

2021

Pant Eidal –
Rail Asset Replacement

Habitat Regulations Assessment (HRA)



DOCUMENT INFORMATION			
Project	Pant Eidal Rail Asset Replacement		
Location	Pant Eidal, A493, Aberdovey Gwynedd, Wales, LL35 0RG, Grid Ref: SN 66065 97223		
Title	Habitat Regulations Assessment		
Document Ref	EV000452/HRA-001	Issue / Revision	0.1
File reference	EV000452/HRA-001		
Start Date	20/05/2021		
	Name	Signature	Date
Assessment Undertaken by	Owain Waters		20/05/2021
Document prepared by	Owain Waters		20/05/2021
Checked by	Julian Gregory		06/2021
Authorised by	Julian Gregory		06/2021

DOCUMENT CONTROL		
Rev.	Date	Description
01	06/21	Issued.

Disclaimer

No part of this document may be copied or reproduced by any means without prior written permission from EcoVigour. If you have received this report in error, please destroy all copies in your possession or control.

This document has been prepared for the exclusive use of the commissioning party/parties and unless otherwise agreed in writing by EcoVigour, no other party may use, make use of, or rely on the contents of the report.

No liability is accepted by EcoVigour for any use of this document, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the document are on the basis of EcoVigour using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy.



CONTENTS

1. Introduction	4
1.1 Assessment Background	4
1.2 Project Background	5
2. Legislative Context	5
2.1 Overview	6
3. Methodology	6
3.1 Overview	6
4. Description of The Proposed Activities	7
4.1 Site Context	7
4.2 Project Program and Tasks Overview	8
4.3 Project Setup	8
4.4 Preparations, Rail Track Removal and Bridge Demo	10
4.5 Installation Methodology	11
4.6 Demobilisation	11
5. HRA Methodology Objectives	12
6. Designated Sites within Proximity to Site	13
7. Dyfi SSSI	14
8. Lleyn Peninsula and the Sarnau (SAC)	3
8.2 Annex I Habitat adjacent Project Area	4
8.3 Annex I Habitat – NRW Indicative Condition Report	5
8.4 Annex II Species – NRW Indicative Condition Report	7
9. Cors Fochno and Dyfi RAMSAR & Dyfi SPA	10
9.1 Site Overview	10
10. Physical Processes	12
10.1 Relevant Policies within the Shore Management Plant 2 (SMP2)	12
10.2 Tidal Working	13
11. Assessment of Potential Impacts Resulting from Specific Activities and Proposed Mitigation Measures – Pant Eidal Underbridge Replacement	16
11.1 Annex I Habitats – Impacts & Mitigation	16
Annex II Species – Impacts & Mitigation	19
Annex II Species – Impacts & Mitigation	21
12. Potential In-Combination Effects	22
12.1 Overview	22
13. Known Projects Within The Wider Area	22
14. HRA Conclusion	23
15. Appendix A - Biosecurity Management Plan & Risk Assessment	25
16. Appendix AB- Project ESMP Example	26



FIGURES

Figure 1: Pant Eidal Underbridge - Low Tide May 2021.....	5
Figure 2: OS Map location of project in relation to wider Pant Eidal area.	7
Figure 3: Location of Pant Eidal in context to wider designated site.....	7
Figure 4: General project layout, including compound, structure location and crane location.	8
Figure 5: Technical Drawing of new bridge structure.	9
Figure 6: Visual overlay of project tasks areas in relation to existing structure.	10
Figure 7: Designated sites in proximity to structure.	13
Figure 8: SSSI boundary (general project area in blue).....	14
Figure 9: Priority intertidal habitat in proximity to structure.	1
Figure 10: Low tide view of habitat adjacent to outer sea wall.	1
Figure 11: Annex I Habitat within Dyfi Estuary.	4
Figure 12: SPA/RAMSAR boundary in relation to project.	10
Figure 13: SMP2 - Policy Units	12
Figure 14: Tidal range during project (main works over structure highlighted in red).	13
Figure 15: Overview of tidal limits in relation to planned working heights.	14
Figure 16: Pant Eidal Underbridge during high tide within the upper height range.....	14
Figure 17: High tide level of 4.55m.	15

TABLES

Table 1: Project Program	8
Table 2: PDO's relevant to the project tasks.....	2
Table 3: SAC Annex features list.	3
Table 4: Estuaries Habitat Condition.....	5
Table 5: Mudflats and Sandflats Condition.....	6
Table 6: Saltmarsh Habitat Condition.	6
Table 7: Bottlenose Dolphin population condition.	7
Table 8: Otter population condition (Feature overlaps with SSSI).....	8
Table 9: Grey Seal population condition.	9
Table 10: CMP Action Plan Summary - Unit 1.....	11
Table 11: Relevant Policy Unit description.	12
Table 12: Projected environmental impact of preferred policy unit.	12
Table 13: Project working clearance between works and tidal limit during planned working hours/dates.	15



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 deck replacement of Pant Eidal Rail Bridge, required by Network Rail (NR). The proposed works will be undertaken between latter September 2021 and completed by latter October 2021 (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 Pant Eidal rail bridge 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 Centregreat 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 designated the current Railway Underbridge (underbridge refers to an instance where a rail line passes above a channel or road) at Pant Eidal as “Operational Life Expired”, consequently, through the NR GRIP stage framework, have commissioned the principal contractor (Centregreat Rail Ltd) to undertake a complete superstructure replacement of the original bridge.



Figure 1: Pant Eidal Underbridge - Low Tide May 2021.

- 1.2.2 Due to the structures condition, it is currently reinforced with temporary steel props and braces to ensure structural integrity while the new structure is prepared.
- 1.2.3 The Underbridge Replacement is scheduled to be undertaken over a 7-day rail possession between 09th to the 15th October 2021. The possession has been aligned with other rail projects along this section of the rail network to reduce overall disruption. Preparation works and de-mobilisation of project assets will occur before and after the possession dates as those tasks will not relate to an open rail corridor.

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 Centregreat Rail Ltd on behalf of Network Rail at Pant Eidal.
- 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 Pant Eidal rail bridge 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 replacement on the Llyn Peninsula SAC and Afon Dyfi SSSI and associated SPA and RAMSAR designated site features.



4. DESCRIPTION OF THE PROPOSED ACTIVITIES

4.1 SITE CONTEXT

- 4.1.1 The project is situated along the North shore of the Afon Dyfi Estuary (Grid Ref: SN 66065 97223). A single project compound is to be utilised, which is situated within an existing Network Rail hard standing and Road Rail Access Point (RRAP), approximately 150m west of the bridge structure. Figures 2 & 3 below illustrate the sites location in relation to the wider area and PLAS SAC.

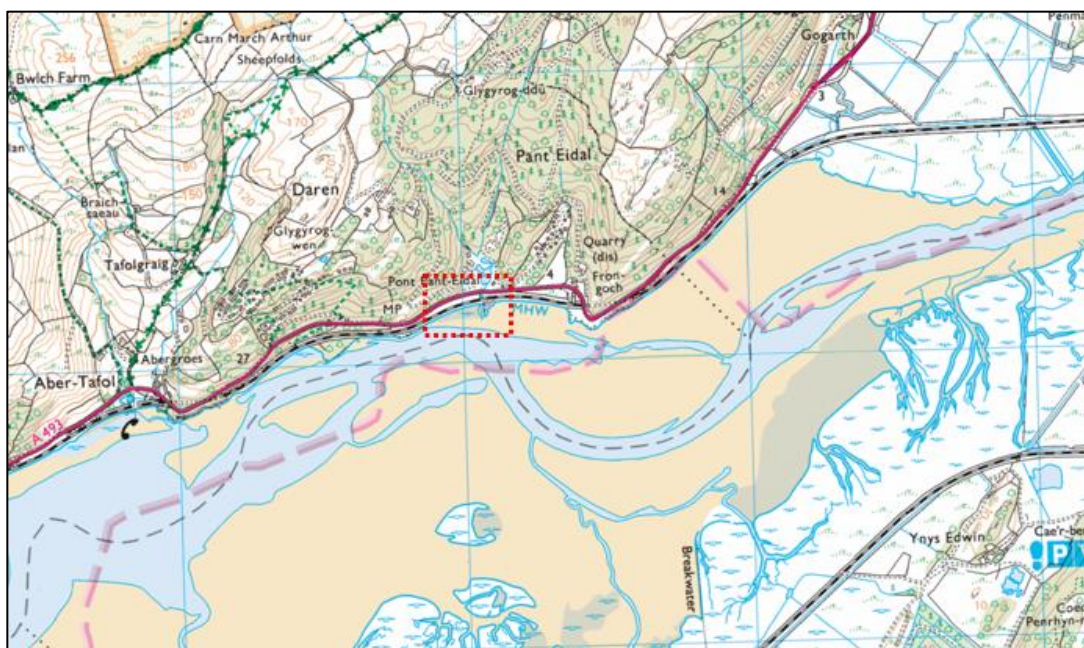


Figure 2: OS Map location of project in relation to wider Pant Eidal area.

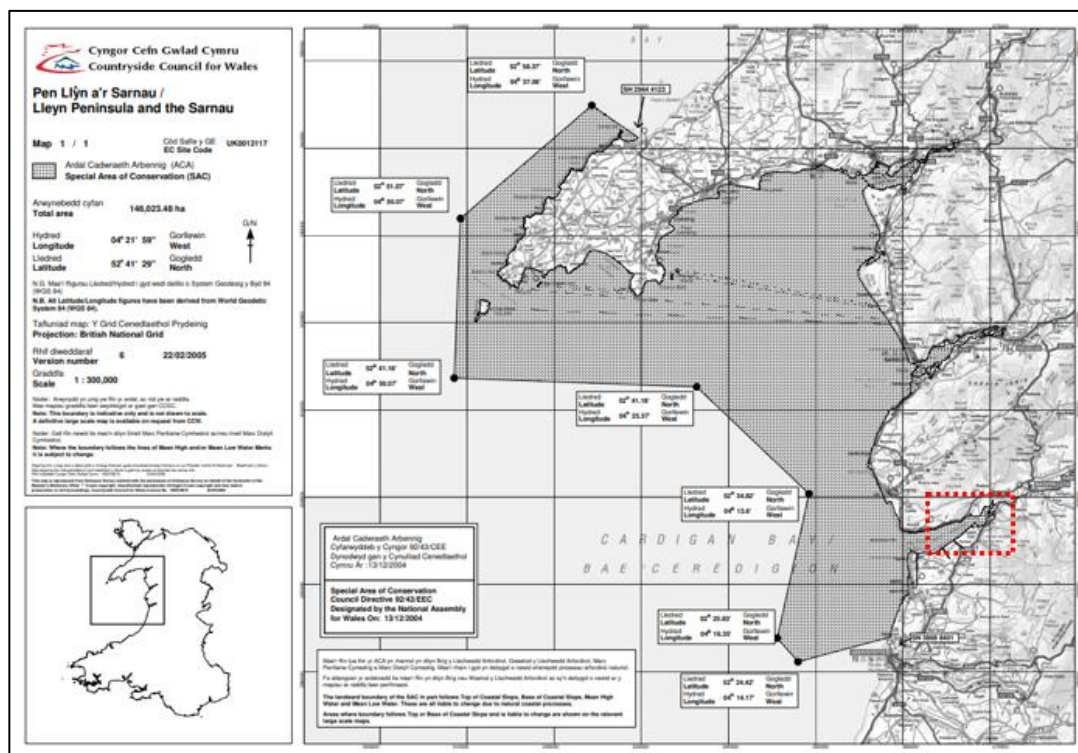


Figure 3: Location of Pant Eidal in context to wider designated site.



4.2 PROJECT PROGRAM AND TASKS OVERVIEW

4.2.1 The table below details the aspirational program dates, note these are subject to change, depended on NRW License determination periods. The timing of the works is based around 12-hour shift patterns, 08:00 – 20:00.

Table 1: Project Program

Objective	September				October																
	27	28	29	30	01	02	03	05	06	07	08	09	10	11	12	13	14	15	17	18	19
Project Setup																					
Rail Track Removal																					
Demo Bridge																					
Landing Site Prep																					
Install New Bridge																					
Restore Ballast																					
Final Checks																					
Re-install Rail Track																					
Demobilise																					

4.3 PROJECT SETUP

4.3.1 The initial stage will feature the construction of the required compound, to house welfare, material laydown and vehicle parking for the construction phase. Figure 4 illustrates the compound locations and approximate footprint. Some importation of clean stone may be required to formalise portions of the compound in disrepair. Any rail mounted equipment will be deployed from this location.

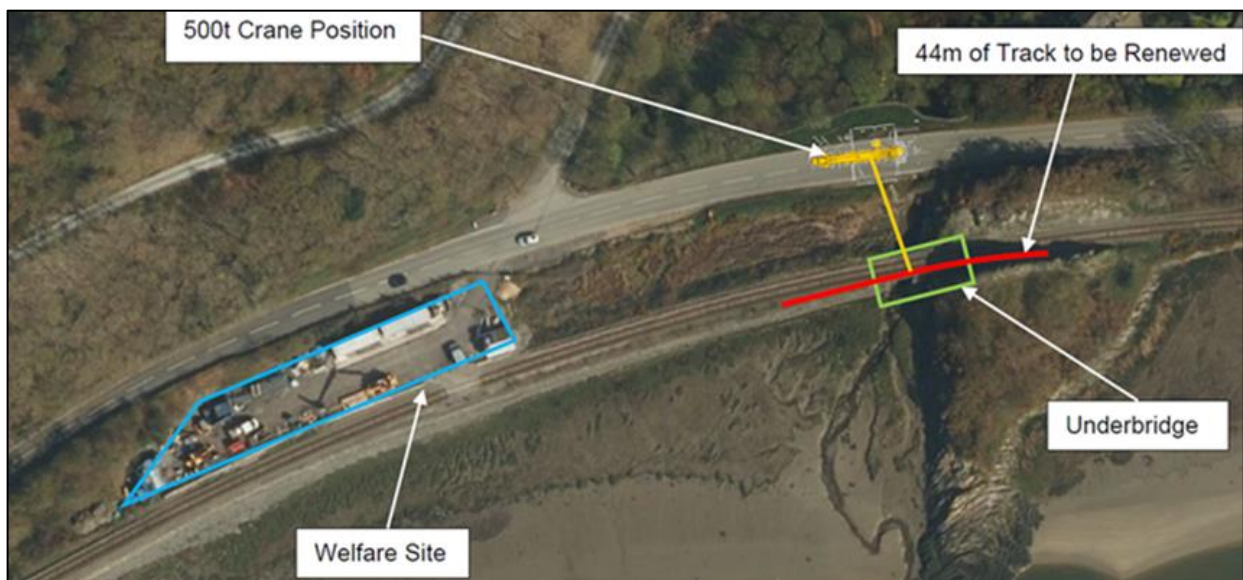


Figure 4: General project layout, including compound, structure location and crane location.

4.3.2 Arrival of equipment and temporary cabins is likely to take the majority of the overall project time, with preparation the key component prior to utilising the upcoming Autumn Rail blockade.



- 4.3.3 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.
- 4.3.4 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.
- 4.3.5 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.

The new bridge will be built to specifications prior to arrival in kit form on site, the figure below is a technical drawing of the new structure. A larger version is available in Appendix C - Technical Drawings.

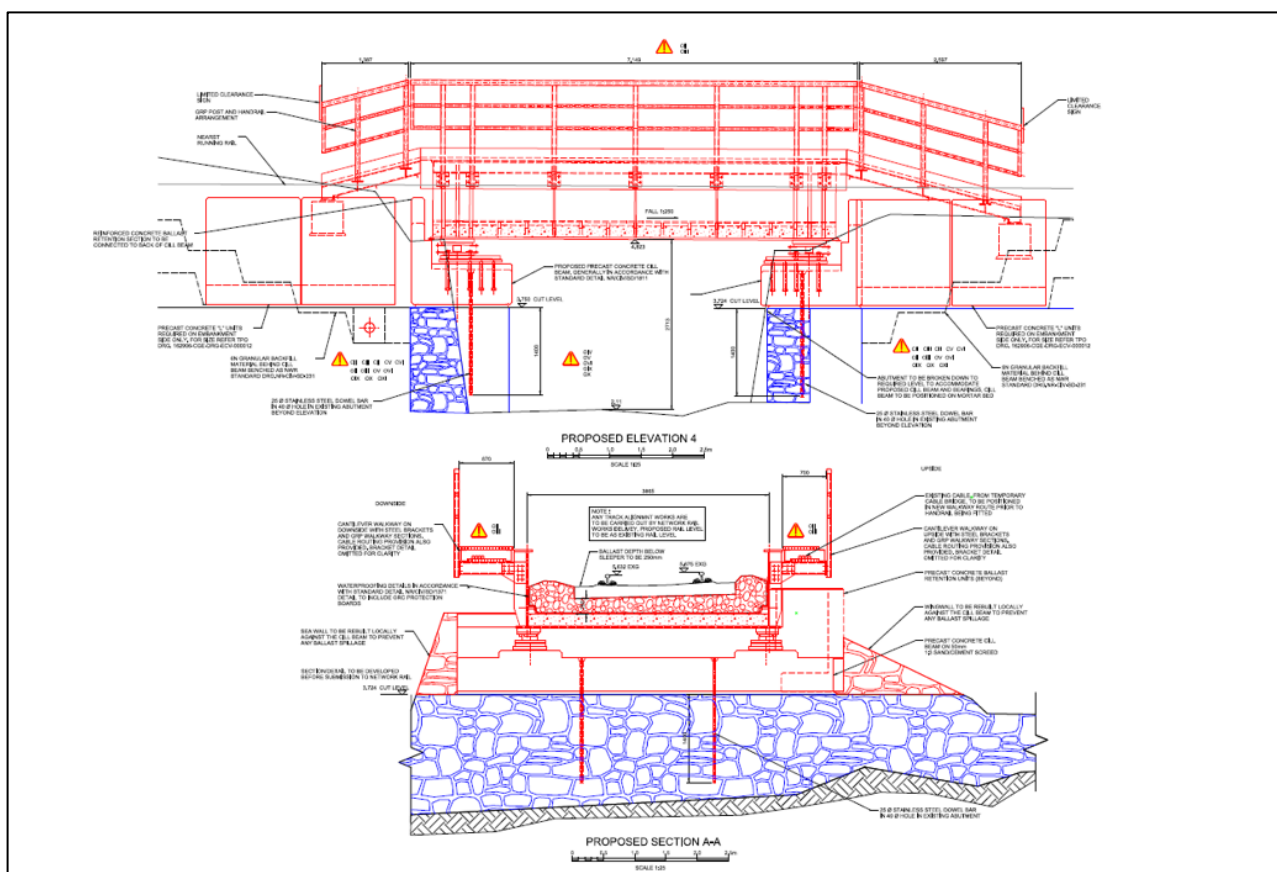


Figure 5: Technical Drawing of new bridge structure.



4.4 PREPARATIONS, RAIL TRACK REMOVAL AND BRIDGE DEMO

- 4.4.1 Network Rail are tasked with the removal of the rail line components (individual rail, sleepers and pins) before Centregreat Rail begin the on-bridge works. The components will be lifted and removed using a Road Rail Vehicle (RRV). Rail components will be stored in the adjacent compound for later re-install.
- 4.4.2 Following the removal of track assets above the bridge, the pre-planned road closure will be implemented and a 500t crane deployed within the A493. Crane outrigger pads will be placed on the roadside verge.
- 4.4.3 A temporary scaffolding and crash deck will be erected below the structure and braced against the existing lower supports. The crash deck has been designed to capture falling debris from the bridge and the abutments.
- 4.4.4 2x 13t excavators will access the rail corridor from the roadside verge to the rail corridor along a section of higher ground.
- 4.4.5 Rail ballast and loose material will be dug out and transported to the adjacent compound for storage via an RRV.
- 4.4.6 Following this, coring and removing of joints between the deck plates will be undertaken, with 5 in total to remove. Redundant sections of wingwall upstanding will also be removed. The breaking away of concrete portions will be achieved using hydraulic peckers attached to each plant machine. A single shift is expected to be a sufficient amount of time to break all required concrete supports.
- 4.4.7 Once these components are removed, the upper section of concrete abutment (not including the lower masonry wall sections of the sea wall) will be broken down and removed to make way for new pre-cast sections.

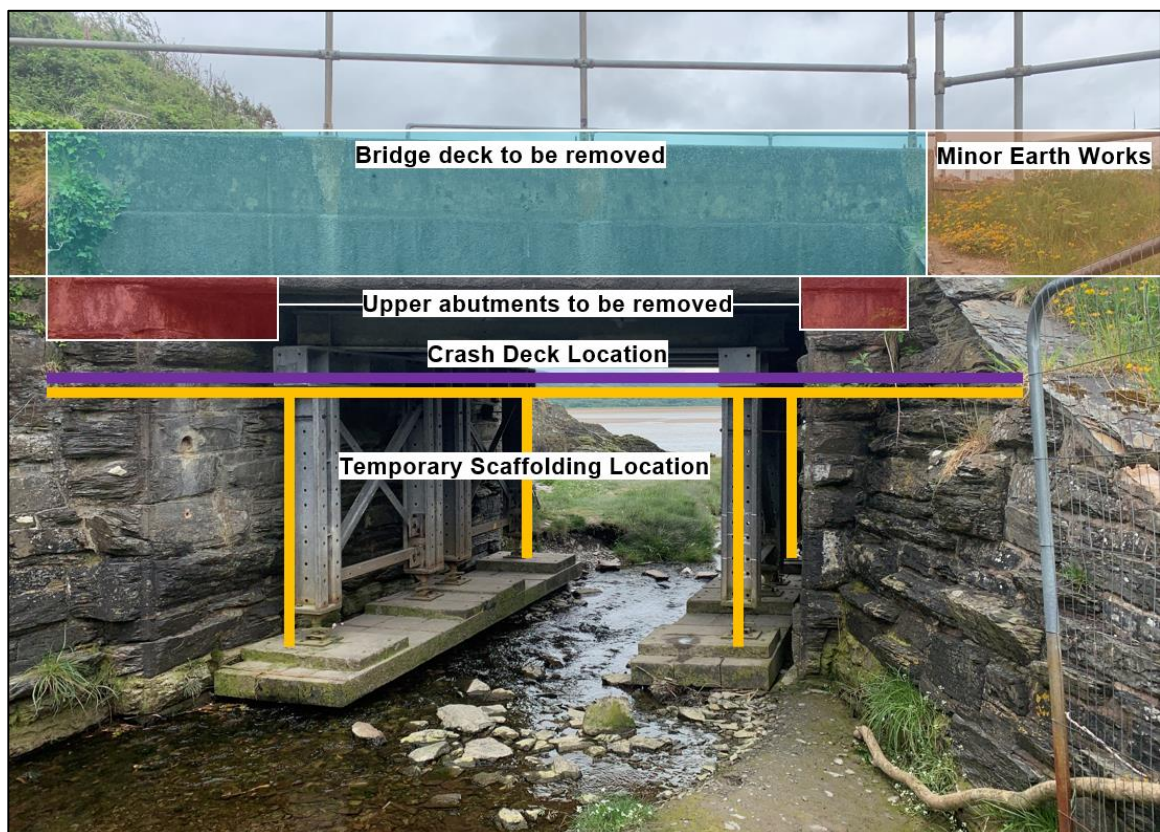


Figure 6: Visual overlay of project tasks areas in relation to existing structure.



4.5 INSTALLATION METHODOLOGY

- 4.5.1 The new structure will be lifted into position by the 500t crane. Once seated, the new deck walkways will be installed with side barriers.
- 4.5.2 New grout anchors will be installed at an angle into the new abutments to secure the underbridge. New drainage and ballast retention will be formalised on either end of the structure.
- 4.5.3 Once waterproofing has been achieved, using loose sheet membranes between the bridge and cills, the excavations will be back filled with Type 1 material (clean stone with a balance of aggregates to ensure it is cohesive)
- 4.5.4 New walkways will be set in position following backfill.
- 4.5.5 New ballast will be placed and compacted. Following this task, the 13t machine on the western side of the structure will track out of the area via the same route, while the remaining machine on the eastern side of the new structure will be lifted out using the crane.
- 4.5.6 Once all heavy lift components are removed from the works area, the crane will be dismantled, and road closure removed.
- 4.5.7 Network Rail will reinstall the active rail components (sleepers, track, top ballast, track joints, etc).

4.6 DEMOBILISATION

- 4.6.1 Once the structure is in essences, at operational readiness, the temporary scaffolding and crash deck below the structure will be removed. All debris will be removed from the crash deck prior to this.
- 4.6.2 Any cosmetic tasks will be undertaken, and drainage outfalls realigned to previous designs.
- 4.6.3 Excavated material removed from either side of the structure will be removed from site via a registered waste carrier.
- 4.6.4 Upon final structural checks, the public-footpath below the structure will be re-opened to the general public.
- 4.6.5 Final demobilisation and removal of cabins, machines, and equipment.



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.

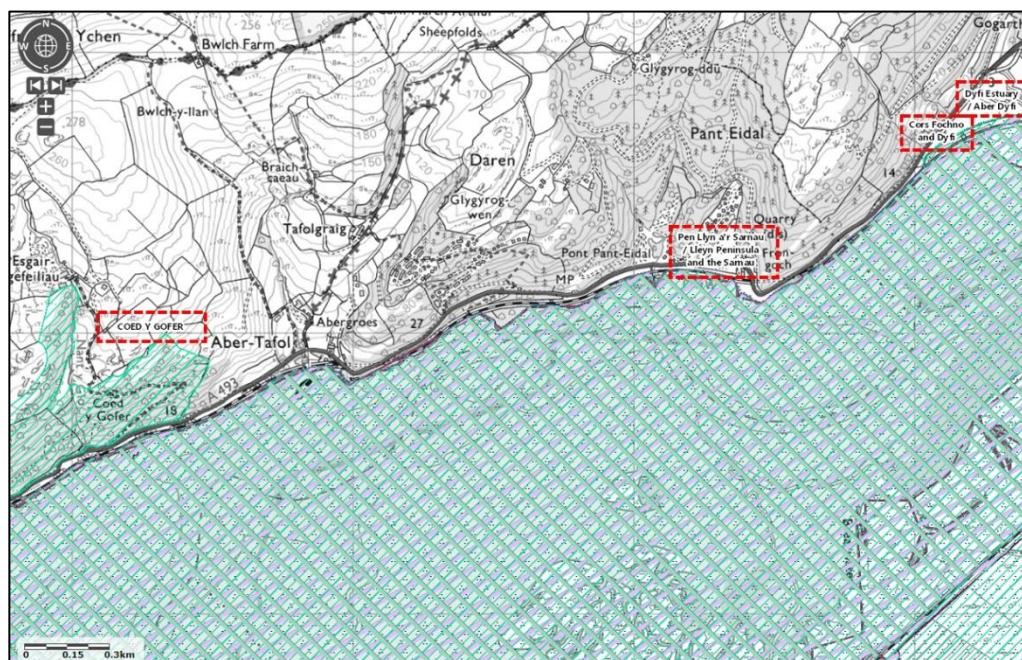


Figure 7: Designated sites in proximity to structure.

- 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 implement for the project will ensure the protection of the key habitat and species features outlined within the WWM conservation objectives.



7. DYFI SSSI

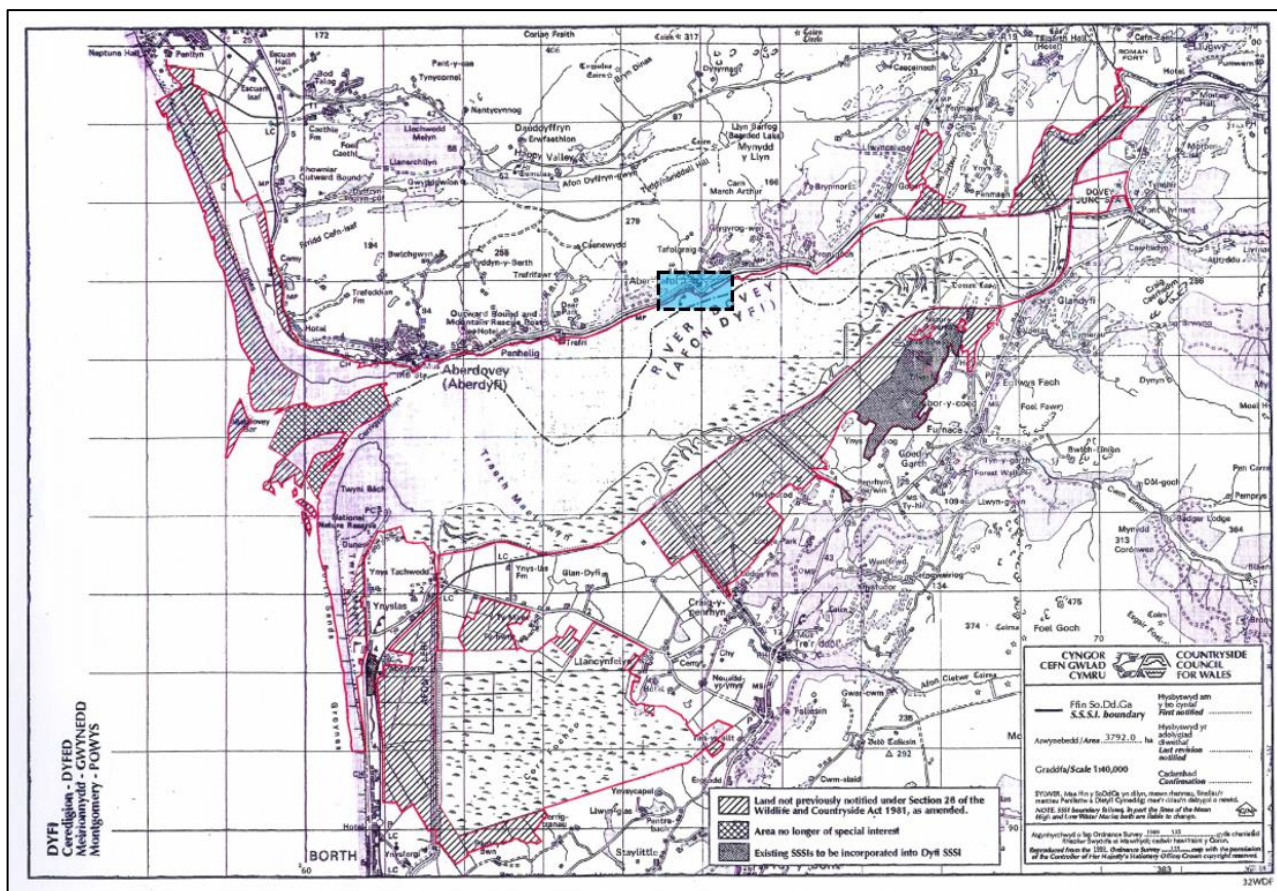


Figure 8: SSSI boundary (general project area in blue).

- 7.1.1 The Dyfi estuary is designated as a SSSI due to its diverse biological and geological features. It is outstanding for its size, range, quality of the habitats, their transitions, botanical, entomological and ornithological interest.
- 7.1.2 The estuary of the River Dyfi range of habitats, includes river channels, creeks, extensive areas of sandbanks, mudflats and including by far the largest area of saltmarsh in Ceredigion.
- 7.1.3 Within the SSSI 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 desktop data and on-site walkovers, the relevant habitats from the SMS in proximity to the project area are:

- ◆ The estuary
- ◆ Intertidal mud flats
- ◆ Salt marsh
- ◆ Rock outcrops

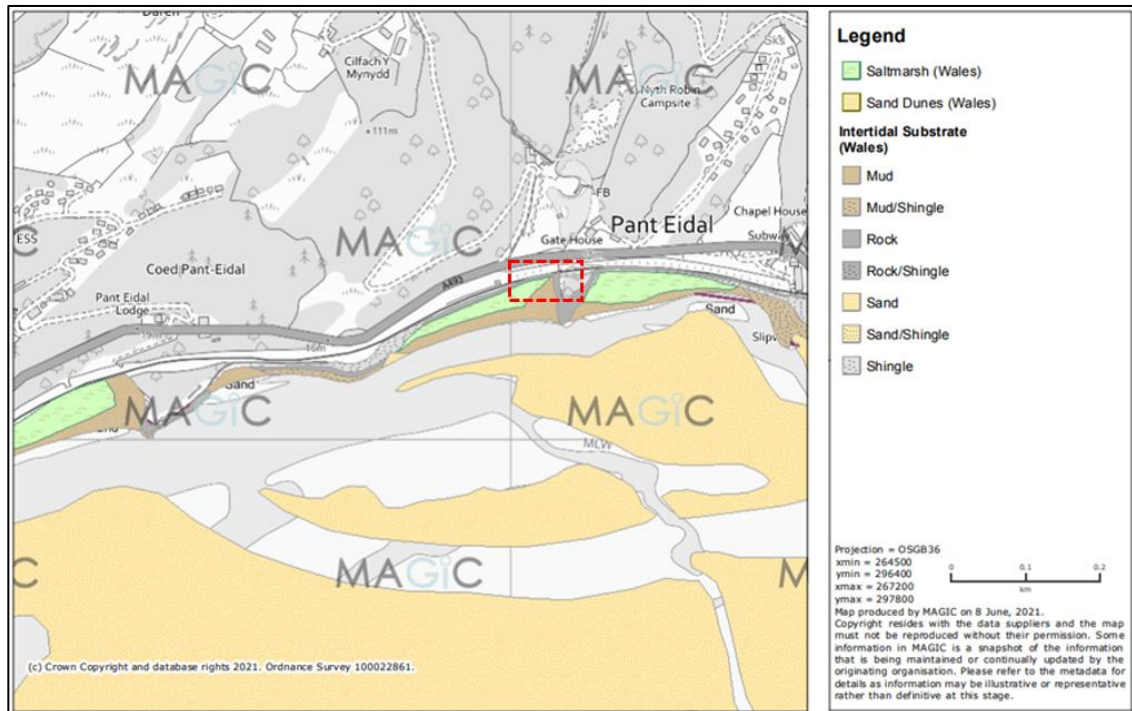


Figure 10: Low tide view of habitat adjacent to outer sea wall.



- 7.1.5 Additionally, within the SMS, Potentially Damaging Operations (PDO) are listed. These are descriptions of potential damage vectors to the site features and objectives. Below are the PDO activities considered relevant to the proposed project (Table 3 below).

Table 2: PDO's relevant to the project tasks.

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.

- 7.1.6 Note: All the above operations occur outside of the designated site boundary, with no physical works interacting directly with the designated or highlighted intertidal habitats above.
- 7.1.7 Mitigation measures for SSSI features which overlap SAC are discussed further in section 11.



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 10) for project location in relation to the larger SAC boundary).
- 8.1.2 The qualifying habitats and species listed in the table below (table 3), the Llyn Peninsula and the Sarnau SAC is one of the best areas of its kind in the whole United Kingdom.

Table 3: SAC Annex features list.

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 maritima)
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)

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



8.2 ANNEX I HABITAT ADJACENT PROJECT AREA

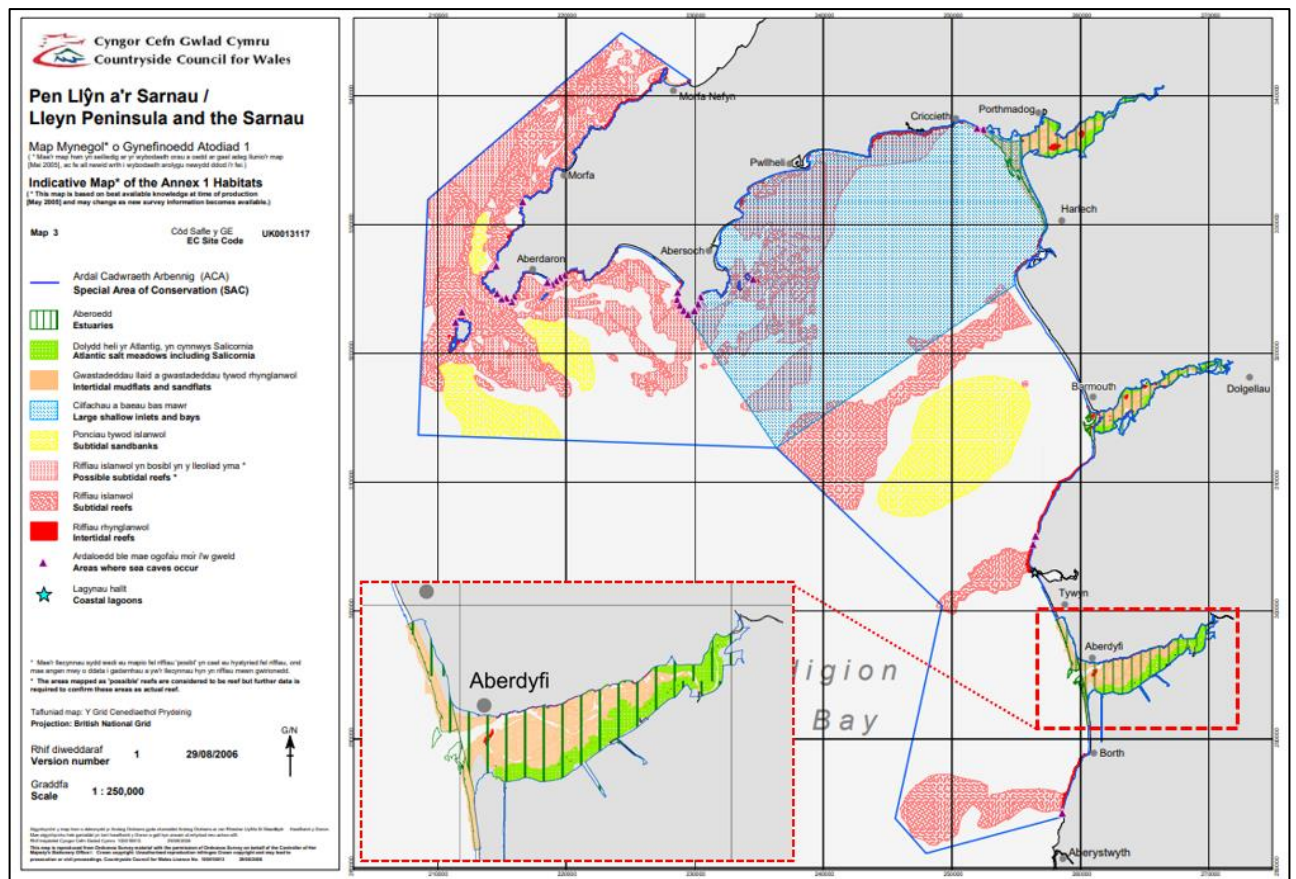


Figure 11: Annex I Habitat within Dyfi Estuary.

8.2.1 Using the available data from the CCW now NRW Designated Habitat Map (Figure 10 above), the relevant Annex I Habitats in relation to the project footprint are:

- ◆ 1130 Estuaries
- ◆ 1140 Mudflats and sandflats not covered by seawater at low tide
- ◆ 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

8.2.2 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.

8.2.3 Consequently, such events 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 also benefit from the proposed measures in this assessment and will not require separate discussion.



8.3 ANNEX I HABITAT – NRW INDICATIVE CONDITION REPORT

- 8.3.1 NRW undertake on-going assessments of Annex I & II features as part of the statutory duties. Data collected feeds into Core Management Plans (CMP) and Indicative Conditions Reports (ICR).
- 8.3.2 The tables below are extracted from the PLAS SAC ICR - Indicative site level feature condition assessments 2018, NRW Evidence Report No: 234.
- 8.3.3 Only the Annex I Habitat feature in proximity to the structure have been listed in the tables below (Tables 4-9).

Table 4: 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 5: 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 6: Saltmarsh Habitat Condition.

Date		May 2017			
Site name		Pen Llŷn a'r Sarnau / Llyn 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 As with the above, tables 11-13, describe the current known condition of Annex II features within the wider PLAS SAC.

Table 7: Bottlenose Dolphin population condition.

Date	May 2017				
Site name	Pen Llŷn a'r Sarnau / Lleyr 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					
Distribution & extent	Unknown	Expert judgement	Medium	Not applicable	Not applicable
Structure & function	Unknown	Expert judgement	Medium	Not applicable	Not applicable
Prey availability and quality	Unknown.	Expert judgement	Medium	Not applicable	Not applicable
Relevant activities (activities directly impacting condition of the feature on this site)	No activities identified as having a direct impact on 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 well adapted to living in the marine environment and are adapted to the many challenging aspects of that environment.

8.4.3 However, artificially introduced hazards and reductions in the natural habitat 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.

8.4.4 Impact vectors relevant to the Pant Eidal Bridge Replacement to this species, is the accidental release of hydrocarbons. Mitigation measures and best practice are described in Section 11 – Project Mitigation.



Table 8: 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				

- 8.4.5 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.
- 8.4.6 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.
- 8.4.7 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 wider site. The structural and functional integrity of this essential habitat is considered to be good.
- 8.4.8 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 9: Grey Seal population condition.

Date	May 2017				
Site name	Pen Llŷn a`r Sarnau / Llyn Peninsula and the Sarnau SAC				
Site feature assessed	Grey seal (<i>Halichoerus grypus</i>)				
Component of species feature assessed	Indicative Assessment (<i>Favourable, unfavourable, unknown</i>)	Key evidence type used (<i>monitoring data, reports or expert judgement</i>)	Level of agreement	Confidence in evidence	Component confidence level
Population (<i>e.g. size, structure, production, condition of species within site, contaminant burdens</i>)	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 (<i>activities directly impacting condition of the feature on this site</i>)			No activities identified as having a direct impact on site condition.		
Overall Indicative Assessment			Overall Confidence Level		
Favourable			Medium		
Noted activities:					
<div><div>◆</div>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.</div> <div><div>◆</div>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.</div>					

8.4.9 As stated previously, the presence of Annex II features will be assumed, to ensure best practice and mitigation measures are in place.



9. CORS FOCHNO AND DYFI RAMSAR & DYFI SPA

9.1 SITE OVERVIEW

- 9.1.1 The Dyfi Estuary is located on the west coast of Wales on the boundary between Ceredigion, Gwynedd and Powys. The SPA comprises the estuary, with adjoining saltmarsh, marshy grassland and improved grassland.
- 9.1.2 The site is of importance as a traditional wintering area for Greenland White-fronted Goose (GWfG) *Anser albifrons flavirostris* – the most southerly regularly used area for this population in the UK. Until the early 1980s the geese roosted on the estuary and flew inland either to the Cambrian mountains or to the raised bog of Cors Fochno to feed. The geese now use the saltmarsh and grasslands for feeding and roost on the sandbanks and mud-flats.
- 9.1.3 In combination with the multiple designations, the site is of high importance to breeding and wintering wader assemblage including nationally important numbers of Wigeon. Additional notable residence are, wintering shelduck, teal, red-breasted merganser, curlew and various birds of prey. The Dyfi Osprey Project is one of Montgomeryshire Wildlife Trust 's flagship projects based on our Cors Dyfi Reserve near Machynlleth. In addition large numbers of red-throated divers and great crested grebes occur in winter off the mouth of the Dyfi.
- 9.1.4 Human influences such as recreational disturbance, commercial exploitation of shellfish and worms, oil and industrial pollution, are further potentially damaging activities to the conservation interest of the estuaries.
- 9.1.5 Within the SPA Core management Plan (CMP), the designated site is split into management sections, to better target essential species and habitats that contribute to the site as a whole. The project is situated in management Unit 1 (see figure 11 below).

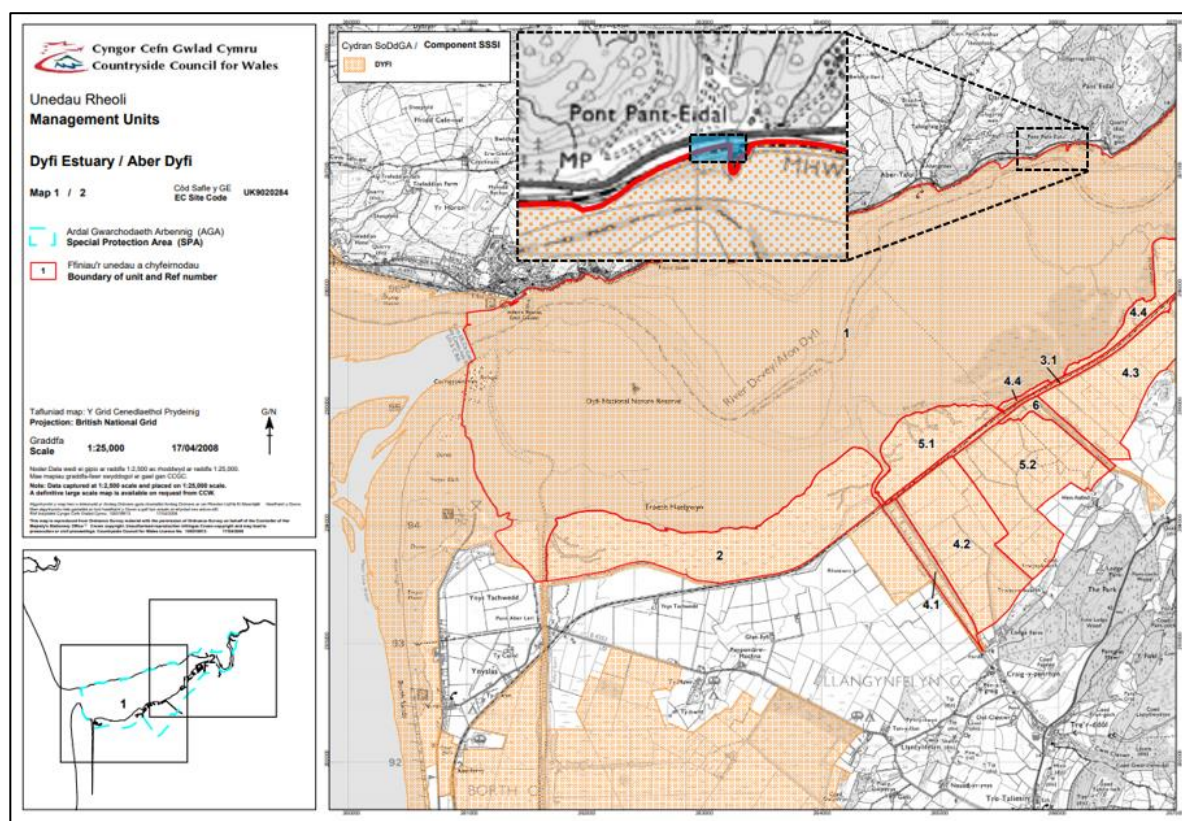


Figure 12: SPA/RAMSAR boundary in relation to project.



9.1.6 The table below is an extract from the latest CMP available on the NRW information portal. The summary below outlines the action plan statements for Unit 1.

Table 10: CMP Action Plan Summary - Unit 1

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
1	002414	Dyfi SSSI main channel and intertidal flats	<p>The principal issue relating to the status of the wintering Greenland white-fronted geese at Dyfi involves lack of population recruitment. The only way this can be influenced by site management at Dyfi is: enabling maximum winter survival and best condition of geese returning to Greenland to breed.</p> <p>Shooting and avoidable disturbance must be prevented, requiring continued and where possible enhanced co-operation of landowners and wildfowlers.</p> <p>Wildfowling takes place along part of the southern edge of this unit, giving potential for disturbance of geese here and on adjacent units.</p>	Yes



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 – MA20-19, specifically PU10.12.
- 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. As part of the SMP2, the chosen policies are measured against the potential economic impacts and environmental impacts projected over the course of time. Table 12 below, described the project habitat loss as a consequence of the long-term preferred policy.

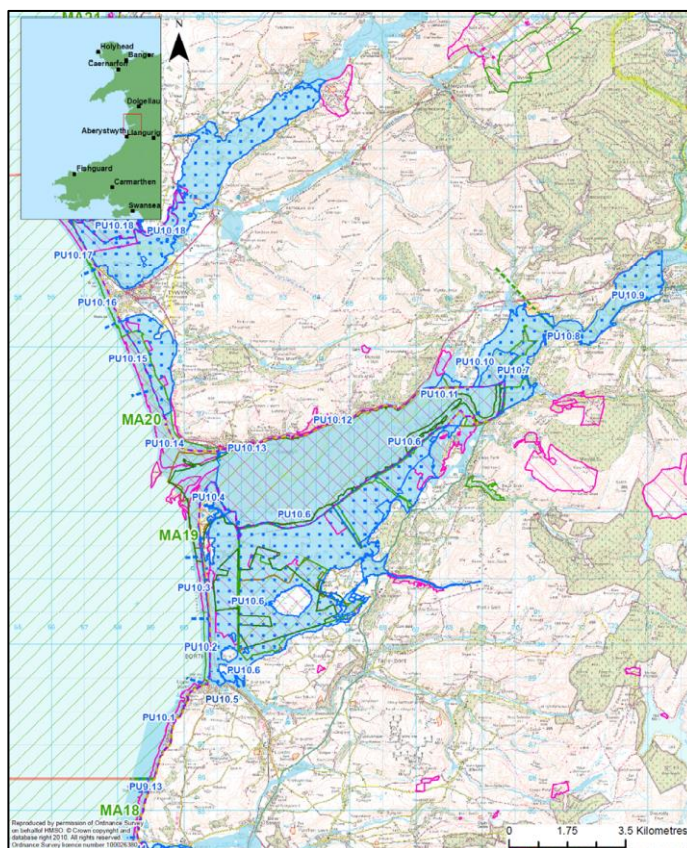


Figure 13: SMP2 - Policy Units

Table 11: Relevant Policy Unit description.

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					

Table 12: Projected environmental impact of preferred policy unit.

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 Consequently, as a result of the preferred policy there will be a reduction in the SAC intertidal habitat (sandflats) within the policy unit. There will, however, be no adverse effect on the integrity of the other SAC features.
- 10.1.4 Regarding coastal squeeze, in relation to the Pant Eidal Bridge project specifically. The works are constrained to the bridge structure itself and not the adjoining estuary defences, which is detailed within Policy Unit 10.12.
- 10.1.5 The assessment deems that a project coastal squeeze assessment is not required, as the structure itself does not represent a contributing factor to this long-term policy issue, nor will it occur within the epoch highlighted for habitat loss.

10.2 TIDAL WORKING

- 10.2.1 Centregreat Rail Ltd have carried out a tidal fluctuation study to understand the level of inundation of the site possible during the scheduled period of works. Figure 13 below illustrates the projected tidal limits during October 2021.

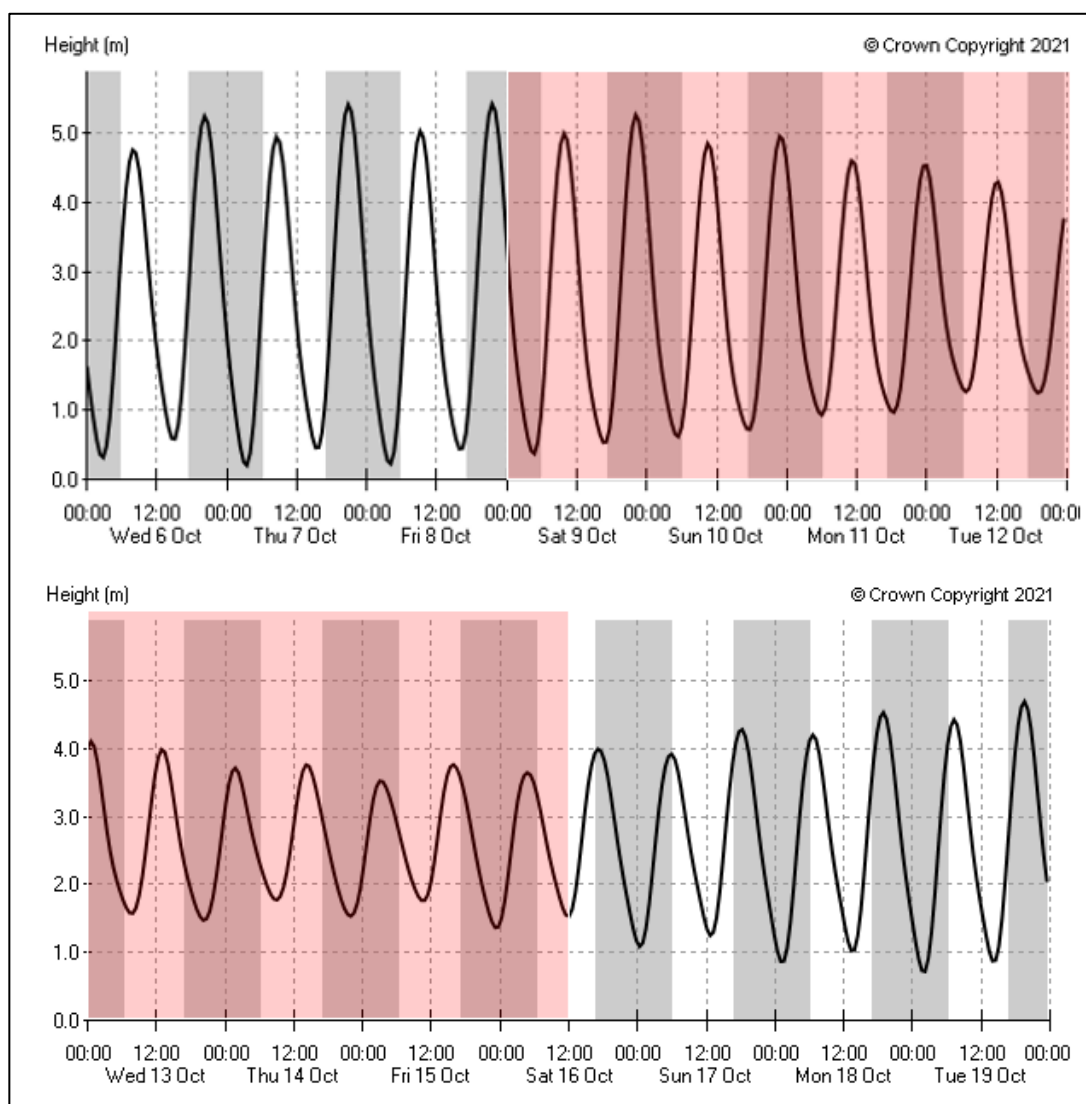


Figure 14: Tidal range during project (main works over structure highlighted in red).



10.2.2 Within the rail possession, the highest tidal limit will be approx. 5.3m at 22:10 on 09/10/21. The figure below provides an illustration of the tidal limits in relation to the structure profile and planned working heights.

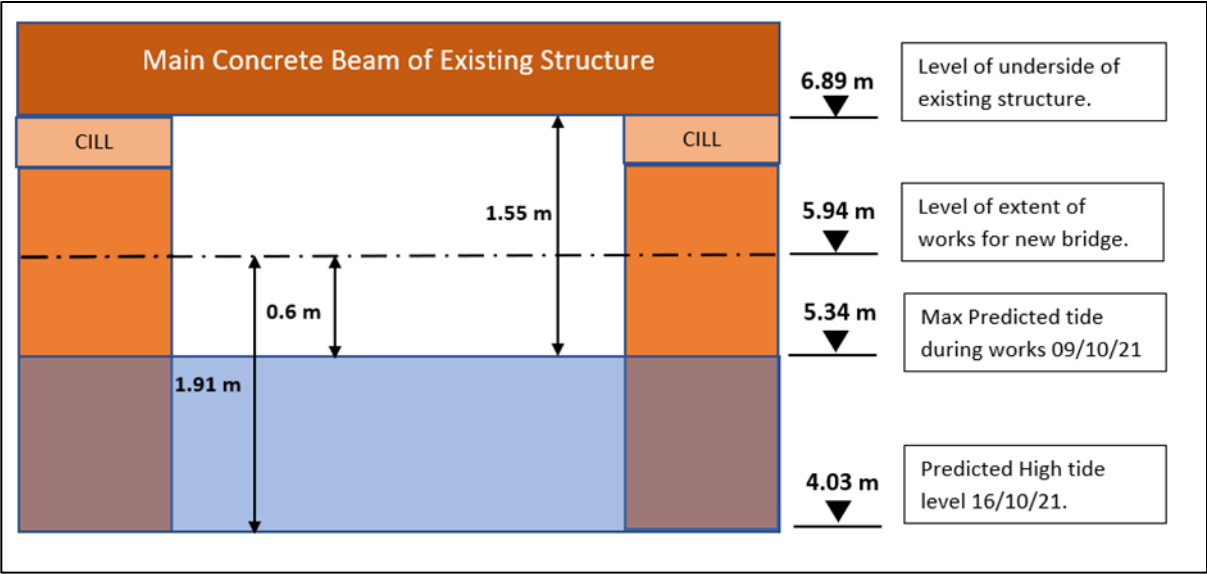


Figure 15: Overview of tidal limits in relation to planned working heights.

10.2.3 The image below shows Pant Eidal bridge at a tidal limit of 5.49m.



Figure 16: Pant Eidal Underbridge during high tide within the upper height range.

10.2.4 During the works, it is projected that the minimum available clear working zone will between 0.6m and 1.91m.



10.2.5 The table shows the level of available clearance available, over the duration of the works during high tide within the projected working hours 07:00-19:00.

Table 13: Project working clearance between works and tidal limit during planned working hours/dates.

Date	Activity	MHWS	Time	Clearance
09/10/21	Removal of Ballast and track	5.11 m	10:49	0.84 m
10/10/21	Remove existing Structure	4.92 m	11:30	0.9 m
11/10/21	Install Cill beams	4.67 m	12:23	1.27 m
12/10/21	Install new bridge	4.35 m	12:56	1.59 m
13/10/21	Complete Installation	4.10 m	14:06	1.84 m
14/10/21	Backfill and make good	3.73 m	15:17	2.21 m
15/10/21	Contingency Day	3.72 m	16:49	2.22 m
16/10/21	Reinstall track elements	4.03 m	18:17	1.91 m

10.2.6 The photograph below (figure 16) shows Pant Eidal bridge during a tidal depth limit of 4.55m. At this height, the watercourse flow freely below the structure parallel with the public right of way that leads out to the estuary.

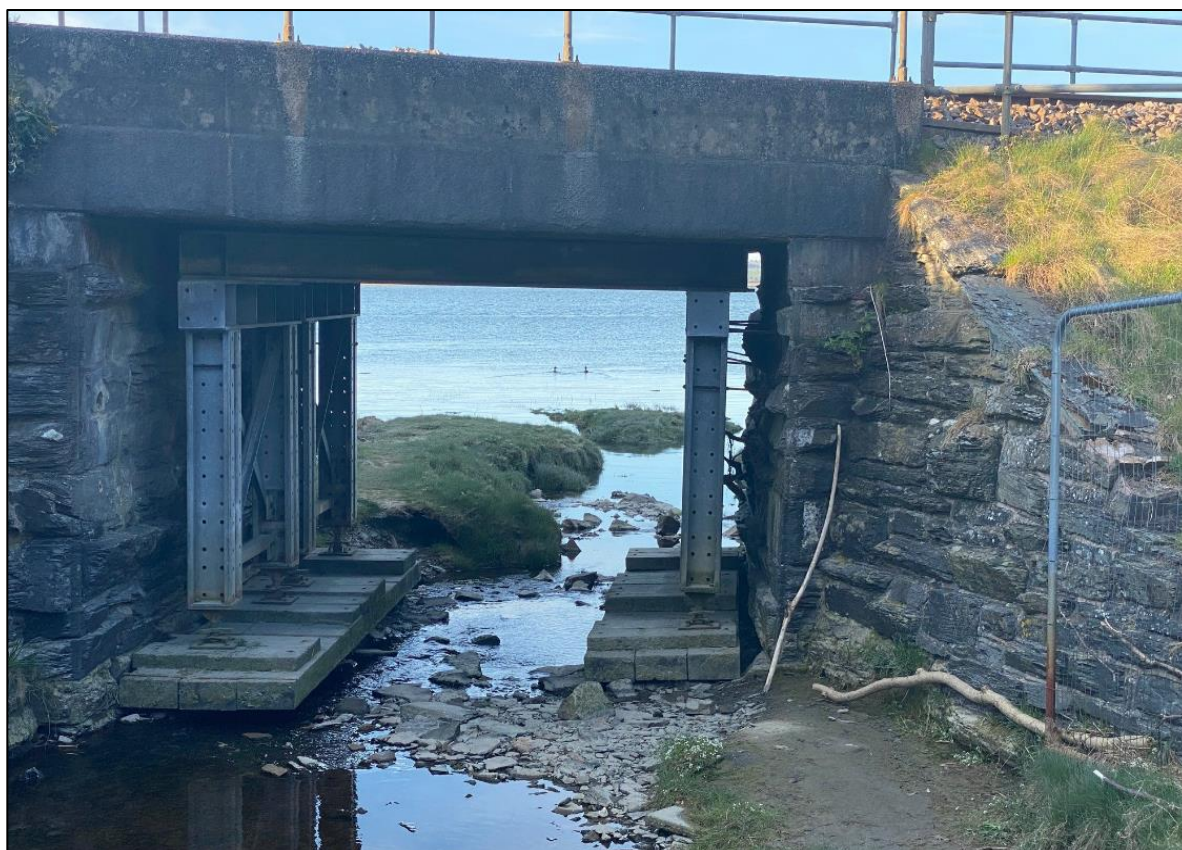


Figure 17: High tide level of 4.55m.

10.2.7 At no point during the works will the projected tidal peak height exceed the lowest working limits of the project.

10.2.8 Please note: This assessment cannot take into account, tidal swells as a result of high energy weather events. Mitigation measures will be set in place to reduce the likelihood of temporary works failures as a result of high energy events.



11. ASSESSMENT OF POTENTIAL IMPACTS RESULTING FROM SPECIFIC ACTIVITIES AND PROPOSED MITIGATION MEASURES – PANT EIDAL UNDERBRIDGE REPLACEMENT

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. All welfare, storage, parking and general works will occur within pre-existing Network Rail compounds, existing road and rail network. The only works below the structure will be temporary access and egress to erect temporary scaffolding to support the crash platform below the bridge deck. No works will occur sea ward of the outer defence wall. Only minor vegetation clearance may be required along the temporary access route between the road and the section of rail corridor following the track lift/removal to allow 13t machines to move along the rail corridor without damaging the infrastructure. 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.	<p>Once in position, Plant Machinery will only operate within the existing rail corridor.</p> <p>No refuelling of plant machinery or equipment will occur within the estuary habitat or below the temporary crash decking.</p> <p>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.</p> <p>Plant will be checked for defects and leaks prior to the start of each shift.</p> <p>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.</p> <p>Network Rail have a spillage plan and specialised contractor in place to respond to and clean up spills.</p> <p>The project EMP/ESMP will support this document with the relevant copies of GPP's.</p> <p>The Contractor will develop and implement an Emergency Awareness and Response Plan. This will describe how spills will be contained and cleaned up.</p> <p>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. Plant will also be available to remove contaminated ballast from site if required.</p>	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 on the upper abutment sectioned to join the precast sections to the lower base. 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.



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.	<p>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</p> <p>Night working is not envisaged, however should there be structural complications, then a night shift maybe required to ensure the works are completed within the available road closure and rail possession. In such an event, robust lighting controls will be implemented (see below section pertaining to local bat species).</p> <p>As working hours are not continuous there will be periods where birds are not disturbed by site activities during the early mornings and night.</p> <p>The breaking away of concrete supports is only expected to take several hours over a single shift. Once this task is complete, no further use of hydraulic peckers/breakers is scheduled.</p> <p>It is likely that local bird populations are habituated to a level of human activities, due to the proximity of the A493 and Penhelig further west.</p> <p>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.</p>	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 outside of the traditional breeding season. Pre-works checks and due diligence will be undertaken in regards to nesting checks outside of the traditional nesting season. 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 early to mid-October 2021, outside of the important wintering period. GWfG are normally counted November on-wards 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.	<p>No trees require removal for the project to take place.</p> <p>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.</p> <p>Other lighting will be PIR activated and will hence operate for short durations only. Task lighting will be low level flat glass LED luminaires and will be focused onto the task area, with minimal light spill.</p>	Impact Not Likely to be Significant, with appropriate mitigation.
Otters	SAC/SSSI/SPA/RAMSAR	Noise disturbance / Visual Disturbance / Habitat Destruction.	<p>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.</p> <p>The project will not represent a hard boundary preventing access to the wider estuary by this species or through the narrow watercourse flowing from the north. To date, there has been no evidence of otters using the watercourse, but a precautionary approach will be implemented.</p> <p>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.</p> <p>It is not anticipated that these works will have an impact on the population or conservation objectives.</p> <p>Additionally, no equipment or excavation will be left in such a manner that an animal could become snared and trapped within the working area.</p> <p>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 Centregreat Environmental manager.</p>	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.	<p>The majority of the works will be undertaken outside of the fish spawning season for migratory fish such as salmon, trout and eel (mid Oct – Mid April).</p> <p>The period in which scaffolding will be sub-merged during peak tides while works are being undertaken is extremely limited. Consequently, the period where noise could be transmitted from the crash deck and into the water likely negligible.</p>	Impact Not Likely to be Significant, with appropriate mitigation

ANNEX II SPECIES – IMPACTS & 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. Penhelig & Aberdyfi 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 day working unless absolutely necessary, there will be a limited period continuous disturbance over the project as a whole.
- 14.1.4 The overall footprint of the project is low and the footprint of the structure will not be increased as a result of the works.
- 14.1.5 The scaffolding crash deck will have a minimum percentage increase in overall footprint, combined with the limited period it will be erected, it is assessed those changes to localised physical process will be negligible. The scaffolding will be secured to the existing structure and wall in such a way as to be high resistant to potential unforeseen high energy events.
- 14.1.6 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.
- 14.1.7 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.
- 14.1.8 Control of INNS is ensured using the Risk Assessment Plan and Management Plan.
- 14.1.9 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.
- 14.1.10 Regarding long term SMP2 policy and Coastal Squeeze. As the project concerns only the timber structure, there will be no contribution to coastal squeeze as a result of the replacement of this structure.
- 14.1.11 Mobilisation of sediment is likely to be highly limited as a result of footfall below the structure to erect and dismantle the scaffolding. The access route for the plant machine will be directed over higher ground outside of any tidal influence to reduce the likelihood of sediment mobilisation.
- 14.1.12 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.
- 14.1.13 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.
- 14.1.14 Compound lighting control and robust compound fencing will lower disturbance to species such as otter and bats.



- 14.1.15 The timing of the project is outside of the traditional wintering wader season. Consequently, impacts to the vulnerable populations of Greenland White Fronted Goose is considered unlikely.
- 14.1.16 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.
- 14.1.17 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 AB- PROJECT ESMP EXAMPLE





17. APPENDIX C – TECHNICAL DRAWING

