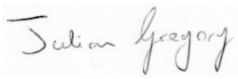


2024

**DJP Abertafol
(CERDS)
Habitats Regulations Assessment**



DOCUMENT INFORMATION			
Project	DJP Abertafol (CERDS) – Habitats Regulations Assessment (HRA)		
Location	Address: A493, Abertafol, Pennal, Gwynedd, Wales, LL35 0RF Grid Ref: SN 67034 97596		
Title	Habitat Regulations Assessment		
Document Ref	EV002135/HRA-1	Issue / Revision	1.0
File reference	EV002135/7/HRA-1		
Start Date	18/11/2024		
	Name	Signature	Date
Assessment Undertaken by	Owain Waters		18/11/2024
Document prepared by	Owain Waters		20/11/2024
Checked by	Julian Gregory		12/2024
Authorised by	Julian Gregory		12/2024

DOCUMENT CONTROL		
Rev.	Date	Description
0	11/24	Draft
1	12/24	Issued

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1. INTRODUCTION

1.1 ASSESSMENT BACKGROUND

- 1.1.1 This document provides information to support an Appropriate Assessment under The Conservation of Habitats and Species Regulations 2017 (hereafter referred to as the 'Habitats Regulations') of scheduled masonry arch repairs required by Network Rail (NR). The proposed works will be undertaken between latter Spring 2025 (exact start date of works dependent on Marine License Assent).
- 1.1.2 This document also provides information to support determination of Site of Special Scientific Interest (SSSI) Assent by Natural Resources Wales (NRW).
- 1.1.3 DJP Abertafol underbridge is adjacent to the boundaries of the Llyn Peninsula Special Area of Conservation (SAC), and Dyfi Site of Special Scientific Interest (SSSI), Aber Dyfi Special Protection Area (SPA) and Cors Fochno and Dyfi RAMSAR. Therefore, the main statutory designated site which requires consideration under the Habitats Regulations has been identified as:
- ◆ Pen Llyn a'r Sarnau / Llyn Peninsula and the Sarnau (PLAS) Special Area of Conservation (SAC).
 - ◆ Aber Dyfi Special Protection Area (SPA).
 - ◆ Cors Fochno and Dyfi RAMSAR.
- 1.1.4 Also requiring consideration in relation to seeking SSSI assent for the works from (NRW). These are:
- ◆ Dyfi Site of Special Scientific Interest (SSSI).
- 1.1.5 There are several other designated sites within proximity to the project which are discussed further below in the following sections.
- 1.1.6 This document will be reviewed by the NRW SSSI Team responsible for this section of the Gwynedd Area. Following review and acceptance, this document will form part of the Marine License Application Band 2, which will be submit prior to the commencement of works along with a separate Water Framework Directive (WFD) Assessment.
- 1.1.7 EcoVigour Ltd have been commissioned to produce these documents for Dyer & Butler Rail Ltd, the principal contractor, working on behalf of Network Rail.
- 1.1.8 Under the requirements of the European Council Directive 92/43/EEC 'The Habitats Directive', it is necessary to consider whether projects or plans may have significant effects upon areas of nature conservation importance designated/classified under the Directives. This requirement is translated into UK law through the 'Habitats Regulations'.



1.2 PROJECT BACKGROUND

- 1.2.1 Network Rail engineers have highlighted the structure (DJP Railway Underbridge) at Abertafol as requiring timely remedial measures to correct a lateral fissure from become a serious defect, which runs along the sping of the masonry arch. Network Rail have commissioned the principal contractor (Dyer & Butler Ltd) to undertake the structural remedial measures and apply for all required consents on their behalf.



- 1.2.2 The Underbridge remedial works are scheduled to be undertaken over a 14-day period during 2025. Access to the structure will be through third party land, via an existing access gate connected to the nearby A493, linking Machynlleth to Aberdovey.
- 1.2.3 Standard best practice will be required in relation to compound and the work site set up as part of the Environmental Management Plan (EMP) implemented by the Principal Contractor during the construction Phase of the project.
- 1.2.4 The EMP and HRA will reference each other to ensure all measures are clearly disseminated and enacted. The project EMP serves the same purpose as a Construction Environmental Management Plan (CEMP) only the terminology is different on rail projects. Note: some rail projects will reference a Environmental & Social Management Plan (ESMP) instead of a CEMP.
- 1.2.5 EMP/ESMP's are produced closer to the project start date, as confirmation of personnel and allocation of resources are not traditionally finalised until a month before the start date. Consequently, a completed ESMP is not currently available, however an example ESMP has been attached in Appendix B.



2. LEGISLATIVE CONTEXT

2.1 OVERVIEW

- 2.1.1 This document provides information to support an Appropriate Assessment under the Habitats Regulations of the proposed works by Dyer & Butler Ltd on behalf of Network Rail at Abertafol.
- 2.1.2 The Habitats Directive, transposed into UK legislation through the Conservation of Species and Habitat Regulations (2017) (Article 6 of European Council Directive 92/43/EEC), any plan or project not directly connected with, or necessary to, the management of a European designated site but likely to have a significant effect, either alone or in combination with other plans or projects, shall be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives.
- 2.1.3 If the Appropriate Assessment concludes that the proposed works may have an adverse effect on the integrity of a European Site, or that such an effect cannot be ruled out (in line with the recognised precautionary principle) avoidance and mitigation measures to avoid such an effect must be considered.
- 2.1.4 If it cannot be concluded that the proposed works will not have an adverse effect upon the integrity of the site(s), further measures and assessments would be required. Potentially in the form of compensation.



3. METHODOLOGY

3.1 OVERVIEW

- 3.1.1 This assessment has been produced in-line with Habitats Regulations guidance published by the JNCC (2010), English Nature (now Natural England) (2001) and the Countryside Council for Wales (now Natural Resources Wales) (2008).
- 3.1.2 Abertafol rail underbridge is located directly adjacent to the PLAS SAC, Dyfi SSSI, SPA and RAMSAR. In relation to the structure all statutory sites share the same boundary profile with the structure.
- 3.1.3 Additionally, there are other SSSI's within proximity to the project which will be discussed in further detail within the scoping-out section below.
- 3.1.4 Non-Statutory sites such as Ancient Semi Natural Woodland (ASNW), Local Nature Reserves (LNR) and National Nature Reserves (NNR) are within proximity to the rail structure and proposed compound area. However, in relation to the ANSW, no works will occur within or directly adjacent to these sites and will not be discussed further.
- 3.1.5 Regarding the LNR and NNR, these sites share similar boundary extents as the above statutory sites and therefore will benefit by proxy, from this assessment and control measures. These sites will not be discussed in further detail as they overlap with above sites.
- 3.1.6 This Habitat Regulations Assessment (HRA) will focus on the potential likely significant effects (LSE) of the rail structure refurbishment on the Lley Peninsula SAC and Afon Mawddach SSSI designated sites.



4. DESCRIPTION OF THE PROPOSED ACTIVITIES

4.1 SITE CONTEXT

- 4.1.1 The project is situated between along the North shore of the Afon Dyfi Estuary (Grid Ref: SN 66065 97223). No formal project compound is to be utilised; however a towed welfare unit or mobile welfare vans will be used. These will either be parked/placed within the existing A493 layby, or with the opening of the field to the northeast of the structure (dependent on third party landowner agreements). The figure below illustrate the sites location in relation to the wider area and PLAS SAC.

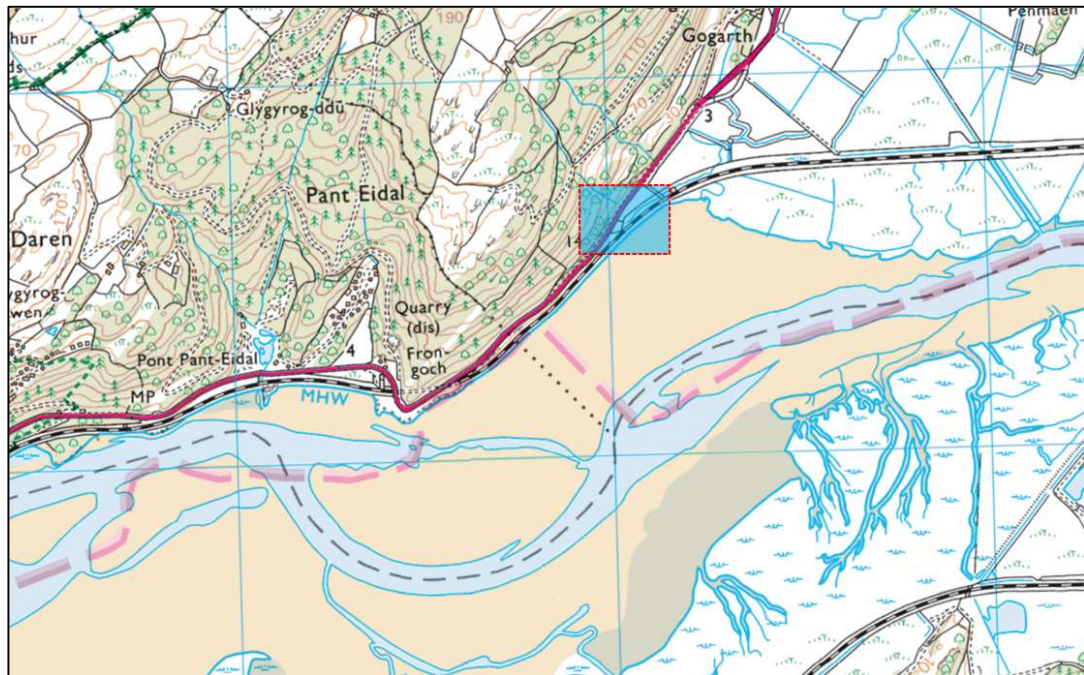


Figure 1: OS Map Location.

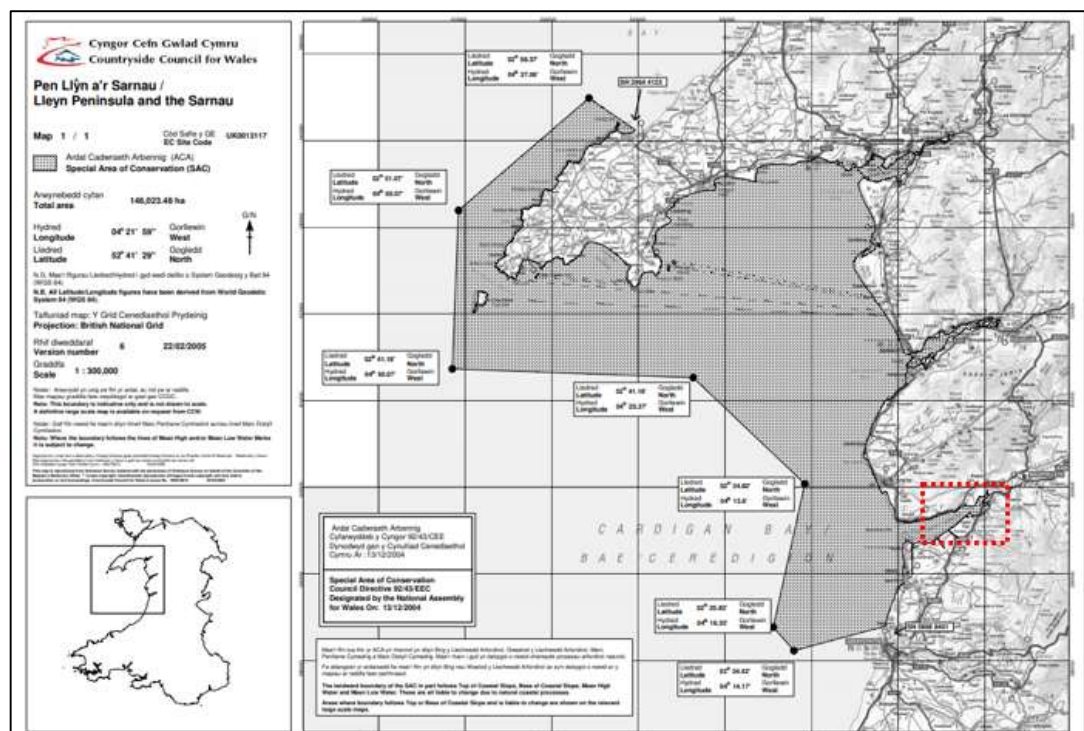


Figure 2: Approx area of works within wider PLAS context.





- 4.2.7 Operatives will document each section of works, on completion of pointing and pinning, operatives will collect dropped pointing materials and will remove from the working area.
- 4.2.8 Final demobilisation and removal of welfare, vehicles and equipment.

4.3 SUPPORTING WORKS

Site Welfare - Delivery/Setup

- 4.3.1 No formal compound is required to support the works. Welfare will be provided using mobile welfare vans. These will be moved to suitable locations as the project requires. There are several laybys available along the A493 to support the works.

Access

- 4.3.2 Access to the underbridge will be on foot only, with no vehicles entering the estuarine environment.

Emergency Plans

- 4.3.3 The contractor will ensure that emergency pollution control plans above standardised spill control plans are prepared prior to the commencement of the project.

Emergency Plan Fundamentals:

- ◆ Any disabled or malfunctioning equipment within or near the channel environment will be immediately checked for any potential release of hydrocarbons, and if discovered, spill kits and trays will be used immediately.
- ◆ The on-call emergency engineer provider will be requested to attend site in the event that the fault cannot be resolved by the operator. As all equipment is accrued by hand, any faulty equipment will be carried out of the marine environment.
- ◆ NRW and the on-call Environmental Clerk of Works will be contacted immediately and made aware of the emergency and risk of a pollution event.



5. HRA METHODOLOGY OBJECTIVES

- 5.1.1 Habitats Regulation Assessment is an assessment of the potential effects of a proposed project / maintenance activity on a European site(s) (alone and/or in combination with other plans and projects). The Habitats Regulations promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the project should aim to avoid significant adverse effects by identifying potential measures to avoid these effects.
- 5.1.2 Where adverse effects remain, mitigation measures should be applied to a point where these effects are no longer significant. If sufficient mitigation measures cannot be applied, the project should not be taken forward in its current form. In such a scenario, the project will require an assessment to identify alternative solutions that deliver the project in a form that avoids any significant adverse effects.
- 5.1.3 Where significant adverse effects remain, compensatory measures will be required if the project is to proceed. However, the application of such measures will only be permitted if no alternative solutions exist and the project is required for imperative reasons of overriding public interest (the 'IROPI' test).



6. DESIGNATED SITES WITHIN PROXIMITY TO SITE

6.1.1 There are several statutory designated sites within proximity to the project.

Site of Special Scientific Interest:

- ◆ Dyfi Site of Special Scientific Interest (SSSI).
- ◆ Coed y Gofer (SSSI)

Special Area of Conservation:

- ◆ Pen Llyn a'r Sarnau / Llyn Peninsula and the Sarnau (PLAS) Special Area of Conservation (SAC).

Special Protection Area:

- ◆ Aber Dyfi Special Protection Area (SPA).

RAMSAR:

- ◆ Cors Fochno and Dyfi RAMSAR.

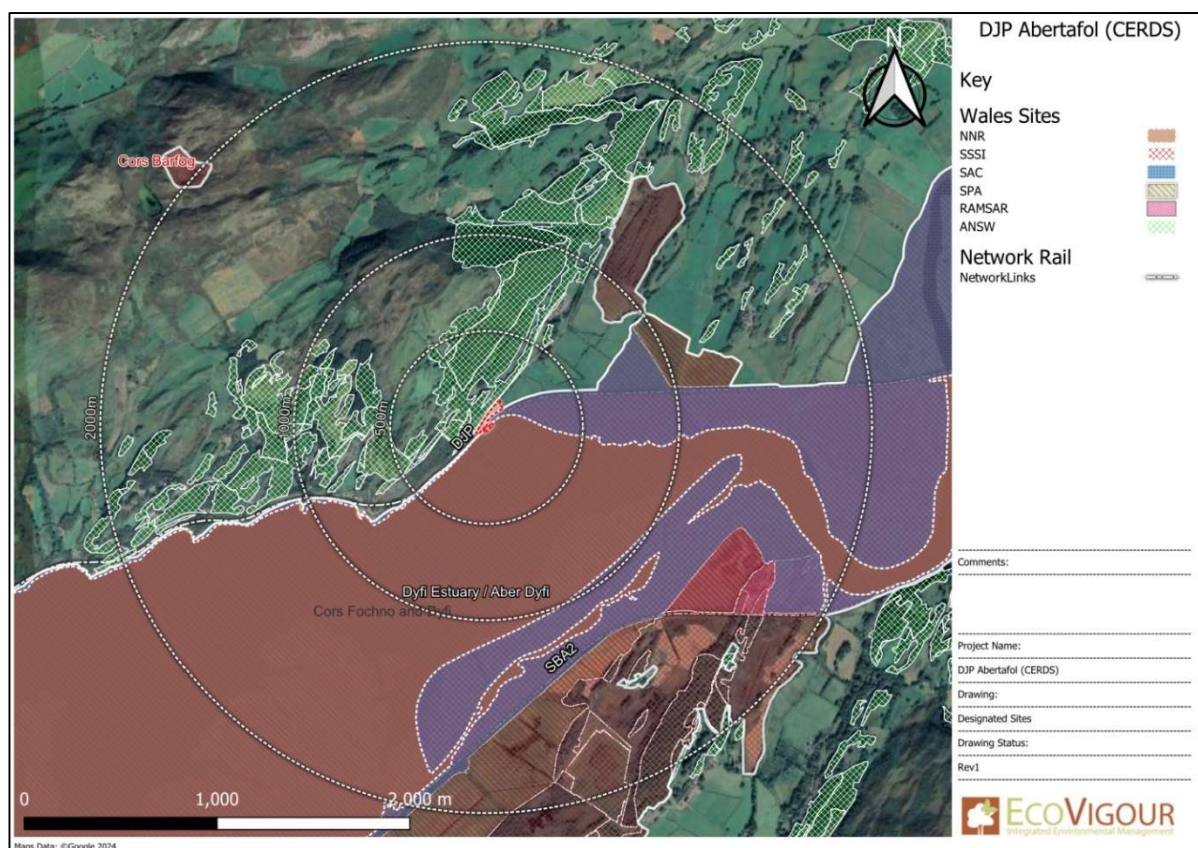


Figure 4: Designated sites in proximity to structure.

- 6.1.2 As Coed y Gofer SSSI is designated for its in situ biological features and is a significant distance away from the project, it will not be considered further in this assessment.
- 6.1.3 In regard to the SPA and RAMSAR sites, as the main features overlap, these two designations will be discussed within the same section.
- 6.1.4 The West Wales Marine (WWM) SAC boundary is outside of the project boundary but is however connected via the Dyfi estuary. Although this site will not be discussed specifically, this assessment does acknowledge the importance of the marine site and consequently, the mitigative measures to be implemented for the project will ensure the protection of the key habitat and species features outlined within the WWM conservation objectives.



7. DYFI SSSI

- 7.1.1 The Dyfi estuary is designated as a SSSI due to its diverse biological and geological features. It is outstanding for the size, range and the quality of its habitats and their transitions, and for its botanical, entomological and ornithological interest.
- 7.1.2 The estuary of the River Dyfi includes a range of habitats, with river channels and creeks, and extensive areas of sandbanks, mudflats and saltmarsh, including by far the largest area of saltmarsh in Ceredigion.
- 7.1.3 Within the Site Management Statement (SMS), the features below are listed which form the overall status of the designated site:
- ◆ Post-glacial geology
 - ◆ The Estuary
 - ◆ Saltmarshes
 - ◆ Sand-dunes
 - ◆ Estuarine raised bogs
 - ◆ Lower Plants
 - ◆ Higher Plants
 - ◆ Otter populations
 - ◆ Wintering wildfowl populations
 - ◆ Breeding bird assemblage
 - ◆ Reptile assemblage
 - ◆ Invertebrate assemblage of bog/wetland habitats
 - ◆ Invertebrate assemblage of dune habitats
- 7.1.4 From the available habitat data and on-site walkovers, the relevant habitat from the SMS in proximity to the project area are:
- ◆ The estuary
 - ◆ Intertidal mud flats
 - ◆ Salt marsh
 - ◆ Rock outcrops

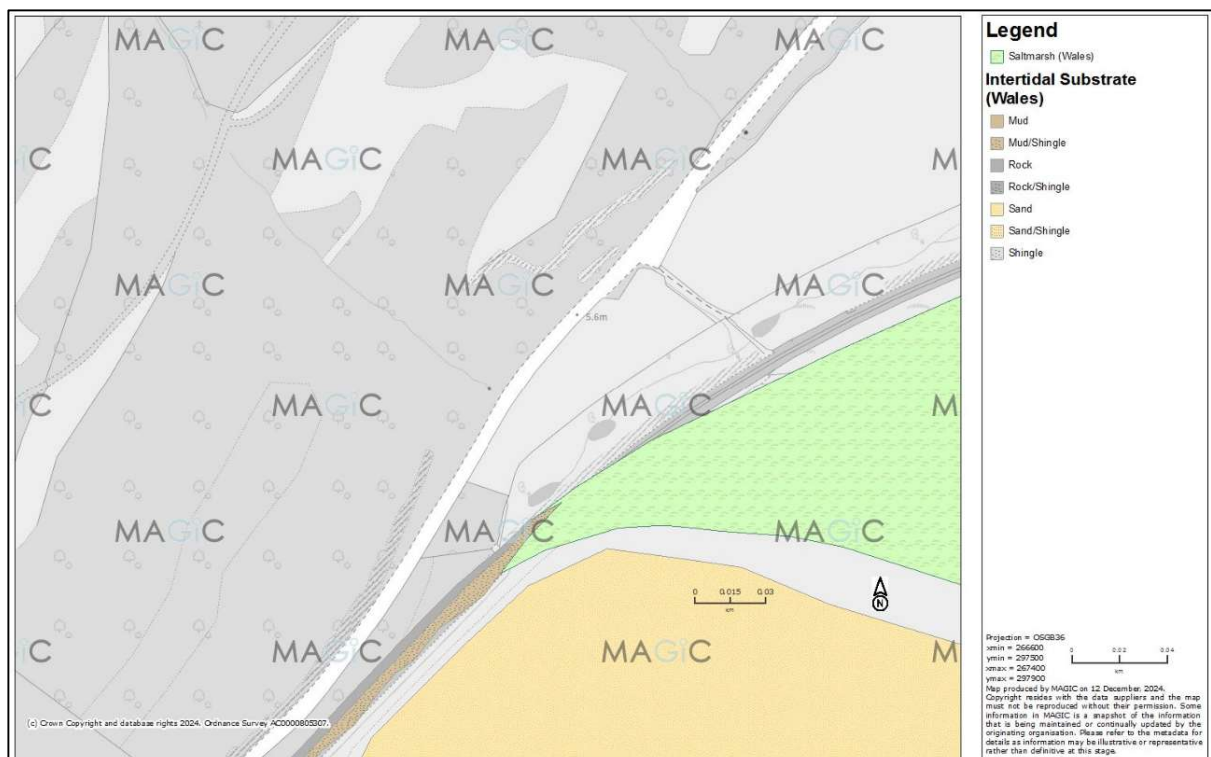


Figure 5: Habitats within proximity to remedial works.



7.1.5 The figures below provide a visual summary of the walkover. This is not an extensive collection of the images collected from the survey. Additional images are available upon request.



Figure 6: Estuary side of underbridge.

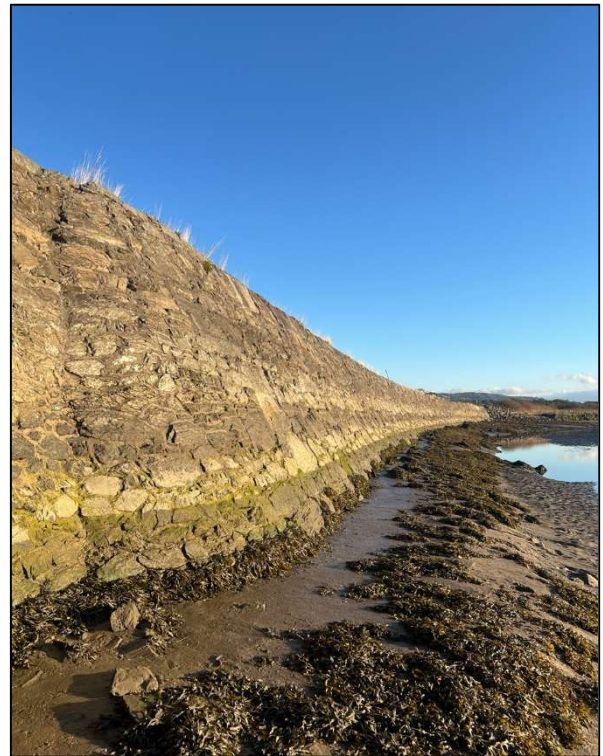


Figure 7: Sea Defence Wall of DJP Rail Line.



Figure 8: Masonry Arch of underbridge, with stress fracture observed.

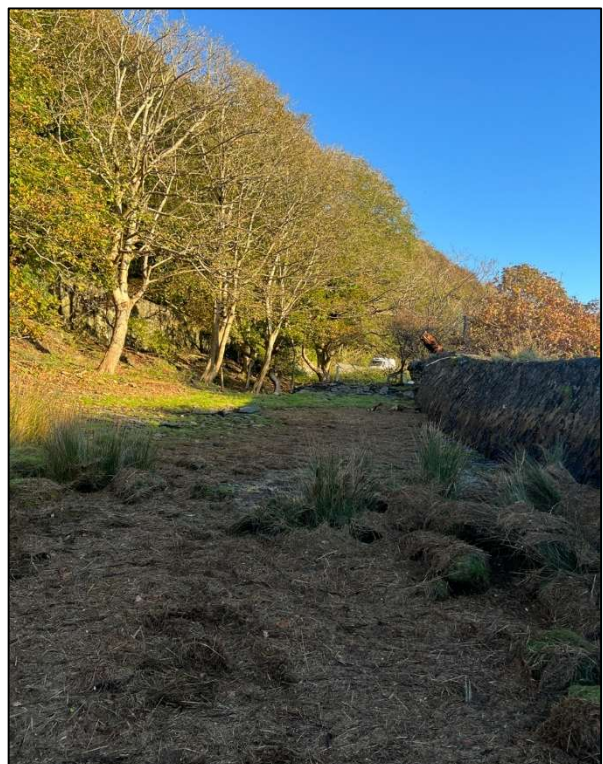


Figure 9: Visible strandline on the landward side of the survey area.

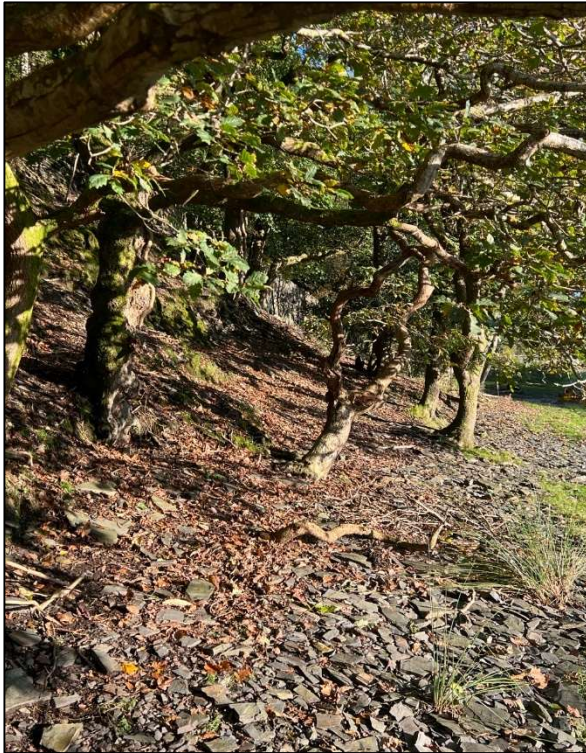


Figure 10: Woodland interface with strand intertidal extents.

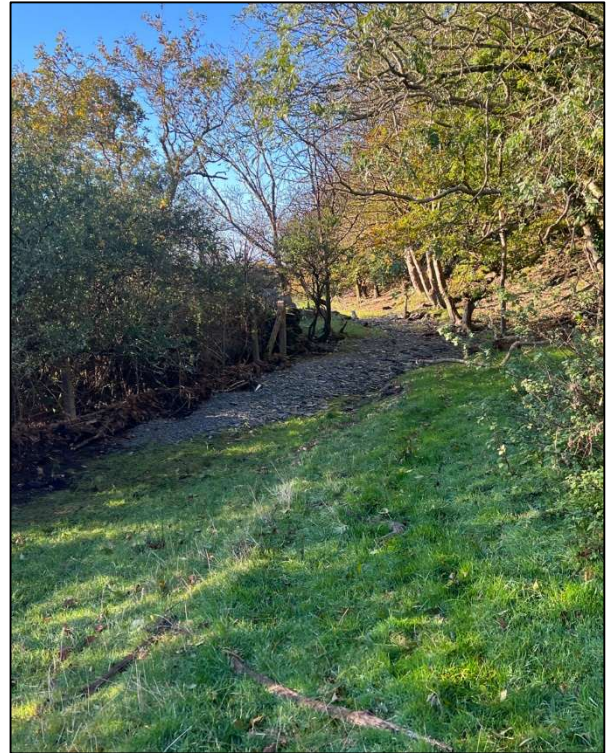


Figure 11: Edge of field to area influenced by tides.

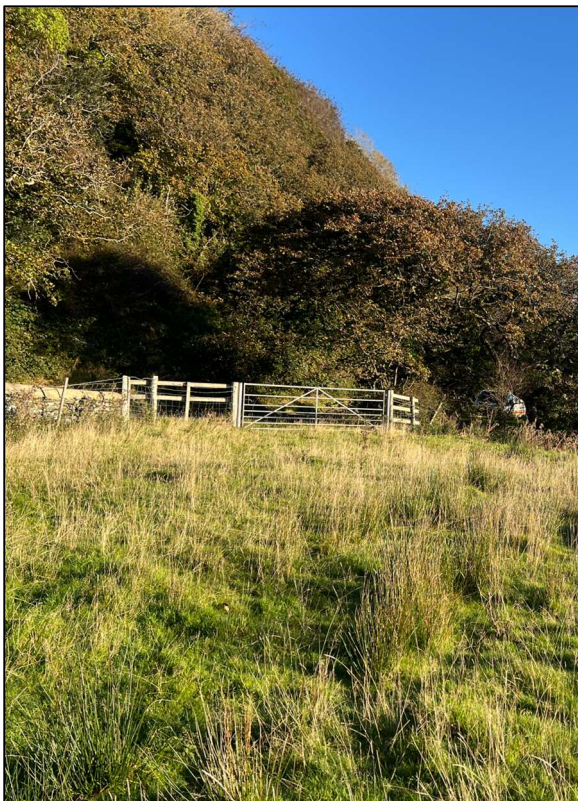


Figure 12: Gate allowing access to field and structure.



Figure 13: Mammal and wader prints within exposed mud at low tide.



Species Locations:

- 7.1.6 A summary of notable species locations are indicated below, please note, birds are not summarised due to their highly transient nature, however a species summary is provided in Appendix A. In addition, some species note are beyond the frame of this drawing (beyond 2km) from the sites central point. However, these species are noted and their approximate distances from the site, within the sub-section below.



Figure 14: Species Location Summary.

- 7.1.7 There is a list of potential damage vectors to the designated site highlighted within the SMS Potentially Damaging Operations (PDO) list. Below are the activities considered relevant to the proposed project (Table 3 below).

SMS Ref No:	Type of operation
21.	Destruction, construction, removal, rerouting, or regrading of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, including soil and rock exposures.
22.	Storage of materials.
23.	Erection of permanent or temporary structures or the undertaking of engineering works, including drilling or the laying, maintenance or removal of pipelines and cables, above or below ground.
24.	Modification of natural or man-made features (including cave entrances) and clearance of boulders, large stones, loose rock or scree and the battering, buttressing or grading of geological exposures.
26.	Use of vehicles or craft.

- 7.1.8 Note: All the above operations occur outside of the designated boundary, with no physical works interacting with the designated or highlighted intertidal habitat above. Mitigation measures for SSSI features which overlap SAC are discussed further in section 13.

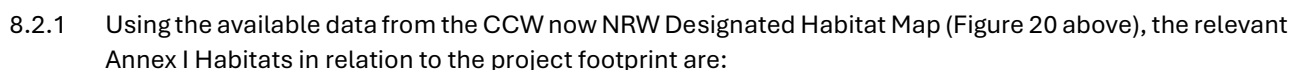


8. LLEYN PENINSULA AND THE SARNAU (SAC)

- 8.1.1 The Llyn Peninsula and the Sarnau SAC is comprised of sea, coast and estuary that supports a wide range of marine habitats and dependant wildlife. The nature of the seabed and coast including the range of environmental conditions present vary throughout the SAC. (See figure 3) for project location in relation to the SAC boundary). For the qualifying habitats and species listed in the table below (table 4), the Llyn Peninsula and the Sarnau SAC is one of the best areas in the United Kingdom.

EU Code	Feature
Annex I habitats that are a primary reason for selection of this site	
1110	Sandbanks which are slightly covered by sea water all the time
1130	Estuaries
1150	Coastal lagoons (* Priority feature)
1160	Large shallow inlets and bays
1170	Reefs
Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site	
1140	Mudflats and sandflats not covered by seawater at low tide
1310	Salicornia and other annuals colonizing mud and sand
1330	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
8330	Submerged or partially submerged sea caves
Annex II species present as a qualifying feature, but not a primary reason for site selection	
1349	Bottlenose dolphin (Tursiops truncatus)
1355	Otter (Lutra lutra)
1364	Grey seal (Halichoerus grypus)

- 8.1.2 As the project occurs directly adjacent to the SAC, it is necessary to identify any Annex I & II features that could be impacted.
- 8.1.3 Annex II species will be assumed as these species are highly mobile. The Annex I habitat however are discussed in the following subsections.



- 8.2.2 Again, as previously conceded in this assessment, there are designated habitat features further afield such as large shallow inlets/bays and subtidal sandbanks which would be vulnerable to pollution events, which could impact the Favourable Conservation Status (FCS) of these features. However, as the immediate features to the structure will be protected by robust measures, these further afield features will benefit from the proposed measures in this assessment.



8.3 ANNEX I – NRW INDICATIVE CONDITION REPORT

8.3.1 The tables below are extracted from the PLAS SAC - Indicative site level feature condition assessments 2018, NRW Evidence Report No: 234. These tables describe the current status the Annex I features relevant to the project (Tables 7-10 below).

Table 1: Estuaries Habitat Condition.

Date		May 2017			
Site name		Pen Llŷn a'r Sarnau / Llyn Peninsula and the Sarnau SAC			
Site feature assessed		Estuaries			
Component of habitat feature assessed	Indicative Assessment (Favourable, unfavourable, unknown)	Key evidence type used (Monitoring data, reports or expert judgement)	Level of agreement	Confidence in evidence	Component confidence level
Distribution & Extent (within site)	Unfavourable	Some monitoring data, expert judgement	High	Medium	Medium
Structure & function	Unfavourable	Some monitoring data, WFD waterbody assessments, expert judgement	High	Low	Low
Typical species	Favourable	Some monitoring data, WFD data, expert judgement	High	Medium	Medium
Relevant activities (activities directly impacting condition of the feature on this site)			Historic pollutants Works on Pont Briwet and Dwyrdd Pylon		
Overall Indicative Assessment			Overall Confidence Level		
Unfavourable			Medium		

Table 2: Mudflats and Sandflats Condition.

Date		May 2017			
Site name		Pen Llŷn a'r Sarnau / Llyn Peninsula and the Sarnau SAC			
Site feature assessed		Mudflats & sandflats not covered by seawater at low tide			
Component of habitat feature assessed	Indicative Assessment (Favourable, unfavourable, unknown)	Key evidence type used (Monitoring data, reports or expert judgement)	Level of agreement	Confidence in evidence	Component confidence level
Distribution & Extent (within site)	Unfavourable	Some monitoring data, expert judgement	High	Medium	Medium
Structure & function	Unfavourable	Expert judgement, WFD assessments	Low	Low	Low
Typical species	Favourable	Monitoring data, expert judgement & WFD assessments	High	Medium	Medium
Relevant activities (activities directly impacting condition of the feature on this site)			Development issues Water quality issues		



Overall Indicative Assessment	Overall Confidence Level
Unfavourable	Medium

Table 3: Saltmarsh Habitat Condition.

Date	May 2017				
Site name	Pen Llŷn a'r Sarnau / Lleyen Peninsula and the Sarnau SAC				
Site feature assessed	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)				
Component of habitat feature assessed	Indicative Assessment (Favourable, unfavourable, unknown)	Key evidence type used (Monitoring data, reports or expert judgement)	Level of agreement	Confidence in evidence	Component confidence level
Distribution & Extent (within site)	Unfavourable	Expert judgement (knowledge of historical modification to the estuaries), reports, expert judgement based on casework.	High	High	High
Structure & function	Unfavourable	Expert judgement (knowledge of historical modification to the estuaries), WFD assessments, Expert judgement based on casework.	High	High	High
Typical species	Unfavourable	Monitoring data, expert judgement	High	Medium	Medium
Relevant activities (activities directly impacting condition of the feature on this site)			Grazing Infrastructure development: Pont Briwet and Dwyrdd Pylon Coastal defence and erosion control		
Overall Indicative Assessment			Overall Confidence Level		
Unfavourable			High		



8.4 ANNEX II SPECIES – NRW INDICATIVE CONDITION REPORT

8.4.1 The tables below are extracted from the PLAS SAC - Indicative site level feature condition assessments 2018, NRW Evidence Report No: 234. These tables describe the current status the Annex II features relevant to the project (Tables 11-13).

Table 4: Bottlenose Dolphin population condition.

Date	May 2017				
Site name	Pen Llŷn a`r Sarnau / Llyn Peninsula and the Sarnau SAC				
Site feature assessed	Bottlenose dolphin (<i>Tursiops truncatus</i>)				
Component of species feature assessed	Indicative Assessment (Favourable, unfavourable, unknown)	Key evidence type used (monitoring data, reports or expert judgement)	Level of agreement	Confidence in evidence	Component confidence level
Population (e.g. size, structure, production, condition of species within site, contaminant burdens)	Favourable	Monitoring data, report	Medium	Medium	Medium
Range (within site)	Favourable	Monitoring data, report	Medium	Medium	Medium
Supporting habitats					
<i>Distribution & extent</i>	Unknown	Expert judgement	Medium	Not applicable	Not applicable
<i>Structure & function</i>	Unknown	Expert judgement	Medium	Not applicable	Not applicable
<i>Prey availability and quality</i>	Unknown.	Expert judgement	Medium	Not applicable	Not applicable
Relevant activities (activities directly impacting condition of the feature on this site)			No activities identified as having a direct impact on feature condition.		
Overall Indicative Assessment			Overall Confidence Level		
Favourable			High		

8.4.2 Described in NRW PLAS SAC Regulation 33 Advice February 2009, Bottlenose dolphins are adapted to living in the marine environment and are adapted to the many challenging aspects of that environment. However, artificially introduced hazards and reductions in the natural quality and suitability of the bottlenose dolphin habitat in the SAC can occur through:

- ◆ the presence and persistence of artificial inert or toxic materials (e.g. plastics, synthetic fibres, hydrocarbons) causing entanglement, smothering or ill-health.
- ◆ competition with human activities for space causing displacement, collision, noise and visual disturbance and increasing density dependent pressure on sites and increased stress rendering animals susceptible to the effects of normally dormant endemic viral diseases.
- ◆ contamination of prey.

8.4.3 Impact vectors on this species is the accidental release of hydrocarbons, which will be addressed in Section 12 – Project Mitigation.



Table 5: Otter population condition (Feature overlaps with SSSI).

Date	May 2017				
Site name	Pen Llŷn a`r Sarnau / Llyn Peninsula and the Sarnau SAC				
Site feature assessed	Otter (<i>Lutra lutra</i>)				
Component of species feature assessed	Indicative Assessment (Favourable, unfavourable, unknown)	Key evidence type used (monitoring data, reports or expert judgement)	Level of agreement	Confidence in evidence	Component confidence level
Population (e.g. size, structure, production, condition of species within site, contaminant burdens)	Favourable	Monitoring data, reports & expert judgement.	High	Medium	Medium
Range (within site)	Unknown	Expert judgement	High	Not applicable	Not applicable
Supporting habitats					
<i>Distribution & extent</i>	Unknown	Expert judgement	High	Low	Low
<i>Structure & function</i>	Unknown	Expert judgement	High	Not applicable	Not applicable
<i>Prey availability and quality</i>	Unknown.	Expert judgement	High	Low	Low
Relevant activities (activities directly impacting condition of the feature on this site)	No activities identified as having a direct impact on site condition.				
Overall Indicative Assessment	Overall Confidence Level				
Favourable	Medium				

- 8.4.4 Surveys indicate regular otter use of the Glaslyn/Dwyrdd and Dyfi estuaries as well as signs of otters by the Mawddach estuary. Otters living on the coast must have access to freshwater streams and pools for drinking and washing. Otters need to wash in freshwater in order to maintain the insulating properties of their fur. The lack of available freshwater might explain the restricted distribution of otters living along the coast in some areas of the UK, however the SAC is well served with rivers and streams throughout its length.
- 8.4.5 Habitat essential for otters, i.e. well vegetated stream and river valleys, access to the shore, access to freshwater, secluded resting habitats, is high throughout much of the site. The structural and functional integrity of this essential habitat is considered to be good.
- 8.4.6 Whilst good quality essential habitat is available within the SAC and adjacent area, the quality and suitability of this habitat can be reduced in a variety of ways, including:
- ◆ the presence and persistence of artificial inert materials (e.g. plastics, synthetic fibres, static fishing gear) leading to entanglement and smothering;
 - ◆ decrease in seclusion because of noise and visual disturbance as a result of increased human access, habitation and waterborne activities;
 - ◆ the presence and persistence of toxic contaminants, including the risk of fur contamination from oil discharged into freshwater and marine environments;
 - ◆ availability and quality of prey.



Table 6: Grey Seal population condition.

Date	May 2017				
Site name	Pen Llŷn a`r Sarnau / Lleyn Peninsula and the Sarnau SAC				
Site feature assessed	Grey seal (Halichoerus grypus)				
Component of species feature assessed	Indicative Assessment (Favourable, unfavourable, unknown)	Key evidence type used (monitoring data, reports or expert judgement)	Level of agreement	Confidence in evidence	Component confidence level
Population (e.g. size, structure, production, condition of species within site, contaminant burdens)	Favourable	Reports & expert judgement	Medium	Medium*	Medium
Range (within site)	Unknown	Reports & expert judgement	Medium	Medium*	Medium
Supporting habitats					
Distribution & extent	Unknown	Expert judgement / Casework	High	Not applicable	Not applicable
Structure & function	Unknown	Expert judgement / Casework	High	Not applicable	Not applicable
Prey availability and quality	Unknown.	Expert judgement / Casework	High	Not applicable	Not applicable
Relevant activities (activities directly impacting condition of the feature on this site)			No activities identified as having a direct impact on site condition.		
Overall Indicative Assessment			Overall Confidence Level		
Favourable			Medium		
Noted activities:					
◆ No planned activities or plans/projects are considered to adversely affect the feature of the SAC (e.g Adverse Effect of Site Integrity). The population (at least at those sites monitored) is stable or increasing, reflecting a good quality, functioning supporting habitat, despite present levels of human activity and plans & projects. ◆ Seals in the SAC are part of a wider population, considered to be at the scale of the SW England and Wales Management Unit. Bycatch in this management Unit (from gillnet fisheries in SW approaches) is high. Despite this, the population is increasing.					



10. PHYSICAL PROCESSES

10.1 RELEVANT POLICIES WITHIN THE SHORE MANAGEMENT PLAN 2 (SMP2)

- 10.1.1 As part of the appropriate assessment, it is necessary to compare the proposed works against the long term policies outlined within the Shore Management Plan 2 (SMP2). Within the SMP2 there are several policy units relevant to this section of coastline. The structure is contained within Coastal Area D – PDZ II, specifically 11.14 and 11.8.
- 10.1.2 Management units are defined within epochs, with epoch 1 referring to periods from present to 2025, epoch 2 referring to years between 2025-2055 and epoch 3, 2055-2105.

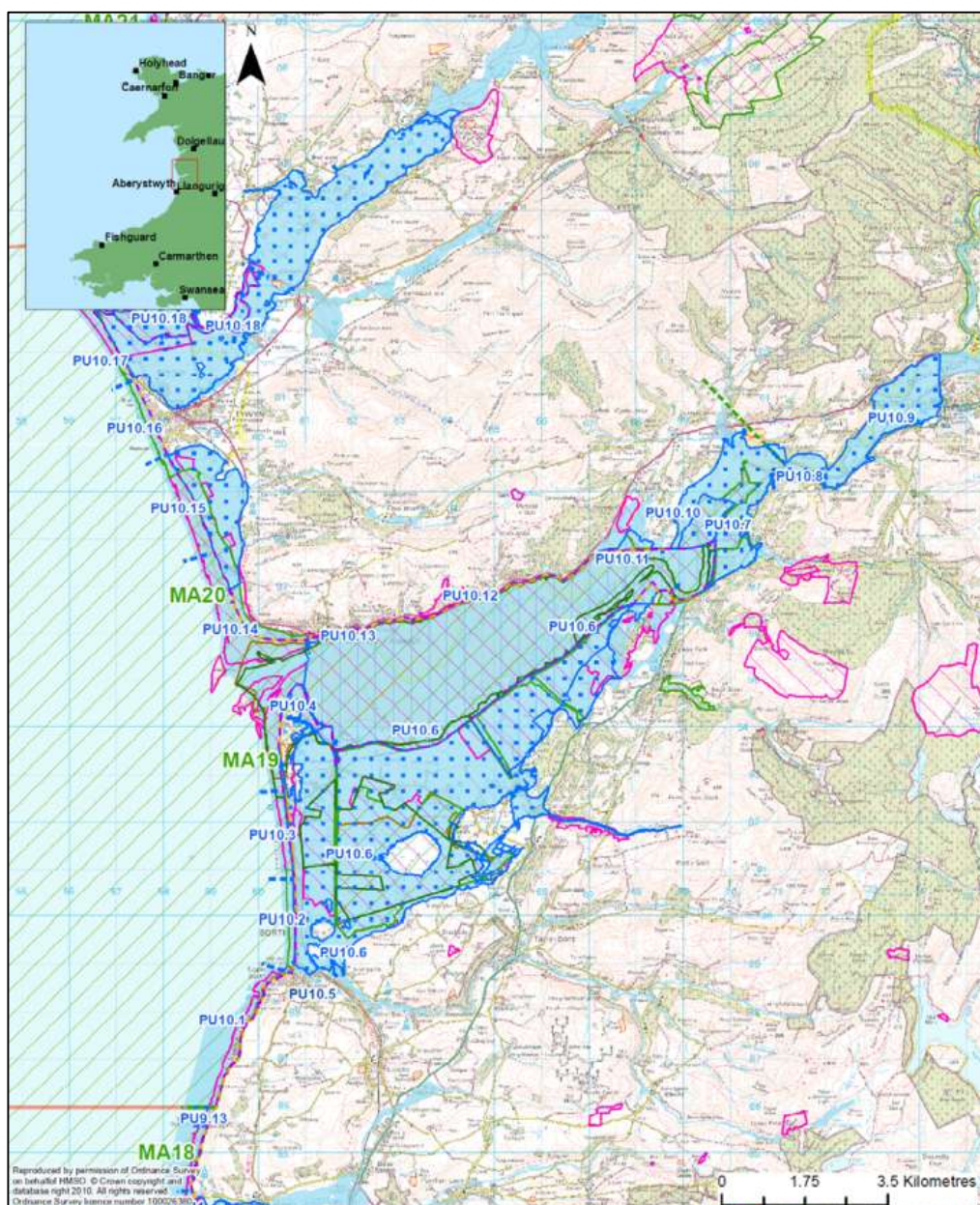


Figure 16: Shoreline Management Plan Units within PLAS.



Policy Unit		Policy Plan				
		2025	2055	2105	Comment	
10.12	Dyfi North	HTL	HTL	HTL	Management of road and rail defences.	
Key: HTL - Hold the Line, A - Advance the Line, NAI – No Active Intervention MR – Managed Realignment						
Designated Site	Policy Unit	Habitat Type	Extent of Loss of Habitat (ha)			
			Epoch 1	Epoch 2	Epoch 3	Total
PLAS SAC	10.12	Intertidal sandflat	0.00	3.19	1.92	5.11

10.1.3 As a result of the preferred policy there will be a reduction in the intertidal habitat (sandflats) within the boundary of the SAC. There will, however, be no adverse effect on the integrity of the other SAC features.

10.1.4 In regard to coastal squeeze related to the project, as the works are constrained to the bridge structure itself and not the adjoining estuary defences, which is detailed within Policy Unit 10.12, a coastal squeeze assessment for the project is not required as the structure itself does not represent a contributing factor to this long term issue.



11. ASSESSMENT OF POTENTIAL IMPACTS RESULTING FROM SPECIFIC ACTIVITIES AND PROPOSED MITIGATION MEASURES – ABERTA FOL UNDERBRIDGE REPAIRS

This section outlines the receptors of potential damaging vectors as a result of the proposed works and proposes appropriate mitigative measures to ensure that there is not a significant likelihood of impacts.

11.1 ANNEX I HABITATS – IMPACTS & MITIGATION

Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
Annex I habitats: Estuaries. Salt marshes (also part of estuarine habitat). Reefs. Mudflats and sandflats not covered by seawater at low tide. Habitat outside Designated sites.	SAC/SSSI/SPA/RAMSAR	Loss of habitat from project activities.	No physical works occur within any of the designated Annex I Habitats that make up any of the site's habitat assemblage, although the structure borders the intertidal mud/sand flats component of the Estuaries habitat designation. All welfare, storage, parking and general works will occur within third party agricultural fields, existing road and rail network. The only works below the structure will be temporary access and egress to erect temporary scaffolding to support a working platform below the bridge deck (Arch). Only minor vegetation clearance may be required along the temporary access route between the road and structure for 4x4 access to reduce manual handling pressures. This habitat (grassy verge and reeds) will be allowed to regenerate naturally following the completion of works. A pre-works check will be undertaken prior to vegetation clearance and access route use.	Negligible likelihood of significant impacts.



Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
Annex I habitats: Estuaries. Salt marshes (also part of estuarine habitat). Reefs. Mudflats and sandflats not covered by seawater at low tide. Habitat outside Designated sites.	SAC/SSSI/SPA/RAMSAR	Contamination of the estuary from spillage of hydrocarbons during refuelling of plant and equipment or due to equipment failure.	No equipment will occur within the estuary habitat or below the temporary platform. All items of static plant will be placed within a plant nappy when in use or being stored. GPP's will be referenced to and copies made available to all site personnel in reference to working near water and the storage of materials. A refuelling procedure will be implemented, whereby plant nappies will be placed beneath fuelling apertures during fuelling and refuelling will only be undertaken by designated, trained individuals using equipment specifically designed for that purpose. Network Rail have a spillage plan and specialised contractor in place to respond to and clean up spills. The project EMP/ESMP will support this document with the relevant copies of GPP's. The Contractor will develop and implement an Emergency Awareness and Response Plan. This will describe how spills will be contained and cleaned up. The emergency plan will appoint an Incident Coordinator, define roles and responsibilities during an incident, detail response procedures and contain an inventory of response equipment to be maintained on site.	Negligible likelihood of impacts with mitigation in place.



Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
All identified within the project area and proximity.	SAC/SSSI/SPA/RAMSAR	Contamination of the estuary from release of concrete.	Concrete used will be a rapid drying marine standard which will only be used to cap and support the pins driven into the stonework. The crash deck will use an impermeable membrane to contain any potential concrete bleed or spillage.	Negligible likelihood of impacts with mitigation in place.
All identified Annex I & II features within the project area and wider habitat.	SAC/SSSI/SPA/RAMSAR	Release or spread of INNS into the estuary and wider environment.	All machines will undergo biosecurity control measures before entering the estuarine environment. Please see attached Biosecurity Management Plan in Appendix A .	Negligible likelihood of impacts with mitigation in place.
All identified Annex I & II features within the project area and wider habitat.	SAC/SSSI/SPA/RAMSAR	Failure of crash deck as a result of high energy events – E.g., Storm events.	The principal contractor will implement a weather warning plan and monitor project whether closer to the project start date and adjacent work periods accordingly. In the event of a storm event approaching the works which could not be readily predicted, the crash decking will be cleared and stored securely within the compound or within the road closure. The remaining scaffolding components will be rechecked and further braced if necessary. It is anticipated that scaffolding can be secured to degree in which they will have a high tolerance to weather impacts. The existing temporary supports have been in-situ below the existing bridge for a significant amount of time and have withstood previous storm events.	Negligible likelihood of impacts with mitigation in place.



11.2 ANNEX II SPECIES – IMPACTS & MITIGATION

Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
Aggregations of non-breeding birds	SAC/SSSI/SPA/RAMSAR	Noise disturbance / Visual Disturbance / Habitat Destruction.	Project activities will create a source of light and noise over 8-12 hours during the day. Times will vary depending on specific tasks. Working hours will be between 07:00-19:00 As working hours are not continuous there will be periods where birds are not disturbed by site activities during the early mornings and night. It is likely that local bird populations are habituated to a level of human activities, due to the proximity of the A493 and Abertafol further west. The Saltmarsh habitat adjacent to the structure is relatively small. This is not to insinuate that the habitat insignificant in isolation, however in relation to much larger saltmarsh habitat along the southern shores of the Dyfi estuary, it is likely this area is not an essential component to the overall bird assemblage dependencies.	Negligible likelihood of impacts with mitigation in place.
Aggregations of breeding birds	SAC/SSSI/SPA/RAMSAR	Noise disturbance / Visual Disturbance / Habitat Destruction.	The project is scheduled at the start of the traditional breeding season. Pre-works checks and due diligence will be undertaken in regards to potential nesting birds. Any nest encountered within the project footprint will be assessed by an experienced ecologist.	Negligible likelihood of impacts with mitigation in place.
Individual wintering birds	SAC/SSSI/SPA/RAMSAR	Noise disturbance / Visual Disturbance / Habitat Destruction.	The works are scheduled to occur within circa March 2025, outside of the important wintering period. GWfG are normally counted November onwards during winter activity surveys. The works are anticipated to be completed and all site assets removed well in advance of November arrivals of GWfG in significant numbers.	Impact Not Likely to be Significant
Potential Bat species	Localised populations	Noise disturbance / Visual Disturbance / Habitat Destruction.	No trees require removal for the project to take place. Although night working is not envisaged, should it be required, then site lighting will be limited to lighting of safety critical areas and directed task lighting. A pre-works check of structure defects will be undertaken as part of the works, by a licensed bat ecologist.	Impact Not Likely to be Significant, with appropriate mitigation.



Otters	SAC/SSSI/SPA/RAMSAR	Noise disturbance / Visual Disturbance / Habitat Destruction.	Toolbox Talks will inform site personnel on identifying the Annex II Species. No otter holts, resting up area or evidence (e.g. spraint) have been identified within proximity to the structure to date. The project will not represent a hard boundary preventing access to the wider estuary by this species. Habitat impact is limited, however there may be a temporary impact to prey species (e.g localised fish) disturbed by the elevation in temporary noise outputs, during receding tide conditions. It is not anticipated that these works will have an impact on the population or conservation objectives. Additionally, no equipment will be left in such a manner that an animal could become snared and trapped within the working area. Should an Otter be encountered during works, personnel will temporarily stand down until the animal has vacated the immediate area under its own volition. The sighting will be reported to the Environmental manager.	Impact Not Likely to be Significant, with appropriate mitigation
Bottle Nose Dolphin	SAC	Noise disturbance / Visual Disturbance / Habitat Destruction.	The structure is a significant distance away from the deeper portions of the estuary that continued to flow during low tides. In addition, the project is scheduled to occur during a lower tidal variation period, constitutently it is unlikely this species will be encountered during the project period. Identification of this species will be provided in toolbox talks.	Impact Not Likely to be Significant, with appropriate mitigation
Grey Seal	SAC	Noise disturbance / Visual Disturbance / Habitat Destruction.	See above.	Impact Not Likely to be Significant, with appropriate mitigation
Fish Assemblage	SAC/SSSI	Noise disturbance / Visual Disturbance / Habitat Destruction.	The works will be undertaken towards the end of the fish spawning season for migratory fish such as salmon, trout and eel (mid Oct – Mid April). However, no working below the structure will occur during high tide.	Impact Not Likely to be Significant, with appropriate mitigation



Receptor	Affected Site	Potential Hazard	Mitigation Measures	Likelihood of Impact
Fish Assemblage	SSSI	Contamination of the estuary from spillage	See comments under estuarine habitat and reference to project ESMP.	Impact Not Likely to be Significant
Individual fish species (e.g, Salmon)	SAC/ Ramsar/ SSSI	Contamination of the estuary from spillage	See comments under estuarine habitat and reference to project ESMP.	Impact Not Likely to be Significant
Vascular plant assemblage associated with salt marsh (part of estuarine habitat)	SAC/ SSSI	Contamination of the estuary from spillage	See comments under estuarine habitat.	Impact Not Likely to be Significant



12. POTENTIAL IN-COMBINATION EFFECTS

12.1 OVERVIEW

- 12.1.1 It is necessary to consider the potential for significant effects from this project in-combination with other plans or projects.
- 12.1.2 In addition, the plan or project must have been subject to a HRA, which has confirmed that the plan or project is not likely to have a significant effect or demonstrates that the effects have been sufficiently assessed so as to be reasonably understood.
- 12.1.3 The assessment of in-combination effects must also focus on other projects that have the potential to cause the same types of effects as the proposed maintenance (so that these effects may occur in-combination) and where similar potential impact pathways may exist.
- 12.1.4 Therefore, this assessment has focused on other projects that could give rise to noise, visual or physical impacts on the SAC species and does not consider projects that could cause different effects.

13. KNOWN PROJECTS WITHIN THE WIDER AREA

- 13.1.1 There is no known other large-scale project within proximity to the project. Abertafol is as an attractive tourist destination and likely species endure an elevated level of human activities on an annual basis.
- 13.1.2 However, this assessment does note that 2021 may mark an unusual year as Tourism may last longer into the year following projected relaxation of Covid19 restrictions.



14. HRA CONCLUSION

- 14.1.1 This section will combine the key features and challenges highlighted in the (Core Management Plan) CMP's with the proposed activities to ascertain whether likely significant impacts to the designated site could occur.
- 14.1.2 Encountering Annex II species during the project is a possibility, however it is likely that these occurrences will be infrequent.
- 14.1.3 As the project is project to last a little over 2 weeks in duration with a commitment to only daytime low tide working unless absolutely necessary, there will be a limited period continuous disturbance over the project as a whole. The overall footprint of the project is low and the footprint of the structure will not be increased as a result of the works.
- 14.1.4 Pollution control measures and emergency response plans will allow for robust controls over hydrocarbon pollution events, which are unlikely. These are further detailed in the attached Environmental Management Plan (EMP), which references GPP supporting documentation.
- 14.1.5 Fish species are also unlikely to be heavily impacted with the limited scale of the works in relation to spawning and nursery habitat, combined with the duration of the works falling outside all or a significant portion of most sensitive species spawning periods. At no point will the permanently flowing portion of the estuary be impeded.
- 14.1.6 Control of INNS is ensured using the Risk Assessment Plan and Management Plan.
- 14.1.7 Visual identification of this invasive species will be disseminated to personal working on the structure and a pre-works inspection of all existing components will be undertaken.
- 14.1.8 Mobilisation of sediment is likely to be highly limited as a result of footfall below the structure to erect and dismantle the temporary scaffolding. The access will be directed over higher ground outside of any tidal influence to reduce the likelihood of sediment mobilisation.
- 14.1.9 Biosecurity measures in place at the compound will make sure that all equipment and vehicles delivered to site have been cleaned and disinfected prior to deployment into the SAC/SSSI environment. This forms part of the guidance outlined in the Biosecurity Risk Assessment & Management Plan.
- 14.1.10 The location of the works in relation to otters is unlikely to impact overall habitat availability, especially as the distance to the larger upstream rivers (Afon Dyfi, Afon Pennal, Afon Llyfnant etc) and riparian habitat confluences is significant.
- 14.1.11 The timing of the project is outside of the traditional peak wintering wader season. Consequently, impacts to the vulnerable populations of Greenland White Fronted Goose is considered unlikely.
- 14.1.12 From the available information, it is not evident that the Annex I Habitat & Annex II Species that compromise the designate sites overall, will be significantly impacted during the proposed replacement. There will be a temporary elevation in noise and visual pollution vectors during the project, for a short period of time.
- 14.1.13 Viewing the overall scope of this project, this assessment suggests that Likely Significant Impacts the PLAS SAC, Dyfi SSSI, SPA and Cors Fochno & Dyfi RAMSAR is unlikely.



15. APPENDIX A - BIOSECURITY MANAGEMENT PLAN & RISK ASSESSMENT





16. APPENDIX B- TECHNICAL INFORMATION





17. APPENDIX C – SIGNPOST DOCUMENT

