# Cumulative impact Assessment Toolbox user manual

**Pan Baltic Scope 1.2.3 Cumulative impacts**

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## **The toolbox**

Cumulative impact Assessment Toolbox is created as an *ArcGIS Toolbox*. It contains 6 tools: Baltic Sea Impact Index tool (BSII tool), Baltic Sea Pressure Index tool (BSPI tool), Ecological Value tool (EV tool), Ecosystem Service tool (ES tool), Baltic Sea Impact Index Batch tool for Ecological Values or Ecosystem Services (BSII Batch tool) and Sensitivity score matrices for BSII Batch tool.

## **Software requirements**

The *ArcGIS Pro* software with the *Spatial Analyst* extension is required to open the toolbox and run tools. All tools are scripts written in the *Python* programming language using mainly *ArcPy* and *NumPy Python* site packages. The toolbox can be opened in *ArcGIS Pro* software. It has been tested in *ArcGIS Pro 2.3.0* environment on *Windows OS*.

## **Getting toolbox**

The toolbox package can be downloaded from [Github](https://github.com/helcomsecretariat/Cumulative-impact-Assessment-Toolbox).

## **Toolbox package content**

Downloaded ZIP package can be extracted to the folder in the computer’s local drive. The package contains:

* README.md – a toolbox description file with a license.
* *Cumulative impact Assessment Toolbox.tbx* – an *ArcGIS* file that contains the toolbox interface. Can be opened with *ArcGIS* *Pro* software.
* *Cumulative impact Assessment Toolbox.tbx.xml* – a toolbox metadata file.
* *Source* – a folder that contains *Python* source code files.
* *Rasters* – a folder with *Ecosystem* and *Pressures* sub-folders, which contain georeferenced *TIFF* rasters. These are the default rasters for use with the toolbox tools. Default rasters can be replaced with own rasters, or own rasters can be used along with default rasters. To read more about this, see Section 12.
* *Matrices* – a folder with *CSV* files. These are the default matrices used with the toolbox tools. Matrices values can be modified if wanted. Semicolon “;” should be used as *CSV* values delimiter.
* *HELCOM Cumulative impact Assessment Toolbox user manual.docx – a toolbox user manual.*

For the tools to function, the folder structure should not be changed.

## **Launching tools**

Tools can be launched using *ArcGIS* *Pro* software.

In order to launch tools for the first time, please perform the following actions:

1. Start *ArcGIS* *Pro* software.
2. Create a new project with a blank *Catalog* template.
3. Verify that the *Spatial Analyst* extension is available (click the *Project* tab on the ribbon, *Licensing -> Esri Extensions*).
4. Open the *Folders* pane in the *Catalog* view.
5. Right-click and add the toolbox package folder to the project by navigating to extracted folder and selecting it.
6. Open the *Toolboxes* pane in the *Catalog* view.
7. Right-click and add the toolbox to the project by navigating to extracted folder and selecting the *Cumulative impact Assessment Toolbox*.*tbx* file.
8. Save the project.
9. Double-click *Cumulative impact Assessment Toolbox* to view tools. Double-click the desired tool to open it.
10. To run the tool, select or enter parameters and press the *Run* button.
11. Click the *View* *details* link. Expand and resize *Details* window to see the tool’s performance.

When launching tools after the first time there is no need to perform steps 2 – 8, instead open the saved project.

## **Baltic Sea Impact Index tool (BSII tool)**

Calculates the Baltic Sea Impact Index. The tool uses data layers on ecosystem components and pressures (raster layers), as well as a sensitivity scores matrix as input, and creates a BSII grid layer as output. The tool also creates a BSII statistics matrix, which shows how much each ecosystem component and pressure combination contributes to total impact.

The tool accepts following user input parameters:

1. **Sensitivity scores matrix *CSV* file (required)** – Sensitivity scores for the tool are stored as a 2D matrix in a *CSV* file. The first row contains pressure layer names, the second row the pressure layer codes (The same codes must be used to name the pressure layer files used in the tool). The first column contains ecosystem component layer names, and the second column the ecosystem component layer codes (The same codes must be used to name the ecosystem component layer files used in the tool).

The sensitivity scores matrix should include information and correct codes for all ecosystem component layer files to be used (in the rows) and for all pressure layer files to be used (in the columns), and these files should be located in the correct folders as specified below.

The default sensitivity scores matrix is stored in the file *Matrices/EC\_PL\_sensitivity\_scores.csv* in the tools package and can be used with the default data of the tool.

1. **Ecosystem Component layers folder (required)** – A folder where ecosystem component layer files are stored. The layers should be *TIFF* rasters and be named the same as the ecosystem component layer codes in the second column of the sensitivity scores file. The HELCOM ecosystem component layers provided as default follow these specific requirements:
   1. Ecosystem component layers are named using the following text pattern: “*EC\_##.tif*”, where ## is a unique two symbols. E.g.: *EC\_01.tif*.
   2. All layers are stored in *TIFF* file format and using the *LZW* compression method.
   3. Layers are projected in the *EPSG:3035* (*ETRS89/LAEA Europe*) projected coordinate system.
   4. The raster cell size is 1000x1000 meters.
   5. Each raster contains values between 0 and 1 only.

All the HELCOM ecosystem component layers are created based on a 1 km resolution EEA reference grid. Cells are taken on board the raster if at least some part of the cell touches the Baltic Sea marine area based on the EEA coastline. All HELCOM raster layers have the same extent, pixel size, and follow the same coastline.

The default ecosystem component layers are stored in the *Rasters/Ecosystem* folder in the tools package.

1. **Pressure layers folder (required)** – A folder where pressure layer files are stored. The layers should be *TIFF* rasters and be named the same as the pressure layer codes in the second row of the sensitivity scores file. The HELCOM pressure layers provided as default follow these specific requirements:
   1. Pressure layers are named using the following text pattern: “*PL\_##.tif*”, where ## is a unique two symbols. E.g.: *PL\_01.tif*.
   2. All layers are stored in *TIFF* file format and using the *LZW* compression method.
   3. Layers are projected in the *EPSG:3035* (*ETRS89/LAEA Europe*) projected coordinate system.
   4. The raster cell size is 1000x1000 meters.
   5. Each raster contains values between 0 and 1 only.

All the HELCOM pressure layers are created based on a 1 km resolution EEA reference grid. Cells are taken on board the raster if at least some part of the cell touches the Baltic Sea marine area based on the EEA coastline. All HELCOM raster layers have the same extent, pixel size, and follow the same coastline.

The default pressure layers are stored in the *Rasters/Pressures* folder in the tools package.

1. **Ecosystem Component layers list (required)** – The list is populated after selecting an ecosystem component layers folder. The user can select layers from the list to include in the BSII calculation.
2. **Pressure layers list (required)** – The list is populated after selecting a pressure layers folder. User can select layers from the list to include in the BSII calculation.
3. **Calculate statistics matrix (required)** – Option to calculate a BSII statistics matrix, which shows how much each ecosystem component and pressure combination contributes to total impact.
4. **Output folder (required)** – An existing folder where the BSII raster and statistics matrix will be saved.
5. **BSII raster name (required)** – A name for resulting BSII raster *TIFF* file.
6. **Statistics matrix name (required, if “Calculate statistics matrix” is checked)** – A name for the statistics matrix *CSV* file.

The tool creates the following output:

* BSII raster in TIFF format
* Statistics matrix in CSV format, if the “Calculate statistics matrix” parameter is checked.

Source code: *Source/BSII\_tool.py*

## **Baltic Sea Pressure Index tool (BSPI tool)**

Calculates the Baltic Sea Pressure Index. The tool uses data layers on pressures (raster layers), as well as a sensitivity scores matrix as input, and creates a BSPI raster layer as output.

The tool accepts the following user input parameters:

1. **Sensitivity scores matrix CSV file (required)** – Sensitivity scores for the tool are stored as a 2D matrix in a *CSV* file. The first row contains pressure layer names, the second row the pressure layer codes (The same codes must be used to name pressure layer files used in this tool). The first column contains names of the ecosystem component layers to be considered in the calculation, and the second column the corresponding ecosystem component codes.

The sensitivity scores matrix should include information and codes for ecosystem component layer files to be used (in the rows) and for all pressure layer files to be used (in the columns), and pressure layer files should be located in the correct folder as specified below.

The default sensitivity scores matrix is stored in the file *Matrices/EC\_PL\_sensitivity\_scores.csv* in the tools package and can be used with the tool.

1. **Pressure layers folder (required)** – A folder where pressure layer files are stored. The layers are *TIFF* rasters and should have the same names as the pressure layer codes in the second row in the corresponding sensitivity scores file. The HELCOM pressure layers provided with the tool follow these specific requirements:
   1. Pressure layers are named using the following text pattern: “*PL\_##.tif*”, where ## is a unique two symbols. E.g.: *PL\_01.tif*.
   2. All layers are stored in *TIFF* file format and using the *LZW* compression method.
   3. Layers are projected in the *EPSG:3035* (*ETRS89/LAEA Europe*) projected coordinate system.
   4. The raster cell size is 1000x1000 meters.
   5. Each raster contains values between 0 and 1 only.

All the HELCOM pressure layers are created based on a 1 km resolution EEA reference grid. Cells are taken on board the raster if at least some part of the cell touches the Baltic Sea marine area based on the EEA coastline. All HELCOM raster layers have the same extent, pixel size, and follow the same coastline.

The default pressure layers are stored in *Rasters/Pressures* folder in tools package and can be used with the tool.

1. **Calculation method (required)** – *SUM* or *Weighted SUM* methods:
   1. SUM – BSPI is calculated as the sum of all pressure layer values in each location.
   2. Weighted SUM – each pressure layer is first multiplied by the MEAN of all sensitivity scores for that layer. Then, the sum of all pressure layer values in each location is calculated.
2. **Pressure layers list (required)** – The list is populated after selecting a pressure layers folder. The user can select layers from the list to include in the BSPI calculation.
3. **Output folder (required)** – An existing folder where the resulting BSPI raster will be saved.
4. **BSPI raster name (required)** – A name for the resulting BSPI raster *TIFF* file.

The tool creates a BSPI raster in TIFF format

Source code: *Source/BSPI\_tool.py*

## **Ecological Value tool (EV tool)**

Supports the identification of areas with high ecological value. The tool uses data layers on ecosystem components (raster layers) and an ecological value matrix as input. The assessment is in the first step performed for each selected ecological value criterion and ecosystem component group, as identified by the matrix, and then the resulting layers are further aggregated. Outputs are raster layers for each combination of criterion and group, all criteria within each group, and as a total ecological value raster layer.

The tool accepts the following user input parameters:

1. **Ecological Value coefficients matrix *CSV* file (required)** – Ecological value coefficients are stored as a 2D matrix in a *CSV* file. The second row in the CSV file gives columns headers. The following headers should always be present in the matrix file:
   1. **EC CODE** – a header for ecosystem component layer codes. Codes in this column should start with the “*EC\_*” prefix. The same codes must be used to name ecosystem component layer files used in the tool.
   2. **GROUP BY** – a header for ecosystem component group codes. For each row, ecosystem component layers are assigned to the group indicated by this code. Codes in this column should start with the “*ECG\_*” prefix.
   3. **“EV\_”** – coefficients headers. Each header should start with the “*EV\_*” prefix. The total number of “EV\_” headers (columns) in the matrix is the number of ecological value criteria to include. In each row, coefficient values 1 or 0 inform whether to include the ecosystem component layer in the concerned ecological value criterion or not.

A default coefficients matrix is stored in the file *Matrices/EV\_matrix.csv* in the tools package and can be used with the tool.

1. **Ecosystem Component layers folder (required)** – A folder where ecosystem component layer files are stored. The layers are *TIFF* rasters and should be named the same as the codes in the **EC CODE** column in coefficients matrix file. The HELCOM ecosystem component layers provided with the tool follow these specific requirements:
   1. Ecosystem component layers are named using the following text pattern: “*EC\_##.tif*”, where ## is a unique two symbols. E.g.: *EC\_01.tif*.
   2. All layers are stored in *TIFF* file format and using the *LZW* compression method.
   3. Layers are projected in the *EPSG:3035* (*ETRS89/LAEA Europe*) projected coordinate system.
   4. The raster cell size is 1000x1000 meters.
   5. Each raster contains values between 0 and 1 only.

All the HELCOM ecosystem component layers are created based on a 1 km resolution EEA reference grid. Cells are taken on board the raster if at least some part of the cell touches the Baltic Sea marine area based on the EEA coastline. All HELCOM raster layers have the same extent, pixel size, and follow the same coastline.

The default ecosystem component layers folder is stored in the *Rasters/Ecosystem* folder in the tools package and can be used with the tool.

1. **Ecological Values criterion list (required)** – The list is populated after selecting an ecological value coefficients matrix *CSV* file. The user can select which criteria to include in the calculations.
2. **Ecosystem Component group list (required)** – The list is populated after selecting ecological value coefficients matrix *CSV* file. The user can select which groups to include in the calculation.
3. **Output folder (required)** – An existing folder where a result folder with Ecological Value rasters will be saved.
4. **Result folder name (required)** – A name for the result folder.

The tool creates a folder with the following rasters in *TIFF* format:

* Assessment layers for each combination of ecological value criterion and ecosystem component group.
* Aggregated layers of all criteria within each group.
* A total ecological value layer.

Source code: *Source/EV\_tool.py*

## **Ecosystem Service tool (ES tool)**

Supports the identification of areas with high potential provision of ecosystem services. It uses data layers on ecosystem components (raster layers) and an ecosystem services matrix as input. The assessment is in the first step performed for each selected ecosystem service and ecosystem component sub-group, as identified by the matrix, and these are then further aggregated. Output layers are created for: each combination of ecosystem service and ecosystem component sub-group, as an aggregated result for each ecosystem component sub-group, and as a total ecosystem service raster layer.

The tool accepts the following user input parameters:

1. **Ecosystem Service coefficients matrix *CSV* file (required)** – Ecosystem service coefficients for the tool are stored as a 2D matrix in a *CSV* file. The second row in the CSV file is a columns headers row. The following headers should always be present in the matrix file:
   1. **EC CODE** – a header for ecosystem component layer codes. Codes in this column should start with “*EC\_*” prefix. The same codes must be used to name ecosystem component layer files used in the tool.
   2. **GROUP BY** – a header for ecosystem component sub-group codes. For each row, ecosystem component layer are assigned to the sub-group indicated by this code. Codes in this column should start with “*ECSG\_*” prefix.
   3. **“ES\_”** – coefficients headers. Each header should start with “*ES\_*” prefix. The total number of “ES\_” headers (columns) in the matrix is the number of ecosystem services to include. In each row, coefficient values 1 or 0 inform on whether to include the ecosystem component layer in the concerned ecosystem services or not.

The default coefficients matrix is stored in the file *Matrices/ES\_matrix.csv* in the tools package and can be used with the tool.

1. **Ecosystem Component layers folder (required)** – A folder where ecosystem component layer files are stored. The layers are *TIFF* rasters and should have the same names as the codes in the **EC CODE** column in coefficients matrix file. The HELCOM ecosystem component layers provided with the tool follow these specific requirements:
   1. Ecosystem component layers are named using the following text pattern: “*EC\_##.tif*”, where ## is a unique two symbols. E.g.: *EC\_01.tif*.
   2. All layers are stored in *TIFF* file format and using the *LZW* compression method.
   3. Layers are projected in the *EPSG:3035* (*ETRS89/LAEA Europe*) projected coordinate system.
   4. The raster cell size is 1000x1000 meters.
   5. Each raster contains values between 0 and 1 only.

All the HELCOM ecosystem component layers are created based on a 1 km resolution EEA reference grid. Cells are taken on board the raster if at least some part of the cell touches the Baltic Sea marine area based on the EEA coastline. All HELCOM raster layers have the same extent, pixel size, and follow the same coastline.

The default ecosystem component layers folder is stored in the *Rasters/Ecosystem* folder in the tools package and can be used with the tool.

1. **Ecosystem Services list (required)** – The list is populated after selecting ecosystem service coefficients matrix *CSV* file. The user can select which ecosystem services to include in the calculation.
2. **Ecosystem Component sub-group list (required)** – The list is populated after selecting ecosystem service coefficients matrix *CSV* file. The user can select which sub-groups to include in the calculation.
3. **Output folder (required)** – An existing folder where a result folder with Ecosystem Service rasters will be saved.
4. **Result folder name (required)** – A name for the result folder.

The tool creates a folder with the following result rasters in *TIFF* format:

* Assessment layers for each combination of ecosystem service and ecosystem component sub-group.
* Aggregated layers of all ecosystem services within each sub-group.
* A total ecosystem services raster layer.

Source code: *Source/ES\_tool.py*

## **Sensitivity score matrices for BSII Batch tool**

Creates new sensitivity score matrices by combination of existing matrices. The default tool uses the BSII sensitivity scores matrix and either the ecological value or ecosystem services coefficients matrices as input and creates one specific sensitivity score matrix for each combination of ecological value criteria and ecosystem component group, or for each combination of ecosystem service and ecosystem component sub-group. Result matrices can be used as an input for **Baltic Sea Impact Index Batch tool for Ecological Values or Ecosystem Services (BSII Batch tool).**

The tool accepts the following user input parameters:

1. **Sensitivity scores matrix *CSV* file (required)** – Please refer to **Baltic Sea Impact Index tool (BSII tool)** sensitivity scores matrix *CSV* file description (Paragraph 6.1).
2. **Ecological Value or Ecosystem Services coefficients matrix *CSV* file (required)** – Depending on desired result, ecological value or ecosystem services coefficients matrix can be selected. Please refer to paragraphs 8.1 and 9.1 for descriptions.
3. **Output folder (required)** – An existing folder where the resulting sensitivity score matrices will be saved.

The tool creates a set of specific sensitivity scores matrices.

Source code: *Source/Matrices\_for\_BSII\_Batch.py*

## **Baltic Sea Impact Index Batch tool for Ecological Values or Ecosystem Services (BSII Batch tool)**

Calculates the Baltic Sea Impact Index with respect to areas identified as important for ecological value, or for the provision of ecosystem services. Upon selection, it addresses either each combination of ecological value criteria and ecosystem component group, or each combination of ecosystem service and ecosystem component sub-group, following the same structure as in the EV and ES tools, respectively. As input, the tool uses data layers on ecosystem components and pressures (raster layers), as well as a batch of specific sensitivity scores matrices. As output, it creates BSII grid layers for each matrix, as well as aggregated rasters following the ES or EV aggregation structures. Optionally, the tool also creates BSII statistics matrices. The sensitivity scores matrices needed as input to this tool can be created with the **Sensitivity score matrices for BSII Batch Tool**.

The tool accepts the following user input parameters:

1. **Calculation method (required)** – EV or ES methods:
   1. **EV** – to calculate the Baltic Sea Impact Index with respect to areas identified as important for ecological value.
   2. **ES** – to calculate the Baltic Sea Impact Index with respect to areas identified as important for the provision of ecosystem services.
2. **Sensitivity scores matrices folder (required)** – A folder with sensitivity scores matrices (a result folder from the **Sensitivity score matrices for BSII Batch Tool**):
   1. If the EV method is selected – the folder should contain sensitivity score matrices for each combination of ecological value criteria and ecosystem component group.
   2. If the ES method is selected – the folder should contain sensitivity score matrices for each combination of ecosystem service and ecosystem component sub-group.
3. **Ecosystem Component layers folder (required)** – A folder where ecosystem component layer files are stored. The layers are *TIFF* rasters and should have the same names as the ecosystem component layer codes in the second column of the sensitivity scores file. The HELCOM ecosystem component layers provided with the tool follow these specific requirements:
   1. Ecosystem component layers are named using the following text pattern: “*EC\_##.tif*”, where ## is a unique two symbols. E.g.: *EC\_01.tif*.
   2. All layers are stored in *TIFF* file format and using the *LZW* compression method.
   3. Layers are projected in the *EPSG:3035* (*ETRS89/LAEA Europe*) projected coordinate system.
   4. The raster cell size is 1000x1000 meters.
   5. Each raster contains values between 0 and 1 only.

All the HELCOM ecosystem component layers are created based on a 1 km resolution EEA reference grid. Cells are taken on board the raster if at least some part of the cell touches the Baltic Sea marine area based on the EEA coastline. All HELCOM raster layers have the same extent, pixel size, and follow the same coastline.

The default ecosystem component layers folder is stored in the *Rasters/Ecosystem* folder in the tools package and can be used with the tool.

1. **Pressure layers folder (required)** – A folder where pressure layer files are stored. The layers are *TIFF* rasters and should have same names as the pressure layer codes in the second row in the sensitivity scores file. The HELCOM pressure layers provided with the tool follow these specific requirements:
   1. Pressure layers are named using the following text pattern: “*PL\_##.tif*”, where ## is a unique two symbols. E.g.: *PL\_01.tif*.
   2. All layers are stored in *TIFF* file format and using the *LZW* compression method.
   3. Layers are projected in the *EPSG:3035* (*ETRS89/LAEA Europe*) projected coordinate system.
   4. The raster cell size is 1000x1000 meters.
   5. Each raster contains values between 0 and 1 only.

All the HELCOM pressure layers are created based on a 1 km resolution EEA reference grid. Cells are taken on board the raster if at least some part of the cell touches the Baltic Sea marine area based on the EEA coastline. All HELCOM raster layers have the same extent, pixel size, and follow the same coastline.

The default pressure layers folder is stored in the *Rasters/Pressures* folder in the tools package and can be used with the tool.

1. **Calculate statistics matrix (required)** – Option to calculate BSII statistics matrices, which show how much each ecosystem component and pressure combination contributes to total impact.
2. **Output folder (required)** – An existing folder where the resulting BSII rasters and statistics matrices will be saved.

The tool creates the following results:

* BSII rasters in *TIFF* format for each combination of ecological value criteria and ecosystem component group, or for each combination of ecosystem service and ecosystem component sub-group.
* BSII aggregated rasters in *TIFF* format of all ecological value criteria within each group, or of all ecosystem service within each sub-group.
* BSII total aggregated raster for impacts on ecological value or ecosystem services in *TIFF* format.
* Statistics matrices in *CSV* format, if “Calculate statistics matrix” parameter is checked.

Source code: *Source/BSII\_tool\_batch.py*

## **Using other raster layers**

Using the tool to assess other raster layers than the HELCOM rasters is possible and requires two actions:

* Add the other layers to the *Rasters/Ecosystem* and *Rasters/Pressures* folders, respectively, and rename them so that they follow the same naming pattern as the existing layers: e.g. “*EC\_50.tif*”, “*PL\_20.tif*”.
* Edit the corresponding files *Matrices/EC\_PL\_sensitivity\_scores.csv, Matrices/EV\_matrix.csv* or *Matrices/ES\_matrix.csv* according to instructions in the tool’s descriptions above, in order to add information about the new layers. Importantly, when adding new ecosystem component and/or pressure layers it is required to also add full information on the corresponding scores to the *CSV* sensitivity scores or coefficients files. Similarly, removing raster layers requires removing the correspondent rows/columns from the *CSV* sensitivity scores or coefficientsfiles.

In the BSII calculation approach all raster layers are normalized so that values range between 0 and 1.

### All layers should be stored in *TIFF* file format. Raster extent and resolution

It is possible to use rasters with different extent and resolution in the calculations at the same time. The extent of each raster is the extent of the raster cells with values other than NO DATA.

**If the input raster layers have different resolution (pixel size)**, then rasters will be resampled so that larger resolution rasters will fit the smallest resolution raster.

It is highly recommended that all rasters included in the calculations are based on the same grid (e.g. the [EEA reference grid](https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2#tab-additional-information)). In cases when input rasters with different resolution are used, the cells of the raster with smaller resolution should fit perfectly to the cells of the larger resolution rasters (Figure 1). If rasters are not based on the same grid (Figure 2) the resulting raster cell values may be not correct.

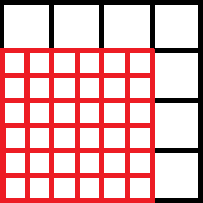
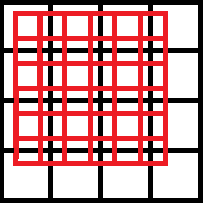


Figure 2: Different grid and different resolution (Erroneous)

Figure 1: Same grid and different resolution (Correct)

The recommended grid resolutions of the EEA are 100 m, 1 km, 10 km and 100 km. Alternatively, 25 m or 250 m resolution grids can be used in analyses where the standard 100 m or 1 km resolution grids are not appropriate. HELCOM 1 km and 250 m EEA resolution grids for the Baltic Sea can be downloaded from [HELCOM Meeting Portal Pan Baltic Scope workspace](https://portal.helcom.fi/workspaces/Pan%20Baltic%20SCOPE-140/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2Fworkspaces%2FPan%20Baltic%20SCOPE-140%2FShared%20Documents%2FWP%201%2E2%20Ecosystem-Based%20and%20Data%20Sharing%2F1%2E2%2E3%20Cumulative%20Impacts&FolderCTID=0x012000AA4883D0CB00E44580154BCF86BB8537&View=%7B2F187FEE-8726-4B26-9A56-16EFF75DF732%7D).