



**Table Aq1a – Aquaculture KDEs Mapped to Critical Tracking Events (CTEs)**

Basic Universal List of Key Data Elements (Aquaculture Products)	CTE					
	Feedmill (Transform)	Hatchery (Hatch)	Farm (Harvest)	Processor (Process/Pack)	Aggregation/Disaggregation	Ship/Receive
<b>LOCATION MASTER DATA</b>						
Organization	X	X	X	X	X	X
Location name <sup>10</sup>	X	X	X	X	X	X
Location ID	X	X	X	X	X	X
Location Address or Geo-Coordinates	X	X	X	X	X	X
Location Country	X	X	X	X	X	X
<b>FEED DATA</b>						
Source of protein	X					
<b>HATCHERY DATA</b>						
Harvest date per tank		X				
Source of broodstock		X				
<b>FARM DATA</b>						
Farming method			X			
Date of Harvest			X			
<b>PROCESSOR DATA</b>						
Product Form				X		
Production date				X		
Product Origin				X		
<b>CERTIFICATIONS AND LICENSES</b>						
License <sup>11</sup>				X	X	
Certification	X	X	X	X		
Certification Chain of Custody	X	X	X	X		
Existence of Human Welfare Policy	X	X	X	X		
Human Welfare Policy Standards	X	X	X	X		
<b>TRACEABLE OBJECT INFORMATION</b>						
Species		X	X	X		
Item / SKU / UPC / GTIN	X	X	X	X	X	X
Linking KDE (batch, lot, serial number)	X	X	X	X	X	X
Weight / Quantity	X	X	X	X	X	X
Units of Measure	X	X	X	X	X	X

<sup>10</sup> Location Name includes BUL KDEs A06, A15, and A21.

<sup>11</sup> License includes BUL KDE A22 which may span Aggregator or Processor.

**Table Aq1b – EPCIS Technical Data for Event Identification<sup>12</sup>**

Basic Universal List of Key Data Elements (Aquaculture Products)	CTEs					
	Feedmill (Transform)	Hatchery (Hatch)	Farm (Harvest)	Processor (Process/Pack)	Aggregation/Disaggregation	Ship/Receive
<b>TECHNICAL</b>						
Event ID	X	X	X	X	X	X
Event Date, Time & Time Zone	X	X	X	X	X	X
Event Read Point (Geo Location)	X	X	X	X	X	X
Product Ownership	X	X	X	X	X	X
Information Provider	X	X	X	X	X	X

**Tables A2a-A2h**, 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 Vocabulary<sup>13</sup> 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 important 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 Aq2a – Location Data (master level)**

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Organization	ID and Text	Legal entity that owns mill, hatchery, farm or processor	Party Name and ID GS1 PGLN, URL or UUID	
Location Name	Text	Name of physical location of interest	Location Name	

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<sup>12</sup> Table Aq1b 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.

<sup>13</sup> <https://www.gs1.org/standards/epcis>

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Location ID	ID	ID of physical location of interest	Location ID GS1 GLN, URL or UUID	
Location Address or Geo-Coordinates	Mixed	Address or Geo Coordinates of location	streetAddressOne streetAddressTwo city, state, postalCode latitude, longitude	
Location Country	Code	Country code for location	countryCode	

**Table Aq2b**, starting on the next page, refers to KDEs related to feed inputs into aquaculture farms. The scope of the GDST’s mandate did not extend to traceability for non-fish sources of feed. However, to meet the GDST’s principal mandate of helping ensure the legality of seafood production, feed that originates with other seafood products should be treated identically to wild-caught seafood harvested for human consumption, and so must follow the requirements of traceability detailed in Section 2.1, above. The KDEs in Table Aq2b provide basic information about feed types, and are necessary to determine the type of feed entering aquaculture supply chains, and to identify those feed streams that must be subject to GDST standards for wild-caught products.



**Table Aq2b – Feed Data (event level)**

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Source of Protein <sup>14</sup>	Text	<ul style="list-style-type: none"> <li>- Wild caught fish (straight)</li> <li>- Wild caught fish byproduct</li> <li>- Insects</li> <li>- Soy</li> <li>- Other</li> </ul>	proteinSource	GDST Extension

**Table Aq2c – Hatchery Data (event level)**

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Harvest date per tank	Date	Date on which fingerlings were transferred to the grow out farm/pond	harvestStartDate + harvestEndDate	<a href="#">CBV Information</a>
Source of broodstock	Text	Broodstock from grow-out farms or taken from the wild. “Domestic” or “Wild Sources”	broodstockSource	GDST Extension

<sup>14</sup> If source of protein has wild-caught origins, traceability of the feed should follow the wild-caught normative requirements and input into the aquaculture traceability pedigree information.



**Table Aq2d – Farm Data (event level)**

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Farming Method	Code	A combination of type of culture, unit, level of intensity, culture species and scale or size of exploitation as defined by the FAO. “Extensive”, “Semi-Intensive”, “Intensive”	aquacultureMethod	GDST Extension  <a href="http://www.fao.org/docrep/t8598e/t8598e05.htm">http://www.fao.org/docrep/t8598e/t8598e05.htm</a>
Date of Harvest	Date	Calendar date on which the seafood was harvested from the farm/cultivation area	harvestStartDate + harvestEndDate	<a href="#">CBV Information</a>

**Table Aq2e – Processor Data (event level)**

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Product Form	Code	Commercial shorthand reference of the degree of transformation of seafood from its original living form.	tradeItemConditionCode	<a href="#">GS1 Code List</a>
Production Date	Date	Calendar date of last point of processing or packaging.	eventTime of TransformationEvent	<a href="#">EPCIS Transformation Event</a>
Product Country of Origin	Code	Country where seafood underwent the last substantial transformation.	countryOfOrigin (repeating)	<a href="#">CBV Info</a>

**Table Aq2f – Certifications and Licenses (event level)**

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
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.	cbvmda:certificationList <sup>15</sup> certification certificationStandard	<a href="#">CBV Seafood Attributes</a>
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.	certificationAgency certificationValue certificationIdentification	
License	Mixed	Unique indicator generated by the authorities in the country of operation that gives the aggregator or processor the license to operate.	gdst:certificationType  /certification	
Human Welfare Policy Standards	Text	Name of internationally recognized standards to which policy on a vessel/trip claims conformity	/cbvmda:certificationList  Or <a href="#">bizTransactionList</a>	

Table Aq2f continues on next page →

<sup>15</sup> To accommodate a variety of certificate 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
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 Aq2g – 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	<a href="#">FAO Species Code</a>
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	<a href="#">EPCIS What Dimension</a>
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.	Process (Transform): inputEpcList, inputQuantityList outputEpcList outputQuantityList  Pack/Unpack (Aggregation): parentID epcList or quantityList	
Weight or Quantity <sup>16</sup>	Number	Numerically quantifiable		

<sup>16</sup> See definition. Not individual seafood units (e.g. number of fish), but quantity of standard unit of measure.

Name	Type	Definition	GS1 CBV Attribute	Link for More Info
		amount of seafood with a standard Unit of Measure.	ID Options:	
Unit of Measure	Code	Standard for measurement of the product	GS1 LGTIN GS1 SGTIN GS1 SSCC URL UUIDEPC or EPC Class geofencePolygon <a href="#">GS1 Example</a>	

**Table Aq2h – Technical Data (event level)**<sup>17</sup>

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	<a href="#">UUID for Event IDs</a>
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 eventTimeZoneOf fset	<a href="#">ISO-8601 Timestamp</a>

Table Aq2h continues on next page →

<sup>17</sup> Table Aq2h 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.





Name	Type	Definition	GS1 CBV Attribute	Link for More Info
Event Read Point (Geo Location)	Location	The geographic or business location at which the event took place.	readPoint “geo: {lat}, {lon}” or GLN	<a href="#">Location CBV Info</a>
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: pglIn, urn or url	GDST Extension  <a href="#">Source, Destination Documentation</a>
Information Provider	Party	The original party who provided the event information. This is important as the event may be re-shared downstream.	informationProvider	<a href="#">Data Dictionary</a>