

The knowledge system of the Human-Ocean Relationship in Europe



Deliverable 3.2

*Analysis of sources of ocean
literacy (media types)
methodology used and first
results*

WP3

January 2017

The knowledge system of the Human-Ocean Relationship in Europe

WP3 Deliverable 3.2

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1. Introduction

From the viewpoint of ResponSEAbLe project, an ocean literate person has the capacity and willingness to act responsibly in professional, social and private situations that influence the marine environment. Even though the research project contributes to improving ocean literacy, it cannot directly increase the willingness to act of individual actors or actor groups. We understand effective communication as social actions between senders and receivers of information that help to increase the understanding of the actors own influence on issues of the marine environment as well as the benefits the ocean provides. However, an increase of understanding is a prerequisite for a positive impact on the willingness to act of the most relevant societal actors, may they be citizens or professionals from the field of Blue Growth.

By analysing the existing ocean literacy sources and by constructing a knowledge base, the project can structure existing knowledge and provide access to knowledge sources (via knowledge base), show and analyse how different societal actors receive their knowledge on certain subjects (and identify where there is a lack of it). As a result It can then test communication tools on the ocean literacy and it can show ways to expand effective communication activities to other pressuring issues of the human-ocean relationship.

For the objective to increase the ocean literacy of European actors, the project has identified the DAPSI(W)R¹ framework as the best option to structure existing knowledge in a way that allows an identification of our own influence on the ocean and the benefits that might be in danger if we do not act in a responsible manner. Because the existing knowledge amount of knowledge is vast, the project has narrowed down collection of existing knowledge to six challenges (key stories). The existing knowledge on these key stories along the framework is being collected and documented in the knowledge base (KB) and key story reports (under work of WP1). The concept of specific activities that put pressures to the marine environment (using the concept of value chain activities) was explored under the work of WP2 to deepen the understanding of relevant economic sectors, identify the most relevant stakeholders of these value chains for a positive change of the human-ocean relationship. A workflow to identify the most influential existing information resources as well as their content in order to assess the knowledge system regarding the six key stories and the information environment of the most relevant actor groups has been done under the WP3. The

¹ DAPSI(W)R = Drivers, Activities, Pressure, State, Impact, Welfare, Response. See Deliverable D1.1, ResponSEAbLe 2016.

elements of the knowledge system identified above lead to a synthesis in terms of the three dimensions of an effective use of information tools:

- existing knowledge,
- relevant actor groups for a positive change, and
- appropriate media types to communicate relevant knowledge to these actor groups.

In the current deliverable we present the work that has been done on the last one, methodology and on-going data collection. The overarching question of WP3 is the classic question of communication science (**'who – says what – in what channel – to whom – with what effect'**). The media analysis deals with the first four components of this question whereas the effect analysis tackles the final one. This report focuses on the workflow of the Ocean Literacy media analysis, its relevance for the overall process and its results. It serves as a description of the approach and methodology for the media analysis. The results of which will be described fully in the respective key story documents. This report also includes the specific guidelines for data gathering on all key stories (Annex 1) and a data spreadsheet for bulk uploading data to the knowledge base (Annex 2).

2. Ocean literacy resources: central elements for the collection of information

Collection of the information on ocean literacy resources has been based on the **classification system for media types** as well as the content of ocean literacy resources, which was developed earlier in the project (illustrated in depth in deliverable 3.1). Classification system and content classification of ocean literacy resources are the basis for identifying and gathering ocean literacy resources on the six key stories and are also core components of the Knowledge Base.

Classification of Media Types

The classification of media types follows the work of Yates & Orlikowski (2002)² on genre systems and their application to organizational communications. There the authors propose that genre

² Yates, J. & Orlikowski, W. (2002). Genre Systems: Structuring Interaction through Communicative Norms. *Journal of Business Communication*, 39 (1), 13-35. Alter S. 1995. *Information systems: a management perspective*. Redwood City, CA, USA: The Benjamin/Cummings Publishing Company Inc.

systems are a means of structuring six dimensions of communicative interactions. These dimensions are:

| | | | | | |
|------------------|----------------------------|---------------------|-------------------|---------------------|----------------------|
| 1. form (how) | 2. participants (who/m) | 3. place (where) | 4. time (when) | 5. purpose (why) | 6. content (what) |
|------------------|----------------------------|---------------------|-------------------|---------------------|----------------------|

For the dimension of form, a comprehensive classification of media types was established. The dimension of participants was equated with ‘actors’, so the respective classification system of the Knowledge Base was incorporated into the media analysis for senders and receivers of communications. For the dimension of purpose, five media functions of McQuail (2010)³ were integrated into the workflow. These comprise of (1) information, (2) correlation, (3) continuity, (4) entertainment, and (5) mobilization. In order to classify the content of communicative interactions in the field of the marine environment classifications for all components of the DAPSI(W)R framework have been adapted from existing ones.

Content Classification

As a common solution to describe the key stories, the value chain, and the content of media, , in existing classification system were adapted to the needs of the tasks of the project. The table below lists all sources used to build classification systems for the description of content along the DAPSI(W)R framework.

| Concept | Sources and adaptations |
|-------------------------------|--|
| Drivers | Classification of drivers of ecosystem change. (Nelson et al., 2006). |
| Activities | Aggregated classification of economic activities. (2008) (NACE Rev. 2). |
| Pressures | Classification of pressures from the EU Marine Strategy Framework Directive (MSFD, 2008/56/EC). |
| State | Indicative lists of characteristics of the environmental state from the EU Marine Strategy Framework Directive (MSFD, 2008/56/EC). |
| Impacts on the Environment | Adaption of medical classification of functioning, disability and health (Dahl, 2002), supplemented with general ecological functions. |
| Impacts on Ecosystem Services | Reduced classification of Ecosystem Services based on Common International Classification of Ecosystem Services (CICES) developed by the European Environment Agency (EEA) |
| Responses | Classification of environmental responses by nature of intervention (Chopra et al., 2005) |

Table 1: Sources of the classification system for all DAPSI(W)R elements

³ McQuail, D. (2010). McQuail’s Mass Communication Theory, Sixth Edition. Thousand Oaks, CA: Sage Publications, Ltd.

Target regions for media analysis

The aim of the media analysis is to assess and describe the existing structure of communication and information mechanisms (media) that are in use today. Therefore, the media classification and content classification are applied to identified ocean literacy resources in the target regions for all key stories. The following table summarizes the languages for which resources will be identified.

| Key Story | Region | Language |
|--------------------------------|--------------------|--|
| Eutrophication and agriculture | Baltic, Black | Estonian, Finnish, German, Latvian, Polish, English |
| Sustainable Fisheries | Atlantic | Portuguese, French, Dutch, English |
| Ballast water/invasive species | Baltic, Black, Med | Greek, Italian, Spanish, Lithuanian, German, English |
| Marine Renewable Energy | Atlantic | Portuguese, French, English |
| Microplastics and cosmetics | EU-wide | Estonian, Finnish, Norwegian, German, Spanish, French, Portuguese, Greek, Italian, Romanian, English |
| Coastal development/tourism | Med | Greek, Italian, Spanish, French, English |

Table 2: Key Stories, target regions, and relevant languages

The process

For the identification of relevant ocean literacy resources on the key stories, a three-part workflow has been laid down:

- (1) During interviews conducted in WP2 relevant stakeholders are asked to name information resources they trust, including specific examples of communicated information.
- (2) The same question is passed to interviewees of the WP3 effect analysis.
- (3) In addition to this direct input from stakeholders, an internet search is implemented based on the developed key story documents.

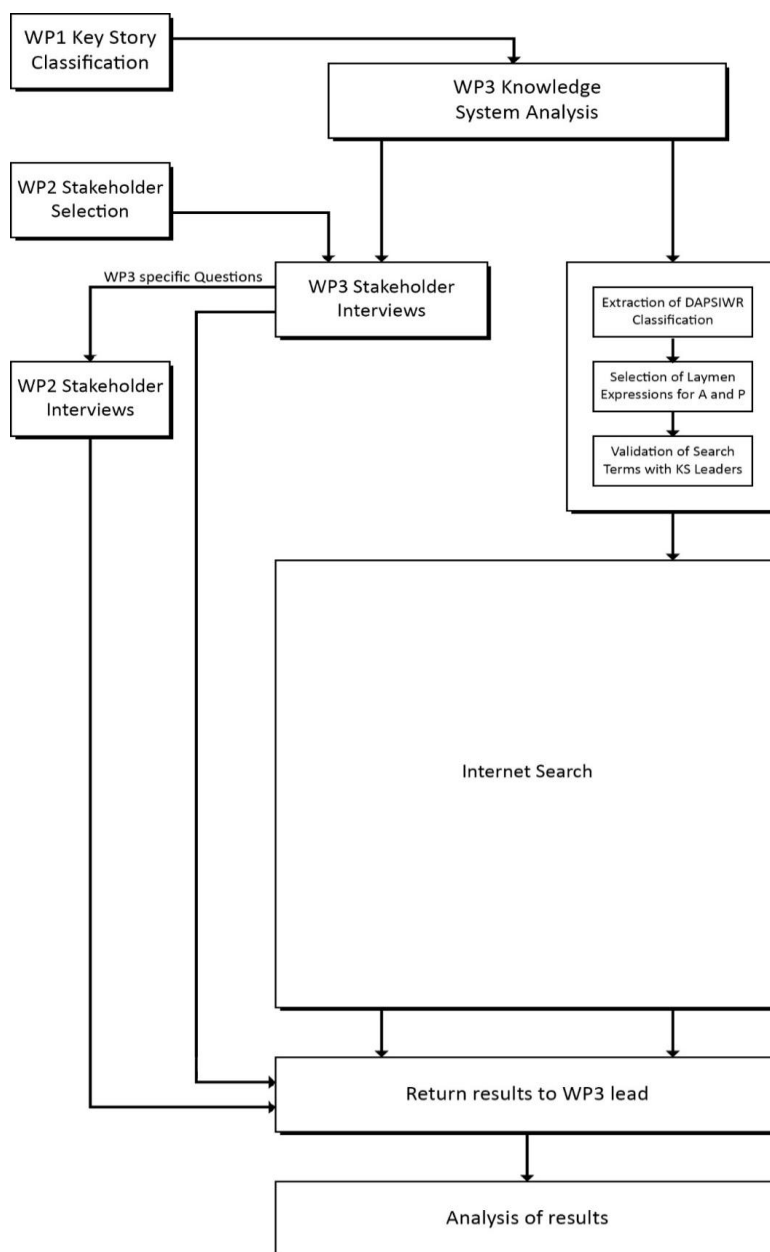


Figure 1: Overall workflow for the identification of relevant ocean literacy resources and the data collection in WP3

Methods

Key stories and the DAPSI(W)R framework

During the development of the Key Stories in WP1, existing knowledge was screened and structured along the DAPSI(W)R framework. For this, the developed classification system was used to classify relevant knowledge components. This classification was a major step for the development of the causal map of all key stories. Since the classification systems are fully integrated into the Knowledge Base, this also allowed for a construction of the key story maps in this system.

In WP3, we used the assigned knowledge classes from each key story to develop meaningful search terms. To limit the workload, only knowledge classes for Activities (A) and Pressures (P) were used in this work step. Since Activities and Pressures are the most commonly used concepts to describe environmental issues in the media, the idea was to include these concepts in online searches in order to assess how other concepts of the DAPSI(W)R framework are covered in knowledge resources.

The knowledge classes identified by WP1 were translated into a variety of laymen expression. These expressions were then connected by search operators to create search strings. A “key string” is a chain of search terms connected by operators such as ‘AND’ or ‘OR’. The first steps to build these key strings for each key story is to identify the search terms based on the findings in WP1 and WP2 classified with the classification system for the DAPSI(W)R framework. A detailed description of the development of these key strings can be found in the next chapter. Key strings were used to search for relevant Ocean Literacy resources on the web, YouTube and Facebook. The analysis of all results from the workflow described above are under analysis by the WP3 core team. The results of this analysis will be fed back into the Key Story documents as a separate chapter. The work will lead to clear proposals for the development of ocean literacy tools in WP5.

The following table illustrates the translation of knowledge classes into laymen expression and the subsequent construction of key strings for the Key Story “microplastic and cosmetics”.

| | |
|---|--|
| Activity 1: Manufacture - Manufacture of chemicals and chemical products - Manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms | String 1: manufacturing OR plastic production OR plastic industry |
| Activity 2: Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations | String 2: cosmetics OR beauty products OR bathroom articles |
| Activity 3: Consumption and household activities | String 3: consumption OR bathroom OR personal care OR hygiene |
| Activity 4: wastewater | String 4: wastewater OR sink OR toilet OR shower |
| Activity 5: Sewage | String 5: sewerage |
| AND | |
| Pressure: Systematic and/or Intentional Release of Substances | String 6: introduction OR release |
| Search String: manufacturing OR plastic production OR plastic industry OR cosmetics OR beauty products OR bathroom articles OR consumption OR bathroom OR personal care OR hygiene OR wastewater OR sink OR toilet OR shower OR sewerage AND introduction OR release | |

Table 3: Development of key strings based on the applied classification systems for the DAPSI(W)R framework

The use of these key strings ensures that only results including all or some of the possible combinations of terms will be included. By this, we eliminated results that were potentially useless for the DAPSI(W)R approach of the project.

Key strings for all key stories were developed by the core team of WP3 and disseminated to the partners in all relevant regions (See Annex 1).

Data collection and analysis

For the collection of data the core team of WP3 provided specific guidelines and a result spreadsheet to all team members included in this task (See Annex 1 and 2). The result spreadsheet (knowledge spreadsheet) is based on the list of relevant metadata summarized in deliverable D3.1. A bulk upload functionality was included to streamline the process of integration to the Knowledge Base of WP1.

Data collection from the internet includes multiple steps: A search on the key story name, a search on activities only, and a search on activities and pressures. In addition to these, contributors are asked to repeat these searches on Facebook and YouTube. The following graph illustrates the complete workflow for the data collection task.

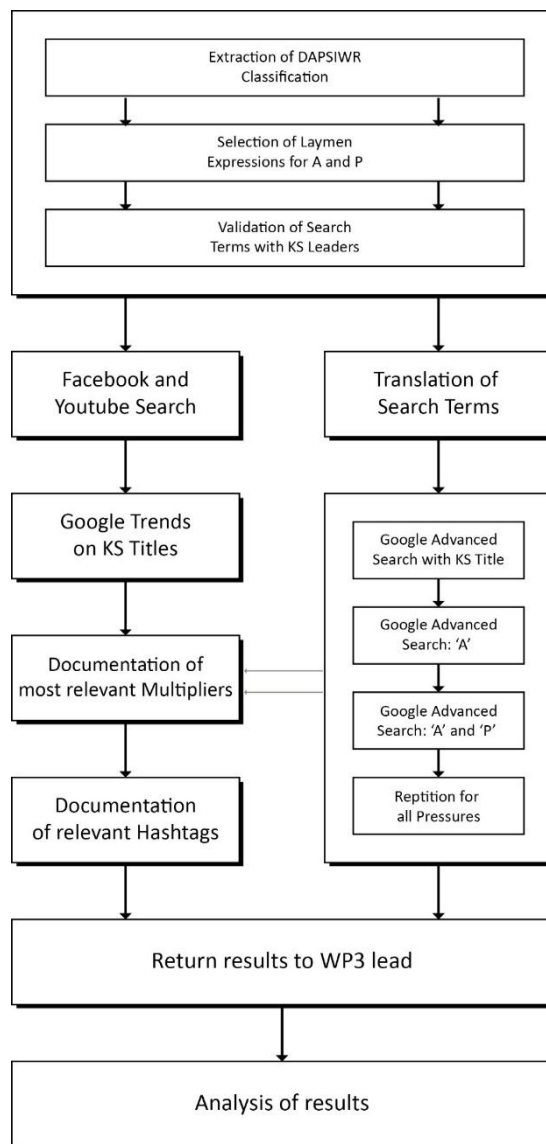


Figure 2: Illustration of the internet search workflow for the identification of relevant ocean literacy resources and data collection in WP3.

The collected data is analysed centrally by the WP3 core group. For the aim of complementing the key story documents, the analysis focusses on three main aspects: (1) the flow of information between senders and receivers, the content of ocean literacy resources in relation to the gathered knowledge per key story in WP1, and (c) the distribution of media types used to address the most relevant actors identified by WP2.

Flow of Information

For the analysis of the flow of information between senders and receivers of information, we use the classification of actors that was developed for the Knowledge Base of WP1. In this classification system actors are differentiated by their affiliation with 4 high level classes : (1) The professional framework, including the primary, secondary, tertiary and quaternary sector, (2) the regulative framework, including administrative, legislative and jurisdictive actors on local, national and

international levels, (3) the social framework, including institutionalized social actors (NGOs, foundations, etc.) and pre-institutionalized social actors (networks, etc.), and (4) individual actors, including citizens, learners and other. As the data on receivers and senders was gathered in previous steps, the analysis allows for a clear visualization of information flows between these classes. In the examples below, we used a Sankey diagram JavaScript to do this. Such diagrams put visual emphasis on the major transfers or flows within a system. They can be used to locate dominant contributions to an overall flow. The simple examples below show major differences between communications on microplastic in Norway, Estonia and Latvia.

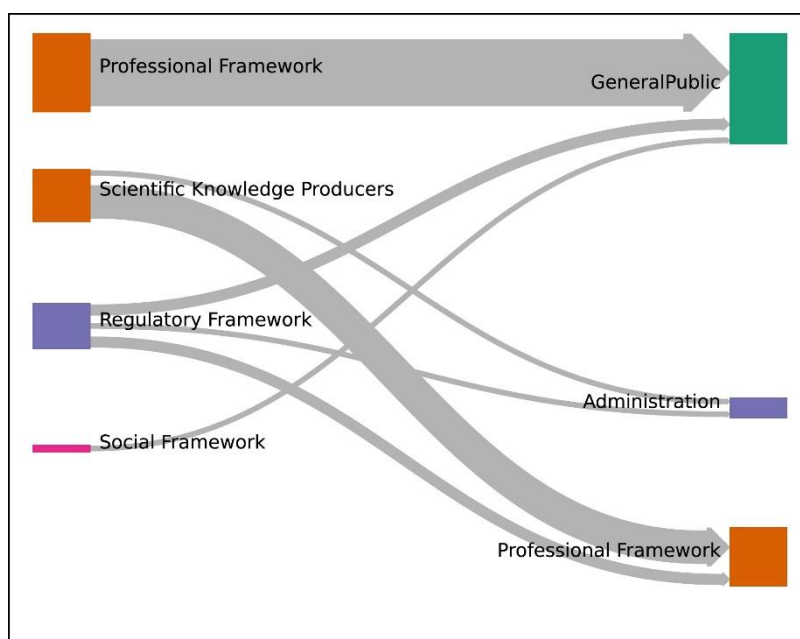


Figure 3: Information flow on « Microplastic and Cosmetics» in Latvia

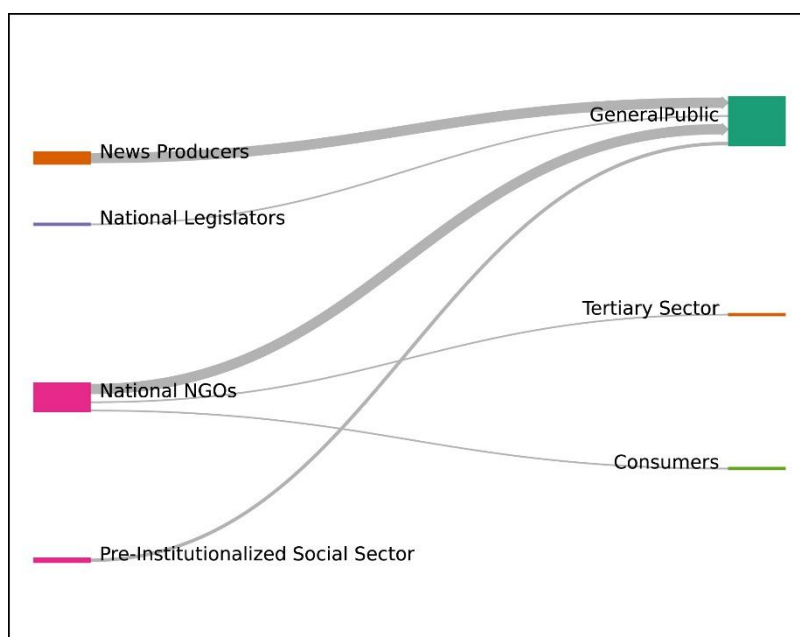


Figure 4: Information flow on « Microplastic and Cosmetics» in Estonia

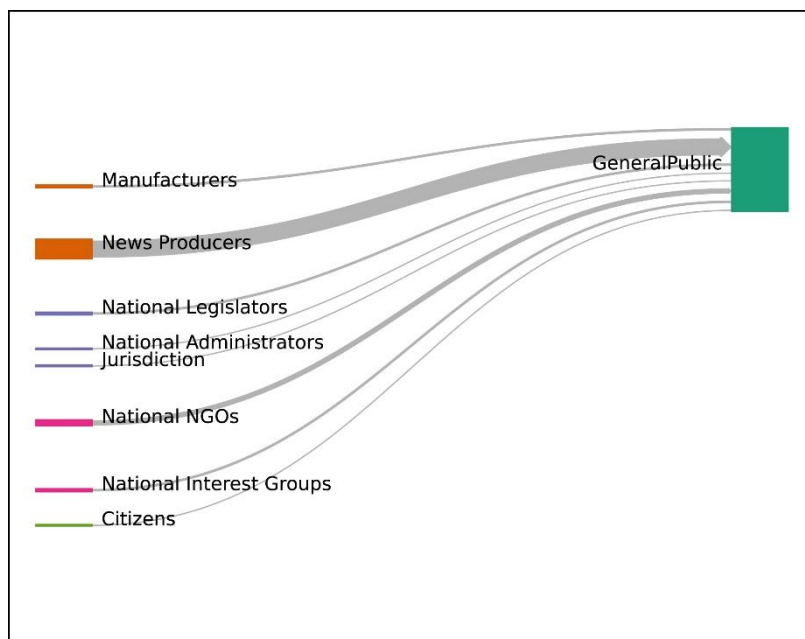


Figure 5: Information flow on « Microplastic and Cosmetics» in Norway

Content of ocean literacy resources

The content of ocean literacy resources as well as scientific knowledge resources has been classified with the developed classification system for the DAPSI(W)R framework. For the key stories of WP1, the content has been illustrated as causal map that show the causal relationships between the individual concepts of the framework. In WP3, we restrict ourselves to a quantitative illustration of content components by simple treemaps as shown in the example below. Treemaps show hierarchical data as a set of nested rectangles. For each class a rectangle is displayed, which is then differentiated into smaller rectangles representing sub-classes. A class rectangle has an area proportional to a specified dimension of the data.

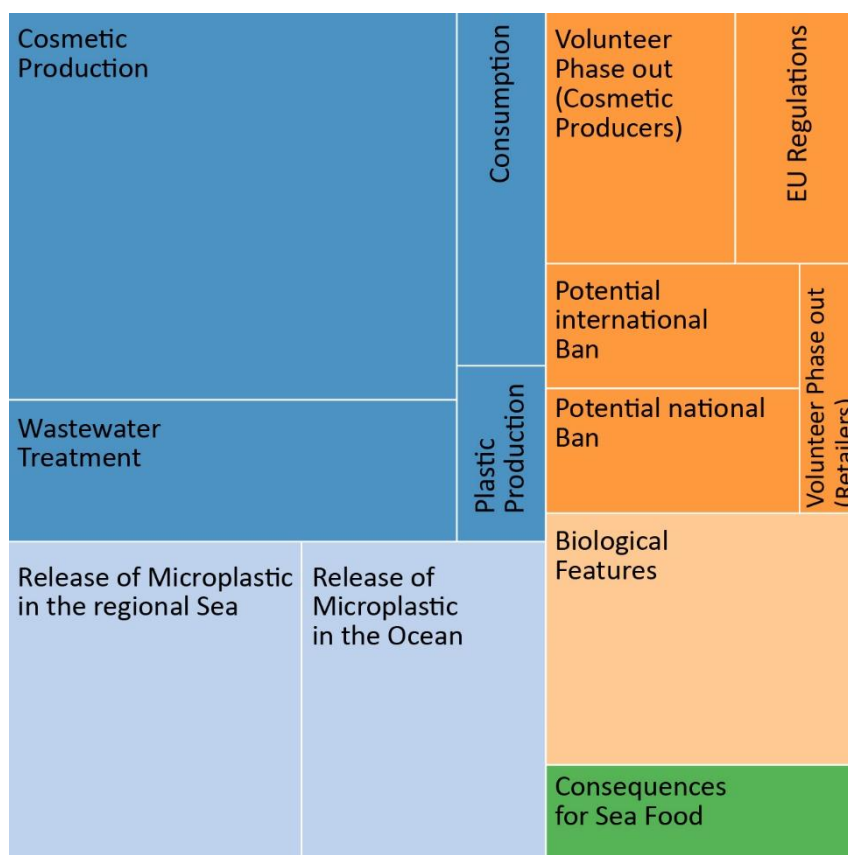


Figure 6: Content distribution on « Microplastic and Cosmetics» in Norway

This visualization technique is useful for the issue at hand, as it illustrates the emphasis of any kind of ocean literacy resource in terms of the DAPSI(W)R framework. However, the specific potential is only unlocked in comparison to the overall DAPSI(W)R distribution of available knowledge on the key story. This comparison is part of the WP3 chapter of all key story documents.

Media Types

WP3 has developed a classification for media genres based on the concepts of communicative practices and media degrees by Klaus Bruhn Jensen (2010). These concepts serve as a classification matrix of a wide range of media types. The classification system has been illustrated in depth in deliverable 3.1. As all media types are assigned to both communicative practice and media degree, the analysis visualizes the distribution of relevant media types per actor. To limit the workload, the analysis will focus on the key actors identified by WP1.

The value of this simple analysis is unlocked by a comparison with the interview results from the WP3 effect analysis. Both analyses' results are part of the WP3 chapters of the key story documents.

Conclusion

The workflow and example results presented in this report illustrate how WP3 has aligned itself with the tasks and results of WP1 and WP2. It also illustrates how it will feed into the key story documents and ultimately into WP5. As mentioned above, WP3 provides essential directions for the synthesis of the work accomplished on the development of the key story documents.

WP5 will develop innovative ocean literacy tools based on the outcomes of WP1-3. Within the framework of ResponSEABLE these tools will consider three basic dimensions of communication tools, (1) knowledge content as identified by WP1, key target groups as identified by WP2, and appropriate media types for these actor groups. In the overall project scheme WP3 delivers a synthesis of relevant and potentially ignored information from the pool of gathered knowledge in WP1 for the actors that show the biggest potential for a positive change as identified by WP2, and the best media types as identified by the effect analysis in WP2.

This synthesis will be presented in deliverable 3.4 at a later time. It will be based on the findings of WP3 that are to be included in the key story documents. These consist of results from both the media and effect analysis (see deliverable 3.3). The following graph illustrates the interconnections of different deliverables and results of WP3.

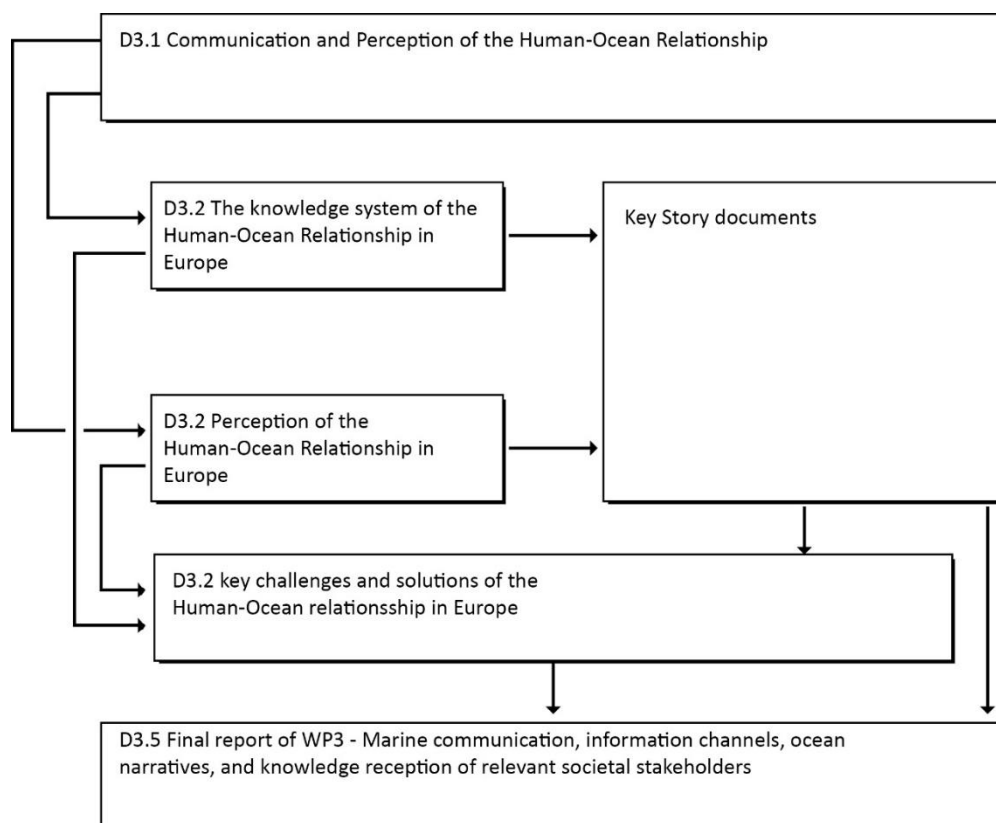


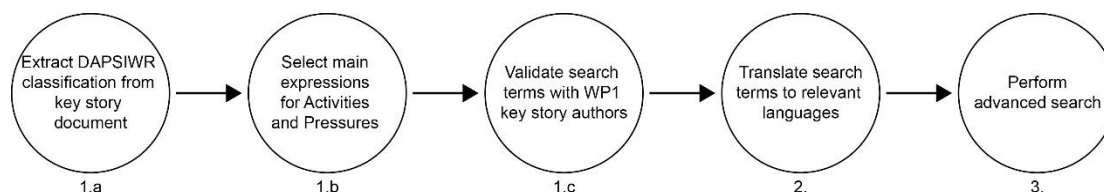
Figure 7: Overview of deliverables and results of WP3.

ANNEX 1: Specific guidelines for the ocean literacy media analysis

Annex 1.1: Key Story: Microplastic in Cosmetics

Steps to identify and collect communicated media on the key story

For a comprehensive internet search on communicated information on the key stories, we propose to use so called “key strings”. A key string is a chain of search terms connected by operators such as ‘AND’ or ‘OR’. The first steps to build these key strings for each key story is to identify the search terms based on the findings in WP1 and WP2.



1. Search terms were defined on the basis of findings of WP1 and WP2:

| | |
|--|--|
| Activity 1: Manufacture - Manufacture of chemicals and chemical products - Manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms | String 1: manufacturing OR plastic production OR plastic industry |
| Activity 2: Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations | String 2: cosmetics OR beauty products OR bathroom articles |
| Activity 3: Consumption and household activities | String 3: consumption OR bathroom OR personal care OR hygiene |
| Activity 4: wastewater | String 4: wastewater OR sink OR toilet OR shower |
| Activity 5: Sewage | String 5: sewerage |

Using the Search Strings:

These Search Strings will be used to look up relevant materials on Google’s Advanced Search.

Therefore, multiple steps have to be included: A Search on Activities, and a search on a combination of Activities and Pressures. Because of a word limit from Google (32 words, operators do not count), the Activity/Pressure Search String has to be broken into multiple sets:

a) Activities only:

manufacturing OR plastic production OR plastic industry OR cosmetics OR beauty products OR bathroom articles consumption OR bathroom OR personal care OR hygiene OR wastewater OR sink OR toilet OR shower OR sewerage

b) Activities and Pressures

manufacturing OR plastic production OR plastic industry OR cosmetics OR beauty products OR bathroom articles OR consumption OR bathroom OR personal care OR hygiene OR wastewater OR sink OR toilet OR shower OR sewerage AND release OR introduction

2. These search strings need to be translated into the languages related to the region under study per key story. For 'Microplastic in Cometics' the following languages need to be considered: Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Spanish, Swedish.
3. After translating the search terms per key story, the search terms will be entered in google advanced search.

Using Google Advanced Search

The Google Advanced Search page can be found here:

https://www.google.com/advanced_search

Advanced Search

Find pages with...

all these words:

this exact word or phrase:

any of these words:

none of these words:

numbers ranging from:

to

Picture 1: First part of the Google Advanced Search Entry Mask

The search terms will be entered in the first field ('all these words'). All other fields depicted above will be left out.

For our purposes the results should be filtered by language and country (especially for those languages that are also spoken in countries outside Europe). For example for English language select United Kingdom as the region (see Picture 2 below). To cover international OL examples from Europe in English, you need to manually select them from the results.

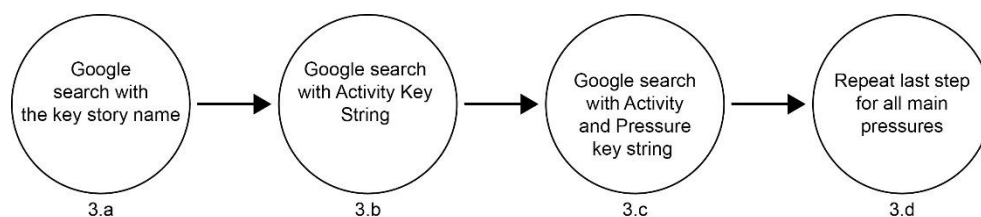
Then narrow your results
by...

| | |
|------------------|----------------------------|
| language: | any language |
| region: | any region |
| last update: | anytime |
| site or domain: | |
| terms appearing: | anywhere in the page |
| SafeSearch: | Show most relevant results |
| file type: | any format |
| usage rights: | not filtered by license |

Advanced Search

Picture 2: Second part of the Google Advanced Search Entry Mask

To delimit the search, we propose to include only the publications mentioned in the first 3-5 pages of Google (left to the discretion of the editor – is the inclusion of more or less results reasonable).



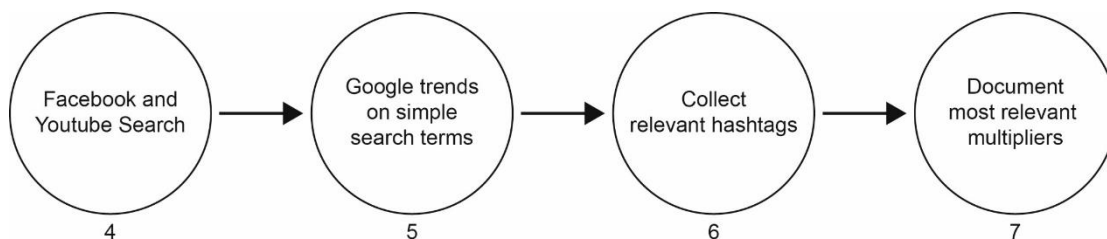
You will run multiple search rounds (also see Table 2)

- run first a simple Google search with laymen expressions (i.e. key story name)
- run with the key string for activities
- run the key strings for activities and pressures.
- If there are multiple main pressures then there needs to be multiple separate searches.

All relevant results need to be collected with the Knowledge Spreadsheet (see last chapter of these guidelines).

Please note: Google limits search phrases to a maximum of 32 words. Operators like 'AND' or 'OR' are not counted as words.

Social Media and Google Trends



4. The process should be repeated for data on Facebook and YouTube by entering the respective domain (facebook.com, youtube.com) in the field depicted below (also visible in Picture 2) – report data from first 2 pages obtained on Google each of these social media platforms.

site or domain:

Please note: When searching on a specific website, the expression site:domainname gets attached to the search phrase. If the search phrase is longer than 32 words, this expression gets cut off, and the search will not be limited to the site specified.

Repeating for the sake of clarity: For all searches

- Analyse 3-5 pages of Google (use your discretion as to when media becomes irrelevant)
- Analyse 2 pages of Facebook
- Analyse 2 pages of YouTube

5. The search terms used in step 3.a will be used to gather information on the search trend in google trends (5 years, respective country and language). Results will be saved in and csv format (see picture below). Google trends can be found here: <https://www.google.com/trends>



6. The contributor should note the most important multipliers of information – organizations or individuals that show up more than once in these search results - based on findings from the Google, Facebook and YouTube searches.
7. Based on the impressions of the contributor, the hashtags that seem to be potentially relevant for communications on the key story should be noted. Useful hashtags may be the same as the key story name, but there might be better options. Find it out!

Data analysis and recording methodology

8. For each search the first 3 pages only need to be analysed. Each 'return' needs to be individually analysed and the corresponding information added to the spreadsheet (see next chapter), following the same order of Google search results.

All spreadsheets must be returned to the WP3 lead on each Key Story (see below) by the 30. November 2016.

Micro Plastics – Tamer Fawzy (tamer.fawzy@bef-de.org)

Invasive Species/Ballast Water – Tamer Fawzy (tamer.fawzy@bef-de.org)

Eutrophication – Tamer Fawzy (tamer.fawzy@bef-de.org)

Sustainable Fisheries: Celia Quico (celia.quico@gmail.com)

Marine Renewable Energies: Celia Quico (celia.quico@gmail.com)

Coastal tourism: Eleonora Panto eleonora.panto@csp.it

9. The WP3 lead will coordinate analysis of the full dataset and write up results.

Collecting Information with the Knowledge Spreadsheet

After the general causality of the DAPSI(W)R concepts has been established in the Knowledge Base by the Key Story leaders, evidence and OL examples have to be attached to the causal links between these concepts. The population of the Knowledge Base with knowledge evidence in the form of scientific articles and reports as well as ocean literacy examples will be a two-step process. The first step will include a bulk upload of the metadata of evidence and OL examples. In the second step editors must manually attach the representations of uploaded data to the causality.

Please note: Guidelines for the second step will be elaborated at a later time.

For the collection of all relevant data regarding evidence and OL materials, an Excel spreadsheet for media metadata (part 1 of these guidelines) as well as an online spreadsheet for the content (part two

of these guidelines) have been prepared. They include all classifications as interactive dropdown menus. This means that the editor chooses from the first hierarchy level, before the second level shows up. Dependent hierarchy levels are marked with * (see below).

| How (Form) | | | |
|--------------|--------------------------|----------------------|--|
| Media Degree | Media Group | Media Type | |
| Dropdown | * Dropdown | * Dropdown | |
| third_degree | online_digital_ media | electronic_flye r | |

Media Meta Data for scientific evidence and ocean literacy materials (Excel spreadsheet)

Most of the required meta-data on evidence and Ocean Literacy are self-explaining. The more sophisticated Information have been explained in the first chapter of this document. The Excel spreadsheet will be used to bulk upload the information to the Knowledge Base. All information uploaded using the Excel File will show up in the KB as unconnected “knowledge nodes”, representations of the knowledge or OL examples.

Please Note: The Excel sheet has to be used without changes.

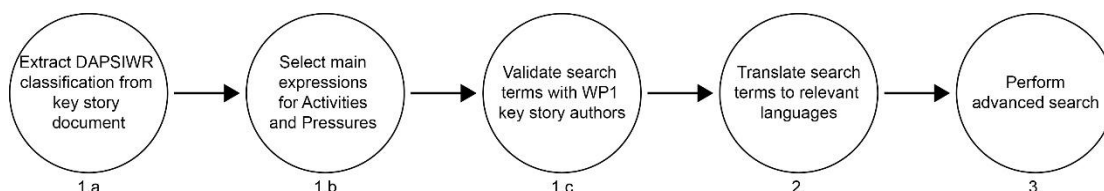
Content Descriptions

To be able to connect the representations of knowledge in the KB to the overall causality, editors have to classify the content of each example according to the classification system. How this is done, is up to each editor. Everything from paper and pencil to your own Word or Excel File is fine.

Annex 1.2: Key Story: Ballast Water and Invasive Species

Steps to identify and collect communicated media on the key story

For a comprehensive internet search on communicated information on the key stories, we propose to use so called “key strings”. A key string is a chain of search terms connected by operators such as ‘AND’ or ‘OR’. The first steps to build these key strings for each key story is to identify the search terms based on the findings in WP1 and WP2.



1. Search terms were defined on the basis of findings of WP1 and WP2:

| | |
|---|--|
| Activity 1: Mining of coal and lignite, Extraction of crude petroleum and natural gas, Mining of metal ores, Other mining and quarrying | String 1: Mining OR quarrying OR coal OR metal ores OR petroleum OR natural gas |
| Activity 2: Building of ships and boats | String 2: shipbuilding OR construction of ship |
| Activity 3: Water transport | String 3: sea transport OR coastal transport OR maritime transport OR marine transport OR maritime trade OR vessel OR ship OR boat OR cruise ship OR recreational boat OR passenger water transport OR freight water transport OR goods water transport |
| Activity 4: Manufacture of paints, varnishes and similar coatings, printing ink and mastic, Manufacture of machinery and equipment n.e.c | String 4: paint OR hull OR coating OR fouling OR biofouling OR antifouling |
| Activity 5: Fishing | String 5: Fishing OR high seas fishing |
| Activity 6: Waste collection, treatment and disposal activities; materials recovery | String 6: scrubbing OR cleaning OR wiping |

Using the Search Strings:

These Search Strings will be used to look up relevant materials on Google’s Advanced Search. Therefore, multiple steps have to be included: A Search on Activities, and a search on a combination of Activities and Pressures. Because of a word limit from Google (32 words, operators do not count), the Activity/Pressure Search String has to be broken into multiple sets:

a) Activities only:

Activity Search 1:

Mining OR quarrying OR coal OR metal ores OR petroleum OR natural gas OR shipbuilding OR construction OR sea transport OR coastal transport OR maritime transport OR vessel OR ship OR boat OR cruise OR recreational

Activity Search 2:

passenger water transport OR freight water transport OR goods water transport OR paint OR hull OR coating OR fouling OR biofouling OR antifouling OR Fishing OR high seas fishing OR scrubbing OR cleaning OR wiping

b) Activities and Pressures**Activity & Pressure Search 1:**

Mining OR quarrying OR coal OR metal ores OR petroleum OR natural gas OR shipbuilding OR construction OR sea transport OR coastal transport OR maritime transport OR vessel OR ship OR boat OR cruise OR recreational AND release OR introduction OR translocation OR ballast water OR discharge OR exchange OR non-indigenous species OR invasive species

Activity & Pressure Search 2:

passenger water transport OR freight water transport OR goods water transport OR paint OR hull OR coating OR fouling OR biofouling OR antifouling OR Fishing OR high seas fishing OR scrubbing OR cleaning OR wiping AND release OR introduction OR translocation OR ballast water OR discharge OR exchange OR non-indigenous species OR invasive species

2. These search strings need to be translated into the languages related to the region under study per key story. For 'Ballast Water and Invasive Species' the following languages need to be considered: Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Spanish, Swedish.
3. After translating the search terms per key story, the search terms will be entered in google advanced search.

Using Google Advanced Search

The Google Advanced Search page can be found here:

https://www.google.com/advanced_search

Advanced Search

Find pages with...

all these words:

this exact word or phrase:

any of these words:

none of these words:

numbers ranging from:

to

Picture 1: First part of the Google Advanced Search Entry Mask

The search terms will be entered in the first field ('all these words'). All other fields depicted above will be left out.

For our purposes the results should be filtered by language and country (especially for those languages that are also spoken in countries outside Europe). For example for English language select United Kingdom as the region (see Picture 2 below). To cover international OL examples from Europe in English, you need to manually select them from the results.

Then narrow your results by...

language:

any language

region:

any region

last update:

anytime

site or domain:

terms appearing:

anywhere in the page

SafeSearch:

Show most relevant results

file type:

any format

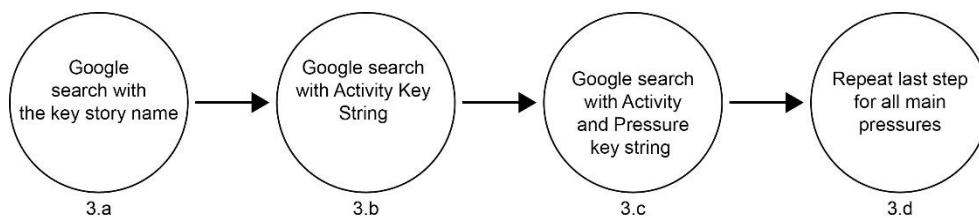
usage rights:

not filtered by license

Advanced Search

Picture 2: Second part of the Google Advanced Search Entry Mask

To delimit the search, we propose to include only the publications mentioned in the first 3-5 pages of Google (left to the discretion of the editor – is the inclusion of more or less results reasonable).



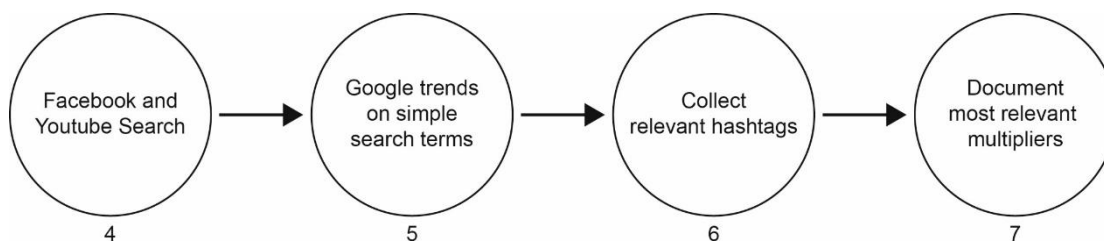
You will run multiple search rounds (also see Table 2)

- run first a simple Google search with laymen expressions (i.e. key story name)
- run with the key string for activities
- run the key strings for activities and pressures.
- If there are multiple main pressures then there needs to be multiple separate searches.

All relevant results need to be collected with the Knowledge Spreadsheet (see last chapter of these guidelines).

Please note: Google limits search phrases to a maximum of 32 words. Operators like 'AND' or 'OR' are not counted as words.

Social Media and Google Trends



- The process should be repeated for data on Facebook and YouTube by entering the respective domain (facebook.com, youtube.com) in the field depicted below (also visible in Picture 2) – report data from first 2 pages obtained on Google each of these social media platforms.

site or domain:

Please note: When searching on a specific website, the expression site:domainname gets attached to the search phrase. If the search phrase is longer than 32 words, this expression gets cut off, and the search will not be limited to the site specified.

Repeating for the sake of clarity: For all searches

- Analyse 3-5 pages of Google (use your discretion as to when media becomes irrelevant)
- Analyse 2 pages of Facebook
- Analyse 2 pages of YouTube

5. The search terms used in step 3.a will be used to gather information on the search trend in google trends (5 years, respective country and language). Results will be saved in and csv format (see picture below). Google trends can be found here: <https://www.google.com/trends>



6. The contributor should note the most important multipliers of information – organizations or individuals that show up more than once in these search results - based on findings from the Google, Facebook and YouTube searches.
7. Based on the impressions of the contributor, the hashtags that seem to be potentially relevant for communications on the key story should be noted. Useful hashtags may be the same as the key story name, but there might be better options. Find it out!

Data analysis and recording methodology

8. For each search the first 3 pages only need to be analysed. Each 'return' needs to be individually analysed and the corresponding information added to the spreadsheet (see next chapter), following the same order of Google search results.

All spreadsheets must be returned to the WP3 lead on each Key Story (see below) by the 30. November 2016.

Micro Plastics – Tamer Fawzy (tamer.fawzy@bef-de.org)

Invasive Species/Ballast Water – Tamer Fawzy (tamer.fawzy@bef-de.org)

Eutrophication – Tamer Fawzy (tamer.fawzy@bef-de.org)

Sustainable Fisheries: Celia Quico (celia.quico@gmail.com)

Marine Renewable Energies: Celia Quico (celia.quico@gmail.com)

Coastal tourism: Eleonora Panto eleonora.panto@csp.it

9. The WP3 lead will coordinate analysis of the full dataset and write up results.

Collecting Information with the Knowledge Spreadsheet

After the general causality of the DAPSI(W)R concepts has been established in the Knowledge Base by the Key Story leaders, evidence and OL examples have to be attached to the causal links between these concepts. The population of the Knowledge Base with knowledge evidence in the form of scientific articles and reports as well as ocean literacy examples will be a two-step process. The first step will include a bulk upload of the metadata of evidence and OL examples. In the second step editors must manually attach the representations of uploaded data to the causality.

Please note: Guidelines for the second step will be elaborated at a later time.

For the collection of all relevant data regarding evidence and OL materials, an Excel spreadsheet for media metadata (part 1 of these guidelines) as well as an online spreadsheet for the content (part two of these guidelines) have been prepared. They include all classifications as interactive dropdown menus. This means that the editor chooses from the first hierarchy level, before the second level shows up. Dependent hierarchy levels are marked with * (see below).

| How (Form) | | | |
|--------------|--------------------------|----------------------|--|
| Media Degree | Media Group | Media Type | |
| Dropdown | * Dropdown | * Dropdown | |
| third_degree | online_digital_ media | electronic_flye r | |

Media Meta Data for scientific evidence and ocean literacy materials (Excel spreadsheet)

Most of the required meta-data on evidence and Ocean Literacy are self-explaining. The more sophisticated Information have been explained in the first chapter of this document. The Excel spreadsheet will be used to bulk upload the information to the Knowledge Base. All information uploaded using the Excel File will show up in the KB as unconnected “knowledge nodes”, representations of the knowledge or OL examples.

Please Note: The Excel sheet has to be used without changes.

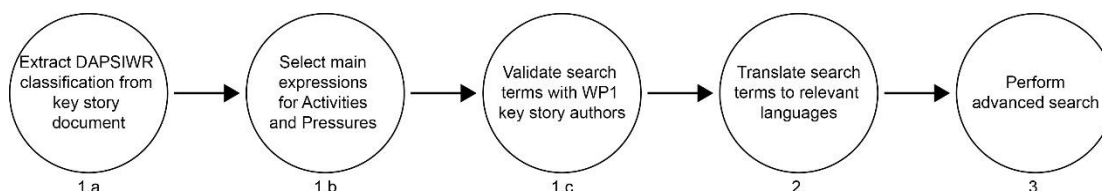
Content Descriptions

To be able to connect the representations of knowledge in the KB to the overall causality, editors have to classify the content of each example according to the classification system. How this is done, is up to each editor. Everything from paper and pencil to your own Word or Excel File is fine.

Annex 1.3: Key Story: Agriculture and Eutrophication

Steps to identify and collect communicated media on the key story

For a comprehensive internet search on communicated information on the key stories, we propose to use so called “key strings”. A key string is a chain of search terms connected by operators such as ‘AND’ or ‘OR’. The first steps to build these key strings for each key story is to identify the search terms based on the findings in WP1 and WP2.



1. Search terms were defined on the basis of findings of WP1 and WP2:

| | |
|--|---|
| Activity 1: Agriculture : crop production | String 1: Farming OR crop production OR Crops OR Cereals OR plants OR cultivation OR agriculture OR intensive agriculture OR extensive agriculture |
| Activity 2: Agriculture: animal production | String 2: animal production OR meat OR milk OR Livestock |
| Activity 3: Transportation and storage : storage of natural fertilizers | String 3: fertilizer OR manure OR fertilizer storage |
| Activity 4: Manufacturing: manufacturing of fertilizers | String 4: mineral fertilizer OR commercial fertilizer OR anorganic fertilizer |

Using the Search Strings:

These Search Strings will be used to look up relevant materials on Google’s Advanced Search. Therefore, multiple steps have to be included: A Search on Activities, and a search on a combination of Activities and Pressures. Because of a word limit from Google (32 words, operators do not count), the Activity/Pressure Search String has to be broken into multiple sets:

a) Activities only:

Farming OR crop production OR Crops OR Cereals OR plants OR cultivation OR agriculture OR intensive agriculture OR extensive agriculture OR animal production OR meat OR milk OR livestock OR fertilizer OR manure OR fertilizer storage OR mineral fertilizer OR commercial fertilizer OR anorganic fertilizer

b) Activities and Pressures

Activity & Pressure Search 1:

Farming OR crop production OR Crops OR Cereals OR plants OR cultivation OR agriculture OR intensive agriculture OR extensive agriculture OR animal production OR meat OR milk OR livestock AND nutrients OR organic matter OR fertilizer OR nitrogen Or phosphorous OR introduction OR eutrophication

Activity & Pressure Search 2:

fertilizer OR manure OR fertilizer storage OR mineral fertilizer OR commercial fertilizer OR anorganic fertilizer AND nutrients OR organic matter OR fertilizer OR nitrogen Or phosphorous OR introduction OR eutrophication

10. These search strings need to be translated into the languages related to the region under study per key story. For 'Agriculture and Eutrophication' the following languages need to be considered: Danish, English, Estonian, German, Latvian, Lithuanian, Polish, Romanian, Swedish.
11. After translating the search terms per key story, the search terms will be entered in google advanced search.

Using Google Advanced Search

The Google Advanced Search page can be found here:

https://www.google.com/advanced_search

Advanced Search

Find pages with...

all these words:

this exact word or phrase:

any of these words:

none of these words:

numbers ranging from:

to

Picture 1: First part of the Google Advanced Search Entry Mask

The search terms will be entered in the first field ('all these words'). All other fields depicted above will be left out.

For our purposes the results should be filtered by language and country (especially for those languages that are also spoken in countries outside Europe). For example for English language select United Kingdom as the region (see Picture 2 below). To cover international OL examples from Europe in English, you need to manually select them from the results.

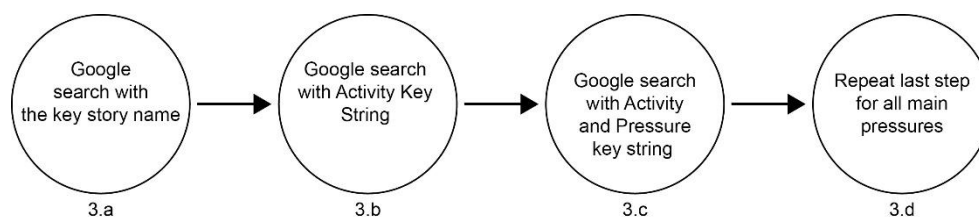
Then narrow your results
by...

| | |
|------------------|----------------------------|
| language: | any language |
| region: | any region |
| last update: | anytime |
| site or domain: | |
| terms appearing: | anywhere in the page |
| SafeSearch: | Show most relevant results |
| file type: | any format |
| usage rights: | not filtered by license |

Advanced Search

Picture 2: Second part of the Google Advanced Search Entry Mask

To delimit the search, we propose to include only the publications mentioned in the first 3-5 pages of Google (left to the discretion of the editor – is the inclusion of more or less results reasonable).



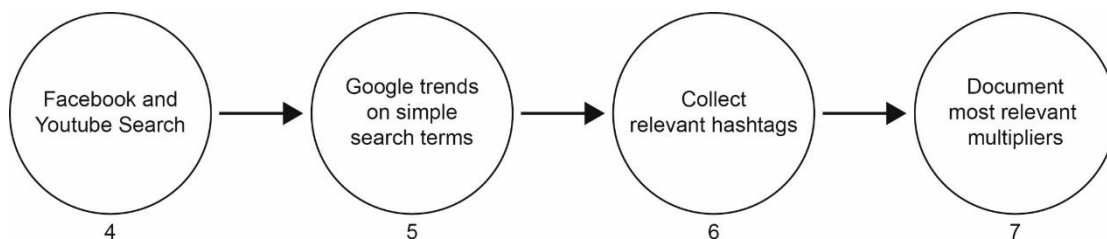
You will run multiple search rounds (also see Table 2)

- run first a simple Google search with laymen expressions (i.e. key story name)
- run with the key string for activities
- run the key strings for activities and pressures.
- If there are multiple main pressures then there needs to be multiple separate searches.

All relevant results need to be collected with the Knowledge Spreadsheet (see last chapter of these guidelines).

Please note: Google limits search phrases to a maximum of 32 words. Operators like 'AND' or 'OR' are not counted as words.

Social Media and Google Trends



12. The process should be repeated for data on Facebook and YouTube by entering the respective domain (facebook.com, youtube.com) in the field depicted below (also visible in Picture 2) – report data from first 2 pages obtained on Google each of these social media platforms.

site or domain:

Please note: When searching on a specific website, the expression site:domainname gets attached to the search phrase. If the search phrase is longer than 32 words, this expression gets cut off, and the search will not be limited to the site specified.

Repeating for the sake of clarity: For all searches

- Analyse 3-5 pages of Google (use your discretion as to when media becomes irrelevant)
- Analyse 2 pages of Facebook
- Analyse 2 pages of YouTube

13. The search terms used in step 3.a will be used to gather information on the search trend in google trends (5 years, respective country and language). Results will be saved in and csv format (see picture below). Google trends can be found here: <https://www.google.com/trends>



14. The contributor should note the most important multipliers of information – organizations or individuals that show up more than once in these search results - based on findings from the Google, Facebook and YouTube searches.

15. Based on the impressions of the contributor, the hashtags that seem to be potentially relevant for communications on the key story should be noted. Useful hashtags may be the same as the key story name, but there might be better options. Find it out!

Data analysis and recording methodology

16. For each search the first 3 pages only need to be analysed. Each 'return' needs to be individually analysed and the corresponding information added to the spreadsheet (see next chapter), following the same order of Google search results.

All spreadsheets must be returned to the WP3 lead on each Key Story (see below) by the 30. November 2016.

Micro Plastics – Tamer Fawzy (tamer.fawzy@bef-de.org)

Invasive Species/Ballast Water – Tamer Fawzy (tamer.fawzy@bef-de.org)

Eutrophication – Tamer Fawzy (tamer.fawzy@bef-de.org)

Sustainable Fisheries: Celia Quico (celia.quico@gmail.com)

Marine Renewable Energies: Celia Quico (celia.quico@gmail.com)

Coastal tourism: Eleonora Panto eleonora.panto@csp.it

17. The WP3 lead will coordinate analysis of the full dataset and write up results.

Collecting Information with the Knowledge Spreadsheet

After the general causality of the DAPSI(W)R concepts has been established in the Knowledge Base by the Key Story leaders, evidence and OL examples have to be attached to the causal links between these concepts. The population of the Knowledge Base with knowledge evidence in the form of scientific articles and reports as well as ocean literacy examples will be a two-step process. The first step will include a bulk upload of the metadata of evidence and OL examples. In the second step editors must manually attach the representations of uploaded data to the causality.

Please note: Guidelines for the second step will be elaborated at a later time.

For the collection of all relevant data regarding evidence and OL materials, an Excel spreadsheet for media metadata (part 1 of these guidelines) as well as an online spreadsheet for the content (part two of these guidelines) have been prepared. They include all classifications as interactive dropdown menus. This means that the editor chooses from the first hierarchy level, before the second level shows up. Dependent hierarchy levels are marked with * (see below).

| How (Form) | | |
|--------------|--------------------------|----------------------|
| Media Degree | Media Group | Media Type |
| Dropdown | * Dropdown | * Dropdown |
| third_degree | online_digital_ media | electronic_flye r |

Media Meta Data for scientific evidence and ocean literacy materials (Excel spreadsheet)



Most of the required meta-data on evidence and Ocean Literacy are self-explaining. The more sophisticated Information have been explained in the first chapter of this document. The Excel spreadsheet will be used to bulk upload the information to the Knowledge Base. All information uploaded using the Excel File will show up in the KB as unconnected “knowledge nodes”, representations of the knowledge or OL examples.

Please Note: The Excel sheet has to be used without changes.

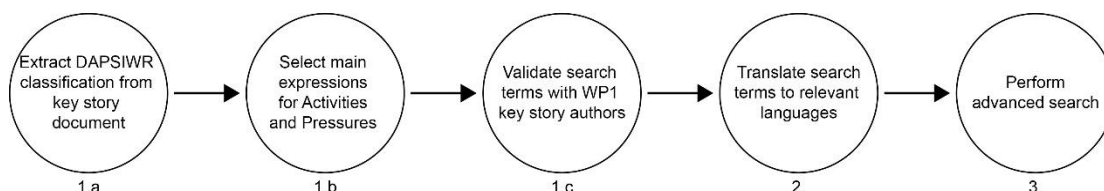
Content Descriptions

To be able to connect the representations of knowledge in the KB to the overall causality, editors have to classify the content of each example according to the classification system. How this is done, is up to each editor. Everything from paper and pencil to your own Word or Excel File is fine.

Annex 1.5: Key Story: Sustainable Fisheries

Steps to identify and collect communicated media on the key story

For a comprehensive internet search on communicated information on the key stories, we propose to use so called “key strings”. A key string is a chain of search terms connected by operators such as ‘AND’ or ‘OR’. The first steps to build these key strings for each key story is to identify the search terms based on the findings in WP1 and WP2.



1. Search terms were defined on the basis of findings of WP1 and WP2:

| | |
|---|--|
| Activity 1: Agriculture, forestry and fishing | String 1: Fish OR Fishing OR sustainable fishing OR Commercial fisheries OR seafood OR shellfish OR trawl OR trawling OR dredge OR dredging OR pots OR potting |
| Pressure 1: Biological disturbance- Selective extraction of species, including incidental non-target catches | String 2: Biomass OR non-target species OR mortality OR death OR bycatch OR by-catch Or incidental catch OR non target species Or incidental capture OR discards OR non selective |
| Pressure 2: Introduction of physical pressures - Abrasion | String 3: Abrasion OR disturbance OR kill OR injure OR drag OR dredge OR destructive |
| Pressure 3: Introduction of other physical disturbance - Marine litter | String 4: Litter OR Marine Litter OR ropes OR oil cans OR strapping bands OR plastic OR debris OR waste OR beach litter OR marine debris |

Using the Search Strings:

These Search Strings will be used to look up relevant materials on Google’s Advanced Search. Therefore, multiple steps have to be included: A Search on Activities, and a search on a combination of Activities and Pressures. Because of a word limit from Google (32 words, operators do not count), the Activity/Pressure Search String has to be broken into multiple sets:

a) Activities only:

Activity Search 1:

Fish OR Fishing OR sustainable fishing OR Commercial fisheries OR seafood OR shellfish OR trawl OR trawling OR dredge OR dredging OR pots OR potting

b) Activities and Pressures

Activity & Pressure 1: Fish OR Fishing OR sustainable fishing OR Commercial fisheries OR seafood OR shellfish OR trawl OR trawling OR dredge OR dredging OR pots OR potting AND Biomass OR non-target

species OR mortality OR death OR bycatch OR by-catch Or incidental catch OR non target species Or incidental capture OR discards OR non selective

Activity & Pressure 2: Fish OR Fishing OR sustainable fishing OR Commercial fisheries OR seafood OR shellfish OR trawl OR trawling OR dredge OR dredging OR pots OR potting AND Abrasion OR disturbance OR kill OR injure OR drag OR dredge OR destructive

Activity & Pressure 3: Fish OR Fishing OR sustainable fishing OR Commercial fisheries OR seafood OR shellfish OR trawl OR trawling OR dredge OR dredging OR pots OR potting AND Litter OR Marine Litter OR ropes OR oil cans OR strapping bands OR plastic OR debris OR waste OR beach litter OR marine debris

2. These search strings need to be translated into the languages related to the region under study per key story. For 'Sustainable Fisheries' the following languages need to be considered: Danish, Dutch, English, French, Norwegian, Portuguese, Spanish.
3. After translating the search terms per key story, the search terms will be entered in google advanced search.

Using Google Advanced Search

The Google Advanced Search page can be found here:

https://www.google.com/advanced_search

Advanced Search

Find pages with...

all these words:

this exact word or phrase:

any of these words:

none of these words:

numbers ranging from:

to

Picture 1: First part of the Google Advanced Search Entry Mask

The search terms will be entered in the first field ('all these words'). All other fields depicted above will be left out.

For our purposes the results should be filtered by language and country (especially for those languages that are also spoken in countries outside Europe). For example for English language select United Kingdom as the region (see Picture 2 below). To cover international OL examples from Europe in English, you need to manually select them from the results.

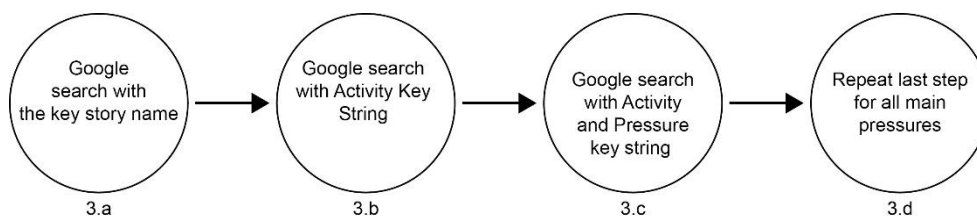
Then narrow your results by...

| | |
|------------------|----------------------------|
| language: | any language |
| region: | any region |
| last update: | anytime |
| site or domain: | |
| terms appearing: | anywhere in the page |
| SafeSearch: | Show most relevant results |
| file type: | any format |
| usage rights: | not filtered by license |

Advanced Search

Picture 2: Second part of the Google Advanced Search Entry Mask

To delimit the search, we propose to include only the publications mentioned in the first 3-5 pages of Google (left to the discretion of the editor – is the inclusion of more or less results reasonable).



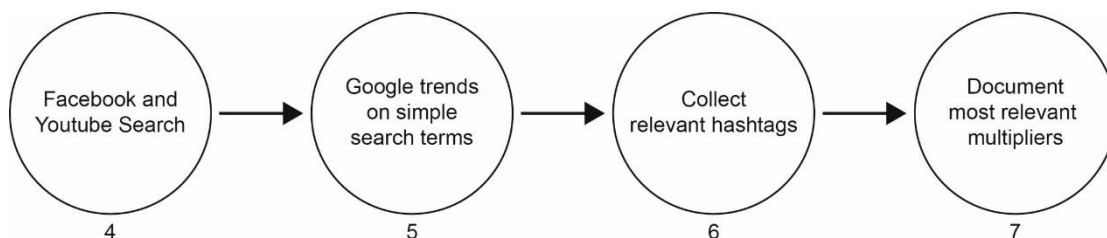
You will run multiple search rounds (also see Table 2)

- run first a simple Google search with laymen expressions (i.e. key story name)
- run with the key string for activities
- run the key strings for activities and pressures.
- If there are multiple main pressures then there needs to be multiple separate searches.

All relevant results need to be collected with the Knowledge Spreadsheet (see last chapter of these guidelines).

Please note: Google limits search phrases to a maximum of 32 words. Operators like 'AND' or 'OR' are not counted as words.

Social Media and Google Trends



4. The process should be repeated for data on Facebook and YouTube by entering the respective domain (facebook.com, youtube.com) in the field depicted below (also visible in Picture 2) – report data from first 2 pages obtained on Google each of these social media platforms.

site or domain:

Please note: When searching on a specific website, the expression site:domainname gets attached to the search phrase. If the search phrase is longer than 32 words, this expression gets cut off, and the search will not be limited to the site specified.

Repeating for the sake of clarity: For all searches

- Analyse 3-5 pages of Google (use your discretion as to when media becomes irrelevant)
- Analyse 2 pages of Facebook
- Analyse 2 pages of YouTube

5. The search terms used in step 3.a will be used to gather information on the search trend in google trends (5 years, respective country and language). Results will be saved in and csv format (see picture below). Google trends can be found here: <https://www.google.com/trends>



6. The contributor should note the most important multipliers of information – organizations or individuals that show up more than once in these search results - based on findings from the Google, Facebook and YouTube searches.
7. Based on the impressions of the contributor, the hashtags that seem to be potentially relevant for communications on the key story should be noted. Useful hashtags may be the same as the key story name, but there might be better options. Find it out!

Data analysis and recording methodology

8. For each search the first 3 pages only need to be analysed. Each 'return' needs to be individually analysed and the corresponding information added to the spreadsheet (see next chapter), following the same order of Google search results.

All spreadsheets must be returned to the WP3 lead on each Key Story (see below) by the 30. November 2016.

Micro Plastics – Tamer Fawzy (tamer.fawzy@bef-de.org)

Invasive Species/Ballast Water – Tamer Fawzy (tamer.fawzy@bef-de.org)

Eutrophication – Tamer Fawzy (tamer.fawzy@bef-de.org)

Sustainable Fisheries: Celia Quico (celia.quico@gmail.com)

Marine Renewable Energies: Celia Quico (celia.quico@gmail.com)

Coastal tourism: Eleonora Panto eleonora.panto@csp.it

9. The WP3 lead will coordinate analysis of the full dataset and write up results.

Collecting Information with the Knowledge Spreadsheet

After the general causality of the DAPSI(W)R concepts has been established in the Knowledge Base by the Key Story leaders, evidence and OL examples have to be attached to the causal links between these concepts. The population of the Knowledge Base with knowledge evidence in the form of scientific articles and reports as well as ocean literacy examples will be a two-step process. The first step will include a bulk upload of the metadata of evidence and OL examples. In the second step editors must manually attach the representations of uploaded data to the causality.

Please note: Guidelines for the second step will be elaborated at a later time.

For the collection of all relevant data regarding evidence and OL materials, an Excel spreadsheet for media metadata (part 1 of these guidelines) as well as an online spreadsheet for the content (part two of these guidelines) have been prepared. They include all classifications as interactive dropdown menus. This means that the editor chooses from the first hierarchy level, before the second level shows up. Dependent hierarchy levels are marked with * (see below).

| How (Form) | | | |
|--------------|--------------------------|----------------------|--|
| Media Degree | Media Group | Media Type | |
| Dropdown | * Dropdown | * Dropdown | |
| third_degree | online_digital_ media | electronic_flye r | |

Media Meta Data for scientific evidence and ocean literacy materials (Excel spreadsheet)

Most of the required meta-data on evidence and Ocean Literacy are self-explaining. The more sophisticated Information have been explained in the first chapter of this document. The Excel spreadsheet will be used to bulk upload the information to the Knowledge Base. All information uploaded using the Excel File will show up in the KB as unconnected “knowledge nodes”, representations of the knowledge or OL examples.

Please Note: The Excel sheet has to be used without changes.

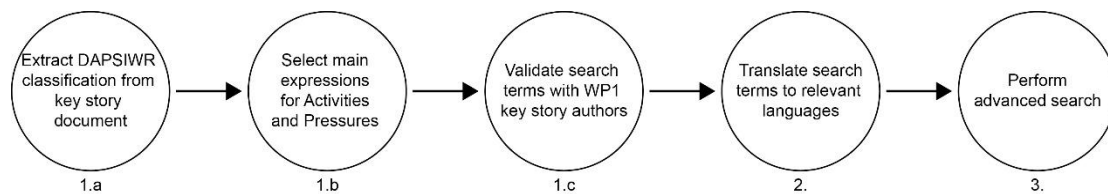
Content Descriptions

To be able to connect the representations of knowledge in the KB to the overall causality, editors have to classify the content of each example according to the classification system. How this is done, is up to each editor. Everything from paper and pencil to your own Word or Excel File is fine.

Annex 1.5: Key Story: Marine Renewable Energy

Steps to identify and collect communicated media on the key story

For a comprehensive internet search on communicated information on the key stories, we propose to use so called “key strings”. A key string is a chain of search terms connected by operators such as ‘AND’ or ‘OR’. The first steps to build these key strings for each key story is to identify the search terms based on the findings in WP1 and WP2.



1. Search terms were defined on the basis of findings of WP1 and WP2:

| | |
|---|--|
| Activity 1: Construction : Specialised Construction Activities | String 1: Marine Renewable Energy OR renewable energy OR ocean energy OR offshore wind OR wind turbines OR wave energy OR tidal power OR tidal energy OR marine energy OR marine renewables |
| Pressure 1: Introduction of Physical Pressure- The addition of physical structures | String 2: Monopoles OR physical structure OR seabed OR pile driving OR foundation OR foundations OR submerged components OR construction |
| Pressure 2: Introduction of Other Physical Disturbance -The introduction of surface and subsurface moving parts into natural environment | String 3: Moving parts OR blades OR rotor OR propeller OR turbine |
| Pressure 3: Introduction of Other Physical Disturbance - Underwater Noise | String 4: Noise OR disturbance OR sound OR vibrations |

Using the Search Strings:

These Search Strings will be used to look up relevant materials on Google’s Advanced Search. Therefore, multiple steps have to be included: A Search on Activities, and a search on a combination of Activities and Pressures. Because of a word limit from Google (32 words, operators do not count), the Activity/Pressure Search String has to be broken into multiple sets:

a) Activities only:

Activity Search 1:

Marine Renewable Energy OR renewable energy OR ocean energy OR offshore wind OR wind turbines OR wave energy OR tidal power OR tidal energy OR marine energy OR marine renewables

b) Activities and Pressures

Activity & Pressure 1: Marine Renewable Energy OR renewable energy OR ocean energy OR offshore wind OR wind turbines OR wave energy OR tidal power OR tidal energy OR marine energy OR marine renewables AND Monopoles OR physical structure OR seabed OR pile driving OR foundation OR foundations OR submerged components OR construction

Activity & Pressure 2: Marine Renewable Energy OR renewable energy OR ocean energy OR offshore wind OR wind turbines OR wave energy OR tidal power OR tidal energy OR marine energy OR marine renewables AND Moving parts OR blades OR rotor OR propeller OR turbine

Activity & Pressure 3: Marine Renewable Energy OR renewable energy OR ocean energy OR offshore wind OR wind turbines OR wave energy OR tidal power OR tidal energy OR marine energy OR marine renewables AND Noise OR disturbance OR sound OR vibrations OR Electromagnetic field OR EMF OR vibrations

1. These search strings need to be translated into the languages related to the region under study per key story. For 'Marine Renewable Energy' the following languages need to be considered: Danish, English, Estonian, Finnish, German, Greek, Italian, Latvian, Lithuanian, Polish, Romanian, Spanish, Swedish.
2. After translating the search terms per key story, the search terms will be entered in google advanced search.

Using Google Advanced Search

The Google Advanced Search page can be found here:

https://www.google.com/advanced_search

Advanced Search

Find pages with...

all these words:

this exact word or phrase:

any of these words:

none of these words:

numbers ranging from:

to

Picture 1: First part of the Google Advanced Search Entry Mask

The search terms will be entered in the first field ('all these words'). All other fields depicted above will be left out.

For our purposes the results should be filtered by language and country (especially for those languages that are also spoken in countries outside Europe). For example for English language select United Kingdom as the region (see Picture 2 below). To cover international OL examples from Europe in English, you need to manually select them from the results.

Then narrow your results by...

language:

any language

region:

any region

last update:

anytime

site or domain:

terms appearing:

anywhere in the page

SafeSearch:

Show most relevant results

file type:

any format

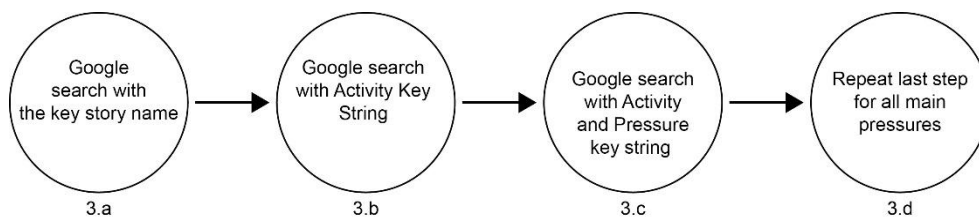
usage rights:

not filtered by license

Advanced Search

Picture 2: Second part of the Google Advanced Search Entry Mask

To delimit the search, we propose to include only the publications mentioned in the first 3-5 pages of Google (left to the discretion of the editor – is the inclusion of more or less results reasonable).



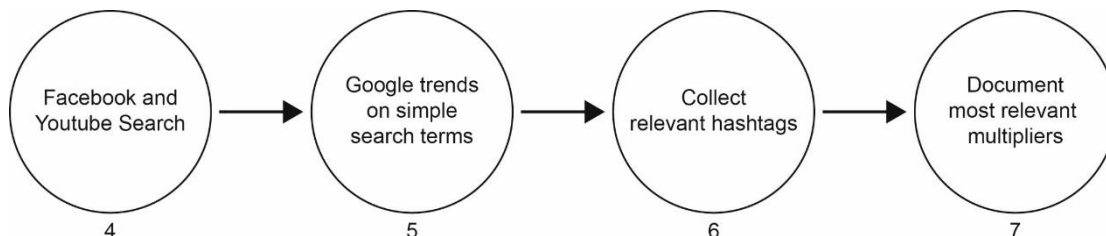
You will run multiple search rounds (also see Table 2)

- e) run first a simple Google search with laymen expressions (i.e. key story name)
- f) run with the key string for activities
- g) run the key strings for activities and pressures.
- h) If there are multiple main pressures then there needs to be multiple separate searches.

All relevant results need to be collected with the Knowledge Spreadsheet (see last chapter of these guidelines).

Please note: Google limits search phrases to a maximum of 32 words. Operators like 'AND' or 'OR' are not counted as words.

Social Media and Google Trends



3. The process should be repeated for data on Facebook and YouTube by entering the respective domain (facebook.com, youtube.com) in the field depicted below (also visible in Picture 2) – report data from first 2 pages obtained on Google each of these social media platforms.

site or domain:

Please note: When searching on a specific website, the expression site:domainname gets attached to the search phrase. If the search phrase is longer than 32 words, this expression gets cut off, and the

Repeating for the sake of clarity: For all searches

- Analyse 3-5 pages of Google (use your discretion as to when media becomes irrelevant)
- Analyse 2 pages of Facebook
- Analyse 2 pages of YouTube

search will not be limited to the site specified.

4. The search terms used in step 3.a will be used to gather information on the search trend in google trends (5 years, respective country and language). Results will be saved in and csv format (see picture below). Google trends can be found here: <https://www.google.com/trends>



5. The contributor should note the most important multipliers of information – organizations or individuals that show up more than once in these search results - based on findings from the Google, Facebook and YouTube searches.
6. Based on the impressions of the contributor, the hashtags that seem to be potentially relevant for communications on the key story should be noted. Useful hashtags may be the same as the key story name, but there might be better options. Find it out!

Data analysis and recording methodology

7. For each search the first 3 pages only need to be analysed. Each 'return' needs to be individually analysed and the corresponding information added to the spreadsheet (see next chapter), following the same order of Google search results.

All spreadsheets must be returned to the WP3 lead on each Key Story (see below) by the 30. November 2016.

Micro Plastics – Tamer Fawzy (tamer.fawzy@bef-de.org)

Invasive Species/Ballast Water – Tamer Fawzy (tamer.fawzy@bef-de.org)

Eutrophication – Tamer Fawzy (tamer.fawzy@bef-de.org)

Sustainable Fisheries: Celia Quico (celia.quico@gmail.com)

Marine Renewable Energies: Celia Quico (celia.quico@gmail.com)

Coastal tourism: Eleonora Panto eleonora.panto@csp.it

8. The WP3 lead will coordinate analysis of the full dataset and write up results.

Collecting Information with the Knowledge Spreadsheet

After the general causality of the DAPSI(W)R concepts has been established in the Knowledge Base by the Key Story leaders, evidence and OL examples have to be attached to the causal links between these concepts. The population of the Knowledge Base with knowledge evidence in the form of scientific articles and reports as well as ocean literacy examples will be a two-step process. The first

step will include a bulk upload of the metadata of evidence and OL examples. In the second step editors must manually attach the representations of uploaded data to the causality.

Please note: Guidelines for the second step will be elaborated at a later time.

For the collection of all relevant data regarding evidence and OL materials, an Excel spreadsheet for media metadata (part 1 of these guidelines) as well as an online spreadsheet for the content (part two of these guidelines) have been prepared. They include all classifications as interactive dropdown menus. This means that the editor chooses from the first hierarchy level, before the second level shows up. Dependent hierarchy levels are marked with * (see below).

| How (Form) | | | |
|--------------|--------------------------|----------------------|--|
| Media Degree | Media Group | Media Type | |
| Dropdown | * Dropdown | * Dropdown | |
| third_degree | online_digital_ media | electronic_flye r | |

Media Meta Data for scientific evidence and ocean literacy materials (Excel spreadsheet)

Most of the required meta-data on evidence and Ocean Literacy are self-explaining. The more sophisticated Information have been explained in the first chapter of this document. The Excel spreadsheet will be used to bulk upload the information to the Knowledge Base. All information uploaded using the Excel File will show up in the KB as unconnected “knowledge nodes”, representations of the knowledge or OL examples.

Please Note: The Excel sheet has to be used without changes.

Content Descriptions

To be able to connect the representations of knowledge in the KB to the overall causality, editors have to classify the content of each example according to the classification system. How this is done, is up to each editor. Everything from paper and pencil to your own Word or Excel File is fine.