Ardal Gwarchodaeth Arbennig Bae Caerfyrddin / Carmarthen Bay Special Protection Area

Advice provided by Natural Resources Wales in fulfilment of Regulation 37(3) of the Conservation of Habitats and Species Regulations 2017.

June 2025

Creative Commons Common scoter *melanitta nigra* by Jason Thompson under licence CC BY 2.0

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Crynodeb Gweithredol

Mae'r ddogfen hon yn cynnwys cyngor Cyfoeth Naturiol Cymru ar gyfer ardal gwarchodaeth arbennig (AGA) Bae Caerfyrddin a gyhoeddwyd o dan Reoliad 37(3) o Reoliadau Cadwraeth 2017. Sef amcanion cadwraeth a chyngor ar weithrediadau.

Mae Adran 1 yn cyflwyno'r safle, pwrpas y cyngor a strwythur yr amcanion cadwraeth. Mae Adran 2 yn cynnwys esboniad o'r rolau a'r cyfrifoldebau, ac mae Adran 3 yn amlinellu amcanion cadwraeth pob nodwedd a gwybodaeth ategol. Mae cyngor ar weithrediadau mewn perthynas â'r safle hwn i'w gael yn Adran 4.

Isod mae rhestr o nodweddion dynodedig yr AGA hon a dolen uniongyrchol i'r amcanion cadwraeth, ond mae'n bwysig darllen pob adran yn llawn.

Tabl 1. Crynodeb o nodweddion yr AGA a'r ddolen i'r amcanion cadwraeth.

Enw'r AGA	Nodweddion Dynodedig	Cysylltiad â'r Amcanion Cadwraeth
Bae Caerfyrddin	• Môr-hwyaden ddu *Melanitta nigra*	Amcanion cadwraeth

Executive Summary

This document contains NRW's advice for Carmarthen Bay special protection area (SPA) issued under Regulation 37(3) of the Conservation Regulations 2017.

Section 1 introduces the SPA, the purpose of the advice and the structure of the conservation objectives. Section 2 includes an explanation of the roles and responsibilities before Section 3 outlines each feature's conservation objectives and supporting information. Advice on operations in relation to this SPA is found in Section 4.

Table 1 lists the designated features of this SPA and provides a direct link to the conservation objectives, but it is important that all sections are read in full.

Table 1. Summary of SPA features and link to conservation objectives.

SPA Name	Designated Features	Link to Conservation Objectives
Carmarthen Bay	• Common scoter *Melanitta nigra*	Conservation objectives

1. Introduction

The ardal gwarchodaeth arbennig Bae Caerfyrddin / Carmarthen Bay special protection area (SPA) covers the majority of Carmarthen Bay in south Wales (Figure 1). The site was designated solely for the common scoter *Melanitta nigra* and was the first fully marine SPA in Wales. Carmarthen Bay is an extensive shallow bay with a wide variety of seabed types and is one of the most important individual wintering sites in Britain and Ireland for this species.

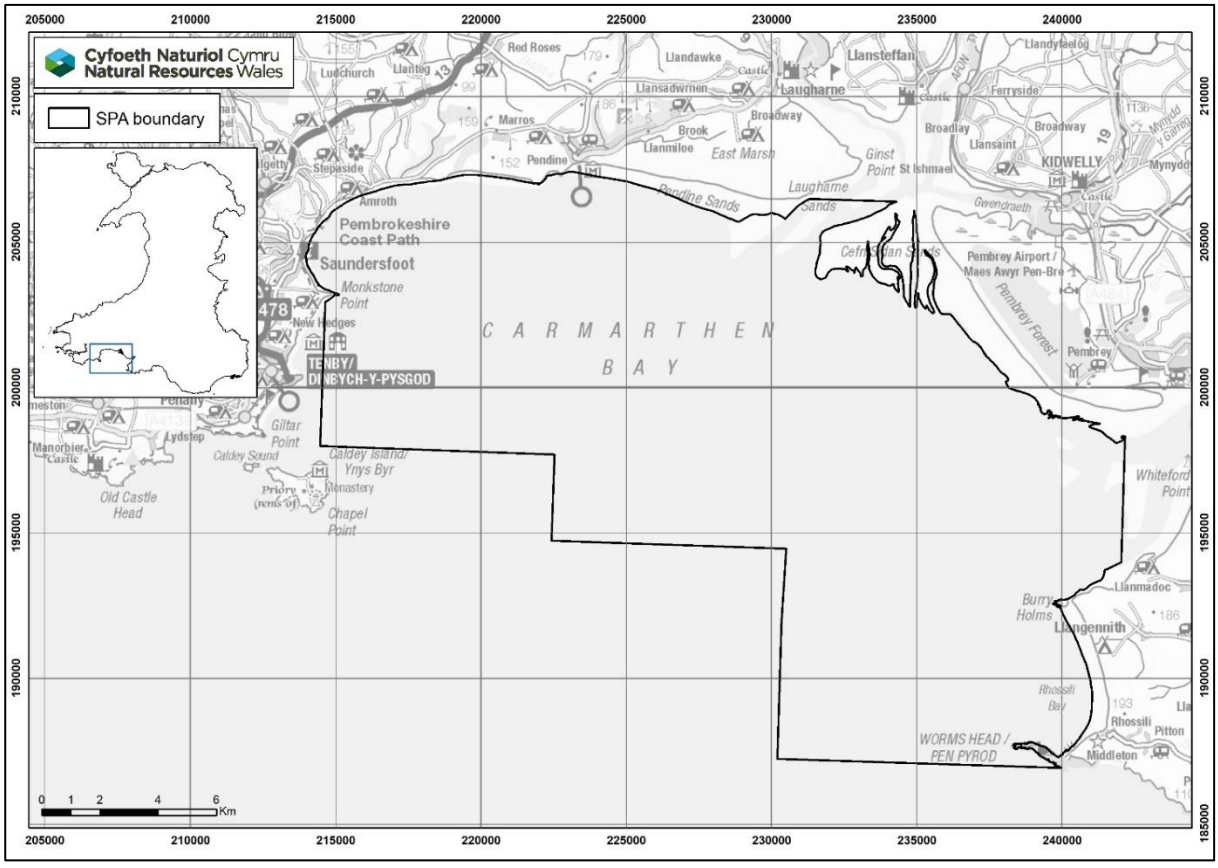
The SPA was classified in 2003 under Article 4.2 of the Conservation of Wild Birds Directive (2009/147/EC), for regularly supporting at least 1% of the non-breeding population of the regularly occurring migratory species common scoter. The 5-year peak mean at designation was 16,946 individuals (1997/98 to 2001/02) and the latest aerial survey found a peak estimate of 20,042 individuals in January 2021 (APEM, in draft).

The SPA is overlapped by two special areas of conservation (SACs) and seven sites of special scientific interest (SSSIs). More information on these sites, including the conservation objectives for the SPAs and SACs can be found on the NRW website. The boundaries and geographical extents of these sites can be seen on the JNCC MPA mapper. A list of all protected sites partly or wholly in the SPA can be found in Appendix 1.

1.1. SPA map

Figure 1 shows the boundary of the Carmarthen Bay SPA.

Figure 1. Map of the Carmarthen Bay SPA.



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1.2. The purpose of conservation advice

Conservation advice provides a framework for assessing developments and activities with the potential to affect the features for which a European marine site (EMS) is designated. An EMS is a SAC or SPA which consists of marine areas. Conservation advice presents site specific information, in addition to highlighting activities that are potentially capable of having an impact on the site and its designated species (known as a feature).

This SPA is an EMS subject to protection under the Conservation of Habitats and Species Regulations 2017, as amended (referred to in this document as the 'Habitats Regulations'). Under the Habitats Regulations, relevant and competent authorities with functions in relation to an EMS must exercise those functions to comply with the requirements of the 1992 European Commission (EC) Habitats and Species Directive and the 2009 EC Wild Birds Directive. The key requirements of these Directives include the conservation of the features (habitat types or species) for which SACs or SPAs are designated. This requires taking appropriate steps to avoid deterioration or disturbance of SAC or SPA features and carrying out appropriate assessment of any plan or project likely to have a significant effect on a SAC or SPA.

This document contains the conservation advice for the Carmarthen Bay SPA. It is prepared by Natural Resources Wales (NRW) and given under our duty in Regulation 37(3) of the Habitats Regulations (see Section 2.1).

This advice is based on the best available evidence and information at the time of writing. In some cases, evidence can be limited. It will be kept under review by NRW and updated as and when appropriate.

1.3. Conservation objective structure

The conservation objectives for the designated features in this site are underpinned by conservation objective attributes. These attributes describe the ecological characteristics (e.g. population), and the ecological requirements that allow the conservation objectives for each feature to be met.

Conservation objective attributes have a target which is either quantified or qualified depending on the available evidence. The target identifies, as far as possible, the desired state to be achieved for the attribute. In many cases, the attribute targets show if the current objective is to either 'maintain' or 'restore' the attribute and are based on the latest condition assessment for the feature. Some aspects of feature condition may be assessed as unknown. In these cases, a maintain target will be set as necessary. For attributes that have been assigned 'unknown' in the condition assessment, further information on feature condition and/or activities impacting the feature will be required to inform further advice. Each attribute target will need to be assessed on a case-by-case basis using the most current information available.

The conservation objective attributes that underpin the conservation objectives are used to measure if the objective is being met. This in turn can be used to see if site integrity is being maintained. Failure to meet any attribute means that the conservation objective is not being met and thus site integrity is not being maintained. Below is an example of a conservation objective and associated conservation objective attributes and targets.

Example Objective 1: The wintering population of the feature is stable or increasing relative to the site reference population.

Example Objective attribute	**Example Site specific target**
Wintering population	Maintain/restore the wintering population of feature at or above X individuals (mean peak population year-year).

The conservation objectives for Carmarthen Bay SPA are set out in Section 3. As noted in Section 1.2, NRW may refine these in the future as further information becomes available and increases our understanding of the feature.

The feature's conservation objective section provides:

1. A clear statement of each conservation objective for the feature.

2. A table summarising the attributes, and the targets for those attributes.

3. Supporting information that underpins the selection of the attributes and targets.

2. Roles and responsibilities

2.1. NRW's role

Under Regulation 5 of the Habitats Regulations, NRW is a Nature Conservation Body and, in relation to Wales, is the Appropriate Nature Conservation Body (ANCB).

In its role as the ANCB, NRW has a duty under Regulation 37(3) of the Habitats Regulations to advise relevant authorities in respect of a EMS as to:

(a) the conservation objectives for that site

(b) any operations which may cause deterioration of natural habitats or the habitats of species, or disturbance of species, for which that site has been designated (see Section 1.1).

Advice on operations which may cause deterioration, together with the conservation objectives, is designed to assist relevant authorities and other decision-makers in complying with their statutory duties under the Habitats Regulations. The advice on operations which may cause deterioration given in this document is without prejudice to other advice given. This includes the conservation objectives themselves, and other advice which may be given by NRW from time to time in relation to any specific operations.

"Operations" is taken to cover all types of human activity, irrespective of whether they are under any form of regulation or management. Thus, the advice contains reference to operations which may not be the responsibility of any of the relevant authorities.

NRW will provide additional advice for the site to relevant authorities and competent authorities to allow them to fulfil their duties under the Habitats Regulations. For example, by providing advice to a competent authority assessing the implications of plans or projects on the features of the EMS. Each plan or project will be judged on its own merits, and this will determine the nature of any additional advice required.

2.2. The role of competent and relevant authorities

The expressions used in this advice of "relevant authority" and "competent authority" are as defined in Regulation 3 of the Habitats Regulations. Relevant authorities are specified in Regulation 6 of the Habitats Regulations. Competent Authorities are specified in Regulation 7 of the Habitats Regulations.

Under Part 6 of the Habitats Regulations, all competent authorities must undertake a formal assessment of the implications that any new plans or projects may have on the designated features of a protected site. The implications must be assessed in the context of other plans and projects affecting the same site. Activities outside the site may also affect the features of the site, therefore, plans and projects located outside of a designated site may still need to be assessed.

In respect of the assessment provisions in Part 6 (assessment of plans or projects) of the Habitats Regulations, NRW is also the ANCB in relation to Wales.

The assessment provisions comprise several distinct stages which are collectively described as a Habitats Regulations Assessment (HRA), for which guidance is available. Before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and is not directly connected with or necessary to the management of that site, the competent authority must make an appropriate assessment of the implications of the plan or project for that site in view of that site's conservation objectives.

In light of the conclusions of the HRA and subject to derogation under Regulation 64, the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the EMS. In considering whether a plan or project will adversely affect the integrity of the site, the competent authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which it proposes that the consent, permission or other authorisation should be given.

Carrying out the HRA process is the responsibility of the decision maker as the competent authority. However, it is the responsibility of the applicant to provide the competent authority with the information that they require for this purpose.

The competent authority has a duty to consult the ANCB for the purposes of the assessment. Under Regulation 63(3) of the Habitats Regulations the competent authority must have regard to any representations made by the ANCB when reaching its decision.

Under Regulation 38(1) of the Habitats Regulations it states that, "*the relevant authorities, or any of them, may establish for a European marine site a management scheme under which their functions (including any power to make byelaws) are to be exercised so as to secure compliance with the requirements of the Directives in relation to that site".*

In other words, a group of relevant authorities, or any individual relevant authority, may create a management plan for an EMS. Management plans should be used to help relevant authorities carry out their duties to secure compliance with the Habitats Regulations. Only one management scheme may be made for each EMS. A management scheme may be amended. An authority which has established a management scheme must as soon as practicable thereafter send a copy of it to the ANCB. Any management plans created on this site should be guided by the advice in this package.

Within their areas of jurisdiction relevant authorities must have regard to both direct and indirect effects of an activity on the designated features of the site. This may include consideration of issues outside the boundary of the site. Nothing within a Regulation 37(3) package will require relevant authorities to undertake any actions to maintain or improve the condition of designated features if it is shown that the changes result wholly from natural causes.

NRW will continue to review any new evidence or information about this site and will provide further advice as appropriate. This does not stop relevant authorities from taking any appropriate conservation measures to prevent deterioration to the designated features. Such actions should be undertaken when required.

2.3. The purpose of conservation objectives

The purpose of the conservation objectives for an EMS is to help meet the obligations of the Habitats Regulations in relation to that site. They do this by supporting:

- **Communication**. The conservation objectives help convey to stakeholders what is needed to maintain or restore a feature in/to favourable condition.
- **Site planning and management**. The conservation objectives guide the development of management measures for sites. Achievement of conservation objectives may require management action to be taken inside or outside the site boundary.
- **Assessment of plans and projects**. The Habitats Regulations require the assessment of plans and projects in view of a site's conservation objectives. Subject to certain exceptions, plans or projects may not proceed unless it is established that they will not adversely affect the integrity of a site. Conservation objectives can help develop suitable compensatory measures.
- **Monitoring and reporting**. Conservation objectives provide the basis for defining the evidence that will be used for assessing the condition of a feature.

This document includes both a statement of the conservation objectives and explanatory text on their intent and interpretation specific to the site (supporting information).

2.4. The purpose of advice on operations

NRW must provide advice to relevant authorities about operations that may cause,

- deterioration of designated natural habitats
- deterioration of the habitats of designated species
- the disturbance of designated species

This is statutory advice required by Regulation 37(3)(b) of the Habitats Regulations when considering operations which may cause impacts to designated features. These are operations which could take place within or outside the boundary of the Carmarthen Bay SPA.

NRW can provide specific advice on existing activities and management, advising on the extent to which activities are consistent with the conservation objectives. This advice, together with the list of activities in Section 4 and the latest condition assessments should direct required management measures within a site.

2.5. When to use this advice

This advice should be used together with case-specific advice issued by NRW when developing, proposing or assessing an activity, plan or project that may affect the features of the site. Any proposal or operation that has the potential to affect a site must not prevent the achievement of the feature's conservation objectives. Any such prevention would amount to an adverse effect on the integrity of the site.

The advice given here is without prejudice to any advice which may be provided by NRW in relation to the consideration of individual plans or projects in the carrying out of the assessment provisions as defined in Part 6 of the Habitat Regulations.

2.6. Feature condition

NRW has a dedicated condition assessment process to assess feature condition. Each feature designated in Welsh EMS have their own set of performance indicators. These indicators have targets which are assessed with the most up to date evidence available. When all required indicator targets are met a feature is in favourable condition.

The condition assessment of a feature helps to determine if its conservation objectives are being achieved. Results determine if maintain or restore conservation objectives are needed. Appropriate management must be in place to enable conservation objectives to continue being met and for feature condition to be maintained or restored as required. The conservation objectives cannot be achieved if a feature is in unfavourable condition.

Feature condition is recorded in condition assessment documents. These are available on the NRW website. NRW will update this advice package when new condition assessment information is available.

2.6.1. Favourable conservation status and National Site Network

If features are in favourable condition, it is likely they are making an appropriate contribution to Favourable Conservation Status (FCS) of the feature at the UK level. A feature cannot make an appropriate contribution to FCS without meeting its conservation objectives. More information on FCS can be found in the joint statement from the UK Statutory Nature Conservation Bodies.

Regulation 16A of the Habitats Regulations creates the National Site Network on land and at sea, including both the inshore and offshore marine areas in the UK, and sets out the powers and duties of the appropriate authority (Welsh Government).

Information on how features in a site are meeting their conservation objectives will feed into the assessment of the National Site Network management objectives. The management objectives for the National Site Network are to maintain or restore designated SAC and SPA features to favourable conservation status across their natural range. More information on the UK National Site Network and its management objectives can be found on the gov.uk website.

3. Conservation objectives for Carmarthen Bay SPA

The conservation objectives for each designated feature are outlined in the sections below. Each objective is accompanied by objective attributes and targets (see Section 1.3) and supporting information specific to each objective.

The following terms are used in the conservation objectives.

Anthropogenic: In this document anthropogenic specifically relates to environmental changes caused or influenced by people, either directly or indirectly. NRW consider human influences to include climate change.

Maintain: Where existing evidence from the most recent condition assessment suggests the feature to be in favourable condition, the conservation objective is for the feature to remain in favourable condition.

Natural change: This is defined as species or habitat changes which are not a result of human influences.

Natural variability: This is defined as species or habitat variability, which are not a result of human influences.

Restore: Where existing evidence from the most recent condition assessment suggests the feature, or part of the feature, to be in unfavourable condition the conservation objective is to return the feature to favourable condition. As the feature is being returned to favourable condition, further decline in the aspects of condition that are causing it to be unfavourable should be prevented. The ability to achieve favourable condition should not be inhibited.

Significant anthropogenic disturbance: For anthropogenic disturbance on a species feature to be significant an action (alone or in combination with other effects) must impact on the species in such a way as to be likely to cause negative effects on the population associated with the site. For example, through changes to behaviour, distribution or abundance.

3.1. Feature 1: Common scoter *Melanitta nigra*

The common scoter *Melanitta nigra* feature in the Carmarthen Bay SPA is currently in **favourable** condition (medium confidence). NRW published the latest condition assessment in June 2025. NRW will review these conservation objectives when new condition assessment information is available.

Below are the attributes and targets for each conservation objective alongside supporting information.

Objective 1: The wintering population of common scoter is stable or increasing relative to the SPA target population.

Objective attribute	**Site specific target**
1a. Wintering population	Maintain the wintering population of common scoter at a minimum 5-year peak mean of 16,946 individuals across the SPA.

Supporting information

1a. Wintering population

Common scoter travel to Carmarthen Bay from breeding grounds across Europe, either a a stopping point to rest or to over winter.

The wintering population size of common scoter using Carmarthen Bay in February 2021 was estimated at 18,128 individuals. This likely represents the peak number of common scoters in the bay during the 2020/21 winter season. It is important to note this population estimate is well below the numbers in a previous count over the winter of 2016/17. However, peak counts between 1998/99 to 2020-21 (not all years available) suggest the abundance of common scoter in the bay is highly variable, (Banks et al 2004; WWT, 2012; APEM, 2017; 2021).

As the latest population estimate is above the required target the wintering population attribute is being met, allowing a maintain target to be set for objective 1a. For more information see the latest condition assessment (Hatton-Ellis et al., 2025).

Objective 2: The wintering common scoter using the SPA continue to have access to, and can utilise, habitats necessary to maintain the population in favourable condition.

Objective attribute	Site specific target
2a. Wintering population distribution	The distribution of the wintering common scoter population that use the SPA should not be significantly impacted by anthropogenic activity.
2b. Wintering population disturbance (by anthropogenic activity)	The wintering common scoter population that use the SPA should not be subject to significant.

Supporting information

2a. Wintering population distribution

This objective attribute seeks to ensure that common scoter can continue to access and use all areas within Carmarthen Bay SPA needed for feeding, moulting, roosting, loafing, shelter and any other activities necessary to support their survival.

The distribution of common scoters within Carmarthen Bay varies spatially and temporally, most likely due to local food availability, depth of water, weather and disturbance. However, birds are generally found throughout a 5 km wide band running from the northwest of the bay off Amroth and Saundersfoot to the east off Pembrey Sands, where the seabed is at 10 m depth or less (Banks et al 2004; WWT, 2012; APEM, 2017; 2021). This species is most often observed in water less than 20m deep due to the energetic cost of diving to the seabed to forage benthic prey (Kaiser et al., 2006).

Common scoter return to Carmarthen Bay in late July to early September. Common scoters reach a first, relatively small annual peak in abundance, in August / September, as birds return straight from their breeding grounds or from other staging areas. The birds may moult in the SPA during this time.

Throughout winter, common scoter numbers within Carmarthen Bay build up, with a second (and largest) peak usually occurring in January or February (Banks et al. 2007; McCormack et al., 2012). Numbers then fall as common scoter start their spring migration to breeding grounds. Spatial distribution of birds throughout Carmarthen Bay also change through the year. The timing of first arrival and eventual departure, as well as the timing of the two peaks in abundance, varies from year to year.

Feeding areas (based on distribution and abundance of prey species) of the common scoter in Carmarthen Bay have been identified. Preferred foraging areas lie in an area starting at Monkstone Point in the west, stretching off Saundersfoot and Amroth, to Pendine Sands in the east, and range in depth between 2 and 5 metres. A smaller number of birds have also been recorded in deeper water (12 to 16 m) off Rhossili Bay / Worm's Head (Banks et al 2004; WWT, 2012; APEM, 2017; 2021).

The wintering population distribution attribute is being met. For more information see the latest condition assessment (Hatton-Ellis et al., 2025).

2b. Wintering population disturbance (by anthropogenic activity)

Changes in the distribution of common scoter are most likely to be brought about through disturbance. Common scoter is a very shy species and sensitive to disturbance from human activity. Common scoter had the highest vulnerability score in relation to disturbance by offshore wind farm, ship and helicopter traffic when compared to 25 other sea bird species (Garthe and Huppop, 2004).

Large flocks of the birds have been observed putting to flight 2km from a 35m vessel, though smaller flocks were less sensitive and put to flight at 1km (Kaiser et al., 2006). Modelling of common scoter distribution in Liverpool Bay SPA showed the greater the ship size the larger the estimated impact on bird numbers in the vicinity (Burt et al., 2022).

Common scoter may be equally sensitive to other sources of non-physical disturbance, especially those creating noise and/or movement. Disturbance can cause birds to reduce or cease feeding in an area or to fly away from an area, i.e. be displaced. Even when these areas hold a high prey biomass (Kaiser et al., 2006).

While Carmarthen Bay is popular for recreational boat traffic the activity levels when the birds are present are not currently impacting the species, as the number of birds present is high and distribution across the site remains consistent. For more information see the latest condition assessment (Hatton-Ellis et. al., 2025).

Objective 3: The quality of habitat and abundance of food supply is sufficient to maintain the population of wintering common scoter that use the SPA in favourable condition.

Objective attribute	Site specific target
3a. Supporting habitat	Maintain sufficient extent, distribution, function and quality of habitat to support a common scoter population of 16,946 individuals.
3b. Food availability	Maintain the abundance and distribution of common scoter food supply at levels sufficient to support a wintering population of 16,646 individuals.

Supporting information

3a. Supporting habitat

Common scoter outside the breeding period, predominantly use marine environments, resting and feeding in flocks in shallow, inshore waters, generally 500 m to 2 km from land, where depth is not more than 10–20 m and food is abundantly accessible (BWPI, 2004). The propensity of common scoter for shallow areas of fine sand in Carmarthen Bay is linked with the ecology of the benthic communities on which they feed. The link between

common scoter distribution and depth is directly connected with the energetic cost of diving when feeding (Kaiser et al., 2006).

The supporting habitat is sufficient to support a common scoter population of at least 16,946 individuals and there no reason to believe that supporting habitat is limited or has reduced. Therefore the supporting habitat attribute is being met, allowing a maintain target to be set for objective 3a. For more information see the latest condition assessment (Hatton-Ellis et. al., 2025).

3b. Food availability

Common scoters are diving ducks that feed on benthic prey species. They feed predominately on cockles, clams, other bivalves, but will also eat a variety of other molluscs, crustaceans, and worms. As benthic feeders, the quality of common scoters diet is closely linked with the availability and condition of their shallow seabed habitat.

Common scoter prey resources in Carmarthen Bay were found to consist of two communities. A shallow water community off Pembrey Sands and around the mouth of the Loughor estuary is characterized by high bivalve biomass (*Chamelea striatula, Donax vittatus, Abra Alba, Fabulian fabula and Thracia sp*)(NRW, 2024). Secondly, areas below 5 meters in depth in the west of the bay containing the *Tellina* community and more equal proportions of epifauna and bivalve biomass (Woolmer et al., 2003). They are, however, opportunistic in their diet and will often exploit whatever mollusc happens to be the most locally abundant, suitable prey resource.

There is no reason to believe the distribution and abundance of common scoter prey is not sufficient to support the target population of 16946 individuals. The prey availability indicator is being met, allowing a maintain target to be set for objective 3b. For more information see the latest condition assessment (Hatton-Ellis et. al., 2025).

4. Advice on operations

NRW must provide advice to relevant authorities about operations that may cause,

- deterioration of designated natural habitats
- deterioration of the habitats of designated species
- the disturbance of designated species

This is statutory advice required by regulation 37(3b) of the Habitats Regulations.

This advice is to help relevant authorities direct and prioritise their management of activities that are of greatest threat to the features of the site. The advice given here is without prejudice to any advice provided in relation to the consideration of plans or projects within the meaning of Part 6 of the Habitat Regulations.

Activities operating at distance from the site may cause pressures that travel into the site. These external pressures may affect features within the site.

4.1. Operations which may cause deterioration or disturbance to the features of the site

Table 2 lists activities that have the potential to deteriorate or disturb the designated features of Carmarthen Bay SPA and if they are known to occur within the SPA.

This list of operations is not exhaustive. If an operation or activity is not listed in Table 2 it does not mean it does not have the potential to deteriorate the features of the site. Activities occurring outside the site may still have the potential to impact the features within the site. The occurrence information was correct at time of publication, but activities may have ceased or started since. Advice on individual operations should be sought on a case-by-case basis.

Additional information on activities can be found on the Natural England's designated sites website and Marine Scotland's Feature Activity Sensitivity Tool (FEAST). It is important to note that NRW has not agreed sensitivity thresholds with either Natural England or Nature Scot and the information should be used as a general guide. Specific advice on operations should be sought from NRW on a case-by-case basis.

Table 2. Advice on operations for Carmarthern Bay SPA.

Operation/Activity	Occurrence in SPA
Dredging: Construction and maintenance	There are small to medium-scale harbour facilities at Llanelli, Burry Port, Tenby and Saundersfoot, with some approaches and navigations channels being maintenance-dredged intermittently.
Shipping: Vessel traffic and maintenance (including antifouling)	Large vessel traffic passes outside of Carmarthen Bay. Commercial boats are fishing vessels and tourist boats.
Shipping: anchoring (commercial)	Not occurring in the SPA.
Shipping: Conventional and accidental discharges. (Including ballast water discharge, refuse, sewage, operational, petrochemical, cargo losses and salvage)	Possibly occurs in the waters adjacent to SPA, likely low level in site as not on main shipping routes. Ballast water convention now in force.
Coast protection: Hard defences (including sea walls, breakwaters, railways and foreshore deposit of rock, rubble etc.)	Present in the site, including sea walls, rock armour, gabions and groynes They bound significant stretches of the bay and its estuaries. In addition, protection of coastal railway tracks that straddle the north coast of the Burry Inlet between Llanelli and Burry Port, and between Kidwelly and Ferryside, also act as coastal defences.
Coast protection: Soft defences (including groynes, beach replenishment etc)	Present in the site. Beach replenishment primarily at Tenby.
Coast protection: Barrages (including storm surge, tidal and amenity)	Not currently present in the SPA.
Artificial reef	Not currently present in the SPA.
Hard-engineered freshwater watercourses	Widespread on coast adjacent to SPA boundary.
Power station	Not currently present in the SPA.
Pipelines	Widespread throughout the SPA.
Power / communication cables	Widespread throughout the SPA.

Operation/Activity	Occurrence in SPA
Effluent disposal: disposal of sewage, chemical, thermal and sludge dumping. Not CSOs.	NRW and DCWW datasets available on locations and inputs on the coast adjacent to the SPA. No thermal or sludge disposal.
Miscellaneous wastes and debris	Litter present in the sea from various sources. Risk from historical landfill.
Run-off: Agricultural, urban and industrial run-off	Urban and industrial run-off is widespread and common around coastal populations and industry. All forms of run off from the coast into the waters of the SPA.
Fishing: All trawling (Including beam, otter, toothed and any trawled gear)	May occur within the SPA. Intensity, location and intensity information is unknown.
Fishing: All dredging (including toothed, bladed, mechanical, hydraulic and any other gear not listed)	May occur within the SPA. location and intensity information is unknown, though the SAC is closed to scallop dredging.
Fishing: All netting (including gill, tangle, trammel, seine, fyke and any other fishing with netted gear)	May occur within the SPA. Location and intensity information is unknown.
Fishing: All potting (including lobster, crab, prawn, and any other fishing with pots)	Occurs in the site. Location and intensity information is unknown.
Fishing: All line fishing (including long-line and handline)	May occur within the SPA. Location and intensity information is unknown.
Fishing: All methods of hand gathering (including cockles, mussels, mussel seed, razor clam, winkles, algae and plants four human consumption and chemical extraction and biomass (excluding access issues)	A regulated cockle fishery operates within the boundary of the SPA. Mussel fishery and mussel seed collection, both in and around Whiteford. Razor clams and lava bread are gathered intertidally.
Fishing: Bait collection commercial and recreational (including digging, pump, boulder turning etc)	May occur within the SPA. Location and intensity information is unknown.
Aquaculture: All forms of aquaculture (includes sea weed and shellfish).	Not currently present in the SPA.

Operation/Activity	Occurrence in SPA
Aggregate extraction (including mineral and biogenic sands and gravels)	Occurs adjacent to SPA
Oil and gas exploration: All oil and gas exploration activity (including seismic survey, drilling and discharges both operational and accidental)	Not currently present in the SPA.
Renewable energy generation: All forms of renewable energy (including tidal barrage and impoundments, tidal and wave energy, offshore wind both fixed and floating).	Not currently present in the SPA.
Oil spill response: All activities of responding to oil spills at sea and on shore (including chemical, physical and access).	Reactive in case of emergencies.
Recreation: Fishing (e.g. angling and spearfishing).	Widespread throughout the SPA.
Recreation: Boating (e.g. power craft, sailing, canoeing, surfing, kite surfing, paddle boarding, Scuba diving, snorkelling etc).	Widespread throughout the SPA. Jet skis have been reported disturbing and deliberately targeting birds on the Burry Inlet side of the Bay.
Recreation: Light aircraft	Numerous airstrips in the surrounding area, light aircraft flying over the SPA and foraging areas. Drones possible.
Recreation: Wildfowling	Five licenced wildfowling clubs in operation in the adjacent SAC. Reports of wildfowling on private land outside but adjacent to SPA.
Recreation: Marine wildlife watching / eco-tourism	Tourist boats out of Tenby.
Military activity: All forms of military activity (including ordnance ranges, marine exercises, aircraft etc)	Pendine Ministry of Defence firing range.
Marine archaeology and salvage	No data available. Potential to occur in the SPA.

Operation/Activity	Occurrence in SPA
Science and outreach: Education	Occurs within the site but location and intensity information are unknown.
Science and outreach: Animal welfare operations and sanctuaries	Occurs within the site but location and intensity information are unknown.
Science and outreach: Science research	Occurs within the site but location and intensity information are unknown.

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Appendix 1: Additional Conservation interest.

Special Areas of Conservation (SACs) that are partly or wholly within the SPA:

- Bae Caerfyrddin ac Aberoedd/ Carmarthen Bay and Estuaries
- Bristol Channel Approaches / Dynesfeydd Môr Hafren

Sites of Special Scientific Interest (SSSIs) that are partly or wholly within the SPA:

- Arfordir Saundersfoot - Telpyn / Saundersfoot - Telpyn Coast
- Arfordir Marros-Pentywyn / Marros-Pendine Coast
- Twyni Lacharn - Pentywyn / Laugharne - Pendine Burrows
- Aber Taf / Taf Estuary
- Arfordir Pen-bre / Pembrey Coast
- Twyni Chwitffordd, Morfa Landimor a Bae Brychdwn / Whiteford Burrows, Landimore Marsh and Broughton Bay
- Waterwynch Bay to Saundersfoot Harbour