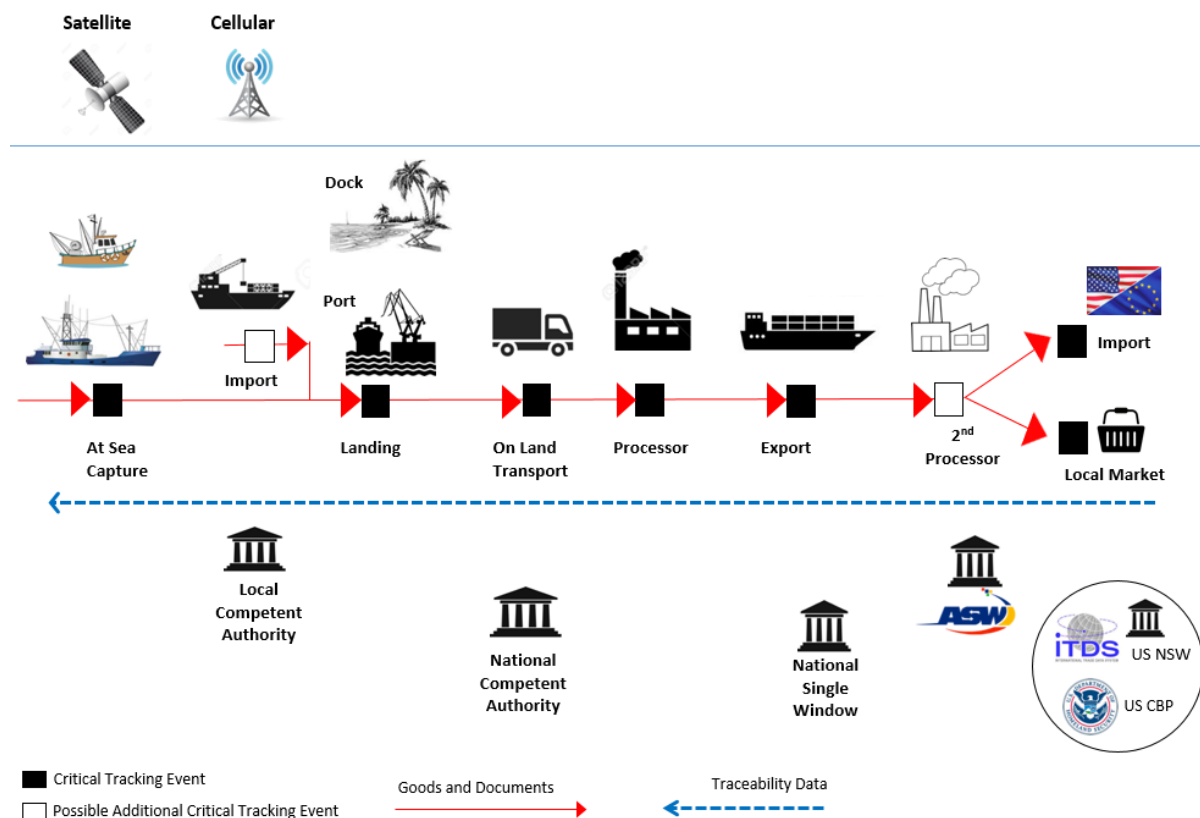
<sup>7</sup> Examples include: cooking, drying, smoking or adding other ingredients, such as salt, spices or oil.

<sup>8</sup> If the newly transformed seafood product is immediately made available to consumers (for example, served at a restaurant), it then becomes a consumption event instead of entering into the supply chain.

<sup>9</sup> Transportation events are also known as ‘exchange’ events within the seafood supply chain.

Figure 1 illustrates the capture of information relating to CTEs (red arrows) and KDEs (black boxes) occurs at each stage in the seafood production chain. Traceability data collected along the product chain are transmitted (dotted blue lines) to data exchange services that handle data processing, storage, and retrieval. Traceability data captured along the supply chain may also be transmitted to a third party who provides publishing data services. The adequate transmission (i.e., accurately, verifiably, securely, and in a timely manner) of data collected within the CDTs enables a seafood product's traceability.

*Figure 1: The flow of traceability data throughout the seafood production chain*



Accurate, reliable and timely capture of KDEs within the CDTs is a key requirement for seafood traceability to occur. Industry-wide and region-wide government agreement has not yet been reached on which KDEs should be required for capture under traceable fisheries in Southeast Asia.

*Table 3: Glossary of key data elements (KDEs)*

Category	Term (KDE)	Definition
Who	Event owner	The name of the business/company that has possession (the “owner”) of the seafood product at the time of that the CTE “event” is measured (via KDE data capture), and therefore is responsible for the complete and timely submission of KDE data collected. In the case of a small-scale fishery where there is no business/company, the captain or master/lead fisher’s first and last name is the event owner. Note that the event owner (business/company submitting the KDEs) might be different than the enumerator (the person or entity that collected the KDE data for the event owner).
Who	Name of owner representative	The first and last name of the individual who owns, is chief executive officer, or is otherwise the designated authority of the business/company named that is listed as the “event owner.” For example: the name of the owner of the

<b>Category</b>	<b>Term (KDE)</b>	<b>Definition</b>
		fishing vessel, the processing company, the transport company or export company.
<b>Who</b>	Owner representative sex	The sex of the individual who owns, is chief executive officer, or is otherwise the designated authority of the business/company named that is listed as the “event owner.” For example: the sex of the owner of the fishing vessel, the processing company, the transport company or export company.
<b>Who</b>	Owner ID	The unique number or alphanumeric designation that is identified within the legally-recognized identification (ID) associated with the owner (individual). For example: the owner’s personal identification card; the owner’s fishing license; the owner’s business license.
<b>Who</b>	Owner ID expiration date	The date on which the owner ID listed expires or becomes no longer valid.
<b>Who</b>	Owner address	The full street address of the business/company named as event owner. This should include street number, street name, district, town or city, province, postal code and nation.
<b>Who</b>	Owner phone	The country code, area code and daytime phone number of the business/company named as event owner.
<b>Who</b>	Trading partner	The immediate party within the seafood supply chain to the current event owner that was involved either before or after the occurrence of the CTE event. For example: (a) the trading partner (TP) for a shipping CTE is the intended recipient of the shipment; (b) the TP for a receiving CTE is the immediate previous shipper; (c) the TP for an input transformation CTE is the supplier of the product inputted into the transformation process; and (d) the TP for an import CTE is the prior exporter. Potential trading parties include any supply-chain partner that has a direct impact on the flow of goods through the supply chain; for example: a processor, wholesaler, distributor or fisher.
<b>Who</b>	Trading partner sex	The sex of the immediate party within the seafood supply chain to the current event owner that was involved either before or after the occurrence of the CTE event.
<b>Who</b>	Vessel name	The name of the fishing vessel associated with the production CTE event (i.e., the fishing boat that did the wild capture of the seafood product). The vessel name must be legally associated with the “vessel ID.”
<b>Who</b>	Vessel size	The gross weight (in metric tons) of the vessel. The estimated size for small-scale boats is acceptable.
<b>Who</b>	Vessel flag	The registered flag state of the fishing vessel associated with the production CTE event. The vessel flag must be legally associated with the “vessel ID.”
<b>Who</b>	Vessel ID	The unique, flag state-issued registration number of the fishing vessel associated with the production CTE event, as required by the relevant national regulations. The vessel ID must be legally associated with the “vessel name.” Other ID numbers can be used, such as an IMO, in cases where government registration system are not in place.
<b>What</b>	Event type	The type of CTE event occurring at the time of KDE capture. The event type includes both a major (i.e., creation; transformation; transportation or



<b>Category</b>	<b>Term (KDE)</b>	<b>Definition</b>
		depletion) and an associated minor (i.e., creation; landing; input; output; shipping; receiving; consumption or disposal) event designation.
<b>What</b>	Event number	The unique number or alphanumeric designation associated with the specified CTE event. Event numbers are relevant to a specific actor and are typically be generated (sequentially) by internal tracking systems. Such event numbers must be unique to each actor.
<b>What</b>	Item	The traceable seafood product that requires the need to retrieve pre-defined information (KDEs) at any point within the supply chain, either through electronic or paper (e.g., invoice; purchase order) format.
<b>What</b>	Item type	The specific type or descriptive category used to define the traceable seafood product (“item”) at any point within the supply chain. The minimum data requirements associated with “item type” include: (1) the scientific name (Latin designation; both genus and species); (2) the FAO 3-Alpha Code (3-letter code used to identify species, and verify scientific name; and (3) the common market name associated with the “item,” in the language of the event owner. In later stages within the supply chain, the item type may also include the descriptive category of the seafood product (e.g., “smoked fillets”).
<b>What</b>	Item code	The associated Aquatic Sciences and Fisheries Information System (ASFIS) number, FAO code or product code for the species identified under the “item type.”
<b>What</b>	Item number	The unique identification number or other alphanumeric designation associated with the individual “item.” For example: input or output ID number; transport order number; or tag number (of a landed finfish). Note that this differs from the “batch or lot number” that the item might be associated with.
<b>What</b>	Bycatch	The indication that the seafood product was captured as bycatch and was not the target species of harvest. Data input options include: YES/NO
<b>What</b>	Batch or lot number	The unique identification number or other alphanumeric designation associated the batch or lot that the “item” is associated with. Note that this differs from the “item number” that the item might be associated with.
<b>What</b>	Quantity	The number or amount of items within an associated batch or lot. For example: the precise number of items or volume of a batch or lot. This KDE is measured and referenced in conjunction with “unit of measure.”
<b>What</b>	Weight: item	The individual weight (in kilograms) of the “item” (seafood product).
<b>What</b>	Weight: batch/lot	The total weight (in kilograms) of all items within a specified batch/lot.
<b>What</b>	Length	The measurement of the individual “item” length. For finfish seafood products, this is measured from the tip of the snout to the end of the middle caudal fin rays. This may include fork length, but differs according to species.
<b>What</b>	Unit of measure	The unit of measure relating to the specific quantity.
<b>What</b>	Packaging type	The specific type or descriptive category used to define the cast package type used to enclose the traceable seafood product (“item”). Common cast package types include: (a) fixed-weight units (case or shelf ready); (b)

<b>Category</b>	<b>Term (KDE)</b>	<b>Definition</b>
		variable-weight units (case of shelf ready), pre-priced; (c) variable-weight units, un-priced; (d) tray-ready and (e) store processed (labeling and packaging done at retailer).
<b>What</b>	Packaging materials	A description of the materials associated with the “packaging type” for a specified “item;” for example: plastic bag, wax box, plastic bin or expanded polystyrene. Packing materials may change throughout the seafood supply chain due to unpacking and re-packaging of the traceable seafood product (“item”) along specific transformation and transportation CTEs of the supply chain.
<b>What</b>	Sell-by date	The specified date before which the traceable seafood product (“item”) is to be safely purchased for consumption. Also known as the “expiry date” or “date of expiration.” Related to the “best before” or “use by” date.
<b>When</b>	Event date	The date (day, month, and year) on which the CTE event occurs for the specified “item.” For example, the: (1) production date (date of wild harvest); (2) packaging date; (3) ship date; (4) receipt date; and (5) date of purchase.
<b>When</b>	Event time	The time (hours, minutes) on which the CTE event occurs for the “item.”
<b>When</b>	First freeze date	The date (day, month, and year) on which the specified item was first frozen.
<b>When</b>	Date of departure	The date (day, month, and year) of the departure of the fishing vessel of item origin (i.e., from which the “item” was harvested) from the port (or other anchorage/mooring site) at the start of the fishing trip during which the “item” was harvested.
<b>When</b>	Time of departure	The time (hours, minutes) of the departure of the fishing vessel of item origin (i.e., from which the “item” was harvested) from the port (or other anchorage/mooring site) at the start of the fishing trip during which the “item” was harvested.
<b>When</b>	Date of return	The date (day, month and year) of the arrival of the fishing vessel of item origin (i.e., from which the “item” was harvested) to a port (or other anchorage/mooring site) at the completion of the fishing trip during which the “item” was harvested.
<b>When</b>	Time of return	The time (hours, minutes in specified local time zone) of the arrival of the fishing vessel of item origin (i.e., from which the “item” was harvested) to a port (or other anchorage/mooring site) at the end of the fishing trip during which the “item” was harvested.
<b>Where</b>	Origin	The name of the geographic location from which the fishing vessel originated (departed from) during a specified fishing trip; for example, the name of a port complex or landing site, city, town or municipality. GPS coordinates are recommended, where available.
<b>Where</b>	Event location	The place where a traceable seafood product (“item”) is located during any given CTE within the seafood supply chain. This includes, but is not limited to: the fishing grounds from where the item was harvested; the landing site of the item; the place where the item under goes transformation (e.g., a processing site); a cold storage location and a retail location.  The “event location” place is recorded as the physical address of the location where the CTE occurs, except for a production event. The “event location” for a production event (i.e., wild harvest) is recorded using the FAO Fishing

<b>Category</b>	<b>Term (KDE)</b>	<b>Definition</b>
		Area coding system, inclusive of: major area (2-digit code) + sub-area (roman numeral designation) + division area (lower case letter) + sub-division (single digit). In addition (but not required), the production event can include the GPS coordinates where the “item” was harvested.
<b>Where</b>	Product source	The immediately prior (source) “event location” during the CTE.
<b>Where</b>	Product destination	The immediately intended (destination) “event location” during the CTE.
<b>Where</b>	Vessel home port	The recorded homeport (including country; may differ from flag state) of the fishing vessel that is associated with the production of the “item.”
<b>How</b>	Event method	A description of the methods used during the CTE. For example, the fishing gear type used during a production CTE. Details for subsequent stages (i.e., the mechanical process used during a transformation CTE are optional).
<b>How</b>	FAD use	The confirmation of whether a FAD was used in the harvest of the seafood product and if so, the indication of the type of FAD used. Data input options to include: ANCHOR/DRIFT/NO.
<b>How</b>	FAD location	The latitude and longitude at which the FAD was in operation for the FAD-acquired catch. If coordinates are not available, the FAD registration ID may be provided, if a FAD-database is maintained in the country of use (particularly for anchor FADs with fixed locations).
<b>Link</b>	Link	Recorded information that is necessary to establish the relationships between other relevant information (KDEs) for the “item” within the supply chain.
<b>Link</b>	Activity type	The specific type of activity(ies) used during the CTE process that influences the traceability of a seafood product, as specified within the work order (WO), purchase order (PO), bill of lading (BOL) or other invoice/document.
<b>Link</b>	Activity ID	The unique identification number assigned to the “activity type” completed within any point in the supply chain for a given “item.” For example, the ID number of a WO, PO, BOL or other invoice/document.
<b>Link</b>	Invoice	A document detailing the type, quantity, and destination of a shipped traceable seafood “item.” The invoice serves as a contract between the shipping party and the transporter. It also serves as a receipt of shipment when the shipment is delivered to the receiving party.
<b>Link</b>	Packing slip	A document detailing the type, quantity, and destination of a shipped traceable seafood “item” that is bundled with or within the shipped item.
<b>Link</b>	Batch/lot date	The date (day, month and year) associated with a batch or lot during a specified CTE, including “landing on,” “shipped on,” “received on,” “best by” or “purchase by” dates.
<b>Link</b>	Carrier ID	The unique identification number or other designation assigned to specified supply chain actors associated with transportation CTEs. These include: carrier name; trailer number; ship form number; destination location name or number.

<b>Category</b>	<b>Term (KDE)</b>	<b>Definition</b>
<b>Link</b>	Container/ Trailer ID	The unique identification number or other designation assigned to a specific container, trailer (truck) or other transport container that is associated with transportation CTEs in the supply chain. For example, a truck's license plate number or a shipping container's alphanumeric designation.
<b>Link</b>	Certificate ID	The unique identification number or other designation of a certificate associated with an item's CTE within the supply chain. For example, the: (a) catch certificate number; (b) landing declaration number; (c) transshipment certificate authorization number or (d) green-certified product number.
<b>HW<sup>10</sup></b>	Captain name	The given name of the captain of the fishing vessel associated with the production CTEs of a traceable "item."
<b>HW</b>	Captain sex	The sex of the captain of the fishing vessel associated with the production CTEs of a traceable "item."
<b>HW</b>	Captain ID	The unique number or alphanumeric designation that is identified within the legally-recognized identification associated with the captain of the fishing vessel associated with the production of a traceable "item." For example: the captain's personal identification card, birth certificate or passport number.
<b>HW</b>	Captain nationality	The verifiable nationality (country of origin) of captain of the fishing vessel associated with the production CTEs of a traceable "item." Verified by the document/ID associated with "Captain ID."
<b>HW</b>	Contract ID	The unique identification number or other designation assigned to a specific employment contract for any fisher or other crewmember on board the fishing vessel associated with the production CTE for a traceable "item." To be traceable, the "contract ID" must be linked to a verifiable contractual employment agreement or hiring and recruiting arrangement, with all associated identity papers/documents.
<b>HW</b>	Crew name	The given names of any individual associated with the production and/or transformation CTEs of a traceable "item." This includes seafood processors, fishers, or other fishing vessel crewmembers associated with the production or transformation of the traceable "item."
<b>HW</b>	Crew sex	The sex of any individual associated with the production and/or transformation CTEs of a traceable "item." This includes seafood processors, fishers or other fishing vessel crewmembers associated with the production or transformation of the traceable "item."
<b>HW</b>	Crew ID	The unique number or alphanumeric designation that is identified within the legally-recognized identification associated with the seafood processors, fishers, or other vessel crewmembers associated with the production or transformation of a traceable "item." For example: the crew's personal identification card, birth certificate or passport.
<b>HW</b>	Crew DOB	The date (day, month and year) of birth of any worker, processor, fisher, or other vessel crewmember associated with the production or transformation of a traceable "item." Verified by the document/ID associated with "crew ID."

<sup>10</sup> The full set of all proposed human welfare KDE terms and definitions is presented within a separate glossary in Annex II.

<b>Category</b>	<b>Term (KDE)</b>	<b>Definition</b>
<b>HW</b>	Crew job/title	The term or specific employment title used to describe the position and/or duties and responsibilities of the seafood processors, fishers or other vessel crewmembers associated with the production or transformation of a traceable “item.” For example: “first mate,” “inspector” or “safety officer.”
<b>HW</b>	Crew nationality	The verifiable nationality (country of origin) of any worker, processor, fisher or other vessel crewmember associated with the production or transformation of a traceable “item.” Verified by the document/ID associated with “crew ID.”

## 3.0 A FRAMEWORK FOR TRACEABILITY

---

### 3.1 Moving Towards Seafood Traceability

A foundational concept of the USAID Oceans Activity is the documentation and traceability of seafood products after being caught—CDT. In practice, CDT requires the capture and sharing of verifiable information relating to a specific seafood product throughout the product’s movement within each step of the full supply chain. In other words, from the point of catch of the seafood product, to its landing at-port (or on another ship, at sea), through the various buyers, processors, shippers, exporters, importers, distributors and retailers that handle the seafood product – all the way to the end consumer. Practically speaking, for a seafood product to be ‘traceable’, all necessary CDT-related data must be captured so that the full “path” of the product can be followed, from its harvest on board a fishing boat all the way to the consumer’s plate, and every step in between.

The assumption is that once built, an electronic CDTS will not only allow consumers to select and purchase seafood products that can be traced and verified as legal, equitable and sustainable, but also discourage untraceable or questionably-sourced seafood products from being imported by foreign markets; for example, into the US or EU. Recent technological advances have supported increased capacity for reporting and connectivity, enabling at-sea data capture for traceability purposes in a manner that was once limited only to shore-side landing sites or storage and processing facilities. This provides the opportunity for expanded and enhanced traceability reporting, which has often been limited by connectivity and technology restrictions.

### 3.2 Traceability Scope under USAID Oceans

USAID Oceans is focused on partnering and working with supply-side actors located throughout Southeast Asia. Therefore, USAID Oceans’ approach to designing and testing an electronic CDTS focuses on the capture and sharing of relevant and verifiable information only from the point-of-catch to the point-of-export within specific wild-caught seafood supply chains.

USAID Oceans supports the development of transparent and financially sustainable CDT systems to help ensure that fisheries resources from Southeast Asia are caught legally and labeled properly. CDT systems encourage the collection, sharing and analysis of verifiable ecological, economic and social data related to seafood products as they move through the supply chain, such that they are traceable from point-of-harvest to seafood importer retail. As such, it is envisioned that the CDT systems will be used by all players in the seafood supply chain, including fishers, processors, exporters, importers, buyers and governments.

The use of a traceable, electronic catch documentation system is not new. Electronic catch reporting has already been tested successfully and implemented in several domestic wild-caught fish markets, including within the US, EU, and Australia. In such jurisdictions, electronic catch reporting systems—and the associated analytics performed on the data collected through them—are well recognized aspects of a broader, ecosystems approach to marine management. Under the USAID Oceans project, a traceable CDT system is an important contribution toward taking an ecosystem approach to fisheries management (EAFM), and balancing ecological and human (social) within ecologically meaningful boundaries. As such, USAID Oceans-supported CDT systems will support fishery information needs at the ecosystem level as a complementary management effort to fishing vessel/fisher licensing and registration, area closures and monitoring, control, and surveillance (MCS). The CDTS requires the capture of key data such as catch species, the location of catch, the gears and methods used, and vessel and crew information. Over time, such data provided across multiple fisheries and ecosystem types will help decision-makers and stakeholders more effectively and adaptively manage fisheries at increasingly large scales for ecological and economic sustainability. Such data will also support specific regional, national and sub-regional fisheries management efforts including stock setting harvest control regulations and quotas, informing closed access decision-making and assisting with stock assessment.

In addition, in the interest of end-to-end traceability throughout the entire seafood supply chain, USAID Oceans has also explored the potential data needs associated with the capture and sharing of relevant and verifiable information from within the import-side of the supply chain, including importers, retailers and consumers.

Finally, because of growing international concerns over the human welfare conditions within Southeast Asia’s seafood supply chains, USAID Oceans is also exploring how to capture and share relevant and verifiable information relating to human welfare and labor and socioeconomic conditions within specified supply chains,

applying a gender lens, particularly at the point-of-catch (at sea), landing and processing. Testing of the capture of relevant human welfare data under the USAID Oceans-supported CDTS is an acknowledgement of the severity of international concern regarding the seafood sector's human welfare conditions.

Through CDT, USAID Oceans aims to embed seafood traceability and transparency within existing fisheries information systems (operated by fisheries regulators) and customs and importing systems, as operated by importing nation agencies; for example, the Customs and Border Protection (CBP) within the US Department of Homeland Security (DHS). Such traceability and transparency within the seafood supply chain will also support private sector catch reporting, logistics and Enterprise Resource Planning (ERP) systems, which are operated by many harvesters and processors operating within the supply chain throughout Southeast Asia.

### 3.3 Challenges and Limitations

A fundamental challenge of KDE capture and sharing is balancing the desire to collect a thorough and robust set of KDEs against the need to minimize data collection fatigue and avoid becoming onerous. To achieve this balance, USAID Oceans has attempted to identify a set of recommended KDEs that maintain an appropriate degree of rigor for traceability purposes while still being reasonable and realistically feasible (see requirements framework in Section 3.4). However, striking this balance will not be easy, and will require a reasonable level of time and patience, as well as an adaptive and flexible approach to KDE collection.

While the KDEs reflected within this guide are identified and defined primarily with participating commercial fishery actors in mind, in reality USAID Oceans is aware that the majority of fish landed in Southeast Asia are from small-scale fishers, not larger commercial fishing companies.<sup>11</sup> While USAID Ocean's mandate is to focus on commercial fisheries (including municipal small-scale tuna fisheries), we also recognize the importance and value of considering and testing a sub-set of KDEs for small-scale fishers focused on subsistence and for local market sale. In addition, USAID Oceans recognizes that regulatory agencies in the region, including both in Indonesia and the Philippines, have promoted and implemented fishery logbook and catch certificate data requirements for use by small-scale fishers. Therefore, KDE requirements are presented for both commercial fishing companies and small-scale fishers, consistent with (and therefore building upon and strengthening) existing national requirements. It is not the intention of the USAID Oceans' CDTS to promote a list of KDE requirements that is so onerous that it prevents entry of small-scale fishing operations into the seafood traceability process. Rather, it is hoped that KDE collection will not only empower the sophisticated and lucrative commercial fishery interests, but also smaller and under-resourced artisanal and small-scale operations.

To capture and exchange 'traceable' data reliably within such a diverse environment of supply chain actors presents a variety of technical, political and logistical challenges. Additionally, various stakeholders (i.e., seafood harvesters, processors, ports/authorities, fisheries regulators, cold chain/operators, customs agencies, wholesalers, retailers, NGOs and technology suppliers) each bring their own unique perspectives and interests regarding supply chain traceability. In order to be successful, the CDTS faces the challenge of needing to account for and incorporate the diverse needs and perspectives of the full range of relevant stakeholders within the supply chain.

USAID Oceans is not an international standards-setting body. As such, it does not aim to create or advocate for international or regional standards within the wild-caught seafood industry. Instead, it aims to build upon existing international standards that have already been developed by globally accepted standards-setting bodies and authorities, such as GSI. Within the seafood supply chain, USAID Oceans is working to facilitate traceability from the cold storage and shipping part of the supply chain (where globally accepted standards exist), back through the processors and producers (where globally accepted standards are still under development and negotiation). As such, USAID Oceans—inclusive of its many governmental and non-governmental partners—aims to support and empower the development, testing and adoption of such emerging international standards within specified seafood supply chains in Southeast Asia.

The USAID Oceans CDTS approach does not seek to be a system for universal application across all seafood product traceability efforts around the world. Rather, USAID Oceans is a strategically focused initiative that is implemented within specific seafood product supply chains at identified learning sites (e.g., Bitung, Indonesia and General Santos City, Philippines) and addresses specific US-based seafood import interests, for the explicit purpose of testing and advancing a practical, electronic-based catch documentation approach that allows for

---

<sup>11</sup> Small- and large-scale fisher designations are determined by vessel tonnage. Designations may vary by competent authority, but are commonly classified as small-scale, <5 gross tons (GT); medium-scale, 5-30 GT; and large-scale, >30GT

traceability of seafood products throughout the supply chain. In this regard, USAID Oceans can be seen as a partner-driven test of the potential for electronic CDT applications in Southeast Asia, with the intention of eventual adoption/uptake (and inevitable modification and updating) by both national government agencies and interested private sector operations in the region. This limited scope is the foundation for the data requirements that are outlined below.

### 3.4 CTE-KDE Requirements Framework

The requirements for KDEs collection by each CTE type occur at two levels:

1. **Required**<sup>12</sup> – that is: the minimum set of KDEs that “must be collected” to ensure traceability, regardless of scale of fisheries operation or sophistication; in many cases, such ‘minimum’ KDEs are mandatory for collection and documentation as required under law in ASEAN countries; and
2. **Ideal** – that is: those KDEs that “are not required but would be useful to collect” under the USAID Oceans electronic CDTs testing and implementation, in addition to required (must be collected) KDEs; also referred to as information that is “nice to have” and may be beneficial for further analyses or other business or management-related activities.

Note that some “required” KDEs are conditional in that they must be collected only by actors within specified links across the supply chain, i.e., processing of government Catch Certificates. Beyond these specified links, such “required” KDEs might be “preferred” or “optional” for collection by actors within other links in the supply chain. Also, certain KDEs may be required for commercial fisheries traceability, but preferred/optional for collection by small-scale fishers.

Given the scope and challenges associated with the USAID Oceans CDTs, the level of requirement for each KDE is dependent on both the nature of the KDE in terms of its importance for ensuring seafood product traceability as well as whether or not the supply chain is for small-scale or commercial fisheries. Table 4 presents a framework for each KDE and associated CTE by requirement level under USAID Oceans, including required and ideal KDEs that support human welfare objectives. This framework has been adapted after the CTE-KDE Framework used by the Global Food Traceability Center (GFTC) of the Institute of Food Technologists (see GFTC 2016) and the GSI US Seafood Traceability Readiness Program report (see GSI 2014).

Within the CTE-KDE Framework (Table I), there are five possible designations relating to the requirement level of each KDE, as follows:

1. KDEs that are **required** (designated as “**R**” in Table X) for capture by both commercial and small-scale fishery supply chain actors. These are the “minimum” KDEs.
2. KDEs that are required only for commercial fishery supply chain actors (designated as “**RC**”), but not small-scale actors. These are preferred (optional) KDEs in small-scale fisheries.
3. KDEs that are **ideal** (designated as “**I**”) to be captured by either/both commercial and small-scale fishery supply chain actors.
4. KDEs that ideally are captured by commercial fishery supply chain actors (designated as “**IC**”), but are not expected by small-scale actors.
5. KDEs that ideally are captured by small-scale fishery supply chain actors (designated as “**IS**”), but are not expected by commercial actors.

The CTE-KDE Requirements Framework serves as the starting point for application of KDE data capture and submission, by CTE and associated actor(s). Note that most human welfare KDEs are considered “ideal” for capture under the USAID Oceans electronic CDTs. A full set of all human welfare KDE definitions and data requirements are presented within Annex II. Given the growing international concern over the human welfare conditions within seafood supply chains, pressure from governments and civil society to capture such data may increase.

Table 5 presents a summary of the “minimum set” of KDEs that are required for capture under a USAID Oceans-supported electronic CDTs, by CTE.

---

<sup>12</sup> For the purpose of this draft version of this guide, “required” KDEs are those that in this draft are being proposed/suggested for mandatory collection during the testing and demonstration phase of the USAID Oceans CDTs at designated learning sites. Note that following the demonstration/testing process of the CDTs, certain specified KDE requirements may change from “required” (during testing) to “ideal.”



Table 6 presents a summary of the “minimum set” of KDEs that are required for capture by small-scale fishers under a USAID Oceans-supported electronic CDTs, as a “creation” CTE.

*Table 4: A framework of all proposed data requirements, by CTE.*

Note “required” (R) versus “ideal” (I) data capture requirements for each key data element (KDE) listed (see key; bottom). Developed after: GTFC 2016 and GSI 2014.

Key Data Element (KDE)		Critical Tracking Event (CTE)						
		Creation		Transformation		Transportation		
		Production (capture)	Landing	Input	Output	Shipping	Receiving	
Category	KDE (defined in Glossary)							
Who	Event owner	RC	RC	RC	RC	RC	RC	
	Owner name	R	R	RC	RC	RC	RC	
	Owner sex	R	R	RC	RC	RC	RC	
	Owner ID	R	R	RC	RC	RC	RC	
	Owner ID expiration date	RC	RC	RC	RC	RC	RC	
	Owner address	RC	RC	RC	RC	RC	RC	
	Owner phone	R	R	R	R	R	R	
	Trading partner	R	R	RC	RC	RC	RC	
	Trading partner sex	R	R	RC	RC	RC	RC	
	Vessel name	R	R					
	Vessel size	I	I					
	Vessel flag	R	R					
	Vessel ID	R	R					
What	Event type	R	R	R	R	R	R	
	Event number	IC	IC	IC	IC	IC	IC	
	Item type	R	R	R	R	R	R	
	Item code	RC	RC	RC	RC	RC	RC	
	Item number	I	I	IC	RC	RC	RC	
	Bycatch	R	R	R	R	R	R	
	Packaging type			RC	RC			
	Packaging materials			IC	IC			
	Batch or lot number	RC	RC	RC	RC	RC	RC	
	Quantity	R	R	R	R	R	R	
	Weight: item	RC	RC	RC	RC	RC	RC	
	Weight: batch/lot	R	R	R	R	R	R	
	Length	I	I					
	Unit of measure	R	R	R	R	R	R	
	When	Event date	R	R	R	R	R	R
		Event time	RC	RC	R	R	R	R
		First freeze date	RC	RC	RC	RC	RC	
Date of departure		R	R					
Time of departure		RC	RC					
Date of return		R	R					
Time of return		RC	RC					
Where	Origin	R	R	R	R	R	R	

Key Data Element (KDE)		Critical Tracking Event (CTE)					
		Creation		Transformation		Transportation	
		Production (capture)	Landing	Input	Output	Shipping	Receiving
Category	KDE (defined in Glossary)						
	Event location	R	R	R	R	R	R
	Product source		R	R	R	R	R
	Product destination	R	R	R	R	R	R
	Vessel home port	R	R				
<b>How</b>	Event method	R	R	R	R	R	R
	FAD use	RC	RC	RC	RC	RC	RC
	FAD location	RC	RC	RC	RC	RC	RC
<b>Link</b>	Activity type	RC	RC	RC	RC	RC	RC
	Activity ID	RC	RC	RC	RC	RC	RC
	Invoice	RC	RC	R	R	R	R
	Packing slip		RC	RC	RC	RC	RC
	Batch/lot date	IC	IC	IC	IC	IC	IC
	Carrier ID					RC	RC
	Container/Trailer ID					IC	IC
	Certificate ID		I	I	I	I	I
<b>HW</b>	Captain name	RC	R				
	Captain sex	RC	RC				
	Captain ID	RC	RC				
	Captain nationality	RC	RC				
	Crew/worker name	RC	RC	RC	RC		
	Crew/worker sex	RC	RC	RC	RC		
	Crew/worker job/title	RC	RC	RC	RC		
	Crew/worker ID	RC	RC	RC	RC		
	Crew/worker nationality	RC	RC	RC	RC		
	Contract ID	IC	IC	IC	IC		
	Crew/worker DOB	I	I	I	I		
	Crew/worker payment	IC	IC	IC	IC		
	Financing	I	I	I	I		
	Rights	I	I	I	I		
	Safety	I	I	I	I		
	Working hours	I	I	I	I		
	Living conditions	IC	IC	IC	IC		
	Recreation	IC	IC	IC	IC		
	Sustenance	IC	IC	IC	IC		

**KEY:**

R	= required data capture for both commercial/international and small-scale fishery supply chains
RC	= required data capture for commercial/international fishery supply chains
I	= ideal data capture for both commercial/international and small-scale fishery supply chains
IC	= ideal data capture for commercial/international fishery supply chains

Table 5: The proposed “minimum set” of KDEs required for capture, by CTE

Key Data Element (KDE)		Critical Tracking Event (CTE)						
		Creation		Transformation		Transportation		
		Production (capture)	Landing	Input	Output	Shipping	Receiving	
Category	KDE (defined in Glossary)							
Who	Event owner	RC	RC	RC	RC	RC	RC	
	Owner name	R	R	RC	RC	RC	RC	
	Owner sex	R	R	RC	RC	RC	RC	
	Owner ID	R	R	RC	RC	RC	RC	
	Owner ID expiration date	RC	RC	RC	RC	RC	RC	
	Owner address	RC	RC	RC	RC	RC	RC	
	Owner phone	R	R	R	R	R	R	
	Trading partner	R	R	RC	RC	RC	RC	
	Trading partner sex	R	R	RC	RC	RC	RC	
	Vessel name	R	R					
	Vessel flag	R	R					
	Vessel ID	R	R					
	What	Event type	R	R	R	R	R	R
Item type		R	R	R	R	R	R	
Item code		RC	RC	RC	RC	RC	RC	
Item number					RC	RC	RC	
Bycatch		R	R	R	R	R	R	
Packaging type				RC	RC			
Batch or lot number		RC	RC	RC	RC	RC	RC	
Quantity		R	R	R	R	R	R	
Weight: item		RC	RC	RC	RC	RC	RC	
Weight: batch/lot		R	R	R	R	R	R	
Unit of measure		R	R	R	R	R	R	
When		Event date	R	R	R	R	R	R
		Event time	RC	RC	R	R	R	R
		First freeze date	RC	RC	RC	RC	RC	
		Date of departure	R	R				
	Time of departure	RC	RC					
	Date of return	R	R					
	Time of return	RC	RC					
Where	Origin	R	R	R	R	R	R	
	Event location	R	R	R	R	R	R	
	Product source		R	R	R	R	R	
	Product destination	R	R	R	R	R	R	
	Vessel home port	R	R					

Key Data Element (KDE)		Critical Tracking Event (CTE)					
		Creation		Transformation		Transportation	
		Production (capture)	Landing	Input	Output	Shipping	Receiving
Category	KDE (defined in Glossary)						
How	Event method	R	R	R	R	R	R
	FAD use	RC	RC	RC	RC	RC	RC
	FAD location	RC	RC	RC	RC	RC	RC
Link	Activity type	RC	RC	RC	RC	RC	RC
	Activity ID	RC	RC	RC	RC	RC	RC
	Invoice	RC	RC	R	R	R	R
	Packing slip		RC	RC	RC	RC	RC
	Carrier ID					RC	RC
HW	Captain name	RC	R				
	Captain sex	RC	R				
	Captain ID	RC	RC				
	Captain nationality	RC	RC				
	Crew/worker name	RC	RC	RC	RC		
	Crew/worker sex	RC	RC	RC	RC		
	Crew/worker job/title	RC	RC	RC	RC		
	Crew/worker ID	RC	RC	RC	RC		
	Crew/worker nationality	RC	RC	RC	RC		

KEY:

R	= required data capture for both commercial/international and small-scale fishery supply chains
RC	= required data capture for commercial/international fishery supply chains

Table 6: The proposed “minimum set” of KDEs required (R) for capture by small-scale fishers, by CTE

Key Data Element (KDE)		Critical Tracking Event (CTE)	
		Creation	
		Production (capture)	Landing
Category	KDE (defined in Glossary)		
Who	Owner name	R	R
	Owner sex	R	R
	Owner ID	R	R
	Owner phone	R	R
	Trading partner	R	R
	Trading partner sex	R	R
	Vessel name	R	R
	Vessel flag	R	R
	Vessel ID	R	R
	What	Event type	R
Bycatch		R	R
Item type		R	R
Quantity		R	R
Weight: batch/lot		R	R
Unit of measure		R	R
When	Event date	R	R
	Date of departure	R	R
	Date of return	R	R
Where	Origin	R	R
	Event location	R	R
	Product source		R
	Product destination	R	R
	Vessel home port	R	R
How	Event method	R	R
	FAD use	R	R
	FAD location	R	R
HW	Captain name	R	R
	Captain sex	R	R
	Captain ID	R	R
	Captain nationality	R	R
	Crew/worker name	R	R
	Crew/worker sex	R	R
	Crew/worker job/title	R	R
	Crew/worker ID	R	R
	Crew/worker nationality	R	R

## 4.0 APPLYING THIS GUIDE

---

Through the application of the KDE definitions and requirements outlined within this guide, the capture and sharing of real-time, verifiable information across all actors within the seafood supply chain should become more feasible. In turn, participating Southeast Asian actors within specific seafood supply chains will move closer toward fisheries traceability, providing secure, long-term access to foreign seafood import markets, such as in the US.

This being said, USAID Oceans recognizes the importance of a realistic application of the required KDEs under CDT Systems within Southeast Asia. Whether relating to the scale, scope, approach or incentives, the theory in applying KDEs under an electronic CDTs within Southeast Asia and the theorized application differs significantly from the realities of application with participating actors in specified seafood supply chains (see Table 7). A practical approach to addressing the proposed data requirements outlined within this guide necessitates consideration of these distinctions.





























This section provides summary guidance regarding the process for KDE capture and submission under the USAID Oceans-supported CDTs for each frequently occurring actor within an international seafood supply chain. Application of the KDEs referenced in this guide is based on the following assumptions:

- (1) Participating companies within the seafood supply chain have a clear understanding of the incentives for their collection and submission of requested KDEs under the CDTs;
- (2) Participating companies within the seafood supply chain will make their own business decisions regarding their willingness to collect and digitally share business information under the KDEs;
- (3) Despite the inherently proprietary and sometimes sensitive nature of information relating to commercial enterprise operations and products, some actors within the supply chain will have an interest and/or incentive to document and share KDEs relating to their operations;
- (4) Due to the inherently proprietary and sometimes sensitive nature of information relating to commercial enterprise operations and products, not all recommended KDEs will be captured by all actors who are participating voluntarily within the testing of the electronic CDTs, even if not doing so will jeopardize seafood product traceability;
- (5) Due to the need to maintain confidentiality, only some KDEs will be publically available dependent on data privacy within the national jurisdiction or digitally 'readable' by actors within the supply chain subject to business party consent;
- (6) The open sharing of all KDE data with all actors is neither necessary nor required for traceability under the electronic CDTs; for example, instead of the actual value/data for certain KDEs being readable, they may be hidden ('masked') and instead be simply verifiable in terms of whether or not they meet a threshold or requirement (such as being present in the system; "yes"/"no" readable);
- (7) Where simple verification of the presence or adequacy of sensitive KDE data may not provide full data transparency, it may nonetheless provide sufficient accuracy and sufficiency to meet traceability requirements;
- (8) The testing and presence of incomplete or not fully-verifiable KDE data within seafood supply chains will still be welcomed by flag states in their efforts combat IUU fisheries and responsibly promote safe and sustainable seafood products to foreign markets;
- (9) Flag nations have an inherent interest in supporting participating actors within national seafood supply chains—even when said actors are unable to fully comply with all KDE requirements given limited capacity and resources—because of the flag nation's desire to promote domestic business interests and opportunities and continued engagement within international seafood markets; and
- (10) The collection of KDEs will move participants from a non-integrated and largely paper-based information reporting process toward an integrated, real-time digital process (see Figure 2).

Table 7: Theory versus reality relating to the collection of the proposed KDEs

Topic	Theory	Reality
<b>Scale</b> of operations	KDEs would apply equally to small-scale and artisanal fisheries as to commercial fisheries	Some required KDEs for commercial fishers cannot be required of small-scale fisheries
<b>Scope</b> of KDE collection	All KDEs are accessible and simple enough to capture that full and complete collection of all KDEs is feasible and non-problematic	Some KDEs will be more challenging to collect and share than others, particularly for proprietary and/or sensitive information
<b>Method</b> of KDE submission	All KDEs are entered via digital app within a mobile device (e.g., tablet or smart phone) and then transmitted via cellular/satellite service or Wi-Fi connectivity (Internet)	Not all actors/fishers will have access to mobile devices/touch screen technology at the time that KDE data are to be entered, and/or may not be familiar with the use of digital technologies and wireless transmission. Connectivity may challenge data transmission, particularly in remote areas.
<b>Approach</b> to KDE collection	All relevant links within the seafood supply chain are discrete, linear and stepwise, thereby allowing for a clear and linear approach to data collection	Clear and consistent KDE collection will be challenged by the inherently complex and often non-linear characteristics of some seafood supply chains
<b>Incentives</b> for KDE collection	All actors within the seafood supply chain are intrinsically motivated to participate in traceability, and are eager and willing to collect and transmit all KDEs associated with their stage/CTE in the supply chain	Not all actors within the seafood supply chain are intrinsically motivated to participate in traceability; only some will be eager/willing to collect and transmit KDEs associated with their stage/CTE in the supply chain

Figure 2. The current versus future process of seafood data collection along the production chain

							
Seafood Supply Chain	At sea capture (small scale; >4 to <30 MT)	At sea capture (medium scale; >30 MT)	Port	Buyer/Broker	Shipper (land or boat; domestic)	Processor (1 <sup>st</sup> , 2 <sup>nd</sup> etc.)	Shipper (air or ship; export)
<b>Current:</b> Typical data capture method (not integrated across supply chain)							
Who	Captain	Captain	Company and Port Authority (government)	Buyer/Broker (company or agent)	Shipper (company)	Processor (company)	Shipper and Export Authority (government)
Data/Document Type	Logbook and Captain's certificate	Logbook and Captain's certificate	Catch certificate / document	Purchase order	Manifest or delivery order	Raw material, batch ID; finished good ID	Certificate of Origin; Packing list; Health certificate; Bill of lading
<b>Future:</b> Data capture method via USAID Oceans' CDT System (integrated across chain)	 Mobile data collection device; pushed to DEX*	 Mobile data collection device; pushed to DEX	 Mobile data collection device; pushed to DEX	 Data submission into DEX; cloud storage	 Data submission into DEX; cloud storage	 Data submission into DEX; cloud storage	 Data submission into DEX; cloud storage
CDT data submission method	 Cell or satellite	 Cell or satellite	 Cell or WiFi	 Internet	 Internet	 Internet	 Internet

\*Data Exchange (DEX)

## 4.1 Producers

Table 8 presents a summary of how the KDEs are to be captured (measurement) and submitted (documentation) at the **point-of-catch** (at-sea production event) under the USAID Oceans CDTs. Key for KDE requirements (“REQ”): “R” = required data capture for both commercial/international and small-scale fishery supply chains; “RC” = required data capture for commercial/international fishery supply chains; and “I” = ideal data capture for both commercial/international and small-scale fishers; “IC” = ideal data capture for commercial/international fishery supply chains; and “IS” = ideal data capture for small-scale fishers.

*Table 8: Proposed data requirements for traceable seafood producers*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Event owner	Company Name; or Organization Name (ACDS)	<p><u>Commercial capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	Data will be sent electronically by data collection devices (desktop computer, laptop, or mobile device) and pushed application server.
R	Owner name	Name of company owner (or designated person)	<p><u>Data source:</u> tied to the owner ID (business and fishing licenses; personal ID card)</p> <p><u>Commercial capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> hand-written into data form.</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
R	Owner sex	Sex	<p><u>Data source:</u> tied to the owner ID (business and fishing licenses; personal ID card).</p> <p><u>Commercial capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> hand-written into data form.</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
R	Owner ID	Company License ID	<p><u>Data sources:</u> business license of event owner; fishing license of captain/master fisher; and personal identification card of owner.</p> <p><u>Commercial capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> hand-written into data form.</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p>	



REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by company owner (or designee) or captain.	
RC	Owner ID expiry date	Company License expiration date	<u>Data source</u> : tied to the owner ID (business and fishing licenses; personal ID card) <u>Commercial capture method</u> : pre-populated within the electronic CDT application (software). <u>Entry moment</u> : prior to start of fishing trip. <u>Who</u> : data entry by company owner (or designee) or captain.	
RC	Owner address	Company Address	<u>Data source</u> : office address of company; tied to the event owner <u>Commercial capture method</u> : pre-populated within the electronic CDT application (software). <u>Entry moment</u> : prior to start of fishing trip. <u>Who</u> : data entry by company owner (or designee) or captain.	
R	Owner phone	Company Phone	<u>Data source</u> : mobile/cell number of captain/master fisher and fishing company owner; tied to the event owner (company) <u>Commercial capture method</u> : pre-populated within the electronic CDT application (software). <u>Small-scale capture method</u> : hand-written into data form. <u>Entry moment</u> : prior to start of fishing trip. <u>Who</u> : data entry by company owner (or designee) or captain.	
RC	Trading partner	Consignee	<u>Data source</u> : name of the company that will buy/receive catch once landed at port or at sea (trans-shipper) <u>Commercial capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to start or after fishing trip. <u>Who</u> : data entry by company owner (or designee) or captain.	
RC	Trading partner sex	Sex	<u>Data source</u> : name of the company that will buy/receive catch once landed at port or at sea (trans-shipper) <u>Commercial capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to start or after fishing trip. <u>Who</u> : data entry by company owner (or designee) or captain.	
R	Vessel name	Vessel Name	<u>Data source</u> : registration document; tied to the Vessel ID	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
I	Vessel size	Vessel Size	<p><u>Data source</u>: vessel documents; tied to the Vessel ID; estimated for small-scale boat acceptable.</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
R	Vessel flag	Vessel Flag	<p><u>Data source</u>: registered flag state of the fishing vessel; tied to the Vessel ID.</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
R	Vessel ID	Vessel Registration No.	<p><u>Data source</u>: includes the fishing vessel's registration number. For commercial operations (as applicable): IMO number and Inmarsat number.</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
R	Event type	Catch / Farm	<p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: immediately following catch event (at sea).</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	Cell or satellite transmission from on-board mobile device; pushed to data exchange server
IC	Event number	Catch ID	<p><u>Commercial capture method</u>: Automatically generated upon entry of new event within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately following catch event (at sea).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by company owner (or designee) or captain.	
R	Item type	Species Caught	<u>Data source</u> : common market name of the species caught. <u>Commercial capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Small-scale capture method</u> : hand-written into data form (common market name only). <u>Entry moment</u> : immediately following catch event (at sea). <u>Who</u> : data entry by captain or fisher designee.	
R	Item code	Scientific Name	<u>Data source</u> : scientific name of the species caught <u>Commercial capture method</u> : Automatically generated (linked) upon entry of the species caught within the electronic CDT application (software). <u>Entry moment</u> : immediately following catch event (at sea) <u>Who</u> : data entry by captain or fisher designee.	
I	Item number	ASFIS # or Product Code	<u>Data source</u> : (1) the associated ASFIS number or (2) associated FAO 3-Alpha Code, and/or product code for the species caught. <u>Commercial capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Small-scale capture method</u> : hand-written into data form (common market name only). <u>Entry moment</u> : immediately following catch event (at sea); for small-scale fisher: following landing of catch at port. <u>Who</u> : data entry by captain or fisher designee.	
R	Bycatch	Bycatch	<u>Data source</u> : YES/NO designation <u>Commercial capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Small-scale capture method</u> : hand-written into data form. <u>Entry moment</u> : immediately following catch event (at sea). <u>Who</u> : data entry by captain or fisher designee.	
RC	Batch or lot number	Batch or lot number	<u>Commercial capture method</u> : Automatically generated within the electronic CDT application (software). <u>Small-scale capture method</u> : hand-written (optional/ideal).	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
IS			<p><u>Entry moment</u>: immediately following catch event (at sea); for small-scale fisher (optional/ideal): following landing of catch at port.</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	
R	Weight: batch/lot	Total Weight of Batch	<p><u>Data source</u>: manual measurement of verified weight (kg); estimated weight (kg) for small-scale fishers acceptable.</p> <p><u>Commercial capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: numeric data hand-written into data form (estimated kg acceptable).</p>	
IS			<p><u>Entry moment</u>: immediately following catch event (at sea); for small-scale fisher: following landing of catch at port.</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	
R	Quantity	Quantity	<p><u>Data source</u>: manual count of the number of items caught (by type); alternative: volume of batch/lot. Estimated quantity for small-scale fishers acceptable.</p> <p><u>Commercial capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: numeric data hand-written into data form (estimate acceptable).</p> <p><u>Entry moment</u>: immediately following catch event (at sea); for small-scale fisher: following landing of catch at port.</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	
R	Weight: item	Total Weight of Species	<p><u>Data source</u>: estimated weight (kg) or verified weight (where possible) for large-scale operations; estimated weight (kg) for small-scale fishers acceptable.</p> <p><u>Commercial capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: numeric data hand-written into data form (estimate acceptable).</p> <p><u>Entry moment</u>: immediately following catch event (at sea)</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Length	Length of seafood product	<p><u>Data source:</u> for finfish, estimated average fork length (m) required. Optional (recommended): manual measurement of fork length (in cm) for each item caught.</p> <p><u>Commercial capture method:</u> entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately following catch event (at sea)</p> <p><u>Who:</u> data entry by captain or fisher designee.</p>	
RC	Unit of measure (length)	Unit of length	<p><u>Data source:</u> estimated meters (m); recommended: actual fork length in centimeters (cm)</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately following catch event (at sea)</p> <p><u>Who:</u> data entry by captain or fisher designee.</p>	
R	Event date	Catch Date	<p><u>Commercial capture method:</u> entry via date picker with default time of entry recorded within the electronic CDT application (software).</p> <p><u>Small-scale capture method (as applicable):</u> date hand-written into data form</p> <p><u>Entry moment:</u> immediately following catch event (commercial) or upon landing (small-scale)</p> <p><u>Who:</u> data entry by captain or fisher designee.</p> <p><u>Commercial capture method:</u> entry via time picker within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately following catch event (at sea).</p> <p><u>Who:</u> data entry by captain or fisher designee.</p>	Cell or satellite transmission from on-board mobile device; pushed to data exchange server
IC	Event date	Batch/Lot Creation Date		
RC	Event time	Catch Time		
RC	First freeze date	Vessel First freeze date		
R	Date of departure	Date of departure		
RC	Time of departure	Time of departure	<p><u>Commercial capture method:</u> entry via date/time picker with default time of entry recorded within the electronic CDT application (software).</p> <p><u>Small-scale capture method (as applicable):</u> date/time hand-written into data form</p> <p><u>Entry moment:</u> immediately following departure/return</p> <p><u>Who:</u> data entry by captain or fisher designee.</p>	Data will be sent electronically by data collection devices (desktop computer, laptop, or mobile device) and pushed application server.
R	Date of return	Date of return		
RC	Time of return	Time of return		
R	Origin	Vessel's Port of Departure		
			<p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> hand-written into data form</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Entry moment</u>: at start of fishing trip; for small-scale fisher: following landing of catch at port.</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	
R	Event location	Point of Catch / Harvest	<p><u>Data source</u>: (1) FAO Fishing Area coding system, inclusive of: major area + sub-area + division area + sub-division or (2) GPS coordinates (ideal to have).</p> <p><u>Commercial capture method</u>: FAO code entry via drop-down menu within the electronic CDT application (software); or via GPS device.</p> <p><u>Small-scale capture method</u>: hand-written into data form (name of geographic area of harvest/catch).</p> <p><u>Entry moment</u>: immediately following catch event (at sea); for small-scale fisher: following landing of catch at port.</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	Cell or satellite transmission from on-board mobile device; pushed to data exchange server
R	Product destination	Product destination	<p><u>Data source</u>: name of the intended landing site (port; trans-shipper).</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form</p> <p><u>Entry moment</u>: during or end of fishing trip; for small-scale fisher: following landing of catch at port.</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	Data will be sent electronically by data collection devices (desktop computer, laptop, or mobile device) and pushed application server.
R	Vessel home port	Vessel home port	<p><u>Data source</u>: from vessel documents; tied to the Vessel ID.</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
R	Event method	Gear Type	<p><u>Data source</u>: Select from predefined list; including the fishing method used and type of fishing gear.</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form or selected from pre-defined list of options on data form.</p> <p><u>Entry moment</u>: immediately following catch event (at sea); for small-scale fisher: following landing of catch at port.</p>	Cell or satellite transmission from on-board mobile device; pushed to data exchange server

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by captain or fisher designee.	
R	FAD use	FAD Use	<u>Data source</u> : ANCHOR/DRIFT/NO designation <u>Commercial capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Small-scale capture method</u> : hand-written into data form. <u>Entry moment</u> : immediately following catch event (at sea). <u>Who</u> : data entry by captain or fisher designee.	
R	FAD location	FAD Location	<u>Data source</u> : GPS coordinates or FAD registration number. <u>Commercial capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Small-scale capture method</u> : hand-written into data form. <u>Entry moment</u> : immediately following catch event (at sea). <u>Who</u> : data entry by captain or fisher designee.	
RC	Activity type	Lead Document Type	<u>Data source</u> : Select from predefined list <u>Commercial capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : immediately following catch event (at sea) <u>Who</u> : data entry by captain or fisher designee.	
RC	Activity ID	Lead Document ID	<u>Data source</u> : (as applicable) ID number from WO, PO, invoice <u>Commercial capture method</u> : entry via keyboard within the electronic CDT application (software). <u>Entry moment</u> : immediately following catch event (at sea) <u>Who</u> : data entry by captain or fisher designee.	
RC	Captain name	Name	<u>Data source</u> : tied to the captain ID (personal ID card; captain's or fishing license) <u>Commercial capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to start of fishing trip. <u>Who</u> : data entry by company owner (or designee) or captain.	
RC	Captain sex	Sex	<u>Data source</u> : tied to the captain ID (personal ID card; captain's or fishing license) <u>Commercial capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software).	Data will be sent electronically by data collection devices (laptop or mobiles) and pushed application server

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Entry moment</u>: prior to start of fishing trip.  <u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Captain ID	Personal Identification	<p><u>Data source</u>: personal identification card/documents of captain. Examples: captain's license; passport; birth certificate.  <u>Commercial capture method</u>: entry via keypad or pre-populated within the electronic CDT application (software).  <u>Entry moment</u>: prior to start of fishing trip.  <u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Captain nationality	Nationality	<p><u>Data source</u>: captain's passport or birth certificate; tied to captain ID  <u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: prior to start of fishing trip.  <u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker name	Name	<p><u>Data source</u>: tied to crewmember/worker ID (personal ID card/documents)  <u>Commercial capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: prior to start of fishing trip.  <u>Who</u>: data entry by captain, company owner (or designee), or crewmember/worker.</p>	
RC	Crew/Worker sex	Sex	<p><u>Data source</u>: tied to crewmember/worker ID (personal ID card/documents)  <u>Commercial capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: prior to start of fishing trip.  <u>Who</u>: data entry by captain, company owner (or designee) or crewmember/worker.</p>	
RC	Crew/Worker ID	Personal Identification	<p><u>Data source</u>: personal identification card or documents of crewmember/worker. Examples: birth certificate; passport; driver's license or other personal identification card.  <u>Commercial capture method</u>: entry via keypad or pre-populated within the electronic CDT application (software).  <u>Entry moment</u>: prior to start of fishing trip.  <u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker job/title	Job/Position	<p><u>Data source</u>: labor contract of crewmember/worker</p>	



REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Commercial capture method</u>: entry via drop-down menu or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker nationality	Nationality	<p><u>Data source</u>: crewmember/worker birth certificate or passport; tied to crewmember/worker ID</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to start of fishing trip; following verification of nationality via personal identification card/documents.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker DOB	Date of Birth	<p><u>Data source</u>: tied to crewmember/worker ID</p> <p><u>Commercial capture method</u>: entry via date picker within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to start of fishing trip; following verification of nationality via personal identification card/documents.</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	

## 4.2 Receivers; at-sea (transshipment)

Table 9 presents a summary of how the KDEs are to be captured (measurement) and submitted (documentation) by **at-sea receivers (transshipment)** of landed seafood products under the USAID Oceans electronic CDTs. Key for KDE requirements (“REQ”): “R” = required data capture for both commercial/international and small-scale fishery supply chains; “RC” = required data capture for commercial/international fishery supply chains; “I” = ideal data capture for both commercial and small-scale fishers; “IC” = ideal data capture for commercial/international fishery supply chains; and “IS” = ideal data capture for small-scale fishers. Note that some of the KDEs collected by the producers will be transmitted to the receivers electronically, which will avoid duplicate entry.

*Table 9: Proposed data requirements for traceable receivers at sea*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Event owner	Company Name; or Org Name (ACDS)	<p><u>Data source:</u> name of transshipper</p> <p><u>Commercial capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to transshipment trip.</p> <p><u>Who:</u> data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	Data will be stored in the application server; supporting documentation will be stored in various forms, including PDF and scanned image files
R	Owner name	Name of company owner (or designated person)	<p><u>Data source:</u> tied to the owner ID (business and transshipment licenses; personal ID card)</p> <p><u>Commercial capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> hand-written into data form.</p> <p><u>Entry moment:</u> prior to transshipment trip.</p> <p><u>Who:</u> data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	
R	Owner sex	Sex	<p><u>Data source:</u> tied to the owner ID (business and transshipment licenses; personal ID card)</p> <p><u>Commercial capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> hand-written into data form.</p> <p><u>Entry moment:</u> prior to transshipment trip.</p> <p><u>Who:</u> data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	
R	Owner ID	License ID	<p><u>Data sources:</u> business license of event owner (required); transshipment license of captain (required); personal identification card of event owner.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to transshipment trip.</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	
RC	Owner ID expiry date	License expiration date	<p><u>Data source</u>: tied to the owner ID (business and transshipment licenses; personal ID card)</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to transshipment trip.</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	
RC	Owner address	Company Address	<p><u>Data source</u>: office address of company; tied to the event owner</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to transshipment trip.</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	
R	Owner phone	Company Phone	<p><u>Data source</u>: mobile/cell number of captain or transshipment company owner; tied to the event owner (company)</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to transshipment trip.</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	
RC	Trading partner	Consignee	<p><u>Data source</u>: name of the company that provided the catch (at-sea) to the event owner (transshipper).</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during transshipment event.</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	Cell or satellite transmission from on-board mobile device; pushed to data exchange server

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Trading partner sex	Sex	<p><u>Data source</u>: name of the company that provided the catch (at-sea) to the event owner (transshipper).</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during transshipment event.</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	Cell or satellite transmission from on-board mobile device; pushed to data exchange server
R	Vessel name	Transship Vessel Name	<p><u>Data source</u>: registration document; tied to the transshipment Vessel ID.</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to transshipment trip.</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	Data will be stored in the application server; supporting documentation will be stored in various forms, including PDF and scanned image files
I	Vessel size	Transship Vessel Size	<p><u>Data source</u>: vessel documents; tied to the transshipment Vessel ID; estimate for small-scale boat acceptable.</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to transshipment trip (commercial); upon return to port (small-scale fishers).</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	
R	Vessel flag	Transship Vessel flag	<p><u>Data source</u>: registered flag state of the transshipment vessel; tied to the transshipment Vessel ID.</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to transshipment trip.</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	
R	Vessel ID	Transship Vessel Registration No.	<p><u>Data source</u>: includes the transshipment vessel's registration number. For commercial operations (as applicable): IMO number and Inmarsat number.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to transshipment trip.</p> <p><u>Who</u>: data entry by transshipment company owner (or designee) or captain of transshipment vessel.</p>	
R	Event type	Transshipment	<p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: during transshipment event (at sea).</p> <p><u>Who</u>: data entry by transshipment vessel captain or designee.</p>	Cell or satellite transmission from on-board mobile device; pushed to data server; or submit hard copy
IC	Event number	Transship ID	<p><u>Commercial capture method</u>: Automatically generated upon entry of new event within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during transshipment event (at sea).</p> <p><u>Who</u>: data entry by transshipment vessel captain or designee.</p>	Cell or satellite transmission from on-board mobile device; pushed to data exchange server
R	Item type	Species Transshipped	<p><u>Data source</u>: common market name of the species being received (transshipped).</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form (common market name only).</p> <p><u>Entry moment</u>: during transshipment event (at sea).</p> <p><u>Who</u>: data entry by transshipment vessel captain or designee.</p>	Cell or satellite transmission from on-board mobile device, pushed to data exchange server; or hard copy data form submitted to fisheries officer
RC	Item code	Scientific Name	<p><u>Data source</u>: scientific name of the species being received (transshipped).</p> <p><u>Commercial capture method</u>: Automatically generated (linked) upon entry of the species transshipped within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during transshipment event (at sea).</p> <p><u>Who</u>: data entry by transshipment vessel captain or designee.</p>	Cell or satellite transmission from on-board mobile device; pushed to data exchange server
I	Item number	ASFIS # or Product Code	<p><u>Data source</u>: (1) the associated ASFIS number or (2) associated FAO 3-Alpha Code, and/or product code for the species being received (transshipped).</p> <p><u>Commercial capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p>	Cell or satellite transmission from on-board mobile device, then pushed

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Small-scale capture method:</u> hand-written into data form (common market name only).</p> <p><u>Entry moment:</u> (commercial) immediately following transshipment event (at sea); following landing of catch at port (small-scale fisher).</p> <p><u>Who:</u> data entry by transshipment vessel captain or designee.</p>	to the data exchange server (commercial); or hard copy data form submitted to fisheries officer (small-scale).
R	Bycatch	Bycatch	<p><u>Data source:</u> YES/NO designation</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> hand-written into data form.</p> <p><u>Entry moment:</u> immediately following catch event (at sea).</p> <p><u>Who:</u> data entry by captain or fisher designee.</p>	
RC	Batch or lot number	Batch or lot number	<p><u>Commercial capture method:</u> Automatically generated within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> hand-written (optional/ideal).</p> <p><u>Entry moment:</u> (commercial) immediately following transshipment event (at sea); following landing of catch at port (small-scale fisher).</p> <p><u>Who:</u> data entry by transshipment vessel captain or designee.</p>	
IS				
R	Quantity	Quantity	<p><u>Data source:</u> manual count of the number of items being received (transshipped; by type); alternative: volume of batch/lot. Estimated quantity for small-scale fishers acceptable.</p> <p><u>Commercial capture method:</u> entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> numeric data hand-written into data form (estimate acceptable).</p> <p><u>Entry moment:</u> (commercial) immediately following transshipment event (at sea); following landing of catch at port (small-scale fisher).</p> <p><u>Who:</u> data entry by transshipment vessel captain or designee.</p>	
RC	Weight: item	Total Weight of Species	<p><u>Data source:</u> manual measurement of verified weight (kg) of items being received (transshipped); estimated weight (kg) for small-scale fishers acceptable.</p> <p><u>Commercial capture method:</u> entry of numeric data (only) via keypad within the electronic CDT application (software).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
IS			<p><u>Small-scale capture method:</u> hand-written (optional/ideal).</p> <p><u>Entry moment:</u> (commercial) immediately following transshipment event (at sea); following landing of catch at port (small-scale fisher).</p> <p><u>Who:</u> data entry by transshipment vessel captain or designee.</p>	
R	Weight: batch/lot	Total Weight of Batch	<p><u>Data source:</u> manual measurement of verified weight (kg) of transshipment batch/lot; estimated weight (kg) for small-scale fishers acceptable.</p> <p><u>Commercial capture method:</u> entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> numeric data hand-written into data form (estimated kg acceptable).</p> <p><u>Entry moment:</u> (commercial) immediately following transshipment event (at sea); following landing of catch at port (small-scale fisher).</p> <p><u>Who:</u> data entry by transshipment vessel captain or designee.</p>	
IC	Length	Length of seafood product	<p><u>Data source:</u> (Required) For finfish, estimated average fork length (m) of each item being received (transshipped). Optional (ideal): manual measurement of fork length (in cm) for each item being received (transshipped).</p> <p><u>Commercial capture method:</u> entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately following transshipment event (at sea).</p> <p><u>Who:</u> data entry by transshipment vessel captain or designee.</p>	Cell or satellite transmission from on-board mobile device; pushed to data exchange server
IC	Unit of measure (length)	Unit of length	<p><u>Data source:</u> Estimated meters (m); recommended: actual fork length in centimeters (cm).</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately following transshipment event (at sea).</p> <p><u>Who:</u> data entry by transshipment vessel captain or designee.</p>	
R	Event date	Transshipment Date	<p><u>Data source:</u> date of transshipment event.</p> <p><u>Commercial capture method:</u> entry via date picker with default time of entry recorded within the electronic CDT application (software).</p>	Cell or satellite transmission from on-board mobile device, then pushed to the data exchange server (commercial);
IC	Batch/lot date	Batch/Lot Creation Date	<p><u>Small-scale capture method:</u> date hand-written into data form</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Entry moment:</u> (commercial) immediately following transshipment event (at sea); following landing of catch at port (small-scale fisher). <u>Who:</u> data entry by transshipment vessel captain or designee.	or hard copy data form submitted to fisheries officer (small-scale).
RC	Event time	Transshipment Time	<u>Commercial capture method:</u> entry via time picker within the electronic CDT application (software).	Cell or satellite transmission from on-board mobile device; pushed to data exchange server
RC	First freeze date	Vessel First freeze date	<u>Entry moment:</u> immediately following transshipment event (at sea). <u>Who:</u> data entry by transshipment vessel captain or designee.	
R	Date of departure	Date of departure	<u>Commercial capture method:</u> entry via date/time picker with default time of entry recorded within the electronic CDT application (software). <u>Small-scale capture method (as applicable):</u> date/time hand-written into data form	Cell or satellite transmission from on-board mobile device, then pushed to the data exchange server (commercial); or hard copy data form submitted to fisheries officer (small-scale).
RC	Time of departure	Time of departure		
R	Date of return	Date of return	<u>Entry moment:</u> immediately following departure/return (commercial) or upon return to port (small-scale). <u>Who:</u> data entry by transshipment vessel captain or designee.	
RC	Time of return	Time of return		
R	Origin	Vessel's Port of Departure	<u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software). <u>Small-scale capture method:</u> hand-written into data form <u>Entry moment:</u> at start of transshipment trip (commercial); following return/landing of transshipped catch at port (small-scale). <u>Who:</u> data entry by transshipment vessel captain or designee.	
R	Event location	Transshipment Location	<u>Data source:</u> (1) FAO Fishing Area coding system, inclusive of: major area + sub-area + division area + sub-division or (2) GPS coordinates of transshipment site (ideal to have). <u>Commercial capture method:</u> FAO code entry via drop-down menu within the electronic CDT application (software); or via GPS device. <u>Small-scale capture method:</u> hand-written into data form (name of geographic area of where transshipment occurs). <u>Entry moment:</u> (commercial) immediately following transshipment event (at sea); after landing of transshipment at port (small-scale). <u>Who:</u> data entry by transshipment vessel captain or designee.	Commercial: data will be sent electronically by data collection devices (desktop computer, laptop, or mobile device) and pushed application server. Small-scale: hard copy data form



REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
R	Product source	Feeder Vessel Name	<p><u>Data source</u>: name of the fishing vessel that the transshipment is received from.</p> <p><u>Commercial capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form</p> <p><u>Entry moment</u>: (commercial) immediately following transshipment event (at sea); after landing of transshipment at port (small-scale).</p> <p><u>Who</u>: data entry by transshipment vessel captain or designee.</p>	submitted to relevant fisheries officer/office.
R	Product destination	Port destination	<p><u>Data source</u>: name of the intended landing site (port; trans-shipper) where transshipment is to be off-loaded.</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form</p> <p><u>Entry moment</u>: (commercial) during or at end of transshipment event; following landing of transshipped catch at port (small-scale).</p> <p><u>Who</u>: data entry by transshipment vessel captain or designee.</p>	
R	Vessel home port	Vessel home port	<p><u>Data source</u>: from transshipment vessel documents; tied to the transshipment vessel ID.</p> <p><u>Commercial capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to start of transshipment trip (commercial); following landing of transshipped catch at port (small-scale).</p> <p><u>Who</u>: data entry by transshipment company, vessel captain, or designee.</p>	
R	Event method	Transshipment Method	<p><u>Data source</u>: Select from predefined list; including the transshipment method used and type of transfer gear.</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form or selected from pre-defined list of options on data form.</p> <p><u>Entry moment</u>: (commercial) immediately following transshipment event (at sea); after landing of transshipment at port (small-scale).</p> <p><u>Who</u>: data entry by transshipment vessel captain or designee.</p>	Commercial: data will be sent electronically by data collection devices (desktop computer, laptop, or mobile device) and pushed application server. Small-scale: hard copy data form
R	FAD use	FAD Use	<u>Data source</u> : ANCHOR/DRIFT/NO designation	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: immediately following catch event (at sea).</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	submitted to relevant fisheries officer/office.
R	FAD location	FAD Location	<p><u>Data source</u>: GPS coordinates or FAD registration number.</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: immediately following catch event (at sea).</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	
RC	Activity type	Lead Document Type	<p><u>Data source</u>: Select from predefined list; including (as applicable) transshipment WO, PO, or invoice.</p> <p><u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: (commercial) immediately following transshipment event (at sea); after landing of transshipment at port (small-scale).</p> <p><u>Who</u>: data entry by transshipment vessel captain or designee.</p>	Data will be sent electronically by data collection devices (desktop computer, laptop, or mobile device) and pushed application server.
RC	Activity ID	Lead Document ID	<p><u>Data source</u>: ID number from transshipment WO, PO, or invoice</p> <p><u>Commercial capture method</u>: entry via keyboard within the electronic CDT application (software).</p> <p><u>Entry moment</u>: (commercial) immediately following transshipment event (at sea); after landing of transshipment at port (small-scale).</p> <p><u>Who</u>: data entry by transshipment vessel captain or designee.</p>	
RC	Invoice	Transshipment Note	<p><u>Data source</u>: scanned document (PDF or other image file); might be tied to transshipment WO, PO, invoice; tied to activity type.</p> <p><u>Commercial capture method</u>: entry/upload via keyboard within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to departure of transshipment vessel.</p> <p><u>Who</u>: data entry by transshipment company manager or designee.</p>	
I	Certificate ID	Transshipment Certificate ID	Company entry via touch screen keyboard (if applicable); as transshipment certificate authorization number.	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Data source:</u> scanned transshipment certificate (PDF or other image file); might be tied to transshipment WO, PO, invoice</p> <p><u>Commercial capture method:</u> entry/upload via keyboard within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to departure of transshipment vessel.</p> <p><u>Who:</u> data entry by transshipment company manager or designee.</p>	
RC	Captain name	Name	<p><u>Data source:</u> tied to the captain ID (personal ID card; captain's or fishing license).</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	Data will be sent electronically by data collection devices (laptop or mobiles) and pushed application server
RC	Captain sex	Sex	<p><u>Data source:</u> tied to the captain ID (personal ID card; captain's or fishing license).</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Captain ID	Personal Identification	<p><u>Data source:</u> personal identification card/documents of captain. Examples: captain's license; passport; birth certificate.</p> <p><u>Commercial capture method:</u> entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Captain nationality	Nationality	<p><u>Data source:</u> captain's passport or birth certificate; tied to captain ID</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker name	Name	<p><u>Data source:</u> tied to crewmember/worker ID (personal ID card/documents)</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p>	Data will be sent electronically by data collection devices (laptop or mobiles)

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by captain, company owner (or designee), or crewmember/worker.	and pushed application server
RC	Crew/Worker sex	Sex	<u>Data source</u> : tied to crewmember/worker ID (personal ID card/documents) <u>Commercial capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to start of fishing trip. <u>Who</u> : data entry by captain, company owner (or designee), or crewmember/worker.	
RC	Crew/Worker ID	Personal Identification	<u>Data source</u> : personal identification card or documents of crewmember/worker. Examples: birth certificate; passport; driver's license or other personal identification card. <u>Commercial capture method</u> : entry via keypad or pre-populated within the electronic CDT application (software). <u>Entry moment</u> : prior to start of fishing trip. <u>Who</u> : data entry by company owner (or designee) or captain.	
RC	Crew/Worker job/title	Job/Position	<u>Data source</u> : labor contract of crewmember/worker <u>Commercial capture method</u> : entry via drop-down menu or pre-populated within the electronic CDT application (software). <u>Entry moment</u> : prior to start of fishing trip. <u>Who</u> : data entry by company owner (or designee) or captain.	
RC	Crew/Worker nationality	Nationality	<u>Data source</u> : crewmember/worker birth certificate or passport; tied to crewmember ID <u>Commercial capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to start of fishing trip; following verification of nationality via personal identification card/documents. <u>Who</u> : data entry by company owner (or designee) or captain.	
RC	Crew/Worker DOB	Date of Birth	<u>Data source</u> : tied to crewmember/worker ID <u>Commercial capture method</u> : entry via date picker within the electronic CDT application (software). <u>Entry moment</u> : prior to start of fishing trip; following verification of nationality via personal identification card/documents. <u>Who</u> : data entry by captain or fisher designee.	

### 4.3 Buyers/Receivers; At-Port

Table 10 presents a summary of how the KDEs are to be captured (measurement) and submitted (documentation) by **buyers/receivers (at port)** of landed seafood products under the USAID Oceans electronic CDTs. Key for KDE requirements (“REQ”): “R” = required data capture for both commercial/international and small-scale fishery supply chains; “RC” = required data capture for commercial/international fishery supply chains; “RS” = required data capture for small-scale fishery supply chains; “I” = ideal data capture for both commercial/international and small-scale fishery supply chains; and “IC” = ideal data capture for commercial/international fishery supply chains. Note that some of the KDEs collected by the producers will be transmitted to the buyers/receivers electronically, which will avoid duplicate entry.

*Table 10: Proposed data requirements for traceable buyers and receivers at port*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Event owner	Company Name; or Org Name (ACDS)	<p><u>Data source:</u> name of buyer/receiver.</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to purchase event.</p> <p><u>Who:</u> data entry by company owner (or designee).</p>	Data will be stored in the application server; supporting documentation will be stored in various forms, including PDF and scanned image files.
R	Owner name	Name of company owner (or designated person)	<p><u>Data source:</u> tied to the owner ID (business/buyer license; personal ID card).</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to purchase event.</p> <p><u>Who:</u> data entry by company owner (or designee).</p>	
R	Owner sex	Sex	<p><u>Data source:</u> tied to the owner ID (business/buyer license; personal ID card).</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to purchase event.</p> <p><u>Who:</u> data entry by company owner (or designee).</p>	
R	Owner ID	License ID	<p><u>Data sources:</u> business license of event owner (required); license of buyer (required); personal identification card of event owner.</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to purchase event.</p> <p><u>Who:</u> data entry by company owner (or designee).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Owner ID expiry date	License expiration date	<p><u>Data source</u>: tied to the owner ID (business/buyer licenses; personal ID card).</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to purchase event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	Data will be entered via mobile device (laptop, tablet, or mobile); submitted electronically via cell or WiFi and pushed to the application server.
RC	Owner address	Company Address	<p><u>Data source</u>: office address of company; tied to the event owner.</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to purchase event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	
R	Owner phone	Company Phone	<p><u>Data source</u>: mobile/cell number of event owner (buyer); tied to the event owner (buying company).</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: prior to purchase event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	
RC	Trading partner	Consignee	<p><u>Data source</u>: name of the company or small-scale fisher that provided the catch to the event owner (buyer).</p> <p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during purchase event.</p> <p><u>Who</u>: data entry by buyer (or designee).</p>	
RC	Trading partner sex	Sex	<p><u>Data source</u>: name of the company or small-scale fisher that provided the catch to the event owner (buyer).</p> <p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during purchase event.</p> <p><u>Who</u>: data entry by buyer (or designee).</p>	
R	Vessel name	Vessel Name	<p><u>Data source</u>: name of the vessel providing the catch to buyer.</p> <p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
I	Vessel size	Vessel Size	<p><u>Data source</u>: as observed/estimated for the vessel providing the catch to buyer.  <u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
R	Vessel flag	Vessel flag	<p><u>Data source</u>: the observed flag state of the vessel providing the catch to buyer.  <u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
R	Vessel ID	Vessel Registration No.	<p><u>Data source</u>: registration number observed or provided by vessel captain for the vessel providing the catch to buyer. If applicable: IMO number.  <u>Capture method</u>: entry via keypad within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
R	Event type	Purchase	<p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
IC	Event number	Purchase ID	<p><u>Capture method</u>: Automatically generated upon entry of new event within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
R	Item type	Species	<p><u>Data source</u>: common market name of the species being purchased.  <u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: during or immediately following purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Item code	Scientific Name	<p><u>Data source:</u> scientific name of the species being purchased.</p> <p><u>Capture method:</u> Automatically generated (linked) upon entry of the species within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during or immediately following purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
I	Item number	ASFIS # or Product Code	<p><u>Data source:</u> (1) the associated ASFIS number or (2) associated FAO 3-Alpha Code, and/or product code for the species being purchased.</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during or immediately following purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
R	Bycatch	Bycatch	<p><u>Data source:</u> YES/NO designation</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Small-scale capture method:</u> hand-written into data form.</p> <p><u>Entry moment:</u> immediately following catch event (at sea).</p> <p><u>Who:</u> data entry by captain or fisher designee.</p>	
RC	Batch or lot number	Batch or lot ID	<p><u>Data source:</u> automatic enumeration; includes a required validation signature/stamp for raw materials exchange.</p> <p><u>Capture method:</u> Automatically generated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during or immediately following purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
R	Quantity	Quantity	<p><u>Data source:</u> manual count of the number of items received (by type); alternative: volume of batch/lot.</p> <p><u>Capture method:</u> entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during or immediately following purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
RC	Weight: item	Total Weight of Species	<p><u>Data source:</u> manual measurement of verified weight (kg) of items received.</p> <p><u>Capture method:</u> entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during or immediately following purchase event.</p>	



REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by buyer (or designee).	
R	Weight: batch/lot	Total Weight of Batch	<u>Data source</u> : manual measurement of verified weight (kg) of received batch/lot. <u>Capture method</u> : entry of numeric data (only) via keypad within the electronic CDT application (software). <u>Entry moment</u> : during or immediately following purchase event. <u>Who</u> : data entry by buyer (or designee).	
IC	Length	Length of seafood product	<u>Data source</u> : (Required) For finfish, estimated average fork length (m) of each item being received. Optional (ideal): manual measurement of fork length (in cm) for each item being received. <u>Capture method</u> : entry of numeric data (only) via keypad within the electronic CDT application (software). <u>Entry moment</u> : during or immediately following purchase event. <u>Who</u> : data entry by buyer (or designee).	
RC	Unit of measure (length)	Unit of length	<u>Data source</u> : Estimated meters (m); recommended: actual fork length in centimeters (cm). <u>Capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : during or immediately following purchase event. <u>Who</u> : data entry by buyer (or designee).	
R	Event date	Purchase Date	<u>Data source</u> : date/time of purchase <u>Commercial capture method</u> : entry via date/time picker with default time of entry recorded within the electronic CDT application (software). <u>Small-scale capture method</u> : date hand-written into data form <u>Entry moment</u> : during or immediately following purchase event. <u>Who</u> : data entry by buyer (or designee).	
R	Event time	Purchase Time		
IC	Batch/lot date	Batch/Lot Creation Date		
RC	First freeze date	Storage First freeze date		
R	Origin	Point of Catch Source		<u>Capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : during or immediately following purchase event. <u>Who</u> : data entry by buyer (or designee).

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
R	Event location	Point of Sales Location	<p><u>Data source:</u> (1) name of specified area within the port or landing site; or (2) GPS coordinates of transshipment site (ideal to have).</p> <p><u>Capture method:</u> (1) entry via keypad or drop-down menu within the electronic CDT application (software); or (2) via GPS device.</p> <p><u>Entry moment:</u> immediately following purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
R	Product source	Company	<p><u>Data source:</u> name of the fishing vessel/company that the purchased catch being is received from.</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately following purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
R	Product destination	Consignee	<p><u>Data source:</u> name of the intended company/location(s) where the item received is to go next within the supply chain.</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately following purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
R	Vessel home port	Vessel home port	<p><u>Data source:</u> documents from the vessel that the catch is being purchased/received from.</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately following purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
R	Event method	Gear Type	<p><u>Data source:</u> Select from predefined list; including receiving/off-loading method and equipment used</p> <p><u>Capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately following purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
R	FAD use	FAD Use	<p><u>Data source:</u> ANCHOR/DRIFT/NO designation</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Small-scale capture method</u>: hand-written into data form.</p> <p><u>Entry moment</u>: immediately following catch event (at sea).</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	
RC	Activity type	Lead Document Type	<p><u>Data source</u>: Select from predefined list; including (as applicable) receiving WO, PO, BOL, or invoice</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: after purchase event.</p> <p><u>Who</u>: data entry by buyer, company manager, or designee.</p>	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
RC	Activity ID	Lead Document ID	<p><u>Data source</u>: ID number from receiving/purchase documentation, such as WO, PO, BOL, or invoice; tied to activity type</p> <p><u>Capture method</u>: entry via touch screen or keyboard within the electronic CDT application (software).</p> <p><u>Entry moment</u>: after purchase event.</p> <p><u>Who</u>: data entry by buyer, company manager, or designee.</p>	
RC	Invoice	Sales Invoice	<p><u>Data source</u>: invoice number with scan of document (PDF or other image file); might be tied to receiving/purchase WO, PO, BOL, or invoice; tied to activity type</p> <p><u>Capture method</u>: entry/upload via touch screen or keyboard within the electronic CDT application (software).</p> <p><u>Entry moment</u>: after purchase event.</p> <p><u>Who</u>: data entry by buyer, company manager, or designee.</p>	
RC	Packing slip	Packing slip	<p><u>Data source</u>: packing slip number with scan of document (PDF or other image file); might be tied to receiving/purchase WO, PO, BOL, or invoice; tied to activity type</p> <p><u>Commercial capture method</u>: entry/upload via touch screen or keyboard within the electronic CDT application (software).</p> <p><u>Entry moment</u>: after purchase event.</p> <p><u>Who</u>: data entry by buyer, company manager, or designee.</p>	
I	Certificate ID	Certificate ID	<p><u>Data source</u>: Catch certificate ID and/or landing declaration number(s) from the catch being received; with scan of document(s) as PDFs or other image files</p> <p><u>Commercial capture method</u>: entry/upload via touch screen or keyboard within the electronic CDT application (software).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	<p>or WiFi and pushed to the application server; including uploaded photos of relevant documents and supporting information.</p>
R	Captain name	Name	<p><u>Data source</u>: tied to the captain ID (personal ID card; captain's or fishing license) from the vessel providing the catch.  <u>Commercial capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
R	Captain sex	Sex	<p><u>Data source</u>: tied to the captain ID (personal ID card; captain's or fishing license) from the vessel providing the catch.  <u>Commercial capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
RC	Captain ID	Personal Identification	<p><u>Data source</u>: personal identification card number of captain of the vessel providing the catch.  <u>Commercial capture method</u>: entry via keypad or pre-populated within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
RC	Captain nationality	Nationality	<p><u>Data source</u>: passport or birth certificate of the captain of the vessel providing the catch; tied to captain ID.  <u>Commercial capture method</u>: entry via drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
RC	Crew name	Name	<p><u>Data source</u>: tied to crewmember ID (personal ID card/documents)  <u>Commercial capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).  <u>Entry moment</u>: during purchase event.  <u>Who</u>: data entry by buyer (or designee).</p>	
RC	Crew sex	Sex	<p><u>Data source</u>: tied to crewmember ID (personal ID card/documents).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
RC	Crew ID	Personal Identification	<p><u>Data source:</u> personal identification card or documents of crewmember. Examples: birth certificate; passport; driver's license or other personal identification card.</p> <p><u>Commercial capture method:</u> entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
RC	Crew job/title	Job/Position	<p><u>Data source:</u> labor contract of crewmember</p> <p><u>Commercial capture method:</u> entry via drop-down menu or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during purchase event.</p> <p><u>Who:</u> data entry by buyer (or designee).</p>	
RC	Crew nationality	Nationality	<p><u>Data source:</u> crewmember's birth certificate or passport; tied to crewmember ID</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during purchase event; following verification of nationality via personal identification card/documents.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Crew DOB	Date of Birth	<p><u>Data source:</u> tied to crewmember ID</p> <p><u>Commercial capture method:</u> entry via date picker within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during purchase event; following verification of nationality via personal identification card/documents.</p> <p><u>Who:</u> data entry by captain or fisher designee.</p>	

## 4.4 Processors

Table 11 presents a summary of how the KDEs are to be captured (measurement) and submitted (documentation) by primary and secondary **processors** (including at-sea) of seafood products under the USAID Oceans electronic CDTs. Key for KDE requirements (“REQ”): “R” = required data capture for both commercial/international and small-scale fishery supply chains; “RC” = required data capture for commercial/international fishery supply chains; “I” = ideal data capture for both commercial/international and small-scale fishery supply chains; and “IC” = ideal data capture for commercial/international fishery supply chains.

*Table 11: Proposed data requirements for traceable seafood processors*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Event owner	Company Name; or Org Name (ACDS)	<p><u>Data source</u>: name of processing company/facility.</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to processing event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	<p>On-land processing: entry online at office; at-sea processing: cell or satellite transmission from mobile device. Data will be stored in the application server; supporting documentation will be stored in various forms, including PDF and scanned image files.</p>
R	Owner name	Name of company owner (or designated person)	<p><u>Data source</u>: tied to the processing company/facility owner ID (business license; personal ID card).</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to processing event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	
R	Owner sex	Sex	<p><u>Data source</u>: tied to the processing company/facility owner ID (business license; personal ID card).</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to processing event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	
R	Owner ID	License ID	<p><u>Data sources</u>: business license of event owner (required); license of processing company/facility (required); personal identification card of event owner.</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to processing event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	
RC	Owner ID expiry date	License expiration date	<p><u>Data source</u>: tied to the processing company/facility owner ID (business licenses; personal ID card).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to processing event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	
RC	Owner address	Company Address	<p><u>Data source</u>: office address of company; tied to the event owner.</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to processing event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	<p>On-land processing: entry online at office; at-sea processing: cell or satellite transmission from mobile device. Data will be stored in the application server; supporting documentation will be stored in various forms, including PDF and scanned image files.</p>
R	Owner phone	Company Phone	<p><u>Data source</u>: mobile/cell number of processing company/facility; tied to the event owner.</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to processing event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	
RC	Trading partner	Consignee	<p><u>Data source</u>: name of the supplier of the product inputted for processing by the event owner.</p> <p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to processing event.</p> <p><u>Who</u>: data entry by manager, company owner, or designee.</p>	
RC	Trading partner sex	Sex	<p><u>Data source</u>: name of the supplier of the product inputted for processing by the event owner.</p> <p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to processing event.</p> <p><u>Who</u>: data entry by manager, company owner, or designee.</p>	
R	Event type	Processing	<p><u>Data source</u>: completed for each processing activity/event.</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
IC	Event number	Processing ID	<p><u>Capture method</u>: Automatically generated upon entry of new event within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	<p>On-land processing: entry online at office; at-sea processing: cell or satellite transmission from mobile device. Data will be stored in the application server; supporting documentation will be stored in various forms, including PDF and scanned image files.</p>
R	Item type	Species	<p><u>Data source</u>: common market name of the species being processed; both for input and output processing items.</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to or during processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	
RC	Item code	Scientific Name	<p><u>Data source</u>: scientific name of the species being processed; both for input and output processing items.</p> <p><u>Capture method</u>: Automatically generated (linked) upon entry of the species within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to or during processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	
I	Item number	ASFIS # or Product Code	<p><u>Data source</u>: (1) the associated ASFIS number or (2) associated FAO 3-Alpha Code, and/or product code for the species being processed. Done for both input and output processing items.</p> <p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to or during processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	
RC	Packaging type	Packaging type	<p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: after each output processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	
IC	Packaging materials	Packaging materials	<p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: after each output processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	
RC	Batch or lot number	Batch or lot ID	<p><u>Data source</u>: automatic enumeration; for both input and output items; including validation stamp/signature for raw material input.</p>	



REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Capture method</u>: Automatically generated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: before or after each processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	
R	Quantity	Quantity	<p><u>Data source</u>: number of items processed (by type); alternative: volume of processed batch/lot; for both inputs and outputs.</p> <p><u>Capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment</u>: before or after each processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	
RC	Weight: item	Total Weight of Item	<p><u>Data source</u>: manual measurement of verified weight (kg) of processed items; for both input and output items.</p> <p><u>Capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment</u>: before or after each processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	
R	Weight: batch/lot	Total Weight of Batch/Lot	<p><u>Data source</u>: manual measurement of verified weight (kg) of processed batch or lot; for both input and output items.</p> <p><u>Capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment</u>: before or after each processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	
RC	Unit of measure (weight)	Unit of weight	<p><u>Data source</u>: kilograms.</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: before, during, or after each processing event.</p> <p><u>Who</u>: data entry by processing event manager or designee.</p>	<p>On-land processing: entry online at office; at-sea processing: cell or satellite transmission from mobile device. Data will be stored in the application server; supporting documentation will be stored in various forms, including PDF and scanned image files.</p>
R	Event date	Processing Date	<p><u>Data source</u>: validation date/time of each processing activity completed; both for input and output processing events.</p>	
R	Event time	Processing Time	<p><u>Commercial capture method</u>: entry via date/time picker with default time of entry recorded within the electronic CDT application (software).</p>	
IC	Batch/lot date	Batch/Lot Creation Date	<p><u>Entry moment</u>: immediately after each processing event.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	First freeze date	First freeze date	<u>Who</u> : data entry by processing event manager or designee.	
R	Origin	Product Origin	<u>Capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : before each processing event. <u>Who</u> : data entry by processing event manager or designee.	
R	Event location	Processing Location	<u>Data source</u> : (1) description of processing site (facility/room); or (2) GPS coordinates of processing site (ideal to have). <u>Capture method</u> : (1) entry via keypad or drop-down menu within the electronic CDT application (software); or (2) via GPS device. <u>Entry moment</u> : before each processing event. <u>Who</u> : data entry by processing event manager or designee.	
R	Product source	Company	<u>Data source</u> : name of company receiving items from. <u>Capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : immediately following receipt of items. <u>Who</u> : data entry by processing event manager or designee.	
R	Product destination	Consignee	<u>Data source</u> : name of the intended location(s) where the processed item is to go next in the supply chain. <u>Capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : during or after each processing event. <u>Who</u> : data entry by processing event manager or designee.	
R	Event method	Processing Method	<u>Data source</u> : Select from predefined list; including processing method and equipment used for each processing activity. <u>Capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : during or after each processing event. <u>Who</u> : data entry by processing event manager or designee.	
RC	Activity type	Source Document PO/WO/BOL	<u>Data source</u> : Select from predefined list; including (as applicable) input and/or processing WO, PO, BOL, or invoice. <u>Capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : before or after each processing event.	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by processing event manager or designee.	
RC	Activity ID	Source Doc ID	<u>Data source</u> : ID number from input and/or output processing WO, PO, BOL, or invoice number; tied to activity type. <u>Capture method</u> : entry via touch screen or keyboard within the electronic CDT application (software). <u>Entry moment</u> : before or after each processing event. <u>Who</u> : data entry by processing event manager or designee.	
RC	Invoice	Sales Invoice	<u>Data source</u> : sales invoice number with scan of document (PDF or other image file); including (as applicable) input and/or output processing WO, PO, BOL, or invoice; tied to activity type. <u>Capture method</u> : entry/upload of scanned document (PDF or other image file) via touch screen or keyboard within the electronic CDT application (software). <u>Entry moment</u> : after processing, prior to shipping. <u>Who</u> : data entry by processing event manager or designee.	
RC	Packing slip	Packing slip	<u>Data source</u> : packing slip number with scan of document (PDF or other image file); including (as applicable) input and/or output processing WO, PO, BOL, or invoice; tied to activity type. <u>Commercial capture method</u> : entry/upload of scanned document (PDF or other image file) via touch screen or keyboard within the electronic CDT application (software). <u>Entry moment</u> : after processing, prior to shipping. <u>Who</u> : data entry by processing event manager or designee.	
I	Certificate ID	Health Certificate Catch Certificate	<u>Data source</u> : Certificate ID; with scan of document(s) as PDFs or other image files; including green-certified product certification number. <u>Commercial capture method</u> : entry/upload via touch screen or keyboard within the electronic CDT application (software). <u>Entry moment</u> : before or after processing (prior to shipping). <u>Who</u> : data entry by processing event manager or designee.	On-land processing: entry online at office; at-sea processing: cell or satellite transmission from mobile device. Data will be stored in the application server; supporting documentation will be stored in various
RC	Crew/Worker name	Name	<u>Data source</u> : tied to laborer's ID (personal ID card/documents). <u>Commercial capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to start of labor. <u>Who</u> : data entry by company owner, supervisor, or designee.	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Crew/Worker sex	Sex	<p><u>Data source:</u> tied to laborer's ID (personal ID card/documents).</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	forms, including PDF and scanned image files.
RC	Crew/Worker ID	Personal Identification	<p><u>Data source:</u> personal identification card or documents of worker/ laborer. Examples: birth certificate; passport; driver's license or other personal identification card.</p> <p><u>Commercial capture method:</u> entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
RC	Crew/Worker job/title	Job/Position	<p><u>Data source:</u> labor contract of worker/laborer</p> <p><u>Commercial capture method:</u> entry via drop-down menu or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
RC	Crew/Worker nationality	Nationality	<p><u>Data source:</u> laborer's birth certificate or passport; tied to worker/laborer (crew) ID</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor; following verification of nationality via personal identification card/documents.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
RC	Crew/Worker DOB	Date of Birth	<p><u>Data source:</u> tied to worker/laborer ID</p> <p><u>Commercial capture method:</u> entry via date picker within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor; following verification of nationality via personal identification card/documents.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	

## 4.5 Brokers/Wholesalers

Table 12 presents a summary of how the KDEs are to be captured (measurement) and submitted (documentation) by **brokers/wholesalers** of seafood products under the USAID Oceans electronic CDTs. Key for KDE requirements (“REQ”): “R” = required data capture for both commercial/international and small-scale fishery supply chains; “RC” = required data capture for commercial/international fishery supply chains; “I” = ideal data capture for both commercial/international and small-scale fishery supply chains; “IC” = ideal data capture for commercial/international fishery supply chains.

*Table 12: Proposed data requirements for traceable seafood brokers/wholesalers*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Event owner	Company Name; or Org Name (ACDS)	<p><u>Data source</u>: name of brokerage/wholesale company.</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to wholesales event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
R	Owner name	Name of company owner (or designated person)	<p><u>Data source</u>: tied to the brokerage/wholesale company owner ID (business license; personal ID card).</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to wholesales event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	
R	Owner sex	Sex	<p><u>Data source</u>: tied to the brokerage/wholesale company owner ID (business license; personal ID card).</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to wholesales event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	
R	Owner ID	License ID	<p><u>Data sources</u>: business license of event owner (required); license of brokerage/wholesale company (required); personal identification card of event owner.</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to wholesales event.</p> <p><u>Who</u>: data entry by company owner (or designee).</p>	

RC	Owner ID expiry date	License expiration date	<p><u>Data source:</u> tied to the brokerage/wholesale company owner ID (business licenses; personal ID card).</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to wholesales event.</p> <p><u>Who:</u> data entry by company owner (or designee).</p>	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
RC	Owner address	Company Address	<p><u>Data source:</u> office address of wholesale company; tied to the event owner (brokerage/wholesale company).</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to wholesales event.</p> <p><u>Who:</u> data entry by company owner (or designee).</p>	
R	Owner phone	Company Phone	<p><u>Data source:</u> mobile/cell number of wholesale company; tied to the event owner.</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to wholesales event.</p> <p><u>Who:</u> data entry by company owner (or designee).</p>	
RC	Trading partner	Consignee	<p><u>Data source:</u> name of the supplier of the product inputted for wholesale by the event owner.</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to wholesales event.</p> <p><u>Who:</u> data entry by manager, company owner, or designee.</p>	
RC	Trading partner sex	Sex	<p><u>Data source:</u> name of the supplier of the product inputted for wholesale by the event owner.</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to wholesales event.</p> <p><u>Who:</u> data entry by manager, company owner, or designee.</p>	
R	Event type	Broker	<p><u>Data source:</u> completed for each wholesale activity/event.</p> <p><u>Capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> during wholesales event.</p> <p><u>Who:</u> data entry by wholesales event manager or designee.</p>	

IC	Event number	Broker ID	<p><u>Capture method</u>: Automatically generated upon entry of new event within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during wholesale event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
R	Item type	Product name	<p><u>Data source</u>: common name of the product being sold</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to or during wholesales event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
RC	Item code	Product code	<p><u>Data source</u>: product code of the product being sold</p> <p><u>Capture method</u>: Automatically generated (linked) upon entry of the species within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to or during wholesales event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
I	Item number	Product ID #	<p><u>Data source</u>: unique identification number of item being sold</p> <p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to or during wholesales event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
RC	Packaging type	Packaging type	<p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to wholesales event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
IC	Packaging materials	Packaging materials	<p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to wholesales event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
RC	Batch or lot number	Batch or lot ID	<p><u>Data source</u>: automatic enumeration; including validation stamp/signature for raw materials sold.</p> <p><u>Capture method</u>: Automatically generated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to wholesales event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
R	Quantity	Quantity	<p><u>Data source</u>: manual count of number of items sold (by type); alternative: volume of batch/lot sold.</p>

			<p><u>Capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during or after wholesales event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
RC	Weight: item	Total Weight of Item	<p><u>Data source</u>: manual measurement of verified weight (kg) of items sold.</p> <p><u>Capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during or after wholesale event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
R	Weight: batch/lot	Total Weight of Batch/Lot	<p><u>Data source</u>: manual measurement of verified weight (kg) of batch or lot sold.</p> <p><u>Capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during or after wholesale event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
RC	Unit of measure (weight)	Unit of weight	<p><u>Data source</u>: kilograms.</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during or after wholesale event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
R	Event date	Packaging Date	<p><u>Data source</u>: validation date/time of each sales activity.</p> <p><u>Commercial capture method</u>: entry via date/time picker with default time of entry recorded within the electronic CDT application (software).</p> <p><u>Entry moment</u>: during or after wholesale event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
R	Event time	Packaging Time	
IC	Batch/lot date	Batch/Lot Creation Date	
RC	First freeze date	First freeze date	
R	Origin	Product Origin	<p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: before each processing event.</p> <p><u>Who</u>: data entry by wholesales event manager or designee.</p>
R	Event location	Packaging Location	<p><u>Data source</u>: (1) description of wholesale/broker site; or (2) GPS coordinates of wholesale/broker site (ideal to have).</p> <p><u>Capture method</u>: (1) entry via keypad or drop-down menu within the electronic CDT application (software); or (2) via GPS device.</p> <p><u>Entry moment</u>: before each wholesales event.</p>



			<u>Who</u> : data entry by wholesales event manager or designee.
R	Product source	Product source	<u>Data source</u> : name of company receiving items from. <u>Capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : immediately following receipt of items. <u>Who</u> : data entry by wholesales event manager or designee.
R	Product destination	Consignee	<u>Data source</u> : name of the intended location(s) where the purchased item is to go next in the supply chain. <u>Capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : during or after each sales event. <u>Who</u> : data entry by sales event manager or designee.
R	Event method	Wholesales/Packing Method	<u>Data source</u> : Select from predefined list; including the sales method and facilities used; for each wholesale activity <u>Capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : before or after each packing/sales event. <u>Who</u> : data entry by sales event manager or designee.
RC	Activity type	Source Document PO/WO/BOL	<u>Data source</u> : Select from predefined list; including (as applicable) wholesales PO, BOL, or invoice <u>Capture method</u> : entry via drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : before or after each packing/sales event. <u>Who</u> : data entry by sales event manager or designee.
RC	Activity ID	Source Doc ID	<u>Data source</u> : ID number from wholesales PO, BOL, or invoice; tied to activity type <u>Capture method</u> : entry via touch screen or keyboard within the electronic CDT application (software). <u>Entry moment</u> : before or after each packing/sales event. <u>Who</u> : data entry by sales event manager or designee.
RC	Invoice	Sales Invoice	<u>Data source</u> : sales invoice number with scan of document (PDF or other image file); including (as applicable) wholesale WO, PO, BOL, or invoice; tied to activity type <u>Capture method</u> : entry/upload of scanned document (PDF or other image file) via touch screen or keyboard within the electronic CDT application (software).

			<p><u>Entry moment</u>: during or after each sales event.  <u>Who</u>: data entry by sales event manager or designee.</p>	
RC	Packing slip	Packing slip	<p><u>Data source</u>: packing slip number with scan of document (PDF or other image file); including (as applicable) input and/or output processing WO, PO, BOL, or invoice; tied to activity type  <u>Commercial capture method</u>: entry/upload of scanned document (PDF or other image file) via touch screen or keyboard within the electronic CDT application (software).  <u>Entry moment</u>: during or after each sales event.  <u>Who</u>: data entry by sales event manager or designee.</p>	
I	Certificate ID	Health Certificate Catch Certificate	<p><u>Data source</u>: Certificate ID; with scan of document(s) as PDFs or other image files; including green-certified product certification number  <u>Commercial capture method</u>: entry/upload via touch screen or keyboard within the electronic CDT application (software).  <u>Entry moment</u>: during or after each sales event.  <u>Who</u>: data entry by sales event manager or designee.</p>	

## 4.6 Transporters (including Export)

Table 13 presents a summary of how the KDEs are to be captured (measurement) and submitted (documentation) by **transporters** of seafood products (including both domestic/non-exporters and international/exporters; for both shipping and receiving CTEs; including cold chain distributors) under the USAID Oceans electronic CDTs. Key for KDE requirements (“REQ”): “R” = required data capture for both commercial/international and small-scale fishery supply chains; “RC” = required data capture for commercial/international fishery supply chains; “I” = ideal data capture for both commercial/international and small-scale fishery supply chains; “IC” = ideal data capture for commercial/international fishery supply chains.

*Table 13: Proposed data requirements for traceable seafood transporters*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Event owner	Company Name; or Org Name (ACDS)	<p><u>Data source:</u> name of transportation company; includes export transport companies</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to transport event.</p> <p><u>Who:</u> data entry by owner, manager, or designee.</p>	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
R	Owner name	Name of company owner (or designated person)	<p><u>Data source:</u> tied to the transportation company owner ID (business license; personal ID card)</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to transport event.</p> <p><u>Who:</u> data entry by owner, manager, or designee.</p>	
R	Owner sex	Sex	<p><u>Data source:</u> tied to the transportation company owner ID (business license; personal ID card).</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to transport event.</p> <p><u>Who:</u> data entry by owner, manager or designee.</p>	
R	Owner ID	License ID	<p><u>Data sources:</u> (1) required: business license of event owner (transportation company); (2) required: personal identification card of both owner and transporter; and (3) required: transporter’s license for operating vehicle of transportation.</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Entry moment:</u> prior to transport event.  <u>Who:</u> data entry by owner, manager, or designee.</p>	
RC	Owner ID expiry date	License expiration date	<p><u>Data source:</u> tied to the transportation company owner ID (business licenses; personal ID card) and transporter (ID and transportation license).  <u>Capture method:</u> pre-populated within the electronic CDT application (software).  <u>Entry moment:</u> prior to transport event.  <u>Who:</u> data entry by owner, manager, or designee.</p>	
RC	Owner address	Company Address	<p><u>Data source:</u> office address of transportation company; tied to the event owner (transportation company)  <u>Capture method:</u> pre-populated within the electronic CDT application (software).  <u>Entry moment:</u> prior to transport event.  <u>Who:</u> data entry by owner, manager, or designee.</p>	
R	Owner phone	Company Phone	<p><u>Data source:</u> mobile/cell number (required) of (1) transportation company and (2) driver/pilot operating vehicle of transportation; tied to the event owner (transportation company)  <u>Capture method:</u> pre-populated within the electronic CDT application (software).  <u>Entry moment:</u> prior to transport event.  <u>Who:</u> data entry by owner, manager, or designee.</p>	
RC	Trading partner	Consignee	<p><u>Data source:</u> name of the supplier of the supplier of the product being transported by the event owner.  <u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).  <u>Entry moment:</u> prior to transport event.  <u>Who:</u> data entry by owner, manager, or designee.</p>	
RC	Trading partner sex	Sex	<p><u>Data source:</u> name of the supplier of the supplier of the product being transported by the event owner.  <u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).  <u>Entry moment:</u> prior to transport event.  <u>Who:</u> data entry by owner, manager, or designee.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
R	Event type	Transport	<p><u>Data source</u>: completed for each transportation activity/event.</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to transport event.</p> <p><u>Who</u>: data entry by owner, manager, or designee.</p>	<p>Data will be entered via mobile device (laptop, tablet, or mobile); submitted electronically via cell or WiFi and pushed to the application server; including uploaded photos of relevant documents and supporting information.</p>
IC	Event number	Transport ID	<p><u>Data source</u>: completed for each transportation activity/event.</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to transport event.</p> <p><u>Who</u>: data entry by owner, manager, or designee.</p>	
R	Item type	Product name	<p><u>Data source</u>: common name of the product being transported</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to transport event.</p> <p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
RC	Item code	Product code	<p><u>Data source</u>: the associated product code of the item being transported</p> <p><u>Capture method</u>: Automatically generated (linked) upon entry of the species within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to transport event.</p> <p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
I	Item number	Product ID #	<p><u>Data source</u>: unique identification number of item being transported</p> <p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to transport event.</p> <p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
RC	Batch or lot number	Batch or lot ID	<p><u>Data source</u>: automatic enumeration;</p> <p><u>Capture method</u>: Automatically generated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to transport event.</p> <p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
R	Quantity	Quantity	<p><u>Data source</u>: manual count of number of items transported (by type); alternative: volume of batch/lot transported.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to transport event.</p> <p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
RC	Weight: item	Total Weight of Item	<p><u>Data source</u>: manual measurement of verified weight (kg) of item being transported.</p> <p><u>Capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to transport event.</p> <p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
R	Weight: batch/lot	Total Weight of Batch/Lot	<p><u>Data source</u>: manual measurement of verified weight (kg) of batch or lot being transported.</p> <p><u>Capture method</u>: entry of numeric data (only) via keypad within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to transport event.</p> <p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
R	Unit of measure (weight)	Unit of weight	<p><u>Data source</u>: kilograms.</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to transport event.</p> <p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
R	Event date	Transport Start/End Date	<p><u>Data source</u>: validation date/time of each transport activity.</p>	
R	Event time	Transport Start/End Time	<p><u>Commercial capture method</u>: entry via date/time picker with default time of entry recorded within the electronic CDT application (software).</p>	
RC	First freeze date	First freeze date	<p><u>Entry moment</u>: immediately prior to and after transport event.</p>	
IC	Batch/lot date	Batch Creation Date	<p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
R	Origin	Product Origin Fishers / Broker / Processing Company	<p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: immediately prior to transport event.</p> <p><u>Who</u>: data entry by driver/pilot/captain, manager, or designee.</p>	
R	Event location	Transport Location	Company entry via drop-down menu; Ideal to have:	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Data source:</u> (1) description of transportation route by road, rail, sea, or air; or (2) GPS coordinates of route by road, rail, sea, or air (ideal to have); including international shipping.</p> <p><u>Capture method:</u> (1) entry via keypad or drop-down menu within the electronic CDT application (software); or (2) via GPS device.</p> <p><u>Entry moment:</u> during and after transport event.</p> <p><u>Who:</u> data entry by driver/pilot/captain, manager, or designee.</p>	
R	Product source	Product Source	<p><u>Data source:</u> name of company (shipper) that is shipping items through event owner (transporter)</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to and after transport event.</p> <p><u>Who:</u> data entry by driver/pilot/captain, manager, or designee.</p>	Cell, satellite, or WiFi transmission from mobile device; pushed to data exchange server
R	Product destination	Consignee	<p><u>Data source:</u> name and address of actor/company receiving the transported item; required: receiver signature upon delivery of product</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> immediately after transport event (delivery).</p> <p><u>Who:</u> data entry by driver/pilot/captain, manager, or designee.</p>	
R	Event method	Transport (Truck/Ship/Air)	<p><u>Data source:</u> Select from predefined list; including the transport method and facilities used; for each transportation activity</p> <p><u>Capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> before or after transport event</p> <p><u>Who:</u> data entry by driver/pilot/captain, manager, or designee.</p>	Data will be entered via mobile device (laptop, tablet, or mobile); submitted electronically via cell or WiFi and pushed to the application server; including uploaded photos of relevant documents and supporting information
RC	Activity type	Source Document PO/WO/BOL	<p><u>Data source:</u> Select from predefined list; including (as applicable) transportation manifest and/or delivery order, and/or Bill of Lading for international transport</p> <p><u>Capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> before, during, or after transport event</p> <p><u>Who:</u> data entry by driver/pilot/captain, manager, or designee.</p>	
RC	Activity ID	Source Doc ID	<p><u>Data source:</u> ID number from transportation manifest and/or delivery order, and/or Bill of Lading for international transport; tied to activity type</p>	Office-based online entry or e-mail via

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Capture method:</u> entry via touch screen or keyboard within the electronic CDT application (software).</p> <p><u>Entry moment:</u> before, during, or after transport event</p> <p><u>Who:</u> data entry by driver/pilot/captain, manager, or designee.</p>	<p>event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.</p>
RC	Invoice/Document	Invoice	<p><u>Data source:</u> submission as scanned document (PDF or other image file); including transportation manifest and/or delivery order, and/or Bill of Lading and Export Declaration Form for international export; tied to activity type</p> <p><u>Capture method:</u> entry/upload of scanned document (PDF or other image file) via touch screen or keyboard within the electronic CDT application (software).</p> <p><u>Entry moment:</u> before, during, or after transport event</p> <p><u>Who:</u> data entry by driver/pilot/captain, manager, or designee.</p>	
RC	Packing slip	Packing slip	<p><u>Data source:</u> transportation slip number of item sold; or submission as scanned document (PDF or other image file); including Export Document Number for international export; for each item transported</p> <p><u>Commercial capture method:</u> entry/upload of scanned document (PDF or other image file) via touch screen or keyboard within the electronic CDT application (software).</p> <p><u>Entry moment:</u> before, during, or after transport event</p> <p><u>Who:</u> data entry by driver/pilot/captain, manager, or designee.</p>	
RC	Carrier ID	Transporter ID No.	<p><u>Data source:</u> for each item transported; including for international transport; including sea vessel registration/license number and IMO/Inmarsat numbers</p> <p><u>Commercial capture method:</u> entry/upload of scanned document (PDF or other image file) via touch screen or keyboard within the electronic CDT application (software).</p> <p><u>Entry moment:</u> before, during, or after transport event</p> <p><u>Who:</u> data entry by driver/pilot/captain, manager, or designee.</p>	
IC	Container/Trailer ID	Container/Trailer No.	<p><u>Data source:</u> Container or trailer number of each item transported; including for international transport; including sea vessel registration/license number and IMO/Inmarsat numbers</p> <p><u>Commercial capture method:</u> entry/upload of scanned document (PDF or other image file) via touch screen or keyboard within the electronic CDT application (software).</p> <p><u>Entry moment:</u> before, during, or after transport event</p>	<p>Data will be entered via mobile device (laptop, tablet, or mobile); submitted electronically via cell or WiFi and pushed to the application server; including uploaded photos of relevant documents and supporting information</p>



REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by driver/pilot/captain, manager, or designee.	
I	Certificate ID	Health Certificate Transport/Export Certificate Eco-friendly Certificate	<u>Data source</u> : Certificate ID; including Government catch and health certificates (for international export); Competent Authority Validation for international transport/export; and/or green-certified product certification number <u>Commercial capture method</u> : entry/upload via touch screen or keyboard within the electronic CDT application (software). <u>Entry moment</u> : during or after each sales event. <u>Who</u> : data entry by sales event manager or designee.	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.

## ANNEX I. RECOMMENDED KEY DATA ELEMENTS

This annex details the “minimum” recommended key data elements (KDEs) to be captured within each link of the seafood supply chain under the scope of the USAID Oceans CDTs. Relevant KDEs for each link of the supply chain are itemized in summary tables in this annex. Summary tables contain several fields (columns) of data, including (from left to right): (1) the relevant category, including human welfare (HW; far left-hand column); (2) the specific KDE; (3) the equivalent Data Label; (4) whether or not (if yes, “X”) the KDE has been recommended for capture by WWF International; (5) whether or not the KDE has been required for capture under the updated U.S. seafood import regulations; (6) whether or not the KDE has been required for capture under EU importing regulations; (7) whether or not the KDE has been recommended for captured under the ASEAN Catch Documentation Scheme (ACDS); and (8) whether or not the KDE is being recommended as a “minimum” KDE for captured under the USAID Oceans CDTs.

### AI.1 Producer KDEs: Point-of-Catch

*Table 14: Summary table of the key data elements (KDEs) required at the point-of-catch by existing international regulations/recommendations and USAID Oceans’ supported KDEs*

Category	Key Data Element (KDE)	Data Label (equivalent)	The Expert Panel on Legal and Traceable Wild Fish Products	KDE capture required for US SIMP	KDE capture required for EU Imports (EC 1005/2008)	KDE capture recommended under ACDS	Minimum KDE proposed under USAID Oceans
Who	Event owner	Company or organization name				X	X
Who	Owner name	Company/fishing vessel owner name	X			X	X
HW	Owner sex	Sex					X
Who	Owner ID	Fishing license #; personal ID card	X	X	X	X	X
Who	Owner ID expiry date	License expiration date					X
Who	Owner address	Company address		X*		X	X
Who	Owner phone	Company phone			X		X
Who	Trading partner	Consignee					X
HW	Trading partner sex	Sex					X
Who	Vessel name	Name of fishing vessel	X	X	X	X	X
Who	Vessel size	Vessel type/tonnage (MT)	X*			X	
Who	Vessel flag	Flag state of fishing vessel	X	X	X	X	X
Who	Vessel ID	Unique vessel id/registry #; VMS Unit #; IMO/Lloyd’s #; Inmarsat #	X	X	X	X	X
What	Event type	Catch or farmed		X			X

<b>Category</b>	<b>Key Data Element (KDE)</b>	<b>Data Label (equivalent)</b>	<b>The Expert Panel on Legal and Traceable Wild Fish Products</b>	<b>KDE capture required for US SIMP</b>	<b>KDE capture required for EU Imports (EC 1005/2008)</b>	<b>KDE capture recommended under ACDS</b>	<b>Minimum KDE proposed under USAID Oceans</b>
What	Event number	Trip #; catch ID		X			
What	Item type	Species caught (common market name; catch description)		X*	X	X	X
What	Item code	Scientific name (species)	X	X*	X	X	X
What	Item number	ASFIS # or product code		X		X	
What	Bycatch	Bycatch (Y/N)			X		X
What	Batch or lot number	Batch or lot number					X
What	Quantity	Volume of catch (quantity)	X	X	X	X	X
What	Weight: item	Verified weight of catch/species (kg)				X	X
What	Weight: batch/lot	Total weight (kg) of batch/lot					X
What	Product Form at Landing	Product Form at landing		X			
When	Event date	Catch date; batch/lot creation date	X		X	X	X
When	Event time	Time of catch	X				X
When	First freeze date	Vessel first freeze date					X
When	Date of departure	Date of departure				X	X
When	Time of departure	Time of departure					X
When	Date of return	Date of return/landing (at port)	X	X		X	X
When	Time of return	Time of return/landing (at port)	X				X
Where	Origin	Vessel's port of departure					X
Where	Event location	Location of catch	X	X	X	X	X
Where	Product destination	Port name (where landed)	X	X		X	X
Where	Vessel home port	Vessel home port	X				X
How	Event method	Gear type (method used)	X	X		X	X
How	FAD use	FAD use			X		X
How	FAD location	FAD location			X		X
Link	Activity type	Lead document type					X
Link	Activity ID	Lead document ID					X

<b>Category</b>	<b>Key Data Element (KDE)</b>	<b>Data Label (equivalent)</b>	<b>The Expert Panel on Legal and Traceable Wild Fish Products</b>	<b>KDE capture required for US SIMP</b>	<b>KDE capture required for EU Imports (EC 1005/2008)</b>	<b>KDE capture recommended under ACDS</b>	<b>Minimum KDE proposed under USAID Oceans</b>
HW	Captain name	Name of captain	X		X	X	X
HW	Captain sex	Sex					X
HW	Captain ID	Personal identification	X		X	X	X
HW	Captain nationality	Nationality	X			X	X
HW	Contract ID	Document ID					X
HW	Crew/Worker name	Name of crew/fisher(s)				X	X
HW	Crew/Worker sex	Sex					X
HW	Crew/Worker ID	Personal identification				X	X
HW	Crew/Worker nationality	Nationality of crew/fisher(s)				X	X
HW	Crew/Worker DOB	Date of birth of crew/fisher(s)				X	X
HW	Crew/Worker job/title	Job/position				X	X

## AI.1 Receiver KDEs: At-Sea (Transshipment)

*Table 15: Summary table of the key data elements (KDEs) that are to be captured by fish buyers and fishery product receivers at-sea (transshipment) by existing international regulations/recommendations and USAID Oceans' supported KDEs*

Category	Key Data Element (KDE)	Data Label (equivalent)	KDE capture recommended by WWF	KDE capture required for US Imports	KDE capture required for EU Imports	KDE capture recommended under ACDS	Minimum KDE required under USAID Oceans
Who	Event owner	Company or organization name				X	X
Who	Owner name	Company/transshipment vessel owner name	X			X	X
HW	Owner sex	Sex					X
Who	Owner ID	Fishing license #; personal ID card		X		X	X
Who	Owner ID expiry date	License expiration date					X
Who	Owner address	Company address				X	X
Who	Owner phone	Company phone					X
Who	Trading partner	Consignee					X
HW	Trading partner sex	Sex					X
Who	Vessel name	Name of transshipment vessel	X	X	X	X	X
Who	Vessel size	Vessel type/tonnage (MT)	X			X	
Who	Vessel flag	Flag state of transshipment vessel	X			X	X
Who	Vessel ID	Unique transshipment vessel id #; IMO/Lloyd's #; Inmarsat #	X	X	X	X	X
What	Event type	Transshipment					X
What	Event number	Transshipment ID/#					
What	Item type	Species transshipped (common market name or catch description)		X		X	X
What	Item code	Scientific name (species)	X	X		X	X
What	Item number	ASFIS # or product code		X		X	
What	Bycatch	Bycatch (Y/N)			X		X
What	Batch or lot number	Batch or lot number	X	X			X
What	Quantity	Volume of catch (quantity)	X		X	X	X

<b>Category</b>	<b>Key Data Element (KDE)</b>	<b>Data Label (equivalent)</b>	<b>KDE capture recommended by WWF</b>	<b>KDE capture required for US Imports</b>	<b>KDE capture required for EU Imports</b>	<b>KDE capture recommended under ACDS</b>	<b>Minimum KDE required under USAID Oceans</b>
What	Weight: item	Verified weight of catch/species (kg)				X	X
What	Weight: batch/lot	Total weight (kg) of batch/lot		X			X
What	Fork length	Length of transshipped fish					X
What	Unit of measure (length)	Unit of length					X
When	Event date	Catch date; batch/lot creation date		X		X	X
When	Event time	Time of catch					X
When	First freeze date	First freeze date					X
When	Date of departure	Date of departure				X	X
When	Time of departure	Time of departure					X
When	Date of return	Date of return/landing (at port)				X	X
When	Time of return	Time of return/landing (at port)					X
Where	Origin	Vessel's port of departure					X
Where	Event location	Transshipment location	X	X	X	X	X
Where	Product source	Feeder vessel name				X	X
Where	Product destination	Port destination		X		X	X
Where	Vessel home port	Vessel home port	X				X
How	Event method	Transshipment method	X	X	X	X	X
How	FAD use	FAD use			X		X
How	FAD location	FAD location			X		X
Link	Activity type	Lead document type					X
Link	Activity ID	Lead document ID					X
Link	Invoice	Transshipment note					X
Link	Certificate ID	Transshipment certificate ID					
HW	Captain name	Name of captain	X		X		X
HW	Captain sex	Sex					X
HW	Captain ID	Personal identification	X		X	X	X
HW	Captain nationality	Nationality	X			X	X

<b>Category</b>	<b>Key Data Element (KDE)</b>	<b>Data Label (equivalent)</b>	<b>KDE capture recommended by WWF</b>	<b>KDE capture required for US Imports</b>	<b>KDE capture required for EU Imports</b>	<b>KDE capture recommended under ACDS</b>	<b>Minimum KDE required under USAID Oceans</b>
HW	Contract ID	Document ID					X
HW	Crew/Worker name	Name of crew/fisher(s)				X	X
HW	Crew/Worker sex	Sex					X
HW	Crew/Worker ID	Personal identification				X	X
HW	Crew/Worker nationality	Nationality of crew/fisher(s)				X	X
HW	Crew/Worker DOB	Date of birth of crew/fisher(s)				X	X
HW	Crew/Worker job/title	Job/position				X	X

### AI.3 Buyer/Receiver KDEs: At-Port

*Table 16: Summary table of the key data elements (KDEs) that are to be captured by fish buyers and fishery product receivers/suppliers at-port by existing international regulations/recommendations and USAID Oceans' supported KDEs*

Category	Key Data Element (KDE)	Data Label (equivalent)	KDE capture recommended by WWF	KDE capture required for US Imports	KDE capture required for EU Imports	KDE capture recommended under ACDS	Minimum KDE required under USAID Oceans
Who	Event owner	Company or organization name			X	X	X
Who	Owner name	Company owner/buyer name	X		X		X
HW	Owner sex	Sex					X
Who	Owner ID	Buyer business license/registration #; personal ID card				X	X
Who	Owner ID expiry date	License/registration expiration date					X
Who	Owner address	Company address			X		X
Who	Owner phone	Company phone					X
Who	Trading partner	Consignee					X
HW	Trading partner sex	Sex					X
Who	Vessel name	Name of vessel providing catch	X		X	X	X
Who	Vessel flag	Flag state of vessel providing catch	X		X	X	X
Who	Vessel ID	Unique vessel id #; IMO/Inmarsat #	X		X	X	X
What	Event type	Purchase	X				X
What	Event number	Purchase ID/#					
What	Item type	Description of purchased catch; including common market name	X			X	X
What	Item code	Scientific name (species)			X	X	X
What	Bycatch	Bycatch (Y/N)			X		X
What	Batch or lot number	Batch or lot number	X				X
What	Quantity	Volume of catch (quantity)	X		X	X	X
What	Weight: item	Verified weight of catch (kg)	X		X	X	X
What	Weight: batch/lot	Total weight (kg) of batch/lot					X
When	Event date	Purchase date; batch/lot creation	X			X	X



<b>Category</b>	<b>Key Data Element (KDE)</b>	<b>Data Label (equivalent)</b>	<b>KDE capture recommended by WWF</b>	<b>KDE capture required for US Imports</b>	<b>KDE capture required for EU Imports</b>	<b>KDE capture recommended under ACDS</b>	<b>Minimum KDE required under USAID Oceans</b>
When	Event time	Time of purchase	X				X
When	First freeze date	First freeze date					X
Where	Origin	Point of catch source					X
Where	Event location	Point of sales location	X			X	X
Where	Product destination	Consignee				X	X
Where	Vessel home port	Home port of vessel providing catch	X				X
How	Event method	Receiving/offloading equipment used			X	X	X
How	FAD use	FAD use			X		X
Link	Activity type	Lead document type					X
Link	Activity ID	Lead document ID					X
Link	Invoice	Sales invoice					X
Link	Packing slip	Packing slip and #					X
Link	Certificate ID	Catch certificate and/or landing declaration number(s)					X
HW	Captain name	Captain name receiving catch from				X	X
HW	Captain sex	Sex					X
HW	Captain ID	Personal identification of captain				X	X
HW	Captain nationality	Nationality of captain				X	X
HW	Contract ID	Document ID					X
HW	Crew/Worker name	Name of crew/fisher(s) receiving catch from					X
HW	Crew/Worker sex	Sex					X
HW	Crew/Worker ID	Personal identification of crew					X
HW	Crew/Worker nationality	Nationality of crew/fisher(s)					X
HW	Crew/Worker DOB	Date of birth of crew/fisher(s)					X
HW	Crew/Worker job/title	Job/position of crew					X

## AI.4 Processor KDEs

*Table 17: Summary table of the key data elements (KDEs) that are to be captured by fishery product processors by existing international regulations/recommendations and USAID Oceans' supported KDEs*

Category	Key Data Element (KDE)	Data Label (equivalent)	KDE capture recommended by WWF	KDE capture required for US Imports	KDE capture required for EU Imports	KDE capture recommended under ACDS	Minimum KDE required under USAID Oceans
Who	Event owner	Company or organization name	X	X		X	X
Who	Owner name	Company owner/processor name				X	X
HW	Owner sex	Sex					X
Who	Owner ID	Processor business license or registration #; personal ID card		X		X	X
Who	Owner ID expiry date	License/registration expiration date					X
Who	Owner address	Company/processing plant address		X		X	X
Who	Owner phone	Company phone		X			X
Who	Trading partner	Consignee					X
HW	Trading partner sex	Sex					X
What	Event type	Processing					X
What	Event number	Processing ID/#					
What	Item type	Description of seafood processed	X	X		X	X
What	Item code	Scientific name (species)		X		X	X
What	Packaging type	Packaging type/code		X			X
What	Packaging materials	Packaging materials description					X
What	Batch or lot number	Batch or lot number	X	X		X	X
What	Quantity	Quantity of processed product	X	X		X	X
What	Weight: item	Total weight of processed item (kg)	X	X		X	X
What	Weight: batch/lot	Total weight of processed batch/lot	X	X		X	X
When	Event date	Validation date of processing; processed batch/lot creation date	X	X		X	X
When	Event time	Time of processing					X
When	First freeze date	First freeze date					X

<b>Category</b>	<b>Key Data Element (KDE)</b>	<b>Data Label (equivalent)</b>	<b>KDE capture recommended by WWF</b>	<b>KDE capture required for US Imports</b>	<b>KDE capture required for EU Imports</b>	<b>KDE capture recommended under ACDS</b>	<b>Minimum KDE required under USAID Oceans</b>
Where	Origin	Product origin		X			X
Where	Event location	Processing location/facility				X	X
Where	Product source	Company				X	X
Where	Product destination	Consignee				X	X
How	Event method	Description of processing method				X	X
Link	Activity type	Source document (PO/WO/BOL)					X
Link	Activity ID	Source document ID					X
Link	Invoice	Sales invoice					X
Link	Packing slip	Packing slip and #					X
Link	Certificate ID	Health and/or catch certificate					X
HW	Crew/Worker name	Name of processing laborers					X
HW	Crew/Worker sex	Sex					X
HW	Crew/Worker ID	Personal identification of laborers					X
HW	Crew/Worker nationality	Nationality of laborers					X
HW	Crew/Worker DOB	Date of birth of laborers					X
HW	Crew/Worker job/title	Job/position of laborers					X

## AI.5 Broker/Wholesaler (Sellers) KDEs

*Table 18: Summary table of the key data elements (KDEs) that are to be captured by fishery product brokers/wholesalers (sellers) by existing international regulations/recommendations and USAID Oceans' supported KDEs*

Category	Key Data Element (KDE)	Data Label (equivalent)	KDE capture recommended by WWF	KDE capture required for US Imports	KDE capture required for EU Imports	KDE capture recommended under ACDS	Minimum KDE required under USAID Oceans
Who	Event owner	Company or organization name				X	X
Who	Owner name	Company owner/broker name					X
HW	Owner sex	Sex					X
Who	Owner ID	Seller business license or registration #; personal ID card					X
Who	Owner ID expiry date	License/registration expiration date					X
Who	Owner address	Company/broker address					X
Who	Owner phone	Company phone					X
Who	Trading partner	Consignee					X
HW	Trading partner sex	Sex					X
What	Event type	Broker/Wholesale					X
What	Event number	Broker ID/#					
What	Item type	Description of seafood sold				X	X
What	Item code	Product code					X
What	Packaging type	Packaging type/code					X
What	Packaging materials	Packaging materials description					X
What	Batch or lot number	Batch or lot ID					X
What	Quantity	Quantity of product sold				X	X
What	Weight: item	Total weight of item sold (kg)				X	X
What	Weight: batch/lot	Total weight of batch/lot sold (kg)				X	X
When	Event date	Date of sale; batch/lot sales date				X	X
When	Event time	Time of sale					X
When	First freeze date	First freeze date					X
Where	Origin	Product origin					X

<b>Category</b>	<b>Key Data Element (KDE)</b>	<b>Data Label (equivalent)</b>	<b>KDE capture recommended by WWF</b>	<b>KDE capture required for US Imports</b>	<b>KDE capture required for EU Imports</b>	<b>KDE capture recommended under ACDS</b>	<b>Minimum KDE required under USAID Oceans</b>
Where	Event location	Packaging location					X
Where	Product source	Product source					X
Where	Product destination	Consignee					X
How	Event method	Description of packing method					X
Link	Activity type	Source document (PO/WO/BOL)					X
Link	Activity ID	Source document ID					X
Link	Invoice	Sales invoice					X
Link	Packing slip	Packing slip and #					X
Link	Certificate ID	Health and/or catch certificate					X

## AI.6 Transporter KDEs (including Domestic and Export)

*Table 19: Summary table of the key data elements (KDEs) that are to be captured by the fishery product shipper/transporter (including domestic and export) under the USAID Oceans CDTs.*

Category	Key Data Element (KDE)	Data Label (equivalent)	KDE capture recommended by WWF	KDE capture required for US Imports	KDE capture required for EU Imports	KDE capture recommended under ACDS	Minimum KDE required under USAID Oceans
Who	Event owner	Company or organization name			X	X	X
Who	Owner name	Company owner/manager name			X		X
HW	Owner sex	Sex					X
Who	Owner ID	Transporter business license or registration #; personal ID card				X	X
Who	Owner ID expiry date	License/registration expiration date				X	X
Who	Owner address	Company/transporter address			X		X
Who	Owner phone	Company phone					X
Who	Trading partner	Consignee			X		X
HW	Trading partner sex	Sex					X
What	Event type	Transport (domestic, international; road, rail, air, ocean)			X		X
What	Event number	Transport ID/#					
What	Item type	Name/description of product being transported				X	X
What	Item code	Product code					X
What	Batch or lot number	Batch or lot ID					X
What	Quantity	Quantity of items shipped				X	X
What	Weight: item	Total weight of items shipped (kg)				X	X
What	Weight: batch/lot	Total weight of batch/lot shipped				X	X
When	Event date	Transport start/end date				X	X
When	Event time	Transport start/end time					X
When	First freeze date	First freeze date					X
Where	Origin	Product origin					X

<b>Category</b>	<b>Key Data Element (KDE)</b>	<b>Data Label (equivalent)</b>	<b>KDE capture recommended by WWF</b>	<b>KDE capture required for US Imports</b>	<b>KDE capture required for EU Imports</b>	<b>KDE capture recommended under ACDS</b>	<b>Minimum KDE required under USAID Oceans</b>
Where	Event location	Transport location, description of route/trip taken			X	X	X
Where	Product source	Product source					X
Where	Product destination	Consignee; signature of receiver upon delivery of product shipped				X	X
How	Event method	Description of transport (vehicle/air/rail/ship)			X		X
Link	Activity type	Source document (PO/WO/BOL)					X
Link	Activity ID	Source document ID (transport manifest/BOL)					X
Link	Invoice	Invoice/delivery order/BOL/export declaration form					X
Link	Packing slip	Packing slip and #					X
Link	Carrier ID	Transporter ID No.					X
Link	Container/trailer no.	ID number of container vessel or trailer/compartments used for transport of product			X	X	X
Link	Certificate ID	Health and/or catch certificate; transport/export certificate; eco-friendly product certificate			X		X

## ANNEX II. HUMAN WELFARE KEY DATA ELEMENTS

Because of growing international concerns over the human welfare conditions within Southeast Asia’s seafood supply chains, USAID Oceans is exploring how to capture and share relevant and verifiable information relating to human welfare (HW), labor and socioeconomic conditions within specified supply chains, particularly at the point-of-catch (at sea), landing and processing. Testing of the capture of relevant HW KDEs under the USAID Oceans CDTS is an acknowledgement of the severity of international concern regarding the seafood sector’s human welfare conditions.

This section outlines the full, emerging set of HW KDEs recommended by USAID Oceans Recommended HW KDEs have been developed following in-field research conducted in USAID Oceans’ learning sites of General Santos City, Philippines and Bitung, Indonesia to collect information around areas where human welfare violations have been observed. While HW KDEs do not directly contribute to the traceability of a specific seafood product, they do support human welfare objectives to enhance the quality and condition of crew and worker conditions. The collection of sex-disaggregated data not only stands to benefit national government and policy makers, but also contributes to global efforts to collect data that supports evidence-based policy and decision making.

USAID Oceans acknowledges the additional effort that is required to capture KDEs beyond those that strictly support seafood product traceability. USAID Oceans recommends, where applicable, that CDTS-linked organizations and operations leverage existing human resources and national identification databases to provide recommended HW KDEs. In lieu of existing databases, manual entry may be required.

The information reflected in this Annex is subject to revision due to the ongoing identification and development of the full, relevant scope of HW KDEs under the electronic CDTS for Southeast Asia. The discussion and refinement of HW KDEs is likely to continue throughout the USAID Oceans program lifespan.

### A2.1 Glossary of Human Welfare KDEs

Table 20 presents definitions for the full set of proposed human welfare (HW) KDEs to be captured under an electronic CDTS for Southeast Asia. The terms listed reflect KDEs that are both required (those relating to captain and crew/workers; based on emerging national law within the region) and ideal (all others) to collect. Note that the terms listed are subject to revision and expansion.

*Table 20: Glossary of human welfare KDEs*

Category	Term (KDE)	Definition
HW	Captain name	The given name of the captain of the fishing vessel associated with the production CTEs of a traceable “item.”
HW	Captain sex	The sex of the captain of the fishing vessel associated with the production CTEs of a traceable “item.”
HW	Captain ID	The unique number or alphanumeric designation that is identified within the legally-recognized identification associated with the captain of the fishing vessel associated with the production of a traceable “item.” For example: the captain’s personal identification card, birth certificate, or passport.
HW	Captain nationality	The verifiable nationality (country of origin) of captain of the fishing vessel associated with the production CTEs of a traceable “item.” Verified by the document/ID associated with “Captain ID.”



<b>Category</b>	<b>Term (KDE)</b>	<b>Definition</b>
<b>HW</b>	Contract ID	The unique identification number or other designation assigned to a specific employment contract for any fisher or other crewmember on board the fishing vessel associated with the production CTE for a traceable “item.” To be traceable, the “contract ID” must be linked to a verifiable contractual employment agreement or hiring and recruiting arrangement, with all associated identity papers/documents.
<b>HW</b>	Crew/Worker name	The given names of any individual associated with the production and/or transformation CTEs of a traceable “item.” This includes seafood processors, fishers, or other fishing vessel crewmembers associated with the production or transformation of the traceable “item.”
<b>HW</b>	Crew/Worker sex	The sex of any individual associated with the production and/or transformation CTEs of a traceable “item.” This includes seafood processors, fishers, or other fishing vessel crewmembers associated with the production or transformation of the traceable “item.”
<b>HW</b>	Crew/Worker ID	The unique number or alphanumeric designation that is identified within the legally-recognized identification associated with the seafood processors, fishers, or other vessel crewmembers associated with the production or transformation of a traceable “item.” For example: the crew’s personal identification card, birth certificate, or passport.
<b>HW</b>	Crew/Worker DOB	The date (day, month, and year) of birth of any worker, processor, fisher, or other vessel crewmember associated with the production or transformation of a traceable “item.” Verified by the document/ID associated with “crew ID.”
<b>HW</b>	Crew/Worker job/title	The term or specific employment title used to describe the position and/or duties and responsibilities of the seafood processors, fishers, or other vessel crewmembers associated with the production or transformation of a traceable “item.” For example: “first mate”, “inspector”, “safety officer”.
<b>HW</b>	Crew/Worker nationality	The verifiable nationality (country of origin) of any worker, processor, fisher, or other vessel crewmember associated with the production or transformation of a traceable “item.” Verified by the document/ID associated with “crew ID.”
<b>HW</b>	Crew/Worker payment	The documented wage or payment system for with each worker, processor, fisher, or other vessel crewmember associated with the production or transformation of a traceable “item.” This may include: benefits and privileges; payment schedules; and payment types (e.g., minimum wage; overtime or premium pay; holiday pay; night shift or differential pay).
<b>HW</b>	Owner sex	The sex of the owner of the fishing vessel associated with the production CTEs of a traceable “item.”
<b>HW</b>	Trading partner sex	The sex of the immediate party within the seafood supply chain to the current event owner that was involved either before or after the occurrence of the CTE event.

<b>Category</b>	<b>Term (KDE)</b>	<b>Definition</b>
<b>HW</b>	Financing	If applicable, the financing and loan system made available to each worker, processor, fisher, or other vessel crewmember associated with the production or transformation of a traceable “item.”
<b>HW</b>	Living conditions	A description of the type of living accommodations and the level of their conditions offered to each worker, processor, fisher, or other vessel crewmember associated with the production or transformation of a traceable “item.” Includes at-sea crew living quarters aboard fishing/transshipment vessels and company-provided employee housing on land. Excludes private housing owned or rented on land by crew/laborers.
<b>HW</b>	Recreation	A description of the type of recreational facilities offered to each worker, processor, fisher, or other vessel crewmember associated with the production or transformation of a traceable “item.”
<b>HW</b>	Rights	The fair and secure grievance and reporting process used by any worker, processor, fisher, or other crewmember to report a working grievance or concern, exercise their labor rights, and/or seek out social protective services. <sup>13</sup>
<b>HW</b>	Safety	The working conditions and presence, accessibility, and functionality of medical supplies, life-saving devices, and a certified/trained first aid responder to any worker, processor, fisher, or other crewmember. <sup>14</sup> Ideally would also include: (1) a log to report incidences of worker/crew accidents and injuries; and (2) a description of the health and safety conditions on-site/on-board.
<b>HW</b>	Sustenance	A description of the type of food and catering services offered on a daily and weekly basis to each worker, processor, fisher, or other vessel crewmember associated with the production or transformation of a traceable “item.” Focuses on the provision of adequate and safe food for laborers, particularly at sea.
<b>HW</b>	Working hours	The number of hours worked by worker/crewmember per work shift. Inclusive of rest break frequency and duration.

<sup>13</sup> During the lifetime of the project, USAID Oceans will be working to develop additional documentation and guidance regarding “labor rights” associated with eCDT systems for Southeast Asia in coordination with regional partners and subject matter experts. Note that this process could result in the development and refinement of relevant KDEs and metrics.

<sup>14</sup> During the lifetime of the project, USAID Oceans will be working to develop additional documentation and guidance regarding “safety” associated with eCDT systems for Southeast Asia in coordination with regional partners and subject matter experts. Note that this process could result in the development and refinement of relevant KDEs and metrics.

## A2.2 Human Welfare Requirements Framework

This section presents the proposed data capture requirement framework for human welfare KDEs under the USAID Oceans CDTs, by CTE. Most HW KDEs are considered “ideal” for capture under the CDTs. Note that the proposed human welfare KDEs and proposed requirement level under this framework are subject to review based on the continuing development of human welfare documentation and guidance throughout the lifetime of the USAID Oceans Project.

*Table 2.1: A framework of proposed human welfare data requirements, by CTE*

Key Data Element (KDE)		Critical Tracking Event (CTE)					
		Creation		Transformation		Transportation	
		Production (capture)	Landing	Input	Output	Shipping	Receiving
Category	KDE (defined in Glossary)						
HW	Captain name	R	R				
	Captain sex	R	R				
	Captain ID	R	R				
	Captain nationality	R	R				
	Crew/Worker name	RC	RC	RC	RC		
	Crew/Worker sex	RC	RC	RC	RC		
	Crew/Worker job/title	RC	RC	RC	RC		
	Crew/Worker ID	RC	RC	RC	RC		
	Crew/Worker nationality	RC	RC	RC	RC		
	Contract ID	IC	IC	IC	IC		
	Crew/Worker DOB	I	I	I	I		
	Crew/Worker payment	IC	IC	IC	IC		
	Owner representative	R	R	RC	RC	RC	RC
	Owner representative sex	R	R	RC	RC	RC	RC
	Trading partner	R	R	RC	RC	RC	RC
	Trading partner sex	R	R	RC	RC	RC	RC
	Financing	I	I	I	I		
	Living conditions	IC	IC	IC	IC		
	Recreation	IC	IC	IC	IC		
	Rights	I	I	I	I		
Safety	I	I	I	I			
Sustenance	IC	IC	IC	IC			
Working hours	I	I	I	I			

### KEY:

R	= required data capture for both commercial/international and small-scale fishery supply chains
RC	= required data capture for commercial/international fishery supply chains
I	= ideal data capture for both commercial/international and small-scale fishery supply chains
IC	= ideal data capture for commercial/international fishery supply chains

## A2.3 Application of Human Welfare KDEs: Producers

Table 22 presents a summary how the HW KDEs are to be captured (measurement) and submitted (documentation) at the **point-of-catch** (at-sea production event) under the USAID Oceans electronic CDTs. Key for KDE requirements (“REQ”): “RC” = required data capture for commercial/international fishery supply chains; “I” = ideal data capture for both commercial/international and small-scale fishery supply chains; and “IC” = ideal data capture for commercial/international fishery supply chains.

*Table 22: Proposed human welfare data requirements for traceable seafood producers*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Captain name	Name	<p><u>Data source:</u> tied to the captain ID (personal ID card; captain’s or fishing license)</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	Data will be entered via mobile device (laptop, tablet, or mobile); submitted electronically via cell or WiFi and pushed to the application server; including uploaded photos of relevant documents and supporting information
RC	Captain sex	Sex	<p><u>Data source:</u> tied to the captain ID (personal ID card; captain’s or fishing license)</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Captain ID	Personal Identification	<p><u>Data source:</u> personal identification card/documents of captain. Examples: captain’s license; passport; birth certificate.</p> <p><u>Capture method:</u> entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Captain nationality	Nationality	<p><u>Data source:</u> captain’s passport or birth certificate; tied to captain ID</p> <p><u>Capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of fishing trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker name	Name	<p><u>Data source:</u> tied to crewmember/worker ID (personal ID card/documents)</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by captain, company owner (or designee), or crewmember/worker.</p>	
RC	Crew/Worker sex	Sex	<p><u>Data source</u>: personal identification card or documents of crewmember/worker. Examples: birth certificate; passport; driver's license or other personal identification card.</p> <p><u>Capture method</u>: entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker ID	Personal Identification	<p><u>Data source</u>: personal identification card or documents of crewmember/worker. Examples: birth certificate; passport; driver's license or other personal identification card.</p> <p><u>Capture method</u>: entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Crew/worker job/title	Job/Position	<p><u>Data source</u>: labor contract of crewmember/worker.</p> <p><u>Capture method</u>: entry via drop-down menu or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker nationality	Nationality	<p><u>Data source</u>: crewmember/worker birth certificate or passport; tied to crewmember ID.</p> <p><u>Capture method</u>: entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to start of fishing trip; following verification of nationality via personal identification card/documents.</p> <p><u>Who</u>: data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker DOB	Date of Birth	<p><u>Data source</u>: tied to crewmember/worker ID</p> <p><u>Capture method</u>: entry via date picker within the electronic CDT application (software).</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Entry moment</u>: prior to start of fishing trip; following verification of nationality via personal identification card/documents.</p> <p><u>Who</u>: data entry by captain or fisher designee.</p>	
IC	Contract ID	Employment Contract	<p><u>Data source</u>: Company submission as scanned contract document (PDF or other image file); for each crewmember/worker.</p> <p><u>Capture method</u>: entry via uploading of scanned document.</p> <p><u>Entry moment</u>: prior to start of fishing trip.</p> <p><u>Who</u>: data entry by company, captain, or designee.</p>	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
IC	Crew/Worker payment	Wages	<p><u>Data source</u>: Paystubs, ledgers, or signed (receiver) log of wages paid to crew; for each crewmember/worker.</p> <p><u>Capture method</u>: entry via keypad plus uploading of scanned payment documentation.</p> <p><u>Entry moment</u>: following fishing trip.</p> <p><u>Who</u>: data entry by company, captain, or designee.</p>	
R	Owner name	Name of company owner (or designated person)	<p><u>Data source</u>: tied to the transportation company owner ID (business license; personal ID card)</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to transport event.</p> <p><u>Who</u>: data entry by owner, manager, or designee.</p>	
R	Owner sex	Sex	<p><u>Data source</u>: tied to the transportation company owner ID (business license; personal ID card).</p> <p><u>Capture method</u>: pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to transport event.</p> <p><u>Who</u>: data entry by owner, manager or designee.</p>	
RC	Trading partner	Consignee	<p><u>Data source</u>: name of the supplier of the product being transported by the event owner</p> <p><u>Capture method</u>: entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment</u>: prior to transport event.</p> <p><u>Who</u>: data entry by owner, manager, or designee.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Trading partner sex	Sex	<p><u>Data source:</u> name of the supplier of the product being transported by the event owner</p> <p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to transport event.</p> <p><u>Who:</u> data entry by owner, manager, or designee.</p>	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
I	Financing	Loan agreement	<p><u>Data source:</u> Loan agreement between company and crewmember (if applicable); scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned payment documentation.</p> <p><u>Entry moment:</u> prior to fishing trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	
IC	Living conditions	Inspection Form/Checklist	<p><u>Data source:</u> Completed living quarters inspection form/checklist; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> prior to fishing trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	
IC	Recreation	Recreation Form/Checklist	<p><u>Data source:</u> Completed recreation opportunity inspection form/checklist; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> prior to fishing trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	
I	Rights	Fair Labor Agreement	<p><u>Data source:</u> Completed and signed (company and each crewmember) fair labor agreement meeting international standards; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> prior to fishing trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	
I	Safety	Safety Inspection Form	<p><u>Data source:</u> Completed crew safety inspection form; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> prior to fishing trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
IC	Sustenance	Provisions Form/Checklist	<p><u>Data source:</u> Completed crew provisions/dietary sustenance form; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> prior to fishing trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	
I	Working hours	Timesheet	<p><u>Data source:</u> Completed crew timesheets; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> during fishing trip (daily); uploaded upon return</p> <p><u>Who:</u> data entry by each crewmember.</p>	Data will be entered via mobile device (laptop, tablet, or mobile); submitted electronically via cell or WiFi and pushed to the application server; including uploaded photos of relevant documents and supporting information



## A2.4 Application of Human Welfare KDEs: Receivers at Sea

Table 23 presents a summary how the HW KDEs are to be captured (measurement) and submitted (documentation) by **at-sea receivers (transshipment)** of landed seafood products under the USAID Oceans electronic CDTs. Key for KDE requirements (“REQ”): “RC” = required data capture for commercial/international fishery supply chains; “I” = ideal data capture for both commercial/international and small-scale fishery supply chains; and “IC” = ideal data capture for commercial/international fishery supply chains.

*Table 23: Proposed human welfare data requirements for traceable receivers at sea*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Captain name	Name	<p><u>Data source:</u> tied to the captain ID (personal ID card; captain’s or fishing license)</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	Data will be sent electronically by data collection devices (laptop or mobiles) and pushed application server.
RC	Captain sex	Sex	<p><u>Data source:</u> tied to the captain ID (personal ID card; captain’s or fishing license)</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Captain ID	Personal Identification	<p><u>Data source:</u> personal identification card/documents of captain. Examples: captain’s license; passport; birth certificate.</p> <p><u>Commercial capture method:</u> entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Captain nationality	Nationality	<p><u>Data source:</u> captain’s passport or birth certificate; tied to captain ID</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker name	Name	<p><u>Data source:</u> tied to crewmember/worker ID (personal ID card/documents)</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip.</p> <p><u>Who:</u> data entry by captain, company owner (or designee), or crewmember.</p>	
RC	Crew/Worker sex	Sex	<p><u>Data source:</u> tied to crewmember/worker ID (personal ID card/documents)</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip.</p> <p><u>Who:</u> data entry by captain, company owner (or designee) or crew member.</p>	
RC	Crew/Worker ID	Personal Identification	<p><u>Data source:</u> personal identification card or documents of crewmember/worker. Examples: birth certificate; passport; driver's license or other personal identification card.</p> <p><u>Commercial capture method:</u> entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker job/title	Job/Position	<p><u>Data source:</u> labor contract of crewmember/worker</p> <p><u>Commercial capture method:</u> entry via drop-down menu or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker nationality	Nationality	<p><u>Data source:</u> crewmember/worker birth certificate or passport; tied to crewmember/worker ID</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip; following verification of nationality via personal identification card/documents.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker DOB	Date of Birth	<p><u>Data source:</u> tied to crewmember/worker ID</p> <p><u>Commercial capture method:</u> entry via date picker within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of transshipment trip; following verification of nationality via personal identification card/documents.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by captain or fisher designee.	
IC	Contract ID	Employment Contract	<u>Data source</u> : Company submission as scanned contract document (PDF or other image file); for each crewmember/worker. <u>Capture method</u> : entry via uploading of scanned document. <u>Entry moment</u> : prior to start of transshipment trip. <u>Who</u> : data entry by company, captain, or designee.	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
IC	Crew/Worker payment	Wages	<u>Data source</u> : Paystubs, ledgers, or signed (receiver) log of wages paid to each crew/worker. <u>Capture method</u> : entry via keypad plus uploading of scanned payment documentation. <u>Entry moment</u> : following transshipment trip. <u>Who</u> : data entry by company, captain, or designee.	
R	Owner name	Name of company owner (or designated person)	<u>Data source</u> : tied to the transportation company owner ID (business license; personal ID card) <u>Capture method</u> : pre-populated within the electronic CDT application (software). <u>Entry moment</u> : prior to transport event. <u>Who</u> : data entry by owner, manager, or designee.	
R	Owner sex	Sex	<u>Data source</u> : tied to the transportation company owner ID (business license; personal ID card). <u>Capture method</u> : pre-populated within the electronic CDT application (software). <u>Entry moment</u> : prior to transport event. <u>Who</u> : data entry by owner, manager or designee.	
RC	Trading partner	Consignee	<u>Data source</u> : name of the supplier of the supplier of the product being transported by the event owner <u>Capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to transport event. <u>Who</u> : data entry by owner, manager, or designee.	
RC	Trading partner sex	Sex	<u>Data source</u> : name of the supplier of the supplier of the product being transported by the event owner	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to transport event.</p> <p><u>Who:</u> data entry by owner, manager, or designee.</p>	
I	Financing	Loan agreement	<p><u>Data source:</u> Loan agreement between company and crew member (if applicable); scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned payment documentation.</p> <p><u>Entry moment:</u> prior to transshipment trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	
IC	Living conditions	Inspection Form/Checklist	<p><u>Data source:</u> Completed living quarters inspection form/checklist; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> prior to transshipment trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	
IC	Recreation	Recreation Form/Checklist	<p><u>Data source:</u> Completed recreation opportunity inspection form/checklist; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> prior to transshipment trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	
I	Rights	Fair Labor Agreement	<p><u>Data source:</u> Completed and signed (company and each crew member) fair labor agreement meeting international standards; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> prior to transshipment trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	
I	Safety	Safety Inspection Form	<p><u>Data source:</u> Completed crew safety inspection form; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> prior to transshipment trip.</p> <p><u>Who:</u> data entry by company or designee.</p>	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
IC	Sustenance	Provisions Form/Checklist	<p><u>Data source:</u> Completed crew provisions/dietary sustenance form; scanned as a PDF or other image file.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Capture method</u>: entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment</u>: prior to transshipment trip.</p> <p><u>Who</u>: data entry by company or designee.</p>	
I	Working hours	Timesheet	<p><u>Data source</u>: Completed crew timesheets; scanned as a PDF or other image file.</p> <p><u>Capture method</u>: entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment</u>: during transshipment trip (daily); uploaded upon return.</p> <p><u>Who</u>: data entry by each crew member.</p>	Data will be entered via mobile device (laptop, tablet, or mobile); submitted electronically via cell or WiFi and pushed to the application server; including uploaded photos of relevant documents and supporting information

## A2.5 Application of Human Welfare KDEs: Buyers/Receivers at Port

Table 24 presents a summary how the HW KDEs are to be captured (measurement) and submitted (documentation) by **buyers/receivers (at port)** of landed seafood products under the USAID Oceans electronic CDTs. Key for KDE requirements (“REQ”): “R” = required data capture for both commercial/international and small-scale fishery supply chains; “RC” = required data capture for commercial/international fishery supply chains; “I” = ideal data capture for both commercial/international and small-scale fishery supply chains; and “IC” = ideal data capture for commercial/international fishery supply chains.

*Table 24: Proposed human welfare data requirements for traceable buyers and receivers at port*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
R	Captain name	Name	<p><u>Data source:</u> tied to the captain ID (personal ID card; captain’s or fishing license) from the vessel providing the catch.</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> verified prior to purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	<p>Data will be entered via mobile device (laptop, tablet, or mobile); submitted electronically via cell or WiFi and pushed to the application server; including uploaded photos of relevant documents and supporting information.</p>
R	Captain sex	Sex	<p><u>Data source:</u> tied to the captain ID (personal ID card; captain’s or fishing license) from the vessel providing the catch.</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> verified prior to purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
RC	Captain ID	Personal Identification	<p><u>Data source:</u> personal identification card number of captain of the vessel providing the catch.</p> <p><u>Commercial capture method:</u> entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> verified prior to purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
RC	Captain nationality	Nationality	<p><u>Data source:</u> passport or birth certificate of the captain of the vessel providing the catch; tied to captain ID.</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> verified prior to purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
RC	Crew/Worker name	Name	<p><u>Data source:</u> tied to crewmember/worker ID (personal ID card/documents)</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> verified prior to purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
RC	Crew/Worker sex	Sex	<p><u>Data source:</u> tied to crewmember/worker ID (personal ID card/documents)</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> verified prior to purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
RC	Crew/Worker ID	Personal Identification	<p><u>Data source:</u> personal identification card or documents of crewmember/worker. Examples: birth certificate; passport; driver's license or other personal identification card.</p> <p><u>Commercial capture method:</u> entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> verified prior to purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
RC	Crew/Worker job/title	Job/Position	<p><u>Data source:</u> labor contract of crewmember/worker</p> <p><u>Commercial capture method:</u> entry via drop-down menu or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> verified prior to purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
RC	Crew/Worker nationality	Nationality	<p><u>Data source:</u> crewmember/worker birth certificate or passport; tied to crewmember/worker ID</p> <p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to purchase event; following verification of nationality via personal identification card/documents.</p> <p><u>Who:</u> data entry by company owner (or designee) or captain.</p>	
RC	Crew/Worker DOB	Date of Birth	<p><u>Data source:</u> tied to crewmember/worker ID</p> <p><u>Commercial capture method:</u> entry via date picker within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to purchase event; following verification of nationality via personal identification card/documents.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by captain or fisher designee.	
IC	Contract ID	Employment Contract	<u>Data source</u> : Company submission as scanned contract document (PDF or other image file); for each crewmember/worker. <u>Capture method</u> : entry via uploading of scanned document. <u>Entry moment</u> : verified prior to purchase event. <u>Who</u> : verification by buyer (or designee).	
IC	Crew/Worker payment	Wages	<u>Data source</u> : Paystubs, ledgers, or signed (receiver) log of wages paid to each crew/worker. <u>Capture method</u> : entry via keypad plus uploading of scanned payment documentation. <u>Entry moment</u> : verified prior to purchase event. <u>Who</u> : verification by buyer (or designee).	
R	Owner name	Name of company owner (or designated person)	<u>Data source</u> : tied to the transportation company owner ID (business license; personal ID card) <u>Capture method</u> : pre-populated within the electronic CDT application (software). <u>Entry moment</u> : prior to transport event. <u>Who</u> : data entry by owner, manager, or designee.	
R	Owner sex	Sex	<u>Data source</u> : tied to the transportation company owner ID (business license; personal ID card). <u>Capture method</u> : pre-populated within the electronic CDT application (software). <u>Entry moment</u> : prior to transport event. <u>Who</u> : data entry by owner, manager or designee.	
RC	Trading partner	Consignee	<u>Data source</u> : name of the supplier of the supplier of the product being transported by the event owner <u>Capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to transport event. <u>Who</u> : data entry by owner, manager, or designee.	
RC	Trading partner sex	Sex	<u>Data source</u> : name of the supplier of the supplier of the product being transported by the event owner	



REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to transport event.</p> <p><u>Who:</u> data entry by owner, manager, or designee.</p>	
I	Financing	Loan agreement	<p><u>Data source:</u> Loan agreement between company and crew member (if applicable); scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned payment documentation.</p> <p><u>Entry moment:</u> verified prior to purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	Data will be entered via mobile device (laptop, tablet, or mobile); submitted electronically via cell or WiFi and pushed to the application server; including uploaded photos of relevant documents and supporting information.
IC	Living conditions	Inspection Form/Checklist	<p><u>Data source:</u> Completed living quarters inspection form/checklist; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> verified during purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
IC	Recreation	Recreation Form/Checklist	<p><u>Data source:</u> Completed recreation opportunity inspection form/checklist; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> verified during purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
I	Rights	Fair Labor Agreement	<p><u>Data source:</u> Completed and signed (company and each crew member) fair labor agreement meeting international standards; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> verified during purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
I	Safety	Safety Inspection Form	<p><u>Data source:</u> Completed crew safety inspection form; scanned as a PDF or other image file.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned files.</p> <p><u>Entry moment:</u> verified during purchase event.</p> <p><u>Who:</u> verification by buyer (or designee).</p>	
IC	Sustenance	Provisions Form/Checklist	<p><u>Data source:</u> Completed crew provisions/dietary sustenance form; scanned as a PDF or other image file.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Capture method</u> : entry via keypad plus uploading of scanned files. <u>Entry moment</u> : verified during purchase event. <u>Who</u> : verification by buyer (or designee).	
I	Working hours	Timesheet	<u>Data source</u> : Completed crew timesheets; scanned as a PDF or other image file. <u>Capture method</u> : entry via keypad plus uploading of scanned files. <u>Entry moment</u> : verified during purchase event. <u>Who</u> : verification by buyer (or designee).	

## A2.6 Application of Human Welfare KDEs: Processors

Table 25 presents a summary how the HW KDEs are to be captured (measurement) and submitted (documentation) by primary and secondary **processors** (including at-sea) of seafood products under the USAID Oceans electronic CDTs. Key for KDE requirements (“REQ”): “RC” = required data capture for commercial/international fishery supply chains; “I” = ideal data capture for both commercial/international and small-scale fishery supply chains; “IC” = ideal data capture for commercial/international fishery supply chains.

*Table 25: Proposed human welfare data requirements for traceable seafood processors.*

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
RC	Crew/Worker name	Name	<p><u>Data source:</u> tied to laborer’s ID (personal ID card/documents)</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
RC	Crew/Worker sex	Sex	<p><u>Data source:</u> tied to laborer’s ID (personal ID card/documents)</p> <p><u>Commercial capture method:</u> entry via keypad or drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor.</p> <p><u>Who:</u> data entry by company owner, supervisor or designee.</p>	
RC	Crew/Worker ID	Personal Identification	<p><u>Data source:</u> personal identification card or documents of worker/ laborer. Examples: birth certificate; passport; driver’s license or other personal identification card.</p> <p><u>Commercial capture method:</u> entry via keypad or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
RC	Crew/Worker job/title	Job/Position	<p><u>Data source:</u> labor contract of worker/laborer</p> <p><u>Commercial capture method:</u> entry via drop-down menu or pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
RC	Crew/Worker nationality	Nationality	<p><u>Data source:</u> laborer’s birth certificate or passport; tied to worker/laborer (crew) ID</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Commercial capture method:</u> entry via drop-down menu within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor; following verification of nationality via personal identification card/documents.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
RC	Crew/Worker DOB	Date of Birth	<p><u>Data source:</u> tied to worker/laborer ID</p> <p><u>Commercial capture method:</u> entry via date picker within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to start of labor; following verification of nationality via personal identification card/documents.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
IC	Contract ID	Employment Contract	<p><u>Data source:</u> Company submission as scanned contract document (PDF or other image file); for each laborer/processor.</p> <p><u>Capture method:</u> entry via uploading of scanned document.</p> <p><u>Entry moment:</u> prior to start of labor.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
IC	Crew/Worker payment	Wages	<p><u>Data source:</u> Paystubs, ledgers, or signed (receiver) log of wages paid to crew; for each laborer/processor.</p> <p><u>Capture method:</u> entry via keypad plus uploading of scanned payment documentation.</p> <p><u>Entry moment:</u> prior to start of labor.</p> <p><u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
R	Owner name	Name of company owner (or designated person)	<p><u>Data source:</u> tied to the transportation company owner ID (business license; personal ID card)</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to transport event.</p> <p><u>Who:</u> data entry by owner, manager, or designee.</p>	
R	Owner sex	Sex	<p><u>Data source:</u> tied to the transportation company owner ID (business license; personal ID card).</p> <p><u>Capture method:</u> pre-populated within the electronic CDT application (software).</p> <p><u>Entry moment:</u> prior to transport event.</p>	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<u>Who</u> : data entry by owner, manager or designee.	
RC	Trading partner	Consignee	<u>Data source</u> : name of the supplier of the supplier of the product being transported by the event owner <u>Capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to transport event. <u>Who</u> : data entry by owner, manager, or designee.	
RC	Trading partner sex	Sex	<u>Data source</u> : name of the supplier of the supplier of the product being transported by the event owner <u>Capture method</u> : entry via keypad or drop-down menu within the electronic CDT application (software). <u>Entry moment</u> : prior to transport event. <u>Who</u> : data entry by owner, manager, or designee.	
I	Financing	Loan agreement	<u>Data source</u> : Loan agreement between company and any laborer/processor (if applicable); scanned as a PDF or other image file. <u>Capture method</u> : entry via keypad plus uploading of scanned payment documentation. <u>Entry moment</u> : prior to start of labor. <u>Who</u> : data entry by company owner, supervisor, or designee.	
IC	Living conditions	Inspection Form/Checklist	<u>Data source</u> : Completed living accommodations (if provided by company) inspection form/checklist; scanned as a PDF or other image file. <u>Capture method</u> : entry via keypad plus uploading of scanned files. <u>Entry moment</u> : prior to start of labor. <u>Who</u> : data entry by company owner, supervisor, or designee.	
IC	Recreation	Recreation Form/Checklist	<u>Data source</u> : Completed recreation opportunity inspection form/checklist; scanned as a PDF or other image file. <u>Capture method</u> : entry via keypad plus uploading of scanned files. <u>Entry moment</u> : prior to start of labor. <u>Who</u> : data entry by company owner, supervisor, or designee.	Office-based online entry or e-mail via event owner (company); may include uploading of scanned PDFs and other image files; data are pushed to data exchange server.
I	Rights	Fair Labor Agreement	<u>Data source</u> : Completed and signed (company and each laborer/processor) fair labor agreement meeting international standards; scanned as a PDF or other image file. <u>Capture method</u> : entry via keypad plus uploading of scanned files.	

REQ	KDE	Data Label	How captured (measurement)	How submitted (documentation)
			<p><u>Entry moment:</u> prior to start of labor.  <u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
I	Safety	Safety Inspection Form	<p><u>Data source:</u> Completed processing facility safety inspection form; scanned as a PDF or other image file.  <u>Capture method:</u> entry via keypad plus uploading of scanned files.  <u>Entry moment:</u> prior to start of labor.  <u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
IC	Sustenance	Provisions Form/Checklist	<p><u>Data source:</u> Completed laborer/processor provisions/dietary sustenance form (if applicable); scanned as a PDF or other image file.  <u>Capture method:</u> entry via keypad plus uploading of scanned files.  <u>Entry moment:</u> prior to start of labor.  <u>Who:</u> data entry by company owner, supervisor, or designee.</p>	
I	Working hours	Timesheet	<p><u>Data source:</u> Completed laborer/processor timesheets; scanned as a PDF or other image file.  <u>Capture method:</u> entry via keypad plus uploading of scanned files.  <u>Entry moment:</u> daily  <u>Who:</u> data entry by each laborer/processor.</p>	

## ACKNOWLEDGEMENTS

---

This document was prepared by the USAID Oceans project team. However, the current version reflects a true partnership effort, as it is inclusive of technical inputs made by a number of expert peer reviewers and technical review partners, and informed through consultations with non-governmental and governmental stakeholder partners.

USAID Oceans would like to thank the USAID Oceans Technical Advisory Group for contributing to the development of this draft document, including (in alphabetical order): Adam Baske and Martin Purves (the International Pole and Line Foundation); Tejas Bhatt (the Global Food Traceability Center); Mariah Boyle and Alanna Gisondo (FishWise); Jeremy Crawford and Lawnin Crawford (Thai Union); Keith Flett and Charles Steinback (Future of Fish); Corinee Green and Brad Soule (Catapult); Paul Holthus (World Ocean Council); Momo Kochen (MDPI); Josh Madeira and Wendy Norden (Monterey Bay Aquarium Seafood Watch); William Murray and David Schorr (WWF); Titia Sjenitzer (Marine Stewardship Council); and Claire van der Geest (International Seafood Sustainability Foundation).

The terms and definitions reflected within the glossaries of this guide were adapted primarily from the following nine sources: Bhatt *et al.* (2016); Future of Fish (2016); GFTC (2015); GFTC (2016); GSI (2014); GSI (2015); McEntire *et al.* (2010); Olsen and Borit (2013); and Zhang and Bhatt (2014).

## REFERENCES

---

- Bhatt T, Hickey C, McEntire JC. (2013). Pilot projects for improving product tracing along the food supply system. *Journal of Food Science*. Vol. 78(S2): B34–39.
- Bhatt, T., G. Buckley, J. C. McEntire, P. Lothian, B. Sterling, and C. Hickley (2013). “Making Traceability Work across the Entire Food Supply Chain.” *Journal of Food Science*. Vol. 78(S2): B21-27.
- Bhatt, T. C. Cusack, B. Dent, M. Gooch, D. Jones, R. Newsome, J. Stitzinger, G. Sylvia, and J. Zhang (2016). “Project to Develop an Interoperable Seafood Traceability Technology Architecture: Issues Brief.” *Comprehensive Reviews in Food Science and Food Safety*. Vol. 00: 1 – 28.
- Borit M, Olsen P. 2012. “Evaluation framework for regulatory requirements related to data recording and traceability designed to prevent illegal, unreported and unregulated fishing.” *Marine Policy* 36(1): 96-102.
- Borit, M. and P. Olsen (2016). “Seafood Traceability Systems: Gap Analysis of Inconsistencies in Standards and Norms.” *FAO Fisheries and Aquaculture Circular No. 1123*. Food and Agricultural Organization of the United Nations (FAO). Rome, Italy. 28 pages.
- Boyle, M. (2012). “Without a Trace: a Summary of Traceability Efforts in the Seafood Industry.” FishWise. Santa Cruz, CA. 23 pp.
- FAO (2014). *The State of World Fisheries and Aquaculture*. The Food and Agricultural Organization of the United Nations (FAO). Rome, Italy. Accessed online at: <http://www.fao.org/3/a-i3720e.pdf>
- FishWise (2015). “Pre-Conference Workshop: Exploring the Elements of Effective Seafood Traceability, Including Key Data Elements”. Unpublished proceedings from a Pre-meeting at the SeaWeb Seafood Summit. FishWise. Santa Cruz, CA. 26 pp.
- FishWise (2017). “Advancing Traceability in the Seafood Industry: Assessing Challenges and Opportunities.” FishWise. Santa Cruz, CA. 72 pp.
- Future of Fish (2016) “Seafood Traceability Glossary: a Guide to Terms, Technologies, and Topics.” Future of Fish, FishWise, and Global Food Traceability Center. 18 pp.
- GFTC (2015). Concept for an interoperable architecture for seafood traceability. Global Food Traceability Center.
- GSI (2014). “Seafood Traceability Proof of Concept Project Overview.” Release 1.1. GSI. Lawrenceville, NJ. USA. 20 pp.
- GSI (2015). “GSI Foundation for Fish, Seafood and Aquaculture Traceability Implementation Guideline”. Release 1.0. GSI. Lawrenceville, NJ. USA. 46 pp.
- Holland, Jason (2015). “Rabobank: Seafood is world’s most widely traded animal protein”. Seafood Source. Published 18 March 2015. Accessed online at: <http://www.seafoodsource.com/news/supply-trade/27854-rabobank-seafood-is-world-s-most-widely-traded-animal-protein>
- Hosch, Gilles (2016a). “Design Options for the Development of Tuna Catch Documentation Schemes.” *FAO Fisheries and Aquaculture Technical Paper 596*. Food and Agricultural Organization of the United Nations (FAO). Rome, Italy. 144 pages
- Hosch, Gilles (2016b). “Trade Measures to Combat IUU Fishing: Comparative Analysis of Unilateral and Multilateral Approaches. International Centre for Trade and Sustainable Development (ICTSD) Issue Paper . ICTSD, Geneva, Switzerland. 71 pp.
- McEntire et al. (2010). “Traceability (Product Tracing) in Food Systems: an IFT Report Submitted to the FDA, Volume I: Technical Aspects and Recommendations.” *Comprehensive Reviews in Food Science and Food Safety*. Vol. 9: 92-158.
- McEntire, J. and T. Bhatt (2012). “Pilot Projects for Improving Product Tracing along the Food Supply System: Final Report.” Institute for Food Technologists. Chicago, IL.
- NFI (2011). NFI Seafood Traceability Initiative. National Fisheries Institute (NFI) NFI Seafood Traceability Initiative



- NOAA (2015). "Illegal, Unreported and Unregulated (IUU) Fishing". United States National Oceanic and Atmospheric Administration (NOAA). Accessed online at: [http://www.nmfs.noaa.gov/ia/iuu/iuu\\_overview.html](http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html)
- Oceana 2013. *Oceana Study Reveals Seafood Fraud Nationwide*. Oceana. Washington, D.C. Accessed online at: [http://usa.oceana.org/sites/default/files/reports/National\\_Seafood\\_Fraud\\_Testing\\_Results\\_FINAL.pdf](http://usa.oceana.org/sites/default/files/reports/National_Seafood_Fraud_Testing_Results_FINAL.pdf)
- Olsen, P. and M. Borit (2013). "How to define traceability." *Trends in Food Science and Technology*, Vol. 29(2): 142–150.
- Petersen, A. and D. Green (2014). "Seafood Traceability: A practical guide for the US industry." North Carolina Sea Grant. North Carolina State University Press. Raleigh, North Carolina. 29 pp.
- Pramod, Ganapathiraju, Katrina Nakamura, Tony J. Pitcher, and Leslie Delagran 2014. "Estimates of illegal and unreported fish in seafood imports to the USA." *Marine Policy* 48: 102-113. <http://dx.doi.org/10.1016/j.marpol.2014.03.019>.
- Sterling, B., M. Gooch, B. Dent, N. Marenick, A. Miller, and G. Sylvia (2015). "Assessing the Value and Role of Seafood Traceability from an Entire Value-Chain Perspective." *Comprehensive Reviews in Food Science and Food Safety*. Vol. 00: 1 – 64
- USAID Oceans (2016). *Fisheries Catch Documentation and Traceability in Southeast Asia: Technical Concept and Specifications*. The United States Agency for International Development Oceans and Fisheries Partnership (USAID Oceans) Program Document Number CDT-2016-02. Tetra Tech ARD, Bangkok, Thailand. 78 pages.
- Zhang J. and T. Bhatt (2014). "A guidance document on the best practices in food traceability." *Comprehensive Reviews in Food Science and Food Safety* 13(5):1074–1103.
- Zhang, J. and T. Bhatt (2015). "Best Practices in Food Traceability." Institute of Food Technologists (IFT).