

<b>Project</b>	AtlantOS – 633211
<b>Deliverable number</b>	D2.2
<b>Deliverable title</b>	Fish Survey Database and Interface
<b>Description</b>	Create a web interface compatible with standard data processing software and set up databases to serve data product generation from pelagic fish surveys
<b>Work Package number</b>	2
<b>Work Package title</b>	Enhancement of ship based observing networks
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<b>Comments</b>	



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# Acoustic Trawl Survey Data Portal

The Acoustic Trawl Survey Data Portal at <http://acoustic.ices.dk> is now operational and currently serving a number of survey working groups doing acoustic trawl surveys and abundance indices estimates such as WGIPS - HERAS<sup>1</sup>, WGBIFS - BIAS/BASS<sup>2</sup> and WGHANSA - PELGAS<sup>3</sup>. A schematic overview of the data flow within the portal can be seen in Figure 1.

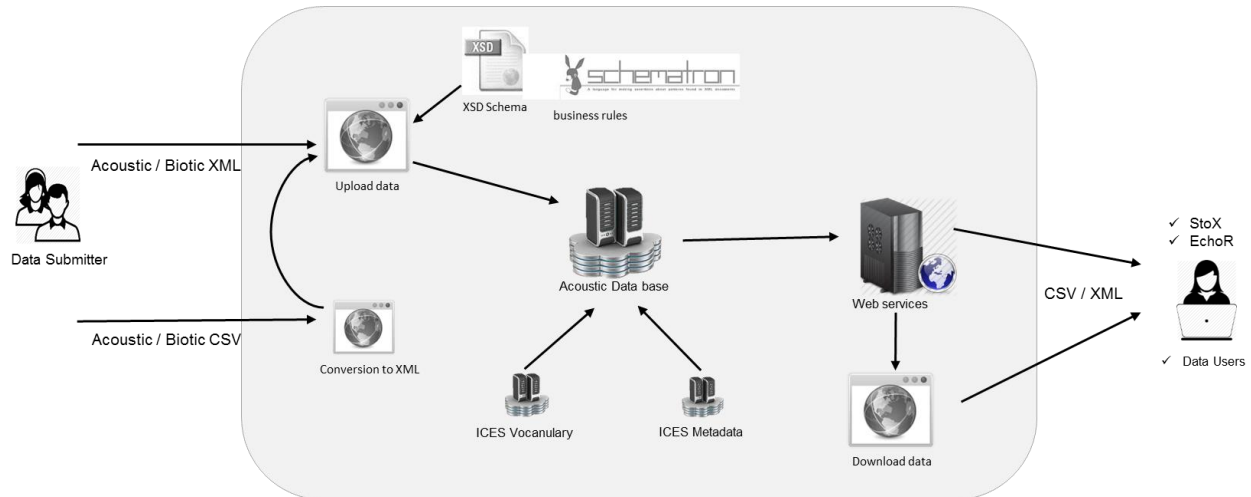


Figure 1 Overview of the data flow within the Acoustic Trawl Survey Data Portal hosted at the ICES Data Centre.

## Data Format

The Acoustic Trawl Survey Data Format consists of two parts – an Acoustic and a Biotic part – which are described by a number of downloadable<sup>4</sup> documents and example files:

### Acoustic

- *Acoustic.csv* – Acoustic CSV data example
- *Acoustic.csv.xls* – Acoustic CSV data format description
- *Acoustic.xml* – Acoustic XML data example
- *Acoustic.xsd* – XML Schema describing the Acoustic XML structure
- *Acoustic.sch* – XML Schematron describing the Acoustic XML validation rules.

### Biotic

- *Biotic.csv* – Biotic CSV data example
- *Biotic.csv.xls* – Biotic CSV data format description
- *Biotic.xml* – Biotic XML data example
- *Biotic.xsd* – XML Schema describing the Biotic XML structure
- *Biotic.sch* – XML Schematron describing the Biotic XML validation rules.

The acoustic part of the format is based on the series of ICES survey protocol *SISP 4 – A metadata convention for processed acoustic data from active acoustic systems*<sup>5</sup> developed by the ICES Working Group

<sup>1</sup> <http://www.ices.dk/community/groups/pages/WGIPS.aspx>

<sup>2</sup> <http://www.ices.dk/community/groups/pages/WGBIFS.aspx>

<sup>3</sup> <http://www.ices.dk/community/groups/pages/WGHANSA.aspx>

<sup>4</sup> [http://www.ices.dk/marine-data/documents/acoustic/ICES Acoustic data format description.zip](http://www.ices.dk/marine-data/documents/acoustic/ICES%20Acoustic%20data%20format%20description.zip)

<sup>5</sup> <http://bit.ly/2gfZrAa>

on Fisheries Acoustics, Science and Technology (WGFAST), while the biotic part of the format is based on the ICES Database of Trawl Surveys (DATRAS<sup>6</sup>).

## Data Model

The Acoustic part of the format consists of six record types: the five metadata record types Instrument, Calibration, Data Acquisition, Data Processing, and Cruise; and one data record type Data, which is the combination of Log, Sample and Data entities in the data model below (Figure 1).

The Biotic part of the model consists of four record types: one metadata record Cruise; and three data record types Haul, Catch, and Biology.

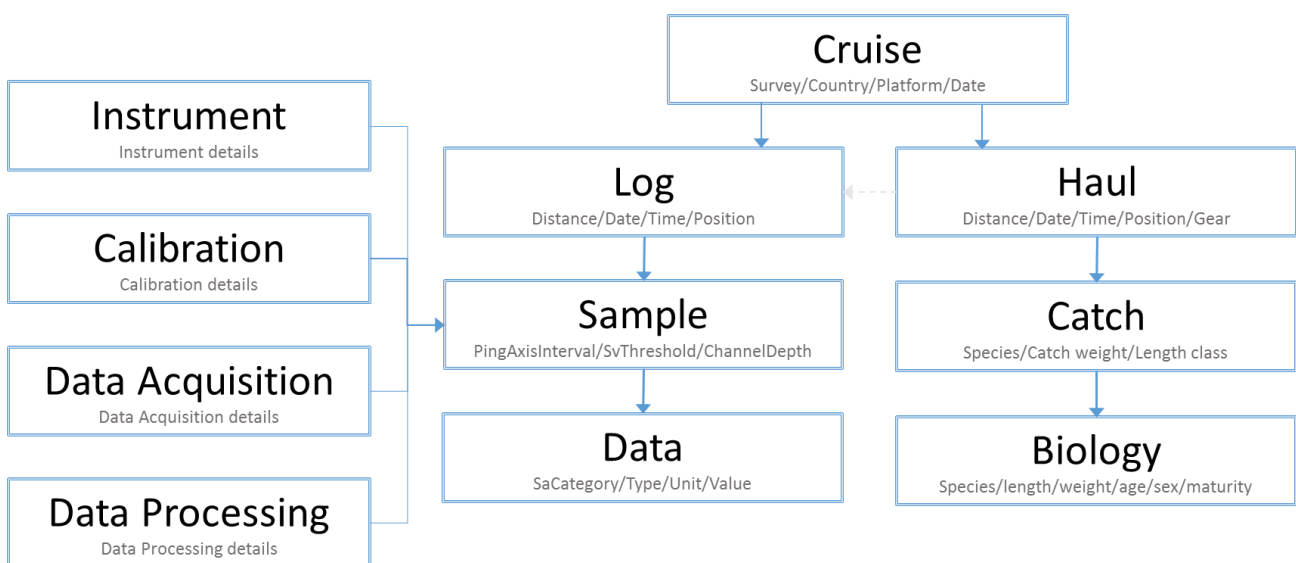


Figure 2 Schematic view of the Acoustic Trawl Survey Data Model

## Data Validation

Both the acoustic and the biotic parts of the model contain fields that rely on controlled vocabularies. The vocabularies are accessible via the ICES vocabulary server at <http://vocab.ices.dk/?theme=4> (Acoustics) and <http://vocab.ices.dk/?theme=1> (Trawl survey).

In addition, a number of other validation rules are applied using XML Schema<sup>7</sup> and Schematron<sup>8</sup> rules.

## Data Submission

<sup>6</sup> <http://ices.dk/marine-data/data-portals/Pages/DATRAS.aspx>

<sup>7</sup> <https://www.w3.org/xml/schema>

<sup>8</sup> <http://schematron.com>

In the submission process, a submitted XML file will be validated directly against the XML schema and schematron rules, while a submitted CSV file will be converted on the fly into the XML format to allow validation.

Files that successfully pass the data validation can be uploaded to the Acoustic Database. If validation for some reason fails and errors are found during validation, a detailed validation error report will be produced, so that the submitter can correct the errors before resubmitting. All errors need to be fixed before the data can be uploaded into the Acoustic database and downloaded as for example StoX<sup>9</sup> files.

## Data Access rights and policy

All data submitted to the acoustic.ices.dk data portal, is governed under the ICES Data Policy<sup>10</sup> which states the conditions that the data provider should meet, as well as access and use of the data from the portal.

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<sup>9</sup> <http://www.imr.no/forskning/prosjekter/stox/nb-no>

<sup>10</sup> <http://ices.dk/marine-data/Documents/ICES-Data-policy.pdf>