

Mussel Data Exchange format

The following table describes the version 1.0 structure of the mussel data exchange format.

Name of element or attribute	Description	Mandatory (M) / Optional (O)
MusselData	Root element. Contains at least one DataReports element.	
dataSupplier	Name of data supplier.	M
DataReports	Constitutes a set of data reports.	M
DataReports	A collection of data reports, where each contains a VesselData element and an arbitrary number of DataReport elements.	
transmissionTime	The transmission time in UTC of the data reports set.	M
VesselData	Identification of the vessel.	M
TransmitterData	Identification of the transmitter hardware onboard the vessel.	M
DataReport	Data report element.	M
VesselData	Identification of the vessel that provides the data.	
VisibleId	Visible identification / Side (hull) registration number of the vessel.	M
Euldent	The EU CFR number of the vessel.	M
TransmitterData	Identification of the transmitter hardware.	
TransmitterId	Identification and unique id of the transmitter, e.g. sim card number.	M
ManufacturerHardwareNo	Serial number of the transmitter hardware.	M
DataReport	Represents a single sample of GPS and sensor values	
logTime	The sample date and time in UTC of the data report.	M
GPS	GPS element	O
Sensors	Sensors element	M
GPS	GPS data	
GpsTime	The GPS data and time in UTC.	M
Position	Position element	M
Speed	The GPS speed as a decimal number.	M
Heading	The GPS heading as a decimal number.	M
Sensors	One sample of available sensors constituted by a number of Sensor elements.	
HydraulicSensor	Element representing a hydraulic sensor. Te sensor must be qualified by use of the number attribute.	M
WinchSensor	Element representing a winch sensor. Te sensor must be qualified by use of the number attribute.	M
OtherSensor	Element representing an unknown sensor type.	O

	The sensor must be qualified by use of the both the type and number attributes.	
Position	Position element containing a Latitude and Longitude elements	
Latitude	The latitude as a decimal number between -90 and 90.	M
Longitude	The longitude as a decimal number between -180 and 180.	M

Example

Example of mussel data containing two data report samples gathered in one data reports element for a particular vessel.

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XML Spy v4.0 U (http://www.xmlspy.com)-->
<MusselData xmlns="urn:dk:nes:musseldata:v1" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" dataSupplier="String">
  <DataReports transmissionTime="2012-02-01T09:30:47Z">
    <VesselData>
      <VisibleId>GG234</VisibleId>
      <Euldent>AAA123456789</Euldent>
    </VesselData>
    <TransmitterData>
      <TransmitterId type="sim">432156798</TransmitterId>
      <ManufactorHardwareNo>987654321</ManufactorHardwareNo>
    </TransmitterData>
    <DataReport logTime="2012-02-01T09:27:47Z">
      <GPS>
        <GpsTime>2012-02-01T09:27:48Z</GpsTime>
        <Position>
          <Latitude>55.2324</Latitude>
          <Longitude>-10.4520</Longitude>
        </Position>
        <Speed>3.4</Speed>
        <Heading>23.1</Heading>
      </GPS>
      <Sensors>
        <HydraulicSensor number="1">11.2</HydraulicSensor>
        <HydraulicSensor number="2">110</HydraulicSensor>
        <WinchSensor number="1">cw</WinchSensor>
        <WinchSensor number="2">ccw</WinchSensor>
      </Sensors>
    </DataReport>
    <DataReport logTime="2012-02-01T09:27:57Z">
      <GPS>
        <GpsTime>2012-02-01T09:27:57Z</GpsTime>
        <Position>
          <Latitude>55.2326</Latitude>
          <Longitude>-10.4521</Longitude>
        </Position>
      </GPS>
    </DataReport>
  </DataReports>
</MusselData>
```

```
<Speed>3.1</Speed>
<Heading>20</Heading>
</GPS>
<Sensors>
  <HydraulicSensor number="1">1.2</HydraulicSensor>
  <HydraulicSensor number="2">0</HydraulicSensor>
  <WinchSensor number="1">idle</WinchSensor>
  <WinchSensor number="2">idle</WinchSensor>
</Sensors>
</DataReport>
</DataReports>
</MusselData>
```