

Carmarthenshire County Council

Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material

Habitats Regulations No Significant Effects Report

September 2025

Project Nr

682

The Bates Partnership
Beech Croft, 7 Hen Parc Lane
Upper Killay, Swansea
SA2 7EY, UK

tel: +44 1934 732380

e-mail: info@thebatespartnership.com

web: www.thebatespartnership.com



Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Client: Carmarthenshire County Council
Project: Burry Port Harbour – Maintenance Dredging and Disposal of Dredged Material
Title: Habitats Regulations No Significant Effects Report

Prepared by:

Reviewed by:

DRAFT	NAME	NAME
	S Challinor	M Maloney
DATE	SIGNATURE	SIGNATURE
28/08/2025		

Prepared by:

Reviewed by:

FINAL	NAME	NAME
	S Challinor	M Maloney
DATE	SIGNATURE	SIGNATURE
11/09/2025		

The Bates Partnership is the trading name of Anthony D Bates Partnership LLP. This report, and information or advice which it contains, is provided by Anthony D Bates Partnership LLP solely for internal use and reliance by its Client in performance of Anthony D Bates Partnership LLP's duties and liabilities under its contract with the Client. Any advice, opinions, or recommendations within this report should be read and relied upon only in the context of the report as a whole. The advice and opinions in this report are based upon the information made available to Anthony D Bates Partnership LLP at the date of this report and on current UK standards, codes, technology and construction practices as at the date of this report. This report has been prepared by Anthony D Bates Partnership LLP in their professional capacity as Consulting Engineers. The contents of the report do not, in any way, purport to include any manner of legal advice or opinion. This report is prepared in accordance with the terms and conditions of Anthony D Bates Partnership LLP's contract with the Client. Regard should be had to those terms and conditions when considering and/or placing any reliance on this report.

This report is copyright © Anthony D Bates Partnership LLP.



Table of Contents

1	Introduction.....	3
1.1	Background.....	3
2	Project Definition	3
2.1	Burry Port Harbour	3
2.2	Previous Maintenance Dredging Activities.....	4
2.3	Proposed Maintenance Dredging and Deposition Activities	5
2.4	Other Plans and Projects	8
3	Screening Assessment	10
3.1	Introduction	10
3.2	Screening of European Sites.....	10
3.3	Summary Descriptions of relevant European Sites.....	11
3.4	Screening of Potential Effects	13
3.5	Screening Assessments of Potential Effects	14
3.6	Findings	14
4	References	20



1 Introduction

1.1 Background

- 1.1.1 Carmarthenshire County Council (CCC) are proposing to undertake maintenance dredging at Burry Port Harbour to restore the required water depths. Maintenance dredging will remove predominantly sand material from the Approach Channel and Outer Harbour using excavators and will deposit this material on the upper foreshore of the beach to the east of the harbour (known as Burry Port East Beach) using dumper / tipper trucks. These activities will be undertaken in 'dry conditions' when the tide is sufficiently low. Coastal processes - particularly wave action, on subsequent high tides - will distribute the deposited material across a larger area of the beach. By taking this approach, the sand material will be retained within the same sediment cell from where it originated, which is the generally preferred dredged material management option set out in the Welsh National Marine Plan (Welsh Government, 2019).
- 1.1.2 CCC as the statutory harbour authority (SHA) have powers conferred by the Burry Port Harbour Revision Order 2000 (hereafter referred to as 'the 2000 HRO') to undertake maintenance dredging, but need a marine licence granted by Natural Resources Wales (NRW) under the Marine & Coastal Access Act 2009 to undertake the deposit of dredged material on the adjacent beach.
- 1.1.3 Maintenance dredging of the Approach Channel and Outer Harbour and associated deposition on Burry Port East Beach will take place within and/or adjacent to the high tide boundaries of the Carmarthen Bay and Estuaries Special Area of Conservation (SAC) and the Burry Inlet Special Protection Area (SPA) and Ramsar site. Given the proximity of the dredging and deposition activities to these sites' boundaries, the marine licence application will be subject to a Habitats Regulations Assessment (HRA) in accordance with the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations'). Accordingly, this HRA No Significant Effects Report (NSER) has been prepared by The Bates Partnership (TBP) on behalf of CCC to present a screening assessment showing that, on the basis of objective information and scientific evidence, the proposed dredging and deposition activities either alone or in combination with other plans and projects are not likely to have a significant effect on the SAC and/or SPA.

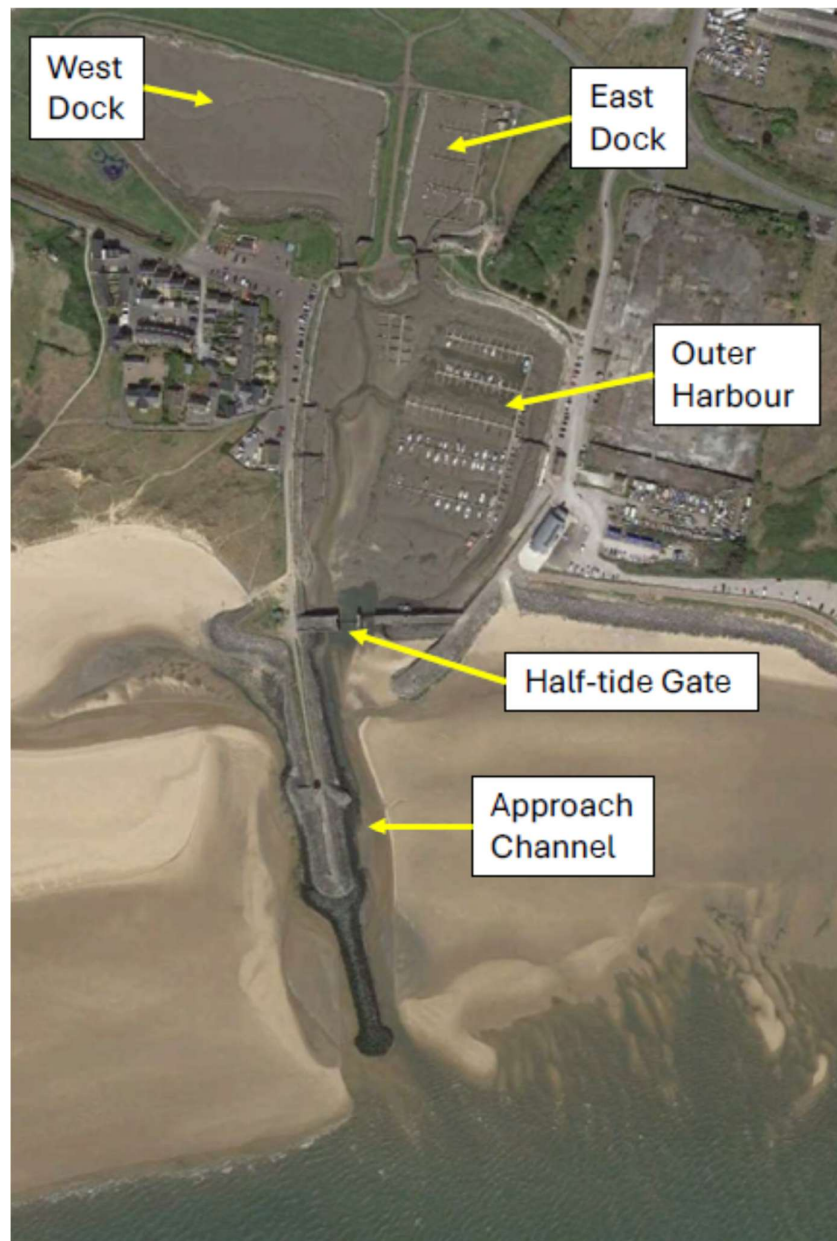
2 Project Definition

2.1 Burry Port Harbour

- 2.1.1 Burry Port Harbour is situated on the northern bank of the Burry Inlet (the River Loughor's estuary), approximately 5km west of Llanelli. It comprises an Outer Harbour and an inner West Dock and East Dock and a half-tide gate, is protected by two breakwaters, and is accessed by boats via an Approach Channel aligned parallel to the western breakwater (**Figure 1**). The half-tide gate was constructed at the entrance of the Outer Harbour in 2000 to impound water within the Outer Harbour so that boats remain afloat irrespective of tidal conditions.



Figure 1 – Layout of Burry Port Harbour



2.2 Previous Maintenance Dredging Activities

- 2.2.1 Since construction of the half-tide gate, the Approach Channel has experienced progressive infill of sand originating from the adjacent foreshore. Sand that has accumulated in the Approach Channel can overtop the sill of the half-tide gate when open and migrate into the Outer Harbour during periods of high flow and high wave activity. This sand settles out in the more benign conditions in the Outer Harbour, reduces the water depth, and causes significant access and egress problems for boat users.



- 2.2.2 The Approach Channel and Outer Harbour have been subject to a series of maintenance dredging campaigns. In 2010, the Outer Harbour was dredged using a Cutter Suction Dredger (CSD) and the dredged material was pumped and discharged onto the upper foreshore of Burry Port East Beach. Since 2012, the Outer Harbour and Approach Channel have been dredged using land-based plant (e.g., excavators), with each campaign removing approximately 20,000-25,000m³ per annum from the Approach Channel and approximately 6,000-10,000m³ per annum from the Outer Harbour.
- 2.2.3 The dredged material has been transported by pipeline or by truck and deposited onto upper foreshore area of Burry Port East Beach. Relocating the predominantly sandy material to the adjacent beach has retained the material within the same sediment cell from where it originated. This has helped to maintain the amount of natural beach material that offers protection to the historic pulverised fuel ash (PFA) deposits located along the shoreline on this part of the beach and has helped to protect the eroding shoreline behind this part of the beach.

In 2017, CCC carried out a trial using Water Injection Dredging (WID) to remove approximately 5,000m³ of silty material from the Outer Harbour to Burry Inlet on the falling tide. Relocating the predominantly silty material to the estuary has retained the material within the same sediment cell from where it originated. Since 2017, WID has been used periodically in the Outer Harbour to relocate accumulations of silty material back into Burry Inlet.

2.3 Proposed Maintenance Dredging and Deposition Activities

Dredging and Deposition Locations

- 2.3.1 Maintenance dredging will be undertaken to remove sand material that has accumulated within the Approach Channel and Outer Harbour. The dredged material will be deposited within a placement area on the upper foreshore of Burry Port East Beach, but only within the area below mean high water on spring tides (MHWS). The locations and coordinates for the Approach Channel and Outer Harbour dredging areas and the Burry Port East Beach deposit area are provided at **Appendix 1**.

Dredged Material Characteristics

- 2.3.2 In line with NRW sample plan SP2501, sediment samples were collected from nine sampling locations: three locations in dredging area of the Approach Channel, five locations in the dredging area of the Outer Harbour, and one location in the deposit area on Burry Port East Beach. Sediment samples were taken at the surface (i.e., 0m) and at 1m intervals down to the required dredge depth, which required sampling down to 3m for the dredging areas in the Approach Channel and Outer Harbour, and sampling at the surface for the deposition area on Burry Port East Beach. The sampling locations are presented at **Appendix 2**.
- 2.3.3 Particle size analysis was undertaken on the sediment samples to determine the distributions of sediment sizes and proportions of dominant sediment types (i.e., gravel, sand and silt). The particle size distributions and corresponding dominant sediment types are presented at **Appendix 3**.



- 2.3.4 Particle size analysis determined that the sediment samples are characterised by the following dominant sediment types across the dredging and deposition locations:
- Sand within the Approach Channel, southwestern part of the Outer Harbour and deposition area on Burry Port East Beach.
 - Silty sand / sandy silt material within the central part of the Outer Harbour.
 - Silt material in the northeastern part of the Outer Harbour.
- 2.3.5 Particle size analysis showed that the sand material in the dredging areas to be virtually the same as the sand material at the deposit area with all but one of the sediment samples containing more than 97.5% sand. This correlation is to be expected as the beach material is believed to be the principal source of the material that accumulates in the Approach Channel and Outer Harbour.
- 2.3.6 Chemical analyses were undertaken on the sediment samples to determine concentrations of a range of potentially contaminating substances. The concentrations for metals, organotin compounds and polyaromatic hydrocarbons (PAHs) are presented at **Appendix 4**. The concentrations of contaminants in the sediment have been compared to sediment quality criteria to indicate whether the proposed dredging and disposal activities have the potential to adversely affect the receiving environment. The principal sediment quality criteria are the 'Cefas action levels' (Cefas Action Level 1 (cAL1) and Cefas Action level 2 (cAL2)), which are used to inform marine licence applications about the suitability of sediment for disposal at sea. Generally, sediment with contaminant concentrations below cAL1 is considered suitable for disposal at sea.
- 2.3.7 Cefas action levels are partially available (cAL1 but no cAL2) for some contaminants including PAHs. Accordingly, other sediment quality criteria including the 'US effects ranges' (effects range low (ERL) and effects range median (ERM)) can be used to inform marine licence applications about the suitability of sediment for disposal at sea; albeit on an advisory basis because the other criteria have no legal or policy standing in the UK. Generally, sediment with contaminant concentrations below the ERL is considered unlikely to cause harm to marine life (Long et al., 1995; McDonald et al., 1996, Gorham-Test, 1998) and, by implication, is considered suitable for disposal at sea.
- 2.3.8 Chemical analyses determined that the sediment samples representing the dredged material in the Approach Channel and Outer Harbour and the deposition area on Burry Port East Beach are characterised by contaminants at concentrations below cAL1 and/or the ERL (**Appendix 4**).
- 2.3.9 Given the results of the particle size analysis and chemical analyses, the sediment in the Approach Channel and Outer Harbour should be suitable for deposit on Burry Port East Beach: notably, it should not change the physical and chemical characteristics of the existing beach material on Burry Port East Beach.

Dredging and Deposition Methods

- 2.3.10 The intended method for dredging the sand material will involve land-based plant including excavators supported by dumper / tipper trucks working on the beach in 'dry' conditions when the tide has receded sufficiently. The excavators will remove the sand material from the Approach Channel and Outer Harbour and place it within trucks parked immediately adjacent to the dredging activity.
- 2.3.11 The deposition method will involve land-based plant including dumper / tipper trucks working on the upper beach in 'dry' conditions when the tide has receded sufficiently. The trucks will transport the material eastwards across the beach and place it within the



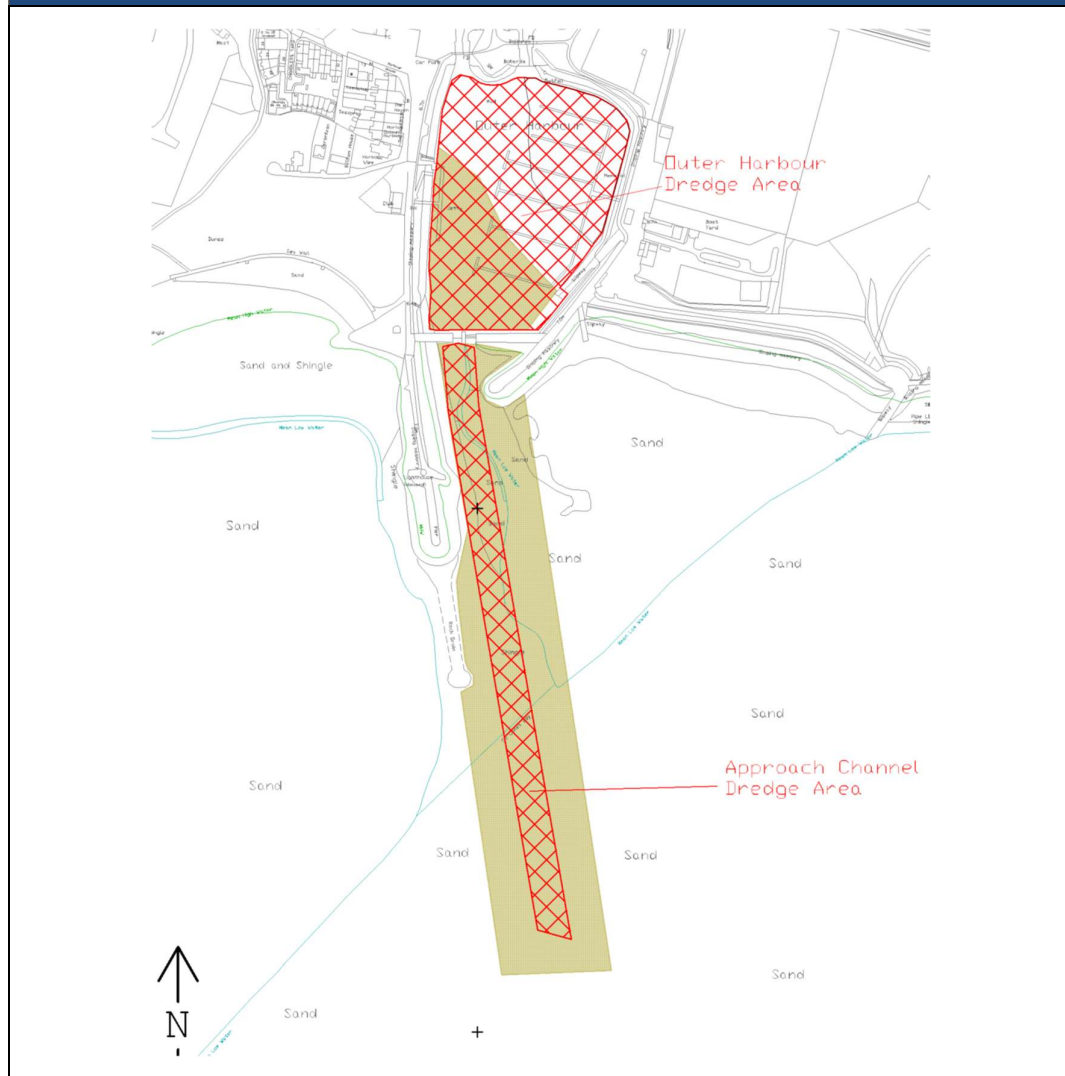
deposit area below MHWS. Following deposition, coastal processes - particularly wave action, on subsequent high tides - will distribute the deposited material across a larger area of the beach. This approach will retain the deposited dredged material within the sediment cell from where it originated.

Dredging and Deposition Programme

- 2.3.12 Maintenance dredging of the Approach Channel and/or Outer Harbour and deposition on Burry Port East Beach is proposed to take place over a series of campaigns over the next ten years. The maximum volume of sand material to be dredged and deposited within each 12-month period will be 70,000m³.
- 2.3.13 The first campaign is expected to dredge up to 70,000m³ of sand from the length of the Approach Channel and southwestern part of the Outer Harbour, as shown in **Figure 2**. Given historical maintenance dredging requirements, subsequent campaigns are expected to dredge and deposit less than 70,000m³ of sand and be focussed on the Approach Channel and southwestern part of the Outer Harbour.
- 2.3.14 For each campaign, dredging and deposition of material is expected to be undertaken for approximately 7 hours per day (3 to 3.5 hours either side of low water), 7 days per week. The dredging rate is expected to be approximately 1,500m³ per day, if using two dredge spreads (i.e., 2 excavators and 4 dumper trucks), equating to approximately 47 days (±5 days) to remove approximately 70,000m³ of sediment to restore the bed depth within the Approach Channel to -2mOD and Outer Harbour to -1.5mOD. Depending on the tidal states at the time, the dredging and deposition activity may not all be completed in one continuous period but may be split into two or more campaigns to make best use of the most suitable tides and daylight hours.



Figure 2 – Indicative Extent of Dredging Activity during the First Campaign (red hatched area)



2.4 Other Plans and Projects

Development subject to Planning Control

- 2.4.1 Reference to CCC's online planning information (carmarthenshire.gov.wales; accessed 26-08-2025) identifies that several planning applications have been granted for development at and around Burry Port Harbour and along the adjacent coastline.
- 2.4.2 These applications include various construction works and maintenance works to the harbour's walls, breakwater and slipway, and to the revetment protecting the shoreline behind Burry Port East Beach. These works have been undertaken and are integrated into the baseline conditions.
- 2.4.3 These applications also include a new lifeboat station and opportunities for residential, commercial, retail, leisure and tourism developments to regenerate Burry Port Harbour. The new lifeboat station is in place but the other developments in and around the harbour are yet to be realised. These developments include proposed upgrades to the marina



infrastructure within and alongside the Outer Harbour, potentially including the installation of boat lifting equipment and diesel fuelling facilities, maintenance and upgrade of pontoons, a new marina office, and installation of shower / toilet facilities and a café / restaurant within the former RNLI building. These developments will be subject to the granting of planning permission (and marine licences, where required). For the purposes of this HRA NSER, these developments are assumed to overlap in time and/or space with the proposed dredging and disposal activities and, therefore, are assumed to have the potential for in-combination effects. For the purposes of this HRA NSER, these developments considered likely to overlap in space and/or time with the proposed dredging and disposal activities and, therefore, have the potential for in-combination effects.

Activities subject to Marine Licensing

- 2.4.4 Reference to NRW's public register (publicregister.naturalresources.wales; accessed 26-08-2025) identifies that very few marine licence applications have been granted for works at and around Burry Port Harbour and along the adjacent coastline.
- 2.4.5 These applications include site investigation works and construction works for the slipway at Burry Port Harbour and for a tidal flap valve repairs at RAF Pembrey. These works have been undertaken and are integrated into the baseline conditions.

Other Activities

- 2.4.6 In addition to the proposed dredging and disposal activities to remove sand material from the Approach Channel and Outer Harbour (as described above in **Section 2.3**), CCC are likely to undertake additional maintenance dredging in the future to remove silt material from the Outer Harbour. Unlike the dredging methodology to be used for the proposed dredging and disposal activities (as described above in **Section 2.3**), CCC are likely to remove silt material using WID; a dredging method that injects water into the seabed to fluidise the upper sediment and create a density current that flows to deeper water areas under the influence of gravity and/or currents on falling tides. WID has been used previously to remove silt from the Outer Harbour into the open water area of Burry Inlet on several occasions since 2017 (as described above in **Section 2.2**). Like the proposed dredging and deposition activities, the future WID activity will retain silt within the same sediment cell from where it originated, which is the generally preferred dredged material management option set out in the Welsh National Marine Plan (Welsh Government, 2019).
- 2.4.7 Spatially, the proposed dredging and disposal activity will remove sand from the Approach Channel and southwestern part of the Outer Harbour and deposit the sand on the upper intertidal area of Burry Port East Beach, whereas the future WID activity will remove silt from the northeastern part of the Outer Harbour and mobilise it to the subtidal open water area of Burry Inlet. Temporally, the programme for future WID activity is not known at the time of preparing this HRA NSER; however, WID is very likely to occur sometime after the proposed dredging and disposal activities have removed the sand material from the Approach Channel and Outer Harbour because this will facilitate the flow of the density current from the Outer Harbour, down the Approach Channel and into Burry Inlet. For the purposes of this HRA NSER, the future WID activity is considered unlikely to overlap in space and/or time with the proposed dredging and disposal activities and, therefore, does not have the potential for in-combination effects.



3 Screening Assessment

3.1 Introduction

- 3.1.1 This screening assessment considers whether the proposed dredging and deposition activities could have a 'likely significant effect' on a European site(s) either alone or in combination with other plans or projects such that they need to be subject to an appropriate assessment in accordance with the provisions of the Habitats Regulations.

3.2 Screening of European Sites

European Sites screened into the Screening Assessment

- 3.2.1 There are several European sites situated within five kilometres of the proposed dredging activity at Burry Port Harbour and/or the proposed deposit activity at Burry Port East Beach, namely:
- Carmarthen Bay and Estuaries SAC.
 - Burry Inet SPA and Ramsar site.
 - Carmarthen Bay Dunes SAC.
 - Carmarthen Bay SPA.
 - Bristol Channel Approaches SAC.
- 3.2.2 Screening the potential for the proposed dredging and/or deposition activities to have discernible effects on one or more of these sites has been informed by a coastal processes assessment (TBP, 2025). The coastal processes assessment found:
- Dredging and deposition activities will have no potential to disturb and release sediment into the water column and, therefore, no potential to cause changes in suspended sediment concentrations and sediment deposition or smothering rates.
 - Dredging and deposition activities will have some potential to change seabed levels within a maximum distance of five times their footprints through the formation of pits (due to dredging) and mounds (due to deposition) but will not cause changes to patterns of currents and waves, sediment transport and/or seabed morphology that are discernible over baseline conditions.
- 3.2.3 On this basis, the coastal processes assessment concluded that the proposed dredging and deposition activities have the potential to cause changes to marine and coastal physical processes within a maximum of five times their footprints, although these changes are unlikely to either directly or indirectly impact on Burry Inlet's features, including coastal habitats and coastal ecology.
- 3.2.4 The following European sites are situated within the impact footprints of the dredging and/or deposition activities (as identified in TBP, 2025) and, therefore, are screened into the screening assessment:
- Carmarthen Bay and Estuaries SAC.
 - Burry Inet SPA and Ramsar site.
- 3.2.5 Brief descriptions of the Carmarthen Bay and Estuaries SAC and the Burry Inet SPA, including their qualifying features and conservation objectives, are provided below. Given that the boundaries and qualifying features of the Ramsar site are the same as its SPA counterpart, this screening assessment hereafter only refers to the SPA.



3.2.6 The following European sites are situated well beyond the impact footprints of the dredging and/or deposition activities (as identified in TBP, 2025) and, therefore, are not considered further in the screening assessment:

- Carmarthen Bay Dunes SAC.
- Carmarthen Bay SPA.
- Bristol Channel Approaches SAC.

3.3 Summary Descriptions of relevant European Sites

3.3.1 The following descriptions for the Carmarthen Bay and Estuaries SAC and Burry Inlet SPA have been drawn from information included within the sites' citations and the Regulation 33 advice for the Carmarthen Bay and Estuaries European Marine Site (CCW, 2009).

Carmarthen Bay and Estuaries SAC

3.3.2 The SAC is a large site (66,092.05 hectares) encompassing the estuaries of the Rivers Loughor, Tâf and Tywi (coastal plain estuaries) and the Gwendraeth (a bar-built estuary). There are extensive areas of intertidal mudflats and sandflats with large areas of these flats dominated by bivalves. Carmarthen Bay is an extensive shallow bay with a wide variety of seabed types, including mud, sand and rock, although the majority of the seabed is sandy. The SAC includes Helwick Bank, a linear shallow subtidal sandbank that is unusual in being highly exposed to wave and tidal action. The Burry Inlet and Three Rivers system provides a migratory route for salmonids, lampreys and shad.

3.3.3 The SAC is a multiple interest site which has been selected for the presence of the following features:

- Estuaries.
- Mudflats and sandflats not covered by seawater at low tide.
- Atlantic saltmeadows (*Glauco-Puccinellietalia maritimae*).
- Salicornia and other annuals colonising mud and sand.
- Large shallow inlets and bays.
- Sandbanks which are slightly covered by sea water all the time.
- Allis shad (*Alosa alosa*).
- Twaite shad (*Alosa fallax*).
- River lamprey (*Lampetra fluviatilis*).
- Sea lamprey (*Petromyzon marinus*).
- Otter (*Lutra lutra*).

3.3.4 The features are distributed throughout the SAC with no single feature occupying the entire SAC and with features overlapping in some locations.

3.3.5 According to the Regulation 33 advice (CCW, 2009), to achieve favourable conservation status, all the following objectives, subject to natural processes, need to be fulfilled and maintained in the long-term:

- In terms of range, the overall distribution and extent of the habitat features within the site, and each of their main component parts is stable or increasing.
- In terms of structure and function: the physical biological and chemical structure and functions necessary for the long-term maintenance and quality of the habitat are not degraded. Important elements include geology, sedimentology, geomorphology, hydrography and meteorology, water and sediment chemistry, and biological interactions. This includes a need for nutrient levels in the water column and sediments to be at or below existing statutory guideline



concentrations, within ranges that are not potentially detrimental to the long-term maintenance of the features species populations, their abundance and range.

- In terms of qualifying species: the presence, abundance, condition and diversity of typical species is such that habitat quality is not degraded. Important elements include species richness, population structure and dynamics, physiological health, reproductive capacity, recruitment, mobility and range.

Burry Inlet SPA

- 3.3.6 Burry Inlet is a large estuarine complex (6,672.95 hectares) that it includes extensive areas of intertidal sandflats and mudflats, together with large sand dune systems at the mouth of the estuary. The site contains the largest continuous area of saltmarsh in Wales (2,200 ha). The estuary experiences wide tidal fluctuations (about 8m), which has the consequence of exposing a large extent of intertidal sediments on a regular basis. These are mostly sandy, but muddy substrates are to be found in more sheltered areas. The plethora of habitats provides for important feeding grounds and resting areas. In places, the extensive mud and sandflats support substantial populations of marine invertebrate species, which provide an important food source for the large numbers of overwintering waterfowl found there.
- 3.3.7 The SPA qualifies under Article 4.2 of the Directive as it is used regularly by 1% or more of the biogeographic population of regularly occurring migratory species:
- Knot (*Calidris canutus*).
 - Oystercatcher (*Haematopus ostralegus*).
 - Pintail (*Anas acuta*).
 - Redshank (*Tringa tetanus*).
- 3.3.8 The area qualifies under Article 4.2 of the Directive by regularly supporting an assemblage of at least 20,000 waterfowl, including:
- Curlew (*Numenius arquata*).
 - Dunlin (*Calidris alpina alpina*).
 - Grey plover (*Pluvialis squatarola*).
 - Shelduck (*Tadorna tadorna*).
 - Shoveler (*Anas clypeata*).
 - Teal (*Anas crecca*).
 - Turnstone (*Arenaria interpres*).
 - Wigeon (*Anas penelope*).
- 3.3.9 The supporting habitats for bird species and the assemblage of the Burry Inlet SPA include:
- Estuaries.
 - Mudflats and sandflats not covered by seawater at low tide.
 - Atlantic salt meadows.
 - Salicornia and other annuals colonising mud and sand.
- 3.3.10 According to the Regulation 33 advice (CCW, 2009), to achieve favourable conservation status, all the following objectives, subject to natural processes, need to be fulfilled and maintained in the long-term:
- The numbers of all SPA bird species are stable or increasing.
 - The abundance and distribution of suitable prey are sufficient and appropriate to support the numbers of all SPA bird species.
 - All SPA birds are allowed to inhabit their feeding grounds and resting areas with minimum disturbance, and are allowed to move unhindered between them.



- All states of the Conservation Objectives for the supporting habitats and species, subject to natural processes, are fulfilled and maintained in the long-term.
- The management and control of activities or operations likely to be of significant effect to the oystercatchers, is appropriate for maintaining the feature at favourable conservation status (FCS) and is secure in the long-term.

3.4 Screening of Potential Effects

- 3.4.1 The first step for screening was to identify the types of effects that could arise due to the proposed dredging and/or deposition activities. This step in the screening process was informed by the Regulation 33 advice which identifies the operations or activities which may have an effect on the features within the European sites (although this advice does not imply an actual or causal effect) (CCW, 2009). The Regulation 33 advice on the potential for maintenance dredging and coast protection by beach replenishment to have a significant effect on the European site features is presented in **Table 1**.
- 3.4.2 For the purposes of screening, the proposed dredging and deposition activities have been aligned to the Regulation 33 advice as follows:
- The proposed dredging activity has been aligned to the Regulation 33 advice on 'maintenance dredging'.
 - The proposed deposition activity has been aligned to the Regulation 33 advice on 'coast protection by beach replenishment'.
- 3.4.3 The second step for screening was to identify which of the effects identified in **Table 1** could arise due to the proposed dredging and/or deposition activities. This step in the screening process was informed by the spatial habitat distributions included in the supporting information on habitat distributions included within the Fourth Article 17 UK Habitats Directive Report (JNCC, 2019) (**Appendix 5**) and the British Trust for Ornithology (BTO) low water counts for Burry Inlet (Calbrade et al., 2025) (**Appendix 6**), and used a source-pathway-receptor approach to identify whether there is the potential for an effect (i.e., a potential pathway can be established that links a receptor (i.e., a European site feature) to a source of a potential impact (e.g., impacts arising from the proposed dredging and deposition activities)). If there is no pathway between a source and a receptor, then there is no potential for a receptor to be exposed to an impact and, therefore, there is no potential for a likely significant effect. If there is a potential pathway between a source and a receptor, then there is the potential for a receptor to be exposed to an impact and, therefore, a screening assessment has been undertaken to consider the potential for a significant effect (see **Section 3.5**).
- 3.4.4 Based on the spatial extents of habitat distributions reported in the Regulation 33 advice by CCW (2009) and presented in **Appendix 5**, there is no impact pathway and, therefore, no potential for an impact on the following SAC features:
- Large shallow inlets and bays.
 - Atlantic saltmeadows (*Glauco-Puccinellietalia maritimae*).
 - Salicornia and other annuals colonising mud and sand.
 - Sandbanks which are slightly covered by sea water all the time.
- 3.4.5 Based on the feeding distributions and migratory routes of species reported in the Regulation 33 advice by CCW (2009), there is no impact pathway and, therefore, no potential for an impact on the following SAC features:
- Allis shad (*Alosa alosa*).
 - Twaite shad (*Alosa fallax*).
 - River lamprey (*Lampetra fluviatilis*).



- Sea lamprey (*Petromyzon marinus*).
- 3.4.6 Based on the BTO's low water counts reported in Calbrade et al (2025) and presented in **Appendix 6**, there is no impact pathway and, therefore, no potential for an impact on the following SPA qualifying features:
- Knot (*Calidris canutus*).
 - Pintail (*Anas acuta*).
- 3.4.7 Based on the above findings, the potential for the proposed dredging and deposition activities to have an effect on the European site features is presented in **Table 2**.

3.5 Screening Assessments of Potential Effects

- 3.5.1 The third step for screening was to assess whether the effects identified in **Table 2** could manifest as a significant effect(s) on the European sites. This step in the screening process was informed by the description of the dredging and deposition activities including the findings of the dredged material's physical characterisation (**Appendix 3**), the dredged material's chemical characterisation (**Appendix 4**), the findings of the coastal processes assessment (as described in TBP, 2025), the habitat and species distributions included described within the Regulation 33 advice (CCW, 2009) and the Fourth Article 17 UK Habitats Directive Report in 2019 (JNCC, 2019) (**Appendix 5**), the BTO's low water counts reported in Calbrade et al (2025) (**Appendix 6**), and the requirements for achieving the European sites' favourable conservation status / conservation objectives included in the Regulation 33 advice (CCW, 2009). This step in the screening process was also informed by the potential for other plans and projects to arise at and around Burry Port Harbour (**Section 2.4**).
- 3.5.2 Based on the above information, the potential for the proposed dredging and deposition activities to have a significant effect on the European sites in **Table 3**.

3.6 Findings

- 3.6.1 The screening assessment considered whether the proposed dredging and deposition activities at Burry Port Harbour have the potential for a significant effect on the features and the favourable conservation status of the Carmarthen Bay and Estuaries SAC and Burry Inlet SPA.
- 3.6.2 As identified in **Table 2**, the screening assessment found that the proposed dredging and deposition activities had the potential to have an effect on the SAC's estuaries, mudflats and sandflats and other features, and the SPA's oystercatcher, redshank and waterbird assemblage features and the supporting habitats for these features (estuaries, mudflats and sandflats).
- 3.6.3 As identified in **Table 3**, the screening assessment found that the proposed dredging and deposition activities will not have a significant effect on the SAC and SPA's features either alone or in-combination with other plans or projects.



Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Table 1: Regulation 33 Advice on the Operations or Activities with the Potential to have an Adverse Effect on a Feature or a Component of a Feature of the Carmarthen Bay and Estuaries SAC (source: CCW, 2009)

Activity	Key Relevant Factors			Likely Effects on Habitats			Likely Effects on Species			Feature										
	Physical	Chemical	Biological	Range	Structure / function	Typical species	Population	Range	Habitats / species	Inlets / bays	Estuaries	Salt meadows	Salicornia	Mudflats / sandflats	Subtidal sandbanks	Shads	Lampreys	Otters	Cardigan Bay SPA	Burry Inlet SPA
Regulation 33 advice for maintenance dredging	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	n/a	✓
Regulation 33 advice for coast protection by beach replenishment	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						n/a	✓

Table 2: Screening of Potential Effects

Activity	Key Relevant Factors			Likely Effects on Habitats			Likely Effects on Species			Feature										
	Physical	Chemical	Biological	Range	Structure / function	Typical species	Population	Range	Habitats / species	Inlets / bays	Estuaries	Salt meadows	Salicornia	Mudflats / sandflats	Subtidal sandbanks	Shads	Lampreys	Otters	Cardigan Bay SPA	Burry Inlet SPA
Proposed dredging activity aligned to maintenance dredging	✓	✓	✓		✓	✓	✓	✓	✓		✓			✓				✓	n/a	✓
Proposed deposition activity aligned to coast protection by beach replenishment	✓	✓		✓	✓	✓	✓	✓	✓		✓			✓				✓	n/a	✓



Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Table 3: Screening for Significant Effects

Source	Pathway	Receptor(s)	Screening Assessment for Likely Significant Effect
Maintenance dredging activity in the Approach Channel and Outer Harbour, Burry Port Harbour	Dredging (removal) of accreted sediment leading to the physical change of habitat features	SAC: mudflats and sandflats (intertidal) and estuaries SPA: mudflats and sandflats (intertidal) and estuaries (as supporting habitats)	Maintenance dredging has the potential to reduce the range and/or degrade the structure and function of habitats within the Approach Channel and Outer Harbour by physically changing the geomorphological and sedimentological conditions through the direct removal of accreted sediment and indirect changes to coastal processes. Reference to the supporting information on habitat and species distributions that was included within the Fourth Article 17 UK Habitats Directive Report (JNCC, 2019) (Appendix 5) indicates that the SAC's mudflats and sandflats and estuaries features are present at and around the Approach Channel and Outer Harbour. Furthermore, reference to the Regulation 33 advice (CCW, 2009) and intertidal substrate information (Appendix 5) indicates that the foreshore substrate within the Approach Channel and Outer Harbour comprises habitat that aligns with the SAC's habitat features and the SPA's supporting habitats. There is considered to be negligible potential for an impact on these features. Although there is a potential pathway for physical change due to the proposed dredging activity, the dredging will maintain an area of already modified habitat within the Approach Channel and Outer Harbour by restoring the bathymetry and will reveal the same sand substrate type (Appendix 3). Also, the coastal processes assessment found that physical change (seabed level depression) due to the proposed dredging activity will not cause discernible changes to patterns of currents and waves, sediment transport and/or seabed morphology that either directly or indirectly impact on Burry Inlet's coastal habitats and coastal ecology (TBP, 2025). Accordingly, there will be no physical change to the range and negligible degradation of the structure and function of the habitats and, therefore, there will be no significant effect on the European sites either alone or in-combination with other plans and projects.
Maintenance dredging activity in the Approach Channel and Outer Harbour, Burry Port Harbour	Dredging (removal) of accreted sediment leading to the chemical change of habitat features	SAC: mudflats and sandflats (intertidal) and estuaries SPA: mudflats and sandflats (intertidal) and estuaries (as supporting habitats)	Maintenance dredging has the potential to reduce the range and/or degrade the structure and function of habitats within the Approach Channel and Outer Harbour by chemically changing the water and sediment quality conditions. Reference to the supporting information on habitat and species distributions that was included within the Fourth Article 17 UK Habitats Directive Report (JNCC, 2019) (Appendix 5) indicates that the SAC's mudflats and sandflats and estuaries features are present at and around the Approach Channel and Outer Harbour. Furthermore, reference to the Regulation 33 advice (CCW, 2009) and intertidal substrate information (Appendix 5) indicates that the foreshore substrate within the Approach Channel and Outer Harbour comprises habitat that aligns with the SAC's habitat features and the SPA's supporting habitats. There is considered to be no potential for an impact on these supporting habitats. There is no potential pathway for chemical change because the proposed dredging activity in the Approach Channel and Outer Harbour will take place in dry conditions (i.e., there will be no pathway for releasing, dispersing and depositing sediment and contaminants associated with the sediment) and chemical characterisation shows that the sediment contains low concentrations of contaminants that pose minimal risk to habitats and species (Appendix 4). Accordingly, there will be no chemical change to the water and sediment quality conditions of these habitats and, therefore, there will be no significant effect on the European sites either alone or in-combination with other plans and projects.



Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Table 3: Screening for Significant Effects

Source	Pathway	Receptor(s)	Screening Assessment for Likely Significant Effect
Maintenance dredging activity in the Approach Channel and Outer Harbour, Burry Port Harbour	Dredging (removal) of accreted sediment leading to the disturbance of species features	SAC: otter	Maintenance dredging has the potential to disturb otter at the placement site on Burry Port East Beach by changing visual conditions (e.g., presence of humans) and above water noise conditions (i.e., increase sound pressure levels), which could result in behavioural responses such as reduced foraging activity and avoidance / displacement from commuting routes. It is noted that the areas at and around the placement site are ongoing areas of human activity (e.g., beach users, dog walkers, etc) and airborne noise from mechanical sources (e.g., road vehicles on the nearby tracks), so otters may have a degree of habituation to certain disturbances. Reference to the Regulation 33 advice (CCW, 2009) indicates that the foreshore substrate within the placement site on Burry Port East Beach comprises habitat that aligns with the distribution of the SAC's otter feature. Otters are known to use the coast between Llanelli and Burry Port and have been seen crossing the railway line which runs along the coast and connect their feeding and resting habitats. Access to shallow sea water is important to coastal otters since their principal prey species are fish. Accordingly, the range of otter may extend to the placement site on Burry Port East Beach because they are known to commute between the railway line and the coast (CCW, 2009). There is considered to be negligible potential for an impact on this feature. Although there is a potential pathway for visual disturbance (e.g., line of sight disturbance due to human presence) and/or above water noise disturbance (i.e., non-impulsive noise propagation from dredging plant), the proposed dredging activity will take place over a limited time period (i.e., approximately 47 days), and will take place with tides between mid and low water when there will be other human activity at and around the coast between Llanelli and Burry Port, including the areas around the Approach Channel and Outer Harbour and, for these reasons, is unlikely to cause a hindrance or constraint to otter commuting activity because there will remain extensive areas around and beyond the Approach Channel and Outer Harbour that maintain an inter-connection between resting and foraging sites. Accordingly, there is a limited potential pathway for the proposed dredging activity to disturb otter and, therefore, there will be no significant effect on the European site either alone or in-combination with other plans and projects.
Maintenance dredging activity in the Approach Channel and Outer Harbour, Burry Port Harbour	Dredging (removal) of accreted sediment leading to the disturbance of species features	SPA: oystercatcher, redshank, and waterbird assemblage	Maintenance dredging has the potential to disturb birds within the Approach Channel and adjacent beach area by changing visual conditions (e.g., presence of humans) and above water noise conditions (i.e., increase sound pressure levels), which could result in behavioural responses such as flight responses (e.g., displacement / movement) and/or behavioural changes (e.g., alarm calls, heads up, change in feeding or roosting activity). It is noted that the Approach Channel and Outer Harbour (and the adjacent breakwaters and beach areas) are ongoing areas of human activity (e.g., beach users, dog walkers, etc) and above water noise from mechanical sources (e.g., boats in the Approach Channel and Outer Harbour, and road vehicles on the breakwater and the upper beach), so the birds may have a degree of habituation to certain disturbances. Reference to the BTO's low tide counts (app.bto.org; accessed 26-08-2025) indicates that the Approach Channel and Outer Harbour aligns with the principal ranges of oystercatcher, redshank and the waterbird assemblage features within Burry Inlet (Appendix 6). There is considered to be negligible potential for an impact on the qualifying features. Although there is a potential pathway for visual disturbance (e.g., line of sight disturbance due to human presence) and/or above water noise disturbance (i.e., non-impulsive noise propagation from dredging plant), the proposed dredging activity will take place over a limited time period (i.e., approximately 47 days) which may correspond to the overwintering period, and will take place with tides between mid and low water when there will be other human activity at and around the harbour, breakwaters, slipway and adjacent beach. Accordingly, there will be negligible behavioural response by the waterbird species and/or assemblage (e.g., temporary



Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Table 3: Screening for Significant Effects

Source	Pathway	Receptor(s)	Screening Assessment for Likely Significant Effect
			displacement) and, therefore, there will be no significant effect on the European site either alone or in-combination with other plans and projects.
Deposition activity on Burry Port East Beach	Deposit of dredged material leading to the physical change of habitat features	SAC: mudflats and sandflats (intertidal) and estuaries SPA: mudflats and sandflats (intertidal) and estuaries (as supporting habitats)	Dredged material deposition has the potential to reduce the range and/or degrade the structure and function of habitats at the placement site on Burry Port East Beach by physically changing the geomorphological and sedimentological conditions through the direct removal of accreted sediment and indirect changes to coastal processes. Reference to the supporting information on habitat and species distributions that was included within the Fourth Article 17 UK Habitats Directive Report (JNCC, 2019) (Appendix 5) indicates that the SAC's mudflats and sandflats and estuaries features are present at and around the Approach Channel and Outer Harbour. Furthermore, reference to the Regulation 33 advice (CCW, 2009) and intertidal substrate information (Appendix 5) indicates that the foreshore substrate within the Approach Channel and Outer Harbour comprises habitat that aligns with the SAC's habitat features and the SPA's supporting habitats. There is considered to be negligible potential for an impact on these features. Although there is a potential pathway for physical change due to the proposed deposition activity, the deposition will help to retain the sand within the local sediment cell as it will comprise the same sand substrate (Appendix 3) and, as a result, will help to reduce the rate of sand loss from Burry Port East Beach (which, in turn, will help to reduce exposure of the historic PFA deposits on this part of the beach and will help to protect the eroding shoreline behind this part of the beach). Also, the coastal processes assessment found that physical change (seabed level mound) due to the proposed deposition activity will not cause discernible changes to patterns of currents and waves, sediment transport and/or seabed morphology that either directly or indirectly impact on Burry Inlet's coastal habitats and coastal ecology (TBP, 2025). Accordingly, there will be no physical change to the range and negligible degradation of the structure and function of the habitats and, therefore, there will be no significant effect on the European sites either alone or in-combination with other plans and projects.
Deposition activity on Burry Port East Beach	Deposit of dredged material leading to the disturbance of species features	SAC: otter	Dredged material deposition has the potential to disturb otter at the placement site on Burry Port East Beach by changing visual conditions (e.g., presence of humans) and above water noise conditions (i.e., increase sound pressure levels), which could result in behavioural responses such as reduced foraging activity and avoidance / displacement from commuting routes. It is noted that the areas at and around the placement site on Burry Port East Beach are ongoing areas of human activity (e.g., beach users, dog walkers, etc) and airborne noise from mechanical sources (e.g., road vehicles on the nearby tracks and on the beach), so otters may have a degree of habituation to certain disturbances. Reference to the Regulation 33 advice (CCW, 2009) indicates that the foreshore substrate within the placement site on Burry Port East Beach comprises habitat that aligns with the distribution of the SAC's otter feature. Otters are known to use the coast between Llanelli and Burry Port and have been seen crossing the railway line which runs along the coast and connect their feeding and resting habitats. Access to shallow sea water is important to coastal otters since their principal prey species are fish. Accordingly, the range of otter may extend to the placement site on Burry Port East Beach because they are known to commute between the railway line and the coast (CCW, 2009). There is considered to be negligible potential for an impact on this feature. Although there is a potential pathway for visual disturbance (e.g., line of sight disturbance due to human presence) and/or above water noise disturbance (i.e., non-impulsive noise propagation from dredging plant), the proposed dredging activity will take place over a limited time period (i.e., approximately 47 days), and will take place with tides between mid and low water when there will be other human activity at and around the coast between Llanelli and Burry Port, including the placement site on Burry Port East Beach and, for these reasons, is unlikely to cause a hinderance or constraint to otter commuting activity because there will remain extensive areas around and beyond the placement site that maintain an inter-connection between resting and foraging sites. Accordingly, there



Table 3: Screening for Significant Effects

Source	Pathway	Receptor(s)	Screening Assessment for Likely Significant Effect
			is a limited potential pathway for the proposed deposition activity to disturb otter and, therefore, there will be no significant effect on the European site either alone or in-combination with other plans and projects.
Deposition activity on Burry Port East Beach	Deposit of dredged material leading to the disturbance of species features	SPA: oystercatcher, redshank, and waterbird assemblage	Dredged material deposition has the potential to disturb birds at the placement site on Burry Port East Beach by changing visual conditions (e.g., presence of humans) and above water noise conditions (i.e., increase sound pressure levels), which could result in behavioural responses such as flight responses (e.g., displacement / movement) and/or behavioural changes (e.g., alarm calls, heads up, change in feeding or roosting activity). It is noted that the areas at and around the placement site on Burry Port East Beach are ongoing areas of human activity (e.g., beach users, dog walkers, etc) and airborne noise from mechanical sources (e.g., road vehicles on the nearby tracks and on the beach), so the birds may have a degree of habituation to certain disturbances. Reference to the BTO's low tide counts (app.bto.org; accessed 26-08-2025) indicates that Burry Port East Beach aligns with the principal ranges of oystercatcher, redshank and the waterbird assemblage features within Burry Inlet (Appendix 6). There is considered to be negligible potential for an impact on the qualifying features. Although there is a potential pathway for visual disturbance (e.g., line of sight disturbance due to human presence) and/or above water noise disturbance (i.e., non-impulsive noise propagation from dredging plant), the proposed deposition activity will take place over a limited time period (i.e., approximately 47 days) which may correspond to the overwintering period, and will take place with tides between mid and low water when there will be other human activity on Burry Port East Beach including the placement site. Accordingly, there will be negligible behavioural response by the waterbird species and/or assemblage (e.g., temporary displacement) and, therefore, there will be no significant effect on the European site either alone or in-combination with other plans and projects.



4 References

Calbrade, N.A., Birtles, G.A., Woodward, I.D., Feather, A., Hiza, B., Caulfield, E., Balmer, D.E., Peck, K., Wotton, S.R., Shaw, J.M., and Frost, T.M. (2025). Waterbirds in the UK 2023/24: The Wetland Bird Survey and Goose & Swan Monitoring Programme. BTO/RSPB/JNCC/NatureScot. Thetford.

Countryside Council for Wales (CCW) (2009). Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd European Marine Site. Advice Provided by the Countryside Council for Wales in Fulfilment of Regulation 33 of the Conservation (Natural Habitats, &C.) Regulations 1994. February 2009.

Joint Nature Conservation Committee (JNCC) (2019). Fourth Article 17 UK Habitats Directive Report. August 2019.

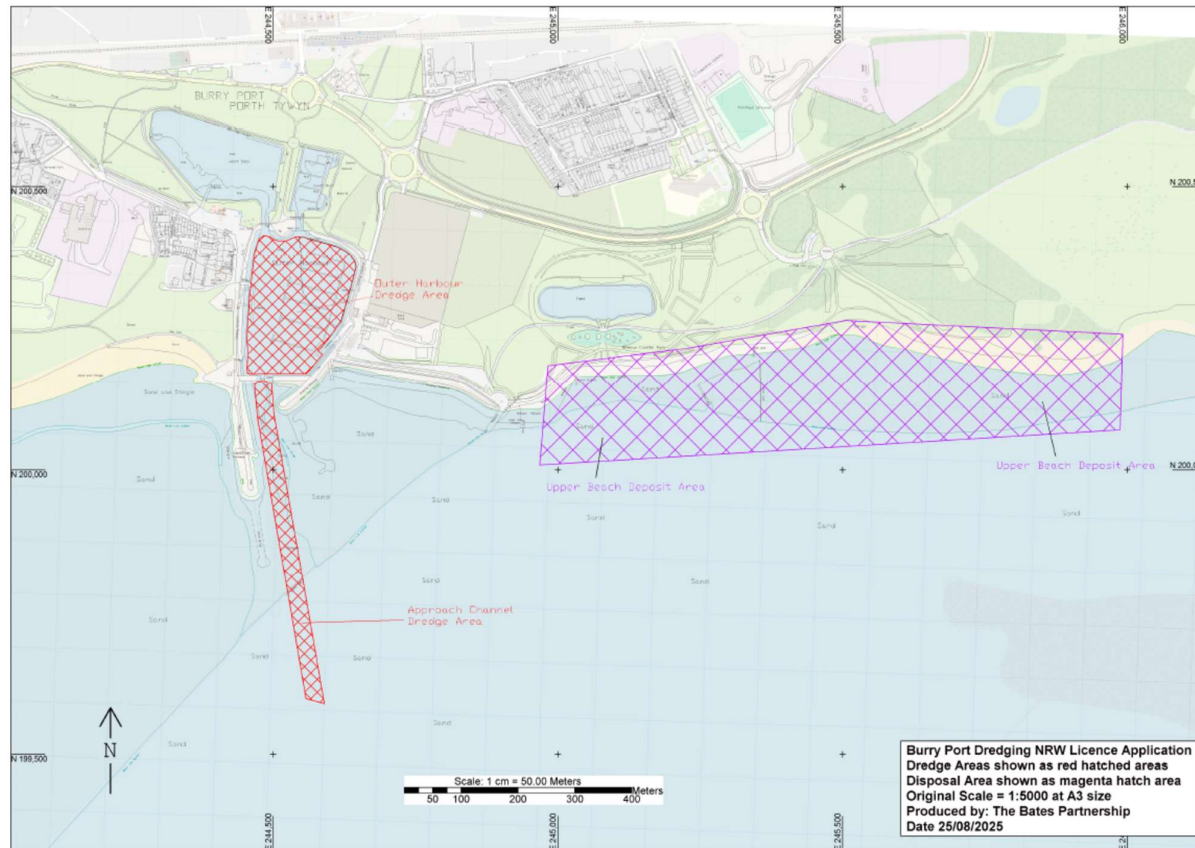
The Bates Partnership (TBP) (2025). Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Coastal Processes Assessment. Prepared on behalf of Carmarthenshire County Council. August 2025.

Welsh Government (2019). Welsh National Marine Plan. November 2019.



APPENDIX 1: LOCATIONS AND COORDINATES OF PROPOSED DREDGING AND DEPOSITION ACTIVITIES

Dredging Locations within the Approach Channel and Outer Harbour and Deposition Location on Burry Port East Beach





Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Approach Channel Dredging Area	Outer Harbour Dredging Area	Burry Port East Beach Deposit Area
The dredging area for the Approach Channel is defined by the following OSGB coordinates (eastings and northings): • 244520.56 200157.90 • 244545.14 200153.24 • 244524.70 200134.93 • 244508.89 200120.62 • 244507.38 200114.22 • 244507.94 200108.14 • 244519.95 200095.29 • 244600.71 199641.94 • 244535.55 199629.91 • 244475.91 199949.68 • 244468.68 200011.92 • 244474.90 200027.24 • 244465.37 200052.93 • 244454.60 200110.50 • 244447.97 200158.55 • 244520.56 200157.90	The dredging area for the Outer Harbour is defined by the following OSGB coordinates (eastings and northings): • 244559.42 200167.38 • 244448.71 200167.38 • 244444.94 200234.41 • 244448.33 200300.31 • 244453.98 200354.91 • 244463.40 200401.98 • 244471.68 200428.72 • 244499.92 200427.21 • 244507.83 200413.66 • 244526.28 200415.54 • 244538.71 200423.07 • 244559.42 200423.07 • 244572.22 200412.53 • 244615.90 200398.97 • 244641.51 200380.14 • 244650.17 200365.08 • 244644.52 200334.96 • 244559.42 200167.38	The deposit area on Burry Port East Beach below mean high water on spring tides is defined by the following OSGB coordinates (eastings and northings): • 244982.42 200184.68 • 245228.38 200216.14 • 245505.80 200264.76 • 245992.00 200240.45 • 245987.71 200070.28 • 244968.12 200008.79 • 244982.42 200184.68



APPENDIX 2: SEDIMENT SAMPLING LOCATIONS (NRW SAMPLE PLAN SP2501)

Sediment Sampling Locations in the Outer Harbour (Samples A, B, C, D, E, K), Approach Channel (Samples F, G, H) and Burry Port East Beach (Sample J)



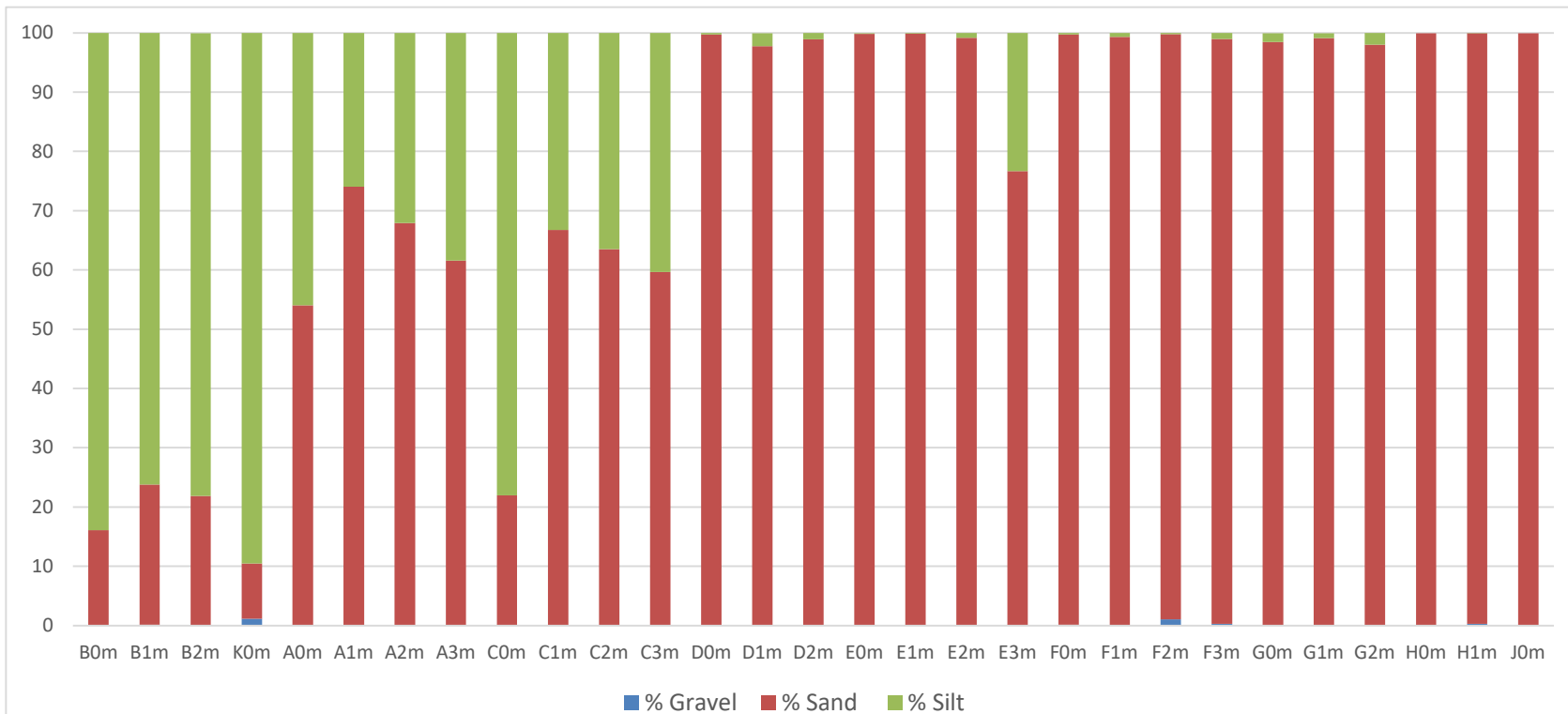


APPENDIX 3: PHYSICAL CHARACTERISATION OF DREDGED MATERIAL (NRW SAMPLE PLAN SP2501)

Sample ID	Location	Sediment Type	% Gravel (>2mm)	% Sand (0.063-2mm)	% Silt (<0.063mm)	Activity
A0m	Outer Harbour	Silty sand / sandy silt	0.05	54.02	45.93	Outside of dredging area
A1m	Outer Harbour	Silty sand / sandy silt	0.05	74.03	25.92	Outside of dredging area
A2m	Outer Harbour	Silty sand / sandy silt	0.05	67.86	32.1	Outside of dredging area
A3m	Outer Harbour	Silty sand / sandy silt	0	61.59	38.41	Outside of dredging area
B0m	Outer Harbour	Silt	0.12	15.98	83.9	Outside of dredging area
B1m	Outer Harbour	Silt	0.16	23.69	76.15	Outside of dredging area
B2m	Outer Harbour	Silt	0.09	21.77	78.13	Outside of dredging area
C0m	Outer Harbour	Silty sand / sandy silt	0.07	21.88	78.05	Outside of dredging area
C1m	Outer Harbour	Silty sand / sandy silt	0.02	66.76	33.22	Outside of dredging area
C2m	Outer Harbour	Silty sand / sandy silt	0.02	63.53	36.45	Outside of dredging area
C3m	Outer Harbour	Silty sand / sandy silt	0.05	59.65	40.3	Outside of dredging area
D0m	Outer Harbour	Sand	0.07	99.67	0.26	Dredging to -1.5m OD
D1m	Outer Harbour	Sand	0.02	97.76	2.21	Dredging to -1.5m OD
D2m	Outer Harbour	Sand	0.09	98.81	1.11	Dredging to -1.5m OD
E0m	Outer Harbour	Sand	0.04	99.8	0.15	Dredging to -1.5m OD
E1m	Outer Harbour	Sand	0.04	99.82	0.14	Dredging to -1.5m OD
E2m	Outer Harbour	Sand	0	99.19	0.81	Dredging to -1.5m OD
E3m	Outer Harbour	Sand	0	76.68	23.32	Dredging to -1.5m OD
F0m	Approach Channel	Sand	0.17	99.57	0.27	Dredging to -2.0m OD
F1m	Approach Channel	Sand	0.13	99.23	0.64	Dredging to -2.0m OD
F2m	Approach Channel	Sand	1.08	98.7	0.22	Dredging to -2.0m OD
F3m	Approach Channel	Sand	0.29	98.68	1.03	Dredging to -2.0m OD
G0m	Approach Channel	Sand	0.02	98.46	1.51	Dredging to -2.0m OD
G1m	Approach Channel	Sand	0.04	99.11	0.84	Dredging to -2.0m OD
G2m	Approach Channel	Sand	0.08	97.95	1.97	Dredging to -2.0m OD
H0m	Approach Channel	Sand	0.05	99.92	0.04	Dredging to -2.0m OD
H1m	Approach Channel	Sand	0.31	99.65	0.04	Dredging to -2.0m OD
K0m	Outer Harbour, Silt Area	Silt	1.15	9.35	89.5	Outside of dredging area
J0m	Burry Port East Beach	Sand	0.04	99.93	0.03	Deposit of dredged material

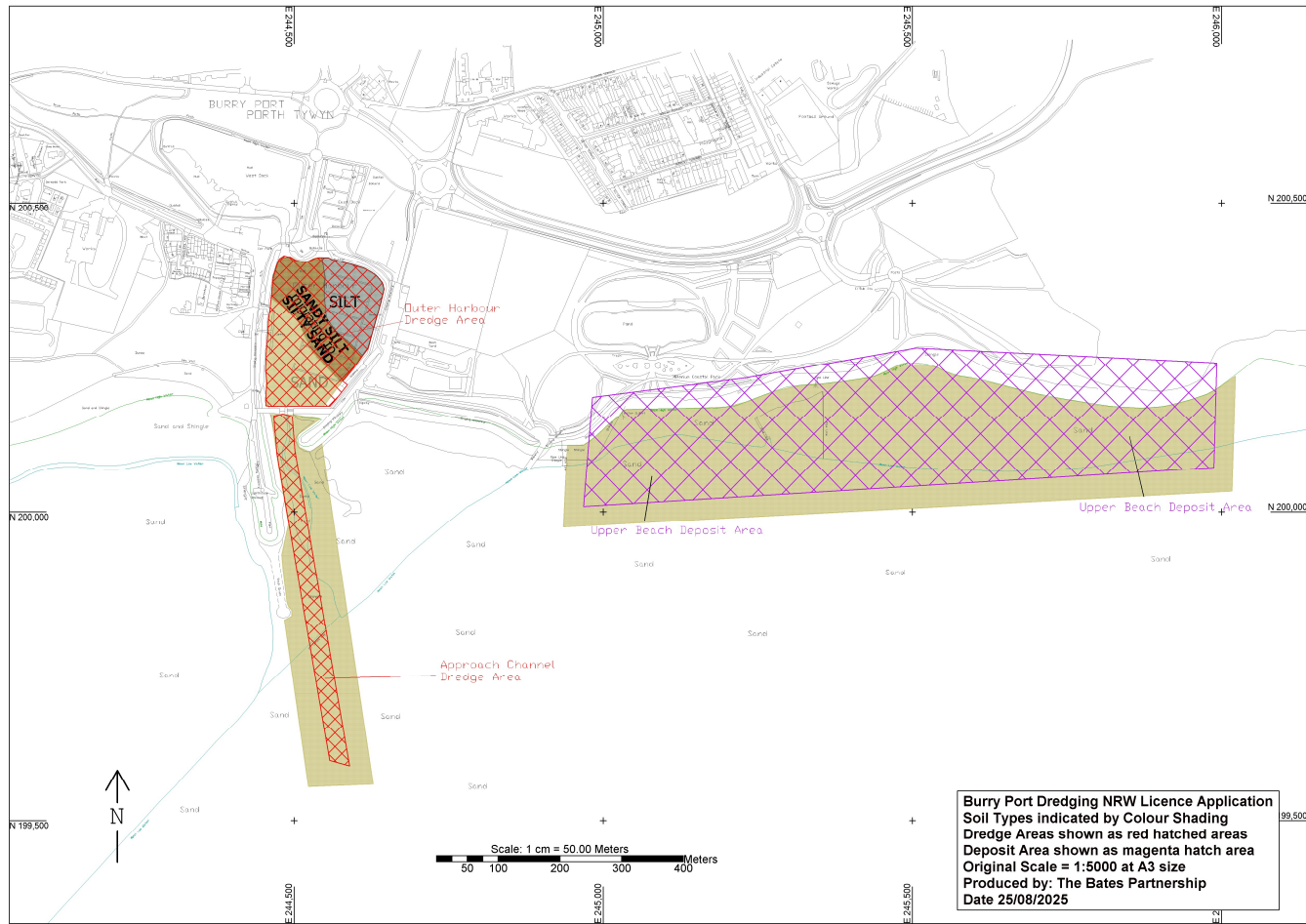


Dominant Sediment Type based on Particle Size Distributions: Silt in the Outer Harbour (Samples B, K), Silty Sand / Sandy Silt in the Outer Harbour (Samples A, C), Sand in the Outer Harbour (Samples D, E), Sand in the Approach Channel (Samples F, G, H) and Sand at Burry Port East Beach (Sample J)





Dominant Sediment Type based on Particle Size Distributions





APPENDIX 4: CHEMICAL CHARACTERISATION OF DREDGED MATERIAL (NRW SAMPLE PLAN SP2501)

Sediment Quality Criteria		Groups of Chemical Parameters		
		Metals	Organotins	PAHs
Cefas Action Levels	Cefas Action Level 1 (cAL1) and Cefas Action Level 2 (cAL2)	✓	✓	✓
US Effects Ranges	Effects Range Low (ERL) and Effects Range Median (ERM)	-	-	✓

Indicator	Data Comparison to Sediment Quality Criteria
	Data is either below cAL1 or below ERL
	Data is either between cAL1 and cAL2 or between ERL and ERM
	Data is either above cAL2 or above ERM
	Not applicable as there are no Cefas Action Levels or US Effects Ranges
	Not applicable as samples are outside of dredging area

Analyte Group	Analyte Abbreviations
Organotins	TBT (tributyltin), DBT (dibutyltin)
PAHs	ACENAPTH (acenaphthene), ACENAPHY (acenaphthylene), ANTHRACN (anthracene), BAA (benzo[a]anthracene), BAP (benzo[a]pyrene), BBF (benzo[b]fluoranthene), BEP (benzo[e]pyrene), BENZGHIP (benzo[ghi]perylene), BKF (benzo[k]fluoranthene), C1N (C1-naphthalenes), C1PHEN (C1-phenanthrene), C2N (C2-naphthalenes), C3N (C3-naphthalenes), CHRYSENE (chrysene), DBENZAHA (dibenzo[ah]anthracene), FLUORANT (fluoranthene), FLUORENE (fluorene), INDPYR (indeno[1,2,3-cd]pyrene), NAPTH (naphthalene), PERYLENE (perylene), PHENANT (phenanthrene), PYRENE (pyrene)
THC	THC (total hydrocarbons content)
LMW PAHs	ΣLMW PAHs (sum of low molecular weight PAHs comprising ACENAPTH (acenaphthene), ACENAPHY (acenaphthylene), ANTHRACN (anthracene), FLUORENE (fluorene), PHENANT (phenanthrene), NAPTH (naphthalene), C1N (C1-naphthalenes))
HMW PAHs	ΣHMW PAHs (sum of high molecular weight PAHs comprising CHRYSENE (chrysene), DBENZAHA (dibenzo[ah]anthracene), FLUORANT (fluoranthene), BAA (benzo[a]anthracene), BAP (benzo[a]pyrene), PYRENE (pyrene))



Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Sample ID	Metals (mg.kg ⁻¹)								Organotins (mg.kg ⁻¹)	
	Arsenic	Cadmium	Chromium	Copper	Mercury	Nickel	Lead	Zinc	DBT	TBT
A0m	7.7	0.08	10	4.1	0.03	8.9	10.1	40.4	<LOD	<LOD
A1m	7.4	0.1	10.2	5.2	0.06	9.3	11.3	45.8	<LOD	<LOD
A2m	6.9	0.08	10.5	4.5	0.04	10	10.5	55.6	<LOD	<LOD
A3m	8.2	0.11	12.2	8.1	0.07	11	15.6	56.4	<LOD	<LOD
B0m	12.1	0.25	26.6	20.4	0.1	24.3	34.2	114	<LOD	<LOD
B1m	12.1	0.25	23.4	19	0.08	19.9	30.2	102	<LOD	<LOD
B2m	13.5	0.27	27.7	22.2	0.1	22.6	36	120	<LOD	<LOD
C0m	14.5	0.28	30.2	20.8	0.11	25.2	37.7	128	<LOD	<LOD
C1m	7.5	0.12	12.8	7.2	0.04	11.7	14	74.7	<LOD	<LOD
C2m	8	0.11	11.8	7.2	0.04	10.8	13.1	52.8	<LOD	<LOD
C3m	7.4	0.1	11.8	6.8	0.02	10.4	14.4	52	<LOD	<LOD
D0m	7.5	<LOD	5.5	2.1	<LOD	6	4.7	22.3	<LOD	<LOD
D1m	7.3	0.05	6.5	2.6	<LOD	6.5	5.4	25.2	<LOD	<LOD
D2m	7.1	0.05	5.3	2.2	<LOD	5.2	5	23.6	<LOD	<LOD
E0m	7.8	<LOD	4.5	2	<LOD	5.2	4.5	20.1	<LOD	<LOD
E1m	7.8	<LOD	5	2.6	<LOD	5.4	4.7	20.7	<LOD	<LOD
E2m	7.2	<LOD	5	2.3	<LOD	5.3	4.8	21.5	<LOD	<LOD
E3m	7.8	0.09	9.1	4.1	0.02	8.4	9.9	42	<LOD	<LOD
F0m	7.5	<LOD	4.5	1.9	<LOD	5.1	4.6	20.5	<LOD	<LOD
F1m	7.7	<LOD	4.7	1.8	<LOD	5.4	4.5	21.4	<LOD	<LOD
F2m	7.1	0.05	6.5	2.4	<LOD	8.4	4.5	20	<LOD	<LOD
F3m	6.6	0.04	4.7	2.7	<LOD	5.6	4.8	26.4	<LOD	<LOD
G0m	7	0.05	5.6	2.3	<LOD	5.7	5.2	25.9	<LOD	<LOD
G1m	6.2	<LOD	5.3	1.7	<LOD	8.1	4.2	21.5	<LOD	<LOD
G2m	6.2	0.04	3.4	1.7	<LOD	4.4	4.5	20	<LOD	<LOD
H0m	7.5	0.05	5.7	2	0.01	7.7	5.1	20.1	<LOD	<LOD
H1m	6.8	0.04	5	2	<LOD	7.4	3.9	21.7	<LOD	<LOD
K0m	10.7	0.18	18.2	13.8	0.07	16.9	25.2	88.4	<LOD	<LOD
Cefas AL1	20	0.4	40	40	0.3	50	20	130	0.1	0.1
Cefas AL2	100	5	400	400	3	500	200	800	1	1



Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Sample ID	PAHs ($\mu\text{g.kg}^{-1}$)											
	ACENAPTH	ACENAPTHY	ANTHRAC	BAA	BAP	BBF	BENZGHIP	BEP	BKF	C1N	C1PHEN	C2N
A0m	4.77	4.97	9.71	42.3	49.9	55.8	41.3	43	48.7	36.2	46.2	31.3
A1m	12.7	6.91	16.5	40.8	42.9	44.9	31.4	35.4	42.1	32.6	82.2	33.9
A2m	2.71	<1	2.46	8.81	11.3	14.6	10.7	11.7	11.8	15	15.4	13.4
A3m	11.9	11	21.5	70.4	90.4	97.1	72.5	76	84.7	63.8	108	54.7
B0m	20.1	14.3	29.2	118	157	190	143	143	150	138	179	130
B1m	18	12.3	34.5	90	125	152	119	115	123	120	155	110
B2m	25.6	21.8	76.2	206	232	278	199	200	231	166	218	150
C0m	30.5	22.5	39	144	187	217	172	169	187	233	261	279
C1m	15.7	<LOD	16.7	50.7	63.7	65.1	51.8	55.7	60.3	54.3	64.9	50.9
C2m	20.2	7.57	25.1	62.2	78.5	87.5	63.8	65.1	69.8	64.9	74.7	55.2
C3m	14.9	<LOD	23.1	53.5	73.1	88.6	64.8	69.5	73.5	120	126	116
D0m	<LOD	<LOD	<LOD	2.2	2.6	3.39	2.65	1.26	3.19	1.56	<LOD	<LOD
D1m	<LOD	<LOD	<LOD	<LOD	1.49	2.17	1.84	1.66	1.58	2.46	2.97	1.67
D2m	<LOD	<LOD	<LOD	<LOD	<LOD	1.49	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
E0m	<LOD	<LOD	<LOD	1.26	1.56	1.79	1.45	1.48	2.16	2.28	2.22	1.19
E1m	<LOD	<LOD	<LOD	2	2.6	2.26	1.74	2.08	2.87	1.31	1.71	<LOD
E2m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1.35	<LOD	1.96	1.92	1.47
E3m	3.69	4.25	8.46	21.5	30	36.4	24.3	28.1	33.8	26	58.3	25.4
F0m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3.05	4.2
F1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1.99	1.21
F2m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
F3m	<LOD	<LOD	2.26	11.8	11.3	11.8	7.34	9.76	11.2	2.93	8.72	3.35
G0m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1.41	1.69	1.29
G1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
G2m	<LOD	<LOD	<LOD	1.34	1.26	2.2	1.57	1.59	1.82	2.28	2.78	1.7
H0m	<LOD	<LOD	<LOD	<LOD	1.44	1.76	1.46	1.59	2.29	2.01	1.39	1.47
H1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
K0m	17.4	11.9	28.3	92.3	136	158	124	126	140	116	139	116
Cefas AL1	100	100	100	100	100	100	100	100	100	100	100	100
Cefas AL2	-	-	-	-	-	-	-	-	-	-	-	-



Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Sample ID	PAHs ($\mu\text{g}\cdot\text{kg}^{-1}$)										THC ($\mu\text{g}\cdot\text{kg}^{-1}$)
	C3N	CHRYSENE	DBENZAH	FLUORANT	FLUORENE	INDPYR	NAPTH	PERYLENE	PHENANT	PYRENE	
A0m	24.7	55.6	11.2	79.1	10.3	47.4	20.1	16.8	43.7	59.1	28.6
A1m	31.8	51.9	8.8	88.4	11.8	36.7	16.6	13.7	64.9	67.8	19.6
A2m	10.6	12.6	2.77	17.3	3.4	12.3	7.32	4.52	13.3	14.4	23.5
A3m	52.3	91.4	17.6	144	22	83.3	36.7	92.3	81	115	19.8
B0m	89.6	168	35.5	232	41.3	166	75.3	58.9	152	180	39.6
B1m	84.5	132	31.6	203	38.4	140	61.1	114	128	151	11.3
B2m	98.7	314	60	294	53.9	234	82	177	183	223	14.1
C0m	123	201	46	266	59.4	199	109	67.7	182	207	12.7
C1m	46.1	67.9	14.8	124	18.4	62.8	26.1	23.9	85.4	101	14.6
C2m	42.9	78.4	17.9	130	20.3	75.3	31.7	35.3	81.7	104	33.7
C3m	62.8	79.6	19.1	137	23.3	72.5	44.3	32.6	124	106	31
D0m	<LOD	2.37	1.81	2.24	<LOD	2.69	<LOD	<LOD	<LOD	2.39	<LOD
D1m	2.74	1.52	<LOD	2.05	<LOD	1.58	1.46	<LOD	2.18	2.02	1.26
D2m	<LOD	<LOD	<LOD	1.22	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1.53
E0m	<LOD	1.99	<LOD	2.52	<LOD	1.34	<LOD	<LOD	2.64	2.22	3.03
E1m	1.25	2.41	<LOD	2.68	<LOD	1.73	<LOD	<LOD	<LOD	2.67	3.5
E2m	<LOD	<LOD	<LOD	1.44	<LOD	<LOD	<LOD	<LOD	1.49	1.5	1.13
E3m	22.8	42.8	5.65	83.9	9.76	26.9	13.1	13.4	89.7	59.2	19.7
F0m	3.52	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	2.04	<LOD	<LOD
F1m	1.22	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
F2m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
F3m	4.28	16.5	2.4	24.5	<LOD	7.89	1.38	3.07	5.1	17.3	2.95
G0m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1.32	<LOD	<LOD
G1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
G2m	1.36	1.84	<LOD	2.49	<LOD	<LOD	<LOD	<LOD	1.64	2.46	1.03
H0m	<LOD	1.91	<LOD	2.38	<LOD	<LOD	<LOD	<LOD	<LOD	2.27	<LOD
H1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
K0m	71.5	143	28	198	33.6	130	66.4	46.2	132	154	49.4
Cefas AL1	100	100	100	100	100	100	100	100	100	100	-
Cefas AL2	-	-	-	-	-	-	-	-	-	-	-



Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Sample ID	LMW PAHs ($\mu\text{g}\cdot\text{kg}^{-1}$)							
	ACENAPTH	ACENAPTHY	ANTHRAC	FLUORENE	PHENANT	NAPTH	C1N	Σ LMW PAHs
A0m	4.77	4.97	9.71	10.3	43.7	20.1	36.2	129.75
A1m	12.7	6.91	16.5	11.8	64.9	16.6	32.6	162.01
A2m	2.71	<1	2.46	3.4	13.3	7.32	15	45.19
A3m	11.9	11	21.5	22	81	36.7	63.8	247.9
B0m	20.1	14.3	29.2	41.3	152	75.3	138	470.2
B1m	18	12.3	34.5	38.4	128	61.1	120	412.3
B2m	25.6	21.8	76.2	53.9	183	82	166	608.5
C0m	30.5	22.5	39	59.4	182	109	233	675.4
C1m	15.7	<LOD	16.7	18.4	85.4	26.1	54.3	217.6
C2m	20.2	7.57	25.1	20.3	81.7	31.7	64.9	251.47
C3m	14.9	<LOD	23.1	23.3	124	44.3	120	350.6
D0m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1.56	7.56
D1m	<LOD	<LOD	<LOD	<LOD	2.18	1.46	2.46	10.1
D2m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	7
E0m	<LOD	<LOD	<LOD	<LOD	2.64	<LOD	2.28	9.92
E1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	1.31	7.31
E2m	<LOD	<LOD	<LOD	<LOD	1.49	<LOD	1.96	8.45
E3m	3.69	4.25	8.46	9.76	89.7	13.1	26	154.96
F0m	<LOD	<LOD	<LOD	<LOD	2.04	<LOD	<LOD	8.04
F1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	7
F2m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	7
F3m	<LOD	<LOD	2.26	<LOD	5.1	1.38	2.93	14.67
G0m	<LOD	<LOD	<LOD	<LOD	1.32	<LOD	1.41	7.73
G1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	7
G2m	<LOD	<LOD	<LOD	<LOD	1.64	<LOD	2.28	8.92
H0m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	2.01	8.01
H1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	7
K0m	17.4	11.9	28.3	33.6	132	66.4	116	405.6
US ERL	-	-	-	-	-	-	-	552
US ERM	-	-	-	-	-	-	-	3,160

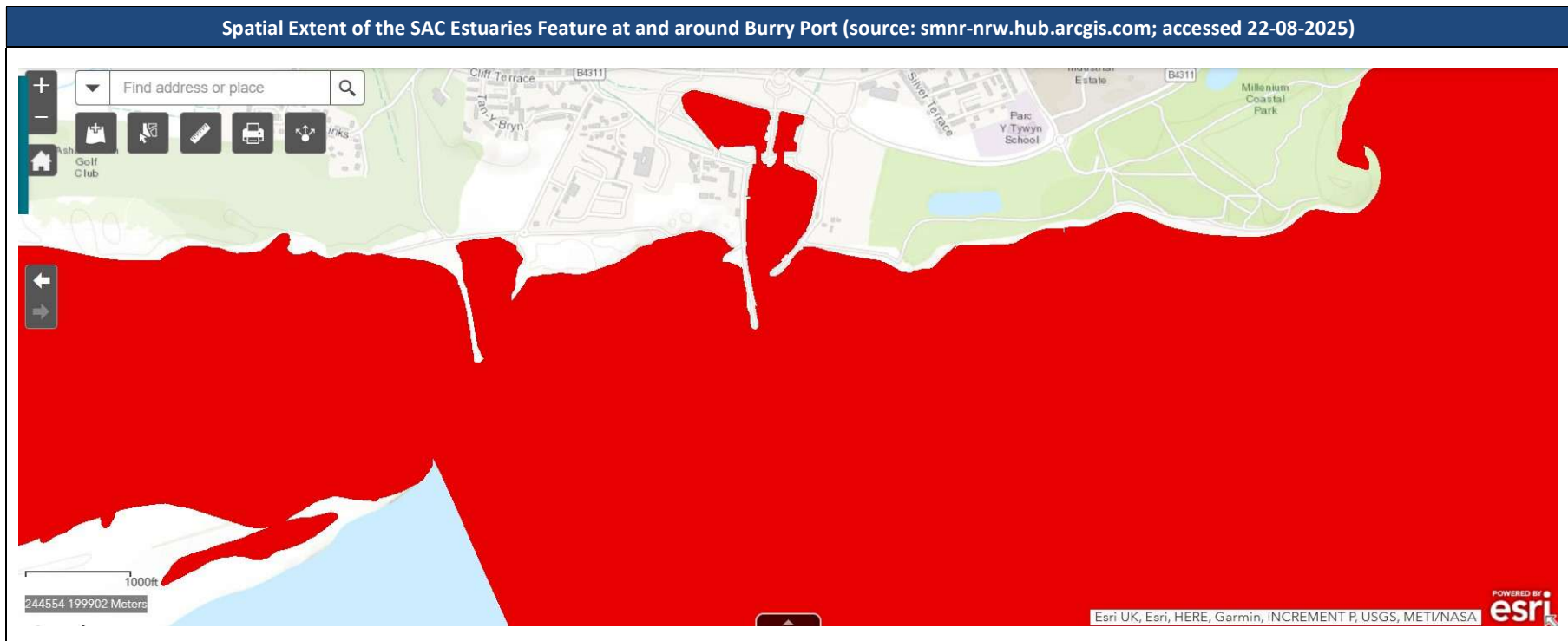


Burry Port Harbour - Maintenance Dredging and Disposal of Dredged Material: Habs Regs No Significant Effects Report

Sample ID	HMW PAHs ($\mu\text{g.kg}^{-1}$)						
	CHRYSENE	DBENZAH	FLUORANT	BAA	BAP	PYRENE	Σ HMW PAHs
A0m	55.6	11.2	79.1	42.3	49.9	59.1	297.2
A1m	51.9	8.8	88.4	40.8	42.9	67.8	300.6
A2m	12.6	2.77	17.3	8.81	11.3	14.4	67.18
A3m	91.4	17.6	144	70.4	90.4	115	528.8
B0m	168	35.5	232	118	157	180	890.5
B1m	132	31.6	203	90	125	151	732.6
B2m	314	60	294	206	232	223	1329
C0m	201	46	266	144	187	207	1051
C1m	67.9	14.8	124	50.7	63.7	101	422.1
C2m	78.4	17.9	130	62.2	78.5	104	471
C3m	79.6	19.1	137	53.5	73.1	106	468.3
D0m	2.37	1.81	2.24	2.2	2.6	2.39	13.61
D1m	1.52	<LOD	2.05	<LOD	1.49	2.02	9.08
D2m	<LOD	<LOD	1.22	<LOD	<LOD	<LOD	6.22
E0m	1.99	<LOD	2.52	1.26	1.56	2.22	10.55
E1m	2.41	<LOD	2.68	2	2.6	2.67	13.36
E2m	<LOD	<LOD	1.44	<LOD	<LOD	1.5	6.94
E3m	42.8	5.65	83.9	21.5	30	59.2	243.05
F0m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	6
F1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	6
F2m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	6
F3m	16.5	2.4	24.5	11.8	11.3	17.3	83.8
G0m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	6
G1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	6
G2m	1.84	<LOD	2.49	1.34	1.26	2.46	10.39
H0m	1.91	<LOD	2.38	<LOD	1.44	2.27	10
H1m	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	6
K0m	143	28	198	92.3	136	154	751.3
US ERL	-	-	-	-	-	-	1,700
US ERM	-	-	-	-	-	-	9,600

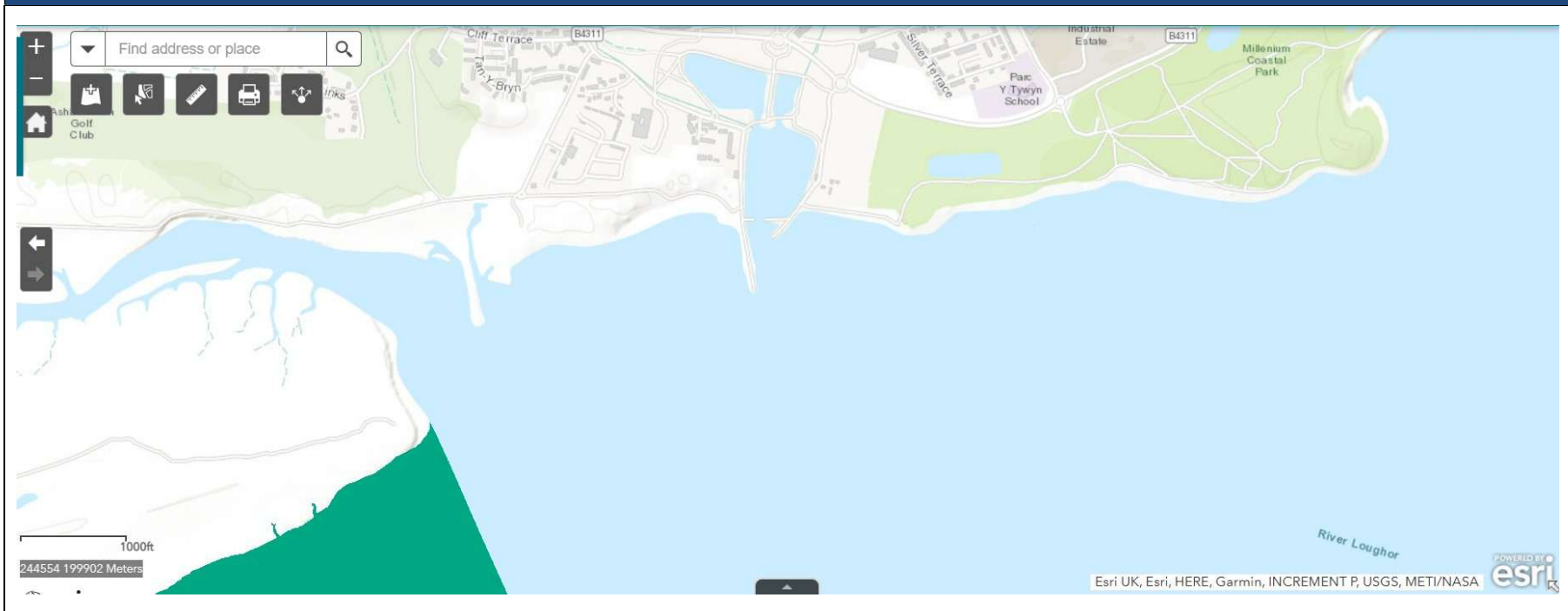


APPENDIX 5: SPATIAL EXTENT OF THE CARMARTHEN BAY AND ESTUARIES FEATURES BASED ON THE FOURTH ARTICLE 17 UK HABITATS DIRECTIVE REPORT





Spatial Extent of the SAC Large Shallow Inlets and Bays Feature at and around Burry Port (source: smnr-nrw.hub.arcgis.com; accessed 22-08-2025)



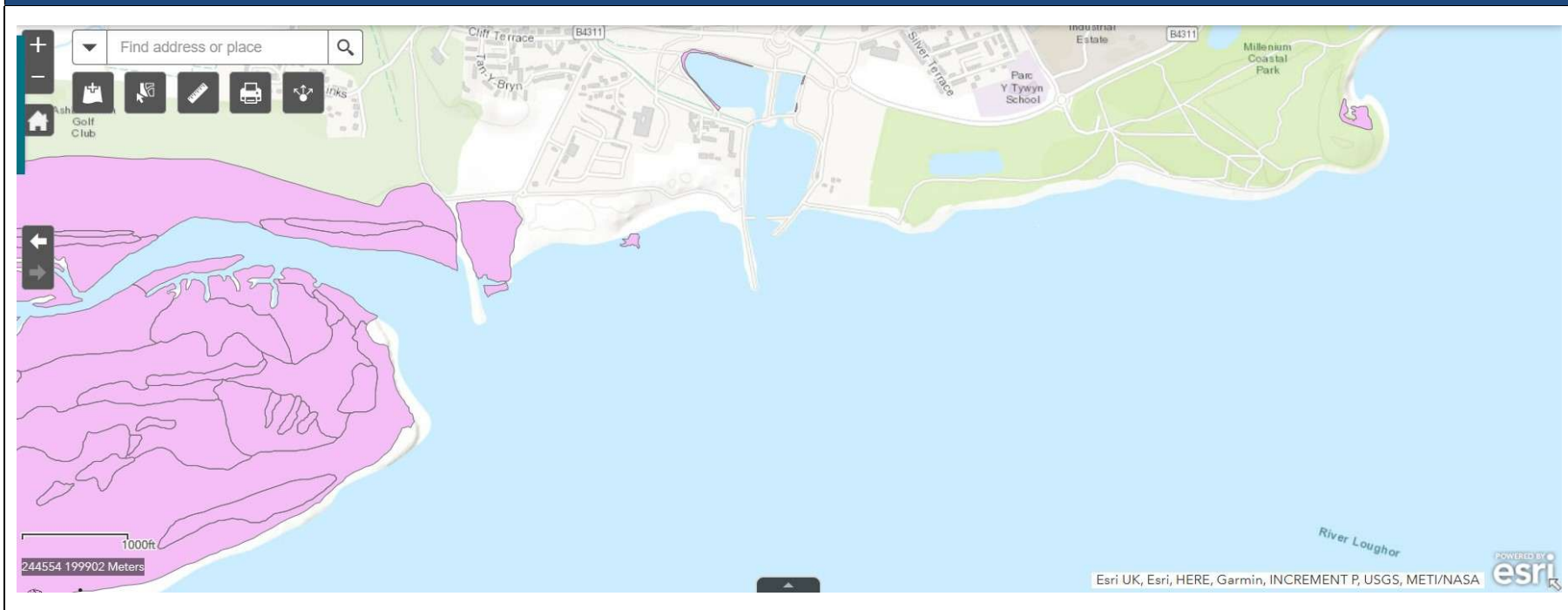


Spatial Extent of the SAC Mudflats and Sandflats Feature at and around Burry Port (source: smnr-nrw.hub.arcgis.com; accessed 22-08-2025)



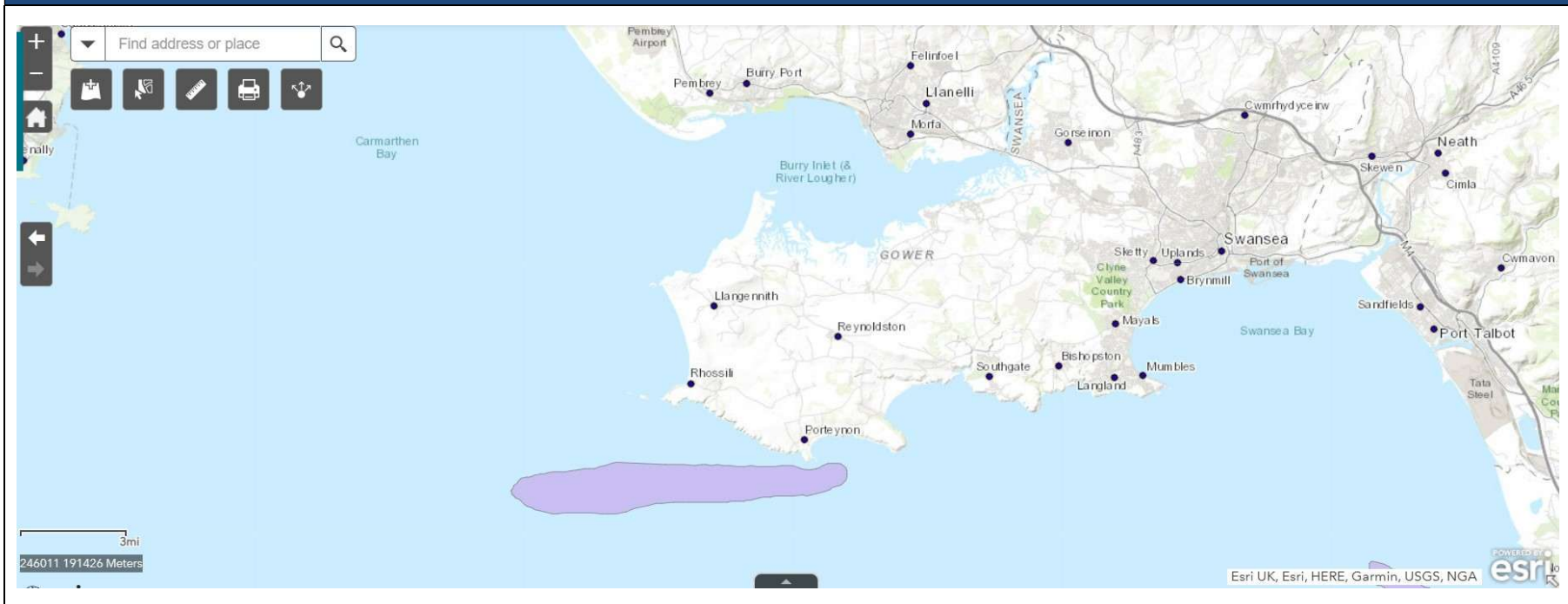


Spatial Extent of the SAC Saltmarsh (Salt Meadow and/or Salicornia) Feature at and around Burry Port (source: smnr-nrw.hub.arcgis.com; accessed 22-08-2025)



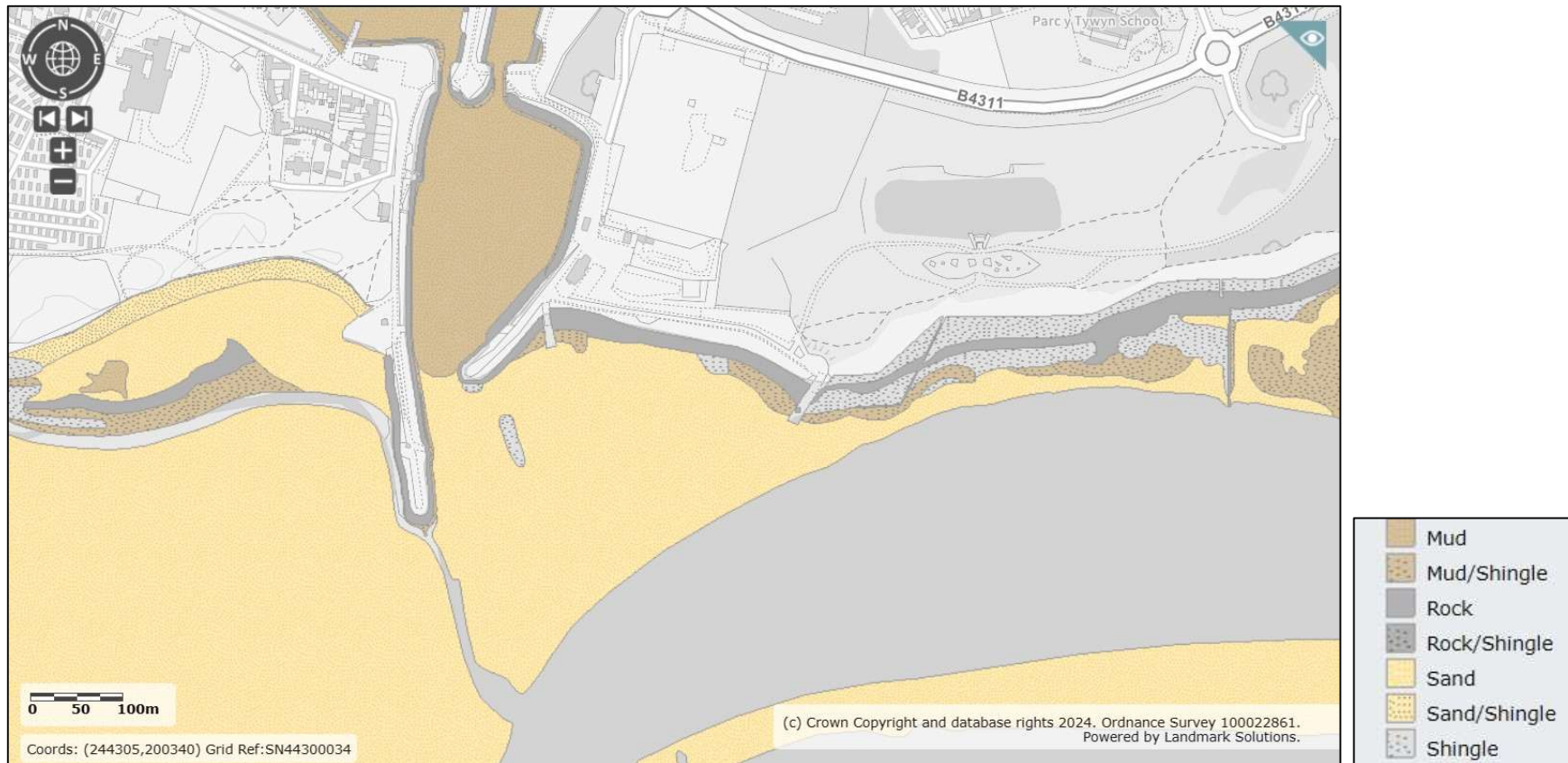


Spatial Extent of the SAC Subtidal Sandbanks Feature at and around Burry Port (source: smnr-nrw.hub.arcgis.com; accessed 22-08-2025)



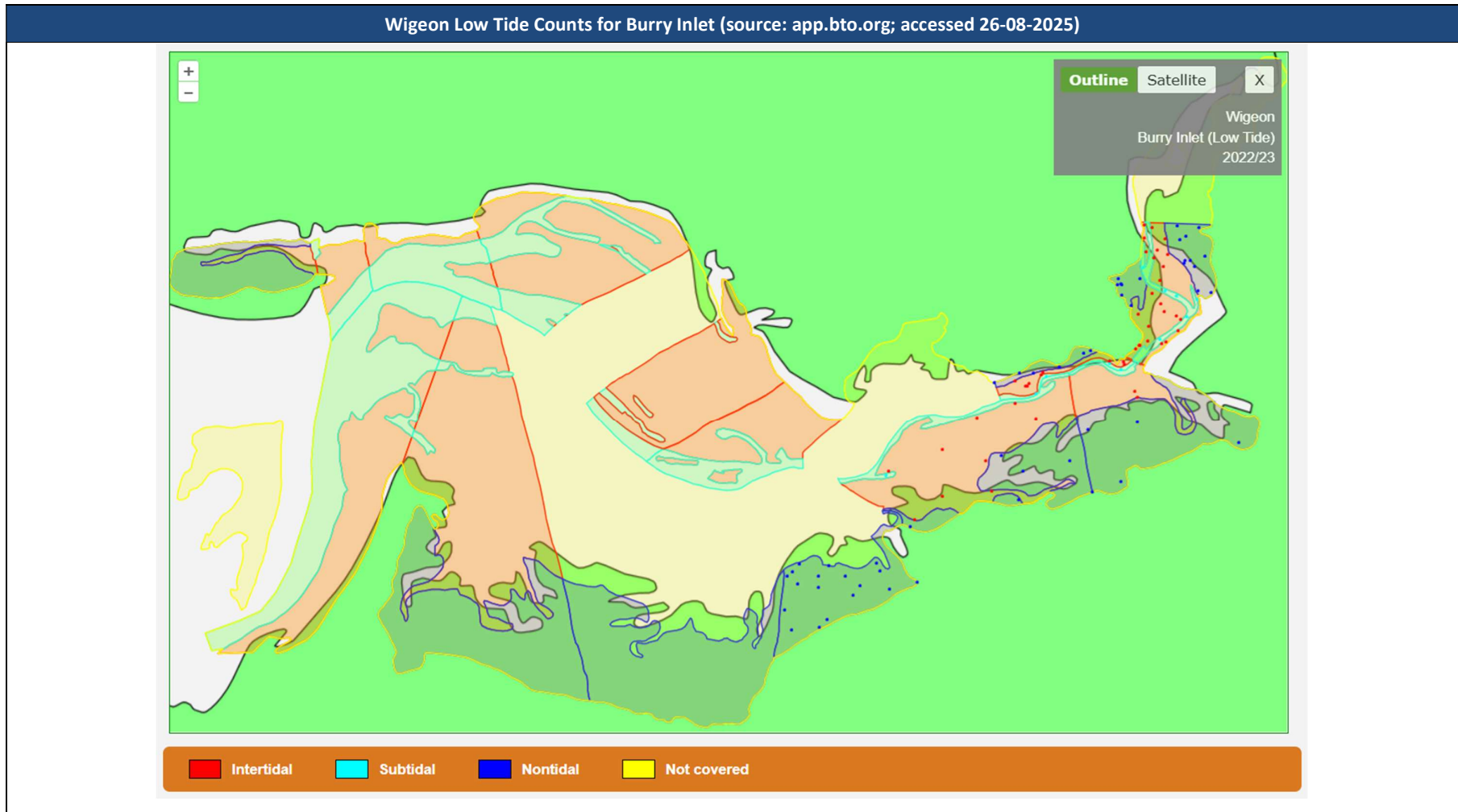


Spatial Extent of Intertidal Substrate at and around Burry Port (source: magic.defra.gov.uk; accessed 22-08-2025)



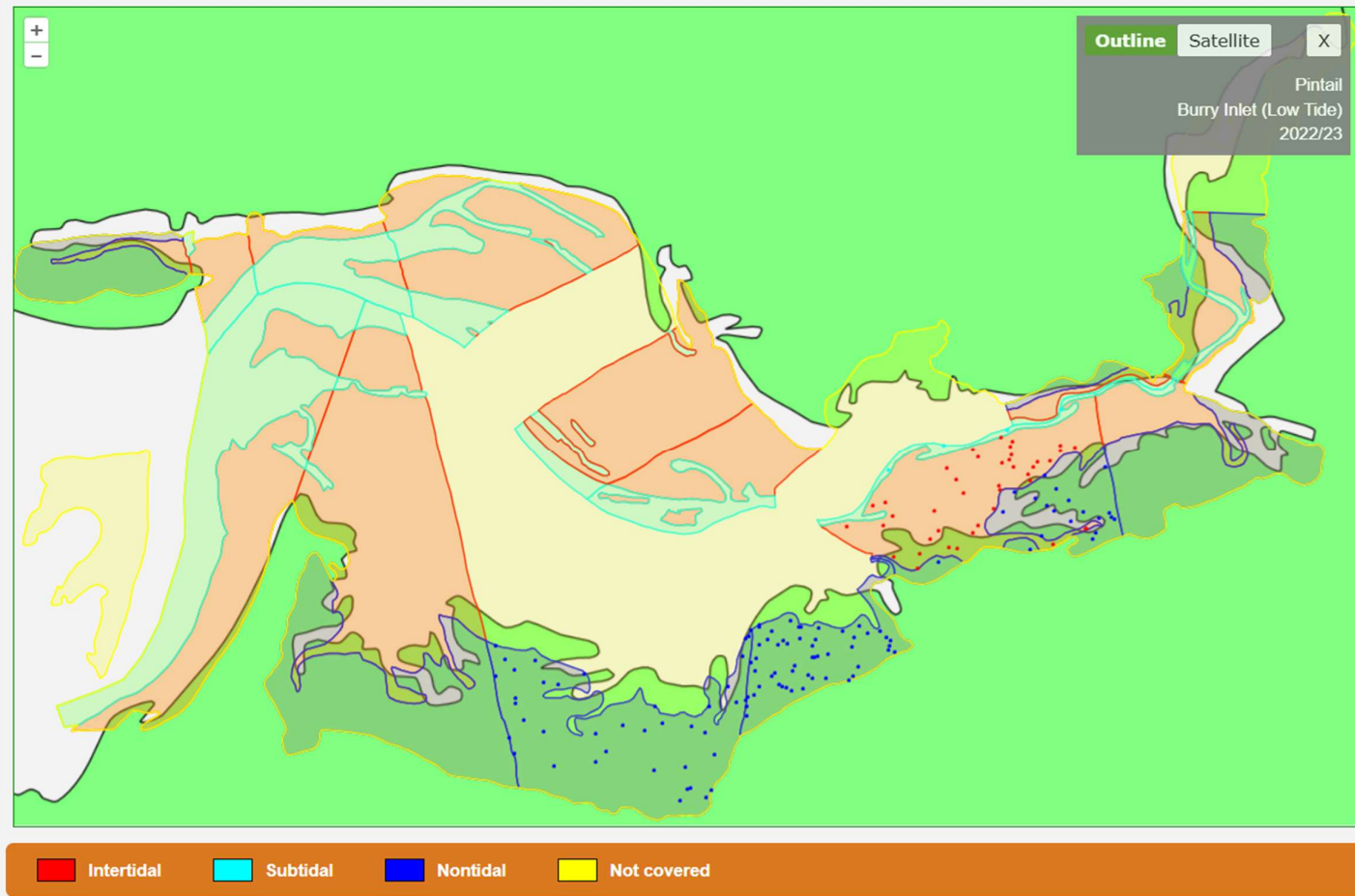


APPENDIX 6: LOW TIDE COUNTS 2022-2023 FOR BURRY INLET (Calbrade et al., 2025)





Pintail Low Tide Counts for Burry Inlet (source: app.bto.org; accessed 26-08-2025)





Oystercatcher Low Tide Counts for Burry Inlet (source: app.bto.org; accessed 26-08-2025)

