

AtkinsRéalis



**Habitats Regulations
Assessment – Stage 1
Screening and Stage 2
Appropriate
Assessment**

Neath Port Talbot County Borough Council

October 2024

5213479

**NEATH
PORT TALBOT
FLOOD RISK
MANAGEMENT
STRATEGY PLAN**

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1. Introduction

1.1. Terms of reference

- 1.1.1. AtkinsRéalis UK Limited has been appointed by Neath Port Talbot County Borough Council to provide a Habitats Regulations Assessment (HRA) for the Local Flood Risk Management Strategy and Plan (hereafter referred to as 'LFRMSP').
- 1.1.2. HRA is required by Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') for all plans and projects which may have a likely significant effect on and are not directly connected with or necessary to the management of, a European Site¹.

1.2. Background and need for the LFRMSP

- 1.2.1. The Flood and Water Management Act 2010 requires all 22 Lead Local Flood Authorities (LLFAs) in Wales to produce Flood Risk Management Strategies (Local Strategy).
- 1.2.2. The Welsh Government's National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales (National Strategy) sets out that over 245,000 properties across Wales are at risk of flooding from rivers, the sea and surface water, with almost 400 properties also at risk from coastal erosion. The National Strategy explains that, as the climate changes, we can expect those risks to increase with more frequent and severe floods, rising sea levels and faster rates of erosion of the coast.
- 1.2.3. The National Strategy sets out the legislative context to FCERM activities in Wales.
- 1.2.4. Different Risk Management Authorities (RMAs) in Wales are responsible for different sources of flood risk. LLFAs are responsible for "local flood risk" which is defined as flood risk from: Surface water runoff; Groundwater; and Ordinary watercourses (smaller watercourses)
- 1.2.5. This Local Strategy focuses on these local sources of flood risk but acknowledges and considers other sources of flood risk (including the sea, larger watercourses, and sewers) and the roles of other RMA's in managing Flood Risk.
- 1.2.6. The Local Flood Risk Management Strategy is a statutory document which will have an impact on activities carried out by all Flood Risk Management Authorities – i.e. Local Authorities, Natural Resources Wales, Highway Authorities, and Internal Drainage Boards. The Flood and Water Management Act 2010 requires that Neath Port Talbot County Borough Council (CBC) take a

¹ This is defined as a Special Area of Conservation (SAC) or Special Protection Area (SPA), which as a matter of government policy (Ministry of Housing, Communities and Local Government (2023) National Planning Policy Framework (NPPF). Paragraph 181) also includes possible SACs (pSAC), potential SPAs (pSPA), listed or proposed Ramsar sites (wetland sites of international importance, as designated under the Ramsar Convention 1971) and any site identified, or required, as compensatory measures for adverse effects on any of the above listed designations.

Following the changes made to the Conservation of Habitats and Species Regulations 2017 (as amended) by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, SACs and SPAs in the UK no longer form part of the EU's Natura 2000 network, but form the UK's national site network. The term 'Habitats Sites' is sometimes now used instead of 'European Sites' following the UK's departure from the EU.

leading role in managing local flood risk, working in partnership with other relevant authorities and the public.

- 1.2.7. Neath Port Talbot CBC already forms part of a Flood Risk Management partnership in the South West Wales Region comprising of management authorities. These groups are fundamental to the delivery of a coordinated and consistent approach to local flood and coastal risk management ensuring we work alongside various stakeholders and the public to make a real difference across the county borough.
- 1.2.8. Neath Port Talbot CBC contains three flood risk areas out of the 33 identified by Natural Resources Wales (NRW) and we face tough decisions on how to defend these low lying coastal and fluvial floodplains of Neath, Briton Ferry, and Port Talbot. Through internal investment and funding from Welsh Government (WG) Neath Port Talbot CBC intend to deliver a Flood and Coastal Erosion Risk Management programme of works, which is driven by a risk-based approach, to protect these vulnerable communities and mitigate against flood risk.
- 1.2.9. Over the course of the last 10 years since the first publication of the LFRMS, records show 430 properties have suffered from internal flooding from surface water and ordinary watercourses at various locations around the county borough.
- 1.2.10. There are five main sources of flooding in Neath Port Talbot County Borough, from surface water; groundwater; sewers; canals and ordinary watercourses, and the interaction with main rivers and the sea. This is important in Neath Port Talbot's case as it is also a Maritime Authority. Furthermore, the County Borough Council also has a role in Highway and Land Drainage and emergency planning to effectively mitigate against and respond to flooding.

1.3. The Plan

- 1.3.1. Neath Port Talbot CBC published the first Local Strategy in 2014, setting out an overarching approach to managing local flood risk. Alongside the Local Strategy, a Flood Risk Management Plan (FRMP) was published in 2015. The FRMP developed the objectives, measures and actions outlined in the Local Strategy into a more detailed plan for managing flooding in communities, based on political wards. This document is Neath Port Talbot CBC's second Local Strategy and this new Local Strategy and Plan integrates the Local Strategy and FRMP into one document. This document will work alongside other strategic plans for shoreline management, infrastructure and planning.
- 1.3.2. Since the first Strategy was published, legislation has been passed. The Well-being of Future Generations (Wales) Act 2015 and Planning (Wales) Act 2015 encourage partnership working, collaboration and a long-term approach. The Environment (Wales) Act 2016 introduced the sustainable management of natural resources approach and duties to enhance biodiversity, reduce carbon emissions, promote natural measures and catchment approaches.
- 1.3.3. The LFRMSP describes how flooding will be managed across the Local Authority area, consistent with the objectives, measures and related policies and legislation set out in the National Strategy.

1.4. Background to HRA

- 1.4.1. According to the Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations'), before deciding to undertake or give any consent for a plan or project, '*..which is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and is not directly connected with or necessary to the management of that site,*' the Competent Authority must '*make an appropriate assessment of the implications of the plan or project for that site in view of that site's conservation objectives.*'
- 1.4.2. The Scheme is not directly connected with, or necessary to, the nature conservation management of any European Site.
- 1.4.3. UK Government policy: National Planning Policy Framework (NPPF)², states that potential Special Protection Areas (pSPA) and possible Special Areas of Conservation (pSAC), listed or proposed Ramsar sites³ and sites identified, or required, as compensatory measures for adverse effects on habitats sites, pSPAs, pSACs, and listed or proposed Ramsar sites, on which the Government has initiated public consultation on the scientific case for their designation, should also be considered European Sites. Hereafter, all of the above designated nature conservation sites are referred to as 'European Sites'.
- 1.4.4. The stages of the HRA process are:
- **Stage 1 - Screening:** To assess whether a plan or project either alone or in combination with other plans and projects is likely to have a significant effect on a European Site;
 - **Stage 2 - Appropriate Assessment:** To determine whether, in view of a European Site's conservation objectives, the project or plan (either alone or in combination with other projects and plans) would have an adverse effect (or risk of this) on the integrity of the site with respect to the conservation objectives. If adverse impacts are anticipated, potential mitigation measures to alleviate impacts should be proposed and assessed;
 - **Stage 3⁴ – Derogations (allow exceptions):** Where a project or plan is assessed as having an adverse residual impact (or risk of this) on the integrity of a European Site, it may qualify for a derogation. Three legal tests must be applied in the following order:
 1. There are no feasible alternative solutions that would be less damaging or avoid damage to the site.
 2. The proposal needs to be carried out for imperative reasons of overriding public interest.
 3. The necessary compensatory measures can be secured.
- 1.4.5. This report comprises Stage 1 - HRA Screening of the project and Stage 2 Appropriate Assessment.

1.5. Legal context to HRA

- 1.5.1. A critical part of the HRA Screening process is determining whether or not the proposals are likely to have a significant effect on European Sites, and therefore, if they will require an Appropriate Assessment. The

² Department for Levelling Up, Housing and Communities (2023) National Planning Policy Framework. Available from: [National Planning Policy Framework - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/policies/national-planning-policy-framework) (Accessed September 2024)

³ Defined by the Convention on Wetlands of International Importance, especially as waterfowl habitat (otherwise known as the 'Ramsar Convention'). <https://www.ramsar.org/>

⁴ Derogations stages were previously described as two separate stages, but now commonly grouped together.

concept of likely significant effects ('LSE') as embodied in Regulation 63(1) is central to their operation. Its interpretation is well established in law and guidance and embraces the precautionary principle.

- 1.5.2. The European Court Waddenzee judgement⁵ provides clarification regarding the term 'likely'. It concludes that: *"any plan or project not directly connected with or necessary to the management of the site is to be subject to an Appropriate Assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects."*
- 1.5.3. Clarification has also been provided through case law on the meaning of 'likely' in relation to Bagmoor Wind Ltd. v The Scottish Ministers⁶: *"the word 'likely' in the regulation is not to be construed as an expression of probability, in a legal sense, but as a description of the existence of a risk (or possibility)."* Consequently, if the possibility of a significant effect cannot be excluded based on objective information, an Appropriate Assessment will be required.
- 1.5.4. The European Court Waddenzee judgement also provides further clarification regarding the term 'significant': *"..where a plan or project not directly connected with or necessary to the management of a site is likely to undermine the site's conservation objectives, it must be considered likely to have a significant effect on that site. The assessment of that risk must be made in the light inter alia of the characteristics and specific environmental conditions of the site concerned by such a plan or project."*
- 1.5.5. The Bagmoor Wind case also provides guidance on the term 'objective'. It states: *"..objective, in this context, means information based on clear verifiable fact rather than subjective opinion"*. The Habitats Regulations Assessment Handbook⁷ states: *"..it will not normally be sufficient for an applicant merely to assert that the plan or project will not have an adverse effect on a site, nor will it be appropriate for a competent authority to rely on reassurances based on supposition or speculation. On the other hand, there should be credible evidence to show that there is a real rather than a hypothetical risk of effects that could undermine the site's conservation objectives. Any serious possibility of a risk that the conservation objectives could be undermined should trigger an 'appropriate assessment' "*
- 1.5.6. The test for likelihood of significant effects requires that consideration is given to potential causes and potential effects (i.e. any potential impact pathways). To do this, information on the Scheme is needed to identify the potential causes of effects and information on the European Site is needed to identify any potential implications related to these effects. In the absence of a potential impact pathway, it can be concluded that no likely significant effect would arise. Relevant aspects (effects) of the Scheme has been checked against all features of the relevant European Sites (i.e. screened) to determine whether a likely significant effect may arise.
- 1.5.7. The judgement as to whether a significant effect is likely needs to be based on the best readily available information. Sources of information may include evidence from projects where similar operations have affected sites with similar qualifying features and conservation objectives and the judgement of relevant specialists that an effect is likely, as well as survey data collected to date for a particular project. In line with the precautionary principle, where there is uncertainty and/ or information is lacking in relation to the

⁵ Case C – 127/02 Waddenzee, reference for a preliminary ruling from the Raad van State: Landelijke Vereniging tot Behoud van de Waddenzee, Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij, 7th September 2004.

⁶ Bagmoor Wind Limited v The Scottish Ministers, Court of Sessions (2012) CSIH 93.

⁷ Tyldesley, D., and Chapman, C., (2013) *The Habitats Regulations Assessment Handbook: DTA Publications Limited*. Available at: www.dtapublications.co.uk (Accessed September 2024).

capacity of the effect to undermine the site's conservation objectives, it must be assumed that there will be an effect, unless further information can be made available to eliminate any areas of doubt.

- 1.5.8. The implication of the Court of Justice of the European Union (CJEU) judgement referred to as 'People Over Wind'⁸ is that competent authorities cannot take account of any *"..measures that are intended to avoid or reduce the harmful effects of the envisaged project on the site concerned"*, when considering at the HRA screening stage whether the plan or project is likely to have an adverse effect on a European Site. The effect of this is that the screening stage must be undertaken on a precautionary basis with no regard to any proposed integrated or additional avoidance or reduction measures. Where the likelihood of significant effects cannot be excluded on the basis of objective information, the competent authority must proceed to carry out an Appropriate Assessment to establish whether the plan or project will affect the integrity of the European Site, which can include at that stage consideration of the effectiveness of the proposed avoidance or reduction measures.
- 1.5.9. Case law in 2017 referred to as the 'Wealden Judgement'⁹ prompted statutory authorities to make their internal guidance on assessing the effects of road traffic emissions on European Sites public¹⁰. The guidance provides further information on the in-combination assessment at screening stage with regard to air quality effects following the Wealden Judgement.

1.6. Consultation

- 1.6.1. Under Regulation 63(3) of the Habitats Regulations, the appropriate nature conservation body, in this case NRW, must be consulted at Stage 2 Appropriate Assessment.
- 1.6.2. Since Likely Significant Effects could not be discounted at all European Sites and Appropriate Assessment is required, NRW will be made aware of this project and consideration will be given to their advice and comments throughout the HRA process. A draft of this report will be made available to NRW for comment.

⁸ Peter Sweetman v Coillte Teoranta, Case C-323/17

⁹ Case no: CO/3943/2016 – Between Wealden District Council and Secretary of State for Communities and Local Government, Lewes District Council and South Downs National Park Authority and Natural England.

¹⁰ NE Internal Guidance – *Approach to advising Competent Authorities on Road Traffic Emissions and HRAs V1.4 Final* – June 2018.



2. Methods

2.1. Overview

- 2.1.1. The LFRMSP is a high-level plan which provides no specific details or outline of any development proposals, no details of where development may be located and/ or when (or if) these sites will be constructed.
- 2.1.2. The HRA has also been undertaken at a strategic level. It broadly assesses where there is scope for impacts upon European Sites due to proximity, the presence of impact pathways and the type of impacts that may occur as a result of a proposed scheme, such as changes in air quality, recreational pressure, and changes in hydrology. Due to the high-level strategic nature of the plan, any LSE will need to be assessed at the project or scheme level, with reference to the conservation objectives of the qualifying features of each of the European Sites.
- 2.1.3. The Habitats Regulations Assessment Handbook¹¹ outlines that screening for appropriate assessment requires gathering sufficient information to objectively conclude whether effects on a European Site will be significant or not. On this basis, screening to ascertain whether appropriate assessment is required covers four themes:
- Determining whether the plan (or project) is directly connected with or necessary to the management of the European Site;
 - Identifying the potential effects on the European Site;
 - Assessing the likely significant effect (LSE) on the European Site; and,
 - Describing the plans (or projects) and characterising other plans (or projects) that in combination have the potential for having significant effects on the European Site.
- 2.1.4. The preliminary steps in the assessment have been based on these themes.

2.2. Preliminary steps

- 2.2.1. In the first instance the LFRMSP was considered to determine whether it is directly connected with or necessary to the management of the European Site.

Identification of sites for consideration

- 2.2.2. The following selection criteria, based on the geographic extent of any impacts which could arise as a result of the LFRMSP and as explained below, have been used to determine what European Sites to consider in the HRA screening assessment:
- All European Sites within 2 km of the Borough Council Area, or functionally linked land (see below).
 - All European Sites up to 30 km from the Borough Council Area where bats are a qualifying interest feature.
 - All European Sites upstream or downstream of watercourses within the Borough Council Area.

¹¹ Tyldesley, D., and Chapman, C., (2013) *The Habitats Regulations Assessment Handbook: DTA Publications Limited*. Available at: www.dtapublications.co.uk (Accessed September 2024).

Discounting sites

- 2.2.3. Following the identification of European Sites for consideration, an initial ‘coarse screening’ (also sometimes referred to as ‘Stage 0 screening’) was undertaken to ascertain whether any of the European sites identified could be discounted as irrelevant. Sites were only discounted where there was no conceivable effect pathway that could be considered. Where this is the case the reasons for discounting are presented in the Results section.

Data gathering

- 2.2.4. Baseline information used to describe the location and characteristics of European Sites and Conservation Objectives was taken from following sources:

- Multi-Agency Geographic Information for the Countryside (MAGIC) Webmap¹²;
- Joint Nature Conservation Committee (JNCC) Natura 2000 Standard Data Forms¹³;
- Natural Resources Wales Sites Protected by European and international law¹⁴.

Effect pathways

- 2.2.5. Plans or projects can adversely affect a site by:

- Causing delays in progress towards achieving the Conservation Objectives of the European Site;
- Interrupting progress towards achieving the Conservation Objectives of the European Site;
- Disrupting those factors that help to maintain the favourable conditions of the European Site; and,
- Interfering with the balance, distribution and density of key species that are the indicators of the favourable condition of the European Site.

- 2.2.6. Supplementary Advice from Natural Resources Wales describes the measures necessary to achieving the Conservation Objectives for a European Site, comprising a range of ecological attributes that are most likely to contribute to the overall integrity of a European Site.

- 2.2.7. Effect pathways on the Conservation Objectives for the European Site were considered against the following list:

- **Habitat loss and fragmentation** – includes direct loss of habitats under the footprint of temporary or permanent works. Indirect effects through the loss of functionally linked habitats, i.e. habitats that support species outside of the European Site boundary;
- **Species disturbance** (visual, noise, vibration) – this refers to disturbance during construction, operation or decommissioning works on species that may cause behavioural effects, e.g. avoidance, change in foraging behaviour. Physical works, vehicle movements, light pollution and presence of staff/ workers are all considered;
- **Changes to water quality** – considers effects on species (and their prey) as a result of contamination, changes in pH, increased nutrient loads, salinity, turbidity, alterations in the thermal regime, discharges or changes in sedimentation levels;

¹² Available from <http://magic.defra.gov.uk> (accessed September 2024).

¹³ Available from <http://jncc.defra.gov.uk> (accessed September 2024).

¹⁴ Available from [Natural Resources Wales / Sites protected by European and international law](#) (accessed September 2024)

- **Changes to air quality** – evaluates the risk of discharges to air, including fugitive dust and combustion emissions;
- **Changes to surface and groundwater hydrology** – changes to the flow, supply, availability and drainage of water, and increased risks associated with flooding;
- **Introduction of Invasive Non-Native Species (INNS)** – the risk of introducing or spreading INNS as a result of the LFRMSP;
- **Recreation** – direct and indirect impacts on species and habitats as a result of increased recreational use, including increased visitor numbers, dog walkers, vehicle or watercraft use and associated issues such as dog fouling, litter and anti-social behaviour (littering, vandalism and fires).

Obtaining information on other projects and plans

- 2.2.8. The Habitats Regulations requires assessment of the potential for LSE of LFRMSP ‘in combination’ with other projects and plans.
- 2.2.9. The effects of LFRMSP in combination with other projects are the cumulative effects which will, or might, result from the addition of the effects of other relevant plans or projects, and making an assessment as to whether these could be significant.
- 2.2.10. The Habitats Regulations Assessment Handbook¹⁵ advises that any plans or projects at the following stages may be relevant to an in-combination assessment:
- Planning applications submitted but not yet determined;
 - Planning application refusals subject to appeal procedures and not yet determined;
 - Projects authorised but not yet started;
 - Projects started but not yet completed;
 - Known projects that do not require external authorisation, e.g. permitted development;
 - ‘Projects’ subject to periodic review e.g. annual licences, during the time that their renewal is under consideration;
 - Proposals in adopted plans (e.g. land use plans, transport plans, minerals and waste plans, shoreline management plans etc.); and
 - Proposals in finalised draft plans (see examples above) formally published or submitted for final consultation, examination or adoption.
- 2.2.11. In order to inform the in-combination assessment, a search was undertaken to identify other projects and plans that may have an in-combination effect with LFRMSP. This included a search of local authority websites and planning portals for strategic documents (such as Local Plans). The National Infrastructure Planning website was searched for information on any Nationally Significant Infrastructure Projects (NSIPs) within proximity of the same and adjoining regions that may have been assessed for impacts on the same European Sites under the Habitats Regulations. Stage 1: Screening for Likely Significant Effects (LSE).

¹⁵ Tyldesley, D., and Chapman, C., (2013) *The Habitats Regulations Assessment Handbook: DTA Publications Limited*. Available at: www.dtapublications.co.uk (Accessed September 2024).

2.3. Stage 1: Screening for Likely Significant Effects (LSE)

Alone

- 2.3.1. The precautionary principle (as enshrined in the Habitats Regulations) has been taken into account during this HRA. Whenever potential significant effects could not be objectively discounted, the European Site has been screened in.
- 2.3.2. Following the gathering of information on the LFRMSP and the European Sites, an assessment was undertaken to determine whether there could be any LSE on the European Sites 'alone' as a result of the LFRMSP. In order to inform this process, all parts of the LFRMSP were assessed. All text that is aspirational or administrative in nature and will not result in future development/ environmental change and, therefore, have no ability to impact upon European Sites, was identified.
- 2.3.3. Any LSEs are assessed by reference to the conservation objectives of the qualifying feature (interest feature) of the European Site. Any plan or project that causes a cited interest features to fall into unfavourable condition can be considered to have an LSE on the European Site. Stage 1 of the HRA process assesses potential effects on the European Sites without mitigation. Following the completion of the Stage 1 'alone' screening, consideration was also given to the potential for the effects of LFRMSP to combine with other plans and projects and result in additional LSEs that were discounted by the scheme 'alone'.
- 2.3.4. Any European Sites with LSE pathways 'alone', that were already screened in and requiring Stage 2 Appropriate Assessment, were not subject to 'in-combination' assessment¹⁶.

2.4. Stage 2: Appropriate Assessment

- 2.4.1. Appropriate Assessment for a plan cannot be as detailed an assessment as one undertaken at a project level. Impacts of a plan depend to a large extent on how policies and proposals are implemented on the ground. Due to the uncertainties inherent in policy-making, the exact effect of a policy or proposal may not be certain until detailed implementation. This can make it difficult to conclude with any certainty that adverse effects on integrity will not take place. Due to the requirement within the Habitats Directive to apply the precautionary principle if it is not possible to be certain that adverse effects will not occur, this HRA proposes methods to mitigate for adverse effects that could occur. This is important, in order to demonstrate that any development brought forward as a result of policies in the LFRMSP, can be delivered without adverse effects on integrity. Changes to the detailed design of development schemes, when they arise, may be necessary as well as mitigation.
- 2.4.2. For European Sites where a LSE is predicted (alone or in combination with other plans or projects), or it cannot be concluded that there is no LSE, an Appropriate Assessment has been undertaken. The purpose of the Appropriate Assessment is to establish whether there are elements of the project which could have an adverse effect on the integrity (AEoI) of any European Site. The integrity of a European Site is defined as:

¹⁶ Regulation 63(1)(a) requires appropriate assessment if LSE is likely *either alone or in combination with other plans or projects*.

“..the coherence of the site’s ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/ or the populations of the species for which the site is, or will be, designated”¹⁷

- 2.4.3. The Habitats Regulations Assessment Handbook provides guidance on the ‘integrity test’¹⁸. It emphasises that the integrity of a European Site involves its ecological structure, function and ecological processes, and relates to the site’s Conservation Objectives; if the Conservation Objective for a feature will be undermined, site integrity is adversely affected.
- 2.4.4. The Appropriate Assessment considers each individual effect pathway separately, as well as any combination of relevant effect pathways from LFRMSP and any other plans or projects.
- 2.4.5. Therefore, the Appropriate Assessment:
- Outlines the elements of LFRMSP that were identified as having a potential LSE on one or more qualifying features of each European Site;
 - Assesses the effects of LFRMSP on the Conservation Objectives of the relevant interest features, with reference to any Supplementary Advice;
 - Determines whether or not the integrity of the European Site(s) will be affected, taking into account proposed mitigation measures.

¹⁷ Natural England (2019) MPA Conservation Advice Glossary of Terms. Available here:

https://designatedsites.naturalengland.org.uk/pdfs/MPA_CAGlossary_March2019.pdf

¹⁸ Section C11 The ‘integrity test’. Available here: <https://www.dtapublications.co.uk/handbook/content.aspx?section=C11>



3. Stage 1 - Screening

3.1. European Sites Identified for Screening

List of European Sites Identified

3.1.1. There are four SACs and one Ramsar site which meet the criteria set out in Paragraph 2.2.2, as detailed in Table 3-1 below:

Table 3-1 - European sites for nature conservation within and adjacent to the Plan area

	SAC	SPA	Ramsar site
Within the LFRMSP Area			
	Coedydd Nedd a Mellte		Crymlyn Bog / Cors Crymlyn
	Crymlyn Bog / Cors Crymlyn		
Within 2km of the LFRMSP Area			
	Kenfig / Cynffig		
	Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands		
Within 30km of the LFRMSP Area where bats are a qualifying interest feature			
European Sites upstream or downstream of watercourses within the LFRMSP Area			

European Sites Discounted

3.1.2. The European sites listed in Table 3-2 below are within 30 km of the LFRMSP Area but have been discounted from the screening assessment but do not meet any of the criteria listed in Paragraph 2.2.2. As such, there is no conceivable pathway of effect and are therefore not considered further.

Table 3-2 - European sites screened out

SAC	SPA	Ramsar
Carmarthen Bay and Estuaries/ Bae Caerfyrddin ac Aberoedd Intervening distance is such that no viable pathway exists despite hydrological link	Bae Caerfyrddin / Carmarthen Bay Intervening distance is such that no viable pathway exists despite hydrological link	
Bristol Channel Approaches / Dynesfeydd Môr Hafren Intervening distance is such that no viable pathway exists despite hydrological link		

SAC	SPA	Ramsar
Usk Bat Sites / Safleodd Ystlumod Wysg Outside of core sustenance zones for qualifying species.		

3.2. Screening of LFRMSP Policies

3.2.1. All elements of LFRMSP were screened for policies and actions that may result in LSE on European Sites. The results of the screening are summarised in Table 3-3 below:

Table 3-3 – Screening of LFRMSP Objectives

No.	Local Strategy Objective	Related Measures	LSE?	Justification
1	Reducing the threat to life by reducing the number of properties at risk of flooding.	<ul style="list-style-type: none"> ▪ Adaption and Reliance ▪ Natural Flood Management and Nature Based Solutions ▪ Asset Surveys ▪ Asset Register ▪ Critical Flood Risk Asset Inspections ▪ Critical Flood Risk Asset Maintenance and Repairs ▪ Construction of Flood Alleviation Schemes ▪ Flood Risk Assessments ▪ Business Case Development ▪ Communicate Risk ▪ Warn and Inform ▪ Emergency Response Plans 	Yes	Objective contains measures likely to lead to physical development.
2	Reducing the consequences for individuals, communities, businesses, and the environment from flooding and coastal erosion.	<ul style="list-style-type: none"> ▪ Flood Action Plan ▪ Adaption and Reliance ▪ Natural Flood Management and Nature Based Solutions ▪ Asset Surveys ▪ Asset Register ▪ Critical Flood Risk Asset Inspections ▪ Critical Flood Risk Asset Maintenance and Repairs ▪ Construction of Flood Alleviation Schemes ▪ Flood Risk Assessments ▪ Business Case Development ▪ Communicate Risk ▪ Warn and Inform ▪ Emergency Response Plans 	Yes	Objective contains measures likely to lead to physical development.



No.	Local Strategy Objective	Related Measures	LSE?	Justification
3	Provide strategic leadership and direction at a local level.	<ul style="list-style-type: none"> ▪ Flood Action Plan ▪ Adaption and Reliance ▪ Asset Surveys ▪ Asset Register ▪ Critical Flood Risk Asset Inspections ▪ Critical Flood Risk Asset Maintenance and Repairs ▪ Flood Risk Assessments ▪ Investigation into Flooding ▪ Feasibility Studies ▪ Business Case Development ▪ Communicate Risk ▪ Warn and Inform ▪ Emergency Response Plans 	No	Objective contains policies that will not lead to development.
4	Improve understanding of local flood risk and how climate change will affect standards of protection in the future.	<ul style="list-style-type: none"> ▪ Adaption and Reliance ▪ Asset Surveys ▪ Asset Register ▪ Flood Risk Assessments ▪ Investigation into Flooding ▪ Feasibility Studies ▪ Business Case Development ▪ Communicate Risk ▪ Warn and Inform ▪ Emergency Response Plans 	No	Objective contains policies that will not lead to development.
5	Ensure RMA's & Stakeholders work together to effectively manage Flood Risk & Coastal Erosion	<ul style="list-style-type: none"> ▪ Flood Action Plan ▪ Asset Register ▪ Construction of Flood Alleviation Schemes ▪ Flood Risk Assessments ▪ Investigation into Flooding ▪ Business Case Development ▪ Communicate Risk ▪ Warn and Inform ▪ Partnership Working with other RMAs ▪ Emergency Response Plans 	Yes	Objective contains measures likely to lead to physical development.
6	Prioritising projects and investment using a risk-based approach	<ul style="list-style-type: none"> ▪ Natural Flood Management and Nature Based Solutions ▪ Asset Surveys ▪ Asset Register ▪ Construction of Flood Alleviation Schemes ▪ Flood Risk Assessments 	Yes	Objective contains measures likely to lead to physical development.



No.	Local Strategy Objective	Related Measures	LSE?	Justification
		<ul style="list-style-type: none"> ▪ Feasibility Studies ▪ Business Case Development ▪ Communicate Risk 		
7	Reduce disruption to critical services, transport, and infrastructure network within the county borough	<ul style="list-style-type: none"> ▪ Asset Surveys ▪ Asset Register ▪ Construction of Flood Alleviation Schemes ▪ Flood Risk Assessments ▪ Business Case Development ▪ Communicate Risk 	Yes	Objective contains measures likely to lead to physical development.
8	Raise awareness of flooding and engaging with people in the response to flood and coastal erosion risk	<ul style="list-style-type: none"> ▪ Flood Risk Assessments ▪ Investigation into Flooding ▪ Communicate Risk ▪ Warn and Inform ▪ Emergency Response Plans 	No	Objective contains policies that will not lead to development.
9	Develop policies for effective land use management and enhanced development control procedures to ensure future developments incorporate effective surface water management	<ul style="list-style-type: none"> ▪ SuDS Development ▪ Reducing the consequences for individuals, communities, businesses, and the environment from flooding and coastal erosion. ▪ Adaption and Reliance ▪ Natural Flood Management and Nature Based Solutions ▪ Flood Risk Assessments ▪ Communicate Risk 	Yes	Objective contains measures likely to lead to physical development.
10	Improve regular maintenance schedules and improve existing flood and coastal erosion risk management assets.	<ul style="list-style-type: none"> ▪ Asset Surveys ▪ Asset Register ▪ Critical Flood Risk Asset Inspections ▪ Critical Flood Risk Asset Maintenance and Repairs ▪ Flood Risk Assessments ▪ Investigation into Flooding ▪ Business Case Development ▪ Communicate Risk 	Yes	Objective contains measures likely to lead to physical development.
11	Providing an effective and sustained response to flood and coastal erosion events.	<ul style="list-style-type: none"> ▪ Flood Action Plan ▪ Asset Register ▪ Critical Flood Risk Asset Inspections ▪ Critical Flood Risk Asset Maintenance and Repairs ▪ Flood Risk Assessments ▪ Investigation into Flooding ▪ Communicate Risk 	Yes	Objective contains measures likely to lead to physical development.



No.	Local Strategy Objective	Related Measures	LSE?	Justification
		<ul style="list-style-type: none"> ▪ Warn and Inform ▪ Emergency Response Plans 		
12	Develop a local programme of investment for flood and coastal erosion risk management.	<ul style="list-style-type: none"> ▪ Construction of Flood Alleviation Schemes ▪ Flood Risk Assessments ▪ Feasibility Studies ▪ Business Case Development ▪ Communicate Risk 	Yes	Objective contains measures likely to lead to physical development.
13	Ensure Flood Risk Management Projects are delivered in a responsibly sustainable way with a focus on environmental benefits and enhancements.	<ul style="list-style-type: none"> ▪ SuDS Development ▪ Adaption and Reliance ▪ Natural Flood Management and Nature Based Solutions ▪ Environmental and Biodiversity Enhancements ▪ Construction of Flood Alleviation Schemes ▪ Flood Risk Assessments ▪ Business Case Development ▪ Communicate Risk 	Yes	Objective contains measures likely to lead to physical development.
14	Identify locations where flood risk can be reduced by working with or enhancing the natural environment.	<ul style="list-style-type: none"> ▪ Adaption and Reliance ▪ Natural Flood Management and Nature Based Solutions ▪ Environmental and Biodiversity Enhancements ▪ Asset Surveys ▪ Asset Register ▪ Construction of Flood Alleviation Schemes ▪ Flood Risk Assessments ▪ Feasibility Studies ▪ Business Case Development ▪ Communicate Risk 	Yes	Objective contains measures likely to lead to physical development.

3.2.2. Actions have been proposed for each catchment within the Plan area and consideration of whether implementation of these Actions are likely to cause a significant environmental effect is set out in

Table 3-4 – Assessment of Catchment Actions

Catchment	Actions Proposed	LSE ?	Justification
River Afan	Review Heol Y Nant FAS and update FRAW Mapping to reflect new construction	No	Desk-based assessment that will not lead to development.



Catchment	Actions Proposed	LSE ?	Justification
	Assess flood risk posed to Port Talbot by discussing with flood risk professionals in NRW.	No	Desk-based assessment that will not lead to development.
	Continue to implement coastal monitoring of Baglan Burrows dune system (SMP2 Managed Re-alignment Policy Unit)	Yes	Objective contains measures likely to lead to physical development; however, no hydrological link to European sites is evident. Other pathways of effect should still be considered.
	Continue to maintain and repair coastal defences along Aberavon Promenade (SMP2 Hold the Line Policy Unit)	No	Desk-based assessment that will not lead to development.
	Assess Swn-Y-Nant, Blaengwyfi Surface Water Flood Risk	No	Desk-based assessment that will not lead to development.
	Assess Margam Street, Cymmer Surface Water Flood Risk	No	Desk-based assessment that will not lead to development.
	Assess Talbot Road, Port Talbot Surface Water Flood Risk and communicate this with DCWW	No	Desk-based assessment that will not lead to development.
	Maintain, inspect and cleanse nine Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development; however, no hydrological link to European sites is evident. Other pathways of effect should still be considered.
River Corrwg	Undertake Feasibility Study at Glyncorwg	No	Desk-based assessment that will not lead to development.
	Maintain, inspect and cleanse five (5) Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development; however, no hydrological link to European sites is evident. Other pathways of effect should still be considered.
Afon Pelenna	Assess Johns Terrace, Tonmawr Surface Water Flood Risk	No	Desk-based assessment that will not lead to development.
	Assess Tonmawr Business Park Surface Water Flood Risk	No	Desk-based assessment that will not lead to development.
	Continue to maintain and inspect the highway drainage system at Glan-Pelenna, Pontrhydyfen	Yes	Objective contains measures likely to lead to physical development; however, no hydrological link to European sites is evident. Other pathways of effect should still be considered.



Catchment	Actions Proposed	LSE ?	Justification
	Develop NFM Solution at Tonmawr Road-Mynydd Penrhys	Yes	Objective contains measures likely to lead to physical development; however, no hydrological link to European sites is evident. Other pathways of effect should still be considered.
River Ffrwdwyllt	Maintain, inspect and cleanse two Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development; however, no hydrological link to European sites is evident. Other pathways of effect should still be considered.
	Continue to Liaise with CUL_0741 (Bryn Community Hall) private owner to maintain culvert intake	No	Desk-based assessment that will not lead to development.
	Assess Commercial Road rear lane Surface Water Flood Risk	No	Desk-based assessment that will not lead to development.
	Assess Nant Cwm Y Garn ordinary watercourse flood risk	No	Desk-based assessment that will not lead to development.
	Assess Cwm Ffairty ordinary watercourse flood risk	No	Desk-based assessment that will not lead to development.
	Liaise with NRW on Taibach Fluvial flood risk	No	Desk-based assessment that will not lead to development.
River Kenfig	Undertake Feasibility Study at Margam (Arnallt Brook)	No	Desk-based assessment that will not lead to development.
	Undertake Feasibility Study at Ten Acre Wood, Margam	No	Desk-based assessment that will not lead to development.
	Map, inspect and maintain Drainage Apparatus at Prince Street, Margam	Yes	Objective contains measures likely to lead to physical development.
	Assess surface water flood risk at Prince Street	No	Desk-based assessment that will not lead to development.
	Assess ordinary water course flood risk at Coed Hirwaun	No	Desk-based assessment that will not lead to development.
	Maintain, inspect and cleanse five Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development.
	Continue to inspect the coastline and Liaise with Tata on responsibility's to 'Hold the line'	No	Desk-based assessment that will not lead to development.
Neath Vale	Undertake Feasibility Study at Morfa Glas to include flood risk from watercourses and surface water.	No	Desk-based assessment that will not lead to development.
	Undertake Feasibility Study at High Street, Blaengwrach	No	Desk-based assessment that will not lead to development.



Catchment	Actions Proposed	LSE ?	Justification
	Assess ordinary watercourse flood risk at Ynyslas Crescent	No	Desk-based assessment that will not lead to development.
	Assess ordinary watercourse flood risk at Neath Road, Resolven	No	Desk-based assessment that will not lead to development.
	Assess ordinary watercourse flood risk at Clyne	No	Desk-based assessment that will not lead to development.
	Maintain, inspect and cleanse 11 Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development.
Afon Pryddin	Continue to maintain and inspect the highway drainage system at Camnant Road	Yes	Objective contains measures likely to lead to physical development.
	Assess the ordinary watercourse and fluvial flood risk at Camnant Road	No	Desk-based assessment that will not lead to development.
River Dulais	Maintain and inspect drainage apparatus at Golwg Y Bryn ,Seven Sisters	No	Desk-based assessment that will not lead to development.
	Assess the ordinary watercourse flood risk at Golwg Y Bryn, Seven Sisters	No	Desk-based assessment that will not lead to development.
	Include Mary Street Intake on the Critical Flood Risk Asset Inspection Programme	No	Desk-based assessment that will not lead to development.
	Assess the ordinary watercourse flood risk at High St and Church Rd, Seven Sisters	No	Desk-based assessment that will not lead to development.
	Maintain, inspect and cleanse five Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development.
	Maintain and inspect drainage apparatus at Golwg Y Bryn ,Seven Sisters	Yes	Objective contains measures likely to lead to physical development.
River Neath	Assist NRW with the development of Aberdulais FAS	No	Desk-based assessment that will not lead to development.
	Develop a FBC and Detailed Design for Cryddan Brook FAS	Yes	Objective contains measures likely to lead to physical development. Note that ecological studies have been carried out to date such as Phase 1 Habitat Survey. Conclusions show one statutory designated site, namely Eaglesbush Valley LNR surrounds the mid-section of Cryddan Brook and five SINC sites lay within the survey area for the proposed Scheme. There is potential for Eaglesbush LNR and four of the SINC, namely Neath Port Talbot Watercourses SINC, The Waun, Cimla SINC, Neath Estuary SINC and Neath Canal SINC to be detrimentally impacted e.g., through de-vegetation works, degradation of

Catchment	Actions Proposed	LSE ?	Justification
			habitat, pollution via surface run-off and dust from materials and machinery, and/or fuel spills.
	Undertake Feasibility Study at Neath Town Centre to include flood risk from watercourses and surface water.	No	Desk-based assessment that will not lead to development.
	Continue to develop a FBC and Detailed Design for Grandison Brook FAS	Yes	Objective contains measures likely to lead to physical development. Note that this area has been assessed for BNG but is quite constrained due to urban nature. Specific ecological surveys have also taken place e.g. in respect of bats.
	Maintain, inspect and cleanse 21 Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development.
	Develop an additional maintenance rota, to inspect and cleanse surface water assets in high and medium Flood Risk Areas of Neath	No	Desk-based assessment that will not lead to development.
	Assess the ordinary watercourse and surface water flood risk at Afan Valley Road, Cimla	No	Desk-based assessment that will not lead to development.
	Assess the ordinary watercourse and surface water flood risk at Llantwit Road, Llantwit	No	Desk-based assessment that will not lead to development.
	Assess the ordinary watercourse and surface water flood risk at Heol Dyddwr, Tonna	No	Desk-based assessment that will not lead to development.
	Stanley Place FAS Construction	Yes	Objective contains measures likely to lead to physical development.
	Assess the ordinary watercourse and surface water flood risk at Ffrwd Vale, Neath	No	Desk-based assessment that will not lead to development.
	Liaise with NRW on the development of a feasibility study for coastal flooding at Milland Road, Melyn and Pant Yr Heol, Briton Ferry	No	Desk-based assessment that will not lead to development.
	Continue to provide support and leadership to the Neath Estuary Group	No	Desk-based assessment that will not lead to development.
	Continue to implement coastal monitoring of Crymlyn Burrows dune system (SMP2 Managed Re-alignment Policy Unit)	No	Desk-based assessment that will not lead to development.
	Liaise with NWR and DCWW at Briton Ferry underpass at Church Street and Regent Street West	No	Desk-based assessment that will not lead to development.
River Clydach	Periodically carry out a CCTV survey of the culverted watercourse at Park Avenue, Skewen	No	Desk-based assessment that will not lead to development.
	Carry out an asset survey at Park Avenue, Skewen	No	Desk-based assessment that will not lead to development.

Catchment	Actions Proposed	LSE ?	Justification
	Develop the Detailed Design and Construction of Skewen FAS	Yes	Objective contains measures likely to lead to physical development. Note that an ecological impact assessment was carried out during design of this scheme and it noted that there are no designated sites in proximity. No hydrological connections to a site designated for nature conservation were identified within 2km of the scheme.
	Assess the ordinary watercourse and surface water flood risk at Green Hedges, Rhos	No	Desk-based assessment that will not lead to development.
	Maintain, inspect and cleanse five Critical Flood Risk Assets	No	Desk-based assessment that will not lead to development.
River Tawe	Assess the Ynysmeudwy Canal culvert capacity	No	Desk-based assessment that will not lead to development.
	Assess the canal flood risk at Alloy Industrial Estate	No	Desk-based assessment that will not lead to development.
	Assess the surface water flood risk at Deeley Road, Ystalyfera	No	Desk-based assessment that will not lead to development.
	Update FRAW map with new modelling information at Varteg Road, Ystalyfera	No	Desk-based assessment that will not lead to development.
	Assess the surface water flood risk at Graig Newydd, Godre'r Graig	No	Desk-based assessment that will not lead to development.
	Manage and Maintain Surface Water Pumping Stations under NPTCBC ownership at Llys Harry, Godre'r Graig	Yes	Objective contains measures likely to lead to physical development.
	Map and inform residents of the flood risk at Heol Y Felin	No	Desk-based assessment that will not lead to development.
	Assess the ordinary watercourse flood risk at Gellinudd	No	Desk-based assessment that will not lead to development.
	Maintain, inspect and cleanse 18 Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development.
River Twrch	Maintain, inspect and cleanse two Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development.
River Clydach (Upper)	Maintain, inspect and cleanse two Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development.
River Amman	Maintain, inspect and cleanse seven Critical Flood Risk Assets	Yes	Objective contains measures likely to lead to physical development.
	Undertake Feasibility Study Nant Hir FAS	No	Desk-based assessment that will not lead to development.



Catchment	Actions Proposed	LSE ?	Justification
	Assess the surface water flood risk at Maes Y Glyn, Lower Brynamman	No	Desk-based assessment that will not lead to development.
	Assess the surface water flood risk at Quarry Place, GCG	No	Desk-based assessment that will not lead to development.

3.3. Stage 1 screening results

Identified policies

3.3.1. As outlined in **Table 3-3**, the following LFRMSP objectives have been identified as having potential for LSE:

- Objective 1 - Reducing the threat to life by reducing the number of properties at risk of flooding.
- Objective 2 - Reducing the consequences for individuals, communities, businesses, and the environment from flooding and coastal erosion.
- Objective 5 - Ensure RMA's & Stakeholders work together to effectively manage Flood Risk & Coastal Erosion
- Objective 6 - Prioritising projects and investment using a risk-based approach
- Objective 7 - Reduce disruption to critical services, transport, and infrastructure network within the county borough
- Objective 9 - Develop policies for effective land use management and enhanced development control procedures to ensure future developments incorporate effective surface water management
- Objective 10 - Improve regular maintenance schedules and improve existing flood and coastal erosion risk management assets.
- Objective 11 - Providing an effective and sustained response to flood and coastal erosion events.
- Objective 12 - Develop a local programme of investment for flood and coastal erosion risk management.
- Objective 13 - Ensure Flood Risk Management Projects are delivered in a responsibly sustainable way with a focus on environmental benefits and enhancements.
- Objective 14 - Identify locations where flood risk can be reduced by working with or enhancing the natural environment.

Identified effect pathways

3.3.2. Following the identification of which elements of the plan can be screened out, the potential effect pathways have been identified along with characterisation of any impacts on the European Sites.

3.3.3. Potential effects are considered to be as follows:

3.3.4. The following effect pathways have been identified. Each Conservation Objective has been considered against each pathway:

- **Habitat loss and fragmentation** – includes direct loss of habitats and functional land under the footprint of temporary or permanent works. Indirect effects through the loss of habitat connectivity



and supporting habitats e.g. those that support prey species for predatory birds are also considered under this category;

- **Species disturbance** (visual, noise, vibration) – this refers to disturbance by construction works or operation of schemes on species that may cause behavioural effects, e.g. avoidance, change in foraging behaviour. Construction plant and machinery, blasting, light pollution and movements of vehicles and workers are all considered;
- **Changes to water quality** – effects on aquatic species and habitats from discharges, contamination, increased nutrient loads or changes in sedimentation levels;
- **Changes to air quality** – evaluates the risk of discharges to air, including fugitive dust, combustion emissions and nitrogen deposition;
- **Changes to surface and groundwater hydrology** – changes to the flow, supply, availability and drainage of water, increased risks associated with flooding;
- **Introduction of invasive non-native species (INNS)** – the risk of introducing or spreading INNS throughout construction works;

Recreation impacts – increased recreational pressure on European Sites from increased accessibility and visitor numbers, resulting in disturbance and habitat erosion if not managed.

3.3.5. Table 3-5 below summarises the consideration of risk pathways detailed in Appendix B.



Table 3-5 - Summary of Identified LSE Pathways

European Site	Qualifying Feature	LSE pathway screened out	LSE pathway screened in
Coedydd Nedd a Mellte SAC	<ul style="list-style-type: none"> ▪ Old sessile oak woods with Ilex and Blechnum in the British Isles ▪ Tilio-Acerion forests of slopes, screes and ravines 	<ul style="list-style-type: none"> ▪ Species disturbance (visual, noise, vibration). ▪ Recreation. 	<ul style="list-style-type: none"> ▪ Habitat loss and fragmentation. ▪ Changes to water quality. ▪ Changes to air quality. ▪ Changes to surface and groundwater hydrology. ▪ Introduction of INNS.
Crymlyn Bog / Cors Crymlyn SAC	<ul style="list-style-type: none"> ▪ Transition mires and quaking bogs ▪ Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> ▪ Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) 	<ul style="list-style-type: none"> ▪ Species disturbance (visual, noise, vibration). ▪ Recreation. 	<ul style="list-style-type: none"> ▪ Habitat loss and fragmentation. ▪ Changes to water quality. ▪ Changes to air quality. ▪ Changes to surface and groundwater hydrology. ▪ Introduction of INNS.
Kenfig / Cynffig SAC	<ul style="list-style-type: none"> ▪ Fixed coastal dunes with herbaceous vegetation ▪ Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (Salicion arenariae) ▪ Humid dune slacks ▪ Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. ▪ Atlantic salt meadows ▪ Petalwort ▪ Fen orchid 	<ul style="list-style-type: none"> ▪ Species disturbance (visual, noise, vibration). ▪ Habitat loss and fragmentation. ▪ Recreation. 	<ul style="list-style-type: none"> ▪ Changes to water quality. ▪ Changes to air quality. ▪ Changes to surface and groundwater hydrology. ▪ Introduction of INNS.



<p>Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands SAC</p>	<ul style="list-style-type: none"> ▪ Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) ▪ Marsh fritillary butterfly 	<ul style="list-style-type: none"> ▪ Species disturbance (visual, noise, vibration). ▪ Habitat loss and fragmentation. ▪ Recreation. 	<ul style="list-style-type: none"> ▪ Changes to water quality. ▪ Changes to air quality. ▪ Changes to surface and groundwater hydrology. ▪ Introduction of INNS.
<p>Crymlyn Bog / Cors Crymlyn Ramsar site</p>	<p>Ramsar criterion 1</p> <ul style="list-style-type: none"> ▪ Largest example of valley floodplain topogenous mire in South Wales, and one of the largest surviving fens in the west of Britain. <p>Ramsar criterion 2</p> <ul style="list-style-type: none"> ▪ Supports a substantial population of the nationally-rare slender cotton-grass <i>Eriophorum gracile</i>, and a rich invertebrate fauna including many rare and highly localised species. <p>Ramsar criterion 3</p> <ul style="list-style-type: none"> ▪ The site supports 199 vascular plant species including 17 regionally-uncommon and one nationally rare. 	<ul style="list-style-type: none"> ▪ Species disturbance (visual, noise, vibration). ▪ Recreation. 	<ul style="list-style-type: none"> ▪ Habitat loss and fragmentation. ▪ Changes to water quality. ▪ Changes to air quality. ▪ Changes to surface and groundwater hydrology. ▪ Introduction of INNS.



4. Stage 2 - appropriate assessment

4.1. Introduction

4.1.1. The HRA Stage 1 screening assessment concluded that the LFRMSP objectives listed below may result in an LSE on European Sites. These are:

- Objective 1 - Reducing the threat to life by reducing the number of properties at risk of flooding.
- Objective 2 - Reducing the consequences for individuals, communities, businesses, and the environment from flooding and coastal erosion.
- Objective 5 - Ensure RMA's & Stakeholders work together to effectively manage Flood Risk & Coastal Erosion
- Objective 6 - Prioritising projects and investment using a risk-based approach
- Objective 7 - Reduce disruption to critical services, transport, and infrastructure network within the county borough
- Objective 9 - Develop policies for effective land use management and enhanced development control procedures to ensure future developments incorporate effective surface water management
- Objective 10 - Improve regular maintenance schedules and improve existing flood and coastal erosion risk management assets.
- Objective 11 - Providing an effective and sustained response to flood and coastal erosion events.
- Objective 12 - Develop a local programme of investment for flood and coastal erosion risk management.
- Objective 13 - Ensure Flood Risk Management Projects are delivered in a responsibly sustainable way with a focus on environmental benefits and enhancements.
- Objective 14 - Identify locations where flood risk can be reduced by working with or enhancing the natural environment.

4.1.2. Following completion of the HRA Stage 1 screening assessment, one or more LSE were identified for one or more qualifying features/ criteria of each of the following sites listed below:

- Coedydd Nedd a Mellte SAC
- Crymlyn Bog / Cors Crymlyn SAC
- Kenfig / Cynffig SAC
- Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands SAC
- Crymlyn Bog / Cors Crymlyn Ramsar site

4.1.3. As there is not sufficient detail within the LFRMSP to enable the specific impacts on individual features of the European Sites to be determined, those features on which there may be an LSE cannot be singled out and taken forward to AA. Therefore, the risk of having an impact was broadly assessed by considering all qualifying features, which will indicate whether there could be a subsequent risk to the integrity of the European Site.

4.1.4. An assessment table has been produced for each European Site potentially affected by the LFRMSP. Within the assessment tables the impacts of schemes potentially arising from the plan, following mitigation, are considered together. Impacts during construction and operation are also considered, but



as most schemes will be operational for the foreseeable future, decommissioning is not included. The AA tables are provided in Appendix B.

4.2. Mitigation and control measures

- 4.2.1. Detailed information is not yet available about the nature and extent of any works or actions as part of schemes that are likely to arise out of the LFRMSP. However, it is considered reasonable to anticipate from the information available that the developments could be delivered in a manner which avoids any adverse effects on the integrity of the European sites through the use of standard mitigation techniques which are set out below. Furthermore, it is predicted that adverse impacts can be avoided or 'designed out' and to facilitate this process early consultation with NRW is strongly recommended, i.e. the screening and scoping stage of projects.
- 4.2.2. For those projects that require planning permission the relevant planning authority, if required, will need to undertake a HRA prior to any grant of permission, and it will have to be demonstrated that the project complies with the Habitats Regulations. For schemes that would be progressed under permitted development rights it may be necessary to obtain 'prior approval' from the relevant planning authority, and approval will only be given for those schemes that comply with the Habitats Regulations.
- 4.2.3. Each potential LSE of LFRMSP identified by the screening stage is considered in turn below taking into account relevant specific information and mitigation measures.

Habitat Loss

- 4.2.4. There is no detail currently available regarding the actual works to be undertaken as part of any scheme arising from the LFRMSP and the final scheme extent. It is anticipated that none of the schemes would fall within any of the European Sites identified. Therefore, provided all schemes seek to avoid the loss of habitats within the designated sites and functional linked to the designated site during construction and operation, it is considered that habitat loss and/ or fragmentation will be unlikely as a result of the LFRMSP. It is therefore concluded that an adverse effect on the integrity of the European Sites identified will result from the LFRMSP alone, though habitat loss is unlikely.

Changes to water quality

- 4.2.5. Changes in water quality could result from direct discharges from sewage or surface water run-off outfalls, altering water chemistry, nutrient levels, pH or oxygen levels. Any de-watering works could also result in sediment discharge into aquatic habitats. Other potential pollutant sources include accidental spillages of fuels or oil, heavy metals leaching from soil run-off, pollutants such as dust and construction waste in surface water run-off and increases in nutrient loading. Any surface water discharges that are made into local watercourses and waterbodies or directly or indirectly into European Sites could be damaging. The release of these pollutants and increases in suspended sediment into freshwater environments could lead to smothering of habitats and species, or changes in species diversity as a result of increased toxicity or nutrients, so affecting the achievement of the conservation objectives and site integrity.
- 4.2.6. In order to avoid or reduce these potential effects, drainage systems should be designed to either avoid discharge into watercourses, or to attenuate and reduce the risk of pollutants and suspended solids. Modelling of any discharges or releases may be required once any project-level details are known in order to quantify any impacts. As such, the following mitigation measures could be implemented:

- Works should be undertaken following pollution prevention guidelines and Construction Industry Research and Information Association (CIRIA) guidance¹⁹ on the control of water pollution from construction sites;
- Drainage systems should be designed to avoid direct discharge into watercourses;
- Attenuation and/ or settlement ponds installed to reduce the risk of pollutants and suspended sediment reaching the receptors;
- Sustainable Drainage Systems (SuDS) installed;
- Implementation of a flocculant system before discharge;
- Silt curtains used whilst dredging;
- Implementation of pollution prevention guidelines;
- Effective soil management plans to avoid run-off from any earthworks;
- Foul water discharge to existing treatment plants and not to surface water;
- Appropriate bunding around fuel storage.

4.2.7. It is therefore concluded that with the implementation of appropriate mitigation no adverse effect on the integrity of the European Sites identified will result from LFRMSP alone through changes in water quality.

Changes to air quality

- 4.2.8. During construction, emissions to air would be mainly from plant and machinery, road traffic and dust from works or emissions from concrete batching plants. During operation, traffic on new roads or increased volumes of traffic on existing roads may alter local air quality resulting in additional impacts on sensitive habitats within 200 m of the affected road network.
- 4.2.9. The potential effects of increases in deposition of nitrogen compounds (NO_x) include long-term changes in habitat and species distribution and diversity as nutrient loading encourages more vigorous species, such as grasses, to out-compete forbs and slow growing non-vascular plants. Acidification of soils and freshwater (primarily today through nitrogen deposition) causes similar effects, depending on the geology and soil chemistry influence susceptibility of an ecosystem to acid deposition.
- 4.2.10. An assessment of any adverse impacts from changes in air quality should be undertaken on a site-by-site basis, through determination of the applicability of the critical levels and critical loads at each site, and further ecological assessment and modelling.
- 4.2.11. Good practice measures to control dust from construction sites should be sufficient to limit the amount of emissions reaching the European Sites. With respect to emissions of NO_x or acidic compounds through construction activities, generic mitigation measures such as turning engines off when idle, operating equipment on ultra-low sulphur diesel, ensuring engines are routinely maintained, providing public transport for workers etc. may limit emissions to within acceptable thresholds.
- 4.2.12. In order to limit the potential for impacts the following mitigation could be implemented for any schemes or actions arising out of the LFRMSP:
- Enclosure of silos, cement powder delivery systems and installation of dust mitigation systems;
 - Avoid dust releasing activities;

¹⁹ Construction Industry Research and Information Association Available at:
<https://www.ciria.org/CIRIA/Bookshop/Bookshop/Books/Bookshop.aspx>

- Site design to reduce dust emissions (e.g. covering stockpiles, reducing vehicle speed);
- Dust control measures implemented (water bowsers);
- Regular maintenance of plant and machinery;
- Drivers to switch off vehicles when stationary;
- Avoid use of diesel generators;
- Implement air quality monitoring scheme;
- Turning engines off when idle;
- Operating equipment on ultra-low sulphur diesel;
- Ensuring engines are routinely maintained;
- Providing public transport for workers.

4.2.13. Operational impacts cannot be mitigated in this way but could be avoided through modelling and management of the affected road network, particularly roads that lie within 200 m of a European Site.

4.2.14. It is therefore concluded that with the implementation of appropriate mitigation no adverse effect on the integrity of the European Sites identified will result from LFRMSP alone through changes in air quality.

Changes to surface and groundwater hydrology

4.2.15. Excavations and earthworks during construction and new roads and other impermeable surfaces during operation have the potential to change surface water hydrodynamics. Diversion or blocking of surface water features, the presence of earthworks or roads all have the potential to alter existing surface water drainage characteristics in the catchment. Pluvial flood events may become more frequent as the built-up area increases, and fluvial flooding may increase if surface water run-off is diverted into watercourses. A reduction or increase in surface water flows could affect water quality.

4.2.16. In order to limit the potential for impacts the following mitigation could be implemented for any schemes or actions arising out of the LFRMSP:

- Re-routing of watercourses, positioning of earthworks to reduce risk of effects;
- Modelling or monitoring of flow rates and water levels in local watercourses where these may be affected by development;
- Complete a Flood Consequences Assessment (FCA) to assess potential surface water and groundwater effects during phases of development and operation;
- Mitigation to control any surface floodwater.

4.2.17. It is therefore concluded that with the implementation of appropriate mitigation no adverse effect on the integrity of the European Sites identified will result from LFRMSP alone through changes in surface and groundwater hydrology.

Introduction of INNS

4.2.18. The risk of terrestrial and aquatic INNS introduction to European Sites remains if appropriate mitigation measures are not implemented. Any works have the potential to spread INNS that are already established on the site and elsewhere in the UK. During operation the introduction and spread of INNS is considered less likely due to reduced movement of substrate and vehicles.

4.2.19. In practice, to manage these risks, any future project proponent will be required to apply Biosecurity Risk Assessments and Method Statements to cover all activities. These are likely to include regular survey



and monitoring requirements for INNS. The implementation of effective Biosecurity Risk Assessments and procedures should enable any risks to site integrity to be ruled out.

- 4.2.20. In order to limit the potential for impacts the following mitigation could be implemented for any schemes or actions arising out of the LFRMSP:
- Implement Biosecurity Risk Assessments and Method Statements to cover all activities;
 - Undertake measures that would control and eradicate INNS within the area of works;
 - Implement regular survey and monitoring requirements for INNS.
- 4.2.21. Mitigation through iterative design and the implementation of standard mitigation and good practice guidance should ensure no risk to achievement of conservation objectives and consequently no adverse effect on site integrity.
- 4.2.22. It is therefore concluded that with the implementation of appropriate mitigation no adverse effect on the integrity of the European Sites identified will result from LFRMSP alone through the introduction of INNS.

4.3. In-combination assessment

- 4.3.1. It has been concluded above that the LTP4 will have no adverse effects on the integrity of European Sites once mitigation has been considered. The need for an in-combination assessment will still need to be considered at a lower level of plan making, once more details are available and particularly at the project-stage when more specific information about proposed development will be available. Plans, including those identified in Table 4-1 should be considered for this purpose.

Table 4-1 - Cumulative effects

Plan	Overview
Local Development Plan 2011-2026	The plan guides the future development of the area, providing a clear vision for the County Borough setting out where, when and how much new development can take place over the next 15 years (2011-2026). The aim is to provide developers and the public with certainty about the planning framework for Neath Port Talbot.
Joint Transport Plan for South West Wales (2015-2020)	This plan shapes the transport policy between the four local authorities in this region for the period of 2015-2020. The vision is to improve transport and access within and beyond the region to facilitate economic regeneration, reduce deprivation and support the development and use of more sustainable and healthier modes of transport.
Lavernock Point to St. Ann's Head Shoreline Management Plan SMP2 (January 2012)	This plan provides a large-scale assessment of the risks associated with coastal erosion and flooding at the coast. It also presents policies to help manage these risks to people and to the developed, historic and natural environment in a sustainable manner.
Policy on flood and coastal defence	This policy provides information on the Council's approach to flood and coastal defence in this area. The policy and approach is consistent with the Government's, which aims to reduce the risk to people and the developed and natural environment from flooding and coastal erosion by encouraging the provision of technically, environmentally and economically sound and sustainable defence measures.

Plan	Overview
The Economic Growth Strategy for South West Wales (2013 - 2030)	This strategic framework looks to support South West Wales and future economic development and represents an ambitious new economic growth plan for the region. The strategy found that despite investment into infrastructure within the area, the region is under performing and focusses on the most important strategic challenges the region faces. The long term vision is for economic success, to allow South West Wales to be a confident, ambitious and connected City Region, recognised internationally for its emerging knowledge and innovation economy.
Neath Port Talbot Single Integrated Plan (SIP): Working in Partnership (2013-2023)	This plan sets out the steps to take to protect and improve local services and support the community. The vision is to create a Neath Port Talbot where everyone has an equal opportunity to be healthier, happier, safer and prosperous.
Western Valleys Strategy (2006)	This strategy was developed to improve the social and economic prospects of people who live in the Neath Port Talbot Western Valleys Strategy. Valley Area Regeneration Plans (VARP) have also been prepared by the council which are more current and address most of the issues during the most recent valleys strategy consultation meetings. They have now been adopted as a vision for development in the valley areas superseding the original Neath Port Talbot Western Valleys Strategy.
Local Biodiversity Action Plan (2014)	The focus of the plan is to achieve no net loss of listed habitats and species, and a gain in the (perceived or actual) extent / population of listed habitats and species. It is a tool for securing and focussing the resources needed to protect and enhance the biodiversity of the County Borough. The plan concentrates on actions, which will be informed by regular reviews of the status and pressures on habitats and species.
Neath Port Talbot Environment Strategy (2008-2026)	The purpose of the Environment Strategy is to provide the framework within which to achieve an environment that is clean, healthy and thriving, has improving economic prosperity and is valued by residents, businesses and visitors alike.
Biodiversity Duty Plan 2023-2026	This plan is committed to protecting and enhancing biodiversity in carrying out all its functions, and in doing so, doing its part to help nature to recover. It also has a legal duty to maintain and enhance biodiversity, and in so doing, promote the resilience of ecosystems under the Environment (Wales) Act 2016.
State of Nature and Nature Recovery Action Plan for NPT	This plan provides an evidence-based assessment of the ecosystem resilience of each broad habitat type in Neath Port Talbot and is linked with a plan to help nature recovery in the country. There are key actions within this plan such as tackling Invasive Non-Native Species, installing green infrastructure solutions and increasing wildflower grassland.
Local Flood Risk Management Strategy	This strategy seeks to reduce the risk and effects of flooding and aims to achieve this by raising awareness in the community and encouraging a partnership approach with the community and external organisations in tackling the challenges that lay ahead. The main aim of the strategy is to reduce the risk of flooding and the social and economic damage that flooding causes, in a sustainable manner.
Flood Management Plan (2015)	This document is part of the Flood Risk Regulations 2009 and link closely to the Neath Port Talbot Local Flood Risk Management Strategy. This plan sets



Plan	Overview
	<p>out how over the next 6 years, flooding will be managed so that communities the communities most at risk and the environment benefit. It takes forward the objectives and actions set out in the Local Flood Risk Management Strategy but also aims to achieve some of the objectives set out in the Welsh Government's National Flood and Coastal Erosion Risk Management Strategy.</p>
Heritage Strategy 2024 - 2039	<p>This heritage strategy sets out actions to ensure the sustainable conservation and management of Neath Port Talbot's heritage assets, and measures that can add value to the well-being of the area. The Council secured funding to deliver the Heritage NPT Project that includes producing a Heritage Strategy and secondly focusing on the need to sustain the community heritage groups who play a crucial role championing and conserving our historic environment.</p>

5. Conclusions

- 5.1.1. HRA Stage 1 Screening Assessment has concluded that for all European Sites, LSE could **not** be discounted for all LSE pathways. Since the risk of adverse effects on the integrity on these European Sites could not be discounted at Screening, Stage 2 Appropriate Assessment was undertaken.
- 5.1.2. In the absence of detailed project-specific information, a high-level assessment of the potential for actions within the LTP4 to have an adverse effect on the integrity of European Sites was undertaken.
- 5.1.3. Account has also been taken of the fact that the Habitats Regulations apply to projects as well as plans. For those projects that require planning permission the relevant planning authority, if required, will need to undertake a HRA prior to any grant of permission, and it will have to be demonstrated that the project will comply with the Habitats Regulations. For schemes that would be progressed under permitted development rights it may be necessary to obtain 'prior approval' from the relevant planning authority, and approval will only be given for those schemes that comply with the Habitats Regulations.
- 5.1.4. With due consideration given to the information provided above for the Appropriate Assessment, it is considered that with the mitigation proposed, LFRMSP will not adversely affect the integrity of any European Sites alone or in-combination with other plans or projects.

APPENDICES

Appendix A. Detail of European Sites

Table A-1 – Coedydd Nedd a Mellte SAC

EU Site Code	UK0030141
Designation	SAC
Name	Coedydd Nedd a Mellte
Area	376.32 ha
Proximity	With LFRMSP boundary
Qualifying Interest Features	<p>Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> Old sessile oak woods with Ilex and Blechnum in the British Isles <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</p> <ul style="list-style-type: none"> Tilio-Acerion forests of slopes, screes and ravines
Conservation Objectives	<p>Conservation Objective for Feature 1: Tilio-Acerion forests of slopes, screes and ravines</p> <p>The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:</p> <ul style="list-style-type: none"> Upland ash woodland will occupy at least 18 ha of the total site area. The canopy should be predominantly ash and the following trees will be common in the woodland: <ul style="list-style-type: none"> Ferns will be common ground flora species. Although they may be present in the canopy in small quantities, sycamore and beech should not become dominant at the expense of ash. Introduced invasive species will be absent and any conifers seeding in from adjoining plantations will be removed whilst at the seedling/sapling stage. Damage to the ground flora and soil erosion due to public pressure will be at a minimum. All factors affecting the achievement of these conditions are under control. <p>Conservation Objective for Feature 2: Old sessile oak woods with Ilex and Blechnum in the British Isles</p> <p>The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:</p> <ul style="list-style-type: none"> Sessile oak woodland will occupy at least 175 ha of the total site area. The canopy should be predominantly oak and locally native trees will be common in the woodland. Ferns will be common ground flora species. Bryophytes will continue to be abundant and the bryophyte flora will continue to include those western/Atlantic species that mark out this woodland type. A suite of rarer species and species at the edge of their geographical range will continue to be present.



	<ul style="list-style-type: none"> ▪ Heathy species such as bilberry and common heather <i>Calluna vulgaris</i> will be common in some areas. ▪ Introduced invasive species such as rhododendron will be absent and any conifers seeding in from adjoining plantations will be removed whilst at the seedling/sapling stage. ▪ Damage to the ground flora and soil erosion due to public pressure will be at a minimum. ▪ All factors affecting the achievement of these conditions are under control.
Vulnerabilities	<p>The site is vulnerable to:</p> <ul style="list-style-type: none"> ▪ Grazing ▪ Forest and plantation management and use ▪ Problematic native species ▪ Interspecific floral relations ▪ Outdoor sports and leisure activities, recreational activities ▪ Air pollution, air-borne pollutants

Table A-2 – Crymlyn Bog / Cors Crymlyn SAC

EU Site Code	UK0012885
Designation	SAC
Name	Crymlyn Bog / Cors Crymlyn
Area	299.42 ha
Proximity	Within LFRMSP boundary
Qualifying Interest Features	<p>Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ Transition mires and quaking bogs ▪ Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)
Conservation Objectives	<p>For habitat features:</p> <ul style="list-style-type: none"> ▪ Extent should be stable in the long term, or where appropriate increasing; ▪ Quality (including in terms of ecological structure and function) should be being maintained, or where appropriate improving; ▪ Populations of the habitat's typical species must be being maintained or where appropriate increasing; ▪ Factors affecting the extent and quality of the habitat and its typical species (and thus affecting the habitat's future prospects) should be under appropriate control. <p>For species features:</p> <ul style="list-style-type: none"> ▪ The size of the population should be stable or increasing, allowing for natural variability, and sustainable in the long term; ▪ The distribution of the population should be being maintained;



	<ul style="list-style-type: none"> ▪ There should be sufficient habitat, of sufficient quality, to support the population in the long term; ▪ Factors affecting the population or its habitat should be under appropriate control.
Vulnerabilities	<p>The site is vulnerable to:</p> <ul style="list-style-type: none"> ▪ Pollution to surface waters (limnic, terrestrial, marine & brackish) ▪ Human induced changes in hydraulic conditions ▪ Biocenotic evolution, succession ▪ Grazing ▪ Air pollution, air borne pollutants ▪ Soil pollution and solid waste (excluding discharges)

Table A-3 – Kenfig / Cynffig SAC

EU Site Code	UK0012566
Designation	SAC
Name	Kenfig / Cynffig
Area	1189.14 ha
Proximity	Adjacent to LFRMSP boundary
Qualifying Interest Features	<p>Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ Fixed coastal dunes with herbaceous vegetation ▪ Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) ▪ Humid dune slacks ▪ Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ Atlantic salt meadows <p>Annex II species that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ Petalwort ▪ Fen orchid
Conservation Objectives	<p>Conservation Objective for Feature 1 and 2: Humid dune slacks and Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>)</p> <ul style="list-style-type: none"> ▪ Dunes with <i>Salix repens</i> and humid dune slacks will occur as part of the dune system, their location will be determined by natural processes and appropriate grazing management ▪ A range of successional stages will be found in both features ▪ Factors affecting the features will be under control <p>Conservation Objective for Feature 3: Fixed dunes with herbaceous vegetation</p> <ul style="list-style-type: none"> ▪ Fixed dunes with herbaceous vegetation (grey dunes) will occur where older, shifting dunes become more stabilised and in early successional stages become colonised by lichens and other species indicative of the transition from less mobile habitat.



- The habitat will encompass a range of successional stages throughout the area, determined by patterns of natural factors and grazing.
- Grey dunes will comprise a significant part of the dune system but will increase and decrease in extent and location as natural processes determine the landscape of the dune systems
- All factors are under management control

Conservation Objective for Feature 4: Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.

- Submerged *Chara* beds (mainly *Chara aspera* and *C. virgata*) growing in relatively shallow water form the predominant submerged macrophyte vegetation throughout most of the lake.
- *Chara* occur at more than 50% frequency along regular surveillance transects within the Western and Central arms.
- Charophyte species and uncommon pondweeds such as *Potamogeton gramineus* and *P. x nitens* are present in other embayments and pools, including *Tolypella glomerata* in dune pools.
- The lake is spring-fed so nutrient levels remain low. One of the main nutrients (phosphorus) reaches no more than 25 micrograms per litre in regular sampling areas. Nitrogen levels in the water are low (less than 1 milligram per litre) and declining or stable.
- The lake water is clear, but well vegetated with dense beds of submerged and marginal plants. A Secchi disc is visible on the lake bed in the deepest part of the lake (2.6m).
- Water depth is relatively stable, fluctuating naturally with groundwater.
- Reed, swamp and fringing bur-reed are restricted to shallow zones – covering not more than 10 % of the site.
- All factors affecting the achievement of these conditions are under control.

Conservation Objective for Feature 5: Atlantic salt meadows

- The quality of the saltmarsh is within specified limits
- There is no increase in erosion along the length of the transition from salt marsh to sand dune
- The saltmarsh flora will continue to include the following scarce species; *Limonium binervosum*, and *Frankenia laevis*
- Light grazing by rabbits and /or stock will continue to be tolerated within limits
- The damaging effects of pony riding will have been reduced or eliminated

Conservation Objective for Feature 6: Petalwort

- The species will be found where conditions are suitable in sufficient numbers to form a viable and sustainable population
- The population will vary from year to year depending on conditions, especially in drier years, but the long term population will remain steady and sustainable
- Suitable dune slacks will have patches of bare ground that is being colonised by jelly lichens (*Collema* spp.) and *Barbula* mosses.
- The factors affecting the feature are under control



	<p>Conservation Objectives for Feature 7: Fen orchid</p> <ul style="list-style-type: none"> ▪ Sufficient suitable habitat is present to support the populations ▪ The factors affecting the feature are under control
Vulnerabilities	<p>The site is vulnerable to:</p> <ul style="list-style-type: none"> ▪ Soil pollution and solid waste (excluding discharges) ▪ Grazing ▪ Outdoor sports, leisure activities, recreational activities ▪ Invasive, non-native species ▪ Problematic native species ▪ Air pollution, air-borne pollutants ▪ Mowing, cutting of grassland ▪ Human induced changes in hydraulic conditions ▪ Other ecosystem modifications ▪ Hunting and collection of wild animals (terrestrial) ▪ Use of biocides, hormones and chemicals ▪ Abiotic natural processes ▪ Pollution to surface waters ▪ Biocenotic evolution, succession ▪ Changes in biotic conditions ▪ Fishing and harvesting aquatic resources

Table A-4 – Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands SAC

EU Site Code	UK0030113
Designation	SAC
Name	Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands
Area	57.92 ha
Proximity	0.03 km from LFRMSP boundary
Qualifying Interest Features	<p>Annex I habitats that are a primary reason for selection of this site</p> <ul style="list-style-type: none"> ▪ Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) <p>Annex II species present as a qualifying feature, but not a primary reason for site selection</p> <ul style="list-style-type: none"> ▪ Marsh fritillary butterfly
Conservation Objectives	<p>Conservation Objective for Feature 1: Molinia meadows on calcareous, peaty or clayey-silt-laden soils</p> <ul style="list-style-type: none"> ▪ eu-Molinion marshy grassland will occupy between 50% and 55% of the total site area. ▪ The remainder of the site will be other semi-natural habitat or areas of permanent pasture. ▪ The following plants will be common in the eu-Molinion marshy grassland: purple moor-grass



- *Molinia caerulea*; meadow thistle *Cirsium dissectum*; *Carex hostiana*; *Carex pulicaris*; devil's bit scabious *Succisa pratensis*; carnation sedge *Carex panicea*; saw wort *Serratula tinctoria* and; tormentil *Potentilla erecta*.
- Cross-leaved heath *Erica tetralix* and common heather *Calluna vulgaris* will also be common in some areas.
- Rushes and species indicative of agricultural modification, such as perennial rye grass *Lolium perenne* and white clover *Trifolium repens* will be largely absent from the eu-Molinion marshy grassland.
- Scrub species such as willow *Salix* (excluding *Salix repens*) and birch *Betula* will also be largely absent from the eu-Molinion marshy grassland.
- All factors affecting the achievement of the foregoing conditions are under control.

Conservation Objective for Feature 2: Marsh fritillary butterfly

- The site will contribute towards supporting a sustainable metapopulation of the marsh fritillary in the Cefn Cribwr area. This will require a minimum of 50ha of suitable habitat, of which at least 10ha must be in good condition, although not all is expected to be found within the SAC. Some will be on nearby land within a radius of about 2km.
- The population will be viable in the long term, acknowledging the extreme population fluctuations of the species.
- Habitats on the site will be in optimal condition to support the metapopulation.
- At least 40ha within the SAC & associated SSSI will be marshy grassland suitable for supporting marsh fritillary, with *Succisa pratensis* present and only a low cover of scrub.
- At least 8ha will be marsh fritillary breeding habitat in good condition, dominated by purple moor-grass *Molinia caerulea*, with *S. pratensis* present throughout and a vegetation height of 10-20cm over the winter period.
- Suitable marsh fritillary habitat is defined as stands of grassland where *Succisa pratensis* is present and where scrub more than 1 metre tall covers no more than 10% of the stands
- Optimal marsh fritillary breeding habitat will be characterised by grassland where the vegetation height is 10-20 cm, with abundant purple moor-grass *Molinia caerulea*, frequent "large-leaved" devil's-bit scabious *Succisa pratensis* suitable for marsh fritillaries to lay their eggs and only occasional scrub. In peak years, a density of 200 larval webs per hectare of optimal habitat will be found across the site. (Fowles 20042)
- The marshy grassland will be well sheltered by hedgerows and mature trees.
- All factors affecting the achievement of the foregoing conditions are under control.

Vulnerabilities

The site is vulnerable to:

- Grazing
- Forest and plantation management and use
- Problematic native species
- Interspecific floral relations
- Outdoor sports and leisure activities, recreational activities
- Air pollution, air-borne pollutants

Table A-5 – Crymlyn Bog / Cors Crymlyn Ramsar site Ramsar site



EU Site Code	608
Designation	Ramsar
Name	Crymlyn Bog / Cors Crymlyn Ramsar site
Area	268 ha
Proximity	7.98 km from LTP boundary
Qualifying Interest Features	<p><u>Ramsar Criterion 1a</u> Largest example of valley floodplain topogenous mire in South Wales, and one of the largest surviving fens in the west of Britain. Very few other sites are known to support a comparable complexity and diversity of vegetation.</p> <p><u>Ramsar Criterion 2</u> Supports a substantial population of the nationally-rare slender cotton-grass <i>Eriophorum gracile</i>, and a rich invertebrate fauna including many rare and highly localised species.</p> <p><u>Ramsar Criterion 3</u> The site supports 199 vascular plant species including 17 regionally-uncommon and one nationally rare</p>
Conservation Objectives	Ramsar sites do not have conservation objectives therefore the objectives for the Crymlyn Bog have been referenced.
Vulnerabilities	<p>The site is vulnerable to:</p> <ul style="list-style-type: none"> ▪ Eutrophication



Appendix B. Appropriate Assessment Tables



Table B-6 - Coedydd Nedd a Mellte SAC

Coedydd Nedd a Mellte SAC Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
Old sessile oak woods with Ilex and Blechnum in the British Isles Tilio-Acerion forests of slopes, screes and ravines	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring; <ul style="list-style-type: none"> ▪ The extent and distribution of the habitats of qualifying species. ▪ The structure and function of the habitats of qualifying species. ▪ The supporting processes on 	Construction and Operation	Habitat loss and fragmentation	It is unlikely that any development arising from the plan would be of a scale that would result in an adverse effect on site integrity during construction as a result of habitat loss and fragmentation impacts.	Yes
			Species disturbance (visual, noise, vibration)	Habitats are not sensitive to visual and acoustic disturbance.	No
			Changes to water quality	There is potential for hydrological links to the SAC from developments/ schemes, depending on their location, potentially resulting in a deterioration of water quality.	Yes
			Changes to air quality	Effects on vegetation and freshwater from emissions of NOx, acidic compounds and particulates during construction and operation could not be excluded at this stage without modelling at a project-level; without further details impacts cannot be quantified. The impact would be direct through air quality impacts on habitats.	Yes
			Changes to surface and groundwater hydrology	Excavations and earthworks during construction have the potential to change both surface water and groundwater hydrodynamics.	Yes
			Introduction of INNS	Any development has the potential to result in the spread of INNS. The implementation of Biosecurity Risk Assessments and Method Statements to cover all activities is a well-established mitigation measure	Yes



Coedydd Nedd a Mellte SAC Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
	<p>which the habitats of qualifying species rely.</p> <ul style="list-style-type: none"> The populations of qualifying species. The distribution of qualifying species within the site. 			which should ensure no adverse effects on the integrity of the SAC	
			Recreation	The LFRMSP will not affect access to European sites; therefore no additional recreational pressure is expected.	No

Table B-7 - Crymlyn Bog / Cors Crymlyn SAC

Crymlyn Bog / Cors Crymlyn SAC Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
Transition mires and quaking bogs	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status	Construction and Operation	Habitat loss and fragmentation	It is unlikely that any development arising from the plan would be of a scale that would result in an adverse effect on site integrity during construction as a result of habitat loss and fragmentation impacts.	Yes
Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>			Species disturbance (visual, noise, vibration)	Habitats are not sensitive to visual and acoustic disturbance.	No
			Changes to water quality	There is potential for hydrological links to the SAC from developments/ schemes, depending on their	Yes



Crymlyn Bog / Cors Crymlyn SAC Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
<p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)</p>	<p>of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> ▪ The extent and distribution of the habitats of qualifying species. ▪ The structure and function of the habitats of qualifying species. ▪ The supporting processes on which the habitats of qualifying species rely. ▪ The populations of qualifying species. ▪ The distribution of qualifying species within the site. 			location, potentially resulting in a deterioration of water quality.	
			Changes to air quality	Effects on vegetation and freshwater from emissions of NOx, acidic compounds and particulates during construction and operation could not be excluded at this stage without modelling at a project-level; without further details impacts cannot be quantified. The impact would be direct through air quality impacts on habitats.	Yes
			Changes to surface and groundwater hydrology	Excavations and earthworks during construction have the potential to change both surface water and groundwater hydrodynamics.	Yes
			Introduction of INNS	Any development has the potential to result in the spread of INNS. The implementation of Biosecurity Risk Assessments and Method Statements to cover all activities is a well-established mitigation measure which should ensure no adverse effects on the integrity of the SAC	Yes
			Recreation	The LFRMSP will not affect access to European sites; therefore no additional recreational pressure is expected.	No



Table B-8 - Kenfig / Cynffig SAC

Kenfig / Cynffig SAC Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
Fixed coastal dunes with herbaceous vegetation Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) Humid dune slacks Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. Atlantic salt meadows Petalwort Fen orchid	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring; <ul style="list-style-type: none"> ▪ The extent and distribution of the habitats of qualifying species. ▪ The structure and function of the habitats of qualifying species. ▪ The supporting processes on which the habitats of 	Construction and Operation	Habitat loss and fragmentation	The designated site is located outside the LFRMSP; therefore, no habitat loss or fragmentation as a result of development is foreseen.	No
			Species disturbance (visual, noise, vibration)	Habitats and species are not sensitive to visual and acoustic disturbance.	No
			Changes to water quality	There is potential for hydrological links to the SAC from developments/ schemes, depending on their location, potentially resulting in a deterioration of water quality.	Yes
			Changes to air quality	Effects on vegetation and freshwater from emissions of NOx, acidic compounds and particulates during construction and operation could not be excluded at this stage without modelling at a project-level; without further details impacts cannot be quantified. The impact would be direct through air quality impacts on habitats.	Yes
			Changes to surface and groundwater hydrology	Excavations and earthworks during construction have the potential to change both surface water and groundwater hydrodynamics.	Yes
			Introduction of INNS	Any development has the potential to result in the spread of INNS. The implementation of Biosecurity Risk Assessments and Method Statements to cover all activities is a well-established mitigation measure which should ensure no adverse effects on the integrity of the SAC	Yes



Kenfig / Cynffig SAC Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
	qualifying species rely. <ul style="list-style-type: none"> ▪ The populations of qualifying species. ▪ The distribution of qualifying species within the site. 		Recreation	The LFRMSP will not affect access to European sites; therefore no additional recreational pressure is expected.	No

Table B-9 - Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands SAC

Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands SAC Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable	Construction and Operation	Habitat loss and fragmentation	The designated site is located outside the LFRMSP; therefore, no habitat loss or fragmentation as a result of development is foreseen.	No
			Species disturbance (visual, noise, vibration)	Habitats and species are not sensitive to visual and acoustic disturbance.	No
			Changes to water quality	There is potential for hydrological links to the SAC from developments/ schemes, depending on their	Yes



Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands SAC Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
Marsh fritillary butterfly	Conservation Status of its Qualifying Features, by maintaining or restoring; <ul style="list-style-type: none"> ▪ The extent and distribution of the habitats of qualifying species. ▪ The structure and function of the habitats of qualifying species. ▪ The supporting processes on which the habitats of qualifying species rely. ▪ The populations of qualifying species. ▪ The distribution of qualifying 			location, potentially resulting in a deterioration of water quality.	
			Changes to air quality	Effects on vegetation and freshwater from emissions of NOx, acidic compounds and particulates during construction and operation could not be excluded at this stage without modelling at a project-level; without further details impacts cannot be quantified. The impact would be direct through air quality impacts on habitats.	Yes
			Changes to surface and groundwater hydrology	Excavations and earthworks during construction have the potential to change both surface water and groundwater hydrodynamics.	Yes
			Introduction of INNS	Any development has the potential to result in the spread of INNS. The implementation of Biosecurity Risk Assessments and Method Statements to cover all activities is a well-established mitigation measure which should ensure no adverse effects on the integrity of the SAC	Yes
			Recreation	The LFRMSP will not affect access to European sites; therefore, no additional recreational pressure is expected.	No



Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands SAC Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
	species within the site.				

Table B-10 - Crymlyn Bog / Cors Crymlyn Ramsar site Ramsar site

Crymlyn Bog / Cors Crymlyn Ramsar site Ramsar site Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
<p>Ramsar Criterion 1a Largest example of valley floodplain topogenous mire in South Wales</p> <p>Ramsar Criterion 2 Supports a substantial population of the nationally-rare slender cotton-grass <i>Eriophorum</i></p>	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p>	Construction and Operation	Habitat loss and fragmentation	It is unlikely that any development arising from the plan would be of a scale that would result in an adverse effect on site integrity during construction as a result of habitat loss and fragmentation impacts.	Yes
			Species disturbance (visual, noise, vibration)	Habitats and species are not sensitive to visual and acoustic disturbance.	No
			Changes to water quality	There is potential for hydrological links to the SAC from developments/ schemes, depending on their location, potentially resulting in a deterioration of water quality.	Yes
			Changes to air quality	Effects on vegetation and freshwater from emissions of NOx, acidic compounds and particulates during construction and operation could not be excluded at	Yes



Crymlyn Bog / Cors Crymlyn Ramsar site Ramsar site Qualifying Feature(s)	Conservation Objectives	Aspect/ Phase of LTP4 which may cause an effect	Risk pathway	Conclusions	Mitigation Required
<p>gracile, and a rich invertebrate fauna including many rare and highly localised species.</p> <p>Ramsar Criterion 3 The site supports 199 vascular plant species including 17 regionally-uncommon and one nationally rare</p>	<ul style="list-style-type: none"> ▪ The extent and distribution of the habitats of qualifying species. ▪ The structure and function of the habitats of qualifying species. ▪ The supporting processes on which the habitats of qualifying species rely. ▪ The populations of qualifying species. ▪ The distribution of qualifying species within the site. 			this stage without modelling at a project-level; without further details impacts cannot be quantified. The impact would be direct through air quality impacts on habitats.	
			Changes to surface and groundwater hydrology	Excavations and earthworks during construction have the potential to change both surface water and groundwater hydrodynamics.	Yes
			Introduction of INNS	Any development has the potential to result in the spread of INNS. The implementation of Biosecurity Risk Assessments and Method Statements to cover all activities is a well-established mitigation measure which should ensure no adverse effects on the integrity of the SAC	Yes
			Recreation	The LFRMSP will not affect access to European sites; therefore, no additional recreational pressure is expected.	No



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