



Activities-Pressures Database

User Guide

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Activities – Pressures Matrix Database: User guide

Contents

| | | |
|-----|--|----|
| 1 | Introduction | 3 |
| 1.1 | Summary..... | 3 |
| 1.2 | Evidence levels | 3 |
| 1.3 | Confidence levels..... | 3 |
| 1.4 | References..... | 4 |
| 2 | Opening the database | 5 |
| 2.1 | File name | 5 |
| 2.2 | Security settings..... | 5 |
| 3 | Main menu form | 6 |
| 3.1 | Show Activities..... | 6 |
| 3.2 | Show Sub-activities..... | 6 |
| 3.3 | Show Pressures | 6 |
| 3.4 | Show Sub-activities by Activity | 7 |
| 3.5 | Show Activities-Pressures Matrix | 8 |
| 4 | Activities – Pressures Matrix | 9 |
| 5 | Other options..... | 9 |
| 5.1 | Export options | 9 |
| 6 | Annex I: Version Control..... | 10 |

1 Introduction

1.1 Summary

Coastal and marine ecosystems are subject to a number of human-induced pressures associated with a variety of marine activities. As such, it is important to understand the links between human activities and pressures and the evidence behind such links.

In 2013, JNCC compiled an activities-pressures matrix which identified 39 human use activity categories and 34 human pressure types. In 2015, Defra commissioned a project led by ABPmer and Cefas, and funded by the UK Marine Strategy Framework Directive (MSFD) Biodiversity Indicators Research and Development Funders' Group¹, to develop the evidence base for understanding the relationships between these human activities and pressures within the marine environment (Defra, 2015).

A series of spreadsheets were produced as part of the project to record the outputs of the literature review, including the collated evidence for links between the human activities and sub-activities and the relevant pressures. These spreadsheets have been converted into a database, created by JNCC.

1.2 Evidence levels

A scientifically robust evidence base which demonstrates the links between the activities (split into a series of sub-activities) and pressures has been created. This was based on an evidence gathering process as follows:

1. The identification and capturing of evidence that a particular sub-activity results in a pressure;
2. A review of the evidence, more specifically, with respect to potential exceedance of a previously defined benchmark (based on Tillin *et al*, 2010); and,
3. The assignment of a confidence score to the overall evidence relating to the sub-activity-pressure relationship.

Following this review, the evidence has been recorded according to the following categories:

- Sub-activity results in pressure but no benchmark set
- Sub-activity results in pressure but no evidence available
- Sub-activity results in pressure but no evidence available with respect to the specified benchmark
- Sub-activity results in pressure below the benchmark
- Sub-activity has the potential to result in pressure at or above the benchmark

1.3 Confidence levels

A review of confidence assessment methods was undertaken to support step 3 above. The full details of the review and the confidence method used can be found in the report (Defra, 2015). The confidence score is used in the database according to the criteria outlined in Table 1.

¹ The MSFD Biodiversity Indicators Research and Development Funders' Group was formed to assist with funding and oversee research required to develop biodiversity related indicators for the MSFD and is supported by the Healthy and Biologically Diverse Seas Evidence Group (HBDSEG). The Funders' Group consists of representatives from Defra, Welsh Government, Department of the Environment for Northern Ireland, Marine Scotland, Joint Nature Conservation Committee and the Chair of HBDSEG.

Table 1: Confidence scores and their definitions.

| Confidence Score | Definition |
|-------------------------|---|
| High | There is a good understanding of the activity-pressure relationship and/or the assessment is well supported by evidence. There is consensus amongst the experts. |
| Medium | Whilst there is an understanding of the activity-pressure relationship, this may be based on limited evidence and/or proxy information. There is a majority agreement between experts; but conflicting evidence/opposing views exist. |
| Low | There is limited or no understanding of the activity-pressure relationship and/or the assessment is not well supported by evidence. There is no clear agreement amongst experts. |

1.4 References

Defra. 2015. Validating an Activity-Pressure Matrix, Report R.2435, pp73. Available from: http://randd.defra.gov.uk/Document.aspx?Document=13051_ME5218FinalReport.pdf

Tillin, H.M., Hull, S.C., Tyler-Walters, H. 2010. Development of a Sensitivity Matrix (pressures-MCZ/MPA features). Report to the Department of Environment, Food and Rural Affairs from ABPMer, Southampton and the Marine Life Information Network (MarLIN) Plymouth: Marine Biological Association of the UK. .Defra Contract No. MB0102 Task 3A, Report No. 22

2 Opening the database

2.1 File name

Internal JNCC users should copy the file called `Activities_Pressures_database_1.0.mdb` to the D drive on your own computer. This file contains the user interface for the database and links to the data which is stored separately on the network. It is possible to open the `Activities_Pressures_database_1.0.mdb` file directly from its location on the network, but this could lead to multiple people using the file at once which increases the chance of it becoming corrupted and as such should not be done.

External users should use the file called `Activities_Pressures_database_1.0_external.mdb`. This file contains both the user interface and the data.

2.2 Security settings

When you first open the database, you may see a security warning in a box below the ribbon saying that certain content in the database has been disabled (Figure 1). This will prevent the user interface from working. To enable this content, select “Options...”, then select “Enable this content” and click OK.

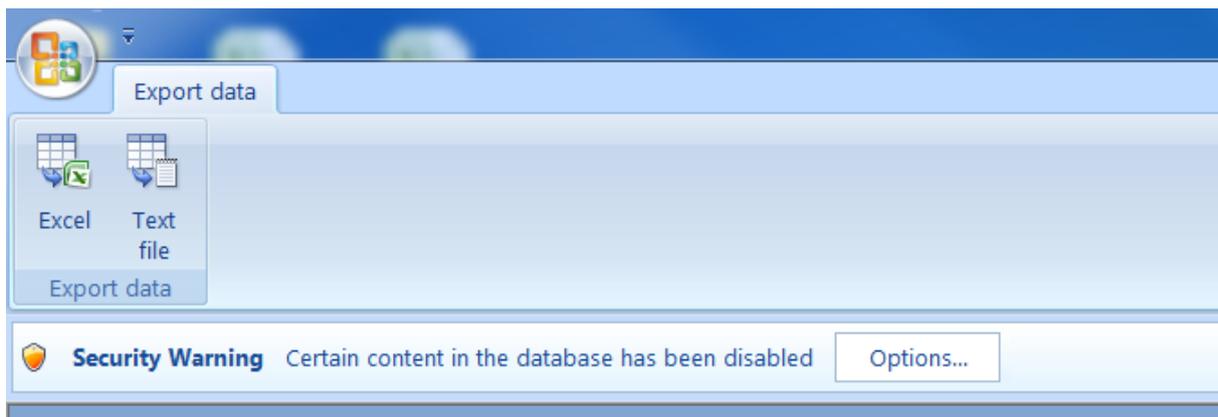


Figure 1: Security warning.

To prevent this warning appearing in future you can add the location of the database file as a trusted location. To do this, click the circular Office button in the top left corner and select Access Options. Then select “Trust Center” on the left of the window and click the button that says “Trust Center Settings...”. In the next window select “Trusted Locations”, then use the “Add new location...” button to add the folder containing the database file that you are using. Press OK to close both windows, then close and re-open the database. The security warning should no longer appear and the database will work correctly.

3 Main menu form

When the database opens, the main menu form will appear (Figure 2).

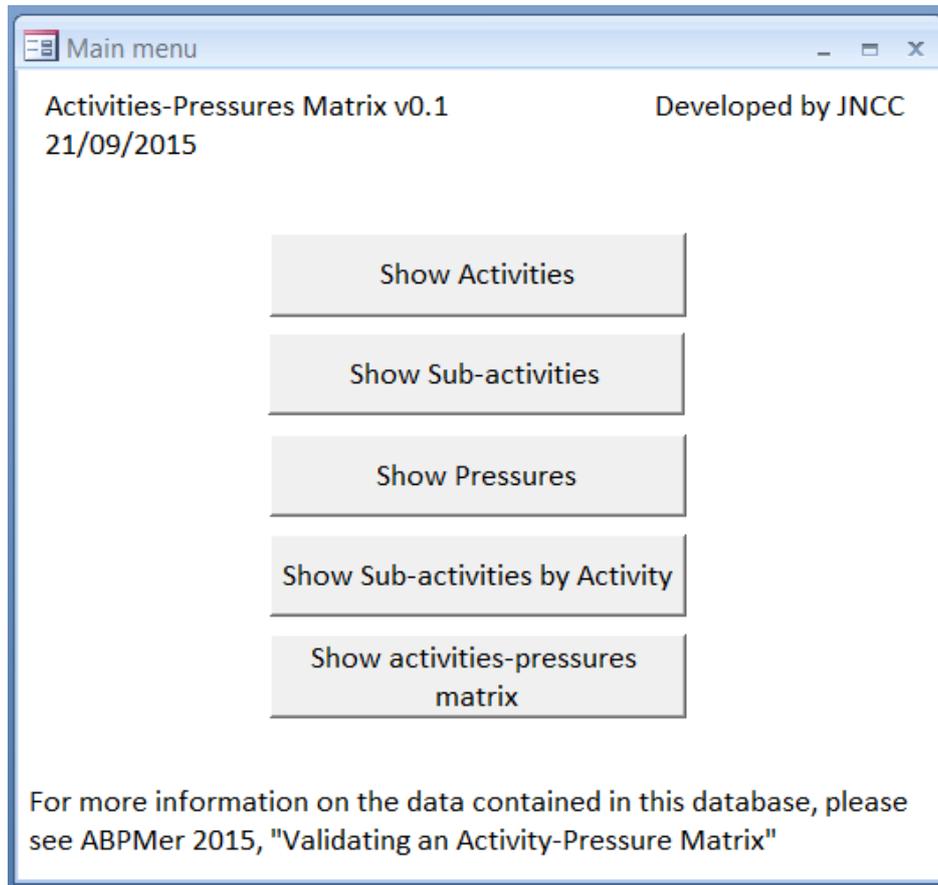


Figure 2: The main menu form.

The main menu form has five options that enable you to navigate around the different parts of the database:

3.1 Show Activities

This button opens a report that shows all of the activities. The activities are grouped by category and include a description, and are based on the [Standard List of Human Activities in the Marine Environment](#). Note that several different fishing activities are present in this list, but in the main Activities – Pressures matrix these are merged into a single fishing activity.

3.2 Show Sub-activities

This button shows the list of sub-activities developed for this project by ABPmer. The sub-activities are grouped by activity phases (Pre-construction, Construction, Operation and Decommissioning). Some sub-activities occur in multiple activity phases, such as vessel movements.

3.3 Show Pressures

This button shows the list of pressures used in this project, grouped by pressure theme. This is taken from the [list of defined pressures](#) agreed by the OSPAR Intercessional Group on Cumulative Effects.

3.4 Show Sub-activities by Activity

This button opens a form which shows the sub-activities that are relevant to a particular activity. The form has two selection boxes (Figure 3).

| Activity Category | Activity | Activity Phase | Sub-Activity |
|---------------------|--------------------------------|------------------|------------------------|
| Show all activities | Coastal defence & land claim p | Pre-construction | Acoustic devices |
| | | Pre-construction | Sampling |
| | | Pre-construction | Vessel movements |
| | | Pre-construction | Mooring/anchoring |
| | | Construction | Vessel movements |
| | | Construction | Mooring/anchoring |
| | | Construction | Piling |
| | | Construction | Dredging |
| | | Construction | Disposal |
| | | Construction | Placement of structure |
| | | Construction | Burial of structure |
| | | Construction | Blasting |
| | | Operation | Vessel movements |
| | | Operation | Mooring/anchoring |
| | | Operation | Disposal |
| | | Operation | Presence of structure |
| | | Decommissioning | Vessel movements |
| | | Decommissioning | Mooring/anchoring |
| | | Decommissioning | Blasting |
| | | Decommissioning | Removal of structure |
| | | * | |

Figure 3: Sub-activities by activities form.

- The Activity box can be used to select the desired activity. The sub-activities relevant to this activity will then be shown in the table below.
- The Activity Category box can be used to filter the list of activities in the activity control to activities from a single category, making it easier to find the desired activity.

3.5 Show Activities-Pressures Matrix

This button opens a form that gives a range of filtering options (Figure 4). The filters work using list boxes in which one or multiple options can be selected. Note that selecting none of the options in a list box is equivalent to selecting all of them, so if no filters are selected the matrix will be shown for all activities, sub-activities and pressures. Once the desired filters have been selected, the “Show activities-pressures matrix” button on this form then opens the activities-pressures matrix, showing only the activities, sub-activities and pressures selected.

The filter options are split into four separate tabs, and filters from more than one tab can be applied simultaneously.

Choose PA matrix filters

Please choose the filters you wish to apply. If you do not select any filters, all data will be displayed.

Activity | Sub-activity | Pressure | Other

Activity category

- Coastal management activites
- Waste management activites
- Extraction of living resources
- Production of living resources

Activity

- Coastal defence & land claim protection (incl. beach replenishment)
- Coastal docks, ports and marinas
- Waste gas emissions
- Industrial and agricultural liquid discharges
- Sewage disposal
- Waste disposal - munitions (chemical and conventional)
- Power stations - thermal effluent and nuclear discharge
- Harvesting - seaweed and other sea-based food (bird eggs, shellfish, etc.)
- Extraction of genetic resources e.g. bioprospecting & maerl (blue technology)
- Aquaculture - fin-fish
- Aquaculture - shellfish

Reset form

Show activites-pressures matrix

Figure 4: The filter selection form.

3.5.1 Activity tab

This tab can be used to filter based on activity. Activities are selected in the lower list box, and multiple activities can be selected. The activity categories in the upper list box can be used to show the activities-pressures matrix for all activities in a particular activity category. It also filters the activity list in the lower list box, so can be used to make it easier to find a specific activity.

3.5.2 Sub-activity tab

This tab works similarly to the Activity tab, but the upper list box shows the activity phases and the lower list box shows the sub-activities.

3.5.3 Pressure tab

This tab works similarly to the Activity tab, but the upper list box shows the pressure themes and the lower list box shows the pressures.

3.5.4 Other tab

This tab has two independent list boxes. The upper list box can be used to filter on evidence level (see [section 1.2](#)), showing the activities-pressures matrix only for activity-pressure linkages resulting in pressures at particular evidence levels. The lower list box can be used to filter on the confidence level of the activity-pressure link (see [section 1.3](#)).

4 Activities – Pressures Matrix

The matrix shows the pressures that are linked to each sub-activity and each activity, and the evidence for each link. Each line also contains a comment button which will open a form where you can add a comment on the evidence for that specific activity – sub-activity – pressure link. Please use this button to add comments if you find any errors in the matrix, or to make us aware of additional evidence that may either have been missed in the original literature review, or that may have been published or released since the literature review was completed. Note that for non-JNCC users, this functionality will store your comments locally on your own system. Please contact james.hutchison@jncc.gov.uk for instructions on how to forward these on to JNCC, or send any comments directly by e-mail.

5 Other options

5.1 Export options

Controls to export to Excel or to a text file are shown on the ribbon at the top of the page. These can be used to export table-like data to Excel, or to text formats such as csv files. They should be used when a table is open (e.g. a report). They will also attempt to export other objects including forms with buttons, but the results will not be useful.

6 Annex I: Version Control

BUILD STATUS:

| Version | Date | Author | Reason/Comments | Classification required? |
|---------|------------|-------------------------------------|-----------------|--------------------------|
| 1 | 09/11/2015 | James Hutchison, Frances Peckett | First draft | |

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