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Y Fenai a Bae Conwy / Menai Strait and Conwy Bay Special Area of Conservation

Indicative site level feature condition assessments 2018

NRW Evidence Report No: 232

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Report series: NRW Evidence Report
Report number: 232
Publication date: January 2018
Title: Y Fenai a Bae Conwy / Menai Strait and Conwy Bay Special Area of Conservation: Indicative site level feature condition assessments 2018
Author(s): NRW
Restrictions: None

Distribution List (core)

NRW Library, Bangor	2
National Library of Wales	1
British Library	1
Welsh Government Library	1
Scottish Natural Heritage Library	1
Natural England Library (Electronic Only)	1

Recommended citation for this volume:

NRW, 2018. Y Fenai a Bae Conwy / Menai Strait and Conwy Bay Special Area of Conservation: Indicative site level feature condition assessments 2018. NRW Evidence Report Series, Report No: 232, 33pp, NRW, Bangor.

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Summary

This document presents NRW's indicative assessment of the condition of marine features in Y Fenai a Bae Conwy / Menai Strait and Conwy Bay Special Area of Conservation (SAC).

Table 1 contains a summary of the indicative condition assessments.

This report is divided into sections as follows:

Section 1: a brief introduction to the importance and need for site level feature condition assessments,

Section 2: a brief description of Menai Strait and Conwy Bay SAC,

Section 3: NRW's indicative condition assessments for the features of Menai Strait and Conwy Bay SAC, including a comparison with previous assessments for the site

Section 4: NRW's plans for the future development of site level condition assessments

Annexes explain in detail the process of producing indicative condition assessments.

Table 1: Summary of indicative condition assessments for Menai Strait and Conwy Bay SAC.

Designated Features	Indicative condition assessment	Confidence in assessment
<ul style="list-style-type: none">• Mudflats and sandflats not covered by seawater at low tide	Favourable	Medium
<ul style="list-style-type: none">• Reefs	Favourable	Medium
<ul style="list-style-type: none">• Sandbanks which are slightly covered by seawater all the time	Favourable	Low
<ul style="list-style-type: none">• Large shallow inlets and bays	Unfavourable	Medium
<ul style="list-style-type: none">• Submerged or partially submerged sea caves	Unknown	Not applicable

More detailed explanations of the rationale behind these conclusions can be found in the full indicative condition assessment reports in section 3.

Crynodeb

Mae'r ddogfen hon yn cyflwyno asesiad dangosol CNC o gyflwr nodweddion Ardal Gadwraeth Arbennig Bae Ceredigion (AGA).

Mae Tabl 1 yn cynnwys crynodeb o'r asesiadau dangosol o gyflwr nodweddion.

Rhennir yr adroddiad hwn yn adrannau fel a ganlyn:

Adran 1: cyflwyniad byr i'r pwysigrwydd a'r angen am asesiadau cyflwr ar lefel safle

Adran 2: disgrifiad byr o AGA Bae Ceredigion

Adran 3: Asesiadau cyflwr dangosol CNC ar gyfer nodweddion *AGA Bae Ceredigion*, gan gynnwys cymhariaeth gydag asesiadau blaenorol ar gyfer y safle

Adran 4: Cynlluniau CNC ar gyfer datblygu asesiadau cyflwr ar lefel safle yn y dyfodol

Mae **atodiadau'n** egluro'n fanwl y broses o gynhyrchu asesiadau dangosol o gyflwr nodweddion.

Tabl 1: Crynodeb o asesiadau dangosol o gyflwr nodweddion ar gyfer AGA Bae Ceredigion.

Nodweddion Dynodedig	Asesiad dangosol o gyflwr y nodwedd	Hyder yn yr asesiad
<ul style="list-style-type: none">Gwastadeddau llaid neu dywod nas gorchuddir gan y môr ar lanw isel	Ffafriol	Canolig
<ul style="list-style-type: none">Riffiau	Ffafriol	Canolig
<ul style="list-style-type: none">Ponciau tywod sydd fymryn dan ddŵr y môr drwy'r amser	Ffafriol	Isel
<ul style="list-style-type: none">Cilfachau a baeau mawr bas	Anffafriol	Canolig
<ul style="list-style-type: none">Ogofâu môr sydd o dan y dŵr neu o dan y dŵr yn rhannol	Anhysbys	Ddim yn berthnasol

Mae esboniadau manylach o'r rhesymeg y tu ôl i'r casgliadau hyn i'w gweld yn yr adroddiad llawn ar asesu dangosol cyflwr nodweddion.

1. Site level feature condition assessments

Site level feature condition assessments are important for site management. In particular they:

- inform the development of management measures to improve the condition of features
- assist with the prioritisation of resources, and
- help with the assessments of plans and projects.

Marine special areas of conservation (SACs) in Wales cover extensive areas of sea and coast, much of which is challenging and resource intensive to monitor. As a result, assessment of condition can be difficult. It is therefore necessary to use a number of different sources of information and data to inform conclusions. These can vary from, for example, long-term monitoring/surveillance datasets, sampling programs and bathymetric data, to specific data-sets collected primarily for other purposes including Environmental Impact Assessments. For some features, there are very little or no data from which to draw conclusions.

NRW previously undertook preliminary work on full, detailed assessments using all available evidence and assessing all possible attributes. However, this process proved complex and resource intensive. We have therefore concluded that we will not be able to undertake this type of extensive assessment now or in the future, but instead we will develop a new serviceable and streamlined approach that can be embedded in our internal assessment and reporting tools and processes.

As the first stage in developing ongoing streamlined and sustainable site condition assessment and reporting, NRW has undertaken indicative assessments of condition of all marine SAC and Special Protection Area (SPA) sites and features in Wales. During an intensive workshop NRW specialists assessed each feature by using readily available data and information and applying their expert judgement. Further details on the approach taken can be found in Annexes A and B, summary definition in Box 1.

Box 1: Indicative condition assessments - definition and use

The term 'indicative condition assessment' describes the use of readily available evidence and expert judgement in an intensive, collective workshop process to provide an indication of feature condition at the site level.

The confidence rating associated with the assessments is an **integral** part of the indicative assessment. Confidence levels for feature assessments should therefore **always** be quoted alongside the indicative condition result, together with NRW's definition of 'indicative condition assessment'.

2. Site Description

Menai Strait and Conwy Bay SAC is in north-west Wales. The unique physiographic conditions make this an unusual site, which has long been recognised as important for marine wildlife. The variation in physical and environmental conditions throughout the site, including rock and sediment type, aspect, water clarity and exposure to tidal currents and wave action result in a wide range of habitats and associated marine communities. Many of these community types are unusual in Wales. Of particular interest is the environmental and physical conditions and associated marine communities from the tide-swept, wave-sheltered narrows of the Menai Strait to the more open, less tide-swept waters of Conwy Bay and the moderately wave-exposed Great and Little Ormes.

For the qualifying habitats, the SAC is considered to be one of the best areas in the UK for:

- Mudflats and sandflats not covered by seawater at low tide
- Reefs
- Sandbanks which are slightly covered by seawater all the time

and to support a significant presence of:

- Large shallow inlets and bays,
- Submerged or partially submerged sea caves.

The features are distributed throughout the SAC with no single feature occupying the entire SAC and with features overlapping in some locations. The SAC boundary and the general location of the Annex I habitat features are shown in the feature map¹ on the NRW website. These are indicative maps as the extent of most features is not known precisely and some, such as sandbanks, are dynamic and can be highly mobile.

More information on the site and its features can be found in NRW's conservation advice for the site on our website².

¹ The feature map can be found on the NRW website and information on the map features, data sources and any changes can be found in Annex I of the conservation advice on EMS (Reg 35).

² <http://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-of-land-and-seas/conservation-advice-for-european-marine-sites/?lang=en>

3. Feature level indicative condition assessments

3.1 Mudflats and sandflats not covered by seawater at low tide indicative condition assessment

The indicative condition of the feature at this site at the time of assessment

Date	May 2017
Site name	Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay SAC
Site feature assessed	Mudflats & sandflats not covered by seawater at low tide

Component of habitat feature assessed	Indicative Assessment <i>(Favourable, unfavourable, unknown)</i>	Key evidence type used <i>(monitoring data, reports or expert judgement)</i>	Level of agreement	Confidence in evidence	Component confidence level
Distribution & Extent (within site)	Favourable	Some monitoring data, expert judgement	High	Medium	Medium
Structure & function	Favourable	WFD data & expert judgement	High	Medium	Medium
Typical species	Favourable	Some monitoring data, WFD data, expert judgement	High	Medium	Medium
Relevant activities (<i>activities directly impacting condition of the feature on this site</i>)	No activities identified as having a direct impact on site condition				

Overall Indicative Assessment	Overall Confidence Level
Favourable	Medium

Notes section: *The rationale for the assessment conclusion and confidence.*

Extent or distribution: Based on regular monitoring results and a lack of impacting activities there is no known change to the extent and/or distribution of this feature since designation, although proposals for coastal realignment in the future may change the extent and topography in future. Assessment of loss due to coastal squeeze: 1.2 ha loss in 1st epoch (2005 – 2025), this was not seen as significant. This component has been assessed as **favourable**.

Structure & function: Menai Strait and Conwy Bay SAC overlaps with seven Water Framework Directive (WFD) waterbodies, however, only three are relevant and overlap with this feature (Conwy Bay, Menai Strait and Foryd Bay) with the vast majority of the mudflats and sandflats feature falling within the Menai Strait waterbody. The Menai Strait waterbody has a good overall status and a good chemical status and although the other two waterbodies have a moderate overall status and a fail for chemical status (driven by a single element (mercury and its compounds)), the other chemical elements of all three waterbodies were good and on balance the results of the Menai Strait waterbody was judged to be the most relevant. The Menai Strait waterbody had a high for macroalgae and good for invertebrates. DIN (Dissolved Inorganic Nitrogen) was not assessed in this waterbody so the DIN results for Conwy Bay and Foryd Bay were considered, these were both high while Phytoplankton was good. This component has been assessed as **favourable**.

There may be raised nutrient levels in Y Foryd, not reflected in WFD data, but the WFD sediment sampling is in the outer estuary, away from where issues of nutrient enrichment (macroalgae) are being observed these are being investigated further.

Typical species: A rapid scan of NRW Habitats Directive (HD) infaunal data shows no changes in infaunal composition. No known changes to biotope composition. *Zostera noltii* studies in 2012 (Brazier, 2013), demonstrated the continued patchy existence of eelgrass. Excessive growth of macroalgae in Y Foryd may be limiting the extent and resilience of eelgrass beds.

The infaunal quality index (IQI) for Foryd Bay was good, the IQI for Menai Strait waterbody was also good while the IQI for Conwy Bay was moderate however, the samples in these two waterbodies were collected from the inter-tidal part of the site and so are not relevant to this feature. Angiosperms were assessed as good in Foryd Bay but were not assessed in the other two waterbodies. Macroalgae was high in Menai Strait and good in the Foryd Bay waterbody but wasn't assessed in Conwy Bay. This component has been assessed as **favourable**.

Noted activities:

- Inappropriate vehicle use: the main aspect is now managed as part of the fishery at Traeth Lafan. There is some small leisure use in the site but this is not thought to be significant.

- Hand gathering: bait digging activities are reducing and although there is still boulder turning at the site on the muddy gravels this is not as significant as it has been in the past. There is still an issue with putting tyres out for peelers crab collection but at the present it has not been assessed as having a significant effect on the feature.
- Point source pollution: not having a significant effect, discharges are within the legal limits.

Evidence used: *The evidence used to support the assessment conclusion.*

- Brazier, D. P. (2013). *Evaluating intertidal seagrass Zostera noltii beds – field survey vs remote sensing*. CCW Marine Monitoring Report No: 103, pp 16 + v, Countryside Council for Wales, Bangor.
- NRW SAC monitoring data.
- WFD waterbody classifications (2015). 2009-2015 Classification Data: <http://waterwatchwales.naturalresourceswales.gov.uk/en/>

3.2 Reefs indicative condition assessment

The indicative condition of the feature at this site at the time of assessment

Date	May 2017
Site name	Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC
Site feature assessed	Reefs

Component of habitat feature assessed	Indicative Assessment (<i>Favourable, unfavourable, unknown</i>)	Key evidence type used (<i>Monitoring data, reports or expert judgement</i>)	Level of agreement	Confidence in evidence	Component confidence level
Distribution & Extent (within site)	Favourable	Monitoring data (limited), expert judgement	High	Medium	Medium
Structure & function	Favourable	Monitoring data (limited), WFD data, expert judgement	High	Low	Low
Typical species	Unknown	Monitoring data (limited), expert judgement	High	Not applicable	Not applicable
Relevant activities (<i>activities directly impacting condition of the feature on this site</i>)	No activities identified as having a direct impact on feature condition.				

Overall Indicative Assessment	Overall Confidence Level
Favourable	Medium

Notes section: *The rationale for the assessment conclusion and confidence.*

Distribution & extent: No evidence of change. There is low confidence in the data because although there is monitoring data there is a lack of contextual information on why any changes are occurring in the subtidal reefs.

This component has been assessed as **favourable**.

Structure & function: WFD data was used from the relevant waterbodies (Conwy Bay, Menai Strait, Anglesey North, North Wales, Foryd Bay, Seiont and Conwy) two of these waterbodies have a good overall status and good chemical status while five have a moderate overall status and a fail for chemical status, the chemical status fails in all cases are for mercury and its compounds – although this would have an effect on some features (example estuaries) on balance it was not thought to be significant enough to fail the reef feature at this site. Angiosperms were assessed as good in the two waterbodies where they are assessed as was phytoplankton and macroalgae. The lack of detailed knowledge of the sampling points hampered the full use of the WFD data, for example the North Wales waterbody was assessed as moderate for DIN (dissolved inorganic nitrogen) but this is a very large waterbody and the assessors at this stage were not confident that the sampling points were within the SAC.

This component has therefore been assessed as **favourable**.

Typical species: Sponge data is available for Moelfre, Bottle Rock, Coleg Normal and Nelson's column. Changes have been recorded from different monitoring dates but conclusions are difficult to draw. Some of the data needs to be analysed and there are also some recording issues. The reasons for the changes are unknown, as is whether they are natural changes or due to anthropogenic change.

This component has been assessed as **unknown**.

Noted Activities:

- Boulder turning and bait collection: No changes noted in levels of boulder turning or changes in species or population structure.
- Invasive species: Increased density of Japanese wireweed (*Sargassum*) observed along the length of the Menai Strait. Unintentional release of non-native oysters, Pacific or Japanese oyster (*Magallana gigas* formerly *Crassostrea Ostrea*) has been a concern but do not currently cause impacts, triploid stock will be in use from this year (2017) so they should not cause future impacts.
- High numbers of mussels associated with the fishery, but not considered an impact.

Evidence used: *The evidence used to support the assessment conclusion.*

- Additional monitoring data available and discussed, but not fully analysed.
- Moore, J. & Brazier, D.P. (2012). *Across-Wales intertidal SAC monitoring, Menai Strait & Conwy Bay SAC, July 2010*. CCW Marine Monitoring Report No: 85, 85pp + vi, Countryside Council for Wales, Bangor.
- WFD waterbody classifications (2015). 2009-2015 Classification Data: <http://waterwatchwales.naturalresourceswales.gov.uk/en/>

3.3 Sandbanks which are slightly covered by seawater all the time indicative condition assessment

The indicative condition of the feature at this site at the time of assessment

Date	May 2017
Site name	Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC
Site feature assessed	Sandbanks which are slightly covered by seawater all the time

Component of habitat feature assessed	Indicative Assessment (Favourable, unfavourable, unknown)	Key evidence type used (monitoring data, reports or expert judgement)	Level of agreement	Confidence in evidence	Component confidence level
Distribution & Extent (within site)	Favourable	NRW monitoring report (2007) and additional data (2010)	High	Low	Low
Structure & function	Favourable	NRW monitoring report (2007), additional data (2010) & WFD assessments	Low	Low	Low
Typical species	Favourable	NRW monitoring report (2007), additional data (2010) & WFD assessments	High	Low	Low
Relevant activities (activities directly impacting condition of the feature on this site)	No activities identified as having a direct impact on feature condition.				

Overall Indicative Assessment	Overall Confidence level
Favourable	Low

Notes section: *The rationale for the assessment conclusion and confidence.*

Distribution & extent: CCW/NRW monitoring data (2007) plus additional monitoring data from 2010 shows stable distribution and extent for this feature on this site. There was high consensus for the assessment of this component but low confidence due to the age of data for such a dynamic feature.

This component was assessed as **favourable**.

Structure and function: Menai Strait and Conwy Bay SAC overlaps with a number of WFD waterbodies however, the sandbank feature is partly outside the WFD assessment but overlaps with three WFD waterbodies (Conwy Bay, Menai Strait & Anglesey North) Menai Strait waterbody has a good overall status and a good chemical status but both Conwy Bay and Anglesey North waterbodies have a moderate overall status and a fail for chemical status the chemical status in both cases is driven by a fail of mercury and its compounds.

There was uncertainty among the group whether sampling points were relevant to the position of the feature due to the dynamic nature of the tidal regime, and a degree of uncertainty as to the position of the sandbanks – conflicting views on reliance of feature maps versus other data sources. No evidence of direct biological impact on feature but consensus (low) among group that this constituted unfavourable condition due to the water and sediment chemistry element of the structure and function component. Expert judgement decided that due to the lack of any evidence of biological impact of this WFD element (mercury) on the feature that this component would be deemed favourable but with the low level of confidence. It will be important to investigate/clarify in future if mercury failure for the WFD waterbodies can be demonstrated in the water column overlaying sandbank features.

DIN (dissolved inorganics nitrogen) was high for the two waterbodies in which it was assessed, phytoplankton was good for Menai Strait waterbody as was opportunistic macroalgae, these elements were not recorded in the other two waterbodies.

This component was assessed as **favourable** but with a low confidence level due to the mercury failure.

Typical species: Infaunal quality Index (IQI) was good for Anglesey North and Menai Strait water bodies but moderate for Conwy Bay waterbody. Even though this moderate constitutes a fail for IQI, further investigation showed that this moderate result was very close to the moderate/good boundary (Green, in prep) and given the results in the other two waterbodies consensus among the assessors was that this component should be deemed favourable but low confidence due to the result of IQI for the Conwy Bay waterbody. More work is needed to compare the WFD sampling points to the feature location considering the dynamic nature of the tidal regime, and the degree of uncertainty as to the position of the sandbanks.

This component was assessed as **favourable**.

Evidence used: *The evidence used to support the assessment conclusion.*

- Green, M. (in prep). *Stage One Investigation of Water Framework Directive Water Bodies Which Have Not Achieved Good Invertebrate Health Status*. Internal NRW report, unpublished.
- NRW SAC monitoring data
- WFD waterbody classifications (2015). 2009-2015 Classification Data: <http://waterwatchwales.naturalresourceswales.gov.uk/en/>

3.4 Large shallow inlets and bays indicative condition assessment

The indicative condition of the feature at this site at the time of assessment

Date	May 2017
Site name	Y Fenai a Bae Conwy/ Menai Strait and Conwy Bay SAC
Site feature assessed	Large shallow inlets & bays

Component of habitat feature assessed	Indicative Assessment (<i>Favourable, unfavourable, unknown</i>)	Key evidence type used (<i>Monitoring data, reports or expert judgement</i>)	Level of agreement	Confidence in evidence	Component confidence level
Distribution & Extent (within site)	Favourable	Monitoring data (benthic), expert judgement	High	Low	Low
Structure & function	Unfavourable	Monitoring data (benthic), WFD data	High	Medium	Medium
Typical species	Unfavourable	Monitoring data (benthic), WFD data	High	Medium	Medium
Relevant activities (<i>activities directly impacting condition of the feature on this site</i>)	Water quality issues				

Overall Indicative Assessment	Overall Confidence Level
Unfavourable	Medium

Notes section: *The rationale for the assessment conclusion and confidence.*

There are two sub-features of this feature which are also site features. Therefore, the assessments for these features should be read in conjunction with this assessment. The state of these sub-features is intrinsically linked to the condition of this feature as they are nested within the feature.

Menai Indicative Mudflats and sandflats feature assessment 2017: Favourable

Menai Indicative Sandbanks feature assessment 2017: Favourable

Distribution & Extent: No change in distribution or extent since designation.

This component has been assessed as **favourable**.

Structure & function: WFD data was used from the four relevant waterbodies that overlap this feature (Conwy Bay, Menai Strait, Anglesey North and Conwy) one of these waterbodies has a good overall status and good chemical status while three have a moderate overall status and a fail for chemical status, the chemical status fails in all cases is for mercury and its compounds. Angiosperms were assessed as good in the one waterbody in which they were assessed, Conwy Bay, with saltmarsh good and seagrass assessed as high. Macroalgae was high in the two waterbodies where it was assessed and phytoplankton was good in the two waterbodies where it was assessed. Invertebrates were good two of the waterbodies but moderate in the other two. This component has been assessed as **unfavourable**.

Typical species: Infaunal quality index (IQI) was moderate in two waterbodies Conwy Bay and Conwy but the Conwy Bay moderate was very close to the moderate/good boundary (Green, in draft), IQI was good in the other two waterbodies. Infaunal analyses were carried out in 2015 on the Conwy waterbody, looking for reasons for variability in the IQI (Infaunal Quality Index) scores, it concluded that the IQI fail was likely due to discharges (Green, in draft).

This component was assessed as **unfavourable**.

Noted activities:

- Inappropriate vehicle use

Evidence used: *The evidence used to support the assessment conclusion.*

- Green, M. (in prep). *Stage One Investigation of Water Framework Directive Water Bodies Which Have Not Achieved Good Invertebrate Health Status*. Internal NRW report, unpublished.
- WFD waterbody classifications (2015). 2009-2015 Classification Data: <http://waterwatchwales.naturalresourceswales.gov.uk/en/>

3.5 Submerged or partially submerged sea caves indicative condition assessment

The indicative condition of the feature at this site at the time of assessment

Date	May 2017
Site name	Y Fenai a Bae Conwy / Menai Strait and Conwy Bay SAC
Site feature assessed	Submerged or partially submerged sea caves

Component of habitat feature assessed	Indicative Assessment (<i>Favourable, unfavourable, unknown</i>)	Key evidence type used (<i>Monitoring data, reports or expert judgement</i>)	Level of agreement	Confidence in evidence	Component confidence level
Distribution & Extent (within site)	Favourable	Expert judgement, monitoring report	High	Low	Low
Structure & function	Unknown	Expert judgement	High	Not applicable	Not applicable
Typical species	Unknown	Expert judgement	High	Not applicable	Not applicable
Relevant activities (<i>activities directly impacting condition of the feature on this site</i>)	No activities identified as having a direct impact on feature condition.				

Overall Indicative Assessment	Overall Confidence level
Unknown	Not applicable

Notes section: *The rationale for the assessment conclusion and confidence.*

Distribution & Extent: Based on the original surveys in 2002 (Bunker & Holt, 2003) the distribution and extent is thought not to have changed since designation. Therefore, this component has been assessed as **favourable**.

Structure & Function, Typical species: To the assessors' knowledge there have been no further surveys of sea caves since 2002, therefore with the exception of distribution and extent they cannot conclude anything except "unknown" for structure and function and typical species. Therefore, these components have been assessed as **unknown**.

Although distribution and extent has been assessed as favourable since there have been no surveys since 2002 the overall assessment for this feature on this site has been assessed as **unknown**.

Evidence used: *The evidence used to support the assessment conclusion.*

- Bunker, F. StP.D. & Holt, R.H.F. (2003). *Surveys of sea caves in Welsh Special Areas of Conservation*. CCW Marine Monitoring Report No: 6 pp 97. Countryside Council for Wales.

3.6 Comparison with previous assessments

The indicative condition assessments were compared to previous assessments for these features at the site level carried out between 2005 – 2007. The earlier assessments were carried out in more detail and different data and evidence sources were sometimes used; as a result, current and previous assessments are not directly comparable, although they do both give an indication of the condition of the feature at the time of assessment.

Feature	2005 - 07 assessments	2017 indicative assessments
<ul style="list-style-type: none">• Mudflats and sandflats not covered by seawater at low tide	Unfavourable	Favourable
<ul style="list-style-type: none">• Reefs	Unfavourable	Favourable
<ul style="list-style-type: none">• Sandbanks which are slightly covered by seawater all the time	Unfavourable	Favourable
<ul style="list-style-type: none">• Large shallow inlets and bays	Unfavourable	Unfavourable
<ul style="list-style-type: none">• Submerged or partially submerged sea caves	Favourable	Unknown

4. Future development of site level assessments

Following this full round of indicative site condition assessments, we are now developing a permanent, sustainable, site level feature condition reporting process that can be delivered on a regular basis. We are planning a series of projects to work towards this goal. It is unlikely that resources and suitable evidence sources will all be available at any given time to monitor and report on all features, or to report to the same level of confidence. Our aim, however, is to develop, over the coming few years, an assessment and reporting process that is of practical use in informing effective site management for the maintenance or improvement of feature and site condition.

Annex A: Process used to produce indicative condition assessments

The process to produce indicative feature condition assessments at the site level centred around a workshop approach that applied readily available evidence and expert judgement to provide an *indication* of features condition. Figure A1 summarises the process of producing indicative condition assessments, and Figure A2 provides a summary definition of NRW's meaning of indicative site level feature condition assessments and advice on how they should be used.

Figure A1: Summary of the procedure undertaken

Stages undertaken to produce indicative site level condition assessment reports for Welsh European marine sites (EMS)

1. Indicative condition assessment workshop
2. Standardisation of indicative feature assessments across different sites
3. Standardised feature assessments sent out internally for comment
4. Issues with individual assessments resolved
5. Features assessments re-issued to internal staff for final comments.
6. Final draft indicative feature-level condition assessments produced
7. Internal sign-off * - draft indicative feature-level condition assessments
8. External quality assurance of draft indicative feature-level condition assessments
9. Changes made to assessments arising from quality assurance stage
10. Production of site-level reports containing indicative assessments and guidance for interpretation and use of indicative assessments
11. Final Internal sign-off ** - final site-level reports

* 1st internal sign-off by a dedicated task & finish group for the work

** Final internal sign-off by the task & finish group and then the Marine Programme Board

Figure A2: Summary definition of indicative site condition assessment.

Indicative condition assessments: Definition and use

The term 'indicative condition assessment' describes the use of readily available evidence and expert judgement in an intensive, collective workshop process to provide an indication of feature condition at the site level.

The confidence rating associated with the assessments is an **integral** part of the indicative assessment. Confidence levels for feature assessments should therefore **always** be quoted alongside the indicative condition result, together with NRW's definition of 'indicative condition assessment'.

A.1 Indicative condition assessment workshop

Existing readily available data and information was collated and an organisation-wide workshop held with NRW's specialists. By using the evidence available at the workshop and applying expert judgement, staff examined each feature for each site and drew indicative conclusions on condition. A total of 69 assessments were carried out; 66 within the workshop and a further three, for otter, following the workshop, to accommodate staff availability.

A.1.1 Assessment templates

Assessment templates were produced in advance of the workshop. These templates differed slightly depending on the feature type. In all cases the assessments were broken down into different components that were assessed separately. To assist with the workshop assessment process, staff populated the templates with relevant information before the workshop.

The templates included a notes section for providing more information on the component assessments, and an evidence section for listing the information used to inform the assessments – this was not, however, a full reference list.

A.1.2 Confidence levels

Guidance on the confidence levels to use for the assessments was produced before the workshop (Annex B).

A.1.3 Guidelines agreed at the workshop

At the beginning of the workshop the assessment approach was discussed and the following guidelines were agreed:

- 'Baseline' is considered to be the state at the time of designation – unless there is a recovery target in the conservation objectives. This means that significant modifications at the site before designation should not be taken into consideration unless there was a recovery target in the conservation objective for that feature at that site.
- The indicative condition is based on current knowledge and is based on the present i.e. the date of the assessment - but significant future concerns should be noted.
- If one attribute of the condition assessment is unfavourable, then the whole assessment is judged to be unfavourable ('one out, all out') unless there is a good reason to diverge from this. This is standard practice for NRW's Water Framework Directive (WFD) assessment processes as well as for terrestrial sites.
- Small-scale local known impacts should not necessarily result in a conclusion of unfavourable condition, but impacts should be noted.
- Assessments where there are 'unknowns' do not necessarily lead to a conclusion of unfavourable condition.
- There can be an overall 'unknown' conclusion where there is no information available to make the assessment.
- Nested features should be related to each other in the assessments. For example, an estuary feature in a site might encompass other named features. For example, in Pembrokeshire Marine SAC, the estuary feature also encompasses the mudflats and sandflats feature and the Atlantic saltmeadows feature.

- Where there is limited data an assessment should be made but the lack of data should be reflected in the confidence score.
- Any activities, developments or management measures that are having either positive or negative impacts should be noted in the assessments.
- Context on the indicative assessments and confidence ratings should always accompany the release of the conclusions on site level feature condition.

A.1.4 Post workshop processing of indicative assessments.

All 69 assessments were then taken through a process of developing them from the draft assessments agreed at the workshop to finalised indicative assessments contained within site level reports (Figure A1).

A.2 Use of best, readily available evidence

During the collation exercise and the workshop the best readily available evidence was used. Confidence ratings were applied to the evidence used for each component of the assessment (the guidance on these confidence levels can be found in Annex B). Three main sources of evidence were available before and during the workshop:

- Site-level monitoring data
- WFD Waterbody Assessments
- Activities information

In addition, expert judgement was a key part of the assessment process, drawing on the knowledge, expertise and experience that staff have amassed over many years collectively, from: training and research; visiting the sites; monitoring and survey work; and the provision of advice on development planning and activities regulation at the site level.

A.2.1 Site level monitoring data and reports

Monitoring is carried out on features or sub-features of our European marine sites following the UK common standards monitoring guidance. The amount of monitoring NRW carries out is, however, limited to the resources available, and hence the resultant prioritised monitoring programme does not provide monitoring data for all features.

Limitations:

Although the relevant specialists were present, the intensive workshop format did not always allow for full, detailed scrutiny of individual SAC monitoring reports for some features. Some monitoring information was therefore checked or added to after the workshop. A lack of resources to produce analysed reports on all existing monitoring data was highlighted as an issue during the workshop.

A.2.2 Water Framework Directive (WFD) Waterbody Assessments

The latest relevant WFD waterbody assessments (2015³) were used during the workshop. Both Transitional and Coastal Water bodies overlap with the SAC boundaries but, in most cases, the boundaries do not match with SAC boundaries. Maps showing the water bodies can be found at the Water Watch Wales web site⁴.

³ Environment Agency. 2015. Classification of Surface Water Bodies for the Water Framework Directive – Method Statement. Version 3.0 updated August 2014.

⁴ <http://waterwatchwales.naturalresourceswales.gov.uk/en/>

Limitations:

Although good use was made of the summary data for the waterbody assessments, and tables had been created linking the relevant waterbodies to the relevant European marine sites, complete datasets were not available for the workshop. In addition, although some mapping data was available, the data points for each monitoring element and how they related to the feature being assessed were not available for all assessments. This was due to time constraints and the number of assessments being carried out. WFD specialists were, however, available to provide expert advice during and after the workshop.

There was some discussion among assessors on the use of some WFD elements and their relevance to individual features. The mercury and brominated diphenylether (BDPE) standard used in the 2015 WFD assessments are new more stringent standards which did not need to be implemented until 2018 but nonetheless were used in the knowledge that new standards will be coming in and to be consistent between England and Wales. These new standards have not been used in the Marine Strategy Framework Directive (MSFD) habitat assessments, which instead used the OSPAR⁵ (Oslo and Paris conventions) standards for these elements.

Since the WFD assessments had been used extensively in the NRW indicative condition assessments, the decision was made, for reasons of consistency, to use the new WFD standard. It should be noted that if NRW had used the OSPAR standard some of the component elements of the indicative condition assessments would have been favourable. As part of the next stage of further developing NRW's approach to MPA site level feature condition assessment, further work is planned to assess which standards are the most relevant to apply to the Welsh MPA network.

A.2.3 Activities information

The NRW LIFE Natura 2000 (N2K) Programme⁶ focussed on producing Prioritised Improvement Plans (PIPs) for each European site in Wales. These provided information on the pressure and threats for each feature of each site for assessors at the workshop. Staff were also available to discuss any ongoing casework⁷ at the site level that may have impacted site condition.

Limitations:

The summary data provided was useful but, due to the number of features, information on the pressures and threats was only provided in a summary form so that detailed site level information for each issue against each feature could not be explored.

However, staff with expert local knowledge were also available to discuss pressures and threats at the site, and hence available activity information and knowledge was sufficient to support the indicative assessment process.

Two types of activity information were reported by assessors in the indicative condition assessments:

⁵ Oslo and Paris conventions managed by the OSPAR Commission: <https://www.ospar.org/>

⁶ <https://naturalresources.wales/about-us/our-projects/life-n2k-wales/?lang=en>

⁷ Casework is a term used to encompass the assessments of plans and projects on protected sites

Relevant activities: These were activities agreed during the indicative assessment process as having an impact on the condition of the feature, underpinned by evidence. There was no confidence rating associated with these activities or their associated impacts.

Noted activities: These were activities agreed during the indicative assessment process as occurring in the site, but where there is no evidence that the activity is having a direct impact on condition of the feature at that site. Noted activities may be having, or have the potential to have, an impact on feature condition, and were listed to be kept under review.

Not all activities for a site from the LIFE N2K Programme were listed in the assessments as relevant or noted activities by the assessors. The activities listed are not meant to replace the pressures and threats in the Prioritised Improvement Plans.

Annex B: Confidence level guidance used in the site level indicative condition assessments.

B.1 Assigning confidence to component parts of the feature assessments

An indicative assessment was made for each component part of the assessment (e.g. structure and function, or typical species). These components varied depending on which feature was being assessed.

There were three potential outcomes for the assessment for each component of condition:

- favourable,
- unfavourable or
- unknown

Each outcome was assigned a confidence level.

Use of ‘Unknown’: The *unknown* category was only used for the condition assessment where the evidence base was extremely low or absent, and as a result it was not possible to reach any conclusion on condition. In this case the confidence level for the evidence part of that assessment was recorded as not applicable (N/A).

Even where a value was given for ‘level of agreement’, if the overall assessment of the component was unknown, the overall component confidence level was also recorded as not applicable (N/A).

Use of ‘Unfavourable’: Where any one component was unfavourable, the overall conclusion was unfavourable, (the ‘one out, all out’ rule), unless there was a good reason to deviate from this. See, for example, the otter assessments.

There were two types of confidence considered during the indicative condition assessment process.

1. The level of consensus between assessors and
2. The confidence in the evidence that the assessment was based on.

A matrix approach was used for this first stage of assigning confidence levels for each component of the indicative assessment.

Figure B1: Matrix used to assign the confidence level for each component of the indicative condition assessment.

Level of agreement ↑	High	Low	Medium	High
	Medium	Low	Medium	Medium
	Low	Low	Low	Low
		Low	Medium	High
	→ Confidence in evidence			

B.1.1 Level of agreement between assessors

Assessors were required to draw conclusions based on the available evidence in the context of their knowledge of the relevant feature at that site. Where available evidence was contradictory or of only partial benefit in arriving at a condition assessment, this was resolved as far as possible, taking into account the amount, quality and relevance of the data. The resultant conclusion was given a confidence rating for the degree of consensus amongst the assessors, as follows:

- **High:** All assessors agreed with the assessment of the feature condition component;
- **Medium:** The majority of the assessors agreed with the assessment of the feature condition component;
- **Low:** There was no clear consensus on the assessment of the feature condition component.

B.1.2 Level of confidence in the evidence used to make the assessment

The degree of confidence in the assessments of each component was based on the quantity, quality, relevance or consistency of the evidence used. The categories are high, medium and low confidence as described below:

High confidence

- Clear evidence from complete monitoring surveys (high quality data collected to relevant standards with robust analysis of results and appropriate positional data) to support assessment relevant to condition components.

Medium confidence

- Partial survey or one of lower quality (i.e. lacking detail or appropriate positional data);
- Indirectly relevant to condition components but evidence may be from a complete survey, scientifically accurate study, peer-reviewed research or other surveys;
- Site-based, expert knowledge directly relevant to targets, supported by evidence (i.e. records, casework history, photos, positional data).

Low confidence

- Incomplete, old or lower quality survey;
- High quality data but from only a small portion of the component (e.g. data only available for one small area of a habitat on a site where that habitat is extensive and varied);
- Modelled information;
- Site-based, expert knowledge information either indirectly relevant to component condition or lacking sufficient supporting information.

B.2 Assigning confidence levels to the overall indicative condition assessment

The process for assigning the overall confidence level for the indicative assessment of the feature from the component confidence levels used the following rules:

- Where the overall indicative condition assessment was Unknown the confidence level was stated as not applicable.
- Where only one of the assessment components was unfavourable (leading to the overall assessment of unfavourable), the confidence level associated with the unfavourable component was used.
- Where two or more of the assessment components were unfavourable (leading to the overall assessment of unfavourable), the highest confidence level assigned to one of the unfavourable components was used for the overall confidence level.
- In all other circumstances the highest confidence level⁸ attained for one of the individual components was used.

B.3 Use of confidence ratings

In all instances, whenever the indicative features and site condition assessments are reproduced or quoted this should be done together with the confidence rating and the definition of indicative assessment provided in this report.

⁸ The use of the highest confidence level is one used in WFD assessments – reflecting that the assessment confidence is based on the best evidence available.



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Published by:
Natural Resources Wales
Cambria House
29 Newport Road
Cardiff
CF24 0TP

0300 065 3000 (Mon-Fri, 8am - 6pm)

enquiries@naturalresourceswales.gov.uk
www.naturalresourceswales.gov.uk

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