Cyfoeth Naturiol Cymru
Natural Resources Wales

Cardigan Bay / Bae Ceredigion Special Area of Conservation

Indicative site level feature condition assessments 2018

NRW Evidence Report No: 226

Contents

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Summary

This document presents NRW's indicative assessment of the condition of features in Cardigan Bay/ Bae Ceredigion 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 condition assessments,

Section 2: a brief description of Cardigan Bay SAC.

Section 3: NRW's indicative condition assessments for the features of Cardigan 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 Cardigan Bay SAC.

Designated Features	Indicative condition assessment	Confidence in assessment
• Bottlenose dolphin (*Tursiops truncatus)*	Favourable	Medium
• Grey seal (*Halichoerus grypus)*	Favourable	Low
• River lamprey (*Lampetra fluviatilis)*	Favourable	High
• Sea lamprey *(Petromyzon marinus)*	Unknown	Not applicable
• Reefs	Favourable	Low
• Sandbanks which are slightly covered by seawater all the time	Unfavourable	Low
• 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 report.

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
• Dolffin trwyn potel (*Tursiops truncatus)*	Ffafriol	Canolig
• Morlo llwyd (*Halichoerus grypus)*	Ffafriol	Isel
• Lamprai'r afon (*Lampetra fluviatilis*)	Ffafriol	Uchel
• Lamprai'r môr (*Petromyzon marinus*)	Anhysbys	Ddim yn berthnasol
• Riffiau	Ffafriol	Isel
• Ponciau tywod sydd fymryn dan ddŵr y môr drwy'r amser	Anffafriol	Isel
• Ogofâu môr sy'n danforol neu'n lleddanforol	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

Cardigan Bay is one of the largest bays in the British Isles, measuring over 100km (60 miles) across its westernmost extent from the Lleyn Peninsula to St David's Head. Cardigan Bay SAC covers a proportion of the bay, between Aberarth and Moylgrove, south of Cardigan.

A population of bottlenose dolphins forms a primary interest of the Bay and it was for this that the Bay was first selected as a Special Area of Conservation (SAC).

Bottlenose dolphins range widely throughout UK waters and considerably further afield, but Cardigan Bay is one of the very few areas around the UK where significant numbers are known to occur regularly.

The Cardigan Bay SAC is a multiple interest site which has been selected for the presence of seven marine interest features that qualify under Annex I and Annex II of the Habitats Directive.

Of these qualifying habitats and species, the SAC is considered to be one of the best areas in the UK for:

- *Tursiops truncatus* – bottlenose dolphin

and to support a significant presence of:

- Reefs
- Submerged or partially submerged sea caves
- Sandbanks which are slightly covered by seawater all the time
- Grey seal *(Halichoerus grypus)*
- River lamprey *(Lampetra fluviatilis)*
- Sea lamprey *(Petromyzon marinus)*

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 map[1] 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 the conservation advice for the site on our website[2].

[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) (link below).
[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 Bottlenose dolphin *Tursiops truncatus* indicative condition assessment

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

Date	May 2017
Site name	Cardigan Bay / Bae Ceredigion SAC
Site feature assessed	Bottlenose dolphin (*Tursiops truncatus*)

Component of species 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**
Population (*e.g. size, structure, production, condition of species within site, contaminant burdens*)	Favourable	Monitoring data, monitoring and research reports	Medium	High	Medium
Range (within site)	Favourable	Monitoring data, reports	Medium	Medium	Medium
Supporting habitats					
Distribution & extent	Unknown	Expert judgement	Medium	Not applicable	Not applicable
Structure & function	Unknown	Expert judgement	Medium	Not applicable	Not applicable
Prey availability and quality	Unknown	Expert judgement	Medium	Not applicable	Not applicable
Relevant activities (*activities directly impacting condition of the feature on this site*)	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.*

Population:

Abundance Estimate

Cardigan Bay SAC - 2016: 147 individuals (127 – 194, 95% Confidence Interval (CI)). This abundance estimate is derived using photographic identification methods.

An initial trend analysis on these data indicates no significant trend in the SAC between 2001 and 2016 but a decline in the last 10 years (Lohrengel *et al*., in prep). Further work is underway to better analyse trends in the data set.

Birth rate – last three years (4.3% (2014), 5.8 % (2015) and 4.0% (2016) below 11-year average (6.5%)
Interbirth Intervals – 3.4 years' average (range 2 – 7 years)
Juvenile survival rate – Cardigan Bay SAC - remained similar over study period (2001 – 2016)

The level of PCBs (polychlorinated biphenyls) is high in bottlenose dolphin and at a level which fails part of the 'Population' conservation objective whereby contaminant burdens derived from human activity should be below levels that may cause physiological damage, or immune or reproductive suppression. Analysis of bottlenose dolphin (BND) blubber samples by the UK Cetacean Strandings Investigation programme (CSIP) have found the level of PCB contamination to be very high and at a level likely to be leading to population declines and suppress population recovery. This is a UK wide issue. However, there is no evidence that high PCB levels are causing a reduction in reproductive capacity (birth rates etc.) in Cardigan Bay. It may be that we are observing a suppressed population.

Body condition – the population is generally considered to be in good body condition. Occasional underweight mothers are observed, associated with lactation.

Injured individuals – a small number (<20 (estimate)) of known surviving injured individuals. The cause of injuries in some cases may be propeller/boat strikes.

The Indicative assessment is determined by comparing the current SAC 'population' estimate to that at the point of initial designation (2002). The population has not declined below those levels and as such is deemed favourable.

The population component has been assessed as: **Favourable**,
The Medium confidence score is due to:

- High PCB loads
- Unknown condition of prey / habitat

Trend: Population only - Declining (population number) in the short term (10 years), stable in the medium term (since 2001).
Confidence in trend: Medium

Range: Residency patterns for Cardigan Bay SAC and wider Cardigan Bay - there are no significant trends in the probability of emigration or of staying out of the area.
Home ranges – Cardigan Bay SAC. Bottlenose dolphins can be found throughout Welsh waters, with individuals regularly recorded from Pembrokeshire to the waters north of Wales occasionally recorded from as far north as the Isle of Man. It is therefore considered to be a wide-ranging population and is treated as one management unit.
This component has been assessed as **favourable**.

Supporting habitats:

Habitat distribution & extent: Beyond general terms (i.e. the water column), there is no specifically defined 'dolphin habitat'. The presence of dolphins at a location implies that the habitat is suitable but presence is largely driven by prey availability.
This component has been assessed as **unknown**.

Habitat structure & function:
Water quality: The relationship between water quality, as defined in WFD assessments, and Bottlenose dolphin condition is unknown. WFD monitoring has shown the inshore areas (Cardigan Bay Central and Cardigan Bay South waterbodies) to have been at Good status since 2010.

Seabed habitat: Mobile gear fishing and natural disturbance, e.g. winter storms, have been shown to affect seabed structure. The annual scallop fishery is subject to a Habitats Regulation Assessment which considers the impacts from scallop dredge fishing on the bottlenose dolphin feature.

However, the wider relationships between seabed habitat, prey species and bottlenose dolphin are largely unknown. This component has been assessed as **unknown**.

Prey availability and quality: Body condition generally good, bottlenose dolphin have a varied diet and it is unlikely that a declining or low population size of a particular food source would make the bottlenose dolphin feature unfavourable. Note that some fish stocks are below Maximum Sustainable Yield (International Council for the Exploration of the Sea (ICES data)) in the region containing Wales. However, we do not have enough information about bottlenose dolphin prey species and the status of fish stocks to produce a meaningful assessment for this component.

Prey items could have PCB loads which are at levels which could be harmful to the prey's physiological health (as PCBs have been at high concentrations in stranded bottlenose dolphin) but further evidence on PCB levels in prey species and potential harm is needed before a meaningful assessment can be made
This component has been assessed as **unknown**.

Noted activities:

- Increased recreational usage, which is unregulated, is a potential pressure on this species feature.

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

- Deaville, R. and Jepson, P.D. (compilers) (2014) *UK Cetacean Strandings Investigation Programme*. Final Report to Defra for the period 1st January – 31st December 2014. (Contract numbers CR0346 and CR0364). Institute of Zoology, London. 75pp.
- Feingold, D. and Evans, P.G.H. (2014a) *Bottlenose Dolphin and Harbour Porpoise Monitoring in Cardigan Bay and Pen Llŷn a'r Sarnau Special Areas of Conservation 2011-2013*. Natural Resources Wales Evidence Report Series No. 4. 124pp.
- Feingold, D. and Evans, P.G.H. (2014b) *Connectivity of Bottlenose Dolphins in Welsh Waters*: North Wales Photo-Monitoring Report. Natural Resources Wales Research Report. 15pp.
- Jepson, *et al* (2016) PCB pollution continues to impact populations of orcas and other dolphins in European waters, Nature Scientific Reports 6, Article Number 18573. https://www.nature.com/articles/srep18573
- Lohrengel, K., Evans, P.G.H., Lindenbaum, C.P., Morris, C.W., Stringell, T.B. (in prep) Bottlenose dolphin monitoring in Cardigan Bay 2014-2016, NRW Evidence Report No: 191, 163pp, Natural Resources Wales, Bangor.
- Pesante G, Evans PGH, Baines ME, McMath M (2008b) Abundance and Life History Parameters of Bottlenose Dolphin in Cardigan Bay: Monitoring 2005-2007. CCW Marine Monitoring Report No. 61. Countryside Council for Wales, Bangor
- Penrose, R.S. (2016) *Marine Mammal & Marine Turtle Strandings (Welsh Coast). Annual Report 2015.* Marine Environmental Monitoring, Llechryd, Cardigan. 20pp.
- Pesante, G., Evans, P.G.H., Anderwald, P., Powell, D. and McMath, M. (2008a) *Connectivity of bottlenose dolphins in Wales: North Wales photo-monitoring*. CCW Marine Monitoring Report No. 62, 1-42.
- Pesante, G., Evans, P.G.H., Baines, M.E. and McMath, M. (2008b*) Abundance and Life History Parameters of Bottlenose Dolphin in Cardigan Bay: Monitoring 2005-2007*. CCW Marine Monitoring Report No. 61: 1-75.

3.2 Grey seal *Halichoerus grypus* indicative condition assessment

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

Date	May 2017
Site name	Cardigan Bay SAC
Site feature assessed	Grey seal (*Halichoerus grypus*)

Component of species 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**
Population (*e.g. size, structure, production, condition of species within site, contaminant burdens*)	Favourable	Expert judgement, reports	Medium	Low	Low
Range (within site)	Favourable	Expert judgement, reports	Medium	Low	Low
Supporting habitats					
Distribution & extent	Unknown	Expert judgement / Casework	Medium	Not applicable	Not applicable
Structure & function	Unknown	Expert judgement / Casework	Medium	Not applicable	Not applicable
Prey availability and quality	Unknown	Expert judgement / Casework	Medium	Not applicable	Not applicable
Relevant activities (*activities directly impacting condition of the feature on this site*)	No activities identified as having a direct impact on site condition.				

Overall Indicative Assessment	**Overall Confidence Level**
Favourable	Low

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

The confidence levels for the Cardigan Bay indicative assessment are based on assessments at better known nearby regions (North Wales and Pembrokeshire). There is no reason to suspect that Cardigan Bay would be any different to neighbouring regions, but no recent data is available in Cardigan Bay. Please see the following indicative condition assessments for more information:

Pembrokeshire Marine SAC Indicative Seals feature assessment 2017: Favourable
Pen Llyn a'r Sarnau SAC Indicative Seals feature assessment 2017: Favourable

Population: There are no regularly monitored sites in Cardigan Bay, the last systematic survey of pupping sites in Cardigan Bay was in 1992-1995 (Baines, *et* al., 1995). Survey results in North Wales indicated that pup production remained stable at observed pupping sites (Stringell, *et al*., 2014; Westcott & Stringell, 2003, 2004). We do not have pup production estimates for Cardigan Bay or more recent estimates (outside of Bardsey Island) for North Wales. However, based on results from Pembrokeshire (see indicative condition assessment 2017 for Pembrokeshire marine SAC seals) and elsewhere in UK (e.g. see SCOS, 2016) we conclude (with low confidence in the data) that grey seal populations are favourable.
This component has been assessed as **favourable**.

Trend (population only): Increasing population.
Confidence in trend: Low
The trend for the Cardigan Bay indicative assessment are based on assessments at better known nearby regions (North Wales and Pembrokeshire).

Range: Pupping sites were documented in Baines, *et al*., (1995). But there has been no systematic monitoring in Cardigan Bay since. Expert judgement based on observations from neighbouring areas concludes that it is likely that pupping site distribution is stable or increasing (no loss in range).

Grey seals range widely in the South and West England and Wales Management Unit as demonstrated by satellite tracking (SCOS, 2013; Jones *et al*., 2013; Thomson, 2011) and photographic identification (PhotoID) (Pomeroy, *et al*., 2015).
This component has been assessed as **favourable**.

Supporting habitat: The growth or stability of pup production over at least the last decade (in Pembrokeshire (see indicative condition assessment 2017 for Pembrokeshire marine SAC seals) and in UK (SCOS, 2016)) suggests that the supporting habitat is functioning well and likely to be of sufficient quality to maintain the population or enable population growth. However, information has not been collected on supporting habitats.
This component has been assessed as **unknown**.

Noted activities:

- No planned activities or plans/projects are considered to adversely affect the feature of the SAC (e.g. Adverse Effect of Site Integrity). The population (at least at those sites monitored in neighbouring regions) is likely to be stable or increasing, reflecting a good quality, functioning supporting habitat with present levels of human activity and plans & projects.
- Seals in the SAC are part of a wider population, considered to be at the scale of the SW England and Wales Management Unit. Although bycatch in this Management Unit from gillnet fisheries in the SW approaches is high (but not within the site), the population is increasing.

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

- Baines, M.E., Earl, S.J., Pierpoint, C.J.L., Poole, J. (1995). *The west Wales grey seal census*. CCW Contract Science Report No. 131. Countryside Council for Wales, Bangor.
- Baines, M.E., Evans, P.G.H. (2012). *Atlas of the Marine Mammals of Wales*. 2nd Edition. Marine Monitoring Report No. 68. Countryside Council for Wales, Bangor.
- Jones, E., McConnell, B., Sparling, C., Matthiopoulous, J. (2013). *Grey and harbour seal density maps*. SMRU report to Scottish Government under Marine Mammal Scientific Support Research Programme MMSS/001/11, Task MR 5 (part), Version 1500
- Keily, O., Lidgard, D., McKibben, M., Connolly, N., Baines, M.E. (2000). *Grey seals: Status and monitoring in the Irish and Celtic Seas*. Maritime Ireland/Wales INTERREG Report No. 3.
- Pomeroy, P., Rosas Da Costa, O. & Stringell, T.B. (2015). *Grey seal movements – photoID*. SCOS Briefing Paper. *In* SCOS 2014. Scientific Advice on Matters Related to the Management of Seal Populations: 2014.
- SCOS, (2013). *Scientific Advice on Matters Related to the Management of Seal Populations: 2013*. Special Committee on Seals, SMRU, University of St Andrews.
- SCOS, (2016). *Scientific Advice on Matters Related to the Management of Seal Populations: 2016*. Special Committee on Seals, SMRU, University of St Andrews.
- Stringell, T.B., Millar, C.P., Sanderson, W.G., Westcott, S.M., McMath, M.J. (2014). When aerial surveys will not do: grey seal pup production in cryptic habitats of Wales. Journal of the Marine Biological Association of the United Kingdom. 94 (6): 1155-1159.
- Thompson, D. (2011). *Grey Seal Telemetry Study*. In: Anon (ed) Assessment of Risk to Marine Mammals from Underwater Marine Renewable Devices in Welsh waters Phase 2 - Studies of Marine Mammals in Welsh High Tidal Waters. RPS for Welsh Government.
- Westcott, S.M., Stringell, T.B. (2003). Grey Seal Pup Production for North Wales, 2002. CCW Marine Monitoring Report No: 5a. Countryside Council for Wales, Bangor.
- Westcott, S.M., Stringell, T.B. (2004). Grey seal distribution and abundance for North Wales, 2002-2003. CCW Marine Monitoring Report No: 13. Countryside Council for Wales, Bangor.

3.3 River Lamprey *Lampetra fluviatilis* indicative condition assessment

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

Date	May 2017
Site name	Cardigan Bay / Bae Ceredigion SAC
Site feature assessed	River Lamprey (*Lampetra fluviatilis*)

Component of species 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**
Freshwater population variables	Favourable	Monitoring report (Garrett 2016)	High	High	High
Marine habitat	Favourable	WFD 2015 assessment	High	High	High
Relevant activities (*activities directly impacting condition of the feature on this site*)	No activities identified as having a direct impact on site condition.				

Overall Indicative Assessment	**Overall Confidence level**
Favourable	High

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

Freshwater population variables: As with all migratory fish, the assessment is based on data from the inflowing river, as relevant marine data have not been collected. Lamprey (*Lampetra* spp.) cannot be reliably identified to species at the larval stage, so there is inherent uncertainty in the population assessment.

The supporting datasets are good and based on a specific NRW monitoring programme following relevant Joint Nature Conservation Committee (JNCC) common standards monitoring (CSM) Guidance (JNCC 2005; 2015; 2016). The variables have been assessed as follows: Spatial Extent: Pass, Adult Run Size: Not assessed, Age Structure: Pass, Juvenile Density: Pass.
This component has been assessed as **favourable**.

Marine habitat: There is high confidence in the WFD 2015 assessment used to support assessment of marine habitat condition. All three relevant waterbodies (Cardigan Bay Central, Cardigan Bay South & Teifi Estuary) show good chemical status but one (Teifi Estuary) has an overall moderate status, the moderate status was based on assessment of DIN (dissolved inorganic nitrogen) and saltmarsh, these elements were not seen as relevant enough to fail this feature.
This component has been assessed as **favourable**

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

- Baxter, E., McKenzie, S., Jones, C., Jones, D. and Metcalfe, P. (2017). *Condition assessment using 2016 River Habitat Survey data and Common Standards Monitoring guidance for the Afon Teifi and Afon Eden – Cors Goch Trawsfynydd SACs*. NRW Evidence Report No: 192, 95 pp. NRW, Bangor.
- Carpenter, G. (2012). *Afon Teifi EA assessment of recent actual flows Sept 2013.* EA Wales. Unpublished report.
- Garrett, H.M. (2016). *Afon Teifi SAC population attribute condition assessment for brook, river and sea lamprey population 2014*. NRW Evidence Report No. 106. 28 pp. NRW. Bangor.
- JNCC (2005). *Common Standards Monitoring Guidance for Freshwater Fauna, Version - August 2015*, ISSN 1743-8160 (Online)
- JNCC (2015). *Common Standards Monitoring Guidance for Freshwater Fauna, Version - October 2015*, ISSN 1743-8160 (Online)
- JNCC (2016). *Common Standards Monitoring Guidance for Rivers. Version September 2016 (Updated from January 2014)*, Peterborough: Joint Nature Conservation Committee.
- Thomas, Rh., Hatton-Ellis, T.W., Garrett, H. (2013). *Water Quality Assessments for River Special Areas of Conservation: Second Habitats Directive Reporting Round (2007-2012)*. 12/8/2. 2013. Bangor, Countryside Council for Wales. CCW Staff Science Reports.

- Webb, H., Teague, N., Hatton-Ellis, T.W., Garrett, H. (2013). *Lamprey monitoring on the Afon Teifi Special Area of Conservation (SAC) 2012/13*. CCW Contract Science Report No. 1040.
- WFD waterbody classifications (2015). 2009-2015 Classification Data: http://waterwatchwales.naturalresourceswales.gov.uk/en/

3.4 Sea Lamprey *Petromyzon marinus* indicative condition assessment

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

Date	May 2017
Site name	Cardigan Bay / Bae Ceredigion SAC
Site feature assessed	Sea lamprey (*Petromyzon marinus*)

Component of species 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**
Freshwater population variables	Unknown	Monitoring report & expert judgement	High	Not applicable	Not applicable
Marine habitat	Favourable	WFD 2015 assessment & expert judgement	High	High	High
Relevant activities (*activities directly impacting condition of the feature on this site*)	No activities identified as having a direct impact on site level feature condition.				

Overall Indicative Assessment	**Overall Confidence level**
Unknown	Not Applicable

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

Freshwater population variable: The supporting datasets are based on a specific NRW monitoring programme following relevant JNCC Common Standards Monitoring (CSM) Guidance (2005; 2015). Although sea lamprey ammocoetes are distinct from *Lampetra* (e.g. river lamprey) ammocoetes, they are typically much less frequent in samples and so can be difficult to detect. Therefore, sea lamprey population data are always poor and we have not so far devised a satisfactory and cost-effective method for assessing sea lamprey population size. Where more costly monitoring methods are available, runs of sea lamprey consistent with favourable condition are generally detected, though it appears that there is significant interannual variability (Davies, 2016). It is possible that new methods such as eDNA may provide a much more reliable means of detecting and perhaps enumerating sea lamprey populations in the freshwater and marine environment. Existing methods are not considered reliable for detecting sea lamprey (Webb, *et al*., 2013, Garrett 2016) at this site.
Therefore, this component is assessed as **unknown**.

Marine habitat: All three relevant waterbodies (Cardigan Bay Central, Cardigan Bay South & Teifi Estuary) show good chemical status but one (Teifi Estuary) has an overall moderate status, the moderate status was based on a moderate assessment of dissolved inorganic nitrogen (DIN) and saltmarsh, these elements were not considered relevant enough to fail this feature.
This component has been assessed as **favourable**.

Although the marine habitat component (based on data from WFD) was assessed as favourable for this feature the lack of any freshwater or marine population data leads to a conclusion of **unknown** for this feature on this site based on expert judgement.

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

- Carpenter, G. (2012). *Afon Teifi EA assessment of recent actual flows Sept 2013*. EA Wales. Unpublished report.
- Davies R. (2016). *Sea Lamprey Monitoring on the River Tywi 2011-2014*. NRW Report NFAT/16/02.
- Garrett, HM. (2016). *Afon Teifi SAC population attribute condition assessment for brook, river and sea lamprey population 2014*. NRW Evidence Report No. 106. 28 pp. NRW. Bangor.
- JNCC, (2005). *Common Standards Monitoring Guidance for Freshwater Fauna*, Version - August 2015, ISSN 1743-8160 (Online)
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3.5 Reefs indicative condition assessment

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

Date	May 2017
Site name	Cardigan Bay/ Bae Ceredigion SAC
Site feature assessed	Reefs

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

Overall Indicative Assessment	**Overall Confidence Level**
Favourable *	Low

* This is favourable overall but it is dependent on intertidal reef features only, subtidal reef is unknown, hence the low confidence instead of medium.

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

Distribution & extent:

Intertidal *Sabellaria* reef extent - The changes in surveyed extents of the *Sabellaria* reefs at Aberaeron and Cei Bach are considered to be within the scale of natural fluctuations.

There have been no notable deviations from the 'no change' hypothesis. Confidence in this conclusion is high; based on the experience of the surveyors (both generally and specifically on this monitoring programme) and a lack of any known reasons for change other than natural fluctuations.

Sub-tidal reef extent: There is a lack of data on sub-tidal reef extent, Some data has been collected (drop down video) but further survey is required.

This component has been assessed as **favourable for intertidal reefs and unknown for sub-tidal reefs**.

Structure & function: Information from the 2014 Cardigan Bay condition assessment draft report (Moore, *in prep*.). No changes to structure & function.

Water quality: The WFD monitoring in the inshore areas (Cardigan Bay Central and Cardigan Bay South waterbodies) have a good overall status and good chemical status. Phytoplankton for Cardigan Bay Central waterbody is high as is DIN (dissolved inorganic nitrogen). Macroalgae was high for both relevant waterbodies.

Please note that WFD waterbodies do not cover a large proportion of the sub-tidal part of the site, just to one nautical mile.

There is no information on nutrients for the offshore reef areas and no pathway for effect has been identified. No current compliance issues identified with effluent discharges.

This component has been assessed as **favourable for intertidal reefs and unknown for sub-tidal reefs**.

Typical Species:

Intertidal Reef: Information taken from the 2014 Cardigan Bay condition assessment draft report (Moore, *in prep*.). For rockpool communities at Aberporth, and honeycomb (*Sabellaria*) reefs communities at Aberaeron and Cei Bach - A number of changes have occurred in the monitored communities since the programme began in 2007, but they are all considered to be within the scale of natural fluctuations (Moore, in prep.).

There have been no notable deviations from the 'no change' hypothesis. Confidence in this conclusion is high; based on the experience of the surveyors (both generally and specifically on this monitoring programme) and a lack of any other known / apparent stresses or reasons for the change other than natural fluctuations.

No changes to species composition. Invasive Japanese wireweed (*Sargassum*) has not expanded and has not influenced the rockpools as it may have elsewhere in the UK.

Subtidal reef: No information available during the assessment for sub-tidal reefs for this site.
This component has been assessed as **favourable for intertidal reefs and unknown for sub-tidal reefs**.

Noted Activities:

- Potting,
- Waste impacts,
- Hand gathering of fish and shellfish,
- Access (although monitoring data suggests no change except due to increases in natural fluctuations)

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

- Moore, J. (in prep). *2014 Cardigan Bay SAC field report - feature condition*. NRW Report
- WFD waterbody classifications (2015). 2009-2015 Classification Data: http://waterwatchwales.naturalresourceswales.gov.uk/en/

3.6 Sandbanks indicative condition assessment

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

Date	May 2017
Site name	Cardigan Bay / Bae Ceredigion 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 opinion*)	**Level of agreement**	**Confidence in evidence**	**Component confidence level**
Distribution & extent (within site)	Favourable	NRW monitoring 2001, 2008	High	Low	Low
Structure & function	Favourable	NRW monitoring 2001, 2008; WFD assessments	High	Low	Low
Typical species	Unfavourable	NRW monitoring 2001, 2008	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**
Unfavourable	Low

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

Distribution & extent: There was consensus among the assessors that the feature is dynamic and there is no evidence of changes beyond those expected through natural processes.
This component has been assessed as **favourable**.

Structure & function: Cardigan bay SAC overlaps with three WFD waterbodies (Cardigan Bay Central, Cardigan Bay South & Teifi Estuary), however most this feature lies outside these waterbodies. Some of the more coastal sandbanks overlap with Cardigan Bay Central and Cardigan Bay South so these were considered the most relevant waterbodies for this feature. Both waterbodies have a good overall status and good chemical status. Macroalgae was assessed as high for both waterbodies. WFD data for infaunal quality index (IQI), for the only waterbody (Cardigan Bay Central) where it has been assessed, was good.
This component has been assessed as **favourable**.

Typical species: The available SAC monitoring evidence shows a decline in species richness, abundance and diversity for infaunal typical species. Assessment for this site is based on data from 2001 and 2008, hence low confidence in evidence. More grab sample data was collected in 2015 and 2016 but is yet to be analysed. WFD data for infaunal quality index (IQI), for the only waterbody (Cardigan Bay Central) where it has been collected, was good.
This component has been assessed as **unfavourable**.

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

- NRW SAC monitoring 2001 & 2008
- WFD waterbody classifications (2015). 2009-2015 Classification Data: http://waterwatchwales.naturalresourceswales.gov.uk/en/

3.7 Sea caves indicative condition assessment

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

Date	May 2017
Assessed by	Lucy Kay, Natasha Lough, Phil Newman, Rowland Sharp & Lily Pauls
Site name	Cardigan Bay / Bae Ceredigion SAC
Site feature assessed	Submerged or partially submerged sea caves

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	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 (*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**
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.
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.
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.

3.8 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
Bottlenose dolphin (*Tursiops truncatus*)	Favourable	Favourable
Grey seal (*Halichoerus grypus*)	Favourable	Favourable
River lamprey (*Lampetra fluviatilis*)	Unfavourable	Favourable
Sea lamprey (*Petromyzon marinus*)	Unfavourable	Unknown
Reefs	Not assessed	Favourable
Sandbanks which are slightly covered by seawater all the time	Not assessed	Unfavourable
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' (above).

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 (2015[3]) 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 site[4].

[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 OSPAR[5] (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) Programme[6] 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 casework[7] 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 level[8] 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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