



Strasbourg, 17 September 2019 [pa10e_2019.doc]

T-PVS/PA (2019) 10

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE AND NATURAL HABITATS

Group of Experts on Protected Areas and Ecological Networks

10th meeting 2nd October 2019

REPORTING TOOL GUIDELINES FOR THE DELIVERY OF DATA UNDER RESOLUTION NO. 8 (2012)

Document prepared by the Directorate for Democratic Participation

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1. Introduction

This document provides guidance on the use of the reporting tool that is provided to Contracting Parties in order to assist with data preparation for the reporting under Resolution No. 8 (2012) over the period 2013 - 2018. While using the tool itself is not mandatory, it ensures that the data conforms to the required standards for CDR upload and eventually to create the dataset. The XML schema format must be adhered to in order to create this dataset.

The tools described below are the Reporting tool and the EEA range tool. In addition to this user guide, there is a "read me" file available on the Reporting Reference Portal with instructions for installing and getting started with the tool.

The reporting tool can be downloaded from the Reporting Reference Portal: https://www.coe.int/en/web/bern-convention/reporting-res.-8-2012-

The range tool is an online application accessible on EEA with an Eionet account: http://discomap.eea.europa.eu/App/RangeTool/

To create an Eionet account contact: nature.helpdesk@eionet.com

2. Reporting tool for the reporting under Resolution No. 8 (2012)

2.1. Downloading and opening the tool

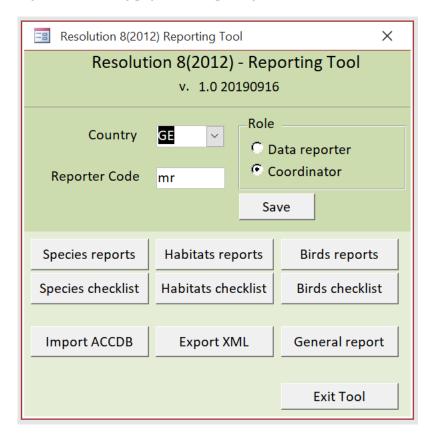
Three files are provided as part of the reporting tool: frontend Access, backend Access and a 'read me' file. The Access database is compatible with MS Office suite 2010 and above. The "read me" file provides instructions on setting up and running the tool along with further information on known issues. The readme file name is renamed according to the tool-version.

readme.docx	1/04/2019 16:09	Microsoft Word D	312 kB
Res8-database.accdb	2/04/2019 14:08	Microsoft Access	4 292 kB
Res8-frontend.accdb	3/04/2019 10:38	Microsoft Access	18 688 kB

Opening the tool

The frontend is the user interface, it mirrors the reporting format available on the Reporting Reference Portal. Before starting work with reporting tool, check the language setting, which should be set to English (file -> options -> languages, select English in "Choosing editing languages" and set English as priority 1.

Figure 2-2 Landing page of the reporting tool under Resolution No. 8 (2012)



Choose a Country code (2 digit codes from the dropdown menu) and then enter a Reporter code. This is a free-text field and can be comprised of letters and numbers. Its purpose is only to identify those entering data and it's recommended to keep the code short and logical. The country code is linked throughout the rest of the report e.g. in Section 5 Plans/Projects of the General Report it is not permitted to enter a site code in field 5.1 starting with another Country code.

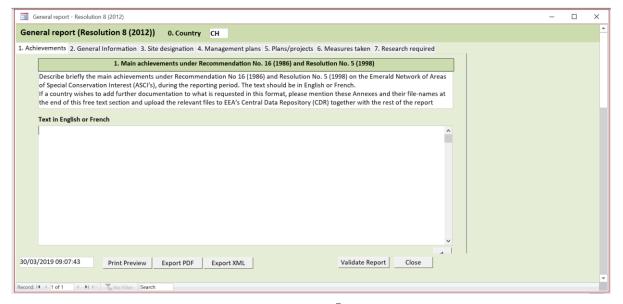
• The "Data Reporter" has access to enter/modify data for the "Species reports", "Habitats reports" and "Birds Reports" only (as shown in figure 2.2 above). The "Coordinator" has access to the species, habitats and birds reports as well as the "General Report" and the "Import ACCDB" and "Export XML" functions seen on the landing page. The coordinator can also modify the checklists. The "Import ACCDB" and "Export XML" options are used to collate the inputs of multiple data reporters and eventually to export as an XML for delivery to CDR Reportnet. While there can be more than 1 data Coordinator, there can only be one who has access rights to upload to CDR Reportnet.

2.2. General report

Below (figure 2.3) is the home page of the general report.

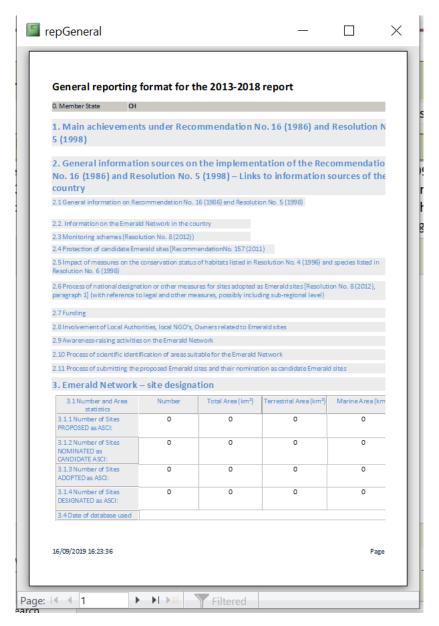
- Tabs 1 to 7 contain the sections to be filled in for the general report.
- The timestamp in the bottom left hand corner is the time the report was initially opened and when data entry commenced. The timestamp remains the same for the duration of using the tool once the "General Report" has been opened.
- The "Print Preview" gives a document overview of all sections in the General Report. This will save scrolling back through tabs to get an overview of progress.
- "Export to PDF" will export the "Print Preview" output as a pdf.
- The "Export XML" is accessible throughout all tabs, it is used at the end of the process when all reports are completed (see validation and QA below).
- "XML Schema validation" ensures that the data entry adheres to the set XML schema for CDR upload.
- "Run QA" displays the results of a check against the validation rules only for fields which are mandatory and therefore will be rejected by CDR if not filled. This should be a final step before exporting the data to XML.
- Data are saved upon closing the general report ("Close"), data are saved automatically as soon as data entry to the general report has started. Closing the general report will bring you back to the reporting tool home page (figure 2.2 above).

Figure 2-3 Home page of the general report



Below (figure 2.4) is shown the "Print Preview" which allows viewing of the overall reporting format. The time stamp here is always the current time/date.

Figure 2-4 Output of the 'Print preview' function



The individual tabs can be scrolled using the buttons at the end of each tab;

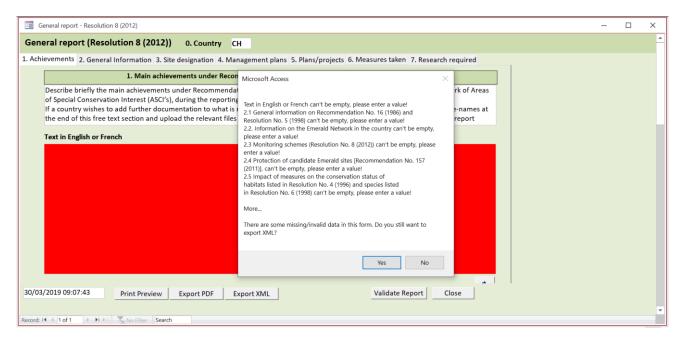


Validation and QA of the General Report

The tools have a series of in-built rules that can highlight an error/discrepancy in data entry or prevent the data entry process from being completed.

The "Export XML" button is activated throughout the process. It is highly recommended to use the "Run QA" function before exporting to XML, as no more QA/QC rules will be implemented when data are delivered on the CDR (see below). Below (figure 2.5) is an example of the summary given when preparing to export to XML but where several fields have been left empty;

Figure 2-5 Summary message when using "Export XML" with incomplete reports.



If data aren't filled in as expected these are highlighted in red throughout the process. An example is shown below (figure 2.5) for Section 1 Achievements where the field "text in English or French" is empty.

2.3. Completing a species or habitat type report

Starting a report

The following section describes the process for adding a species, bird or habitat report. The species template is mainly used to describe this procedure however the principles are the same for all three reports. Some habitat and bird report examples are used in the images.

Below is the home page of the species report (Annex B). Some options are the same as for the General Report ("Import ACCDB", "Export XML" and "Close"). The extra buttons are:

- "Statistics": this gives a summary of reports completed or remaining under the species report section (as seen in figure 2.16) and can be called upon at any time in the reporting process. The number of species to be reported on or which remain to be reported on by the Contracting Party is shown in red.
- "Notes report": produces a summary of comments/notes that the data reporter/coordinator has made on individual fields throughout the report (explained further below figures 2.14 and 2.15).

Figure 2-6 Home page of the species report before and after a report has been submitted.

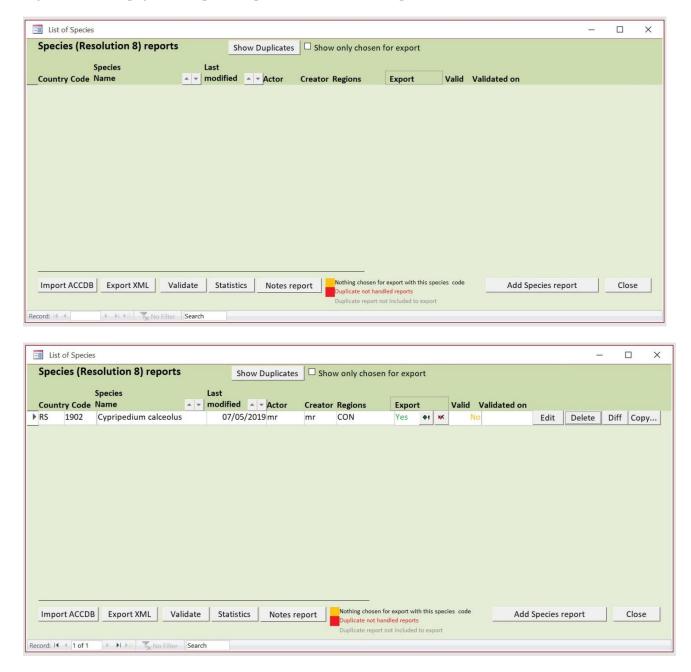
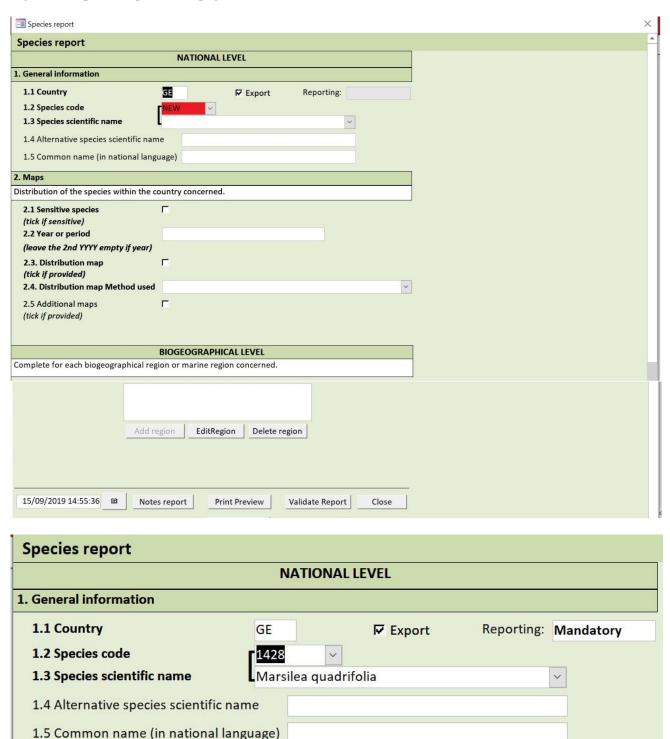


Figure 2.7 above shows an example of the species report home page before and after a report has been started. In this case, the report is not yet valid as the report is not yet complete. It's not necessary to complete one report before starting the next.

Adding a report

Each species report is initiated by clicking on the 'Add Species Report' button in figure 2.7 above. Below is the homepage for one species report (figure 2.8):

Figure 2-8 Species report home page.



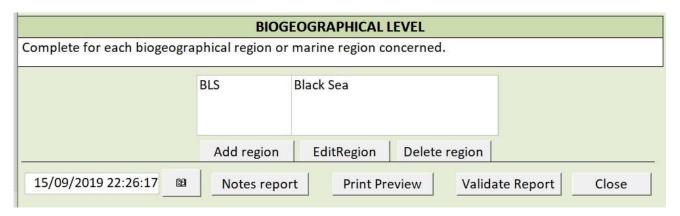
When a species report has been initiated, a field showing the reporting requirements is shown in the top right-hand corner. As an example of this, in figure 2.8 above, the checklist notes the occurrence of Marsilea quadrifolia is mandatory. When the occurrence has been changed in the checklist to OCC the reporting field changes to "Recommended". As all species and habitats in the selected list are considered in the category "PRE", no single feature for this reporting period is falling in the category "OCC" and all entries in the checklist should be considered as mandatory.

• The fields labelled in bold throughout the report are the mandatory fields to fill in. Information on the species status at National Level will be completed first.

- When entering the species code, only the options for the Contracting Party are given e.g. GE reports on 16 species therefore only 16 species codes are available. This information is taken directly from the linked checklist table that forms part of the database, therefore in the exceptional case where changes to the checklist might be required, this should be done prior to reporting where possible (see section 2.5 below).
- The data reporter indicates if the species is sensitive or not. If sensitive, this data will not be disclosed in the public database.

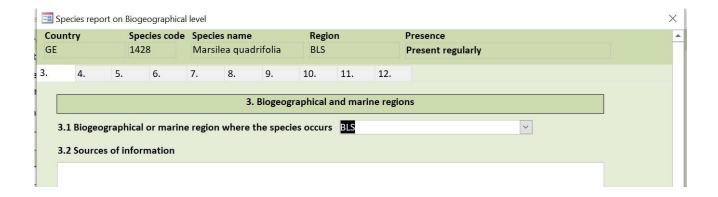
 On the same page, after completing the national level sections 1 to 2, the reporter can start reporting at Biogeographic region level. It is necessary to select the biogeographic region in the Contracting Party that the species is being reported in (figures 2.9 and 2.10) to continue reporting in sections 3 12 for species/habitat types for the biogeographical level report. Only regions that the species/habitat has listed in their respective checklists will be available for selection.
- For birds, no reporting is needed at the biogeographical level and sections 2 to 9 are filled in at national level.

Figure 2-9 showing the section that allows the addition of a biogeographical region



If the user wants to edit the information entered for a particular region, it is necessary to highlight the region in the table above, then pressing "EditRegion".

Figure 2-10 all sections/tabs to be filled in for the species report.



When all sections have been completed for the region the user will be brought back to this species report page to either choose a new biogeographic region in which to report that species (if that is the case) or to close the report and start reporting on another species. Either way, each individual report can be validated to identify errors or missing fields throughout the process ("Run QA").

Once a report for a particular species for a particular region has been completed, this is recorded on the species reports home page as below (figure 2.11):

Figure 2-11 Species report home page after adding a report.



Some buttons across the table headings have become available now that some reports have been completed or are in progress:

"Export": this can be checked for yes or no depending on whether the report is to form a part of the final data export or not. If reports are not intended to be a part of the final delivery, they can either be deleted or ticked "x" under the "Export" option to prevent them from forming part of the final XML. In figure 2.11 above, the report for the species 1428 has been highlighted for exclusion from the export. Reports not forming part of the XML are highlighted orange.

"Valid": this gives an overview of reports that are ready to export i.e. whether reports are complete or not.

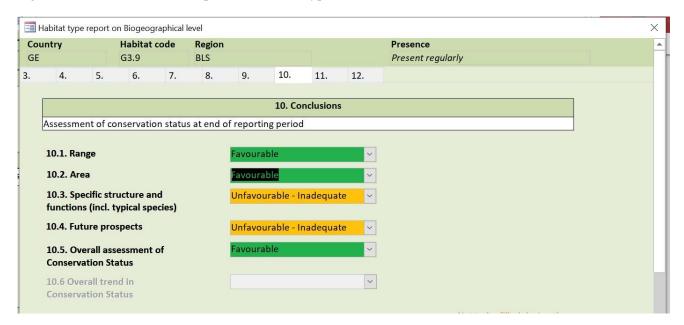
"Edit": This allows the user to open a report to edit information.

"Close": As with the General Report, the "Close" button will bring the user back to the reporting home page and all data will be saved upon closing the species report.

To note: The "XML Schema Validation" and "Run QA" for the species and habitats report are located in the individual report sections (figure 2.8) as opposed to the species/habitats homepage (figure 2.7).

Section 10 of the Habitats Report (or Section 11 of the Species Report) is the Conclusions section. As seen below, this section summarises the information from Sections 4 to 5 (Sections 5-7 for species) that should be used to fill in the fields 10.1 to 10.4 (figure 2.12).

Figure 2-12 The Conclusions report for a habitat type.



Final checks

When all reports have been completed the following should be completed:

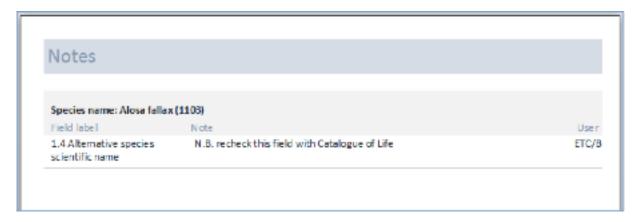
"Run QA": as explained above. The "Run QA" validates the overall report (General report or Species/Habitats report) and will display the results of a check against the validation rules. Any errors will be displayed according to the rule type i.e. an error, warning or blocker.

"Notes report": Throughout reporting, the data reporter/coordinator has the option to add notes or comments on individual fields (figure 2.13). At the end of the process the notes can be summarised as shown below and can be used as a reminder to re-check a field or group of fields before exporting to XML (figure 2.14).

Figure 2-13 Showing the audit function for particular fields is needed.

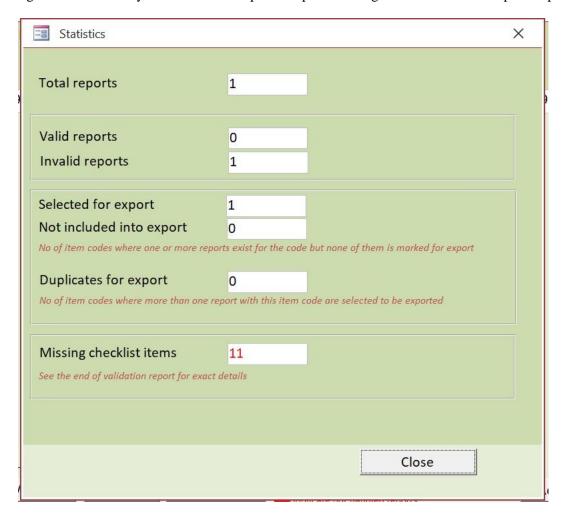


Figure 2-14 Showing the output of the "Notes Report" function.



"Statistics": can be produced at any time to show the progress with reporting (figure 2.15) in terms of numbers of reports completed, number of valid reports etc.

Figure 2-15 Summary statistics for the species report showing the status of the complete reporting exercise.



In the example above 12 species reports should be submitted by the Contracting Party and the statistics are updated each time a report has been completed. This will also show if a report has been started but is still incomplete or there are some fields still missing ("Invalid reports"). If the checklist is updated for any reason

(i.e. records added, records deleted) this will be reflected in the statistics report (see section 2.5 for more information on editing checklists).

"Export XML": this is the final step after "Run QA" and data revision (if necessary after running QA). When using this function, the user is asked to give a file location. The file name is standard as shown below and will contain a timestamp of when the data were exported:



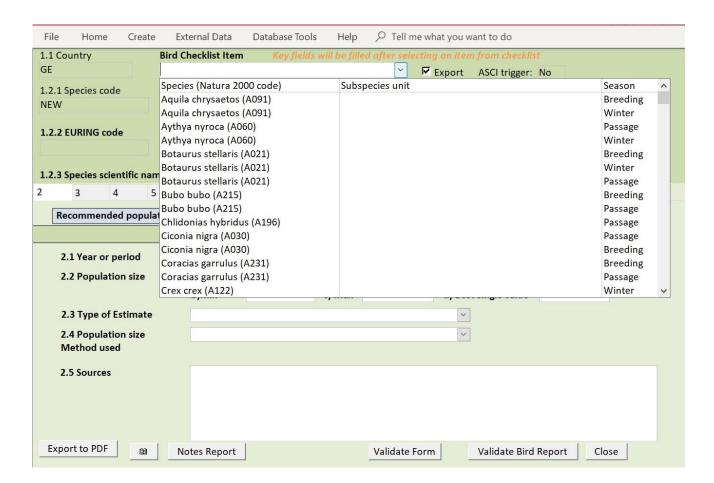
The species, habitat and general reports will all be exported separately and are treated as 3 separate files for submission to CDR.

2.4. Completing a bird species report

The reporting procedure for bird species is practically the same as for habitats and species other than birds. The main difference is that biogeographic regions are not an element of the reporting.

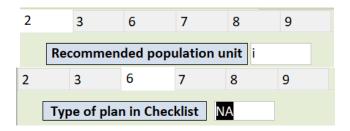
The items of the bird species general report are included in the main general report. (see figure 2-3)

Figure 2-16 Starting a report on bird species



The "Bird Checklist Item" dropdown list gives the detailed information needed to report such as "season" (figure 2.17), as separate reports need to be compiled according to the season the species is present in the Contracting Party (passage, breeding or winter).

Figure 2-17 Fields are filled in automatically from the checklist.



Other fields throughout the report automatically filled from the checklist based on the species chosen are "Recommended population unit" in section 2 and "Type of plan in checklist" in section 6 Progress in work related to international Species Action Plans (SAPs), Management Plans (MPs) and Brief Management Statements (BMSs) (figure 2.17).

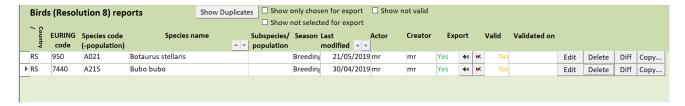
When finalising a bird species report, the following options are available:

Figure 2-18 options for finalising a birds report.



The status of the reports (Valid yes/no) is indicated in the home page as seen below (figure 2.19):

Figure 2-19 Final validation of the Bird species report.



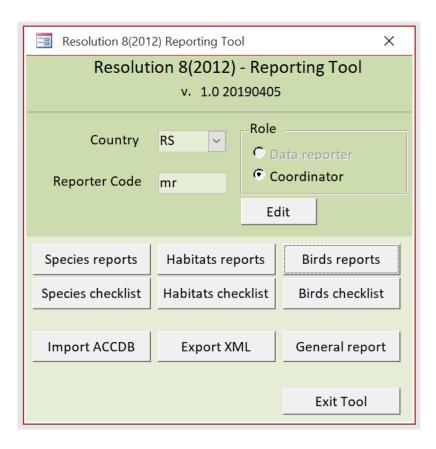
2.5. Editing the checklist

If necessary, the Contracting Party checklist for species or habitats can still be modified at the point of using the reporting tool, however it's important to do this before commencing the reports as data are taken from the checklist table in the backend database.

The checklist can only be modified by the coordinator. The options for editing either species, birds or habitats checklist are on the reporting tool homepage (figure 2.20).

Important note: The Reporting under Resolution No. 8 (2012) is operating with an agreed list of selected features. It is not expected that changes need to be made to the checklists. In the case, such a change would still be necessary Contracting Parties are recommended to forward a note listing the changes to be made in the country checklist to the Secretariat of the Bern Convention, before starting to edit the checklists.

Figure 2-20 Reporting tool home page with options to edit the species, birds and habitats checklists.

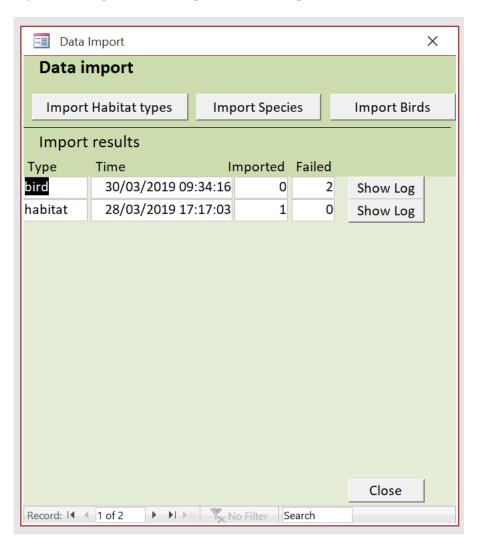


2.6. Finalising the report

As noted in Section 2.1 above, the Coordinator has access to the "Import ACCDB" and "Export XML" functions on the tool landing page. (see Figure 2-20)

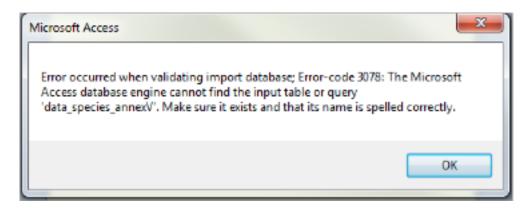
The "Import ACCDB" is used to import species/habitats reports created by other data reporters, either with the tool or in the same ACCDB format. The import is initiated by clicking Import Habitat types, Import species or Import Birds (Figure 2-21) . Depending on the number of reports to be imported, this may take some time. Progress can be monitored in the bottom left-hand corner of the window.

Figure 2-21 Import Habitats, Species or Birds reports



A few examples of error messages that could appear are shown in figure 2.22. The messages detail the table and the feature code the error is associated with. Clicking "OK" will remove the error message and allow the data import to continue.

Figure 2-22 Possible errors when importing databases



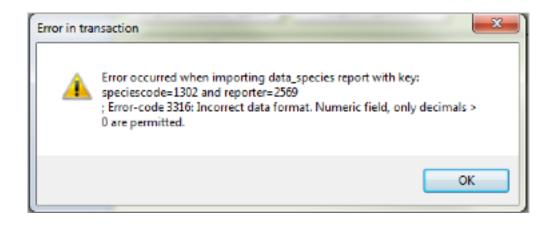
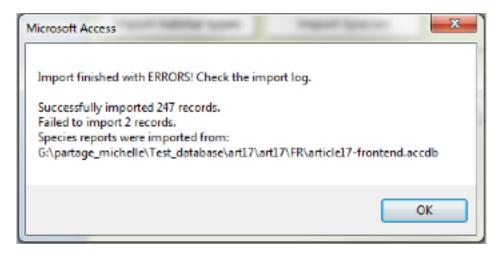


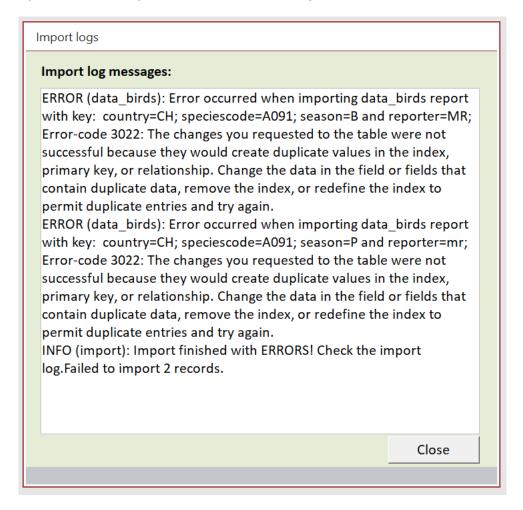
Figure 2.23 shows a summary of the data import, along with the number of records imported and those that failed to import. "Show log" will display more details of the import process. The imported records will be seen in the species reports section.

Figure 2-23 Import finalisation



Returning to the data import window (Figure 2.21) will also show the details of all activity regarding data import i.e. the time, date, successful and failed imports. The "Show log" will expand on this and label the successfully imported records by species, bird or habitat code, the region they are associated with and the reporter code.

Figure 2-24 Resulting window from the "Show log" button



2.7. Validation Rules

The XML schema are governed by a series of validation rules to ensure that essential data are provided, and that data can be collated in a uniform manner for the European database.

The rules are divided into different error levels:

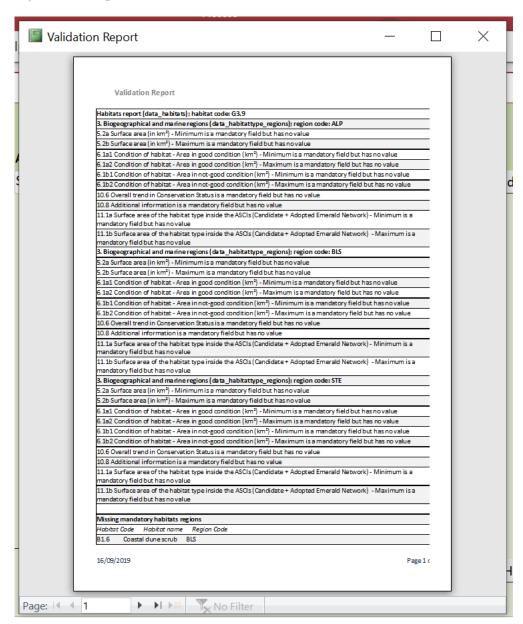
"Blockers": a major error and data reported is blocked.

"Errors": a major error but data reported is not blocked.

"Warning": a potential (or insignificant) error and data reported is not blocked.

There are several "validation" options visible throughout the reporting tools. Ultimately, "Run QA" provides an overall validation of data. This is available in the individual species or habitats reports and the general report, and it summarises all outstanding fields to be completed along with the error level (i.e. error or warning). It provides the final "automated" overview of data quality of a report (general, habitat, species and birds).

Figure 2-25 output of the "Validate" function.



In the example above (figure 2.25), "Validation" highlights fields where data are either in the incorrect format or where there is incoherent information. As there will be no further QA when uploading the reports to the CDR, the quality of the data will highly depend on the implementation of the validation rules available in the reporting tool.

These issues can be resolved in the tool by editing the report and re-running "Validation".

3. Range tool

The following section describes the procedure for using the Range Tool to create a range grid based on a species or habitat distribution. The resulting output is not an essential part of the Contracting Parties final data upload to CDR, however the range value is a requirement for the reporting format: field 5.1 for species and field 4.1 for habitats. The recommended parameters to be used for calculating a range value for a species or habitat are outlined in the Explanatory Notes and Guidelines for the period 2013-2018 available from the Reporting Reference Portal.

The Range tool uses the following information for the calculation of range: - Country borders (EuroBoundaryMap v12) by 10 km grid cells -Biogeographical region v16 by 10 km grid cells

- MSFD regions v2017 by 10 km grid cells
- Habitats and species checklists as available in the Reporting Reference Portal.

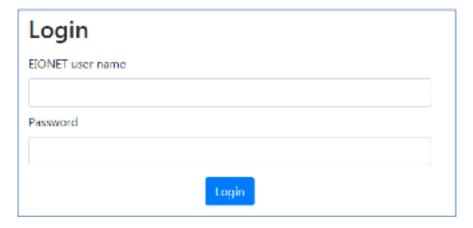
3.1. Data preparation

The procedure has been designed to be as simple as possible. The only requirement is the upload of a zipped file containing the gridded distribution shape file. This means all associated files i.e. shape file, .shx, .sbx, .sbx, .dbf including a .prj file are needed in order for the range tool to read the coordinate system. If the data are provided in a different projection (i.e. not Lambert Azimuthal Equal Area ETRS89-LAEA, ESPG:3035), it will be projected by the tool.

The input shape file will be based on the pan-European 10 x 10 km projection grid available from the Reporting Reference Portal. Depending on how the Contracting Parties processed their data the input shape file could consist of one record per habitat/species code if the polygons are dissolved or several records per habitat/species code if the polygons are not dissolved.

3.2. Procedure

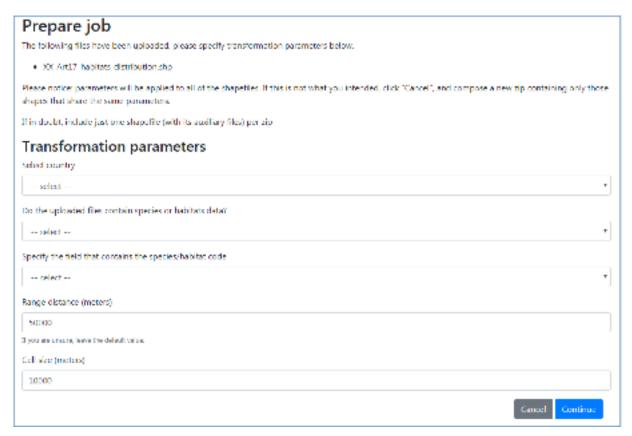
Login with an EIONET user account: to obtain a user account please contact nature.helpdesk@eionet.europa.eu.



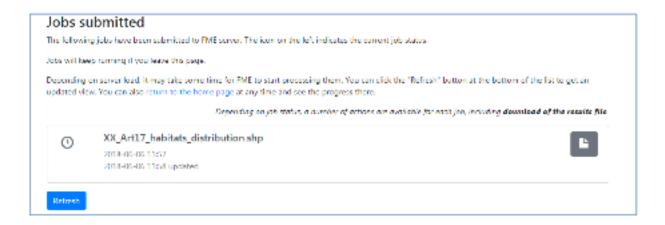
Upload the zipped shapefile:



Choose the relevant transformation parameters: refer to the reporting guidelines for the appropriate parameters to use for either species or habitats distribution.



Submit job: At this point the process can be left to run in the background even if leaving the page. The length of time depends on the FME server. The clock icon below means the job is queued.



Download file: It may be necessary to click "Refresh" to see if the process has been completed. The download (1 below) will be as a zipped file containing a range shape file and two text files with the range area per habitat per biogeographic region in km (example below). The text file "full" contains the range area based on all grids where the feature is present and filtered contains the range area minus those grids recommended for deletion.

Files can also be deleted from the tool (2 below).



3.3. Result

The output of the tool is a zipped file with 1 shape file and 2 text files.

The output shape file (figure 3.1) will contain many more records as it contains both extra grids where the range has been calculated and it treats each habitat/species code individually per cell where they are reported. It is a record of presence (100) or non- presence (0) of a habitat/species on a grid by grid basis and also the grids recommended for deletion (REGION_CHK, CNTRY_CHK) based on the criteria listed in "3.5 Rules applied to calculating the range" below.

Figure 3-1 The resulting attribute table of the output shape file

FID	Shape	Code	ALP	ATL	BLS	BOR	CON	MAC	MED	PAN	STE	MATL	MBAL	MBLS	MMAC	MMED	REGION_CHK	CNTRY_CHK
270	Polygon	9160	0	100	0	0	0	0	0	0	0	100	0	0	0	0	keep	keep
271	Polygon	91E0	0	100	0	0	0	0	0	0	0	100	0	0	0	0	keep	keep
272	Polygon	91E0	0	100	0	0	0	0	0	0	0	100	0	0	0	0	keep	keep
273	Polygon	91E0		100	0	0	0	0	0	0	0	0	0	0	0	0	keep	keep
274	Polygon	9100		100	0	0	0	0	0	0	0	0	0	0	0	0	keep	keep
275	Polygon	9160	0	D	0	0	0	0	0	0	0	100	0	0	0	0	remove	keep
278	Polyton	9150	0	100	0	0	0	0	0	0	0	100	D	0	0	0	keep	beegs
277	Polygon	9160	0	100	0	0	0	0	0	0	0	100	0	0	0	0	keep	heep

The text files that accompany the shape file output contain the range area of species/habitat type per biogeographic region. The .csv labelled "full" will contain the range area as calculated. The .csv labelled "filtered" will contain the range area MINUS the area of the grids that have been recommended for deletion in the output shape file. This can be based on grids recommended for deletion for not meeting the biogeographic region criteria (REGION_CHK), the country check criteria (CNTRY_CHK) or a combination of the two

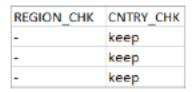
(extended list in section 3.4). Both files will contain the same number of records, the only difference will be the areas calculated by the tool.

It is from the text files that the range area value is extracted for entry to the reporting tool; field 5.1 in the species report and field 4.1 in the habitats report.

Figure 3-2 The resulting text file containing the calculated range for each species or habitat type.

Code	ALP	ATL	BLS	BOR	CON	MAC	MED	PAN	STE	MATL	MBAL	MBLS	MMAC	MMED
7230	0	47900	0	0	0	0	0	0	0	9400	0	0	0	0
8110	0	19100	0	0	0	0	0	0	0	9400	0	0	0	0
3140	0	32500	0	0	0	0	0	0	0	7100	0	0	0	0
6410	0	35100	0	0	0	0	0	0	0	8600	0	0	0	0

Where a habitat/species code is not recognised in the country or region within the country, this will be denoted by "-" in the "full" .csv file and will not be present in the "filtered" .csv file.



3.4. Rules applied to calculating the range

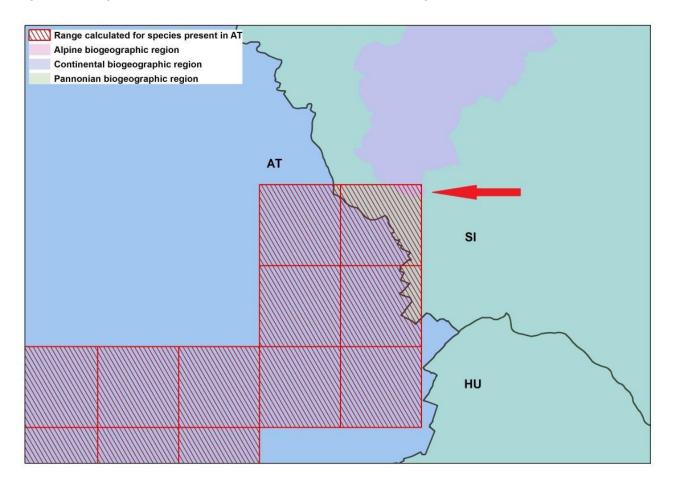
The tool identifies the following unsuitable areas that should be excluded from the calculated range:

- marine areas automatically included in the range of terrestrial species;
- terrestrial areas automatically included in the range of marine species;
- areas beyond national boundaries

These grids are denoted in the attribute table columns 'CNTRY_CHK' and 'REGION_CHK'. As the tool processes the data, it checks whether the feature has been reported in a biogeographic region by the Contracting Party (REGION_CHK) and whether the resulting range grids fall outside the Contracting Party or not (CNTRY CHK).

Where a grid crosses a country boundary and multiple biogeographic regions, the regions identified within the cell will all be counted towards the range calculation even if the biogeographic region overlapping the cell occurs in the neighbouring country. The tool is not able to identify this as a potential grid for deletion from the range. This is illustrated below in figure 3.3

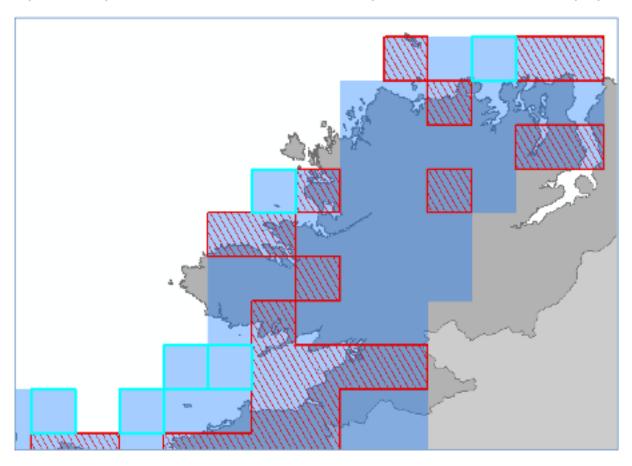
Figure 3-3 Range calculated for a terrestrial habitat across Contracting Parties State boundaries.



E.g. a range is calculated for a species present in AT. A grid cell that falls across the AT and SK country border contains CON biogeographic region in the AT part of the grid and both PAN and ALP in the SK part. The grid will automatically be counted as an ALP grid for the feature in AT even though it is in another country. As PAN biogeographic region is not present in AT, this will not be an issue. These situations need to be checked by the Contracting Party and should be deleted from the final range calculation (i.e. check these cells in the shape file and filter these cells out of the csv labelled "filtered" before extracting the range).

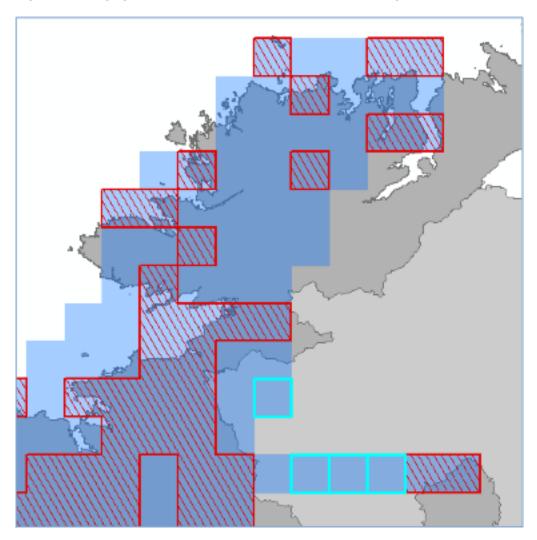
Below is an example of range grids recommended for deletion based on the habitat being terrestrial and not marine.

Figure 3-4 Range calculated for a terrestrial habitat with the grids recommended for deletion highlighted.



The habitat distribution reported by the Contracting Party is denoted by red squares, the calculated range is denoted by the transparent blue grid and those grids recommended for deletion are highlighted by bright blue (figure 3.4). These grids were highlighted by the range tool as not being appropriate for inclusion in the range calculation as they are either coastal or exclusively marine whereas the habitat is terrestrial (REGION_CHK).

Figure 3-5 Range grids recommended for deletion based on being located outside the Contracting Party



For the same habitat in the same Contracting Party, figure 3.5 shows those grids recommended for deletion from the range calculation based on them being located in another Contracting Party. The reason they were included in the original range calculation is because a gap distance of 50 km was used (as recommended for habitats) and as the gap between the adjacent cells where the habitat was reported (red cells) is under 50 km, these cells in between were included.

Important note: The gap distance is calculated from the center point of one grid cell to the center point of the next grid cell unlike the previous tool which calculated the gap distance from the cell edge. This means that the gap distance entered should be increased by one grid cell (i.e. if 10 x 10 km grid is used, the gap distance entered needs to be increased by 10000 so a gap of 4 should be entered as 50000 etc, figure 3.5).

The tool does not automatically remove any cells, it only marks which cells are recommended for removal by the user based on the criteria above. Any other modifications of the file will require the user to recalculate the Range values (km²).

Important note: the tool works currently for 10 x 10 km resolution (the option to use 1 x 1 km resolution is under preparation).