# Addendum 3.1. OSPAR 2021 MPA data call

# OSPAR GUIDANCE NOTE – Reporting on the status of MPA Management

## Background

At the 2010 OSPAR Ministerial Meeting in Bergen, Norway, OSPAR Ministers committed to ensuring that the OSPAR MPA network[[1]](#footnote-1):

1. by 2012 is ecologically coherent, includes sites representative of all biogeographic regions in the OSPAR maritime area, and is consistent with the CBD target for effectively conserved marine and coastal ecological regions;
2. by 2016 is *well managed* (i.e. coherent management measures have been set up and are being implemented for such MPAs that have been designated up to 2010).

At ICG-MPA 2014, a small task group of representatives from the UK, SE, FR, NL, DE and Oceana met to discuss possible options to gather information from Contracting Parties on their implementation of management for OSPAR MPAs in time for the 2016 report against the OSPAR 2010/02 recommendation. The task group developed a short questionnaire, intended to gather information against the different stages in a management cycle of a MPA; Figure 1 is an illustrative example summarising the high level stages in a MPA’s management cycle.

BDC 2015 gave ICG-MPA a mandate to continue developing the approach through a pilot project in summer 2015[[2]](#footnote-2), with a view to presenting and discussing the results at ICG-MPA 2015 and subsequently BDC 2016.



**Figure 1.** An illustrative example indicating some likely steps in the management cycle of a MPA.

Following on from 2018 management status reporting, the guidance was discussed at ICG-MPA. Discussion focused on how the guidance could be improved to support greater consistency and transparency in reporting by Contracting Parties, particularly in response to question four. Several improvements were suggested.

* ***MPA phase*** - the age of the MPA i.e. how long it has been designated, in combination with information on its progress towards establishing measures helps to ascertain whether the MPA is effectively on track towards being managed effectively or lagging i.e. stalling in a phase and not progressing towards being managed effectively. More detail on this is provided later in the section on MPA phase. It is mandatory to provide the age of each MPA.
* ***Confidence scores*** – a score of confidence offers transparency in reporting by reflecting the level of evidence available to support an assessment. By providing this information, Contracting Parties can offer useful contextual information to support better informed conclusions or recommendations regarding management effectiveness for the OSPAR network. Contracting parties are requested to follow some simple instructions to draw on responses to the four questions to provide a confidence score to accompany the response to question four.
* ***Example assessment approaches*** - examples of approaches developed by some Contracting Parties to assess the achievement of conservation objectives have been annexed to this guidance. These approaches may be useful to help other Contracting Parties further develop their own approaches. Contracting Parties will have different approaches that best suit their MPAs, designation and management processes. Please see Annex II for approaches set out by France, United Kingdom and Germany.
* ***Publicly available datasets*** – also annexed to this guidance is a list of publicly available datasets which could be drawn from by Contracting Parties to support an assessment of the achievement of conservation objectives. Use of such datasets by Contracting Parties is encouraged where appropriate. It is hoped that by drawing attention to these datasets, Contracting Parties can benefit from additional datasets they may not have been aware of. Their use may also support an increased consistency in reporting on management effectiveness. Please see Annex III for the list of publicly available datasets which could support an assessment of management effectiveness.
* ***Comments section -*** Examples of good supporting comments provided by various Contracting Parties from the 2016 reporting are shown in Annex I. These are provided to offer further clarity to Contracting Parties as to the type/nature of comments which they could provide to give context to their responses.

The task group presented an updated version of the guidance to ICG-MPA in 2019 for discussion. ICG-MPA agreed that it was much improved, adequately addressing most of the above suggestions. The group agreed that further thinking was still needed around the subject of MPA phasing though and it was decided that edits to the guidance relating to this would be removed from the version supporting 2021 reporting and the remainder of edits would be kept.

It is important to highlight that this guidance introduces a new reporting requirement for Contracting Parties to provide confidence in the level of evidence underpinning their assessments. Guidance on this is provided later in this document. Attention is also drawn to the following Annexes provided to support Contracting Parties when completing the assessment of management status for their MPAs:

# Annex I: Examples of OSPAR MPA management status assessment comments;

# Annex II: Examples of OSPAR MPA management status assessment approaches from France, Germany and UK; &

# Annex III – Publicly available datasets which can support OSPAR Management Effectiveness Assessments.

## The Management Status Reporting Questionnaire

The OSPAR recommendation defines that management effectiveness can be defined as ‘The degree to which management actions are achieving the stated goals or objectives of an MPA.’ Whilst there is no formal agreement on what constitutes ‘well managed’ in terms of a MPA, a definition of management effectiveness was given in OSPAR Agreement 2007/5 as “the degree to which management actions are achieving the goals and objectives agreed for a protected area “. The following questions seek information on the main actions involved in the management process. There are two broad themes, each with two main questions:

* ***Consider implementation of the MPA management cycle:***
	1. Is the MPA management documented?
	2. Are the measures to achieve the conservation objectives being implemented?
* ***Review whether the MPA is meeting its conservation objectives:***
1. Is a monitoring plan in place to assess if measures are working?
2. Is the MPA moving towards or has it reached the conservation objectives?

Contracting Parties should answer each question with a **‘Yes/Partial/No/Unknown/No data’** response; the guidance contained in this document is provided to support this assessment. Each question has an accompanying ‘**comments**’ field, which can be used by Contracting Parties to add additional details to support or justify their answers. Comments are encouraged as they provide a better understanding of the outcome reported. Some information is specifically requested in the guidance; however, Contracting Parties must decide on the level of detail at which they report. Contracting Parties should note however that there is a 250 character limit on each comments field.

Note in this updated guidance, new information is requested from Contracting Parties in response to question D. This is requested to help aid consistency and transparency in the assessment. Contracting Parties are now asked to provide a confidence score (low, moderate or high) to accompany the response to question D. This score should reflect the level of evidence available. More detail is provided in the following section on question D.

Note also that there are now examples provided in Annex II of approaches used by some Contracting Parties to support responses to question D. These examples are provided for information. You may find the concepts they present and information they use useful to draw from to support your response to question D.

If Contracting Parties have any questions relating to the questionnaire or guidance, they should contact JNCC (laura.cornick@jncc.gov.uk; pete.chaniotis@jncc.gov.uk). For any general questions relating to previous reporting please contact the OSPAR secretariat (data@ospar.org).

Contracting Parties are requested to respond to the data call using ***Reporting format as Addendum 3 (Excel file: Addendum 3\_Management\_XX.xls)***

## Guidance for completing the management status questionnaire

### **Question A - Is the MPA management documented?**

The approach to managing MPAs and documenting how it is done varies between Contracting Parties and is often linked to their domestic legislation and government policy. Documented management does not have to be individual documents; they could form part of a combined document for a site such as a management plan. We recognise management documentation will be in different languages. If a summary of management documentation in one of the OSPAR working languages (English or French) is publicly available, please provide a link to this in the comments section. Note this information is optional and is not a requirement of the management reporting.

|  |  |
| --- | --- |
| **Response option** | **Guidance for response** |
| No | MPA has no associated management documentation that is in use or publicly available  |
| Partial | MPA has associated management documentation that is in use and publicly available. This must include: * Conservation objectives for the protected features of the site, and
* Information on known threats and pressures to achieving those conservation objectives.

If the MPA has some management documentation which does not include the above, please select ‘No’ and include more details in the comments section. |
| Yes | MPA has management documentation that is in use, publicly available. This must include:* Conservation objectives for the protected features of the site
* Information on known threats and pressuresto achieving those conservation objectives
* Actions and measures have been identified to address known threats and pressures
* Spatial information on the location/distribution of protected habitats and species features within the site, which is available to site management organisations.
 |
| Unknown | It is not known if the MPA has associated management documentation that is publicly available. |
| No response | Data not reported |

For the purposes of management reporting, ‘**Protected features**’ are those habitats and species that are the reason why the MPA was designated and will be protected through management actions. For example, these could include habitats and species listed in Annex I and II of the EU Habitats Directive for those OSPAR MPAs that are also SACs, features on the OSPAR Threatened and Declining list, species listed on the IUCN red list, or habitats and species listed in national legislation.

Threats and pressures are commonly used terms in many pieces of work related to EU legislation, such as the identification of Threats, Pressures and Activities on Standard Data Forms for Natura 2000 sites. For the purposes of management reporting, ‘**Threats**’ can include activities or impacts *known* to cause damage to a MPA and its protected features. ‘**Pressures**’ can be defined in a number of ways. The nature of the pressure is determined by activity type, intensity and spatial distribution. We recognise other Contracting Parties may use different definitions. The principles stated in Article 8 (b) together with the indicative lists of pressures and impacts provided in Table 2 Annex III of the EU Marine Strategy Framework Directive should guide Contracting Parties when identifying threats and pressures within their MPAs.

‘**Site management organisations’** refer to the organisation(s) that are actively involved in the coordinating and/or delivering the management actions on a site. It also includes organisations that are responsible for regulating human activities occurring in an MPA.

If you selected a ‘**Yes**’ response, please state the year in which your documents were written, and if applicable, when they were last updated in the comments section.

If you selected a ‘**Partial**’ response, please provide details of when actions and measures to address known threats and pressures are likely to be identified, and when spatial information will be made available in the comments section. For the conservation objectives and information on known threats and pressures, please state the year in which your documents were written, and if applicable, when they were last updated.

If you selected a ‘**No**’ response, please provide brief details of why management documentation is not available in the comments section. If possible, please indicate when conservation objectives and information on the known threats and pressures to achieving the conservation objectives are likely to be available.

### **Question B - Are the measures to achieve the conservation objectives being implemented?**

|  |  |
| --- | --- |
| **Response option** | **Guidance for response** |
| No | No required measures are being implemented. |
| Partial | Some of the required measures are implemented or are in the process of being implemented |
| Yes | All required measures are implemented.  |
| Unknown | MPA has some measures implemented, but it is not known if these address identified threats or pressures to the site.  |
| No response | Data not reported. |

The term **‘measure’** refers to specific management actions that have been identified by site managers to address known threats and pressures (as defined in the guidance to answering question a above) to an MPA and its protected features. Identified actions may include voluntary agreements, codes of practice, or legal mechanism such as a licence or permit. Respondents should only consider those actions to address known threats and pressures that have been identified up to the time of the assessment. All identified actions are considered to be ‘**required measures**’, regardless of how long they may take to implement. A measure is considered to be ‘**implemented**’ when it is put into effect or action in the MPA.

If you selected a **‘no’** response, please include the reasons why no measures are being implemented in the comments section. Reasons could include that an assessment of known threats and pressures has not yet been undertaken and/or that an assessment has been undertaken, but legal/policy/technical issues are preventing the required measures from being implemented.

If you selected a **‘partial’** response, please provide details in the comments section on the progress of outstanding measures, including reasons why not all actions have yet been implemented. Reasons could include that some of the required actions are implemented but others remain pending; or that processes to implement actions are underway, but they are yet to be completed.

If you selected a **‘yes’** response, please provide details of the type of measures implemented at the MPA. Where appropriate, please indicate if measures require legal enforcement in the comments section. You should also answer ‘yes’ if the threats and pressures were reviewed but no specific management actions were necessary in the site; for example, a possible pollution pressure may be managed through regional or national policy.

### **Question C - Is monitoring in place to assess if measures are working?**

|  |  |
| --- | --- |
| **Response option** | **Guidance for response** |
| No | No monitoring is in place for the MPA. |
| Partial | Some monitoring is being implemented or it is in the process of being implemented. |
| Yes | All monitoring that is required at the site is implemented.  |
| No response | Data not reported |

When answering this question, respondents should only consider ‘**Monitoring**’ that captures information on the effectiveness of measures implemented at an MPA. For example, this can include monitoring of condition (ecological status) of the MPA’s protected habitats and species or monitoring the compliance of site users with a voluntary code of practice or legal mechanism (as described in the guidance to question b). Ideally monitoring should focus on ecological status, however if compliance monitoring is used as a surrogate for assessing ecological condition, that should also be included. Contracting Parties can either state what type of monitoring has been implemented in the comments section or provide more detail in the summary of assumptions that is submitted to ICG-MPA with the completed questionnaire as discussed in the management reporting questionnaire section above. Monitoring is considered to be ‘**implemented**’ when it is clearly happening within the MPA.

Monitoring often requires a long-term commitment by the appropriate authorities, and the comments section could be used by Contracting Parties to give an indication of the likely long-term commitment to monitor MPAs. Note this information is optional and is not a requirement of the management reporting.

If you selected a **‘no’** response, please include the reasons why no monitoring is taking place for the MPA in the comments section.

If a **‘partial’** response was selected, please state what is being monitored (for example, ecological status of the protected features, or the compliance with a measure) and any barriers to implementing monitoring for an MPA in the comments section.

A **‘yes’** response should be selected when all monitoring that is considered necessary as part of a monitoring plan for the site is fully implemented.

### **Question D - Is the MPA moving towards or has it reached its conservation objectives?**

|  |  |
| --- | --- |
| **Response option** | **Guidance for response** |
| No | No indication of improvement in the condition of protected features. Some protected features may be declining in condition. If there are not sufficient data available to be able to make this judgement, select “Unknown” |
| Partial | Some protected features are improving in condition or have reached their conservation objectives. Other protected features are static, and/or declining in condition, or their condition is unknown.  |
| Yes | All protected features are improving in condition and some protected features may have met their conservation objectives. OR All protected features have reached their conservation objectives. |
| Unknown | Data are not available to make any judgement if the protected features of the MPA are moving towards their conservation objectives. |
| No response | Data not reported. |

Ideally, there will be recent or regularly collected data from a monitoring programme available that will enable the direct assessment of the ecological condition (state) of the MPA and/or its protected features. Proxy assessments could be used where direct assessments of habitat and species within the site are not available. For example, there may be information on the presence of threats and/or the intensity of activities (creating pressures) that will affect the features that could to give a likely indication of the status of a MPA.

If monitoring data are not available but other information is available, a qualitative response will be required, and this should be noted by respondents in the **‘comments’** section. The type of information used to determine the response (such as knowledge on the sensitivity and intensity of features to potentially harmful activities) should also be included. It may not be possible to even make a qualitative judgement if no suitable information is available for some MPAs and therefore an **‘unknown’** response should be recorded.

### **Confidence scores**

When making an assessment **for question D** it is required to provide an indication of the level of confidence in the response. This should also reflect the responses to the previous questions. For example, where there is not a full monitoring programme in place within an MPA it will be more difficult to assess whether the site is moving towards or achieving its conservation objectives. On the other hand, where there is management and monitoring in place within a site and therefore there are clear data and evidence to support the outcome of the site management status assessment, it would be appropriate to assign a High confidence to the response.

Examples of where High, Medium and Low confidence scores would be appropriate are as follows:

|  |  |
| --- | --- |
| **Confidence response option** | **Example of confidence applied** |
| Not applicable | No suitable information is available on which to base an assessment.  |
| Low | There are no data from condition or compliance monitoring available from the site. The assessment of whether the site is moving towards or achieving its conservation objectives is therefore based largely on expert judgement e.g. an understanding of how the condition of the protected features might be impacted by ongoing activities.  |
| Moderate | There are some condition and/or compliance monitoring data available from the site to make an assessment of whether or not the site is achieving or moving towards its conservation objectives, but some expert judgement (or extrapolation of data) has been used to make the management status assessments. |
| High | There is sufficient monitoring data in place to have a high confidence in the condition of the protected features within the site and to conclude whether they are or are not achieving their conservation objectives. This confidence will only be assigned to MPAs with regular site condition monitoring. |

# Annex I: Examples of OSPAR MPA management status assessment comments

These examples across various Contracting Parties from the 2016 reporting provide good examples of reporting and relevant supporting comments for the questions.

***Question a- Is the MPA management documented?***

|  |  |
| --- | --- |
| Response | Comment |
| No | MPA management plan is to be developed under the Integrated LIFE Project INTEMARES. This action is currently delayed but expected to begin by next year. |
| Yes | Conservation objectives have been documented; Main threats have been identified; Actions and measures to address threats have been outlined; Management Plan exists and is being implemented. |
| Partial | Conservation objectives, information on pressures and threats, and details of the habitats and species are contained within the Regulation 33 package published in 2006.Scottish Natural Heritage has yet to submit formal advice in relation to the management requirements for mobile species (harbour or grey seals) only SACs |

***Question B - Are the measures to achieve the conservation objectives being implemented?***

|  |  |
| --- | --- |
| Response | Comment |
| Yes | Licensable activities not currently and unlikely to take place in the future. Fishing measures implemented since 2004. |
| Partial | Fisheries measures have been implemented, additional measures are still being discussed with stakeholders and aim is to finalise Fall 2016 |
| No | Fisheries conservation measures are not in place yet, but a delegated regulation has been adopted by the Commission and expected to be in place by 1 Jan 2017. |

***Question C - Is monitoring in place to assess if measures are working?***

|  |  |
| --- | --- |
| Response | Comment |
| Yes | A full monitoring plan has been produced according to the MSFD, HD/BD/N2000 and has been implemented |
| Partial | Some condition monitoring of protected features is being implemented or in the process of being implemented. Compliance monitoring of conditions for licensable activities and management measures in place where applicable by responsible authorities. |
| No | This is a new site and the monitoring programme still needs to be agreed and implemented. |

***Question D - Is the MPA moving towards*** ***or has it reached its conservation objectives?***

|  |  |
| --- | --- |
| Response | Comment |
| Yes | All features are in favourable condition. Monitoring is ongoing in the site until long-term management plans are established. Current monitoring data gives evidence towards the conservation objective being achieved. |
| No | Condition assessment based upon revised and robust methodology conducted during 2017/18. Features found to be in unfavourable condition and therefore not moving towards their conservation objectives. |
| Partial | Limited condition monitoring is available; vulnerability assessment suggests feature should be maintained as opposed to restored and therefore feature may be achieving or moving towards conservation objectives. |
| Unknown | Because the implementation of measures has only recently started there are currently no monitoring data that already prove a move towards the objectives. |

# Annex II: Examples of OSPAR MPA management status assessment approaches from France, Germany and UK

Different countries will have different approaches to assessing management status that best suit their MPAs, designation and management processes. Some examples of how assessments can be carried out are outlined here from France, Germany and UK to support management status reporting. These methods could be used by other Contracting Parties to aid their reporting and provide transparency in their methods.

## France

Marine Protected Areas [Dashboard](file:///%5C%5Cjncc-corpfile%5CJNCC%20Corporate%20Data%5CMarine%5CDirectives%26Conventions%5COSPAR%5CMPAs%5CManagementEffectiveness%5CReporting%20Guidance%5C2019_Guidance%5CAnnexes%5CDashboard_method_FR.msg)

In order to address the questions on a local scale of how we can assess whether a marine protected area achieves the goals set when it was established, how the results should be reported and how the management measures should be adapted in consequence, the French MPA Agency developed the marine protected areas dashboard as commissioned by the Ministry of Ecology. This political, technical and scientiﬁc project aims to evaluate the individual effectiveness of each marine protected area and to contribute to national assessment of France’s network. It provides tools that the various French MPAs can share, i.e. methodologies, harmonised monitoring systems and indicators, IT tools and communication and training material.

The project began in 2007 with several mainland and overseas pilot marine protected areas (marine nature parks, national nature reserves, national parks, Natura 2000 sites, etc.) which volunteered to take part in and contribute to this emerging study that involves MPA managers, Government services and scientiﬁc organisations.

For the purposes of OSPAR reporting it is suggested that if using this approach to inform OSPAR management status reporting, to focus on the indicators regarding the status of biodiversity or natural heritage rather than those related to activities. For reporting against the four questions the status of indicators was used to determine a response. For example, where at least 40% of the biodiversity indicators are improving or stable in good or very good environmental status, the response to question d is ‘Yes’. Where at least 40% of the biodiversity indicators are decreasing or stable in bad or very bad status, the response is ‘No’. In the case that there is both ‘Yes’ and ‘No’ as above in combination, the response should be ‘Partial’. In the case that all indicators are unspecified or the trend cannot be calculated then the response should be ‘Unknown’.

## Germany

The approach outlined below has been developed by Germany. This approach considers the threats and pressures impacting an MPA and assesses whether they are being reduced or removed within the site. The approach can be based on both expert judgement and monitoring data where it is available.

### **Method for the assessment of MPA Management Effectiveness**

The method outlined in the following is an approach to tackle the assessment of management effectiveness of OSPAR MPAs. The assessment is thought to be an addition to the usual 4-Question-Assessment of the MPA Management Status.

Currently, the 4-Question approach is used to assess the *Management Status* of OSPAR MPAs. It provides useful information but is lacking an in-depth assessment of the question if the MPA is actually effective. The presented assessment approach will overcome this shortcoming by analysing the status and trend of the most important threats and pressures (T&Ps) impacting MPAs.

This approach is based on the idea that an MPA is managed effectively if T&Ps are being reduced/removed, i.e. the protection of biodiversity is improving. From a general point of view, there are almost the same T&Ps playing a role throughout the different oceans and marine ecosystems with respect to the protection of biodiversity, e.g. underwater noise, fisheries, marine pollution. Thus, the number of parameters that have to be evaluated in a T&P assessment is relatively small. Moreover, for most T&Ps some kind of (national) monitoring programme is already in place or will be established to fulfil obligations of the MSFD. Accordingly, the method will on the one hand allow Contracting Parties, MPA managers and other stakeholder to assess management effectiveness in a fast, easily applicable, and budget-friendly manner and, on the other hand, provide important information to improve the existing management in any given MPA.

**Advantages of the assessment method**

* It is easy to apply and can be based on detailed monitoring data as well as expert judgement.
* Assessment of management effectiveness on individual MPAs and on network level is possible.
* Application of national parameters, thresholds, target values, etc. is possible.
* No result categories – there are no “bad” or “poor” MPAs.

### **Method**

Each MPA is assessed separately. The assessment is conducted by each Contracting Party for its respective MPAs. Only T&Ps which are prevalent in a given MPA are assessed. Two different scores will be calculated for each MPA: **T&P Status Score** and **T&P Trend Score**.

Both scores together will provide an assessment of the management effectiveness, reflecting, in lay terms, if the T&P situation in the MPA, i.e. the protection of biodiversity, is improving. For any given MPA, both scores can be derived using detailed monitoring information, national thresholds/targets, etc. but also expert judgement. Each Contracting Party is free to use the approach most appropriate and feasible for a given national MPA in a given assessment. Both T&P Status Score and T&P Trend Score will be calculated as *relative* scores (percentages) to allow for differences in the number of prevalent T&Ps in MPAs as well as for changes in prevalent T&Ps within a given MPA, e.g. an existing T&Ps has been successfully removed or a new T&P has occurred since the last assessment.

Examples of important T&Ps are shown in Table 1 and Table 4 provides a more comprehensive list of potentially relevant T&Ps including additional information about useful data sources and data bases.

**Table 1:** Examples of important T&Ps

|  |
| --- |
| **Threats/pressures**  |
| Underwater Noise |
| Fisheries  |
| Marine Litter  |
| Dredging & Dumping |
| Shipping |
| Pollution & Contamination(e.g. eutrophication, hazardous substances) |
| Offshore marine infrastructure(e.g. oil/gas structures; sub-sea cables) |
| Exploration & Extraction(e.g. oil and gas, sand and gravel) |
| Non-indigeneous species |
| Sea-floor integrity/ Habitat loss |

### **T&P Status Score**

This score is for assessing the current status of T&Ps in a given MPA at a given time, i.e. the assessment year.

In a first step, it is evaluated if the status concerning a given T&P is “good” or “improvable”. All T&Ps relevant in a given MPA are assessed that way and, subsequently, the “Status Score” is calculated using the equation:

Number of “good” status / Number of assessed T&Ps \* 100 = XY %

**Table 2:** Example of a T&P Status Assessment and the according T&P Status Score of an MPA

|  |  |  |  |
| --- | --- | --- | --- |
| **Threat/pressure** | **Status Assessment** | **Status Score** | **Comments Field** |
| Underwater noise | good | 2 “good” status/4 T&Ps assessed\*100 =**50 %** | Based on impulse noise measurements. |
| Marine Litter | improvable | Based on marine litter monitoring. |
| Shipping | improvable | Based on AIS data. |
| Dredging/Dumping | good | Based on the total number of dredging sites. |

The ”Comments column” can be used to provide information about the underlying parameters used for the assessment (see Table 4) or other relevant information.

### **T&P Trend Score**

The T&P Trend Score reflects how the T&Ps prevalent in the MPA have developed since the last assessment.

In a first step, a trend assessment of each prevalent T&P (i.e. the same T&Ps that were evaluated for the Status Score) will be conducted, using the following three categories: *increased*, *decreased*, *stable*. The trend assessment only considers the last assessment as reference point.

Subsequently, the Trend Score is calculated using the following equation:

Number of T&Ps “decreased” / Number of T&Ps assessed \* 100 = XY %

**Table 3:** Trend Assessment and Trend Score

|  |  |  |  |
| --- | --- | --- | --- |
| **Threat/pressure** | **Trend assessment** | **Trend Score** | **Comments Field** |
| Underwater noise | decreased | 1 T&P “decreased”/4 T&P assessed\*100 =**25 %** | Based on continuous noise measurements. |
| Marine Litter | increased | Based on the fulmar index. |
| Shipping | stable | Based on VMS data. |
| Dredging/Dumping | increased | Based on data from national agency (amount of dumped material). |

The ”Comments column” can be used to provide information about the underlying parameters used for the assessment (see Table 4) or other relevant information.

### **Interpretation of outcomes**

The results, in the example above T&P Status Score = 50 % and T&P Trend Score = 25 %, will stand alone for any given MPA. The interpretation of the results is up to the Contracting Parties, there will be no categories such as 10 % = poor management effectiveness, 90 % = excellent management effectiveness.

However, ideally both scores should be close to 100 %. A T&P Status Score of 100 % would indicate that the status of all T&Ps prevalent in a MPA is “good”, i.e. the impact of the T&Ps on the MPA is very low. A T&P Trend Score of 100 % would indicate that the trend of all T&Ps prevalent in a MPA is “decreasing”, i.e. the impact of all T&Ps on the MPA is lower compared to the last assessment.

Thus, Contracting Parties and the managers of a given MPA can use the scores as a mean to check if other or additional measures should be taken to better address the T&Ps prevalent in the MPA. Therefore, the assessment method will provide useful information for an adaptive management of an MPA.

### **Potential T&P parameters, data sources and useful data bases for the assessment of T&P Status Score and T&P Trend Score**

This T&P list (Table 4) was compiled from “Guidelines for the management of MPAs in the OSPAR maritime area” (OSPAR 2003-18), “OSPAR Joint Assessment and Monitoring Program (JAMP) 2014-2021” (OSPAR Agreement 2014-02), the OSPAR-EIHA webpage, and the MSFD high-level “Good Environmental Status descriptors”.

**Table 4:** T&P parameters, data sources and useful data bases

|  |  |  |  |
| --- | --- | --- | --- |
| **Threats/pressures** |  **Potential Parameters** |  **Potential data sources** |  **Useful data bases** |
| Underwater Noise | * Impulse noise levels
* Continuous noise levels
 | * Mooring data
* Hydrophones (point measurements)
* OSPAR\_CEMP: Theme B: Biodiversity and Ecosystems\*
* MSFD Descriptor D11-Introduction of Energy
 | ODIMS;ICES; National Authorities\*\* |
| Fisheries  | * Fishing hours
* Number of fishing boats
* Specific fishing gears (trawling hours)
* Number of aquaculture facilities
* By-catch
 | * VMS or AIS data
* Marine spatial plan
* OSPAR\_CEMP: Theme B: Biodiversity and Ecosystems\*
 | EMODnet-human activities; ICES; National Authorities\* |
| Marine Litter  | * Amount of (plastic) waste
* Microplastic particles per liter
* Seabed litter
 | * Fishing for Litter
* Beach Litter Monitoring (OSPAR)
* Fulmar index (OSPAR)
* OSPAR\_CEMP: Theme B: Biodiversity and Ecosystems\*
* MSFD Descriptor D10-Marine Litter
 | ODIMS; EMODnet-chemmistry; National Authorities\* |
| Dredging & Dumping | * Number of dredging vessels
* Amount of dredged materials
* Amount of dumped materials
* Number of dredging/dumping sites
 | * VMS or AIS data
* Marine spatial plan
* OSPAR\_CEMP: Theme B: Biodiversity and Ecosystems\*
 | ODIMS; EMODnet-human activities; National Authorities\* |
| Shipping\*\*\* | * Shipping hours
* Shipping density
 | * VMS or AIS data
 | National Authorities\* |
| Pollution &Contamination(Eutrophication, hazardous substances) | * Nutrient load
* Chl *a* concentrations
* Plankton biomass
* Concentrations of (different) hazardous substances
* Accidental spills of oil and chemicals
 | * Remote sensing
* Mooring data
* Scientific publications
* OSPAR\_CEMP: Theme E: Eutrophication\*
* OSPAR\_CEMP: Theme H: Hazardous Substances\*
* OSPAR\_CEMP: Theme O: Offshore Oil and Gas Industry\*
* MSFD Descriptor D8-Concentration of Contaminants
* MSFD Descriptor D5-Eutrophication
 | ODIMS; EMODnet-chemistry; ICES (DOME); National Authorities\* |
| Offshore constructions (OWP, pipelines etc.) | * Newly constructed facilities
* Total number of facilities
* Physical damage
* Habitat loss
 | * Marine spatial plan
* OSPAR\_CEMP: Theme B: Biodiversity and Ecosystems\*
* OSPAR\_CEMP: Theme O: Offshore Oil and Gas Industry\*
 | ODIMS; EMODnet-human activities; National Authorities |
| Exploration & Extraction(e.g. Oil, Gas) | * Number of exploration projects
* Amount of extracted material
* Number of exploration / extraction sites
 |  | EMODnet-human activities; National authorities |
| Non-indigeneous species (NIS) | * New records of non-indigenous species
 | * Scientific publications
* OSPAR\_CEMP: Theme B: Biodiversity and Ecosystems\*
* MSFD Descriptor D2-NIS
 | EMODnet-biology; National Authorities\*  |
| Sea-floor integrity/Habitat loss | * Condition of benthic habitats communities
* Physical damage of predominant habitats
* Area habitat loss
* Species composition
 | * MSFD Descriptor D6 - Seafloor Integrity
 | ODIMS; EMODnet-seabed habitats; ICES; National Authorities\* |

\* OSPAR, 2016. OSPAR Coordinated Environmental Monitoring Programme (CEMP). OSPAR 2016-01

\*\* National authorities should hold various maps, plans and/or data bases which provide appropriate information

\*\*\* Shipping can be seen as “high level T&P” as it encompasses several other T&Ps such as underwater noise, fisheries and pollution. Shipping data are relatively easy to access and to analyze and will provide useful information also about the other, encompassed T&Ps.

## United Kingdom

**Approach to assessing the achievement of conservation objectives for UK offshore Marine Protected Areas**

### **Introduction**

Assessment of feature condition is critical to determining the management needed to adequately protect a Marine Protected Area’s (MPA’s) features and achieve the conservation objectives which have been set. This assessment also supports delivery of various national and international reporting obligations.

This document sets out an approach (known as a Vulnerability Assessment - VA) used by the Joint Nature Conservation Committee (JNCC) to assessing the condition of MPA features in the UK offshore area. This approach has been applied to UK offshore MPAs for many years in instances where MPA-based condition information is lacking. Terms used in this document are explained in a glossary (see Appendix 2).

The Vulnerability Assessment (VA) process involves assessing exposure of MPA features to pressures associated with activities and combining this with feature sensitivity to those pressures, to infer the degree of impact on feature condition/achievement of conservation objectives. A feature is vulnerable when it is exposed to a pressure to which it is sensitive. The more exposed and sensitive a feature is to ongoing pressures, the more vulnerable it is to damage and less likely to be in favourable condition and thus less likely to be achieving its conservation objectives. A VA allows damaging activities to be identified for management. This aids in the development of potential management options to support recovery (if needed) of an MPA’s feature and achievement of the MPA’s conservation objectives.

VAs are used around the UK by the different conservation advice bodies to support advice on MPA feature condition or management, where MPA-based condition information is lacking and to support responses to question D of the OSPAR Management Effectiveness assessment.

The VA process relies heavily on expert judgment. So that bias is minimised, and results are reasonable and consistent given the evidence available, the VA process includes:

* communication of caveats (see Appendix 1);
* robust quality assurance processes; &
* communication of confidence in the results which reflects the level of evidence available.

### **Vulnerability assessment - information used**

**Pressures information**

Human activities have the potential to cause ‘**pressures**’ on the marine environment which may adversely impact an MPA’s features. Pressures can be chemical, biological or physical in nature. An activity can exert a range of pressures and a range of activities can exert the same pressure. The range of pressures which are considered within a VA are available in [JNCC’s public Pressures Activities Database (PAD).](http://jncc.defra.gov.uk/default.aspx?page=7136) All marine activities thought to occur in UK waters are listed here and described. Each pressure listed is defined, and the evidence presented to show which activities are associated with each pressure. The pressures list is based on the OSPAR ICG-C pressures list available here: <http://jncc.defra.gov.uk/pdf/20110328_ICG-C_Pressures_list_v4.pdf> but has been amended slightly to align with pressures used in The Marine Life Information Network ([MarLIN](https://www.marlin.ac.uk/sensitivity/sensitivity_rationale)) website’s marine evidence-based sensitivity assessments (MarESA) to ensure that these two products are compatible. The PAD can be searched by pressure or by activity and is publicly available for anyone to use.

**Activities information**

Spatial information on activities occurring in or near offshore MPAs is collated by JNCC and updated every 6 months. To assess exposure of MPA features to pressures, spatial activity layers are placed over MPA biogeographical feature data in GIS to identify those activities occurring in or near each feature. Once identified, the activities are cross-referenced against JNCC’s PAD to identify the list of pressures they can exert. This includes consideration of pressures which can be exerted a distance away from the activity e.g. smothering from plumes associated with aggregate dredging. The level of exposure is then assessed as unknown, none, low, moderate or high based on consideration of spatial overlap with the feature, duration and intensity of the activity. For example, an activity which is relatively short-lived and only occurring over a relatively small part of a feature will be assessed as exposing the feature to lower levels of pressures compared to an activity which is persistent and covering a large part of the feature.

**Sensitivity information**

Sensitivity assessments tell us how likely a feature is to be impacted by all the pressures exerted by an activity and how quickly (or not) it may recover once the pressures cease. Sensitivity scores can range from unknown/not sensitive to highly sensitive. A feature which is not readily impacted and recovers very rapidly would be assessed as having low sensitivity. A feature which is readily impacted i.e. fragile, and takes a relatively long time to recover, or may not recover at all, is assessed as being highly sensitive.

In the UK, MPA feature sensitivity information is publicly available for anyone to use. More detail is provided on [JNCC’s website](http://jncc.defra.gov.uk/default.aspx?page=6517). [FeAST](https://www.marine.scotland.gov.uk/FEAST/), Feature Activity Sensitivity Tool is hosted on the Scottish Government website. Here the sensitivity of Scottish MPA features to a range of pressures and the underpinning evidence is presented. Information can be searched by feature, by activity, by pressure and by sensitivity. The Marine Life Information Network ([MarLIN](https://www.marlin.ac.uk/sensitivity/sensitivity_rationale)) website is a really good resource for sensitivity information for all UK MPA features.

### **The Vulnerability Assessment process – a proxy for MPA feature condition and achievement of conservation objectives**

A step-by-step process is used to assess the vulnerability of MPA features to each pressure:

* An assessment of the sensitivity of the feature to each pressure (collate from [MarLIN](https://www.marlin.ac.uk/sensitivity/sensitivity_rationale) or [FeAST](https://www.marine.scotland.gov.uk/FEAST/));
* An assessment of the exposure of the feature to each pressure (overlay spatial activity layers over the MPA feature biogeographic information in GIS to identify those activities occurring in or near an MPA. Once identified, these activities are cross-referenced against [JNCC’s PAD.](http://jncc.defra.gov.uk/default.aspx?page=7136) to identify the list of pressures they each can exert. Exposure to each pressure by each activity is then assessed based on consideration of spatial overlap of activities with the feature, and the duration and intensity of each activity;
* An assessment of the vulnerability of the feature to the pressures. The feature is considered ‘vulnerable’ if it is both ‘sensitive’ and ‘exposed’ to pressures i.e. combine sensitivity and exposure categories following Table 1 below.

Table 1 shows how MPA feature vulnerability to individual pressures is calculated using exposure scores and sensitivity scores.

|  |  |
| --- | --- |
| **Feature’s** | **Feature’s sensitivity to pressure** |
| **exposure to pressure** |  |
| **High** | **Moderate** | **Low** | **Not sensitive** | **Unknown** |
| **High** | High Vulnerability | High Vulnerability | Moderate Vulnerability | No Vulnerability | Unknown Vulnerability |
| **Moderate** | High Vulnerability | Moderate Vulnerability | Low Vulnerability | No Vulnerability | Unknown Vulnerability |
| **Low** | ModerateVulnerability | LowVulnerability | LowVulnerability | NoVulnerability | UnknownVulnerability |
| **Not exposed** | NoVulnerability | NoVulnerability | NoVulnerability | NoVulnerability | UnknownVulnerability |
| **Unknown** | Unknown Vulnerability | Unknown Vulnerability | Unknown Vulnerability | Unknown Vulnerability | Unknown Vulnerability |

**Conclusion - Feature condition/achievement of conservation objectives**

Where a feature is assessed as moderately or highly vulnerable to one or more pressures it is assessed as unlikely to be in favourable condition and achieving its conservation objectives

Conversely where a feature is not assessed as moderately or highly vulnerable to any pressures, it is assessed as likely to be in favourable condition and achieving its conservation objectives.

Where a feature is assessed as unlikely to be in favourable condition/achieving its conservation objectives, a ‘no’ response will be provided for question D of the OSPAR Management Effectiveness Assessment.

Where a feature is assessed as likely to be in favourable condition/achieving its conservation objectives, a ‘yes’ response would be provided for question D.

Where responses are based solely on a VA, confidence in the response would be low. Where responses are based on additional information i.e. collected from *in-situ*, confidence may be higher reflecting an increased level of evidence.

***In-situ* information from the MPA**

Where there is information available from an MPA which can inform feature condition, this is incorporated into the assessment with consideration given to whether environmental thresholds are being exceeded or met. Sources of useful information include but are not limited to:

* [MERMAN](https://www.bodc.ac.uk/projects/data_management/uk/merman/assessments_and_data_access/csemp/) project provides an Assessment viewer tool so one can query the Clean Safe Seas Environmental Monitoring Programme (CSEMP) dataset. It provides access to data on a range of contaminants sampled from biota, sediment & water around the UK at set sampling points. Some sample stations are located within offshore MPAs, so the information can be used to support a more direct description of contaminants in the site, maybe even trend information. If there are only nearby points, it can still provide some contextual info on the wider environment in which the site sits.
* [NBN Gateway](https://data.nbn.org.uk/imt/?habitat=HL000023) can be spatially queried for non-native species locations. The GB Non-Native Species Secretariat lists non-native species and provides risk categories [here](http://www.nonnativespecies.org/index.cfm?sectionid=51). Using these, one should be able to tell if there are any records of non-natives in an MPA and associated risk score, assuming an assessment has been completed.
* ABPMer host information on tide, wave and wind conditions around the UK. Downloadable shapefiles are available from here. Go to [www.renewable-atlas.info](http://www.renewable-atlas.info)
* The [MEFEPO](https://www.liverpool.ac.uk/media/livacuk/mefepo/pdf/NS_Atlas_2nd_Edition.pdf) project provides a fairly comprehensive technical review of physico-chemical properties of UK regional seas (North Sea, South west & North west waters). This includes information on pH, O2, salinity, nutrients as well as phytoplankton and fish.

It is anticipated that developing MSFD indicators have the potential to support assessment of the marine environment at an MPA scale. Going forward, the MPA assessment approach will be developed over time to fully consider information from MPA monitoring surveys which can be used to inform feature condition/the achievement of conservation objectives.

**Data Sources and Bibliography**

Defra. *A Sea Change: A Marine Bill White Paper*. London: TSO, 2007.

Laffoley, D.A., Connor, D.W., Tasker, M.L. and Bines, T. 2000. Nationally important seascapes, habitats and species. A recommended approach to their identification, conservation and protection, pp. 17. Peterborough: English Nature.

OSPAR 2008. OSPAR List of Threatened and/or Declining Species and Habitats (Reference Number 2008-6). OSPAR Convention for the Protection Of The Marine Environment Of the North-East Atlantic [http://www.jncc.gov.uk/pdf/08-06e\_OSPAR%20List%species%20and%20habitats.pdf](http://www.jncc.gov.uk/pdf/08-06e_OSPAR%20List%25species%20and%20habitats.pdf)

Robinson, L.A., Rogers, S. and Frid, C.L.J. 2008. A marine assessment and monitoring framework for application by UKMMAS and OSPAR - Assessment of Pressures and Impacts. Phase II: Application for regional assessments. JNCC Contract No: C-08-0007-0027. UKMMAS, 2010. Charting Progress 2.

Robson, L.M., Fincham, J., Peckett, F.J., Frost, N., Jackson, C., Carter, A.J. & Matear, L. 2018. UK Marine Pressures-Activities Database “PAD”: Methods Report, *JNCC Report No. 624*, JNCC, Peterborough.

### **APPENDIX 1 Uncertainties**

**Table 1.** Summary of uncertainties associated with the types of information used and how it is used and interpreted in the VA process (note the list provided is not exhaustive and not in any order of significance). Source: SNCBs’ MCZ Advice Project Technical protocol F – Assessing scientific confidence of feature condition, available here: <http://jncc.defra.gov.uk/pdf/120106_SNCBs%20MCZ%20Advice%20protocol%20F_confidence%20in%20feature%20condition_v5%200_FINAL.pdf>

|  |  |
| --- | --- |
|  | **Uncertainties** |
| ***Information*** | **Sensitivity scores** | * A feature’s sensitivity is not known for all pressures. Where a feature’s sensitivity to a pressure is unknown, the vulnerability to that pressure cannot be quantified and remains unknown, even when the feature is exposed to the pressure. A VA is therefore only as complete as our knowledge of the sensitivities to pressures will allow.
* Due to time and resource constraints in the undertaking of all the VAs, guidance in the COG stated that effort was to be concentrated on assessing the vulnerabilities to pressures to which features were moderately or highly sensitive. Therefore, in some instances, pressures to which a feature has low sensitivity were not taken into account in the VA. A feature can, theoretically, be exposed to a level of pressure high enough to result in a moderate vulnerability even if it is only sensitive at a low level.
* Low confidence sensitivity scores. The MB0102 (ABPMer, 2010) sensitivity matrix provides confidence scores associated with each feature’s sensitivity to each pressure, where it is known. Where confidence is scored as low, a feature’s response to a pressure is not proven or is not very well understood. Where there is low confidence, it carries through to the vulnerability score and the assessment of feature condition, contributing to the overall uncertainty.
* For some features, particularly broad-scale habitats, sensitivity in the MB0102 matrix to a pressure is given by a range to represent variability within the feature. When assessing the condition of such features, the highest sensitivity of the range was adopted as that of the entire feature (please see [COG](http://www.naturalengland.org.uk/Images/conservation-objective-guidance_tcm6-24853.pdf) for fuller explanation) and used in the calculation of vulnerability to pressures. For example, for feature X, the MB0102 matrix provides the following sensitivity range (as opposed to a single score) to pressure A of not sensitive to moderately sensitive, with an associated confidence of high. For the purposes of the VA, moderate sensitivity to pressure A was used to assess vulnerability. This is precautionary and aligns with the approach undertaken for European Marine Sites. In these instances, it is no longer appropriate to use the moderate confidence score provided in the MB0102 matrix and the confidence may be unknown. In these instances, this makes it more difficult to assess a feature’s vulnerability and condition with any degree of confidence.
* Pressure benchmarks (against which a feature’s sensitivity is assessed) frequently do not reflect how pressures are exerted at a site level and are therefore sometimes not very helpful when assessing a feature’s exposure to pressures. Often pressure benchmarks are provided for one-off events for example or do not provide temporal or spatial parameters which makes it difficult to assess exposure to pressures associated with activities which vary temporally and spatially.
 |
| **Human activities data** | * Low spatial resolution and/or accuracy of the information available, particularly for fisheries and recreational activities. Licensed activities, on the other hand can have a relatively high spatial resolution and/or accuracy.

Sometimes where the spatial resolution of an activity is too coarse you cannot be sure where exactly an activity is occurring. You know it is happening within an area but you cannot narrow it down to a specific location which would allow you to determine whether or not it is occurring over a feature. The precautionary approach was adopted during the VA; it was assumed that the activity, and associated pressure, was occurring on the feature (unless additional information is provided to confirm otherwise). Note this is precautionary and is therefore associated with necessarily lower confidence.  |
| **Ecological data** | Variable spatial resolution of habitat maps and accuracy of location of point data for species or habitats. There is uncertainty in the exact location and extent of habitats and species due to limitations of available data. For habitats, level of confidence on the presence is being dealt with in protocol E, the output of which is incorporated as the 1st step to this protocol.  |
| ***Process*** | The ***VA process*** relies heavily on expert judgment and assumptions, particularly:* For example an activity, which occurs in a particular way at a particular level, is exerting a pressure and therefore an impact/damage to the feature. This is an assumption that is necessary for the purposes of a VA when in fact the impact and damage is not proven. This is why the condition derived using a VA is described as ‘likely’; we do not claim to provide a categorical determination of feature condition when assessed using a VA. This contributes significantly to the overall uncertainty in feature condition;
* The VA only takes into account current known activities for which we have information available and does not account for activities that may have caused damage to the feature in the past but have since ceased or indeed activities currently occurring, for which we do not have information For example, an area of cold water *Lophelia* *pertusa* reef may have been trawled over in the past and (unknown to us because it hasn’t been directly surveyed) it has been severely damaged. According to the currently available fishing activity data, the area is not subject to demersal trawling now. Therefore a VA may indicate the feature is not currently vulnerable to any pressures and is likely to be in favourable condition which, in reality, it is not because it has been severely damaged in the past. Not taking account of all historical activity contributes significantly to overall uncertainty in feature condition;
* When assessing far-field effects. Some activities when occurring away from but close enough to a feature can exert pressures on a feature e.g. aggregate dredging can expose a nearby feature to smothering from suspended sediments. Assessing exposure in such instances requires expert judgment which takes account of several factors; current direction and strength, distance from feature and sediment type. This is reliant on expert judgment, which while a valid approach, does depend on application of knowledge and expertise and therefore involves a degree of uncertainty;
* Where assessing the cumulative pressure caused by two or more activities, which individually do not expose the feature to the pressure above the benchmark. Again this is reliant on expert judgment and a degree of uncertainty.
 |

### **APPENDIX 2 Glossary of Terms**

**Activity –** Human, social or economic actions or endeavours that may have an effect on the marine environment, for example fishing or energy production. Activities are capable of creating a range of pressures.

**Benthic –** A description for animals, plants and habitats associated with the seabed. All plants and animals that live in, on or near the seabed are benthic (e.g. sponges, crabs, seagrass beds) (Defra 2007).

**Conservation objective** – Conservation objectives set out the broad ecological aims of a site. The conservation objective establishes that where a feature meets the desired state (in UK offshore MPAs this is favourable condition) and should be maintained or falls below it and should be recovered to favourable condition.

**Exposure** measures the level of impact of a pressure on a feature in terms of the location, spatial extent, frequency, duration and intensity of the activity in the designated area (Robinson *et al*., 2008).

**Favourable condition –** This is the condition which all features in an offshore MPA should be in or striving towards as set out in conservation objectives. In relation to marine habitats, this means that the habitat’s extent is stable or increasing and its structures, functions, quality and the composition of its characteristic biological communities (including diversity and abundance) are such that it remains in a healthy condition, which is not deteriorating. In relation to marine species, favourable condition means the quality and quantity of the species habitat and the composition of its population in terms of number, age and sex ratio ensures that the population is maintained in numbers that enable it to thrive. This is a common term in the UK for protected areas.

**Impact -** The consequence of pressures (e.g. habitat degradation) where a change occurs that is different to that expected under natural conditions.

**JNCC** – Joint Nature Conservation Committee, the public body that advises the UK Government and devolved administrations on UK-wide and international nature conservation.

**Maintain –** Term used to describe the objective set for a feature, where evidence indicates a feature is unimpacted or in favourable condition. Maintain implies that, based on our existing understanding, the feature is regarded as being in favourable condition and will, subject to natural change, remain in this condition at designation. Management may still be required to ensure a feature remains in favourable condition.

**Management measures -** Ways to manage activities within an MPA to maintain or recover the condition of its features.

**MPA** – Marine Protected Area (MPA) is a generic term to cover all marine areas that are a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

**Feature** – Term used to describe the protected habitat or species for which an MPA has been designated.

**Offshore -** Offshore is a legal definition to describe all of the UK's waters between 12 and 200 nautical miles and the seabed of the UK Continental Shelf. It is within this area of UK waters that JNCC has the responsibility to provide advice to Government on nature conservation. A more detailed definition of the UK offshore area is provided [here](http://jncc.defra.gov.uk/page-4552).

**Pressure –** A pressure is the mechanism through which an activity has an effect on any part of the ecosystem. The nature of the pressure is determined by activity type, intensity and distribution. Pressures can be physical chemical or biological in nature.

**Recover** - Term used to describe the conservation objective set where evidence indicates an attribute is impacted and likely to be in unfavourable condition. Management actions are required to recover condition to meet the MPA’s conservation objectives. The term is equivalent to ‘restore’ used in other MPA designation types in the UK. Recover implies that the feature is likely to have been degraded to some degree. When the feature is sensitive to pressures associated with activities, additional management measures may need to be introduced to reduce or eliminate these pressures. When a feature is assessed as having a conservation objective of recover the first step is to determine what pressures (if any) are responsible for this. If the feature is badly damaged, restoration may be required. In the offshore marine environment, where restoration of the feature is required this refers to natural recovery to favourable condition through the reduction or removal of pressures that adversely affect the feature.

**Sensitivity –** Sensitivity is a product of the likelihood of damage due to a pressure and time taken for recovery once the pressure has abated or been removed. In other words, “a species (population) is defined as very sensitive when it is easily adversely affected by human activity (e.g. low resistance) and recovery is only achieved after a prolonged period, if at all (e.g. low resilience or recoverability)” (OSPAR, 2008; Laffoley *et al*., 2000).

**Vulnerability Assessment** – The Vulnerability Assessment (VA) process involves assessing exposure of MPA features to pressures associated with activities and combining this with feature sensitivity to those pressures, to infer the degree of impact on feature condition/achievement of conservation objectives. A feature is vulnerable when it is exposed to a pressure to which it is sensitive. The more exposed and sensitive a feature is to ongoing pressures, the more vulnerable it is to damage and less likely to be in favourable condition and thus achieving its conservation objectives. A VA allows damaging activities to be identified for management. This aids in the development of potential management options to support recovery (if needed) of an MPA’s feature and achievement of the MPA’s conservation objectives.

# Annex III – Publicly available datasets which can support OSPAR Management Effectiveness Assessments



Please visit <https://odims.ospar.org/> for data access (last access on 17/07/2019\*).

Tab. 1: Overview on information currently available in ODIMS.

|  |  |  |
| --- | --- | --- |
| **Committee** | **Datastream** | **Years** |
| BDC | OSPAR Habitats in the North-East Atlantic Ocean | 2003-2015 |
| BDC | Marine Protected Areas Network | available |
|   | OSPAR Bottom Fishing Intensity - Surface | 2009-2017 |
|   | OSPAR Bottom Fishing Intensity - Subsurface | 2009-2017 |
| EIHA | Dumping and Placement of Wastes or Other Matter at Sea (Dredged materials) | 2014-2017 |
| EIHA | Offshore Renewable Energy | 2009-2018 |
| EIHA | Encounters with Dumped Chemical and Conventional Munitions | 1999-2016 |
| EIHA | Marine Litter Beach Monitoring | 2015-2018 |
| EIHA | Seabed Litter | IA 2017 |
| EIHA | Impulsive underwater noise | 2014-2017 |
| EIHA | Plastic particles in Fulmar stomachs | 2000-2013 |
| EIHA | Fishing for Litter | 2013-2017 |
| HASEC | Mercury Losses from the Chlor-Alkali Industry | 1998-2017 |
| HASEC | OSPAR Marine Contaminants - Biota | 2011-2016 |
| HASEC | OSPAR Marine Contaminants - Sediment | 2011-2016 |
| HASEC | OSPAR Marine Contaminants - Water | 2011-2016 |
| OIC | Discharges, Spills and Emissions from Offshore Oil and Gas Installations | 2007-2016 |
| OIC | Inventory of Offshore Installations | 2001-2017 (biennial basis) |
| RSC | Liquid Discharges from Nuclear Installations (nuclear sector) | 1995-2016 |
| RSC | Discharges of Radionuclides from the non-nuclear sectors | 2005-2016 |
| RSC | Environmental Monitoring of Radioactive Substances - Biota | 1995-2013 |
| RSC | Environmental Monitoring of Radioactive Substances - Seawater | 1995-2013 |

\* Please note that ODIMS and other data bases are under constant development. Therefore, data resources and data availability are subject to change.



Please visit <http://www.emodnet-humanactivities.eu/> for data access (last access on 17/07/2019\*). Data for the following **human activities** are provided via this web service:

|  |  |  |  |
| --- | --- | --- | --- |
| **Theme** | **Activity** | **Geographical Type** | **Attributes** |
| Aggregate Extraction | Aggregate Extraction | Points | Gravel extracted per year, area of activity |
| Aquaculture | Finfish Production | Points | Species of fish and shellfish; production tonnage per year |
| Shellfish Production | Points | Species of fish and shellfish; production tonnage per year |
| Freshwater Production | Points | Species of fish; production tonnage per year |
| Cables | Telecommunication Cables (schematic routes) | Lines | Types of cable or pipeline, width |
| Landing Stations | Points |   |
| Telecommunication Cables (actual route locations) | Lines |   |
| Cultural Heritage | Ship Wrecks | Points |   |
| Lighthouses | Points |   |
| Submerged Prehistoric Archaeology and Landscapes | Points |   |
| Dredging | Dredging | Points | Status (years operational), purpose |
| Environment | Protected Areas | Points and polygons | Legal basis for protection |
| State of Bathing Waters | Points |   |
| Fisheries | Fisheries zones | Polygons | ICES and FAO nomenclature |
| Fish Catches | Polygons |   |
| Fish Sales | Points |   |
| Hydrocarbon Extraction | Active Licenses | Polygons | Status (exploration, exploitation) |
| Boreholes | Points | Status (exploration, exploitation) |
| Ofshore Installations | Points |   |
| Main Ports | Traffic | Points | Traffic |
| Ocean Energy Facility | Project Locations | Points | Type, status (planned, under construction, operational) |
| Test Sites | Polygons |   |
| Other Forms of Area Management/ Designation | Other Forms of Area Management/ Designation | Polygons | National or international basis |
| Pipelines | Pipelines | Lines |   |
| Waste Disposal | Dredge Spoil Dumping | Points and polygons | Status (years operational), distance from coast |
| Dumped Munitions | Points and polygons | Distance from coast, munition type |
| Wind Farms | Wind Farms | Points and polygons | Number of turbines, generation capacity, status (planned, under construction, operational) |

\* Please note that data bases are under constant development. Therefore, data resources and data availability are subject to change.

Please visit <http://www.emodnet-chemistry.eu/welcome> for data access (last access on 17/07/2019\*). EMODnet Chemistry has a focus on measurement data for **groups of** **chemical variables**. Data for the following variables are provided via this web service:

|  |  |  |
| --- | --- | --- |
| **Chemical variables** | **Chemical variables** | **Chemical variables** |
| Acidity | Hydrocarbons | Pesticides and biocides |
| Antifoulants | Heavy metals  | Radionuclides |
| Chlorophyll | Marine litter | Silicates |
| Dissolved gasses | Organic matter |  |
| Fertilisers | Poly-chlorinated biphenyls |  |

Please <http://www.emodnet-biology.eu/> for data access (last access on 17/07/2019\*). EMODnet Biology has a focus on data on **temporal and spatial distribution of marine species and species traits** from all European regional seas, including non-indigenous species (NIS).

Please visit <https://www.emodnet-seabedhabitats.eu/> for data access (last access on 17/07/2019\*). EMODnet Seabedhabitats include EMODnet **broad-scale seabed habitat map** for Europe (AKA EUSeaMap) and habitat maps from surveys across Europe.

\* Please note that data bases are under constant development. Therefore, data resources and data availability are subject to change.



Please visit <http://www.ices.dk/marine-data/dataset-collections/Pages/default.aspx> for data access (last access on 17/07/2019\*).

ICES datasets are organized around specific thematic data portals. Please visit <http://ecosystemdata.ices.dk/> for an overview of available datasets.

|  |  |
| --- | --- |
| **Theme** | **Attributes/Sources** |
| **Biodiversity** | Seabird and seals abundance and distribution records - linked to OSPAR, and ICES groups (JWGBIRD, WGMME) |
| **Contaminants, biological effects,** and **biological community data** | Data are made available through the **DOME web portal** (Database on Oceanography and Marine Ecosystems) |
| **Eggs and Larvae** | Data collected by ichthyoplankton surveys |
| **Fish Trawl Survey** | Datasets collected in connection with the Data Collection Framework (EU-DCF) – available via **DATRAS portal** |
| **Fish predation** | Fish stomach data portal |
| **Historical plankton** | 'Historical' plankton dataset collection |
| **Oceanographic data** | Temperature, salinity, oxygen, chlorophyll a, and nutrients measurements are made available through the **OCEAN web applications** |
| **Impulsive underwater noise** | Data on licens​ed events such as pile driving, controlled explosions from naval operations across the OSPAR and HELCOM areas |
| **Vulnerable Marine Ecosystems** | Data on deep-water VMEs in the North Atlantic |

\* Please note that data bases are under constant development. Therefore, data resources and data availability are subject to change.

1. OSPAR Recommendation 2010/02 amending Recommendation 2003/03 on a network of marine protected areas [↑](#footnote-ref-1)
2. A questionnaire approach to report on the effectiveness of management in MPAs in the OSPAR MPA Network in 2016 (BDC/15/5/5-E) [↑](#footnote-ref-2)