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Condition assessments for the designated features of Ardal Gwarchodaeth Arbennig Traeth Lafan / Lavan Sands Conway Bay Special Protection Area

Report No: 918

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Crynodeb Gweithredol

Er mwyn rheoli ein hardaloedd morol gwarchodedig yn effeithiol ac yn gynaliadwy, mae'n hanfodol deall cyflwr eu cynefinoedd a'u rhywogaethau gwarchodedig. Mae gwybod cyflwr nodweddion dynodedig yn caniatáu i ni dargedu rheolaeth ac adnoddau lle mae eu hangen i wella ac adfer cyflwr.

Mae'r adroddiad tystiolaeth hwn, a gyflwynwyd fel rhan o brosiect gwella cyngor cadwraeth forol (IMCA) a ariannwyd gan Lywodraeth Cymru, yn cyflwyno canfyddiadau asesiadau cyflwr Cyfoeth Naturiol Cymru ar gyfer Ardal Cadwraeth Arbennig (AGA) Traeth Lafan. Mae adran un yn rhoi trosolwg o'r broses asesu ac mae adran dau yn rhoi disgrifiad o'r AGA a'i nodweddion.

Mae'r asesiadau'n seiliedig ar y dystiolaeth orau a oedd ar gael ar y pryd (e.e. 2024). Adroddir canlyniadau asesiadau gyda hyder cysylltiedig yn y casgliad. Gellir dod o hyd i esboniadau manwl o'r rhesymeg y tu ôl i gasgliadau, ac unrhyw resymau dros fethu, yn yr asesiad cyflwr llawn yn Adran 3. Gellir dod o hyd i adroddiad ar y broses asesu a ddefnyddiwyd yn adroddiad terfynol IMCA.

Crynodeb o asesiadau cyflwr ar gyfer nodweddion dynodedig AGA Traeth Lafan.

Nodweddion Dynodedig	Asesiad cyflwr	Hyder yn yr asesiad
Pioden fôr *Haematopus ostralegus*	Anffafriol	Canolig
Gylfinir *Numenius arquata*	Anffafriol	Canolig
Clwych Fawr Gopog *Podiceps cristatus*	Anffafriol	Canolig
Hwyaden Frongoc *Mergus serrator*	Anffafriol	Canolig
Pibydd coesgoch *Tringa totanus*	Ffafriol	Canolig

Executive summary

To manage our marine protected areas effectively and sustainably it is vital to understand the condition of their protected habitats and species. Knowing the condition of designated features allows management and resources to be targeted where it is needed to improve and restore condition.

This evidence report, which was delivered as part of the Welsh Government funded improving marine conservation advice (IMCA) project, presents the findings of NRW's condition assessments for the features of Traeth Lafan SPA. Section 1 gives an overview of the assessment process and Section 2 provides a description of the features.

The assessments are based on the best evidence available at the time (e.g. 2024). Assessment outcomes are reported with an associated confidence in the conclusion. Detailed explanations of the rationale behind conclusions, and any reasons for failure, can be found in the full condition assessment in Section 3. A report on the assessment process used can be found in the IMCA final report.

Summary of condition assessments for the designated features of Traeth Lafan SPA.

Designated Features	Condition assessment	Confidence in assessment
Oystercatcher *Haematopus ostralegus*	Unfavourable	Medium
Curlew *Numenius arquata*	Unfavourable	Medium
Great-crested grebe *Podiceps cristatus*	Unfavourable	Medium
Red-breasted mergansers *Mergus serrator*	Unfavourable	Medium
Redshank *Tringa totanus*	Favourable	Medium

1. Introduction

It is important for NRW to understand the condition of designated features in marine protected areas (MPAs) to allow NRW to prioritise management actions and advise on activity in the marine environment.

Having robust, evidence-based assessments of feature condition will ultimately lead to better protection through better management. The improvements in condition brought about by implementing targeted management will ultimately improve the resilience of Wales' marine ecosystems. As MPAs in Wales cover extensive areas of sea and coast, it can be challenging and resource intensive to monitor them. This can make thorough assessments of feature condition difficult. The process used for these condition assessments builds on work undertaken to produce indicative condition assessments published in 2018.

The 2018 indicative assessments used all available data and expert judgement to assess features using a workshop approach with internal NRW specialists. The new full assessment process, which has been delivered through the Welsh Government funded improving marine conservation advice (IMCA) project, has been improved by using carefully chosen performance indicators judged to be the most appropriate to assess condition (see Section 3). The best available evidence has been used to conduct the assessments. Due to the differences in assessment methods between these full assessments and the indicative condition assessments, the results are not directly comparable.

1.1. Assessment process

Marine feature condition assessments in NRW consist of selecting performance indicators for the feature, gathering the best available evidence to assess those indicators and conducting the assessment.

Performance indicators have targets which have a primary, secondary or tertiary weighting. Failure of a primary target will mean the feature is classified as unfavourable, on a 'one out all out' basis. If all primary targets pass but two secondary targets fail, the feature would also be classified as unfavourable. Likewise, if all primary and secondary targets pass but three tertiary targets fail, the feature will also be unfavourable. Condition assessment outcomes are not strictly determined by target weightings and are also subject to expert judgement.

Each indicator result has an associated confidence which is determined by the quality and age of the evidence along with the confidence in the indicator itself and what it is telling us about condition of the feature. The confidence in the overall assessment is derived from the confidence in each target pass or failure, as well as expert judgment/ assessor consensus.

Each feature condition assessment will also identify reasons for indicator failure where known and any known threats to feature condition.

Table 1 summarises the steps taken in marine feature condition assessments. Details on the full condition assessment process, including indicator selection and target weighting can be found in the IMCA final report.

Table 1: Details the main steps of the marine feature condition assessment process.

Assessment Step	Process
Step 1: Preparation and evidence gathering.	Prepare site information. Source relevant evidence and any previous assessments. Evaluate quality of evidence according to suitability for use in assessments and carry out any analysis required.
Step 2: Indicator assessment.	A range of NRW specialists use all available evidence to assess the performance indicators and targets using a pass, fail or unknown. Record findings in the condition assessment form. Provide a confidence score for each target conclusion.
Step 3: Feature level assessments.	Combining the results from the assessment of feature indicators to provide an overall assessment of condition at the feature level.
Step 3.5. Complex features.	If the feature is a complex feature (i.e., estuaries or large shallow inlets and bays) consider the results of any nested feature assessments within the overall complex feature assessment.
Step 4: Condition pressures and threats.	Use the evidence gathered and information on management and activities to determine threats and pressures on feature condition.
Step 5: Finalise the assessments.	Ensure all required fields in the assessment have been completed and all assessed targets have an associated confidence. Circulate the reports to the relevant NRW specialists for review and comment. After issues have been resolved, the assessments will be signed off by the project task and finish group.
Step 6: Publish the assessments.	After signing off, the assessments will be published on the NRW website, and stakeholders and internal staff notified. Assessments are then ready to use by internal and external parties.

2. Site description

The ardal gwarchodaeth arbennig Traeth Lafan / Lavan Sands Conway Bay special protection area (SPA) lies in Conwy Bay between Bangor and Llanfairfechan in north-west Wales. This large area of intertidal sand and mudflats lies at the eastern edge of the Menai Strait. The area has a range of different exposures and a diversity of conditions, enhanced by freshwater streams that flow across the flats. The site is important for wintering waterbirds, the features of the site are:

- Oystercatcher *Haematopus ostralegus*
- Curlew *Numenius arquata*
- Great-crested grebe *Podiceps cristatus*
- Red-breasted mergansers *Mergus serrator*
- Redshank *Tringa totanus*

3. Feature condition assessments

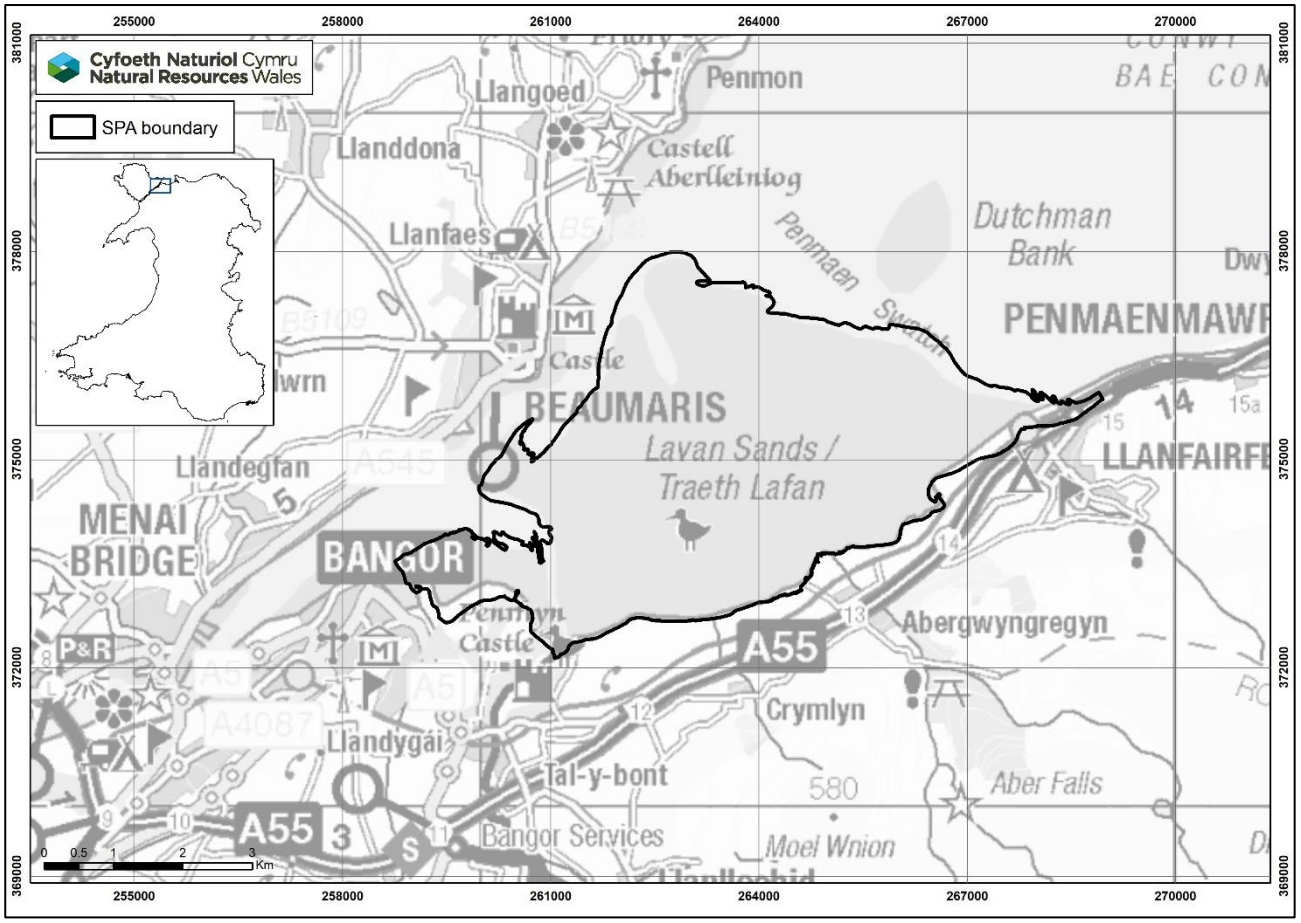
Condition Assessments for the features of the Traeth Lafan SPA can be found in the following sections. It should be noted that the population estimates at this site are based on numbers collected during the Wetland Bird Survey (WeBS) each year. The counts are made by volunteers on pre-determined days each month throughout the year. The height of the tide on the count date can affect the totals for some species; for example, on very high tides birds may use different roost sites and, in some cases, may roost outside the estuary. Conversely, on relatively low tides some birds may be missed as they continue to feed in gutters which are out of sight of count points. Also in migration periods the count date may miss the peak passage for some species. Supplementary counts are included where appropriate. WeBS recorders are encouraged to submit significant counts made on dates other than those of 'official' WeBS dates (BTO, 2017). This method of counting waterbirds was that used for the establishment of the baselines for all the SPAs in the UK and therefore there is still consistency in how the data is collected. Graphs included in this report contains Wetland Bird Survey (WeBS) data from Waterbirds in the UK 2022/23 © copyright and database right 2024. WeBS is a partnership jointly funded by the BTO, RSPB and JNCC, with fieldwork conducted by volunteers and previous support from WWT.

Two graphs have been produced for each feature, one details the feature at the site level and one at the Welsh level. The numbers shown in the site level and Welsh level graphs are index values not total counts these index values have been developed to track relative changes in bird number from incomplete data. The WeBS annual report uses Generalized Additive Models (GAMs) to fit both index values and a smoothed trend to the WeBS count data. Annual index values are expressed relative to the most recent year, which takes an arbitrary value of 100. The generated smoothed trends are less influenced by years of abnormally high or low numbers and sampling ‘noise’ than are the raw index values. This makes them especially useful when assessing changes through time (WeBS methods, analysis and trends).

Figure 1 is a map of the location of Traeth Lafan SPA.

More information on the SPA and its features can be found in NRW’s conservation advice for the site on our website.

Figure 1. Map of the Traeth Lafan SPA.



3.1 Condition assessment for oystercatcher *Haematopus ostralegus*

Oystercatcher in Traeth Lafan SPA has been assessed in Table 2. The table has a summary of the assessment outcome against each performance indicator. This outcome and any reasons of failure are discussed in more detail in the sections below.

Table 2. Condition assessment of oystercatcher in Traeth Lafan SPA. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting (see Section 1.1).

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Wintering population	Maintain the wintering population of oystercatcher at a minimum of 5,500 individuals across the site. (P)	• The latest five-year peak mean is 5,326 (counts from wintering seasons in the years 2018/19 to 2022/23). Although this is lower than the target, the latest figure for 2022/23 was 5,645. • The five-year peak mean was based on four years as there was only a partial count in 2020/21 which was not included, and a very low count in 2019/20. • Oystercatchers at this site are doing well and the latest count from 2022/23 more reflects the state of this feature, therefore the target has been met. • Confidence is low as the five-year peak mean was based on only four counts, and as it is slightly below the target.	**Pass**	Low

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Wintering population distribution	The distribution of the wintering oystercatcher population should not be significantly impacted by anthropogenic activity. (P)	• Although there are some concerns about the use of one of the roosting sites in this SPA, there is currently no evidence to suggest that the overall distribution of the oystercatcher has been affected. • Confidence is low due to the concerns about one of the roosting sites.	**Pass**	Low
Wintering population disturbance (by human activity)	Aggregations of roosting or feeding oystercatcher are not subject to significant anthropogenic disturbance. (P)	• Oystercatchers are moderately sensitive to disturbance. • Wig is one of the important roosting sites for oystercatchers in this SPA. • In 2009/10 the coastal path was completed in this area close to Wig, and launched in 2012. Before the path was constructed there was no access to this part of the coast. • There has been a statistically significant decrease in oystercatchers using this important roosting site since the construction of the coastal path therefore the confidence in the fail is high.	**Fail**	High

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Supporting habitat	Maintain sufficient extent, distribution, function and quality of habitat to support an oystercatcher population of 5,500 individuals. (S) Maintain existing unrestricted bird sightlines in every direction around both roosting sites and feeding areas. (S)	• The extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding) are important to maintain the population at 5,500 birds. • Although there are concerns around one of the high tide roosting sites there are currently no other known issues with the supporting habitat on this site. The latest count of 5,645 oystercatchers indicates that there are no widespread issues with the supporting habitat. • There are currently no known issues with bird sightlines on this site. • Confidence has been reduced to low as there are no targeted surveys for supporting habitat or sightlines, and due to concerns about one of the high tide roosts.	**Pass**	Low
Food availability	Maintain abundance and distribution of food supply at levels sufficient to support a population of 5,500 oystercatcher. (S)	• There are currently no known issues with the food availability on this site and the latest five-year peak mean for oystercatchers is above the target. This indicates that there are no issues with the food availability. • Confidence has been reduced to medium as there are no targeted surveys for food availability.	**Pass**	Medium

Assessment conclusions

The oystercatcher feature in Traeth Lafan SPA has been assessed as being in unfavourable condition (medium confidence) as one primary indicator failed to meet its target (Table 3). Wintering population disturbance failed due to human disturbance causing significant decreases in the use of the roosting site by the feature. The main threats to the oystercatchers in Traeth Lafan come from disturbance and climate change. Further information on the assessment outcome and threats to condition can be seen in the detailed assessment information below.

Table 3. Summary of the condition assessment for oystercatcher in Traeth Lafan SPA. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting.

SPA Feature	Overall Condition Assessment	Indicator failures	Reason for indicator failure	Threats to condition
Oystercatcher *Haematopus ostralegus*	**Unfavourable (medium confidence)**	Wintering population disturbance (P)	Increased disturbance close to important high tide roost.	• Disturbance • Climate change

Detailed assessment information

Wintering population

Figures for wading birds in Wales are derived from the Wetland Bird Survey (WeBS) online report (WeBS online portal), which includes figures for all bird species. These figures are reported as peak means per year. The latest five-year peak mean for oystercatchers at Traeth Lafan SPA was 5,326 (counts from wintering seasons in the years 2018/19 to 2022/23). While this is less than the target of 5,500, there were potential issues with the figures included in the latest five-year peak mean. One of the five years was a partial count and was therefore not included (2020/21), and another year's count was very low (2019/20). These years may have been affected by Covid restrictions on the surveyors. The other three years in the five-year peak mean figure were therefore used, which would have given a mean of 5,506 individuals. In addition, the latest count for the site was 5,645. As these are above the target level of 5,500, the wintering population indicator met its target. Confidence is low as the five-year peak mean was based on only four counts, and as it is slightly below the target.

Across the UK oystercatchers have seen a 21% decline (from 1996/97 – 2021/22) (BTO bird facts online database). The index of numbers of oystercatchers at Traeth Lafan showed a very large increase until 2006/07, then a decline but with annual fluctuations (Figure 2). For more information on the index values see Section 3. There seems to have been a more rapid decline in numbers around 2012, at the same time as the opening of the coastal path. The Wales level index from 1974/75 to 2022/23 shows an increase in the 1970s and early 1980s, followed by a fairly stable picture but with annual fluctuations (Figure 3).

Figure 2. Site level annual index for oystercatcher from 1974/75 to 2022/23.

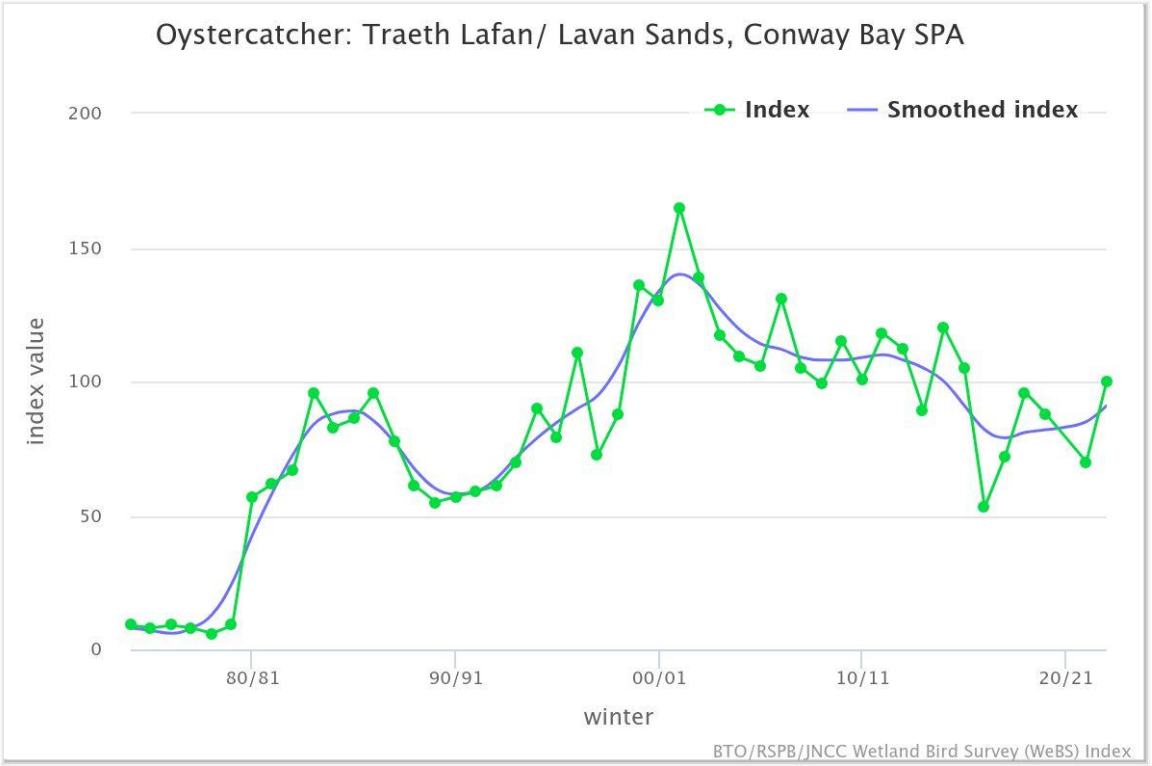
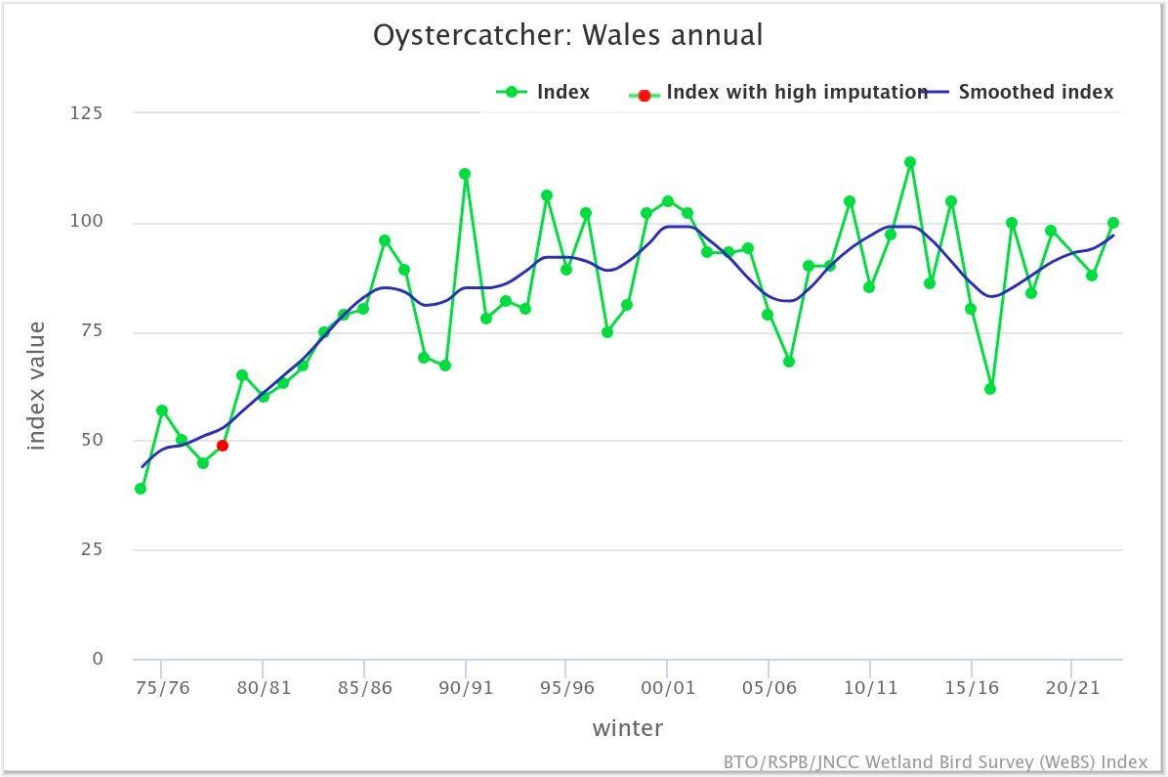


Figure 3. Wales annual index for oystercatcher from 1974/75 to 2022/23.



Wintering distribution

It is important that oystercatchers can continue to use and access all areas within the Traeth Lafan SPA needed for feeding, moulting, roosting, loafing, shelter and any other activities necessary to support their survival. Traeth Lafan is an important winter refuge for oystercatchers. Most of the birds wintering here are from northern breeding grounds, such as the Faroes and occasionally Norway. Juveniles take three years to mature and often stay in wintering grounds all year round until reaching maturity (Sitters, 2002). The area is also an important resting stop for birds migrating further south.

Oystercatchers gather in large flocks to feed on the mudflats and sandflats throughout the Traeth Lafan SPA. They roost above high water in groups. Most oystercatchers roosting at Traeth Lafan at high water also forage on the mudflats and sandflats (Howe, 1998). Oystercatchers mainly use the shore of the Gwynedd and Anglesey coast for roosting. However, they will also roost in the adjacent fields.

The high tide roosting sites on the shore and adjacent fields are outside the boundary of the SPA. The ability of oystercatcher to move freely between feeding and roosting sites is critical to their fitness and survival. Therefore, movement of the birds inside and outside of the SPA must also not be impacted or restricted. One of the major roosting sites, Wig, has been impacted by the use of the coastal path causing a decline in numbers. This is due to anthropogenic disturbance so is explained more fully in the disturbance section below. It is not believed that the disturbance from the coastal path at Wig is enough to fail the distribution target but it has reduced the confidence in the pass to low.

Wintering population disturbance (by human activity)

Disturbance occurs when an activity is sufficient to disrupt normal behaviours, for example, changes to feeding or roosting behaviour, increased energy expenditure due to time spent moving to avoid stressors, desertion of supporting habitats (both within and outside the protected area where appropriate). If the activity occurs at a level that substantially impacts behaviour for long enough it can lead to changes in distribution, displacement through reduction of habitat available and consequently could affect the long-term viability of the population.

Disturbance associated with human activity may take a variety of forms including, light, sound, vibration, trampling, presence of people, animals and structures.

Oystercatchers are moderately sensitive to disturbance. They do tolerate some disturbance stimuli and will habituate rapidly to ongoing activity. They seem to tolerate activity better in more disturbed locations compared to undisturbed. Oystercatchers are thought to be tolerant of sound but there is little evidence to back this up. A standard approach to mitigating disturbance should be taken (Cutts et al., 2013).

In terms of disturbance, there is evidence that one of the major roosts on the site – Wig, has been impacted. The coastal path in this area was completed in 2009/10 and launched in 2012. Before this, there was no direct access along this area of the coast. When the numbers of oystercatchers using the roost were examined, it could be seen that there was a reduction in numbers using the Wig roost after 2012. In the years before 2012 there were on average 794 oystercatchers using the roost compared to an average of 148 after 2012, which is an 81% decline in numbers. This decline is statistically significant and therefore this indicator target has failed with a high confidence.

Supporting habitat

The extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding) should be suitable to support 5,500 oystercatchers. The numbers of wintering oystercatchers are currently meeting their population target, which indicates that the supporting habitat is suitable to support the population of the site. Concerns about the disturbance at the Wig roosting site were not considered to be enough to fail the supporting habitat target but it has reduced the confidence level.

Some of the high tide roosts used by oystercatchers are in fields close to the shore outside the SPA and local nature reserve. High tide roosting sites are characterised by having good sightlines (i.e. open spaces where the birds can see any potential predators). Any significant changes to sightlines e.g. installation of tall structures or planting of trees, could impact on use of the roosts. If line of sight becomes obstructed birds may abandon their roosts which could consequently have a negative impact on the population. There are currently no known issues with sightlines on this site.

The supporting habitat indicator met its target, but the confidence was reduced to low as there are no targeted surveys for supporting habitat or sightlines, and due to the concerns about one of the high tide roosts.

Food availability

The availability of an abundant food supply is critically important for successful fitness, survival and the overall sustainability of the population. As a result, inappropriate management and direct or indirect impacts which may affect the distribution, abundance and availability of food may adversely affect the population and alter the distribution of birds.

Oystercatchers predominantly feed on shellfish, although feeding on worms is common amongst juveniles. Once adult, however, few birds take worms and concentrate on blue mussels *Mytilus edulis*, and cockles *Cerastoderma edule*. In periods of food shortage, they may take other sources of food, particularly *Macoma* and other clams (Zwarts et al. 1996). The birds may also spend the high tide period 'topping up' on invertebrates in surrounding agricultural or grassland if such habitat is available (Goss-Custard et al., 1994).

There is a long-standing commercial cockle fishery operating in the SPA. Harvests in the past have caused concern that stocks would not provide enough food for the oystercatchers. However, the fishery is now manged as a permitted fishery under the Cockle Fishing Management and Permitting (Specified Area) (Wales) Order 2024. The fishery has catch limits set to ensure sufficient cockles remain to support the wintering population of oystercatcher.

The current bird numbers strongly suggest that the food availability is sufficient to support the appropriate number of oystercatchers on this site therefore the food availability indicator met its target. Confidence in the pass is reduced to medium as there is no direct monitoring of food availability.

Reasons for target failure

The assessment of the oystercatcher feature in the Traeth Lafan SPA failed one primary target. This resulted in the feature to be assessed as being in **unfavourable** condition. The failing indicator and reasons for failure, if known, are stated below.

Wintering population disturbance (by human activity)

Anthropogenic disturbance has caused a 81% decline in oystercatchers using one of the major high tide roosting sites within the SPA.

Threats to condition

Part of the condition assessment is to identify threats to the condition of the oystercatcher at Traeth Lafan SPA. A threat is defined as an activity that is currently not impacting condition but has the potential to do so over the next reporting cycle, if activity levels increase or are unmanaged. It is important to identify these threats to be able to put pre-emptive management in place to prevent declines in condition. The threats to the Traeth Lafan SPA for the oystercatcher feature are stated below.

Disturbance

This site is already unfavourable due to disturbance so any increases in human derived disturbance need to be carefully assessed.

Climate change

It is not yet clear what pressures will be seen from climate change at the site level or how different pressures will counter act each other. However, threats from climate change that could impact the species may include:

- Increasing sea surface temperature
- Sea level rise
- Increased storminess
- Coastal squeeze
- Changes to prey availability and abundance.

3.2 Condition assessment for curlew *Numenius arquata*

Curlew in Traeth Lafan SPA has been assessed in Table 4. The table has a summary of the assessment outcome against each performance indicator. This outcome and any reasons of failure are discussed in more detail in the sections below.

Table 4. Condition assessment of curlew in Traeth Lafan. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting (see Section 1.1).

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Wintering population	Maintain the wintering population of curlew at a minimum of 1,500 individuals across the site. (P)	• The latest five-year peak mean is 1,574 (counts from wintering seasons in the years 2018/19 to 2022/23) which is above the target of 1,500. • Confidence is medium as the numbers are only just above the target.	**Pass**	Medium
Wintering population distribution	The distribution of the wintering curlew population should not be significantly impacted by anthropogenic activity. (P)	• Although there are some concerns about the use of one of the high tide roosting sites in this SPA, there is currently no evidence to suggest that the overall distribution of the curlew has been affected. • Confidence is low due to the concerns about one of the roosting sites.	**Pass**	Low

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Wintering population disturbance (by human activity)	Aggregations of roosting or feeding curlew are not subject to significant anthropogenic disturbance. (P)	• Curlews are moderately sensitive to disturbance. • Wig is one of the important high tide roosting sites for curlews in this SPA. • In 2009/10 the coastal path was completed in this area close to Wig and launched in 2012. Before the path was constructed there was no direct access to this part of the coast. • There has been a statistically significant decrease in curlews using this important roosting site since 2012, therefore the confidence in the fail is high.	**Fail**	High
Supporting habitat	Maintain sufficient extent, distribution, function and quality of habitat to support a curlew population of 1,500 individuals. (S) Maintain existing unrestricted bird sightlines in every direction around both roosting sites and feeding areas. (S)	• The extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding) are important to maintain the population at 1,500 birds. • Although there are concerns around one of the high tide roosting sites there are currently no other known issues with the supporting habitat on this site. The latest five-year mean peak count of 1,574 curlews indicates that there are no widespread issues with the supporting habitat. • There are currently no known issues with bird sightlines on this site. • Confidence has been reduced to low as there are no targeted surveys for supporting habitat or sightlines, and due to concerns about one of the high tide roosts.	**Pass**	Low

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Food availability	Maintain abundance and distribution of food supply at levels sufficient to support a population of 1,500 curlew. (S)	• There are currently no known issues with the food availability on this site and the latest five-year peak mean of curlew is above the target. This indicates that there are no issues with the food availability. • Confidence has been reduced to medium as there are no targeted surveys for food availability.	**Pass**	Medium

Assessment conclusions

The curlew feature in Traeth Lafan SPA has been assessed as being in unfavourable condition (medium confidence) as one primary indicator failed to meet its target (Table 5). Wintering population disturbance failed due to human disturbance causing significant decreases in the use of a roosting site by the feature. The main threats to the curlew in Traeth Lafan come from disturbance and climate change. Further information on the assessment outcome and threats to condition can be seen in the detailed assessment information below.

Table 5. Summary of the condition assessment for curlew in Traeth Lafan SPA. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting.

SPA Feature	Overall Condition Assessment	Indicator failures	Reason for indicator failure	Threats to condition
Curlew *Numenius arquata*	**Unfavourable (medium confidence)**	Wintering population disturbance (P)	Increased disturbance close to important high tide roost.	• Disturbance • Climate change

Detailed assessment information

Wintering population

The latest five-year peak mean for curlews in Traeth Lafan is 1,574 (counts from wintering seasons in the years 2018/19 to 2022/23). Even though the five-year peak mean contained two lower counts during 2019/20 and 2020/21, the numbers are above the target level of 1,500. The wintering population target was therefore met. However, confidence was reduced to medium as the numbers are only just above the target.

Across the UK curlews have seen a 32% decline (from 1996/97 – 2021/22) in the wintering population (BTO bird facts online database), and a 50% decrease in the breeding population. Wintering numbers are supported by a large number of migrants from Fennoscandia.

Figure 4 shows the index of curlew numbers at Traeth Lafan from 1974/75 until 2022/23, where there has been an increase in curlews until the early 2000s followed by a decrease to the mid 2000s, and an increase up to 2012 followed by another decrease. It would appear that the latest decrease correlates with the year that the coastal path was opened in 2012. This pattern is different to the numbers at a Welsh level which show an increase in curlews in the late 1980s and early 1990s, but the index values have been decreasing since then and are now at similar levels to those seen in the mid-1970s (Figure 5). The increase the 1980s and 1990s is thought to be a response to the cessation of hunting, while factors operating during the breeding season are likely to be the main drivers of the current population decline (Woodward et al., 2021).

Figure 4. Site level annual index for curlew from 1974/75 to 2022/23.

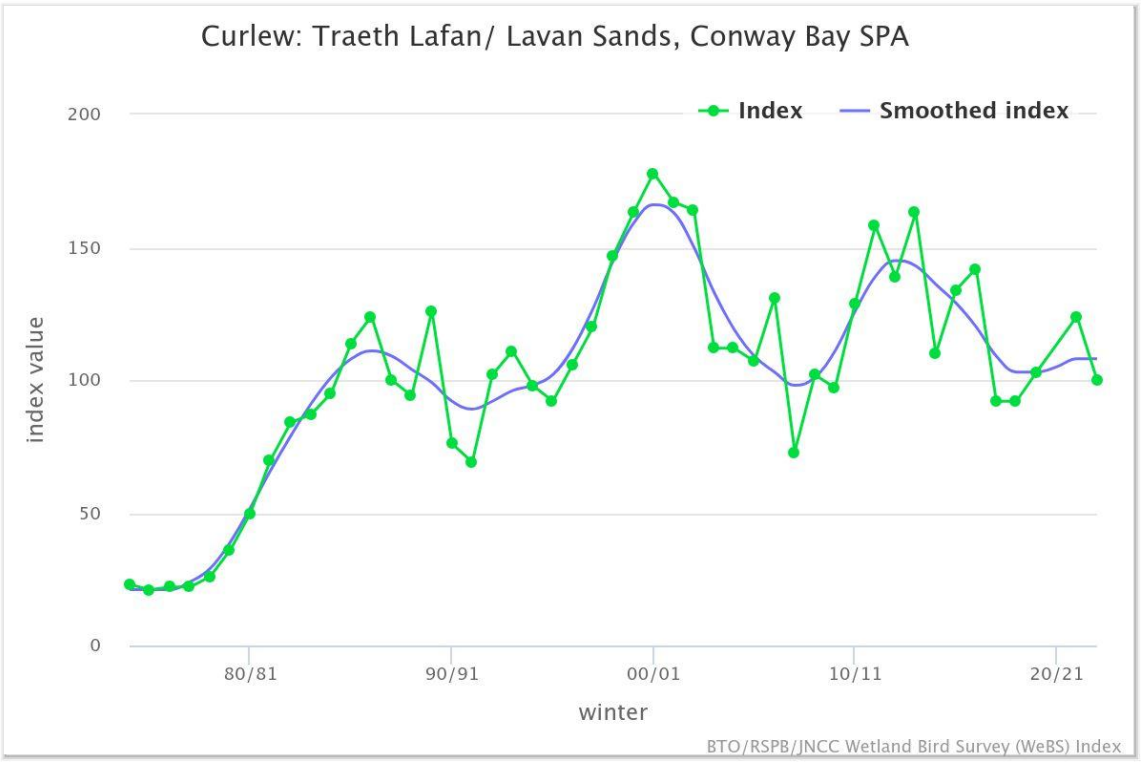
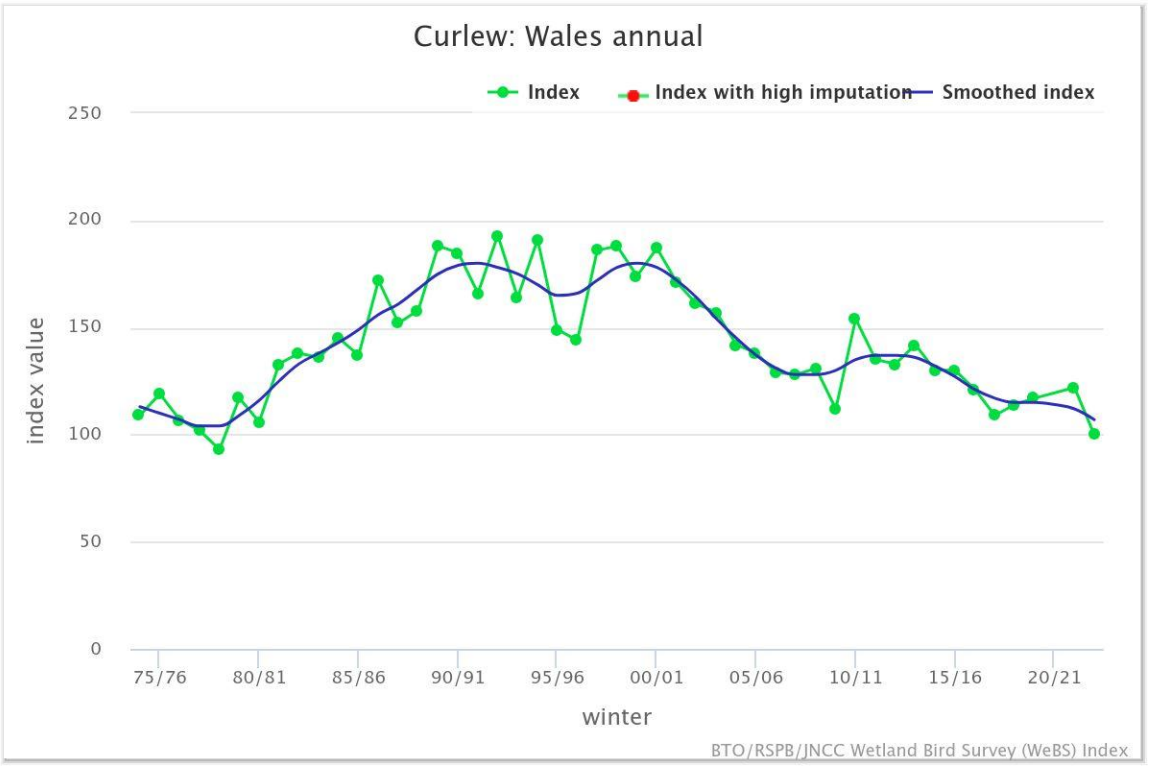


Figure 5. Wales annual index for curlew from 1974/75 to 2022/23.



Wintering distribution

It is important that curlews can continue to use and access all areas within the Traeth Lafan SPA needed for feeding, moulting, roosting, loafing, shelter and any other activities necessary to support their survival. The ability of curlew to move freely between feeding and roosting sites is critical to their fitness and survival. As roosting can be outside of the SPA boundary movement of the birds inside and outside of the SPA must also not be impacted or restricted. Most roosting curlews forage on the flats of Traeth Lafan where they tend to concentrate in the coastal sections and are actively feeding at low water (Howe, 1998). One of the major high tide roosting sites, Wig, has been impacted by the use of the coastal path causing a significant decline in numbers using the roost. This is due to anthropogenic disturbance so is explained more fully in the disturbance section below. It is not believed that the disturbance from the coastal path at Wig is enough to fail the distribution target but it has reduced the confidence in the pass to low.

Wintering population disturbance (by human activity)

Disturbance occurs when an activity is sufficient to disrupt normal behaviours, for example, changes to feeding or roosting behaviour, increased energy expenditure due to time spent moving to avoid stressors, desertion of supporting habitats (both within and outside the protected area where appropriate). If the activity occurs at a level that substantially impacts behaviour for long enough it can lead to changes in distribution, displacement through reduction of habitat available and consequently could affect the long-term viability of the population.

Disturbance associated with human activity may take a variety of forms including, light, sound, vibration, trampling, presence of people, animals and structures.

Curlews are moderately sensitivity to disturbance. Evidence indicates curlew is an extremely wary species that does not habituate to works rapidly. They are highly sensitive to people and aircraft (Cutts et al., 2013).

In terms of disturbance there is evidence that one of the major high tide roosts on the site – Wig, has been impacted by disturbance. The coastal path in this area was completed in 2009/10 and launched in 2012. Before this there was no direct access to this area of the coast. When the numbers of curlews using the roost was examined, it could be seen that there was a reduction using the Wig roost after 2012. In the years before 2012 there was on average 297 curlews using the roost compared to an average of 63 after 2012, which is a 79% decline in numbers. This decline is statistically significant and therefore this indicator target has failed with a high confidence.

Supporting habitat

The extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding) are important to maintain the population at 1,500 curlews. Curlews favour large areas of open terrain, largely free of obstructions, in and around roosting and feeding areas. Often there is a need to maintain an unobstructed line of sight within feeding or roosting habitat to detect approaching predators, or to ensure visibility of displaying behaviour. Often these areas can be far from the SPA boundary.

The numbers of wintering curlew are currently meeting their population target, which indicates that the supporting habitat is suitable to support the population of the site. Concerns about the disturbance at the Wig roosting site were not considered to be enough to fail the supporting habitat target but it has reduced the confidence level.

Some of the high tide roosts are in fields close to the shore outside the SPA and local nature reserve. High tide roosting sites are characterised by having good sightlines (i.e. open spaces where the birds can see any potential predators). Any significant changes to sightlines e.g. installation of tall structures or planting of trees, could impact on use of the roosts. If line of sight becomes obstructed birds may abandon their roosts which could consequently have a negative impact on the population. There are currently no known issues with sightlines on this site.

The supporting habitat indicator met its target, but the confidence was reduced to low as there are no targeted surveys for supporting habitat or sightlines, and due to the concerns about one of the high tide roosts.

Food availability

The availability of an abundant food supply is critically important for successful fitness, survival and the overall sustainability of the population. As a result, inappropriate management and direct or indirect impacts which may affect the distribution, abundance and availability of food may adversely affect the population and alter the distribution of birds.

Curlews feed on a wide variety of invertebrate species including worms, shrimps, crabs, shellfish and insects. There is a long-standing commercial cockle fishery operating in the

SPA. There is potential for this activity to damage the habitat of curlew prey species. However, the cockle fisheries take place in a sandier habitat, a different biotope to the wetter muddier areas where the curlews generally feed. Also, the fishery is managed through a permitted fishery under the Cockle Fishing Management and Permitting (Specified Area) (Wales) Order 2024. The number of fishers is deemed to not be having a detrimental impact on the curlew prey habitat.

The current bird numbers strongly suggest that the food availability is sufficient to support the appropriate number of curlews on this site therefore the food availability indicator met its target. Confidence in the pass is reduced to medium as there is no direct monitoring of food availability.

Reasons for target failure

The assessment of the curlew feature in the Traeth Lafan SPA failed one primary target. This resulted in the feature to be assessed as being in **unfavourable** condition. The failing indicator and reasons for failure, if known, are stated below.

Wintering population disturbance (by human activity)

Anthropogenic disturbance has caused a 79% decline in curlews using one of the major high tide roosting sites within the SPA.

Threats to condition

Part of the condition assessment is to identify threats to the condition of the curlew. A threat is defined as an activity that is currently not impacting condition but has the potential to do so over the next reporting cycle, if activity levels increase or are unmanaged. It is important to identify these threats to be able to put pre-emptive management in place to prevent declines in condition. The threats to the Traeth Lafan SPA for the curlew feature are stated below.

Disturbance

This site is already unfavourable due to disturbance so any increases in human derived disturbance need to be carefully assessed.

Climate change

It is not yet clear what pressures will be seen from climate change at the site level or how different pressures will counter act each other. However, threats from climate change that could impact the species may include:

- Increasing sea surface temperature
- Sea level rise
- Increased storminess
- Coastal squeeze
- Changes to prey availability and abundance.

3.3 Condition assessment for great-crested grebe *Podiceps cristatus*

Great-crested grebe in Traeth Lafan SPA has been assessed in Table 6. The table has a summary of the assessment outcome against each performance indicator. This outcome and any reasons of failure are discussed in more detail in the sections below.

Table 6. Condition assessment of great-crested grebe in Traeth Lafan. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting (see Section 1.1).

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Wintering population	Maintain the wintering population of great-crested grebe at a minimum of 260 individuals across the site. (P)	• The latest five-year peak mean is 123 (counts from wintering seasons in the years 2018/19 to 2022/23) which is below the target of 260. • There has been a decrease in numbers on the site, which follows a Wales wide decrease for this species. • The reason for the decline is not known but it is not thought to be a site level issue. • Confidence is high as the numbers are significantly below the target of 260.	**Fail**	High
Wintering population distribution	The distribution of the wintering great-crested grebe population should not be significantly impacted by anthropogenic activity. (P)	• There are currently no known anthropogenic activities that have impeded the use of the whole site by great-crested grebes or restricted their movements. • The assessment is based on expert judgement which has reduced the confidence level to medium.	**Pass**	Medium

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Wintering population disturbance (by human activity)	Aggregations of roosting or feeding great-crested grebe are not subject to significant anthropogenic disturbance. (P)	• There are currently no known anthropogenic activities that have caused significant disturbance to this feature on this site. • Confidence has been reduced to medium as there is no direct monitoring for disturbance on this site.	**Pass**	Medium
Supporting habitat	Maintain sufficient extent, distribution, function and quality of habitat to support a great-crested grebe population of 260 individuals. (S)	• The extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding) are important to maintain the population at 260 birds. • There are currently no known issues with the supporting habitat on this site. • The site level population trend mirrors the Welsh trend. However, since the wintering population target has not been met, the confidence in the pass is low.	**Pass**	Low
Food availability	Maintain abundance and distribution of food supply at levels sufficient to support a population of 260 great-crested grebe. (S)	• There are currently no known issues with the food availability for great-crested grebes on this site. • The site level population trend mirrors the Welsh trend. However, since the wintering population target has not been met, the confidence in the pass is low.	**Pass**	Low

Assessment conclusions

The great-crested grebe feature in Traeth Lafan SPA has been assessed as being in unfavourable condition (medium confidence) as one primary indicator failed to meet its target (Table 7). The reason for the wintering population failure is unknown. The main threats to the great-crested grebe in Traeth Lafan come from disturbance and climate change. Further information on the assessment outcome and threats to condition can be seen in the detailed assessment information below.

Table 7. Summary of the condition assessment for great-crested grebe in Traeth Lafan SPA. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting.

SPA Feature	Overall Condition Assessment	Indicator failures	Reason for indicator failure	Threats to condition
Great-crested grebe *Podiceps cristatus*	**Unfavourable (medium confidence)**	Wintering population (P)	Unknown	• Disturbance • Climate change

Detailed assessment information

Wintering population

The latest five-year peak mean for great-crested grebes at Traeth Lafan was 123 (counts from wintering seasons in the years 2018/19 to 2022/23). This is significantly under the target level of 260 for the site. The five-year peak mean was affected by a low count of 55 individuals in 2020/21, but even allowing for this and the latest count of 161 (2022/23), the numbers are still below the target set for the site. Confidence is high as the numbers are significantly below the target of 260.

UK winter numbers of great-crested grebe have shown a long-term shallow increase which peaked in the mid-2000s, followed by a subsequent shallow decline until around 2013 (Frost et al., 2020). A decline has occurred across Europe since 1990 (PECBMS, 2020). This decline can also be seen in the site level count index (Figure 6) and at a Wales level (Figure 7). The decrease in numbers at Traeth Lafan follows a Wales-wide decrease for this species. The reason for the decline is not known but it is not thought to be a site level issue.

Figure 6. Site level annual index for great-crested grebe from 1984/85 to 2022/23.

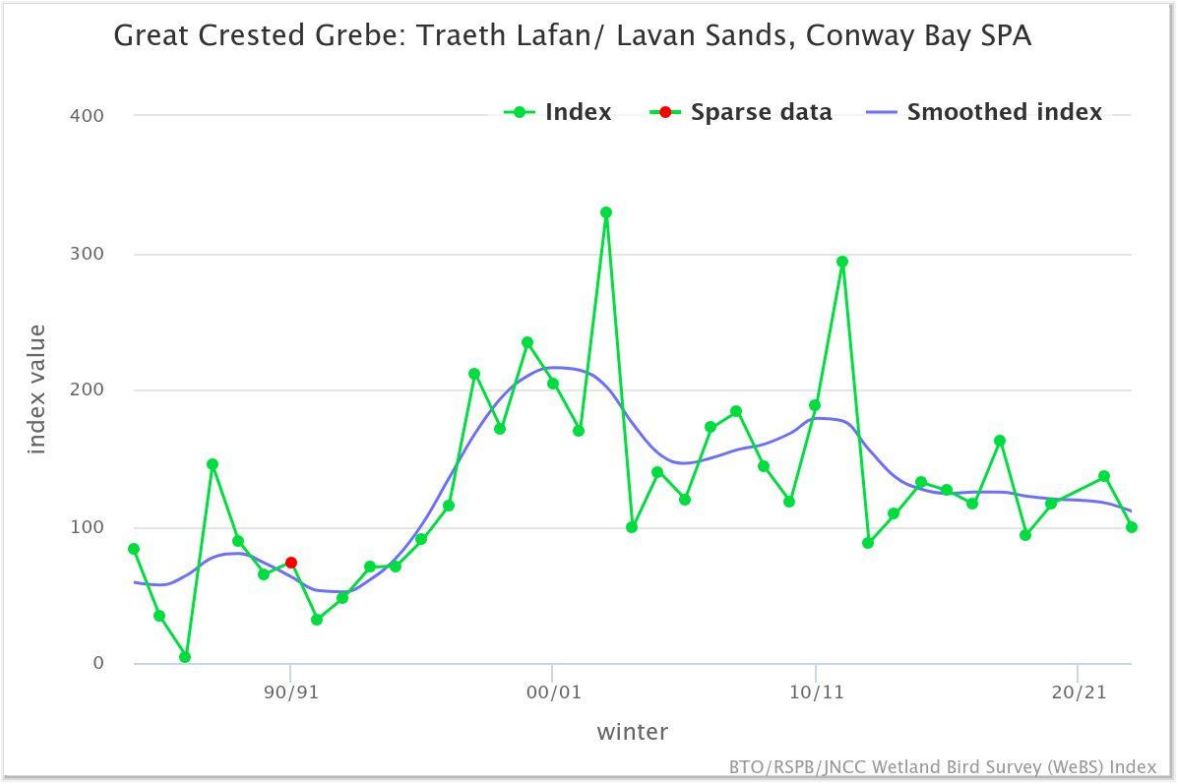
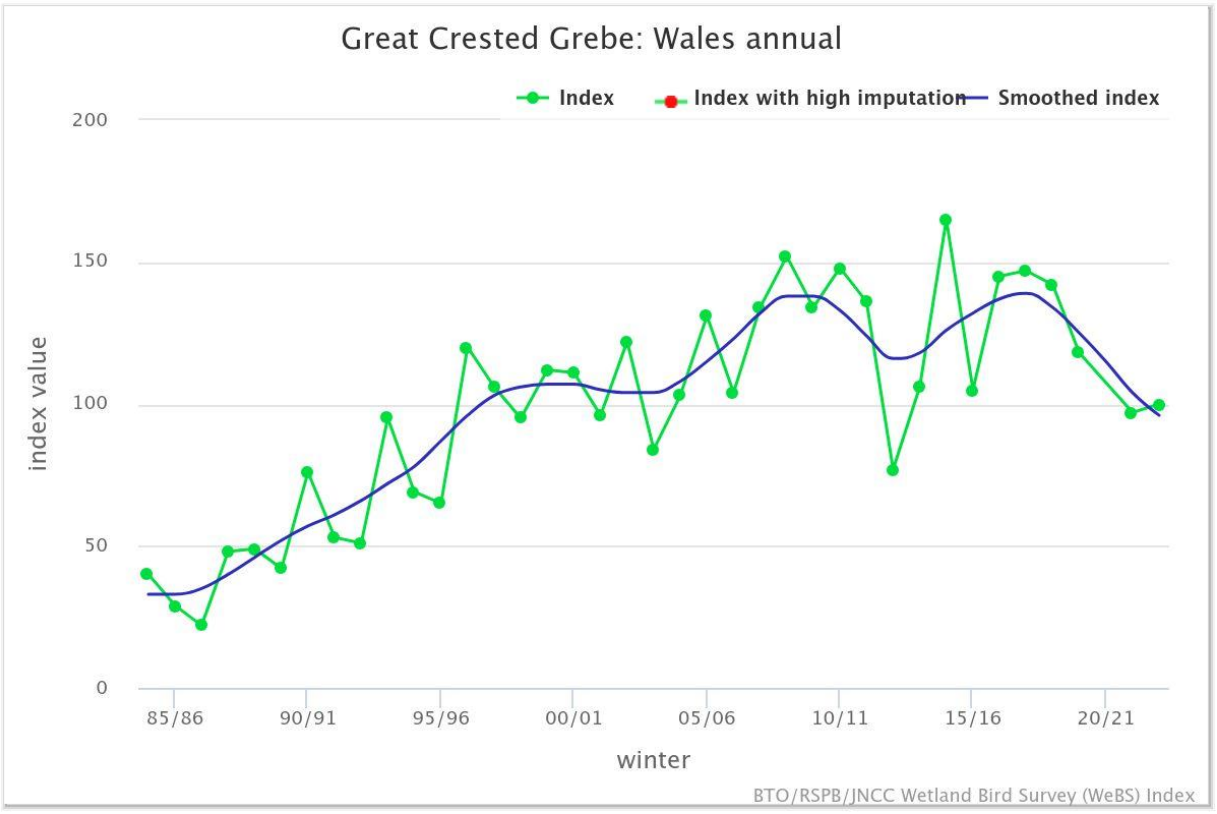


Figure 7. Wales annual index for great-crested grebe from 1974/75 to 2022/23.



Wintering distribution

It is important that great-crested grebes can continue to use and access all areas within the Traeth Lafan SPA needed for feeding, moulting, roosting, loafing, shelter and any other activities necessary to support their survival. Large numbers of great-crested grebes enter shallow and sheltered coastal waters of Wales in autumn to moult and then overwinter. There are currently no known anthropogenic activities that have impeded the use of the whole site by great-crested grebes or restricted their movements. The wintering distribution target was therefore met, but confidence was reduced to medium as the assessment was based on expert judgement.

Wintering population disturbance (by human activity)

Disturbance occurs when an activity is sufficient to disrupt normal behaviours, for example, changes to feeding or roosting behaviour, increased energy expenditure due to time spent moving to avoid stressors, desertion of supporting habitats (both within and outside the protected area where appropriate). If the activity occurs at a level that substantially impacts behaviour for long enough it can lead to changes in distribution, displacement through reduction of habitat available and consequently could affect the long-term viability of the population.

Disturbance associated with human activity may take a variety of forms including, light, sound, vibration, trampling, presence of people, animals and structures.

Great-crested grebes seem quite tolerant to vessel traffic when feeding but are more sensitive when roosting in flocks (Gittings, 2017).

There are currently no known anthropogenic activities that would have caused significant disturbance to great-crested grebes on this site. Confidence has been reduced to medium as there is no direct monitoring for disturbance on the site.

Supporting habitat

Great-crested grebes require suitable habitat within the SPA to support their survival in the non-breeding/wintering period. This includes sufficient habitat for foraging, loafing, roosting and moulting). The area of suitable habitat in the site should be sufficient to support 260 great-crested grebes.

During the winter, great-crested grebes gather in shallow marine or brackish waters over sandy substrate. Often there is a need for them to maintain an unobstructed line of sight within feeding or roosting habitat to detect approaching predators, or to ensure visibility of displaying behaviour.

The supporting habitat indicator met its target as there are currently no known issues with the supporting habitat on this site. The site level population trend mirrors the Welsh trend. However, given that the wintering population target has not been met, a low confidence was attributed to the pass. There are no targeted surveys for supporting habitat.

Food availability

The availability of an abundant food supply is critically important for successful fitness, survival and the overall sustainability of the population. As a result, inappropriate management and direct or indirect impacts which may affect the distribution, abundance and availability of food may adversely affect the population and alter the distribution of birds.

Great-created grebe are mainly piscivorous, diving in shallow water to catch small fish. They will also eat small crustaceans.

There are currently no specific issues known with the food availability for the site, and the site population trend roughly follows that for Wales, suggesting that the decline may be wider than any site specific problem. The food availability indicator therefore met the target. However, as the current bird numbers are below the population target and there is no direct monitoring of food availability, the confidence in the pass was reduced to low.

Reasons for target failure

The assessment of the great-crested grebe feature in the Traeth Lafan SPA failed one primary target. This resulted in the feature to be assessed as being in **unfavourable** condition. The failing indicator and reasons for failure, if known, are stated below.

Wintering population

The latest five-year peak mean for great-crested grebes was 123, which is below the target level of 260. The reason for this reduction in great-crested grebes on the site is unknown.

Threats to condition

Part of the condition assessment is to identify threats to the condition of the great-crested grebe. A threat is defined as an activity that is currently not impacting condition but has the potential to do so over the next reporting cycle, if activity levels increase or are unmanaged. It is important to identify these threats to be able to put pre-emptive management in place to prevent declines in condition. The threats to the Traeth Lafan SPA for the great-crested grebe feature are stated below.

Disturbance

Although current disturbance levels are not affecting condition the condition of great-crested grebe feature, and although they are quite tolerant to vessel traffic when feeding, they are more sensitive when roosting in flocks (Gittings, 2017). Therefore any new developments or increases in human derived disturbance need to be carefully considered for roosting flocks of great-crested grebe.

Climate change

It is not yet clear what pressures will be seen from climate change at the site level or how different pressures will counter act each other. However, threats from climate change that could impact the species may include:

- Increasing sea surface temperature
- Increased storminess
- Changes to prey availability and abundance.

3.4 Condition assessment for red-breasted merganser *Mergus serrator*

Red-breasted merganser in Traeth Lafan SPA has been assessed in Table 8. The table has a summary of the assessment outcome against each performance indicator. This outcome and reasons of failure are discussed in more detail in the sections below.

Table 8. Condition assessment of red-breasted merganser in Traeth Lafan. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting (see Section 1.1).

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Wintering population	Maintain the wintering population of red-breasted merganser at a minimum of 120 individuals across the site. (P)	• The latest five-year peak mean is 33 individuals (counts from wintering seasons in the years 2018/19 to 2022/23) which is below the target of 120. • There has been a decrease in numbers on the site, which follows a Wales- and UK wide decrease for this species. • The reasons for the decline are not known but it is not believed to be a site level issue. • The confidence is medium as there were some underestimates in the counts. However, even with underestimates the numbers would be very unlikely to meet the target.	**Fail**	Medium

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Wintering population distribution	The distribution of the wintering red-breasted merganser population should not be significantly impacted by anthropogenic activity. (P)	• There are currently no known anthropogenic activities that have impeded the use of the whole site by red-breasted mergansers or restricted their movements. • The assessment is based on expert judgement which has reduced the confidence level to medium.	**Pass**	Medium
Wintering population disturbance (by human activity)	Aggregations of roosting or feeding red-breasted merganser are not subject to significant anthropogenic disturbance. (P)	• There are currently no known anthropogenic activities that have caused significant disturbance to this feature on this site. • Confidence has been reduced to medium as there is no direct monitoring for disturbance on this site.	**Pass**	Medium
Supporting habitat	Maintain sufficient extent, distribution, function and quality of habitat to support a red-breasted merganser population of 120 individuals. (S)	• The extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding) are important to maintain the population at 120 birds. • There are currently no known issues with the supporting habitat on this site. • The site level population trend mirrors the Welsh trend. However, since the wintering population target has not been met, the confidence in the pass is low.	**Pass**	Low

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Food availability	Maintain abundance and distribution of food supply at levels sufficient to support a population of 120 red-breasted merganser. (S)	• There are currently no known issues with the food availability for red-breasted mergansers on this site. • The site level population trend mirrors the Welsh trend. However, since the wintering population target has not been met, the confidence in the pass is low.	**Pass**	Low

Assessment conclusions

The red-breasted merganser feature in Traeth Lafan SPA has been assessed as being in unfavourable condition (medium confidence) as one primary indicator failed to meet its target (Table 9). The reason for the wintering population failure is unknown. The main threats to the red-breasted merganser in Traeth Lafan come from disturbance and climate change. Further information on the assessment outcome and threats to condition can be seen in the detailed assessment information below.

Table 9. Summary of the condition assessment for red-breasted merganser in Traeth Lafan SPA. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting.

SPA Feature	Overall Condition Assessment	Indicator failures	Reason for indicator failure	Threats to condition
Red-breasted merganser *Mergus serrator*	**Unfavourable (medium confidence)**	Wintering population (P)	Unknown	• Disturbance • Climate change

Detailed assessment information

Wintering population

At designation Traeth Lafan supported a wintering red-breasted merganser population of 120 individuals representing 2% of the population in Great Britain at that time. The latest five-year peak mean population estimate is 33 (counts from wintering seasons in the years 2018/19 to 2022/23). The wintering population target was assessed as failing as the five-year peak mean was below the target level of 120 individuals for the site. Confidence was reduced to medium as there were some underestimates in the counts. However, even with underestimates the numbers would be very unlikely to meet the target.

Red-breasted mergansers at Traeth Lafan have been on a downward trend since the late 1990s (Figure 8), which matches the trend seen across Wales (Figure 9). The reason for this decline across Wales and the UK is unknown at present but it is not believed to be a site level issue.

Figure 8. Site level annual index for red-breasted merganser from 1975/76 to 2022/23.

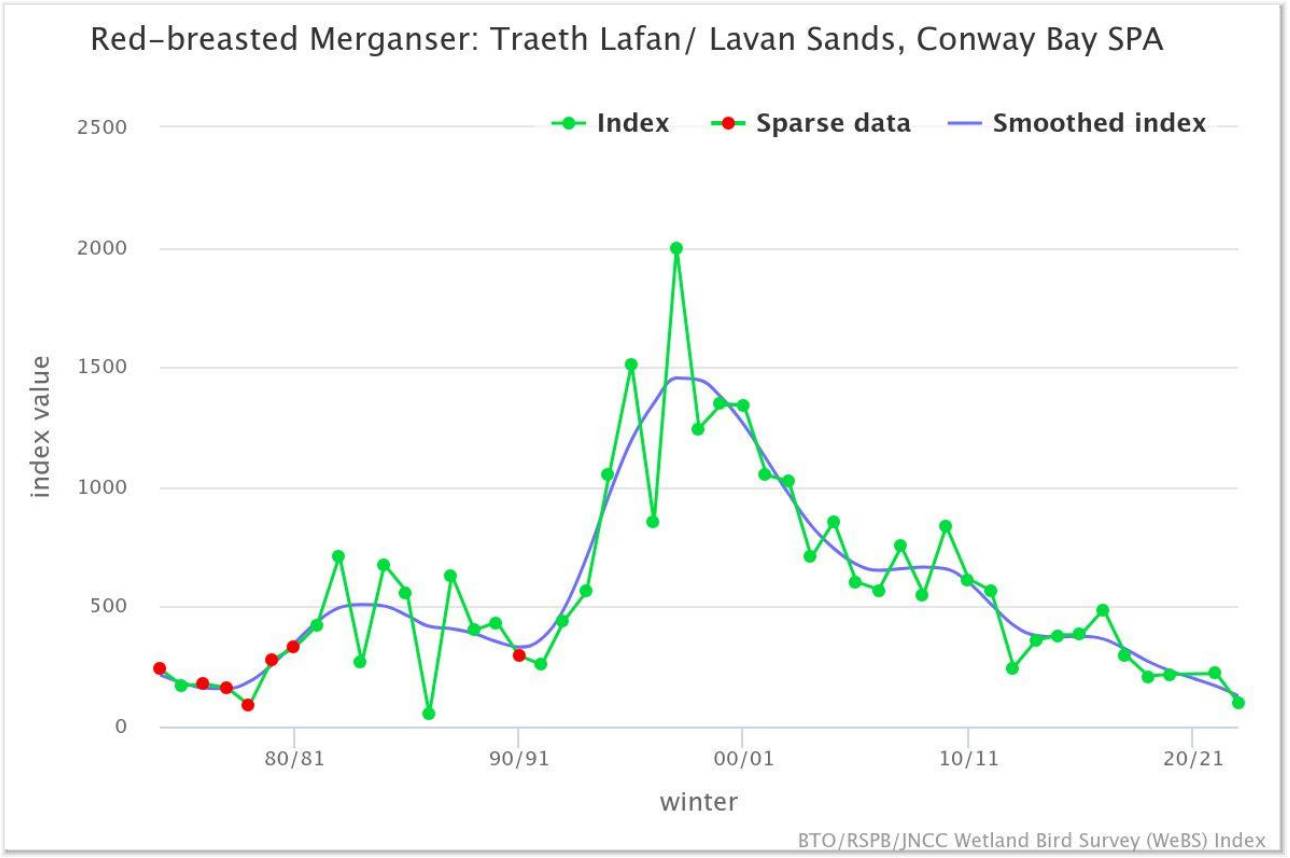
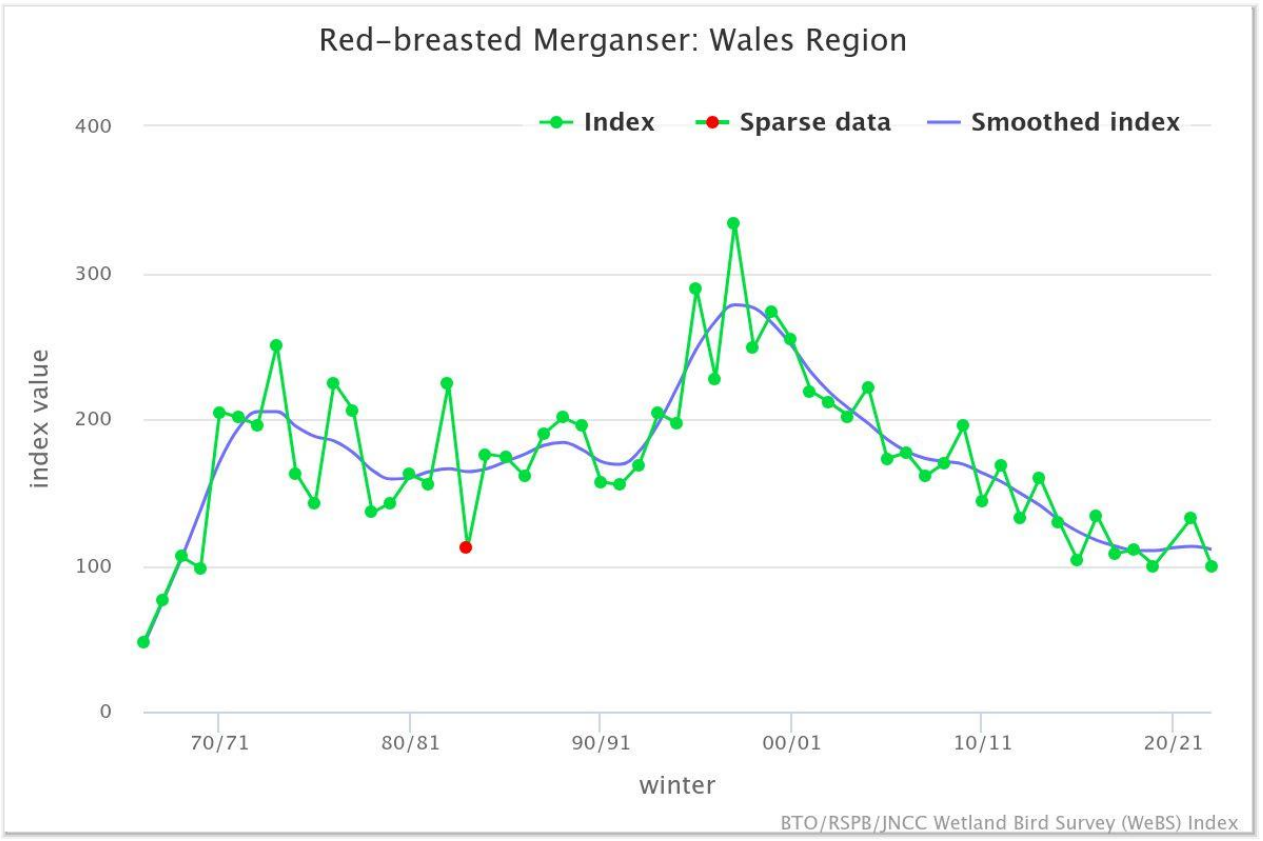


Figure 9. Wales annual index for red-breasted merganser from 1966/67 to 2022/23.



Wintering distribution

It is important that red-breasted mergansers can continue to use and access all areas within the Traeth Lafan SPA needed for feeding, moulting, roosting, loafing, shelter and any other activities necessary to support their survival. There are currently no known anthropogenic activities that have impeded the use of the whole site by red-breasted mergansers or restricted their movements. The wintering distribution target was therefore met, but confidence was reduced to medium as the assessment is based on expert judgement.

Wintering population disturbance (by human activity)

Disturbance occurs when an activity is sufficient to disrupt normal behaviours, for example, changes to feeding or roosting behaviour, increased energy expenditure due to time spent moving to avoid stressors, desertion of supporting habitats (both within and outside the protected area where appropriate). If the activity occurs at a level that substantially impacts behaviour for long enough it can lead to changes in distribution, displacement through reduction of habitat available and consequently could affect the long-term viability of the population.

Disturbance associated with human activity may take a variety of forms including, but not limited to, light, sound, vibration, trampling, presence of people, animals and structures.

Wintering red-breasted mergansers have been shown to be sensitive to marine vessel traffic (Gittings et al., 2016; Jarret et al., 2021) but this is not known to be an issue over the winter in this site.

There are currently no known anthropogenic activities that would have caused significant disturbance to red-breasted mergansers on this site. Confidence has been reduced to medium as there is no direct monitoring for disturbance on the site.

Supporting habitat

Red-breasted mergansers require suitable habitat within the SPA to support their survival in the non-breeding/wintering period. The extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding) are important to maintain the population at 120 birds. The area of suitable habitat in the site should be maintained.

During the winter the red-breasted merganser is found almost exclusively on the sea. They forage in shallow, sheltered marine water, swimming with their eyes just below the water to hunt for small fish close to shore. (Birdlife international, 2019). This is likely due to having increased foraging efficiency due to hunting by sight. For this reason, maintaining good water quality in terms of low nutrients and turbidity is important.

The supporting habitat indicator met its target as there are currently no known issues with the supporting habitat on this site. The site level population trend mirrors the Welsh trend. However, given that the wintering population target has not been met, a low confidence was attributed to the pass. There are no targeted surveys for supporting habitat.

Food availability

The availability of an abundant food supply is critically important for successful fitness, survival and the overall sustainability of the population. As a result, inappropriate management and direct or indirect impacts which may affect the distribution, abundance and availability of food may adversely affect the population and alter the distribution of birds.

Red-breasted mergansers dive in shallow water to feed primarily on small (generally less than 8–10 cm but up to 15 cm long) fish. Though information on non-breeding diet is scant, it can be assumed fish species taken will be influenced by what is locally most readily available. In Traeth Lafan this is likely to include mainly Clupeidae fish (e.g. herring and sprat), as well as crustaceans and invertebrates.

There are currently no specific issues known with the food availability for the site, and the site population trend roughly follows that for Wales, suggesting that the decline may be wider than any site specific problem. The food availability indicator therefore met the target. However, as the current bird numbers are below the population target and there is no direct monitoring of food availability, the confidence in the pass was reduced to low.

Reasons for target failure

The assessment of the red-breasted merganser feature in the Traeth Lafan SPA failed one primary target. This resulted in the feature to be assessed as being in **unfavourable** condition. The failing indicator and reasons for failure, if known, are stated below.

Wintering population

The latest five-year peak mean for red-breasted mergansers was 33, which is below the target level of 120. The reason for this reduction in red-breasted mergansers on the site is unknown but likely to be linked to a UK wide decline.

Threats to condition

Part of the condition assessment is to identify threats to the condition of the red-breasted mergansers. A threat is defined as an activity that is currently not impacting condition but has the potential to do so over the next reporting cycle, if activity levels increase or are unmanaged. It is important to identify these threats to be able to put pre-emptive management in place to prevent declines in condition. Activities that go through licencing and permission process whereby the impact of the activity on the feature would be assessed have not been included. The threats to the Traeth Lafan SPA for the red-breasted merganser feature are stated below.

Disturbance

Although current disturbance levels are not affecting the condition of the feature, red-breasted mergansers are sensitive to marine vessel traffic and any new developments or increases in human derived disturbance need to be carefully considered for red-breasted mergansers.

Climate change

It is not yet clear what pressures will be seen from climate change at the site level or how different pressures will counter act each other. However, threats from climate change that could impact the species may include:

- Increasing sea surface temperature
- Changes to prey availability and abundance
- Increased storminess.

3.5 Condition assessment for redshank *Tringa totanus*

Redshank in Traeth Lafan SPA has been assessed in Table 10. The table has a summary of the assessment outcome against each performance indicator. This outcome and reasons of failure are discussed in more detail in the sections below.

Table 10. Condition assessment of redshank in Traeth Lafan. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting (see Section 1.1).

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Wintering population	Maintain the wintering population of redshank at a minimum of 1,200 individuals across the site. (P)	• The latest five-year peak mean is 1,598 (counts from wintering seasons in the years 2018/19 to 2022/23). • This mean is well above the target of 1,200 individuals, therefore this target has passed with high confidence.	**Pass**	High
Wintering population distribution	The distribution of the wintering redshank population should not be significantly impacted by anthropogenic activity. (P)	• There are currently no known anthropogenic activities that have impeded the use of the whole site by redshanks or restricted their movements. • The assessment is based on expert judgement which has reduced the confidence level to medium.	**Pass**	Medium
Wintering population disturbance (by human activity)	Aggregations of roosting or feeding redshank are not subject to significant anthropogenic disturbance. (P)	• There are currently no known anthropogenic activities that have caused significant disturbance to this feature on this site. • Confidence has been reduced to medium as there is no direct monitoring for disturbance on this site.	**Pass**	Medium

Indicator	Target	Assessment rationale	Target assessment	Target confidence
Supporting habitat	Maintain sufficient extent, distribution, function and quality of habitat to support a redshank population of 1,200 individuals. (S) Maintain existing unrestricted bird sightlines in every direction around both roosting sites and feeding areas. (S)	• The extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding) are important to maintain the population at 1,200 birds. • There are currently no known issues with the supporting habitat on this site. The latest five-year mean peak count of 1,598 redshanks indicates that there are no widespread issues with the supporting habitat. • There are no known issues with bird sightlines on this site. • Confidence has been reduced to medium as there are no targeted surveys for supporting habitat or sightlines.	**Pass**	Medium
Food availability	Maintain abundance and distribution of food supply at levels sufficient to support a population of 1,200 redshank. (S)	• There are currently no known issues with the food availability on this site and the latest five-year peak mean for redshanks is above the target. This indicates that there are no issues with the food availability. • Confidence has been reduced to medium as there are no targeted surveys for food availability.	**Pass**	Medium

Assessment conclusions

The redshank feature in Traeth Lafan SPA has been assessed as being in favourable condition (medium confidence) as all indicator targets were met (Table 11). The main threats to the redshank in Traeth Lafan come from disturbance and climate change. Further information on the assessment outcome and threats to condition can be seen in the detailed assessment information below.

Table 11. Summary of the condition assessment for redshank in Traeth Lafan SPA. Each indicator target has a primary (P), secondary (S) or tertiary (T) weighting.

SPA Feature	Overall Condition Assessment	Indicator failures	Reason for indicator failure	Threats to condition
Redshank *Tringa totanus*	**Favourable (medium confidence)**	None	None	• Disturbance • Climate change

Detailed assessment information

Wintering population

The latest five-year peak mean for redshanks at Traeth Lafan was 1,598 (counts from wintering seasons in the years 2018/19 to 2022/23). This well above the target of 1,200 individuals, therefore this target has passed with a high confidence.

Wintering populations across the UK (augmented by Icelandic and some other northern European birds) showed some increase from the 1970s but have been in decline since about 2001. However, the most recent counts suggest this decline may now have slowed, and wintering numbers since 2011/12 have remained relatively stable (Frost et al., 2020).

The index counts at Traeth Lafan have shown an increase since the 1970s, which levelled off in the winter of 2012/13 (Figure 10). The site level trend follows an upwards trend in redshanks seen in the index counts at the Welsh level since the 1970s (Figure 11).

Figure 10. Site level annual index for redshank from 1974/75 to 2022/23.

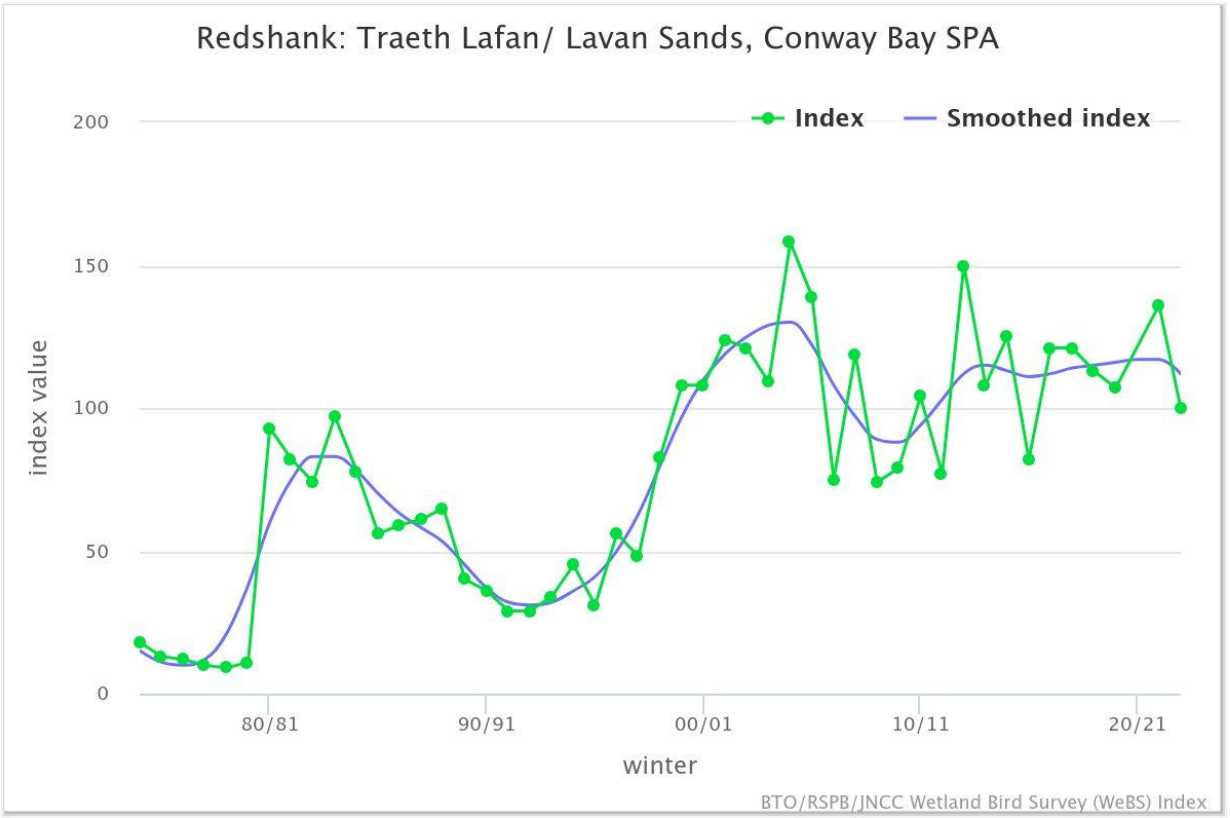
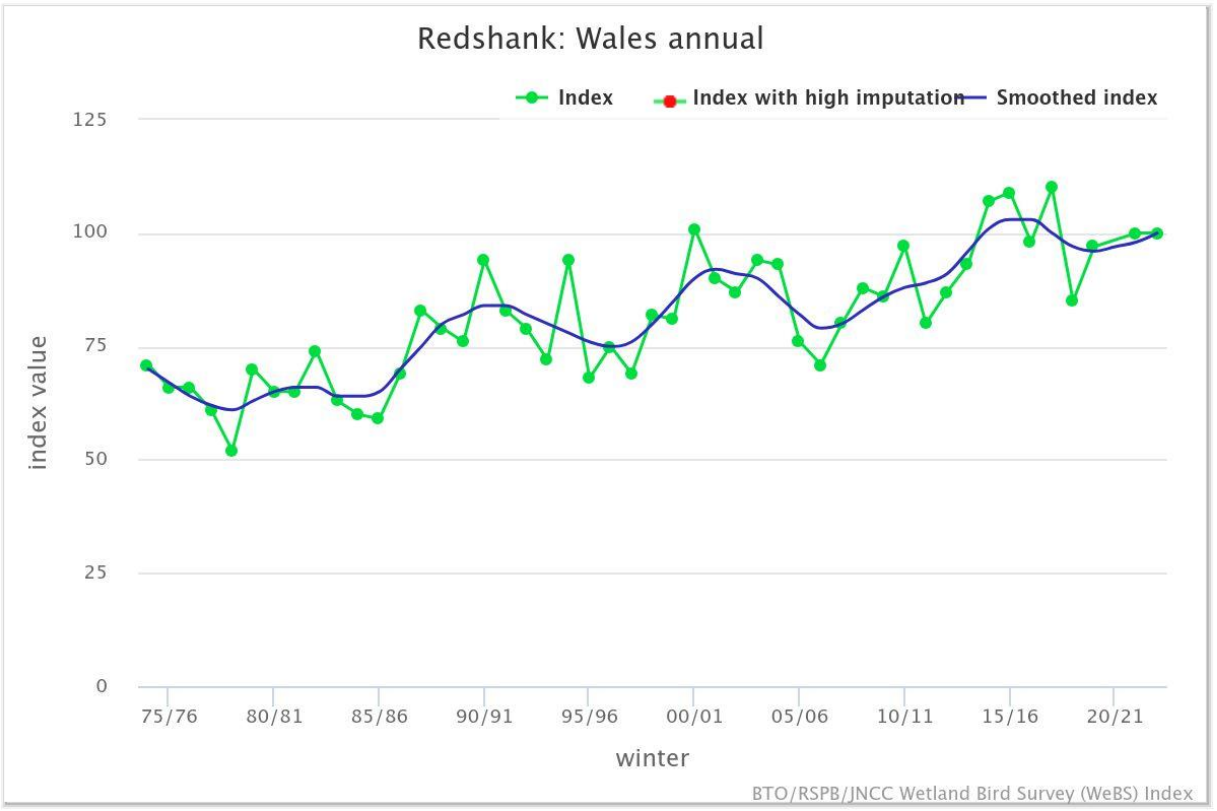


Figure 11. Wales annual index for redshank from 1974/75 to 2022/23.



Wintering distribution

It is important that redshanks can continue to use and access all areas within the Traeth Lafan SPA needed for feeding, moulting, roosting, loafing, shelter and any other activities necessary to support their survival. Redshanks feed on the mudflats and sandflats throughout the Traeth Lafan SPA. They roost above high water. There is evidence that redshanks are site-faithful and do not move between similar sites situated closely (Donald and Clark, 1991; Toomer and Clark, 1992) and thus require secure roost sites near to their feeding grounds (Toomer and Clark, 1993). There are currently no known anthropogenic activities that have impeded the use of the whole site by redshanks or restricted their movements. The wintering distribution target was therefore met, but confidence was reduced to medium as the assessment is based on expert judgement.

Wintering population disturbance (by human activity)

Human activity is classed as disturbance when the activity is sufficient to disrupt normal behaviours and / or the distribution of the bird species. Disturbance occurs when an activity is of sufficient level or duration to disrupt normal behaviours. For example, changes to feeding or roosting behaviour, increased energy expenditure due to time spent moving to avoid stressors, desertion of supporting habitats (both within and outside the protected area where appropriate). If the activity occurs at a level that substantially impacts behaviour for long enough it can lead to changes in distribution, displacement through reduction of habitat available and consequently could affect the long-term viability of the population.

Disturbance associated with human activity may take a variety of forms including, but not limited to, light, sound, vibration, trampling, presence of people, animals and structures.

One part of the high tide area in Traeth Lafan is outside of the SPA and SSSI designations but is designated as a local nature reserve. This offers some protection from human disturbance in the form of bird hides and public access routes, allowing for suitable high tide roosts.

Redshanks appear to be a quite tolerant of visual disturbance and habituate to works rapidly. However, they are highly sensitive to noise disturbance, especially so when in conjunction with visual stimuli (i.e. low flying aircraft) (Cutts et al., 2013).

There is no evidence that redshanks are significantly disturbed at Traeth Lafan over the winter period. The numbers of redshank at the roost at Wig do not seem to have decreased significantly since the opening of the coastal path. Confidence has been reduced to medium as there is no direct monitoring for disturbance on the site.

Supporting habitat

It is very important that the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports redshanks for all necessary stages of the non-breeding/wintering period (roosting, loafing, feeding) should be maintained.

Redshanks favour large areas of open terrain, largely free of obstructions, in and around its roosting and feeding areas. Often there is a need to maintain an unobstructed line of sight within feeding or roosting habitat to detect approaching predators, or to ensure visibility of displaying behaviour.

Some of the high tide roosts are in fields close to the shore outside the SPA and local nature reserve. High tide roosting sites are characterised by having good sightlines (i.e. open spaces where the birds can see any potential predators). Any significant changes to sightlines e.g. installation of tall structures or planting of trees, could impact on use of the roosts. If line of sight becomes obstructed birds may abandon their roosts which could consequently have a negative impact on the population.

There is currently no evidence that the supporting habitat or sightlines are not suitable to maintain the population at this level therefore the supporting habitat indicator met its target. However, the confidence was reduced to medium as there are no targeted surveys for supporting habitat or sightlines.

Food availability

The availability of an abundant food supply is critically important for successful fitness, survival and the overall sustainability of the redshank population in Traeth Lafan. As a result, inappropriate management and direct or indirect impacts which may affect the distribution, abundance and availability of food may adversely affect the population and alter the distribution of birds.

Redshanks feed mainly on small bivalve molluscs and crustaceans. The current bird numbers strongly suggest that the food availability is sufficient to support the appropriate number of redshanks on this site therefore the food availability indicator met its target.

Confidence in the pass is reduced to medium as there is no direct monitoring of food availability.

Reasons for target failure

The redshank feature in the Traeth Lafan SPA has been assessed as being in **favourable** condition as none of the targets failed.

Threats to condition

Part of the condition assessment is to identify threats to the condition of the redshank. A threat is defined as an activity that is currently not impacting condition but has the potential to do so over the next reporting cycle, if activity levels increase or are unmanaged. It is important to identify these threats to be able to put pre-emptive management in place to prevent further declines in condition. The threats to the Traeth Lafan SPA for the redshank feature are stated below.

Disturbance

Current disturbance levels are not affecting the condition of feature at the moment, and although redshanks are quite tolerant to visual disturbance and habituate to works rapidly, they are highly sensitive to noise disturbance, especially when in conjunction with visual stimuli (i.e. low flying aircraft). Any new developments or increases in human derived disturbance need to be carefully considered for redshanks.

Climate change

It is not yet clear what pressures will be seen from climate change at the site level or how different pressures will counter act each other. However, threats from climate change that could impact the species may include:

- Increasing sea surface temperature
- Increased storminess
- Changes to prey availability and abundance.

4. Evidence gaps

Evidence gaps that are needed to complete a high confidence condition assessment for this site are highlighted here. Although some of the performance indicators were assessed using proxy data and expert judgement, reducing confidence in the individual target assessments, there were no major evidence gaps linked to the assessment process identified. However, additional information on supporting habitat and food availability would increase the confidence in the assessment.

Even though it is not critical for the condition assessment, as it is based on what is happening at this SPA, more information on issues occurring offsite e.g. at breeding sites or movements within the network due to short-stopping that may be having an influence on over wintering numbers would be useful.

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