

2.1. KDEs and CTEs for Wild Caught Seafood

Table W1 is a summary list of KDEs for wild-caught products, grouped into different types of data and correlated with the Critical Tracking Events (CTEs) at which each KDE must be captured. If a KDE does not have an 'X' under a particular CTE, then it does not make sense, or it is not necessary, for that KDE to be captured at that CTE.

Table W1a – BUL-KDEs(wild) Mapped to Critical Tracking Events (CTEs)

Basic Universal List of Key Data Elements (Wild-capture Products)	CTEs						
	Catch	On Vessel Processing	Transshipment	Landing	Aggregation/ Disaggregation	Ship/Receive	Processing
VESEL DATA (master level data)							
Vessel Name	X	X					
Vessel Registration	X	X					
Unique Vessel Identification	X	X					
Public Vessel Registry Hyperlink	X	X					
Vessel Flag	X	X					
Availability of Catch Coordinates	X						
Satellite Vessel Tracking Authority	X						
Transshipment Vessel Name			X				
Transshipment Vessel Unique Vessel ID			X				
Transshipment Vessel Registration			X				
Transshipment Vessel Flag			X				
CATCH DATA							
Catch Area	X						
Fishery Improvement Project	X						
Vessel Trip Dates	X						
Date(s) of Capture	X						
Gear Type	X						
Production Method	X						
TRANSSHIPMENT DATA							
Transshipment Location			X				
Dates of Transshipment			X				
(LANDING DATA							
Landing Location				X			
Dates of Landing				X			
PROCESSING DATA							
Expiry / Production date		X					X
Product Origin		X					X

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Basic Universal List of Key Data Elements (Wild-capture Products)	CTEs						
	Catch	On Vessel Processing	Transshipment	Landing	Aggregation/ Disaggregation	Ship/Receive	Processing
CERTIFICATIONS AND LICENSES							
Fishing Authorization	X						
Harvest Certification	X						
Harvest Certification Chain of Custody		X	X		X	X	X
Transshipment Authorization			X				
Landing Authorization				X			
Existence of Human Welfare Policy	X	X	X	X			X
Human Welfare Policy Standards	X	X	X	X			
TRACEABLE OBJECT INFORMATION							
Species	X	X	X	X	X	X	X
Product Form	X	X	X	X	X	X	X
Item / SKU / UPC / GTIN	X	X	X	X	X	X	X
Linking KDE (batch, lot or serial number)	X	X	X	X	X	X	X
Weight or Quantity	X	X	X	X	X	X	X
Unit of Measure	X	X	X	X	X	X	X

Table W1b – EPCIS Technical Data for Event Identification³

TECHNICAL DATA							
Event ID	X	X	X	X	X	X	X
Event Date, Time & Time Zone	X	X	X	X	X	X	X
Event Read Point (Geo Location)	X	X	X	X	X	X	X
Product Ownership	X	X	X	X	X	X	X
Information Provider	X	X	X	X	X	X	X

TECHNICAL NOTES:

- (i) The CTEs across the top of these tables are in an order roughly consistent with events in a typical supply chain, but may vary from supply chain to supply chain.
- (ii) Traceability regulatory requirements may require or benefit from additional KDEs or EPCIS event information tagged to specific CTEs. For example, SIMP requires the identity of the party first receiving product after harvest—information not specifically included in the GDST Basic Universal List of KDEs (although reproduceable through trace-backs). In such cases (as with other extensions to GDST KDE/CTEs that may be needed for specific applications), GDST standards can be augmented to include the

³ Table W1b contains additional data types that are components of EPCIS data files required for recording EPCIS events. These are required by GDST in addition to the KDEs mandated by the GDST Basic Universal List but are not considered part of the BUL for purposes of full-chain data sharing.

additional data needed. This approach can also be used to refine GDST to facilitate interactions with certification regimes. The GDST GitHub already includes recommended extensions specifically to facilitate SIMP compliance. In the future, utilizing GitHub’s issue ticket system, users may request and discuss additional KDE/CTE extensions. For more information, see Appendix 2 of the *Technical Implementation Guidance*, which includes a “disposition extension” recommended to cover the “product first entering commerce” event attribute.

Tables W2a-W2h, below, provide verbal definitions of the KDEs to give them meaning for a business context. Additionally, cross-references are provided between GDST KDEs and GS1 Core Business Vocabulary⁴ attributes to inform proper data formatting. These components are also listed in the Basic Universal List in the Annex, but are presented here in simplified format. NOTE: These tables do not include all components of the KDEs listed in the Basic Universal List. Readers should refer to the tables in the Annex for other important components such as “Authoritative Data Source”.

Table W2a – Vessel Data (master level)

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Vessel Name	Text	Verbal moniker of a fishing vessel for identifying it visually and on vessel registries.	vesselName	CBV Seafood Attributes
Vessel Registration	Text	Standardized number or identifier for distinguishing vessels registered under the same flag nation.	vesselID	CBV Seafood Attributes
Unique Vessel Identification	Number	Identifier associated with a vessel for the duration of its existence that cannot be re-used by any other vessel with a permanent physical marking on the craft.	imoNumber	GDST Extension International Maritime Organization
Public Vessel Registry Hyperlink	URL	Website address where the public registry containing the listing of the fishing vessel.	vesselPublicRegistry	GDST Extension

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⁴ <https://www.gs1.org/standards/epcis>



Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Vessel Flag	Code	Nation with supervision over safety, fishing operations, and catch reporting.	vesselFlagState	ISO 3166
Availability of Catch Coordinates	Text	Indicator whether GPS coordinates were collected and are available	gpsAvailability	GDST Extension
Vessel Satellite Tracking Authority	Text	Indicator of Satellite Vessel Tracking. Authority responsible for the satellite tracking or verification.	satelliteTracking	GDST Extension
Transshipment Vessel Name	Text	Verbal moniker of a transshipment vessel for identifying it visually and on vessel registries.	vesselName	CBV Seafood Attributes
Transshipment Vessel Unique Vessel Identification	Number	Identifier associated with a vessel for the duration of its existence that cannot be re-used by any other vessel with a permanent physical marking on the craft.	imoNumber	GDST Extension International Maritime Organization
Transshipment Vessel Flag	Code	Nation with supervision over safety, transshipment operations, and catch transfer reporting.	vesselFlagState	ISO 3166
Transshipment Vessel Registration	Text	Standardized number or identifier for distinguishing vessels registered under the same flag nation.	vesselID	CBV Seafood Attributes

Table W2b – Catch Data (event level)

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Catch Area	Code	Location(s) where capture of seafood occurred. ⁵	catchArea (repeating)	FAO Catch Area
			economicZone (repeating)	EEZ
			rfmoArea	GDST Extension FAO Fisheries
			subnationalPermit Area	GDST Extension
Fishery Improvement Project	Text	Publicly-listed name of fishery improvement project which the harvest event is subject to.	fisheryImprovementProject	GDST Extension Fishery Progress
Vessel Trip Dates	Date	Calendar start and end dates of a fishing vessel's voyage between the last point the fishing hold was empty and seafood is discharged.	harvestStartDate + harvestEndDate	YYYY-MM-DD CBV Info
Date(s) of Capture	Date	Calendar date(s) when seafood was extracted for capture, irrespective of the fishing vessel's voyage at sea.	harvestStartDate + harvestEndDate	YYYY-MM-DD CBV Info
Gear Type	Code	Equipment used to extract seafood from water for capture.	fishingGearType Code	CBV Info Alternative Link
Production Method	Code	Categorization, on the spectrum of wild-capture to captive-culture, of the general seafood harvest method.	productionMethod ForFishAndSeafoodCode	GDD Code List

⁵ List CBV attributes as applicable. At least catchArea required.



Table W2c – Transshipment Data (event level)

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Transshipment Location	Location	Geographic rendezvous where seafood is discharged from a fishing vessel to a transshipment vessel.	In-Port: unloadingPort	CBV Info
			At-Sea: Geo Coordinates	CBV Info
Dates of Transshipment	Date	Calendar start and end dates of a rendezvous to discharge seafood from a fishing vessel to transshipment vessel.	transshipStartDate + transshipEndDate	YYYY-MM-DD GDST Extension

Table W2d – Landing Data (event level)

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Landing Location	Location	Where seafood was first discharged to land.	In-port: unloadingPort	CBV Info
			Non-port: Geo Coordinates	CBV Info
Dates of Landing	Date	Calendar start and end dates when seafood is discharged to a landing location.	landingStartDate + landingEndDate	YYYY-MM-DD GDST Extension

Table W2e – Processing Data (event level)

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Expiry / Production date	Date	Calendar date associated with a particular instance of a product seafood indicating the key date in its life cycle.	itemExpirationDate	YYYY-MM-DD CBV Info
Product Origin	Code	Country where seafood underwent the last substantial transformation.	countryOfOrigin (repeating)	CBV Info

Table W2f – Certifications and Licenses (event level)

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Fishing Authorization	Mixed	Unique number associated with a regulatory document, from the relevant authority, granting permission for wild-capture of seafood by a fisher or fishing vessel.	cbvmda:certificationList ⁶	CBV Seafood Attributes
Harvest Certification	Mixed	Name of harvest standards body which a particular harvest seafood is subject to and the unique identifier associated with the certified entity.	certification	
Harvest Certification Chain of Custody	Mixed	Name of chain of custody standards body which particular harvest seafood is subject to and the unique identifier associated with the certified entity.	certificationStandard certificationAgency	
Transshipment Authorization	Mixed	Unique number associated with a regulatory document, from the relevant authority, granting permission for discharge of wild-capture of seafood from a fishing vessel to a transshipment vessel.	certificationValue certificationIdentification	
Landing Authorization	Mixed	Unique number associated with a regulatory document, from the relevant authority, granting permission for discharge of wild-capture of seafood to land by a fisher, fishing vessel or transshipment vessel.	gdst:certificationType /certification /cbvmda:certificationList Or bizTransactionList	

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⁶ To accommodate a variety of certificate and licensing identification schemas, use the above attributes in combination to name at minimum the issuing body and associated certificate identifier. There may only be an Agency and Identification or there may also be a certifying body or auditor (certificateAgency).



Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Human Welfare Policy Standards	Text	Name of internationally recognized standards to which policy on a vessel/trip claims conformity		
Existence of Human Welfare Policy	Text	Indicator of human welfare policies in place on a vessel/trip, answering the question "What kind of human welfare, labor, or anti-slavery policy was in place on this vessel/trip?" If internal policy subject to 3rd party audit, select '3P Audit'.	humanWelfarePolicy	GDST Extension

Table W2g – Traceable Object Information (event level)

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Species	Code	Scientific (latin) name of the seafood.	speciesForFisheryStatistics PurposesCode	FAO Species Code
Product Form	Code	Commercial short-hand reference of the degree of transformation of seafood from its original living form.	tradeItemConditionCode	GS1 Code List
Item / SKU / UPC / GTIN	ID	Identifier of seafood material to distinguish it within a particular facility, company, or globally.	Catch, Ship, Receive, Landing (Object): epcList quantityList EPCClass, Qty, UOM Process (Transform): inputEpcList, inputQuantityList outputEpcList outputQuantityList	EPCIS What Dimension

Table W2g continues on next page →



Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Linking KDE (batch, lot or serial number)	Lot or Serial #	Identifier associated with physical product marking a particular instance of seafood material such as a batch/lot number, serial number, or container number.	Pack/Unpack (Aggregation): parentID epcList or quantityList ID Options: GS1 LGTIN GS1 SGTIN GS1 SSCC URL	
Weight or Quantity ⁸	Number	Numerically quantifiable amount of seafood with a standard Unit of Measure.	UUID geofencePolygon ⁷ GS1 Example	
Unit of Measure	Code	Standard for measurement of the product		

⁷ Maximum geofence dimensions up to 1 degree or 60 miles.

⁸ See definition. Not individual seafood units (e.g. number of fish), but quantity of standard unit of measure.

Table W2h – Additional Technical Data (event level)⁹

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Event ID	UUID	An identifier for this event as specified by the capturing application, globally unique across all events. The Core Business Vocabulary standard [CBV1.2] specifies the use of a UUID URI for this purpose.	eventID	UUID for Event IDs
Event Date, Time & Time Zone	Date Time Zone	The date and time at which the EPCIS Capturing Applications asserts the event occurred. The time zone offset in effect at the time and place the event occurred, expressed as an offset from UTC.	eventTime eventTimeZoneOffset	ISO-8601 Timestamp
Event Read Point (Geo Location)	Location	The geographic or business location at which the event took place.	readPoint “geo:{lat},{lon}” or GLN	Location CBV Info
Product Ownership	Party	The party who owns the object. For chain of custody during ownership transfer, capture source and destination owning parties.	productOwner Ship/Receive Events: sourceList, destinationList owning_party IDs: pglN, urn or url	GDST Extension Source, Destination Documentation

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⁹ Table W2h contains additional data types that are components of EPCIS data files required for recording EPCIS events. These are required by GDST in addition to the KDEs mandated by the GDST Basic Universal List but are not considered part of the BUL for purposes of full-chain data sharing.