THEME 4: Noise

This is a deliverable from the BalticBOOST project that was coordinated by HELCOM and co-financed by the European Union in 2015-2016 as part of the programme DG ENV/MSFD Action Plans/2016.

WP 4.1 Deliverable 1: HELCOM reporting format to the register of occurrence of impulsive noise events

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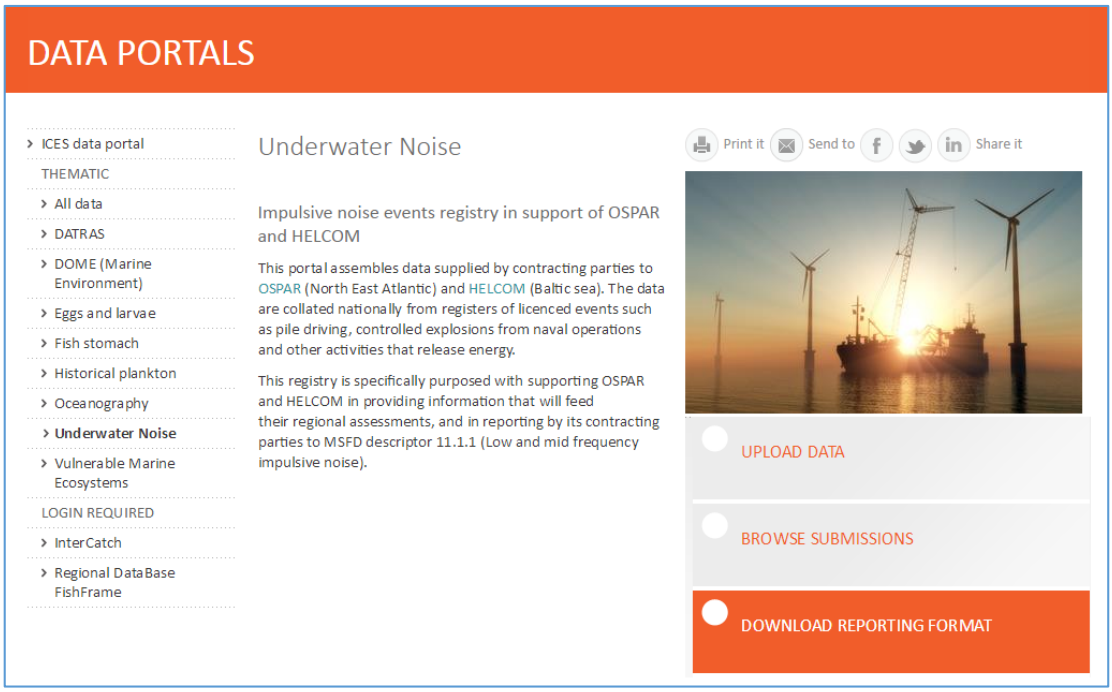
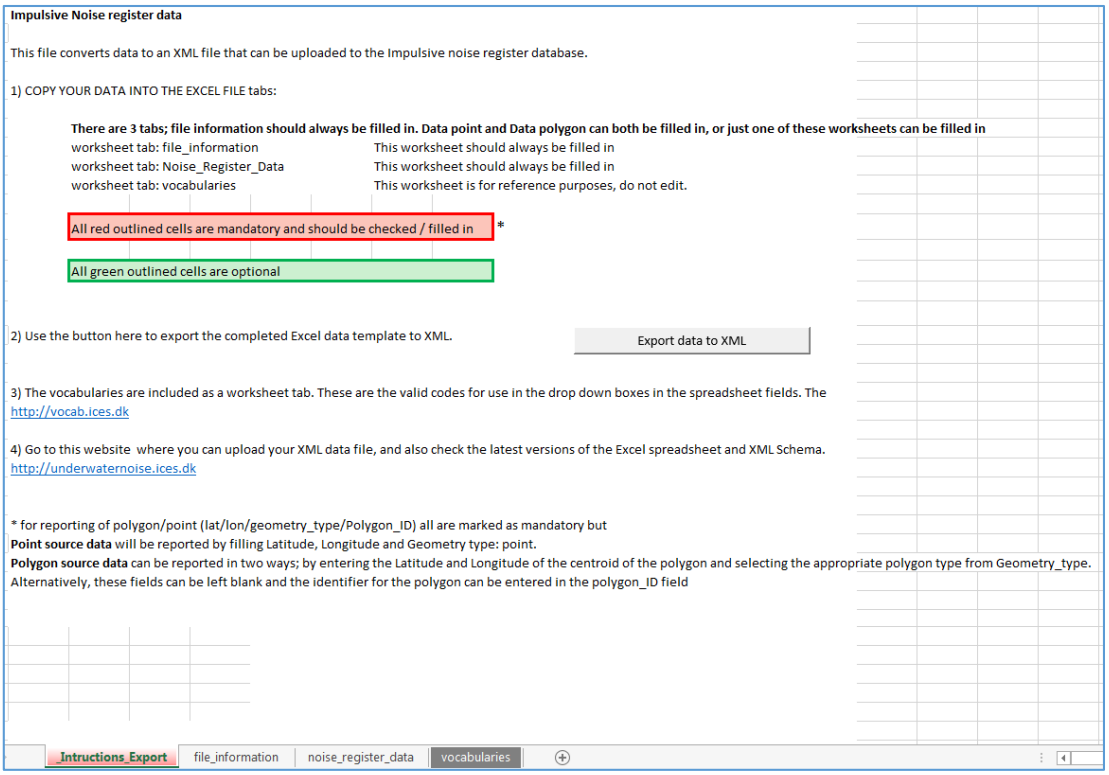
Reporting format

BalticBOOST Theme 4 has contributed to development of a reporting format for registering impulsive noise events in cooperation with OSPAR and ICES. The reporting format is operational and was agreed and taken into use in HELCOM in 2016.

The reporting format to be used to upload data to the portal is available to download in the data portal (please see snapshot below). It consists of an Excel file that converts data to an XML file that can be uploaded to the database.



The Excel file contains four sheets with: (i) instructions on how to export national data to the database ('Intructions_Export'); (ii) information on the country providing the data ('file_information'); (iii) information on the event ('noise_register_data'); and (iv) valid codes to be used in the drop down boxes in the spreadsheet fields ('vocabularies') (please see snapshot below of the Excel file).



Information to be provided is either mandatory (red outline, i.a. latitude/longitude of the station) or optional (green outline, i.a. mitigation measures). The following tables compile the reporting format to be used to load data to the registry.

Column header	**Content**
Country (ISO 1366 code)	The country where the source was registered. Codes are provided in the 'vocabularies' spreadsheet
Organization (EDMO code)	Organization who is reporting the data. EDMO codes (European Directory of Marine Organisations) are provided in the 'vocabularies' spreadsheet

The system enables two options to report data: point source data (i.e. latitude, longitude and geometry type) or polygon source data. Polygon source data can be reported in two ways; by entering the Latitude and Longitude of the centroid of the polygon and selecting the appropriate polygon type from 'Geometry_type'. Alternatively, these fields can be left blank and the identifier for the polygon can be entered in the 'Polygon_ID' column.

Column header	Content
Start_date (ddmmyyyy)	Start date of the detection in YYYYMMDD format
End_date (ddmmyyyy)	End date of the detection in YYYYMMDD format
Latitude (WGS84)	To report point source data. The latitude of the detection in decimal degrees, using WGS84
Longitude (WGS84)	To report point source data. The longitude of the detection in decimal degrees, using WGS84
Geometry_type (Point, UK license blocks, ICES sub-rectangles, German naval polygon)	Please see explanation above
Polygon_ID (ICES sub-rectangle ID or Regional Polygon ID)	Please see explanation above

Column header	Content	
Source_event (vocab list)	One of these options is to be chosen based on the source of the event (also provided in the 'vocabularies' sheet and in ICES website): - Airgun arrays - Explosions - Generic explicitly impulsive source - Impact pile driver - Sonar or acoustic deterrents.	
Value (from list: NA/very_low/low/medium/high/very_high)	One of these options is to be chosen based on the source and duration of the event (also provided in the 'vocabularies' sheet and in ICES website): not available, very low, low, medium, high or very high.	
	- Airgun arrays:	
	NA	Not available
	Very low	209-233 dB re 1 µPa m
	Low	234-243 dB re 1 µPa m
	Medium	244-253 dB re 1 µPa m
	High	253 dB re 1 µPa m
	- Explosions:	
	NA	Not available
	Very low	8g – 210g
	Low	220g – 2,1kg
	Medium	2,11kg – 21kg
	High	22kg – 210kg
	Very high	210kg and above
	- Generic explicitly impulsive source:	
	NA	Not available
	Very low	186-210 dB re 1 $\mu Pa^2 m^2 s$
	Low	211-220 dB re 1 $\mu Pa^2 m^2 s$
	Medium	221-230 dB re 1 $\mu Pa^2 m^2 s$
	High	230 dB re 1 $\mu Pa^2 m^2 s$ and above
	- Impact pile driver:	
	NA	<280kJ
	Very low	290kJ – 2,8MJ
	Low	2,81MJ – 28MJ
	Medium	>28MJ
	High	
	- Sonar or acoustic deterrents:	
	NA	Not available
	Very low	176-200 dB re 1 µPa m
	Low	201-210 dB re 1 µPa m
	Medium	211-220 dB re 1 µPa m
	High	220 dB re 1 µPa m and above
Sound_mitigation_bool (yes/no)	Choose 'yes' or 'no'.	

The following data are optional (outlined in green in the Excel reporting format):

Column header	Content	
NMS_type (from list: BBC/SBC/IHC/HSD/HEP/COF/CBBCIHC/CBBCHSD/CBBCCOF/Other)	Types of noise mitigation systems (NMS) to be chosen among these options:	
	BBC	Big Bubble Curtain
	SBC	Small Bubble Curtain
	IHC	I H C - Noise Mitigation System
	HSD	HydroSoundDamper
	HEP	Pile-in-Pile Jacket
	COF	Cofferdamm
	CBBCIHC	Combined BBC and I H C-NMS
	CBBCHSD	Combined BBC and HSD
	CBBCCOF	Combined BBC and Cofferdamm
	Other	Other system or other combination
Sound_measurement_bool (yes/no)	Choose 'yes' or 'no'.	
SEL (dB re 1µPa²s)	Sound Exposure Level expressed in dB re 1 µPa²s	
Lpeak (dB re 1µPa)	Peak Level expressed in dB re 1 µPa²s	
Distance_to_pile (metres, decimal)	Distance to the pile	
Type_hammer (Model number of hammer used, e.g. S-2000, 3000S)	Model of the hammer used	
Max_energy (Kj)	Maximum energy reached during the event	
Source_Spectra (UNIT to be determined)	The frequency band of the event (format to be determined)	
Duty_cycle (decimal)	The percentage of the duration the signal was active	
Start_time (hhmm)	Start time of the event transmission	
Duration (seconds, integer)	The duration of the event in seconds	
Directivity (decimal)	A Q value representing the directivity of the sound source	
Source_depth (metres, decimal)	Approximate depth, in metres, of the sound source	
Platform_speed (Knots, decimal)	Speed of the platform recording the event	
Remarks (free text)	Any free text comments or additional supporting information	