



Neath Port Talbot County Borough Council

Local Development Plan 2011–2026

Habitats Regulations Appraisal (August 2013)



Neath Port Talbot
Castell-needd Port Talbot
County Borough Council Cyngor Bwrdeistref Sirol

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1 HRA Non-Technical Summary

1.1 Introduction

1.1.1 The Neath Port Talbot Local Development Plan (LDP) sets the framework for development in the County Borough for a fifteen year period (2011 - 2026) and sets out the policies and land allocations against which planning applications will be assessed. The Plan consequently shapes the future growth of the area's towns, employers, shopping centres and communities.

1.1.2 Under the Habitats Regulations⁽¹⁾, any plan that could affect a Natura 2000 site ('European Site') must be subject to Habitats Regulation Appraisal (HRA) in order to ensure that no adverse effects are caused. Natura 2000 sites are sites designated under the Habitats Directive either as Special Areas of Conservation (SACs) for their habitats and species or Special Protection Areas (SPAs) for the protection of birds. Welsh Government policy also requires sites listed under the 1971 Ramsar Convention (wetlands of international importance) to be included in the appraisal.

1.1.3 There are three SACs partly within the boundaries of Neath Port Talbot and a range of others in the region that could be affected by LDP proposals. This document summarises the approach taken to the HRA, including the European Sites considered and the assessments made of likely significant effects of the Plan.

1.2 Nearby European Sites: Stage 1 Screening

1.2.1 Crymlyn Bog SAC and Ramsar site, Kenfig SAC and Coedydd Nedd a Mellte SAC all lie partly within Neath Port Talbot County Borough boundaries and a number of other European sites are situated in the region which could be affected by LDP proposals. A total of 18 European sites have been considered in the HRA, the most distant being the River Wye SAC, some 32km from the County Borough boundary.

1.2.2 The HRA considers each of these identified European Sites in turn, including the reasons for designation of the site, the key factors affecting the maintenance of site integrity and an assessment of whether any LDP proposals could affect the key factors identified. Where it is concluded that LDP proposals are unlikely to affect any of the key factors for site integrity, it can also be concluded that the Plan is unlikely to significantly affect that European Site and that the site in question can be screened out.

1.2.3 This process resulted in 6 of the European Sites being screened out, leaving 12 to be considered in greater detail in the Stage 2 Screening process.

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1.3 Impacts of the LDP: Stage 2 Screening

1.3.1 The remaining 12 European Sites are considered in more detail in relation to the specific elements of the LDP as a second stage in the screening process. The key plan elements assessed are the policies which will be applied when dealing with planning applications and the site allocations and other proposals indicating locations for specific uses or developments.

1.3.2 The policies have been categorised according to their likely effects on each interest feature of the remaining 12 European Sites. Policies are put into one of four categories: A: No negative effect; B: No significant effect; C: Likely significant effect alone; D: Likely significant effects in combination with other policies or proposals (in the LDP or other plans). Any policies falling into categories A and B can be screened out, while those falling into categories C or D need further consideration.

1.3.3 The site allocations have also been assessed in relation to each of the interest features of the remaining 12 European Sites. From this exercise, the majority of allocations can be categorised as being unlikely to have any significant effect on any European Site and can therefore be screened out. Where possible significant effects have been identified, a more detailed analysis has been undertaken.

1.3.4 The HRA has been undertaken as an iterative process, and the screening procedure outlined above has been carried out in parallel with Plan preparation. Consequently, a number of policies and proposals have been amended or removed from the Plan and other changes have been made during the course of the process to ensure that any likely significant effects have wherever possible been avoided.

1.4 Screening Results

Policies

1.4.1 Full details of the assessment of every LDP policy are contained in the appendices to the full HRA report. The majority of policies have been placed in category A as being policies that will either not lead to development directly, are intended to protect or conserve the environment or will steer development away from European sites. However, the policies that allocate specific sites for development have been placed in category B (No significant effect). This has only been possible following on from an analysis of each allocation and following amendments and removal of some allocations as part of the iterative process.

Allocations

1.4.2 As a result of the second stage screening exercise, the majority of site allocation proposals were screened out as being unlikely to have any significant effect on any European Site. However, effects on three of the SACs (Crymlyn Bog, Kenfig and Cefn Cribwr) could not be ruled out without further investigation. Further details are given below in relation to these.

Crymlyn Bog SAC and Ramsar Site

Issue 1: Atmospheric Pollution

1.4.3 Nutrient levels are significantly affected by atmospheric deposition of nitrogen. Studies have shown that this is stable or declining slightly, but Crymlyn Bog is already over the critical load limit for nitrogen. Following Natural Resources Wales (NRW) guidelines, if any development results in more than 1% of the nitrogen critical load, it may not be possible to conclude that there will be no significant effect. Housing developments and business uses are generally likely to impact on atmospheric pollution mainly through emissions from heating systems and additional traffic which are diffuse and likely to have a minimal effect: Plan policies (in particular policy EN8) are likely to provide sufficient protection to ensure that no significant impacts are likely.

1.4.4 Other allocations, including for general industrial uses (Class B2), could result in developments that might be point sources of air pollution. In these cases (especially the employment allocation at Baglan Bay), the amount of information available at the LDP stage is insufficient to allow the impact to be assessed in detail, although an indication is given from information available about recent developments in the area. On balance, it can be concluded that developments in accordance with the allocation are not likely to lead to significant adverse effects on Crymlyn Bog, but to ensure that no such effects will be caused as a result of the allocation, measures have been incorporated into the LDP to ensure that developments will not cause air pollution issues, and air pollution issues will be monitored. Proposals will be assessed through the HRA process at project level when planning applications are received. This will result in any adverse effects in relation to the European site being prevented.

Issue 2: Hydrology/Water Levels

1.4.5 A high and stable water table is considered to be essential for the long term conservation of Crymlyn Bog. Where development sites are situated within the water catchment area of the Bog, or could affect water supplies, for example through extraction of water from the Tennant Canal, there may be a possible impact. Sites at Crymlyn Grove, Ocean View, Wern Goch and Coed Darcy are identified as being within the catchment area, and the employment allocation at Baglan Bay could have an impact as water is extracted from the Tennant Canal for some existing industries in the locality. However, it can be concluded that normal development requirements will limit water discharges to existing 'greenfield' rates and that the need for project level HRA can be relied on to ensure that developments will not have a significant impact on water levels.

Issue 3: Water Quality

1.4.6 A number of the special features of Crymlyn Bog are dependent on relatively low nutrient levels, which are influenced mainly by the water quality of the streams and canal entering the Bog, runoff from adjoining farmland and atmospheric deposition. The sites indicated above could have an impact on water quality, but again site drainage systems and Natural Resources Wales controls should ensure that surface water flows will not increase pollution levels. In addition, project level HRA will provide a further safeguard to address any issues.

Issue 4: Recreational/Urban Pressure

1 . HRA Non-Technical Summary

1.4.7 Recreational pressures (e.g. erosion, trampling or other habitat damage or disturbance from leisure activities) or urban pressures (e.g. litter, fly tipping, fires etc) could affect Crymlyn Bog, especially as a result of new housing developments close to the SAC resulting in more people accessing the area for these purposes. The only developments assessed as possibly having this impact are Coed Darcy urban village and the Ocean View development. The Coed Darcy development was subject to HRA in 2008 and a number of measures are being implemented to ensure that access is controlled and any impacts minimised. The likely impact from the Ocean View allocation is considered to be minimal, but similar measures could be required at the project stage if necessary.

Issue 5: Invasive Species

1.4.8 The final concern identified relates to the possibility that invasive species could colonise the SAC, out-competing the existing important native species. In particular this relates to plant species that may spread from nearby gardens or landscaping schemes. The Coed Darcy development has been identified as the main concern in relation to this point, since it directly abuts the SAC boundary. As with recreational/urban pressures, the HRA undertaken in 2008 led to a number of measures being required including careful consideration of landscaping details and the provision of buffers between the development and the SAC to minimise any risk. Other sites within the water catchment area (listed in para 1.4.5 above) could potentially pose a risk from water borne contamination although these sites do not directly abut any water courses. Any concerns in relation to new proposed developments on these sites will be addressed at the project level HRA stage.

Kenfig SAC

Issue 1: Atmospheric Pollution

1.4.9 All the SAC features at Kenfig are considered to be sensitive to nutrient levels, which are significantly affected by atmospheric deposition of nitrogen. However, in relation to Kenfig SAC there are currently no critical load exceedences of any pollutant as a result of air pollution. The LDP employment allocation at Junction 38 (M4) Margam has the potential to increase atmospheric pollution since it makes provision for uses under Class B2 (General Industry). In addition, the LDP identifies the existing Kenfig Industrial Estate as a preferred location for in-building waste developments (although this does not alter the existing situation). Although no information is available at the LDP stage about the exact processes that may be carried out, information available from previous planning applications near to Junction 38 indicated that the effects of developments giving rise to emissions were not likely to be significant for the SAC taking into account the Natural Resources Wales guidelines outlined above. As with Crymlyn Bog, Plan policies (in particular policy EN8) are likely to provide sufficient protection to ensure that no significant impacts are likely. In addition, air pollution issues will be monitored and any proposals would require project-level HRA ensuring that no adverse effects would be caused.

1.4.10 to ensure that no such effects will be caused as a result of the allocation, measures have been incorporated into the LDP to ensure that developments will not cause air pollution issues, and air pollution issues will be monitored . Proposals will be assessed through the HRA process at project level when planning applications are received. This will result in any adverse effects in relation to the European site being prevented.

Issues 2 and 3: Hydrology/Water Levels and Water Quality

1.4.11 The exceptional wetness and diversity of the Kenfig dune system is considered to be directly dependent on a high water table and suitable water quality, and these issues are therefore key to the importance of the site. This is understood to be dependent on the limestone aquifer underlying the area. The only LDP provision which has been identified as having any potential to affect this factor is the identification of Kenfig Industrial Estate as a location for in-building waste proposals. However, as indicated above, this is not a new allocation and relates to the existing industrial uses. The safeguards set out above will ensure that the LDP provisions will not lead to any likely effects on the SAC features.

Cefn Cribwr Grasslands SAC

Issue 1: Atmospheric Pollution

1.4.12 The Cefn Cribwr SAC is entirely within the area of Bridgend County Borough and is designated because of the areas of grassland habitat it contains which is suitable for Marsh Fritillary butterfly. This habitat is sensitive to atmospheric deposition of nitrogen and acid from air pollution, and this is identified as a possible way in which developments within Neath Port Talbot could affect the SAC. The same LDP proposals that could affect Kenfig SAC could also affect Cefn Cribwr, although Cefn Cribwr is more distant from the allocations.

1.4.13 As with Kenfig, there are currently no critical load exceedences of any pollutant as a result of air pollution at Cefn Cribwr, and this coupled with the increased distances involved mean that it can be concluded that the LDP is unlikely to have any significant effect. Again, the safeguards built in to the Plan, planning policy generally and the requirements of the Habitats Regulations mean that developments within Neath Port Talbot would not be permitted if they could have any effects on the SAC features.

1.5 In-Combination Effects

1.5.1 In addition to assessing the possible effects of LDP proposals on any SAC, it is necessary to also consider the likelihood of the effects being significant when combined with similar effects from other projects or proposals in the vicinity. In-combination effects have therefore been considered in relation to the three SACs which could be affected by the LDP.

Crymlyn Bog

Issue 1: Air Quality

1.5.2 In relation to air quality, no additional proposals for developments which could be point sources of air pollution in the vicinity have been identified either within Neath Port Talbot or the City & County of Swansea. Additional air pollution from increased traffic or other diffuse sources is considered unlikely to make a significant additional contribution to deposition rates within the SAC. However, to ensure that no such effects will be caused

1 . HRA Non-Technical Summary

as a result of any allocation, measures have been incorporated into the LDP to ensure that developments will not cause air pollution issues, and air pollution issues will be monitored.

Issues 2 and 3: Water Quality and Hydrology

1.5.3 Within the City & County of Swansea the only relevant proposal within the water catchment area is a housing development at Port Tennant (Tir John/Secombe Vale): this development is effectively now completed and no additional impacts on the water systems of the Bog are anticipated.

Issues 4 and 5: Urban/Recreation Pressures and Invasive Species

1.5.4 As above, the only relevant development in relation to these factors is Tir John/Secombe Vale within Swansea. This will have no new direct accesses to the SAC, and it is considered possible to rule out any significant 'in-combination' effects from this development and proposals within Neath Port Talbot.

Kenfig and Cefn Cribwr

Issue 1: Air Quality

1.5.5 Taking Kenfig and Cefn Cribwr SACs together (as they are in fairly close proximity and are affected by a similar range of developments), a number of proposals in Bridgend's LDP have been considered in-combination with those in Neath Port Talbot which could have an effect. Although the sites are all within 2km of the SACs, three are existing industrial estates (where the LDP is not proposing any specific change) and the remaining two are identified for uses that should not give rise to any point source of air pollution.

1.5.6 It has therefore been possible to rule out any significant 'in-combination' effects in relation to any European site.

1.6 Conclusions

1.6.1 The HRA identifies that the main sensitivities that the LDP could affect in relation to the European sites in the area are levels of air pollution; water quality and hydrological regimes and the varying impacts increased numbers of people living near to or having access to sensitive sites. However, taking into account the information available at this stage and the level of detail appropriate for LDP policies and proposals, together with the measures incorporated into the LDP and its monitoring to ensure that developments will not cause air pollution issues, it is concluded that the LDP is not likely to have a significant effect on any European site and that the Plan can proceed without further reference to the Habitats Regulations. This is however, subject to the following points:

- The LDP policies, proposals and allocations are generally at a strategic level and will be only be implemented following the submission of more detailed information in the form of planning applications. The detail available at the LDP stage is therefore limited and the assessment of likely effects correspondingly less certain; and
- LDP proposals and allocations will be implemented over a period of 15 years. During this time many of the assumptions made in the assessments may change including the condition of the European sites themselves, the overall health of the environment, technological advances (including better control of emissions), and tighter regulation applied over a range of matters including building control, emissions and pollution control.

1 . HRA Non-Technical Summary

2 Introduction

2.0.1 This is a record of the Habitats Regulations Appraisal (HRA) of the Neath Port Talbot Local Development Plan (LDP), undertaken by Neath Port Talbot County Borough Council.

2.0.2 This assessment is required by Regulation 61 of the Conservation of Habitats and Species Regulations 2010, in accordance with the EC Habitats Directive (Council Directive 92/43/EEC) and must be completed before the Council, as the 'competent authority' under the Regulations can adopt the Plan. A HRA is required under the legislation for any plan or project that could impact upon a Natura 2000 site ('European Site'). These are Special Areas of Conservation (SACs) designated under the Habitats Directive for their habitats and species, and Special Protection Areas (SPAs) designated under the Birds Directive for the protection of birds. In accordance with Welsh Government policy, the assessment is also made in relation to sites listed under the 1971 Ramsar convention as wetland sites of international importance.

2.0.3 As there are three SACs partly within the boundaries of Neath Port Talbot, with other European Sites nearby or in the region which could be affected by proposals in the LDP, HRA is necessary in relation to the Plan's proposals. This document firstly considers the European sites which need to be taken into account in relation to the LDP's proposals, presents information about them, including size, location and relevant features and sensitivities, and makes an assessment of the possible impacts of the Plan.

2.0.4 Following on from this, an assessment is made of the likelihood of any proposal or policy in the plan having a significant effect on any European site, including 'in combination' effects from other relevant plans or proposals. If any likely significant effect is identified, avoidance or mitigation measures should be considered and adopted. If following these measures, any significant effect is still likely, the fourth step (a full 'Appropriate Assessment') must be undertaken.

2.0.5 If required, an 'Appropriate Assessment' must ascertain whether or not the Plan could have adverse effects, alone or in-combination with other relevant plans or projects, on the integrity of the European site(s), taking into account mitigation measures. If adverse effects are identified, the Plan cannot be adopted unless there are no alternative solutions, there are imperative reasons of overriding public interest to justify the potentially negative effects on the integrity of the site(s) and adequate compensatory measures would be provided. This step would require the approval of the Welsh Government having consulted with the European Commission.

2 . Introduction

3 HRA Screening : Stage 1

3.1 Identification of Relevant Sites

3.1.1 The first stage in the screening process is the identification of all designated 'European Sites' that could be affected by proposals in the LDP.

3.1.2 Three SACs lie partly within Neath Port Talbot: Crymlyn Bog (which is also a Ramsar Site), Kenfig and Coedydd Nedd a Mellte. A range of other SPAs, SACs and Ramsar Sites lie nearby or within the region. Sites lying within 20km of the County Borough boundary have been considered, together with others suggested by Natural Resources Wales (NRW). Table 3.1.1 briefly lists these, and Picture 3.1 illustrates their location.

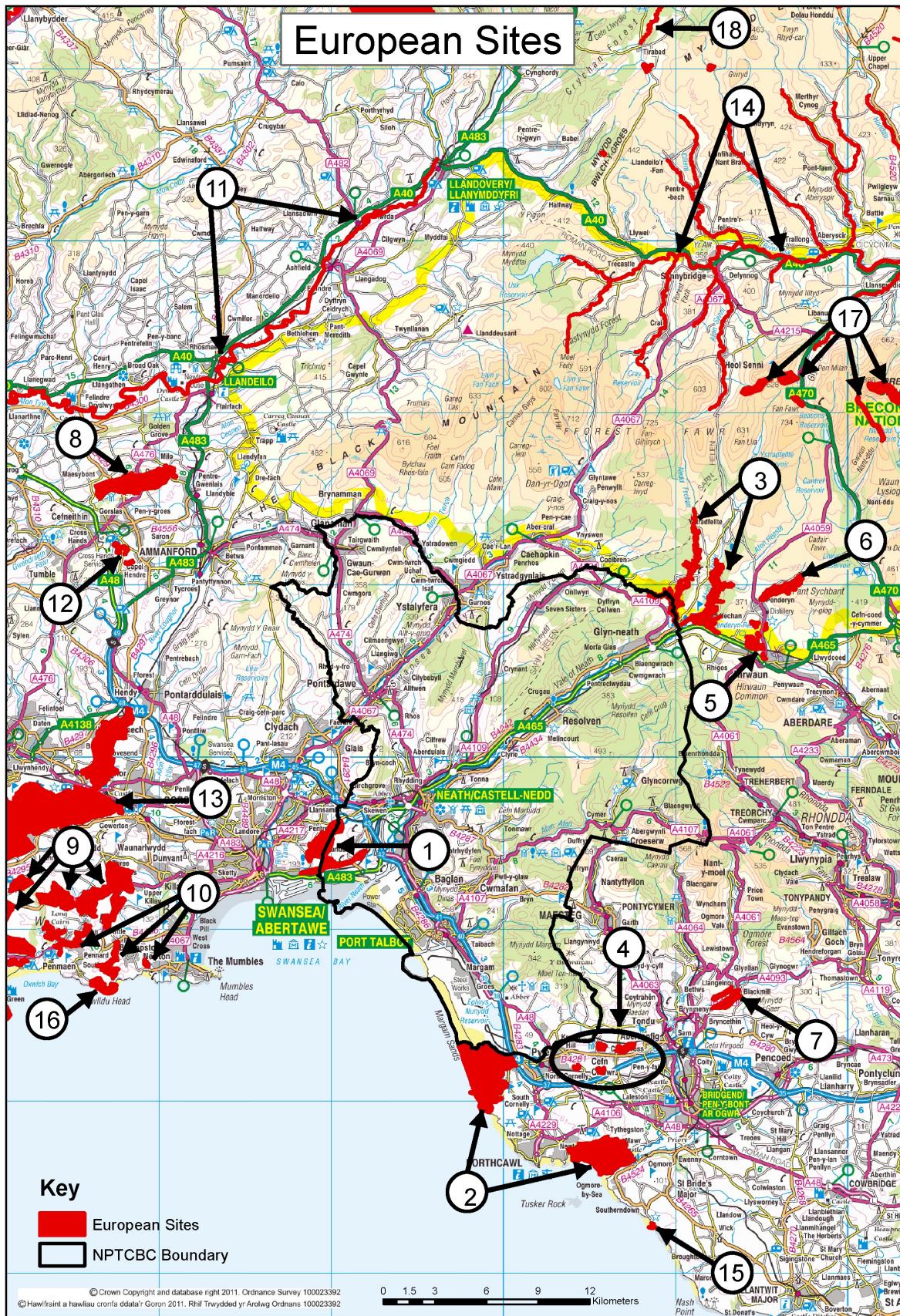
Ref	European Site	Approximate Distance from NPT Boundary	Comments
1	Crymlyn Bog SAC/Ramsar site	Partly within NPT	A large lowland fen located on the boundary between NPT and Swansea.
2	Kenfig SAC	Small section within NPT	Two significant areas of sand dunes, dune grassland and dune slacks. The northern part is adjacent to the southern boundary of NPT.
3	Coedydd Nedd a Mellte SAC	Small section within NPT	A group of deep wooded valleys on the southern edge of the Brecon Beacons.
4	Cefn Cribwr Grasslands SAC	0.3km	Four areas of fen meadow and grassland to the west of Bridgend important for the presence of marsh fritillary butterflies.
5	Blaen Cynon SAC	4km	An extensive area of damp pastures and heaths near to Hirwaun on the southern edge of the Brecon Beacons important for the presence of marsh fritillary butterflies.
6	Cwm Cadlan SAC	5km	An extensive area of grasslands in the southern Brecon Beacons near to Penderyn
7	Blackmill Woodlands SAC	6km	Two areas of oak woodland in Cwm Ogwr north of Bridgend
8	Cernydd Carmel	10km	An area north west of Ammanford incorporating a range of important habitats, in particular a turlough
9	Gower Commons SAC	11km	A number of large areas of heathland and marshy grassland on the Gower peninsular.
10	Gower Ash Woods SAC	11km	A number of areas of woodland in steep sided valleys on the southern side of the Gower peninsular
11	River Tywi SAC	11km	The course of the river from Llandovery Road bridge through to just south of Carmarthen is designated for a range of species
12	Caeau Mynydd Mawr	11km	Four areas of heath and grassland west of Ammanford
13	Carmarthen Bay and estuaries SAC	12km	Large marine site including the estuaries of the Loughor, Tâf, Tywi and Gwendraeth rivers

3 . HRA Screening : Stage 1

Ref	European Site	Approximate Distance from NPT Boundary	Comments
13	Burry Inlet SPA and Ramsar site	12km	Area of the Carmarthen Bay SAC(above) are also designated a SPA because of resident and migratory bird populations.
14	River Usk SAC	12km	Course of the river and tributaries to the north of the Brecon Beacons, designated for a range of species
15	Dunraven Bay	12km	Area of sea cliff with rare plants near to Southerndown, Vale of Glamorgan
16	Limestone Coast of SW Wales SAC	13km	Areas of limestone sea cliff in Pembrokeshire and Gower, including grasslands, sand dunes and heath, foreshore and caves.
17	Brecon Beacons SAC	16km	Five areas designated for rare vegetation in the highest part of the Brecon Beacons.
13	Carmarthen Bay SPA	25km	Area of the Carmarthen Bay SAC(above) are also designated a SPA because of resident and migratory bird populations.
18	River Wye SAC	32km	Course of the river and tributaries to the north of the Brecon Beacons and Mynydd Epynt, designated for a range of species and habitats.

Table 3.1.1 List of European Sites within the Region

3 . HRA Screening : Stage 1



Picture 3.1 European Sites Within the Region

3 . HRA Screening : Stage 1

3.1.3 Full details of these sites including the reasons for their designations, habitats and species given as primary reasons for designation or qualifying features, and plans indicating the extent of designation are given in the next section.

3.2 LDP Potential Impacts

3.2.1 Potential effects of the Plan include:

- Direct habitat destruction or deterioration through development, including loss of connecting routes and supporting habitats;
- Changes to grazing, mowing regimes and other management;
- Effects of urbanisation (fire, invasive plants, fly tipping/litter, recreation impacts, noise and disturbance caused by people and their pets etc);
- Construction impacts (e.g. dust, siltation, disturbance);
- Impacts on air and water quality caused by new development and associated traffic;
- Water abstraction from watercourses that would affect European Sites or cause changes to drainage and water resource demands affecting a European Site; and
- Isolation of populations of species.

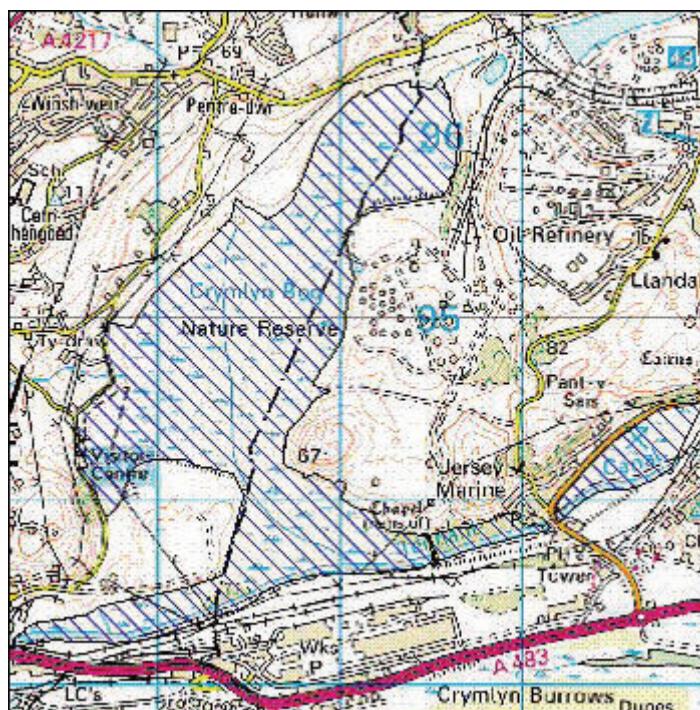
3.2.2 These effects could have an impact on the SACs within Neath Port Talbot and more distant sites depending on the source and nature of the effect, the extent to which the effect might be diminished by distance through dilution and dispersal, and the features and condition of the European Site.

3.3 Screening of Sites

Crymlyn Bog SAC and Ramsar site (Site 1)

3.3.1 Crymlyn Bog is a large lowland fen (some 299 ha) situated in a glacial depression on the eastern edge of Swansea extending into the administrative areas of both Neath Port Talbot and the City & County of Swansea. In addition to Crymlyn Bog itself, the SAC also includes Pant-y-Sais fen, a smaller (approximately 20 ha) wetland located about 1 km east of the main site.

3.3.2 The predominant habitat at Crymlyn Bog and Pant-y-Sais is lowland topogenous fen, which comprises a diverse range of mire, tall-herb fen and swamp communities.



Picture 3.2 Crymlyn Bog SAC and Ramsar Site

3.3.3 Habitats and species which are primary reasons for designation of the site:

- Transition mires and quaking bogs
- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*

3.3.4 Habitats/species that are present as a qualifying feature not a primary reason for site selection:

- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*

3.3.5 Reasons for Ramsar designation:

- Valley floodplain topogenous mire and SAC Annex 1 features as listed above
- Slender cotton-grass *Eriophorum gracile*
- Supports 199 vascular plant species
- Substantial population and rich invertebrate fauna

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans & projects affect factor 'in combination'?
Water quality	Yes: See below	Yes: See below

3 . HRA Screening : Stage 1

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans & projects affect factor 'in combination'?
Atmospheric pollution	Yes: See below	Yes: See below
Water levels/quantity	Yes: See below	Yes: See below
Successional changes	No: this is a natural process to be controlled by management on site	No
Scrub encroachment	No: this is a natural process to be controlled by management on site	No
Alien plant species	Yes: see below	Yes: see below
Grazing	No: Largely a site management issue. Very little scope for development on farmland adjacent to the SAC.	No
Urban pressure	Yes: see below	Yes: see below

Table 3.3.1

3.3.6 The issues identified in Table 3.3.1 are considered in more detail below.

Nutrient Levels: Water quality and Atmospheric Pollution

3.3.7 Calcareous fen, transition mire and alluvial forest are all dependant on relatively low nutrient levels. Nutrient levels in the SAC are influenced by water quality, fed by streams entering the Bog, the Tennant Canal and by atmospheric nutrient deposition. In relation to water quality, proposed limits on pollutants are based on maximum levels for dissolved available inorganic nitrogen and phosphorus. This comes mainly from agricultural run-off from adjoining farmland. Some of the land surrounding the SAC is contaminated and there is the possibility of 'in combination' effects from on-going developments (e.g. Coed Darcy and Fabian Way) as well as general polluted run-off draining into the SAC from development sites within the water catchment (e.g. oil, silt).

3.3.8 The critical nitrogen load for calcareous fen is 13-20 kg N/ha/year and for transition mire/quaking bogs is 10kg N/ha/year. The critical load for nitrogen is currently exceeded at Crymlyn Bog, and although this is primarily due to pollution from inflowing streams, maintaining and improving local air quality is critical to ensure that this situation is not exacerbated. LDP policies and proposals most likely to affect air quality are those relating to new development in the area, especially direct emissions from industrial and power station proposals etc. but also general diffuse impacts from domestic heating systems, and increasing traffic levels generated by all types of new development.

Water Levels/Quantity

3.3.9 A high and stable water table is essential for the long-term conservation of the calcareous fen, the transition mire and the alluvial forest. The Core Management Plan indicates that water levels should be maintained at or slightly above ground level for much

of the year to prevent drying out of the fen habitat. Water levels in the Bog are understood to be influenced mainly by water levels in the Tennant and Glan y Wern canals and water flowing in via Crymlyn Brook and other streams.

3.3.10 Any proposals in the LDP that could affect water levels or amounts in the canals, streams or groundwater/water table could consequently have an effect on water levels in the Bog. This could include developments within the catchment affecting surface or groundwater drainage patterns and changes to the water levels in the Tennant Canal from varying rates of water abstraction (in particular from industrial/economic development nearby, e.g. Baglan Bay/Energy Park).

Alien Plant Species

3.3.11 Invasive alien plant species have potential to encroach and out compete native species. The planting of such species as part of development schemes close to or immediately adjacent to the SAC could therefore result in an adverse impact upon the habitats and species present. There may also be issues if development leads to greater recreational use of the site and consequent introduction of species, or development activities result in existing stands of invasive plants outside the site spreading into the site.

Urban Pressure

3.3.12 Development around the periphery of the SAC could lead to significant additional impacts from increased numbers of people in the locality, such as vandalism, burning, disturbance etc. The effects of proposed developments in the LDP will need to be considered in combination with all other proposals around the site.

Conclusion

3.3.13 The issues identified above (water quality, water levels/quantity, atmospheric pollution, alien plant species and urban pressure) have been taken into account in the development of the emerging LDP and are addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Kenfig SAC (Site 2)

3.3.14 The Kenfig SAC has an area of some 1191ha and adjoins the southern boundary of the County Borough. The majority of the SAC lies within Bridgend County Borough, with only a small area within Neath Port Talbot. The SAC is comprised of two parts, a northern area at Kenfig and a southern area on the other side of the town of Porthcawl at Merthyr Mawr. These areas encompass two separate sand dune systems, both of which demonstrate a transition from small, shifting dunes that are still forming to more fixed and stable dunes further inland. Both systems have extensive areas of dune grassland and low-lying, wetter, dune slacks.

3 . HRA Screening : Stage 1



Picture 3.3 Kenfig SAC

3.3.15 Habitats and species which are primary reasons for designation of the site:

- Fixed dunes with herbaceous vegetation ('grey dunes')
- Dunes with *Salix repens* ssp. *Argentea*
- Humid dune slacks
- Hard olio-mesotrophic waters with benthic vegetation of *Chara* spp.
- Petalwort
- Fen orchid

3.3.16 Habitat present as a qualifying feature not a primary reason for site selection:

- Atlantic salt meadows

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Livestock grazing	No: a site management issue	No
Water Level	Yes (see below)	Yes (see below)
Water quality and nitrogen deposition	Yes (see below)	Yes (see below)

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Hydrology	Yes (see below)	Yes (see below)
Sediment load	No: this factor relates to Kenfig Pool, which is largely groundwater fed with few sedimentation problems at present, not directly influenced by any possible development within NPT.	No
Fishery management	No: a site management issue	No
Introduced alien/exotic species	Yes: See below	Yes:(see below)
Natural coastal processes	Yes (see below)	Yes (see below)
Recreational and visitor pressure (including horses) and changes in access/recreation	Yes (see below)	Yes (see below)
Scrub encroachment	No: a site management issue	No
Air quality	Yes (see below)	Yes (see below)
Owner/occupier objectives	No: a site management issue	No
Habitat extents	No: a site management issue	No

Table 3.3.2

3.3.17 The issues identified in Table 3.3.2 are considered in more detail below.

Hydrology and Water Levels

3.3.18 The Core Management Plan for the SAC indicates that the exceptional wetness and diversity of the Kenfig dune system is directly dependent on the hydrological and hydro-chemical regime. The slack vegetation is influenced and maintained by both a high water table and maintenance of suitable water quality. The nature of the underlying limestone aquifer means that off-site activities a considerable distance away can potentially have an impact on the SAC.

3.3.19 Kenfig pool (within the northern part of the SAC) could similarly be affected by changes in hydrology. The Management Plan indicates that it is fed by dune seepage, three small ephemeral streams and possibly the limestone aquifer. The pool is described as being a fine example of a moderately nutrient rich lake with a rich bottom-growing flora of stoneworts. Such lakes are largely restricted to situations where the catchment or aquifer from which they are supplied with water remains relatively unaffected by intensive land-use or other sources of nutrients. It is identified that the aquifer could convey various pollutants from landfill quarries or similar developments, and it is indicated that abstraction in the catchment should be limited.

Air and Water Quality

3 . HRA Screening : Stage 1

3.3.20 Several features of the SAC are potentially sensitive to air and water quality impacts. Nutrient levels in the SAC are influenced by water quality which is affected by agricultural run-off carried by streams and through atmospheric deposition of nitrogen. Atmospheric nitrogen oxide (NOx) levels may be exceeded due to the proximity of several nearby sources including industrial (steel works/chemical works/power stations), agricultural activity, old landfill sites, transport and wind blown particulates (e.g. from mineral workings).

Recreational and Visitor Pressure

3.3.21 The main issues identified are damage from vehicles, camping, illegal off-road motorcycling and use of 4x4s, together with uncontrolled horse riding at Merthyr Mawr. These factors can cause compaction, erosion and damage to vegetation. New housing development in the vicinity could give rise to increased recreational pressure, especially in combination with residential proposals in Bridgend's LDP.

Introduced Alien/Exotic Species

3.3.22 Invasive alien plant species have potential to encroach and out compete native species. The planting of such species as part of development schemes close to or immediately adjacent to the SAC could therefore result in an adverse impact upon the habitats and species present. There may also be issues if development leads to greater recreational use of the site and consequent introduction of species, or development activities result in existing stands of invasive plants outside the site spreading into the site.

Coastal Processes

3.3.23 This factor relates to dune mobility and could be affected by dune and beach processes within Neath Port Talbot and developments/changes further along the coast. Any changes (such as additional coastal defences) beyond those covered in the Shoreline Management Plan 2 (SMP2) could have the potential to affect the SAC and would need further consideration.

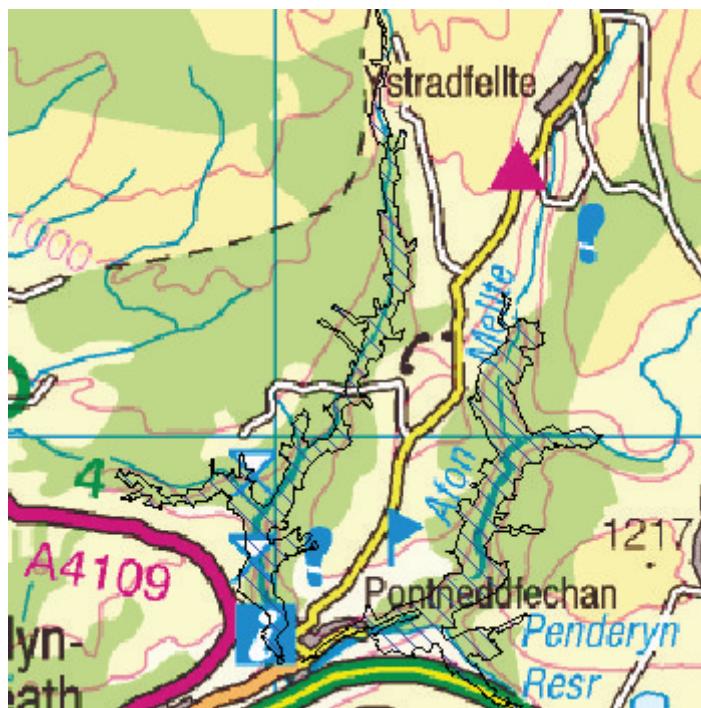
Conclusion

3.3.24 It is considered that there is therefore potential for developments within Neath Port Talbot to affect the factors discussed above, both alone and in combination with proposals within the Bridgend CBC area. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Coedydd Nedd a Mellte SAC (Site 3)

3.3.25 Coedydd Nedd a Mellte is some 378ha of woodland situated along a series of deeply incised valleys and ravines, to the north of Pontneddfechan. The site includes the wooded valleys of the rivers Nedd, Mellte, Pyrddin and Sychryd, and their tributaries above Pontneddfechan, as they pass through a Millstone Grit and limestone plateau. The plateau lies at about 300 m, the rivers having eroded deep, narrow valleys with gorges, cliffs, block screes and waterfalls. The area is important for leisure and tourism and attracts significant

numbers of visitors throughout the year. Part of the SAC (along the western flanks of the Nedd Fechan and Pyrddin) lie within Neath Port Talbot (the County Borough boundary being defined by the line of the rivers).



Picture 3.4 Coedydd Nedd a Mellte SAC

3.3.26 Habitats and species which are primary reasons for designation of the site:

- *Tilio-Acerion* forests of slopes, screes and ravines
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Livestock grazing	No: a site management issue	No
Non-native species	No: LDP policies and proposals are unlikely to encourage spread of non-native species	No
Woodland maintenance	No: a site management issue	No
Access and visitor management and human and grazing induced bare ground	Yes, (see below)	Yes (see below)
Air quality	Yes: (see below)	Yes: (see below)

Table 3.3.3

3.3.27 The issues identified in Table 3.3.3 are considered in more detail below.

3 . HRA Screening : Stage 1

Access and Visitor Management

3.3.28 The main issue identified above relates to erosion problems, evidenced by bare soil or denuded rocks due to footpaths, trampling and grazing and other activities undertaken by visitors. Development proposals in the LDP for residential sites near to the SAC could possibly increase visitor pressures and hence exacerbate the identified problems. However, many of the visitors are from further afield, and visitor numbers are influenced by a range of factors including tourism publicity and increasing popularity of more 'active' holidays. Increases in visitor numbers and the consequent erosion are being dealt with through the development of a comprehensive management plan for the whole area.

3.3.29 However, proposals in the LDP relating to tourism developments or the encouragement of tourism have the potential to affect the SAC both in themselves and in combination with other tourism plans and projects.

Air Quality

3.3.30 This is a potential issue in relation to the bryophyte assemblages which make up part of the *Tilio-Acerion* feature, although taking into account the location of the SAC, potential effects are likely to relate to diffuse pollution impacts only.

Conclusion

3.3.31 It is considered that there is therefore potential for general development proposals that impact on air quality, and tourism policies and proposals within Neath Port Talbot to affect the factors discussed above, both alone and in combination with other tourism proposals. These matters have been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Glaswelltiroedd Cefn Cribwr / Cefn Cribwr Grasslands SAC (Site 4)

3.3.32 The Cefn Cribwr Grasslands SAC is comprised of four separate areas of *Molinia* meadows totalling some 58ha. There are extensive stands of *Molinia – Cirsium dissectum* fen-meadow including forms with a stronger representation of native grasses, rushes and small sedges. The SAC is also important for the presence of Marsh Fritillary butterflies, which are now rare throughout Britain. The SAC is close to the County Borough boundary (some 0.3km away), but lies entirely within the area of Bridgend County Borough.



Picture 3.5 Cefn Cribwr Grasslands SAC

3.3.33 Habitat which is the primary reason for designation of the site:

- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

3.3.34 Species present as a qualifying feature but not a primary reason for site selection:

- Marsh Fritillary butterfly *Euphydryas(Eurodryas, Hypodryas) aurinia*

3.3.35 In relation to these features, the conservation objectives include the statement that the site should contribute towards supporting a sustainable metapopulation of the marsh fritillary in the Cefn Cribwr area. It is indicated that 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.

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Livestock grazing	No: a site management issue	No
Hydrological regime	Yes (see below)	Yes (see below)
Adjacent land use	Yes (see below)	Yes (see below)
Extent and quality of the marshy grassland as habitat for Marsh Fritillary	Yes (see below)	Yes (see below)

3 . HRA Screening : Stage 1

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Retention and management of shelter belts	No: a site management issue	No
Burning	No: a site management issue	No
Air Quality	Yes (see below)	Yes (see below)

Table 3.3.4

3.3.36 The issues identified in Table 3.3.4 are considered in more detail below.

Hydrological Regime and Adjacent Land Use

3.3.37 Taking into account that the site lies some 0.3km from the Neath Port Talbot County Borough boundary, it is considered that proposals in the LDP could potentially affect land uses adjacent to the site (in particular the opencast mine site which is partly within NPT but close to part of the SAC) and consequently the hydrological regime of the site.

Extent and Quality of Marshy Grassland

3.3.38 As the meta population area for marsh fritillary extends to 2km and the extent and quality of marshy grassland habitat (and connecting habitat) within NPT could be affected by proposals in the LDP, this is an issue that will need to be considered.

Air Quality

3.3.39 The habitat which is a key feature of this site (*Molinia* meadows) is sensitive to air quality impacts, either directly or indirectly through changes to water chemistry, through deposition of atmospheric nitrogen and acid deposition. Atmospheric pollution levels may be significant due to the proximity of several nearby sources including industrial (steel works/chemical works/power stations), agricultural activity, old landfill sites, transport and wind blown particulates (e.g. from the nearby mineral workings).

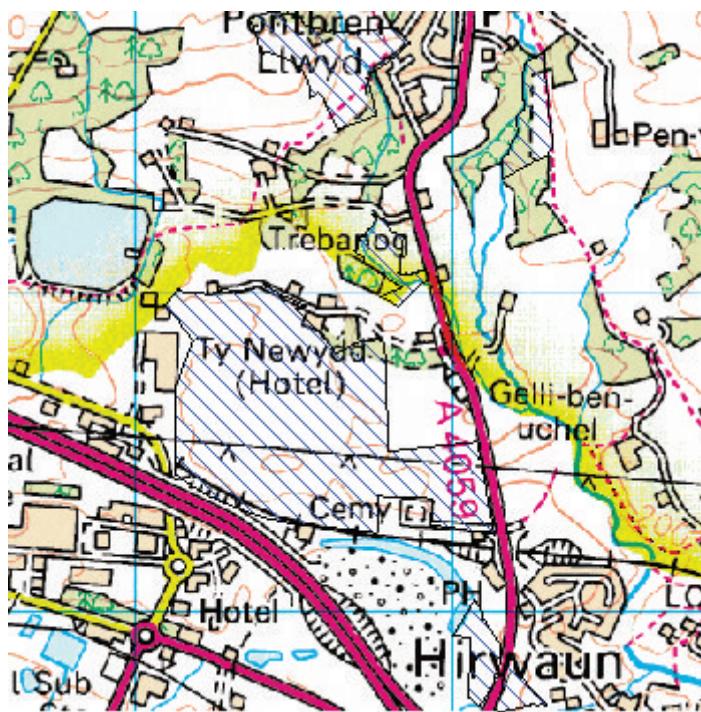
Conclusion

3.3.40 It is considered that there is therefore potential for NPT LDP policies and proposals, either alone or in combination with proposals within Bridgend, to affect the air quality, hydrological regime and availability of suitable marshy grassland habitat. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Blaen Cynon SAC (Site 5)

3.3.41 Blaen Cynon SAC has an area of some 67ha and comprises an extensive complex of damp pastures and heaths supporting the largest metapopulation of marsh fritillary *Euphydryas aurinia* butterfly on the southern edge of the Brecon Beacons National Park. The marsh fritillary butterfly *Euphydryas aurinia* is found in a range of habitats in which its

larval food plant, devil's-bit scabious *Succisa pratensis*, occurs. The SAC is wholly within the area of Rhondda Cynon Taff County Borough, and is some 3.4km from the County Borough boundary at its nearest point.



Picture 3.6 Blaen Cynon SAC

3.3.42 Species that is a primary reason for designation of the site:

- Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia*

3.3.43 In relation to this, the conservation objectives include the statement that the site should contribute towards supporting a sustainable metapopulation of the marsh fritillary in the area. It is indicated that 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.

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Extent and quality of the marshy grassland as habitat for marsh fritillary	No: a site management issue	No
Air Quality	Yes (see below)	Yes (see below)

Table 3.3.5

3.3.44 The issues identified in Table 3.3.5 are considered in more detail below.

Air Quality

3 . HRA Screening : Stage 1

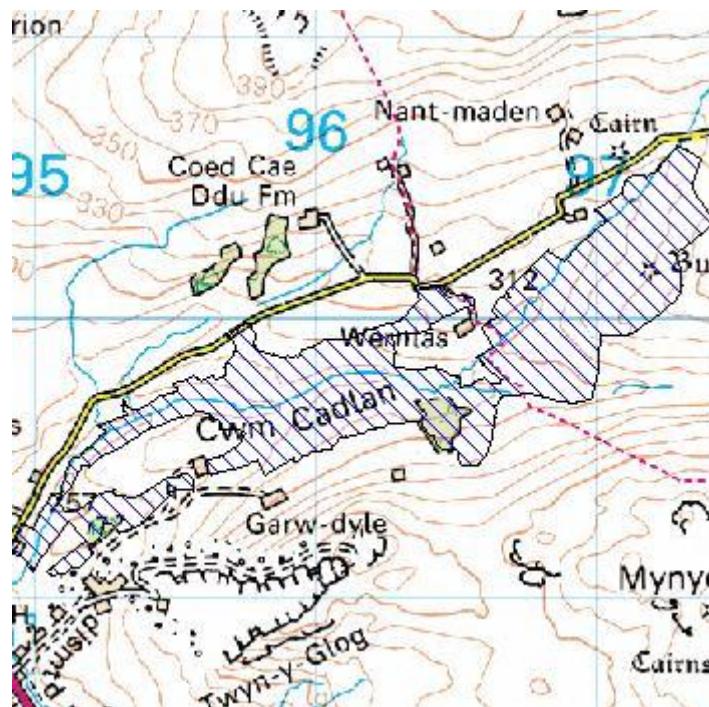
3.3.45 The habitat which is a key feature of this site (*Molinia* meadows) is sensitive to air quality impacts, either directly or indirectly through changes to water chemistry, through deposition of atmospheric nitrogen and acid deposition. Atmospheric pollution levels may continue to be exceeded because of nearby sources including industrial (steel works/chemical works/power stations), agricultural activity, old landfill sites, transport and wind blown particulates.

Conclusion

3.3.46 It is considered that there is therefore potential for NPT LDP policies and proposals to affect air quality at the site and consequently nitrogen and acid deposition either alone or in combination with proposals within Bridgend. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Cwm Cadlan SAC (Site 6)

3.3.47 Cwm Cadlan SAC comprises some 84ha of grasslands and meadows near to the village of Penderyn in the southern Brecon Beacons. The site is some 5km from the Neath Port Talbot County Borough boundary.



Picture 3.7 Cwm Cadlan SAC

3.3.48 Habitats that are a primary feature for site selection:

- *Molinia* meadows on calcareous, peaty or clayey-silt laden soils (*Molinion caeruleae*)
- Alkaline fen

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Livestock grazing	No: a site management issue	No
Drainage/groundwater	No: mainly a site management issue: The SAC is associated with a tributary of the River Cynon, therefore the flow is away from Neath Port Talbot towards Aberdare. No part of NPT is within the water catchment of the site or within the Water Resource management unit as shown in the EA - Catchment Abstraction Management Strategy - Taff and Ely.	No
Adjacent land use	No due to distance from NPT	No
Scrub encroachment	No: a site management issue	No
Atmospheric pollution	Yes (see below)	Yes (see below)

Table 3.3.6

3.3.49 The issues identified in Table 3.3.6 are considered in more detail below.

Atmospheric Pollution

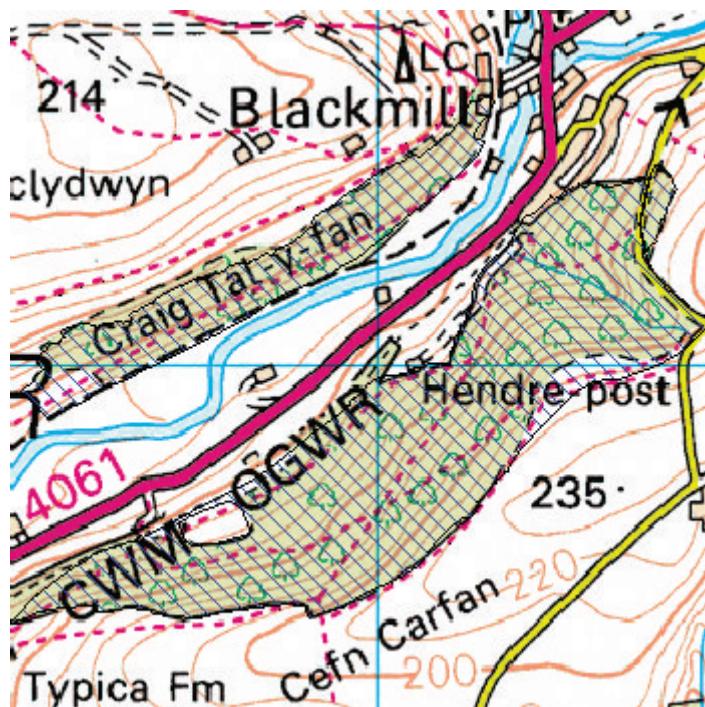
3.3.50 The Core Management Plan indicates that atmospheric deposition at this site has potential to harm mainly the alkaline fen feature. The concerns relate to dust deposition (probably due to the close proximity of Penderyn Quarry), and atmospheric nitrogen deposition, which is estimated at 21.8 kg N/ha/yr which lies above the lower critical load limit for this pollutant (15-35 kg N / ha / yr). NPT LDP proposals have the theoretical potential to increase atmospheric nitrogen deposition rates, through increased traffic levels but also through major industrial or power station developments; and possibly to increase dust deposition through minerals or waste developments.

3.3.51 It is considered that there is therefore potential for NPT LDP policies and proposals to affect the atmospheric deposition at the site either alone or in combination with proposals within Powys/Brecon Beacons National Park. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Blackmill Woodlands SAC (Site 7)

3.3.52 Blackmill Woodlands is some 71ha of old sessile oak woods at the southern extreme of the habitat's range in Wales, and contributes to representation of the habitat in Wales and in south-west England. The woodlands have a long cultural history of management, reflected in the distinctive gnarled appearance of many of the trees. The site lies to the north east of Bridgend, some 6km from the NPT County Borough Boundary.

3 . HRA Screening : Stage 1



Picture 3.8 Blackmill Woodlands SAC

3.3.53 Habitats that are a primary feature for site selection:

- Old sessile oak woods with Ilex and Blechnum in the British Isles

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Livestock grazing	No: a site management issue	No
Non-native species	No: LDP policies and proposals are unlikely to encourage spread of non-native species: The SAC is too distant from NPT for any planted non-natives to spread into the site.	No
Air pollution	Yes (see below)	Yes (see below)
Recreation Impacts	Yes (see below)	Yes (see below)

Table 3.3.7

3.3.54 The issues identified in Table 3.3.7 are considered in more detail below.

Air Pollution

3.3.55 The Core Management Plan indicates that there may be effects from air pollution in relation to EA permitted licences, but no details are given and this is being further investigated. Potential sources of air pollution are power stations, heating plants and general industrial processes and road traffic. Developments within NPT could therefore have an impact on air quality in the vicinity of the site.

Recreation Impacts

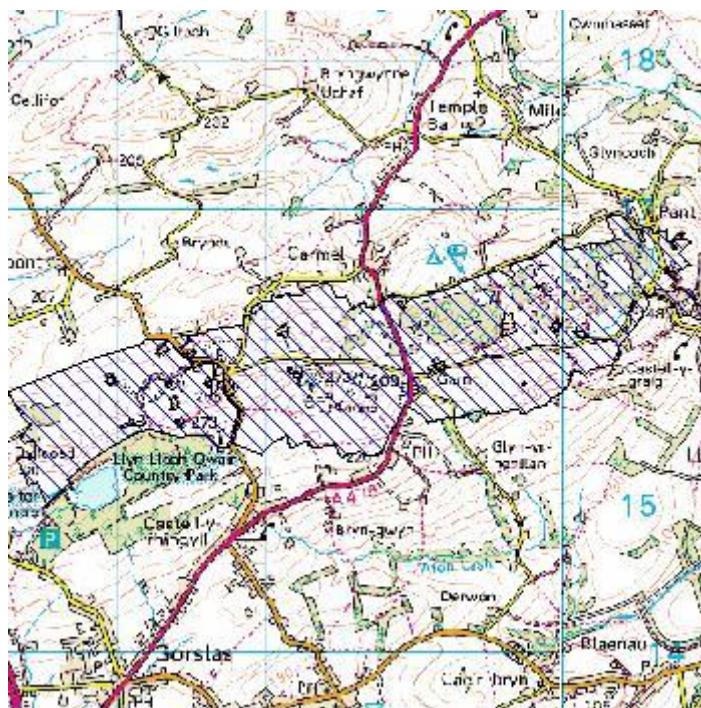
3.3.56 There are potential recreation impacts, particularly relating to the spread of *phytophthora*. This is unlikely to be significant in relation to proposals in the NPT LDP alone, but there may be in-combination effects if NPT policies promoting recreation/tourism are linked with policies in Bridgend.

Conclusion

3.3.57 It is considered that there is therefore potential for NPT LDP policies and proposals to affect air pollution and recreation pressures in the vicinity of the site either alone or in combination with proposals within Bridgend. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Cernydd Carmel SAC (Site 8)

3.3.58 Cernydd Carmel SAC is an area of some 361ha located to the north west of Ammanford which includes a diverse range of habitats, including woodland, grassland, heathland and bog. Of particular interest is the seasonal lake – or turlough – situated at the eastern end of the SAC. The site is located some 10km west of the Neath Port Talbot County Borough Boundary.



Picture 3.9 Cernydd Carmel SAC

3.3.59 Habitats that are a primary feature for site selection:

- Turloughs

3 . HRA Screening : Stage 1

3.3.60 Habitats present as a qualifying feature but not a primary reason for site selection:

- *Tilio-Acerion* forests of slopes, screes and ravines
- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- Active raised bogs

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Water quality factors	No: the site is sufficiently far from NPT for no effect to be caused: No part of NPT is within the water catchment.	No
Turbidity	No: the site is sufficiently far from NPT for no effect to be caused: No part of NPT is within the water catchment.	No
Water levels	No: the site is sufficiently far from NPT for no effect to be caused: No part of NPT is within the water catchment	No
Atmospheric nutrient deposition	Yes (see below)	Yes (see below)
Scrub and bracken encroachment	No: a site management issue	No
Grazing	No: a site management issue	No
Non-native species	No: a site management issue: The site is too distant from NPT for non-native species planted to spread into the site.	No
Burning	Yes: potentially a recreational site management issue (see below)	Yes (see below)

Table 3.3.8

3.3.61 The issues identified in Table 3.3.8 are considered in more detail below.

Atmospheric Nutrient Deposition

3.3.62 The Core Management Plan indicates that the critical nitrogen deposition load for raised and blanket bogs is 5-10 kg N/ha/yr, while current N deposition at this site is estimated at 19.2 kg N/ha/yr, encouraging a spread of *Molinia* and a reduction in peat forming *Sphagnum* spp. NPT LDP proposals have the theoretical potential to increase atmospheric nitrogen deposition rates, in particular through increased traffic levels, but also from industrial or power station proposals.

Burning

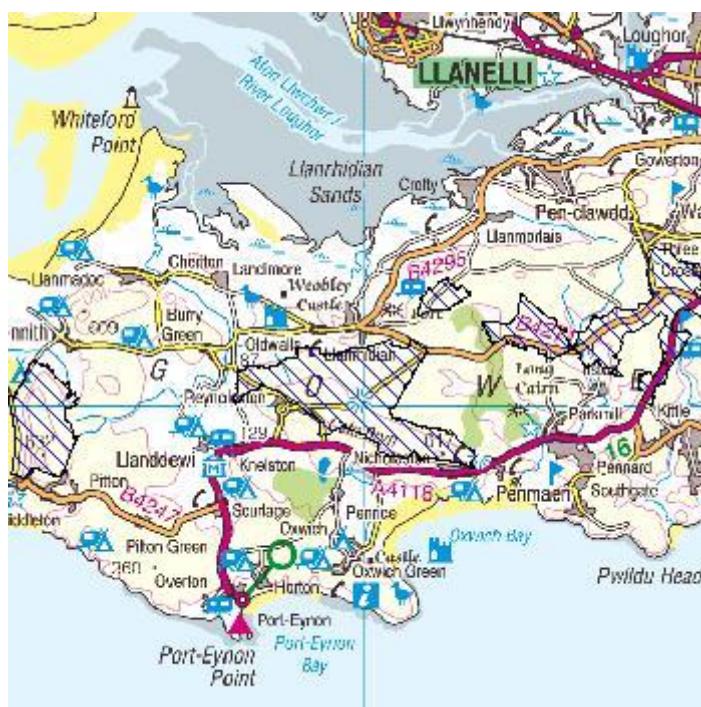
3.3.63 Burning could be a recreational management issue associated with nearby development although the site is a significant distance away from NPT. There is the potential for 'in-combination' effects if policies in the NPT LDP promote recreational activity in the area alongside similar policies in Carmarthenshire.

Conclusion

3.3.64 It is considered that there is therefore potential for NPT LDP policies and proposals to affect air pollution and recreation levels in the vicinity of the site either alone or in combination with proposals within Carmarthenshire. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Gower Commons SAC (Site 9)

3.3.65 This site comprises some 1777ha of lowland heathland and marshy grassland covering four separate areas. The areas provide habitat for the Marsh Fritillary butterfly and the southern damselfly. The extent of these commons and their relative connectivity means plants and animals have a large area of similar habitat to allow them to move and survive. The SAC is some 11km from the NPT boundary at its nearest point, on the western side of the conurbation of Swansea.



Picture 3.10 Gower Commons SAC

3.3.66 Habitats and species that are a primary feature for site selection:

- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths

3 . HRA Screening : Stage 1

- *Molinia* meadows on calcareous, peaty or clayey-silt laden soils
- Southern damselfly
- Marsh fritillary butterfly

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Grazing	No: A site management issue	No
Spread of non-native species	No: A site management issue. The site is too distant from NPT for any planted non-native species to spread.	No
Burning	Yes: potentially a recreational site management issue (see below)	Yes (see below)
Extent of supporting habitat (damsel-fly and marsh fritillary)	No: A site management issue. The meta-population of Marsh Fritillary is too distant from NPT for marshy grassland habitats to provide suitable habitat for this population.	No
Air quality	Yes (see below)	Yes (see below)

Table 3.3.9

3.3.67 The issues identified in Table 3.3.9 are considered in more detail below.

Burning

Burning could be a recreational management issue associated with nearby development although the site is a significant distance away from NPT. There is the potential for 'in-combination' effects if policies in the NPT LDP promote recreational activity in the area alongside similar policies in Swansea.

Air Quality

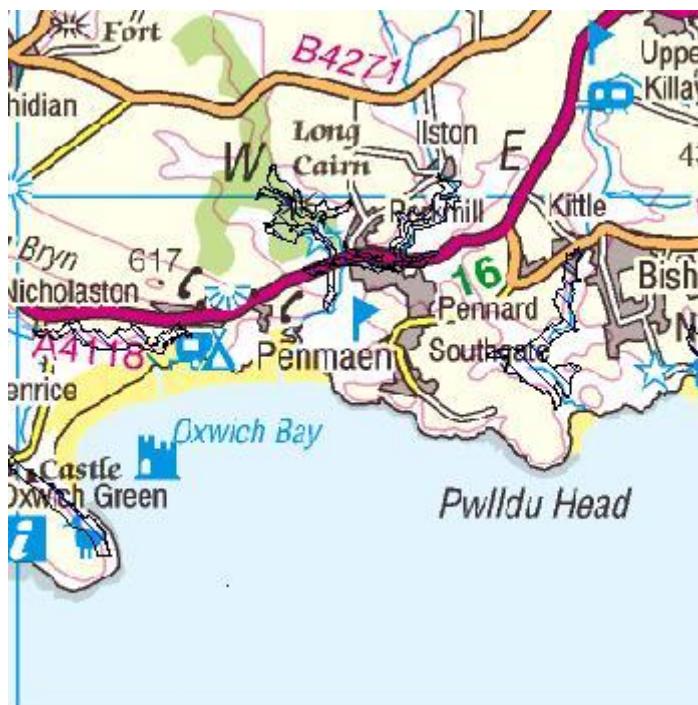
3.3.68 An increase in nitrogen deposition due to air pollution could lead to changes in species composition, but the main impact is likely to be from diffuse pollution. Traffic pollution is generally considered to be the main cause of nitrogen deposition and acidification but taking into account the location of the site on the opposite side of the conurbation of Swansea from NPT it is considered that proposals in the NPT LDP are not likely to have a significant effect on this SAC alone. However, there is the potential for 'in-combination' effects with proposals in Swansea.

Conclusion

3.3.69 It is considered that there is therefore potential for NPT LDP policies and proposals to affect air pollution and recreational/burning in the vicinity of the site in combination with proposals within Swansea. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Gower Ash Woods SAC (Site 10)

3.3.70 The Gower Ash Woods constitute an area of some 233ha of connected woodland in steep sided limestone valleys in south Gower. The SAC includes Ash woodlands with mosses, ferns and overhanging trees with limestone crags and boulders. It is situated some 11km to the west of the NPT County Borough boundary, on the other side of the City of Swansea.



Picture 3.11 Gower Ash Woods SAC

3.3.71 Habitats that are a primary reason for site selection:

- *Tilio-Acerion* forests of slopes, screes and ravines

3.3.72 Habitats present as a qualifying feature but not a primary reason for site selection:

- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incane*, *Salicion albae*)

3 . HRA Screening : Stage 1

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Lack of mature trees	No: a site management issue	No
Lack of deadwood	No: a site management issue	No
Lack of regeneration in gaps	No: a site management issue	No
Over dominance of Sycamore	No: a site management issue	No
Presence of non-native species	No: a site management issue	No
Air pollution	Yes (see below)	Yes (see below)

Table 3.3.10

3.3.73 The issues identified in Table 3.3.10 are considered in more detail below.

Air Pollution

3.3.74 In relation to air pollution, the Core Management Plan for the SAC indicates that an increase in nitrogen deposition will lead to changes in species composition of the woodland, especially the ground flora. Where acidification of woodland habitat occurs, changes in ground flora and impacts on plant and lichen health are problems. However, no specific issues are identified at the site and it is not clear that air pollution is currently a problem.

3.3.75 Any impact is likely to be from diffuse pollution. Traffic pollution is generally considered to be the main cause of nitrogen deposition and acidification but taking into account the location of the site on the opposite side of the conurbation of Swansea from NPT it is considered that proposals in the NPT LDP are not likely to have a significant effect on this SAC alone. However, there is the potential for 'in-combination' effects with proposals in Swansea.

Conclusion

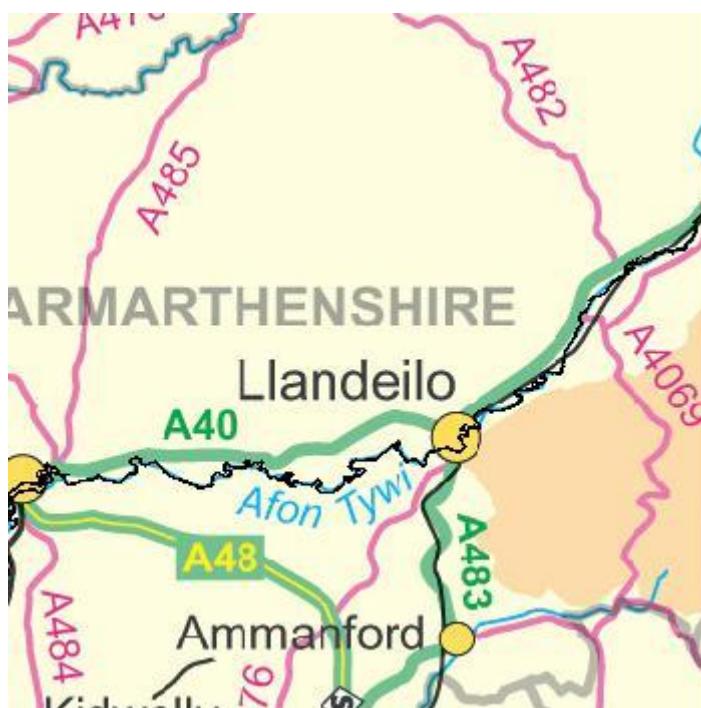
3.3.76 It is considered that there is therefore potential for NPT LDP policies and proposals to affect air pollution in the vicinity of the site in combination with proposals within the City and County of Swansea. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Afon Tywi SAC (Site 11)

3.3.77 The Afon Tywi rises in the Cambrian Mountains and flows south for some 10km before entering Llyn Brianne reservoir. The reservoir was constructed in the early 1970's to regulate water flows in the Tywi, enabling abstraction for public supply at Nantgaredig. From Llyn Brianne the Tywi falls steeply through mountain valleys for a further 20km before reaching the upper boundary of the SAC at Llandovery Road Bridge. The river then flows in a broadly south-westerly direction to Llandeilo, and then westerly through Carmarthen

to outfall into Carmarthen Bay at Llansteffan. The Afon Tywi SAC boundary terminates in the tidal reaches just south of Carmarthen, where it enters the Carmarthen Bay & Estuaries SAC.

3.3.78 Although the Afon Tywi SAC is some 11km from the NPT County Borough boundary on the north western side of the Black Mountain, much of the water supply for Neath Port Talbot, together with an area extending from Carmarthenshire to the Vale of Glamorgan, is derived from the abstraction from the river at Nantgaredig .



Picture 3.12 Afon Tywi SAC

3.3.79 Species that are a primary reason for site selection:

- Twaite shad *Allosa fallax*
- European otter *Lutra lutra*

3.3.80 Species present as qualifying features but not primary features for site selection:

- Allis shad *Alosa alosa*
- Sea lamprey *Petromyzon marinus*
- Brook lamprey *Lampetra planeri*
- River Lamprey *Lampetra fluviatilis*
- Bullhead *Cottus gobio*

3 . HRA Screening : Stage 1

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Biological water quality	No: The Afon Tywi flows away from NPT and no part of its catchment is within NPT (EA CAMS)	No
Chemical water quality	No: The Afon Tywi flows away from NPT and no part of its catchment is within NPT (EA CAMS)	No
Hydromorphology (flow and temperature)	Yes in relation to river flow due to water supply abstraction (see below)	Yes (see below)

Table 3.3.11

3.3.81 The issues identified in Table 3.3.11 are considered in more detail below.

Hydromorphology

3.3.82 Upper parts of the Neath, Afan and Tawe valleys are supplied from Ystradfellte and Crai reservoirs and as such water supply to these areas should not have any impact on the SAC. However, the majority of the County Borough is supplied from the Tywi Conjunctive Use System, from the Lliw reservoirs, which are in turn supplied by water pumped from the Afon Tywi at Nantgaredig. This system has the potential to affect water flow rates in the river and hence affect the integrity of the SAC, for example by causing low water flow rates at times of drought. However, when necessary, water levels in the river are regulated by releases from Llyn Brianne reservoir. (see also Cwm Doethie - Mynydd Mallaen SAC and Elenydd-Mallaen SPA)

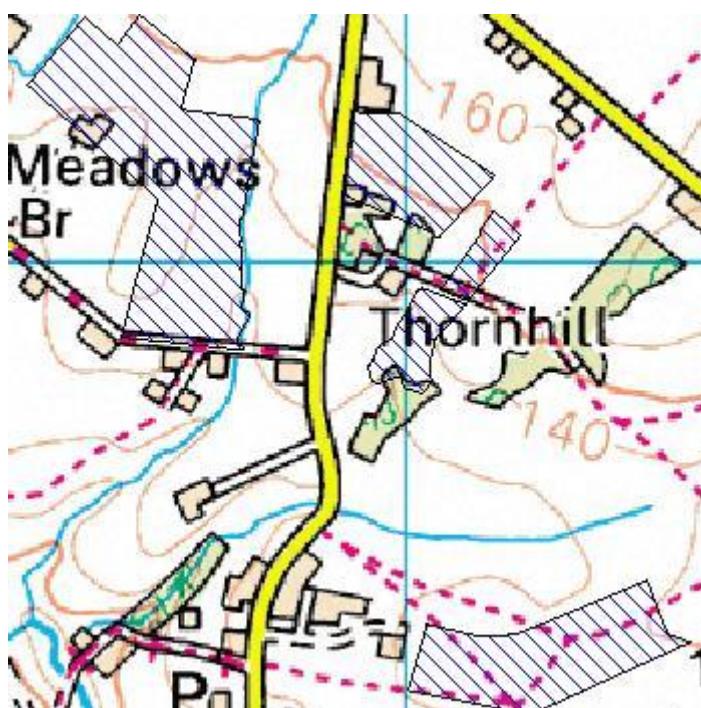
3.3.83 Dwr Cymru/Welsh Water published their Water Resources Management Plan in September 2012⁽²⁾ which indicates that there are no anticipated problems in water supply in the Tywi Conjunctive Use System Water Resource Zone (WRZ) and that there is adequate 'headroom' for anticipated future demand, assuming population in the WRZ continues to grow following past trends. In relation to likely effects on any European sites (including those in the vicinity of Llyn Brianne) Natural Resources Wales (formerly the Environment Agency) has undertaken a Review of Consents (RoC) process in relation to water abstraction licences and the WRMP has been the subject of an HRA. These exercises concluded that water supply in the WRZ would cause no likely significant effects.

Conclusion

3.3.84 It can therefore be concluded that water supply in NPT will have no likely significant effects on the Afon Tywi SAC (or on Cwm Doethie - Mynydd Mallaen SAC or Elenydd - Mallaen SPA close to Llyn Brianne). Following the conclusions of the RoC and WRMP HRA, there should also be no 'in combination' effects with other relevant plans and proposals within the WRZ.

Caeau Mynydd Mawr SAC (Site 12)

3.3.85 Caeau Mynydd Mawr SAC comprises four separated areas (totalling some 27ha) of *Molinia* meadows, wet heath, acidic and dry neutral grassland within an area of open country between Cross Hands and Capel Hendre in Carmarthenshire, west of Ammanford. It was selected to represent the marsh fritillary butterfly (*Euphydryas aurinia*) and *Molinia* meadows (on calcareous, peaty or clayey-silt-laden soils *Molinion caeruleae*), and is one of the major strongholds for the marsh fritillary in Wales and the UK. It is situated some 11km west of the NPT County Borough boundary.



Picture 3.13 Caeau Mynydd Mawr SAC

3.3.86 Species that are a primary reason for site selection:

- Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia*

3.3.87 Habitats that are present as a qualifying feature, but not a primary reason for selection of this site:

- Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Extent of habitat	No: A site management issue The meta-population of Marsh Fritillary is too distant from NPT for marshy grassland habitats to provide suitable habitat for this	No

3 . HRA Screening : Stage 1

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
	population.	
Condition of habitat	No: A site management issue	No
Livestock grazing	No: A site management issue	No
Scrub	No: A site management issue	No
Shelter belts	No: A site management issue	No
Hydrological regime	No: The site is sufficiently far from NPT for this aspect not to be affected by NPT LDP proposals. The water catchment of the area, as indicated by EA CAMS, is not within NPT.	No
Adjacent land use	No: No part of NPT is adjacent to the SAC	No
Burning	No: A site management issue	No

Table 3.3.12

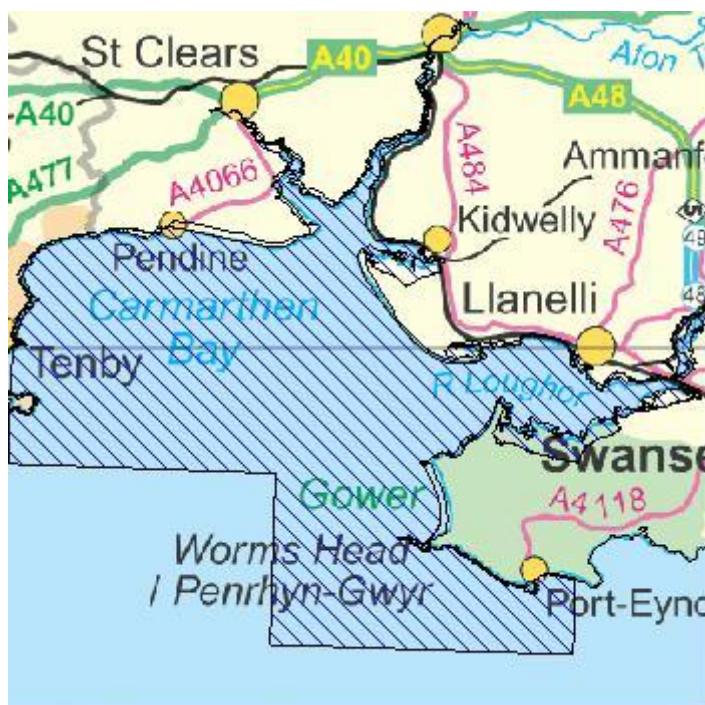
3.3.88 It is noted that favourable conservation status of the butterfly metapopulation requires the appropriate management of a network of potential, suitable and good condition marsh fritillary habitat to include, at a minimum, 50 ha of suitable habitat within which 10 ha of good condition habitat is supported. Caeau Mynydd Mawr SAC cannot support the required criteria alone since the total area of the component SSSIs is too small (25.1 ha). It is stressed that the condition and status of the metapopulation remain dependant on the appropriate management of a network of well-managed sites rather than on one site. Component populations of a metapopulation must be within c. 2 Kilometres of other populations for the metapopulation to function.

3.3.89 Taking into account that the SAC is some 11km from the boundary of Neath Port Talbot, with the town of Ammanford in between, it is considered that proposals in the LDP are unlikely to have any effect on the issues identified.

Carmarthen Bay and Estuaries SAC/Burry Inlet SPA and Ramsar Site/Carmarthen Bay SPA (Site 13)

3.3.90 The Carmarthen Bay and Estuaries SAC is a large site encompassing the estuaries of the Rivers Loughor, Tâf, Tywi and Gwendraeth. There are extensive areas of intertidal mudflats and sandflats with large areas of these flats dominated by bivalves. There is a complete sequence of saltmarsh vegetation, from pioneer vegetation through to upper saltmarsh transitions and it is also important for transitions from saltmarsh to sand dune and other habitats. Carmarthen Bay is an extensive shallow bay with a wide variety of seabed types, including mud, sand and rock, although the majority of the seabed is sandy. Parts of the SAC are also designated as Special Protection Areas (Carmarthen Bay SPA and Burry Inlet SPA) because of their resident and migrant bird populations, and as a Ramsar site (Burry Inlet). The sites are referred to collectively as the Carmarthen Bay and Estuaries European Marine Site and are covered together by advice issued by

CCW. The sites are therefore also considered together here. The sites are some 12km from the NPT County Borough boundary at the nearest point, and are situated to the north and west of the Gower peninsula.



Picture 3.14 Carmarthen Bay and Estuaries SAC

3.3.91 Habitats and species that are a primary reason for site selection:

- Sandbanks which are slightly covered by sea water all the time
- Estuaries
- Mudflats and sandflats not covered by seawater at low tide
- Large shallow inlets and bays
- *Salicornia* and other annuals colonising mud and sand
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- Twaite shad *Alosa fallax*

3.3.92 Species that are present as a qualifying feature, but not a primary reason for selection of this site:

- Sea lamprey *Petromyzon marinus*
- River lamprey *Lampetra fluviatilis*

3 . HRA Screening : Stage 1

- Allis shad *Alosa alosa*
- Otter *Lutra lutra*

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Nutrient levels in the water column and sediments	No: NPT does not lie within any river catchment area affecting the SAC and is separated from it by the conurbation of Swansea and other towns. No sewage from any part of NPT discharges into Carmarthen Bay.	No
Contaminant levels in the water column and sediments derived from human activity	No: NPT does not lie within any river catchment area affecting the SAC and is separated from it by the conurbation of Swansea and other towns. No sewage from any part of NPT discharges into Carmarthen Bay.	No

Table 3.3.13

3.3.93 In addition, the following activities have been identified that could affect the site's integrity:

- Docks, Marinas and Shipping
- Civil Engineering
- Waste Disposal
- Exploitation of Living Resources
- Cultivation of Living Resources
- Exploitation of Non-living Resources
- Pollution Response
- Recreation
- Military Activities
- Misc. Operations and Uses

3.3.94 However, the NPT LDP is unlikely to significantly affect or increase these activities.

3.3.95 Taking into account the distance of the site from Neath Port Talbot and the intervening topography and urban areas of Swansea and surrounding settlements, it is considered that developments proposed in the LDP are unlikely to have any effect on water quality in Carmarthen Bay.

River Usk SAC (Site 14)

3.3.96 The River Usk rises in the Black Mountain range in the west of the Brecon Beacons National Park and flows east and then south, to enter the Severn Estuary at Newport. The overall form of the catchment is long and narrow, with short, generally steep tributaries flowing north from the Black Mountain, Fforest Fawr and Brecon Beacons, and south from Mynydd Epynt and the Black Mountains. At its nearest point, the SAC is some 12km from the NPT boundary.



Picture 3.15 River Usk SAC

3.3.97 Species that are a primary reason for site selection:

- Sea lamprey *Petromyzon marinus*
- Brook lamprey *Lampetra planeri*
- River Lamprey *Lampetra fluviatilis*
- Twaite shad *Alosa fallax*
- Atlantic salmon *Salmo salar*

3 . HRA Screening : Stage 1

- Bullhead *Cottus gobio*
- European otter *Lutra lutra*

3.3.98 Species present as qualifying features, but not primary reasons for site selection:

- Allis shad *Alosa alosa*
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Physical barriers to species migration	No: the SAC is not within NPT	No
Flow rates: depletion from abstractions	Yes: see below	Yes: see below
Water quality: Pollution and siltation (mainly from agriculture and drainage discharges and contamination)	No: The SAC is 12km from NPT on the northern side of the Brecon Beacons, no direct pollution effects from NPT likely	No
Invasive species	No: The site is too distant from NPT for any planted non-native species to spread.	No
Entrainment in water abstraction	No: the SAC is not within NPT	No
Habitat Quality and Extent	No: the SAC is not within NPT	No
Tree Cover	No: the SAC is not within NPT	No
Angling/exploitation/introduction of other fish stock	No: the SAC is not within NPT	No

Table 3.3.14

3.3.99 The issues identified in Table 3.3.14 are considered in more detail below.

Water Flow Rates

3.3.100 In relation to the above issues, it is considered that the only effects that proposals in the NPT LDP could have relate to flow rates in the River Usk (from alterations to rates of water abstraction). However, with the exception of the Crai reservoir, the major part of Neath Port Talbot's water supply is not derived from the Usk catchment. The Crai Impounding Reservoir provides part of the supply to the upper parts of Neath, Afan and Tawe valleys (together with Ystradfellte Impounding Reservoir). Any significant developments in these areas could therefore potentially have an effect, although this is likely to be minimal.

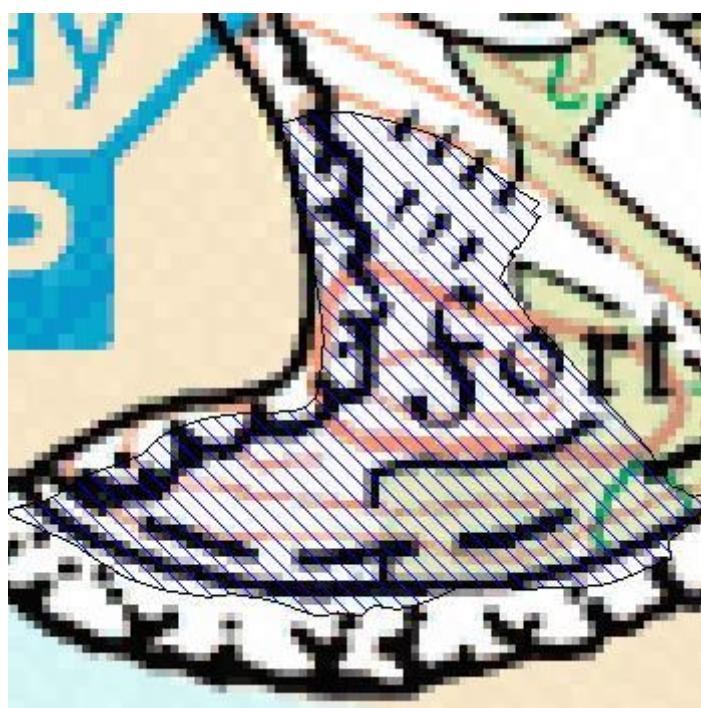
3.3.101 Dwr Cymru/Welsh Water published their Water Resources Management Plan in September 2012⁽³⁾ which indicates that there are no anticipated problems in water supply in the Tywi Conjunctive Use System Water Resource Zone and that there is adequate 'headroom' for anticipated future demand, assuming population in the WRZ continues to grow following past trends. In relation to likely effects on any European site, the Environment Agency has undertaken a Review of Consents process in relation to water abstraction licences and the WRMP has been the subject of an HRA. These exercises concluded that water supply in the WRZ would cause no likely significant effects.

Conclusion

3.3.102 It can therefore be concluded that water supply in NPT will have no likely significant effects on the River Usk SAC. Following the conclusions of the RoC and WRMP HRA, there should also be no 'in combination' effects with other relevant plans and proposals within the WRZ.

Dunraven Bay SAC (Site 15)

3.3.103 Dunraven Bay SAC has an area of some 6 ha and is situated on a southwest facing cliff about 1km south east of the village of Southerndown in the Vale of Glamorgan. The coastline is generally eroding and the 20 or so plants of shore dock growing here on damp coastal limestone are the only remnant of the species former Bristol Channel range. This has now declined to six individuals due to cliff falls removing plants. The site is some 12km south of the NPT boundary, south of the town of Porthcawl.



Picture 3.16 Dunraven Bay SAC

3.3.104 Species that are a primary reason for site selection:

3 [Water Resources Management Plan \(DCWW Sept 2012\)](#)

3 . HRA Screening : Stage 1

- *Rumex rupestris* (shore dock)

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Erosion and cliff fall	No: a natural process	No
Scrub	No: a site management issue	No

Table 3.3.15

3.3.105 Taking the above into account, it is considered that proposals in the NPT LDP are unlikely to have any effect on the issues identified for this SAC.

Limestone Coast of South West Wales SAC (Site 16)

3.3.106 The Limestone Coast of South West Wales SAC stretches from Castlemartin at the western end of southern Pembrokeshire to the Bishopston Valley on the south east coast of Gower, covering an area of some 1594ha. The imposing limestone sea-cliffs include exposed and sheltered elevations, up to 50 metres high in places, with numerous caves, arches, crevices and blow-holes. The cliffs hold locally important seabird colonies and the rocky foreshore is also of marine biological importance. Depending on the site, these grade into calcareous grasslands, sand dunes and lichen heath, which support a rich assortment of rare species of plants.

3.3.107 The nearest part of the SAC is some 13km from the NPT County Borough boundary, on the western side of the conurbation of Swansea.



Picture 3.17 Limestone Coast of South West Wales SAC

3.3.108 Habitats and species that are a primary reason for site selection:

- Vegetated sea cliffs of the Atlantic and Baltic coasts
- Fixed dunes with herbaceous vegetation (“grey dunes”)
- Greater horseshoe bat *Rhinolophus ferrumequinum*
- Early gentian *Gentianella anglica*

3.3.109 Habitats and species present as a qualifying feature but not a primary reason for site selection:

- European dry heaths
- Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) / Dry grasslands and scrublands on chalk or limestone
- Caves not open to the public
- Submerged or partially submerged sea caves
- Petalwort *Petalophyllum ralfsii*

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Livestock grazing	No: a site management issue	No
Bracken and scrub encroachment	No: a site management issue	No
Burning	No: a site management issue	No
Pollution	Yes: (see below)	Yes: (see below)
Military activity	No: a site ownership/management issue	No
Access and recreation	Yes (see below)	Yes (see below)
Natural processes and other factors	Factor relates to invasive/alien species, decline in rabbit population and quarrying etc. No direct impacts likely from NPT.	No
Condition of caves	This factor relates to direct human disturbance/damage (see access/recreation below) and pollution/litter (no direct effect)	See access/recreation (below)

Table 3.3.16**3.3.110** The issues identified in Table 3.3.16 are considered in more detail below.Pollution

3 . HRA Screening : Stage 1

3.3.111 Pollution is a concern for both the European Dry Heath and the Semi-natural dry grasslands and scrublands features, which are present in the parts of the SAC nearest to Neath Port Talbot. The Core Management Plan for the SAC indicates that airborne pollutants such as nitrous oxides from vehicle exhausts could affect the feature, while there is potential for it to be impacted also by agricultural activities such as fertiliser application on adjoining land. Any impact is likely to be from diffuse pollution and taking into account the location of the site on the opposite side of the conurbation of Swansea from NPT it is considered that proposals in the NPT LDP are not likely to have a significant effect on this SAC alone. However, there is the potential for 'in-combination' effects with proposals in Swansea.

Access and Recreation

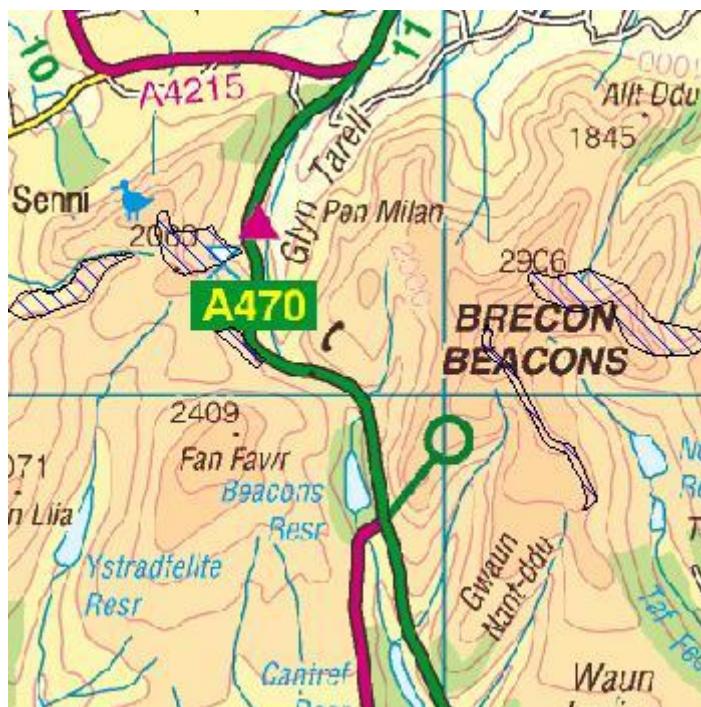
3.3.112 It is indicated that the main concern in relation to this factor is the possibility of excessive trampling and camping/camp fires which could be damaging and lead to erosion of open vegetation communities and localised nutrient enrichment. Increasing population numbers within NPT have the potential to increase visitor numbers at popular Gower locations. However, the Core Management Plan indicates a target of preventing regular and/or large-scale group activities. It is considered that this is predominantly a site management issue. However, there is the potential for 'in-combination' effects if policies in the NPT LDP promote recreational activity in the area alongside similar policies in Swansea.

Conclusion

3.3.113 It is considered that there is therefore potential for NPT LDP policies and proposals to affect air pollution and recreational in the vicinity of the site in combination with proposals within Swansea. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

Brecon Beacons SAC (Site 17)

3.3.114 The Brecon Beacons SAC comprises five separate areas in the highest part of the national park, located to the south of the town of Brecon, totalling some 270ha. The Old Red Sandstone cliffs and escarpment is typical of the upland scenery within the National Park. The site is of particular interest for the arctic-alpine plants and plant communities growing on the sandstone rocks and ledges on its precipitous mostly north and east facing cliffs. The escarpments also support stands of dry heath vegetation. The site is some 16km north east of the NPT boundary.



Picture 3.18 Brecon Beacons SAC

3.3.115 Habitats that are a primary reason for site selection:

- Calcareous rocky slopes with chasmophytic vegetation
- Siliceous rocky slopes with chasmophytic vegetation

3.3.116 Habitats present as a qualifying feature but not a primary reason for site selection:

- European dry heaths
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Grazing	No: a site management issue	No
Burning	Yes (see below)	Yes (see below)
Erosion/bare ground and trampling	Yes (see below)	Yes (see below)
Rock climbing	Yes (see below)	Yes (see below)
Air quality	Yes (see below)	Yes (see below)

Table 3.3.17

3.3.117 The issues identified in Table 3.3.17 are considered in more detail below.

3 . HRA Screening : Stage 1

Erosion / Rock Climbing / Visitor Pressures

3.3.118 Concerns about erosion and rock climbing are related to visitor numbers and pressures and this has the potential to be affected by population increases in NPT. However, the Brecon Beacons are a nationally important visitor attraction and visitors from NPT are likely to constitute only a small proportion of the total number. The Core Management Plan for the SAC indicates that the main issues in relation to erosion and rock climbing need to be tackled by visitor management measures and maintenance of paths etc. However, there is the potential for 'in-combination' effects if policies in the NPT LDP promote recreational activity in the area alongside similar policies elsewhere in the region.

Air Quality

3.3.119 Environmental and ecological changes causing concern at the Brecon Beacons include acidification of rain and soils, due to atmospheric pollution, and nutrient enrichment (especially increased nitrogen and phosphorus), through a combination of atmospheric pollution, excessive dunging/urination in areas where stock preferentially graze and other inputs from diffuse sources. Mosses, liverworts and lichens are particularly vulnerable to pollution from atmospheric sources.

3.3.120 The Core Management Plan indicates that much of this atmospheric pollution comes from distant, diffuse sources, such as traffic and domestic emissions, but some can be attributed to large point sources, such as major power stations or industrial processes. The impact of the industrialisation of the south Wales valleys in the nineteenth century has had a lasting effect on upland vegetation. If particularly damaging, current point sources (or groups of point sources) can be identified, then emissions should be regulated to reduce the impacts. It is considered that development proposals within NPT could potentially exacerbate this situation in themselves and in combination with other plans or proposals.

Conclusion

3.3.121 It is considered that there is therefore potential for NPT LDP policies and proposals to affect air pollution and recreational pressures in the vicinity of the site in combination with other plans and proposals. This has been taken into account in the development of the emerging LDP and is addressed in more detail in relation to the LDP's specific proposals in Chapter 5.

River Wye SAC (Site 18)

3.3.122 The River Wye rises on Plynlimon in the Cambrian Mountains and flows in a generally southeasterly direction to enter the Severn Estuary at Chepstow. The upper catchment comprises several large sub-catchments, including the Irfon on the generally infertile upland landscape in the north-west, the Ithon in the north-east often on more low-lying, fertile terrain and the Lugg in the east in a predominantly low-lying fertile landscape much of which lies within England.

3.3.123 The River Wye is situated to the north of the Brecon Beacons and the River Usk (see above) and is some 32km from the NPT boundary at its nearest point.



Picture 3.19 River Wye SAC

3.3.124 Habitats and species that are a primary reason for site selection:

- Sea lamprey *Petromyzon marinus*
- Brook lamprey *Lampetra planeri*
- River Lamprey *Lampetra fluviatilis*
- Twaite shad *Alosa fallax*
- Atlantic salmon *Salmo salar*
- Bullhead *Cottus gobio*
- European otter *Lutra lutra*
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
- White-clawed crayfish *Austropotamobius pallipes*

3.3.125 Habitats and species present as a qualifying feature but not a primary reason for site selection:

3 . HRA Screening : Stage 1

- Allis shad *Alosa alosa*
- Quaking bogs and transition mires

Key factors for maintenance of site integrity	Could Plan affect factor?	Could other plans and projects affect factor 'in combination'?
Water flow	No: water supply in the NPT area is not derived from the Wye catchment	No
Water quality (biological and chemical)	No: The SAC is 32km from NPT to the north of the Brecon Beacons, no direct pollution effects from NPT likely	No
Invasive species	No: The site is too distant from NPT for any planted non-native species to spread.	No
Engineering works and Movement barriers	No: the SAC is not within NPT	No
Entrainment in water abstraction	No: the SAC is not within NPT	No
Habitat Quality and Extent	No: the SAC is not within NPT	No
Tree Cover	No: the SAC is not within NPT	No
Angling/exploitation/Introduction of other fish stock	No: the SAC is not within NPT	No

Table 3.3.18

3.3.126 Taking into account the distance between NPT and the SAC and the intervening topography, it is considered that proposals in the NPT LDP will not have any effect on the River Wye SAC.

3.4 Stage 1 Conclusions

3.4.1 From the above first stage screening exercise, the following sites and potential impacts were identified for further consideration:

Site	Issues							
	Atmospheric pollution	Hydrology/ Water Levels	Water quality	Recreational/ urban pressures	Adjacent land use	Extent and quality of marshy grassland	Invasive species	Coastal Processes
Crymlyn Bog	√	√	√	√			√	
Kenfig	√	√	√	√			√	√
Coed ydd Nedd a Mellte	√			√				
Cefn Cribwr	√	√			√	√		
Blaen Cynon	√							
Cwm Cadlan	√							

Site	Issues							
	Atmospheric pollution	Hydrology/ Water Levels	Water quality	Recreational/ urban pressures	Adjacent land use	Extent and quality of marshy grassland	Invasive species	Coastal Processes
Blackmill Woodlands	✓			✓				
Cernydd Carmel	✓			✓				
Gower Commons	✓			✓				
Gower Ash Woods	✓							
Limestone coast of south west Wales	✓			✓				
Brecon Beacons	✓			✓				

Table 3.4.1

3.4.2 The second stage of the screening process involves a consideration of each element of the Deposit Plan and whether it could affect any of the issues on any of the sites identified above. This has been undertaken as an iterative process as the various elements of the Plan have emerged, and has influenced the development of the Plan proposals. The methodology and findings of the second stage screening are documented in Chapters 4 and 5 below.

3 . HRA Screening : Stage 1

4 HRA Screening : Stage 2

4.0.1 The issues identified (as summarised in table 3.4.1) are considered in more detail below, followed by details of the possible impacts of LDP policies and proposals.

4.1 Issues Identified and Possible LDP Impacts

Atmospheric Pollution

4.1.1 Combustion processes including waste incineration, power stations and motor vehicles give rise to emissions of sulphur dioxide (SO_2) and nitrogen oxides (NO_x). Primary pollutants SO_2 , NO and NO_2 are oxidised in the atmosphere to form SO_4^{2-} and NO_3^- respectively while NH_3 reacts with these oxidised components to form NH_4^+ (ammonium). These pollutants can travel long distances and can be deposited in the form of wet or dry deposition.

4.1.2 This deposition has the effect of encouraging the growth of more competitive nitrogen-loving species; can cause damage to sensitive species; have adverse effects on peat infrastructures; over-stabilisation and species decline in dune systems; increased sensitivity to natural stress; impacts on roots; reduced species diversity of the ground vegetation; reduced growth; and an unbalanced nutritional status in woodlands. These effects are particular concerns for a number of European sites (see table 3.4.1).

4.1.3 LDP proposals (policies and allocations) may affect levels of emissions through site allocations (directly: permitting developments such as employment uses that could include industrial, waste or power generation developments or indirectly through increased traffic levels) or through policies and proposals, where these seek to control polluting emissions or to reduce dependence on road transport etc. The effects of the LDP's policies and proposals on atmospheric pollution are considered [below] in relation to each SAC identified in table 3.4.1. In relation to site allocations, it is possible to rule out some sites at an early stage since development would not have sufficient impact, is too far away or there are no identified pathways for the effect to be relevant to specific N2K sites.

Hydrology / Water Levels

4.1.4 Some European sites (in particular Crymlyn Bog and Kenfig SACs) are particularly sensitive to water levels, which are influenced by the hydrological regime of the surrounding area including groundwater levels within the catchment and water flows in local streams, rivers and canals both entering and leaving the site. If water levels change significantly, this can change the entire character of the site, altering the species of vegetation and consequently the habitats and fauna associated with it.

4.1.5 A range of developments could affect the hydrology of an area, including proposals that involve the extraction of groundwater, infrastructure projects (such as reservoirs or culverting schemes; changes in the maintenance of canals or their removal); and changes to surface water discharges through development of both brownfield and greenfield sites. In general terms, any significant planned developments within the water catchment area of a European site has the potential to affect the site's hydrology.

4 . HRA Screening : Stage 2

Water Quality

4.1.6 The sites that are sensitive to hydrological changes are also likely to be sensitive to water quality issues. The water quality of a site can be affected by the following either directly or through discharges to local streams that feed into the European site:

- Run-off from adjacent land and uses (for example from agricultural operations and fertilisers or oil/fuel spillages or salt from roads and car parks);
- Polluted discharges from sewer systems;
- Pollution from nearby industries and mine workings etc;
- Atmospheric fallout (see atmospheric pollution above); and
- Polluted surface water discharges from developments.

4.1.7 While chemical or oil/fuel pollution may have significant impacts, in relation to the identified affected sites, the main water quality concern relates to additional nitrates causing enrichment or eutrophication of the water which would change the plant species mix of the sites consequently altering the overall character, habitats and fauna that the sites support.

4.1.8 Proposals in the LDP that could affect water quality include the development of agricultural land; the construction of new roads and accesses; additional surface and foul water discharges from new development sites and increased air pollution from developments in the area (see atmospheric pollution above).

Recreational / Urban Pressures

4.1.9 Recreational and urban pressures relate to the impacts that additional numbers of people (and their pets) are likely to have on sensitive sites. Recreational pressures include additional people accessing sites for activities such as walking/jogging, boating and general sightseeing/tourism including climbing and caving etc. Urban pressures relate to problems that may result from the proximity of populations of people, including burning; trampling; predation (mainly pet cats); motorbike/quadbike scrambling etc; litter and fly tipping and general disturbance.

4.1.10 Policies and proposals in the LDP that could affect these aspects include the introduction of additional population numbers into an area; policies relating to open space and recreation; encouragement of tourism and additional visitor attractions and reduction in alternative recreational opportunities.

Adjacent Land Use

4.1.11 This relates to land adjacent to a European site that may have an important role to play in relation to the site's special features that may be compromised by any changes in its use and management. In particular, where sites are designated for Marsh Fritillary butterfly a significant area of suitable habitat within 2km of the site is required and this could be compromised by such changes.

4.1.12 Any LDP proposals that could give rise to changes outlined above could therefore have a significant effect on the European site.

Extent and Quality of Marshy Grassland

4.1.13 This is a similar concern to 'adjacent land use' above. Sites that are designated for the Marsh Fritillary butterfly need to be near to significant further areas of suitable marshy grassland habitat to support viable populations of the butterfly. Changes to the habitat as a result of LDP policies or proposals could therefore have a significant effect.

Invasive Species

4.1.14 Some non-native plant species are able to out-compete native species, including important rarer plants that can be key features of European sites. Anything that allows or encourages more vigorous plant species to colonise a site and change the mix of species and habitats could adversely affect the site's important features. Proposals in the LDP that could influence this include developments near to the European site (or upstream of it in some cases) that allowed invasive species to be established, including landscaping schemes and domestic gardens.

Coastal Processes

4.1.15 Coastal processes have been identified as an important possible factor in the case of Kenfig SAC due to the importance of the sand dune formation and mobility processes for this site. Marine and coastal changes that could affect dynamic beach morphology and the natural supply of materials for dune formation and development could therefore have a significant effect, especially taking into account the need for resilience to future climate change.

4.1.16 Developments that could affect coastal processes include marine developments such as dredging, lagoon/tidal power proposals and offshore windfarms. Normally, these types of development would not be covered by the LDP. However, coastal developments such as coastal flood defences, docks and harbour developments and river/estuary changes (including hydro-electric schemes and developments affecting coastal floodplains etc) could have an impact.

4.2 Main Elements of the LDP

4.2.1 The main elements of the Deposit LDP are:

- The Vision;

4 . HRA Screening : Stage 2

- The Objectives;
- The Development Strategy (including growth strategy and spatial strategy);
- Overarching policies;
- Area Based policies;
- Topic Based policies; and
- Allocations and proposals.

4.2.2 The HRA needs to assess all parts of the LDP that could lead to any impact on any European site. The above elements are therefore addressed in turn below.

The Vision

4.2.3 The LDP vision sets out the aspirations and aims that define and inform the whole approach of the Plan. As such, it is a high level statement and does not contain any specific proposals that can be assessed in terms of identifiable effects. The vision is reflected in the other elements of the Plan.

The Objectives

4.2.4 Taking into account the identified Key Issues and the LDP Vision, the LDP sets out a range of objectives which inform the Plan Strategies. The objectives relate to the full range of LDP topics but again do not set out any specific proposals that can be assessed in terms of the HRA.

The Development Strategy

4.2.5 Taking into account the Vision and Objectives, the LDP Development Strategy is set out as follows:

"Facilitate growth within Neath Port Talbot, with a focus on the Coastal Corridor whilst reinvigorating the Valley communities".

4.2.6 The growth strategy sets out the level of growth that the Plan will provide for (an increase of approximately 7000 people up to the end of the Plan period in 2026) and the spatial strategy gives more detail on how the overall approach of focusing on the coastal corridor while reinvigorating the Valleys will be achieved.

The Policies

4.2.7 The Plan policies set out in much greater detail how the Vision, Objectives and Strategies will be implemented. The first group of policies outline the approach to overarching issues, the second group deal with area-based issues and the third deal with

specific topics. The topics are split in accordance with the Wales Spatial Plan divisions (Communities and Housing; The Economy; Environment and Resources; Transport and Access; and Culture and Heritage).

4.2.8 The HRA has considered each policy in turn and classified them in accordance with their likely effects on any of the European Sites in accordance with the methodology set out below in Section 4.3. As part of the iterative approach taken in the development of the Plan alongside the appraisal process, policies have been amended, added and deleted in order to minimise any possibility of adverse effects where these have been identified.

4.2.9 A limited number of policies identify specific proposals for developments. In the case of these policies, it has been necessary to consider each individual proposal in turn.

Allocations and Proposals

4.2.10 The policies that make specific development proposals set out in detail what is proposed and the sites to which the allocations apply. The sites are shown on the Proposals Map. The HRA assesses each allocation and development proposal against the interest features of each European site that could be affected in accordance with the HRA methodology.

4.2.11 Full details of the assessments of the policies and allocations/development proposals are given in the appendices to this document, with a summary of the findings given in Chapter 5.

4.3 Methodology

Policies

4.3.1 In accordance with NRW (formerly CCW) guidance, each of the Plan's overarching, area-based and topic-based policies has been categorised according to its likely effects on each interest feature of each relevant European site (as identified in chapter 3). The classification includes four categories of potential effects:

- **Category A** - elements of the Plan/options that would have no negative effect on a European site at all;
- **Category B** - elements of the Plan/options that could have an effect, but the likelihood is there would be no significant negative effect on a European site either alone or in combination with other elements of the same plan, or other plans or projects;

4 . HRA Screening : Stage 2

- **Category C** - elements of the Plan/options that could or would be likely to have a significant effect alone and will require the Plan to be subject to an Appropriate Assessment (AA) before the Plan may be adopted; and
- **Category D** - elements of the Plan/options that would be likely to have a significant effect in combination with other elements of the same plan, or other plans or projects and will require the Plan to be subject to an Appropriate Assessment before the Plan may be adopted.

4.3.2 Categories A, C and D are subdivided to clarify the reasons for the categorisation of each element of the Plan.

4.3.3 Category A - No negative effect:

Category A: No negative effect	A1	Policies that will not themselves lead to development
	A2	Policies intended to protect the natural environment, including biodiversity
	A3	Policies intended to conserve or enhance the natural, built or historic environment, where enhancement measures will not be likely to have any negative effect on a European Site
	A4	Policies that positively steer development away from European Sites and associated sensitive areas
	A5	General policy statements or policies which only express general intentions or political aspirations

Table 4.3.1

4.3.4 Category B - No significant effect:

- Policies that could have an effect but would not be likely to have a significant (negative) effect on a European Site (alone or in combination with other plans or projects) because the effects are trivial or 'de minimus' even if combined with other effects.

4.3.5 Category C - Likely significant effect alone:

- Including check for blocking of options or alternatives to future proposals that would consequently result in negative effects which could have been avoided.

Category C: Likely significant effect alone	C1	The option, policy or proposal could directly affect a European Site because it provides for, or steers, a quantity or type of development onto a European Site, or adjacent to it
	C2	The option, policy or proposal could indirectly affect a European Site e.g. because it provides for, or steers, a quantity or type of development that may be very close to it, or ecologically, hydrologically or physically connected to it or may increase disturbance as a result of increased recreational or other pressures

	C3	Proposals for a magnitude of development that, no matter where it was located would be likely to have a significant effect on a European Site
	C4	An option or policy that makes provision for a type of development generally (and may indicate a broad scale and/or one or more broad locations e.g. A particular part of the plan area), so a likelihood of a significant effect cannot be ruled out, but the more precise scale and/or detailed location of the development is to be selected following consideration of options in a later, more specific, lower tier plan , subject to Habitats Regulations Appraisal.
	C5	Options, policies or proposals for development or infrastructure projects that could block options or alternatives for the provision of other development or projects in the future, which will be required in the public interest, that may lead to adverse effects on European sites, which would otherwise be avoided.
	C6	Options, policies or proposals which depend on how the policies etc are implemented in due course, for example through the development management process.
	C7	Any other options, policies or proposals that would be vulnerable to failure under the Habitats Regulations at project assessment stage
	C8	Any other proposal that may have an adverse effect on a European site, which might try to pass the tests of the Habitats Regulations at project assessment stage by arguing that the plan provides the imperative reasons of overriding public interest to justify its consent despite a negative assessment.

Table 4.3.2**4.3.6 Category D - Likely significant effects in combination:**

- Possibilities include cumulative effect of proposals within the Plan itself or in combination with other plans or projects.
- Any element of the Plan that could have an effect but would not be likely to have a significant effect alone should be assessed in combination with other elements of the plan (internally) for its cumulative effects and with other relevant plans and projects (externally) that may add to the effects of the Plan in a relevant way.

Category D: Likely significant effect in combination	D1	The option, policy or proposal alone would not be likely to have significant effects but if its effects are combined with the effects of other policies or proposals provided for or co-ordinated by the plan (internally) the cumulative effects would be likely to be significant.
	D2	Options, policies or proposals that alone would not be likely to have significant effects but if their effects are combined with the effects of other plans or projects , and possibly the effects of other projects provided for in the plan as well, the combined effects would be likely to be significant.
	D3	Options or proposals that are, or could be, part of a programme or sequence of development delivered over a period, where the implementation of the early stages would not have a significant effect on European sites, but which would dictate the nature, scale, duration, location, timing of the whole project, the later stages of which could have an adverse effect on such sites.

Table 4.3.3

4 . HRA Screening : Stage 2

4.3.7 Full details of the Stage 2 policy screening are contained in the tables in the Background Papers (Section A). A summary of the findings is in Chapter 5 below.

Development Proposals and Allocations

4.3.8 Each development allocation in the Plan has been assessed in relation to its likely effects on the issues identified as relevant for affected European sites in the Stage 1 screening (See chapter 3 / Table 3.4.1). Full details of this are given in the tables in the Background Papers (Section B). From this screening process, a number of issues have been identified that require further consideration and possible amendment. A summary of the findings, changes and recommended mitigation measures is set out in Chapter 5 below.

5 Screening Results

5.0.1 The detailed consideration of the LDP's policies and allocations has resulted in a number of issues being highlighted that require further investigation and consideration. Although the majority of policies and proposals have been screened out as being unlikely to have any significant effect on any European site, some allocations with possible impacts on three SACs have been identified.

5.0.2 Full details of the screening of all policies and allocations are contained in the HRA background papers.

5.1 Plan Policies

5.1.1 The majority of the Plan policies have been assessed as having no negative effects on any European site since they are policy statements (or set out criteria for the assessment of development proposals) that will not in themselves lead to development or they seek to reduce or avoid adverse effects on the natural environment. These policies therefore fall within Category A (no negative effect).

5.1.2 The policies specifically making provision for development in identified locations (i.e. the allocation policies) have the potential to lead to impacts on the European sites: these policies have been assessed in detail through the individual development site assessments and are considered further below. The HRA process has informed the production of the LDP throughout the process and consequently allocation sites have been selected in the light of Habitats Regulations requirements, ensuring that any effects have been avoided and that the allocation policies can be assessed as falling within Category A4 (Options/policies that positively steer development away from European sites and associated sensitive areas) or Category B (No significant effect).

5.2 Development Allocations

Site 1: Crymlyn Bog

Issue 1: Atmospheric Pollution

5.2.1 As indicated in Chapter 3, three of the site features identified at Crymlyn Bog as reasons for its designation as a SAC are sensitive to nutrient levels which are influenced by water quality and atmospheric nutrient deposition. Previous investigations⁽⁴⁾ have found that there has been an increase in fertility of the substratum across the majority of the site, along with losses of transition mire and quaking bog and calcareous fen habitats. This was found to be due to nutrient input to the site, the most significant being nitrogen (N). The largest source of nitrogen (N) was found to be from streams and groundwater seepages (some 66%), with approximately two fifths of the remainder attributable to atmospheric deposition (the balance is accounted for by N fixation).

4 Headley, A.(2004) Crymlyn Bog SSSI, South Wales: Impacts of consented discharges and other sources of nutrient enrichment on cSAC qualifying habitats (Report to Environment Agency Wales)

5 . Screening Results

5.2.2 The study found that the deposition of N from the atmosphere is relatively stable or declining slightly. Atmospheric inputs of N are close to the lower limit of the estimated critical load for transition mire and quaking bog, while for calcareous fen, the critical load is exceeded by existing N deposition (from atmospheric inputs and stream water inputs combined). Alluvial forest at Crymlyn Bog was found not to be sensitive to nutrient inputs as it is a climax community, unlikely to be replaced by another habitat as a result of eutrophication and generally situated on the sloping margins of the SAC away from the streams which are the main source of additional nutrients.

5.2.3 NRW's (formerly the Environment Agency) guidance for Integrated Pollution Control (IPC) and Pollution Prevention and Control (PCC) permissions under the Habitats Regulations sets the following benchmarks for atmospheric deposition from developments:

- Where the contribution from the development alone [the Process Contribution (PC)] in any part of the European site is less than 1% of the relevant long-term benchmark (NO_x critical level or nitrogen deposition critical load), the emission can be deemed not likely to have a significant effect alone or in combination, irrespective of the background levels.
- Where the PC in any part of the ecological site is greater than 1% of the relevant long-term benchmark figure, further consideration needs to be given to the PC in combination with existing background levels and emissions from any other proposed projects or developments [i.e. the Predicted Environmental Concentration (PEC)].
- Where the PEC in any part of the European site is less than 70% of the relevant long-term benchmark figure, the emissions can be deemed not likely to have a significant effect.
- Where the PEC in any part of the European site is greater than 70% of the relevant long-term benchmark figure, it cannot be concluded that the emissions are not likely to have a significant effect.

5.2.4 Since Crymlyn Bog is already over the critical load limit for nitrogen, if any development directly results in more than 1% of the relevant benchmark figure, it may not be possible to conclude that it will not be likely to have a significant effect. This would imply that a full Appropriate Assessment would need to be undertaken for such a proposal, and if any adverse effect was found, the development would not be acceptable.

5.2.5 Proposals in the LDP that could give rise to increased levels of nitrogen deposition on the SAC have been identified by the Stage 2 screening process. In general terms, housing developments and business uses (use class B1) are likely to impact on atmospheric pollution mainly through emissions from heating systems and additional traffic generation. These diffuse effects when taken with the overall atmospheric air pollution in the area from all sources is likely to have a minimal effect. General air quality protection and improvement measures incorporated in the LDP (in particular policy EN8), together with air pollution monitoring should provide sufficient safeguards to ensure that there would be no significant

impacts. Proposals will also be assessed through the HRA process at project level when planning applications are received. This will result in any adverse effects in relation to the European site being prevented.

5.2.6 The main allocation identified by the screening process that requires further consideration is the employment allocation at Baglan Bay (Ref EC1/1) . This allocation includes general industrial uses (class B2) that could lead to industrial or waste developments that would be point sources of air pollution and have the potential to increase nitrogen and acid deposition at Crymlyn Bog. The LDP is required to provide 11.4 Ha of land for in-building waste developments, which can be accommodated within industrial units falling within class B2: this can include Energy from Waste (EfW) plant. In addition, general industrial uses may include developments that give rise to potential air pollution.

5.2.7 The Plan indicates in Policy W1 that the preferred locations for waste developments are at the Baglan Bay and Junction 38 (M4) Margam allocated employment sites and at the Kenfig Industrial Estate safeguarded employment site. The Baglan Bay allocation is some 2.3 km from Crymlyn Bog and any EfW proposal (or other polluting industry, power generation proposal etc) here could result in increased nitrogen and acid deposition at Crymlyn Bog through sulphur dioxide and nitrogen oxide emissions. Since the critical load for nitrogen is currently exceeded at Crymlyn Bog, any significant increase in deposition as a result of developments at Baglan Bay could ultimately prevent the development from proceeding.

5.2.8 At the LDP allocation stage, no information is currently available about the exact uses (within class B2) that may be proposed on the site and therefore their likely impact on the SAC cannot be assessed in detail. However, the Environment Statement accompanying an application for a gas fired power station at Baglan Bay granted in 2011 concluded that the incremental emissions from the development would fall below the 1% benchmark (NO_x critical level or nitrogen/acid deposition critical load).

5.2.9 The following measures are in place to ensure that developments that may be permitted within the allocation will not cause increases in nitrogen deposition at the SAC of more than the 1% benchmark and consequently will not have a likely significant effect:

- National planning policy contained in Planning Policy Wales and Technical Advice Note 5 (Nature Conservation and Planning) sets out the policy that will be applied in dealing with any development that could affect internationally designated sites, and will ensure that any adverse effects are prevented;
- The LDP identifies and gives details of the internationally designated sites within the County Borough and outlines the requirements that developments will need to meet;
- For any relevant development, project-level HRA will be required which will ensure that no adverse effects will result;
- Permitting will be required from Natural Resources Wales (NRW) for activities likely to produce significant emissions; and
- The NRW permitting procedure is subject to HRA requirements.

5 . Screening Results

5.2.10 No other LDP proposals have been identified as being of concern in relation to atmospheric pollution effects on Crymlyn Bog. In relation to the Strategic Regeneration Area at Coed Darcy (Policy SRA1) which is directly adjacent to Crymlyn Bog and includes uses under use class B1 (Business use), outline planning permission has been granted for a mixed development, including commercial uses, and work has started on the development. A project level HRA / Appropriate Assessment was undertaken in relation to this development, which concluded that it would have no adverse effects on Crymlyn Bog SAC. The impacts of this development on air quality, including from housing, commercial, retail uses are likely to be diffuse in nature, with a marginal overall effect.

5.2.11 The Strategic Regeneration Area at Harbourside (Port Talbot) (Policy SRA2) is some 6km from Crymlyn Bog. The allocation includes business, commercial, retail residential and community uses, including uses under class B1. As with Coed Darcy, the impacts of the development on air quality, including from housing, commercial, retail uses are likely to be diffuse in nature, with a marginal overall effect. The distance of the site from the SAC means that any air quality effects are likely to be negligible. However, planning applications for developments in the SRA will need to be screened for project level HRA.

5.2.12 Taking into account the safeguards set out above, it is considered that the development proposals and allocations in the LDP are not likely to have any significant effect on Crymlyn Bog SAC as a result of increased atmospheric pollution.

Issue 2: Hydrology / Water Levels

5.2.13 As identified in the Stage 1 screening process (see Chapter 3), a high and stable water table is essential for the long-term conservation of the calcareous fen, the transition mire and the alluvial forest features of Crymlyn Bog SAC. A number of the Plan's allocations could have an impact on water levels in the SAC, either from changes in the surface water run-off situation where sites are located within its water catchment area, or through possible water extraction from the Tennant Canal. The following sites and developments are located within the water catchment area of the SAC:

- H1/4 - Ocean View, Jersey Marine;
- H1/8 - Crymlyn Grove (Phase 2);
- H1/9 - Crymlyn Grove (Phase 3);
- H1/10 - Wern Goch;
- H1/LB/5 - Coed Darcy;
- H1/LB/12 - Crymlyn Grove (Phase 1);
- TR1/2 - Coed Darcy Southern Access Road.

5.2.14 In order to ensure that surface water discharges from these sites do not have any significant impact on overall water levels within Crymlyn Bog, discharges will need to be maintained at the existing 'greenfield' rates. This is a normal requirement for development sites, and is controlled through discharge consents/permits and adoption agreements. New drainage techniques are available [such as Sustainable Drainage Systems (SuDS)] to ensure that the requirement can be met, and measures such as further management of Crymlyn Brook are possible. In addition, site specific project level HRAs will also ensure that developments do not have any significant impact on the SAC, including the Coed Darcy development being carried out in accordance with the existing HRA.

5.2.15 The Coed Darcy Southern Access Road (TR1/2) is proposed to cross Crymlyn Bog following the alignment of a redundant pipeline. The area of this pipe track is excluded from the site designations due to its developed status, but the line of the road directly adjoins the SAC and Ramsar sites. Full planning permission was granted for the Access Road in 2005, at which time full details were submitted showing how the road and associated bridge and viaduct could be constructed without adversely affecting the hydrological regime of the Bog, while remaining within the area of the former pipeline. The measures applied included the use of deep piled foundations avoiding the need to use wet concrete in situ and inhibiting the cross-connection of aquifers, a methodology for the construction work to avoid any encroachment into the designated areas and detailed design of the road drainage systems to ensure that the hydrological regimes adjacent to the route are protected. Consequently, it can be concluded that the Southern Access Road can be constructed without any significant effect on the European site.

5.2.16 In regard to EC1/1 Baglan Bay employment site, a potential issue has been identified because water is abstracted from the Tennant Canal for some existing industrial activities at Baglan Bay. Any increase in abstraction rates could have a significant effect on the SAC. However, if necessary, water can be supplied from other sources and new abstractions are likely to require licensing by NRW. Where effects are possible on the SAC, project level HRA would be required and water abstraction would not be allowed if possible adverse effects are identified.

5.2.17 Taking into account the need to comply with drainage legislation and regulatory regimes and NRW permitting procedures, together with the need for project level HRA screening where any impact is possible, it is concluded that there are adequate safeguards in place to ensure that none of the proposals in the LDP will affect water levels in Crymlyn Bog.

Issue 3: Water Quality

5.2.18 Calcareous fen, transition mire and alluvial forest are all dependant on relatively low nutrient levels. Levels of nitrogen in particular currently exceed the critical load level in Crymlyn Bog (see Chapter 3). Nutrient levels are influenced mainly by the water quality of the streams and Tennant Canal entering the Bog, together with run-off from adjoining farmland. Atmospheric deposition also plays a significant role (see above).

5.2.19 The sites listed above that are situated within the water catchment area of the SAC could also have an impact on water quality in Crymlyn Bog if development results in changes in the quality of the surface water run-off feeding local streams etc. However,

5 . Screening Results

site drainage systems (including SuDS) are available to address any issues identified and it is anticipated that NRW controls will ensure that surface water flows will not increase pollution levels. Project level HRA will provide a further safeguard to ensure that all necessary measures are put in place to prevent any impacts.

5.2.20 In relation to the Coed Darcy development, outline planning permission was granted in 2008 subject to a number of requirements, including the provision of an area of reed beds intended to ensure that nutrient levels in Crymlyn Brook flowing into the SAC are reduced. This scheme should ensure that there will be a reduction in nitrates in the brook and consequently an improvement in the ecological status of the SAC and has the potential to be developed/expanded if necessary.

5.2.21 The measures included in the 2005 application for the Coed Darcy Southern Access Road included provisions to ensure that no polluting discharges could reach the Bog. The road drainage north of Pen Isa'r Coed Farm falls towards the main part of the refinery site and can be connected to the main site system, passing through balancing and attenuating ponds and oil interceptors before discharge, while drainage further south and from the bridge/viaduct crossing would be attenuated and discharged into the Ffordd Amazon road drainage system. It is therefore concluded that the southern access road can be constructed without significantly affecting water quality within the European site.

5.2.22 Any impact from the development of farmland on site run-off and consequent reduction in fertiliser products reaching the SAC is considered to be minimal in the areas allocated. Atmospheric deposition is dealt with above.

Issue 4: Recreational / Urban Pressure

5.2.23 Possible impacts have been identified at Crymlyn Bog from recreational or urban pressures as a result of the new developments proposed in the LDP. Urban pressures refer to the impacts possible from developments in close proximity to the SAC such as litter, fly tipping, fires and disturbance, while recreational pressures are effects such as erosion, trampling and habitat damage from leisure activities. In the case of Crymlyn Bog, these effects have been identified only for the allocation sites in close proximity to the SAC, namely the Ocean View housing allocation and Coed Darcy urban village.

5.2.24 The Ocean View development is not located directly adjacent to the SAC, but is close enough for residents of the new development to make use of existing accesses along the canal towpath and the Pant y Sais boardwalk for recreational purposes. These facilities have both recently been upgraded and are already used and intended to be used by local people. The additional numbers of people likely to use the facilities from the new development are considered unlikely to have a significant impact over and above the existing situation, and it is considered that a significant effect from development of this site is unlikely.

5.2.25 Coed Darcy urban village is directly adjacent to the SAC in some places and it is possible that people could gain access either from public areas of the development or from private gardens adjacent to the boundary. The outline planning permission granted for the development in 2008 was subject to HRA / Appropriate Assessment and as a result

includes detailed requirements imposed through planning conditions or legal obligations, which together with the masterplan for the site are intended to minimise any effects and control access to the Bog and any consequent damage. These include the following measures:

- A strategic landscaping scheme including a buffer area between the development and SAC to discourage indiscriminate access;
- Management of the site controlled by a management company and Ecological Liaison and Environmental Advisory Officer;
- Regular site inspections;
- Coordination and implementation of effective action to address any environmentally damaging activities (including fly tipping, littering, fires, and unauthorised access); and
- Provision and repair of boundary fences where required.

5.2.26 The Coed Darcy southern access road has the potential to facilitate public access to the Bog, especially access to the canal towpath. However, this can be readily addressed if considered necessary, alongside measures to prevent impacts from litter or other effects.

5.2.27 Any changes to the planning permissions for the site would need to take into account the status of the SAC and would require HRA screening. It is considered that these safeguards will ensure that the development does not have a significant effect in relation to urban and recreational pressures.

Issue 5: Invasive Species

5.2.28 There are concerns that alien plant species planted in gardens or landscaping schemes could encroach into Crymlyn Bog and out-compete the native and distinctive flora and ultimately change the character of the SAC. It is possible that invasive species could reach the Bog via watercourses from developments within the water catchment area, but the main issue identified relates to the Coed Darcy development, since this is the only allocation that is directly adjacent to the SAC.

5.2.29 As indicated above, full planning permission for the southern access road and outline planning permission for the whole of the Coed Darcy development have previously been granted and these have been subject to a range of requirements relating to protection of the adjacent SAC. The measures listed above, including the strategic landscaping scheme and measures to restrict access to the SAC and the management of the site will all help to prevent any invasive species affecting the bog. Landscaped areas are required to be planted with native species, and the landscaped buffer between the development and the SAC will minimise any chance of invasive species affecting the site. Similar measures can be applied to other sites within the catchment if assessed to be necessary following project level HRA.

5 . Screening Results

Conclusion

5.2.30 Taking all the above matters into consideration, including measures that will be put in place at the detailed project scale, it can be concluded that none of the Plan proposals and allocations are likely to significantly affect Crymlyn Bog SAC.

Site 2: Kenfig

Issue 1: Atmospheric Pollution

5.2.31 All the SAC features are considered to be sensitive to nutrient levels which are influenced by water quality and atmospheric nutrient deposition, while humid dune slacks, fixed dunes with herbaceous vegetation, and *L.loeselii* are also acid sensitive. As indicated in Chapter 3, nutrient levels are influenced by water quality which can be influenced by atmospheric deposition of nitrogen. Acid deposition can also result from elevated levels of pollution in the atmosphere. Impacts can be either directly from high levels of ethylene/ethane or indirectly through changes to water chemistry. The proximity of several nearby sources of air pollution is a concern. These include industrial installations, agricultural activities, old landfill sites, transport emissions and wind blown particulates from nearby tips.

5.2.32 Atmospheric nitrogen (NO_x) levels are not shown to be at critical level currently⁽⁵⁾ but there are risks that this may change due to the proximity of nearby pollution sources and cumulative impacts in the future.

5.2.33 The benchmark levels for atmospheric deposition from developments set by NRW's guidance for Integrated Pollution Control (IPC) and Pollution Prevention and Control (PCC) permissions under the Habitats Regulations are set out in paragraph 5.1.3 above. If any development results directly in more than 1% of the relevant benchmark figure, it may not be possible to conclude that it will not be likely to have a significant effect. This would imply that a full Appropriate Assessment would need to be undertaken for such a proposal, and if any adverse effect was found, the development would not be acceptable.

5.2.34 Proposals in the LDP that could give rise to increased levels of nitrogen deposition on Kenfig SAC have been identified by the Stage 2 screening process. For the most part, the LDP does not propose any new developments near to the SAC, and the majority of Plan allocations have been screened out. However, 6 ha of land at Junction 38 (M4) Margam (some 4km from the SAC), is allocated as an employment site (Use Classes B1, B2 and B8 and associated uses). This allocation could result in developments that would be point sources of air pollution and have the potential to increase nitrogen and acid deposition at Kenfig.

5.2.35 In addition, the LDP is required to provide 11.4 Ha of land for in-building waste developments, which can be accommodated within industrial units falling within class B2 [this can include Energy from Waste (EfW) plant]. Three preferred locations for waste

5 Habitats Regulations Assessment (HRA): a toolkit to support HRA screening and appropriate assessment (South East Wales Strategic Planning Group, 2008)

developments are identified in the Plan under Policy W1: Junction 38, Baglan Bay and Kenfig Industrial Estate (just to the north of the SAC). The allocation at Baglan Bay has been screened out, being situated some 9 km from Kenfig SAC.

5.2.36 The established Kenfig Industrial Estate is some 200m from the SAC at its nearest point. Industrial uses are established on the site, which will be safeguarded in the LDP. The site is therefore not a new allocation but is only identified as a location for in-building waste treatment.

5.2.37 The table below⁽⁶⁾ indicates that there are currently no critical load exceedences of any pollutant as a result of air pollution at Kenfig SAC, and that the SAC is therefore currently not at risk in this respect.

Deposition/ Critical Load	Acid Deposition keq/ha/yr	Ammonia µg/m³	Nitrogen Deposition kg N/ha/yr	Nitrogen Oxides µg NOx (as NO₂) m⁻³	Ozone ppb hours	Sulphur Dioxide µg/m³	At Risk?
Deposition	0.91	0.3	9.4	12.4	2800	1.9	No
Critical Load	4	3	10-20	30	3000	20	
Exceedence	-3.09	-2.7	-0.6 to -10.6	-17.6	-200	-18.1	

Table 5.2.1

5.2.38 At the LDP allocation stage, no information is available about the exact uses and processes (for in-building waste or other uses within class B2) that may be proposed on the sites, and therefore their likely impact on the SAC cannot be assessed in detail. However, the Environment Statement accompanying an application for a biomass power station at Junction 38 granted on appeal in 2011 concluded that NO_x and SO₂ could be screened out since average annual concentrations were modelled as being smaller than the 1% benchmark at any SAC in each case. In relation to Nitrogen deposition from emissions of NO₂, it was concluded that the proposal would have a maximum Process Contribution (PC) of 0.11% of its lower critical load and could therefore be assessed as no significant impact and in relation to acid deposition from emissions of SO₂, NO₂ and HCl it was concluded that there would be no significant impact on any habitats of conservation significance within any European site.

5.2.39 Although there is a margin of safety at Kenfig should there be any additional atmospheric pollution in the vicinity, the following safeguards will ensure that developments will not be permitted if they could cause detrimental increases in atmospheric deposition at the SAC:

- National planning policy contained in Planning Policy Wales and Technical Advice Note 5 (Nature Conservation and Planning) sets out the policy that will be applied in dealing with any development that could affect internationally designated sites, and will ensure that any adverse effects are prevented;

6 Habitats Regulations Assessment (HRA): a toolkit to support HRA screening and appropriate assessment (South East Wales Strategic Planning Group, 2008)

5 . Screening Results

- The LDP identifies and gives details of the internationally designated sites within the County Borough and outlines the requirements that developments will need to meet, including policies concerning air pollution and the monitoring of air quality;
- For any relevant development, project-level HRA will be required which will ensure that no adverse effects will result;
- Permitting will be required from Natural Resources Wales (NRW) for activities likely to produce significant emissions; and
- The NRW permitting procedure is subject to HRA requirements.

5.2.40 Taking into account the safeguards set out above, it is considered that the development proposals and allocations in the LDP are not likely to have any significant effect on Kenfig SAC as a result of increased atmospheric pollution.

Issue 2: Hydrology / Water Levels and Issue 3: Water Quality

5.2.41 As indicated in Chapter 3, the exceptional wetness and diversity of the Kenfig dune system is considered to be directly dependent on the hydrological and hydro-chemical regime, including a high water table and suitable water quality. The existence of a limestone aquifer in the area is significant in the maintenance of these conditions. The only LDP proposal that has not been screened out in relation to these issues is the identification of Kenfig Industrial Estate as a location for In-Building Waste proposals. However, as indicated above, this is not a new allocation in itself, and relates to the existing Industrial Estate. The safeguards set out above will apply to any proposal that could have an effect on the SAC, and it is considered that the LDP provisions will not lead to any effects on the SAC features.

5.2.42 Other issues identified in Table 3.4.1 have been screened out in the Stage 2 screening process.

Conclusion

5.2.43 Taking all the above points into consideration, including measures that will be put in place at the detailed project scale, it can be concluded that none of the Plan proposals and allocations are likely to significantly affect Kenfig SAC.

Site 4: Cefn Cribwr Grasslands SAC

Issue 1: Atmospheric Pollution

5.2.44 The site is designated due to the presence of Marsh Fritillary butterfly in the area generally, requiring extensive areas of *Molinia* meadows including those within the SAC designation. *Molinia* meadows are sensitive to air quality impacts either directly or indirectly through changes to water chemistry through deposition of nitrogen and acid.

5.2.45 Similar considerations therefore apply to Cefn Cribwr as to Kenfig SAC, but it is located further away from the relevant LDP proposals at Junction 38 (M4) Margam and Kenfig Industrial Estate, being some 4km from Kenfig Industrial Estate and 6km from Junction 38. Again, any proposal that would result directly in less than 1% of the relevant benchmark level for atmospheric deposition can be assessed as not likely to have a significant effect.

5.2.46 The table below⁽⁷⁾ indicates that there are currently no critical load exceedences of any pollutant as a result of air pollution at Cefn Cribwr Grasslands SAC, and that the SAC is therefore currently not at risk in this respect:

Deposition/ Critical Load	Acid Deposition keq/ha/yr	Ammonia µg/m³	Nitrogen Deposition kg N/ha/yr	Nitrogen Oxides µg NOx (as NO₂) m⁻³	Ozone ppb hours	Sulphur Dioxide µg/m³	At Risk?
Deposition	n/a	1.1	14.8	15.6	2969	2.7	No
Critical Load	n/a	3	15-25	30	3000	20	
Exceedence	n/a	-1.9	-0.2 to - 10.2	-14.4	-31	-17.3	

Table 5.2.2

5.2.47 At the LDP allocation stage, no information is available about the exact uses and processes (for in-building waste or other uses within class B2) that may be proposed on the sites, and therefore their likely impact on the SAC cannot be assessed in detail. However, as outline above, the Environment Statement accompanying an application for a biomass power station at Junction 38 granted on appeal in 2011 concluded that NO_x and SO₂ could be screened out since average annual concentrations were modelled as being smaller than the 1% benchmark at any SAC in each case.

5.2.48 Although there is a margin of safety at Cefn Cribwr, should there be any additional atmospheric pollution in the vicinity, the following safeguards will ensure that developments will not be permitted if they could cause detrimental increases in atmospheric deposition at the SAC:

- National planning policy contained in Planning Policy Wales and Technical Advice Note 5 (Nature Conservation and Planning) sets out the policy that will be applied in dealing with any development that could affect internationally designated sites, and will ensure that any adverse effects are prevented;
- The LDP identifies and gives details of the internationally designated sites within the County Borough and outlines the requirements that developments will need to meet;
- For any relevant development, project-level HRA will be required which will ensure that no adverse effects will result;

7 Habitats Regulations Assessment (HRA): a toolkit to support HRA screening and appropriate assessment (South East Wales Strategic Planning Group, 2008)

5 . Screening Results

- Permitting will be required from Natural Resources Wales (NRW) for activities likely to produce significant emissions; and
- The NRW permitting procedure is subject to HRA requirements.

Conclusion

5.2.49 Taking into account the safeguards set out above, it is considered that the development proposals and allocations in the LDP are not likely to have any significant effect on Cefn Cribwr SAC as a result of increased atmospheric pollution.

5.3 In-combination Effects

5.3.1 It is a requirement of the Habitats Directive [Article 6(3)] that the HRA should consider the effects of the LDP in combination with any other plans or projects that could affect the European sites. The screening process undertaken on all the LDP policies and proposals resulted in a relatively limited number of issues that are of significance in relation to three of the European sites. These are considered in relation to in-combination effects below.

5.3.2 Where the Plan proposals have been assessed as having no negative effects on any European site, these elements of the Plan therefore do not have to be considered in relation to any possible 'in combination' effects with any other Plan or proposal.

Crymlyn Bog

Issue 1: Atmospheric Pollution

5.3.3 In accordance with the guidance from NRW, since the likely contribution from Plan proposals to pollution levels at Crymlyn Bog is likely to be less than 1% of the relevant long-term benchmark figure for nitrogen deposition critical load and taking into account the safeguards built into the planning and other regulatory systems (including the proviso that any proposal that could affect a European site would require project level HRA), it has been concluded that no proposal in the LDP is likely to have a significant effect either alone or in combination with any other proposal. There are a number of other proposals for industrial, Energy from Waste and power station developments in the area (both within Neath Port Talbot and within Swansea) which would have the potential to increase air pollution levels, but the investigations carried out at the time of consideration of the respective planning applications have in each case concluded that the effects on the SAC would be less than the 1% benchmark figure. It can therefore be concluded that there will be no likely significant in-combination effects in relation to this issue.

Issue 2: Hydrology / Water Levels and Issue 3 Water Quality

5.3.4 These issues are matters that could potentially be affected by developments within the water catchment area of the SAC. Other than the LDP new allocations, within Neath Port Talbot the only significant future development sites are included in the LDP as Housing Landbank sites. These have already been taken into consideration in the assessment.

Within Swansea the only additional proposal is a housing development at Port Tennant (Tir John/Secombe Vale) within the water catchment area. This development is effectively now completed and no additional impacts on the water systems of the Bog are anticipated.

Issue 4: Recreational / Urban Pressure and Issue 5: Invasive Species

5.3.5 As above, the only relevant development in relation to these factors is Tir John/Secombe Vale within Swansea. This will have no new direct accesses to the SAC, although access is available nearby via a footpath/cycle track leading to the canal towpath. These are existing facilities that do not give general access to the SAC due in part to its fenland and marshy nature. The very limited opportunities for access at these locations, in-combination with similarly restricted opportunities from the identified LDP sites (Coed Darcy and Ocean View) mean that it is possible to rule out the likelihood of any significant effect.

5.3.6 In relation to invasive species, similar controls are in place for the Tir John/Secombe Vale development as apply at Coed Darcy, and it is considered that the likelihood of the spread of invasive species is insignificant either alone or in-combination with proposals within the NPT LDP.

Kenfig and Cefn Cribwr Grasslands SACs

Issue 1: Air Quality

5.3.7 In relation to in-combination effects, it is considered appropriate to address Kenfig and Cefn Cribwr together, since they are in fairly close proximity to one another and the only issue that has been identified where effects are possible is air quality. In the case of both SACs, the LDP allocation at Junction 38 (M4) Margam is identified as having the potential to affect air quality. However, emissions from any development at this allocation site have been assessed as being likely to be less than the 1% relevant long-term benchmark figure, taking into account the safeguards built into the planning and other regulatory systems. The Bridgend LDP includes proposals for a number of employment sites which include general industry/B2 uses. However, these sites are either existing industrial estates, where the LDP proposals will not result in any significant changes to the existing situation, or in the case of two of the sites the uses proposed are limited to modern high-tech industries which are unlikely to have air quality impacts.

5.3.8 In relation to these European sites, it can therefore also be concluded that there will be no likely significant in-combination effects in relation to air quality.

5 . Screening Results

6 Conclusions

6.1 Conclusions

6.1.1 The HRA identifies that the main sensitivities that the LDP could affect in relation to the European sites in the area are levels of air pollution, water quality and hydrological regimes and the varying impacts increased numbers of people living near to or having access to sensitive sites.

6.1.2 Taking into account the information available at this stage however, and the level of detail appropriate for Local Development Plan policies and proposals, together with the measures incorporated into the LDP and its monitoring to ensure that developments will not cause air pollution issues, it is concluded that the LDP is not likely to have a significant effect on any European site and that the Plan can proceed without further reference to the Habitats Regulations. This is however, subject to the following points:

- The LDP policies, proposals and allocations are generally at a strategic level and will be only be implemented following the submission of more detailed information in the form of planning applications. The detail available at the LDP stage is therefore limited and the assessment of likely effects correspondingly less certain; and
- LDP proposals and allocations will be implemented over a period of 15 years, during which time many of the assumptions made in the assessments may change including the condition of the European sites themselves, the overall health of the environment, technological advances (including better control of emissions), and tighter regulation applied over a range of matters including building control, emissions and pollution control.

6.1.3 A number of LDP strategies and policies may help to mitigate the identified effects and have been taken into account in the appraisal. These include:

- Measures to reduce the amount of road traffic, including the development of more sustainable settlements, the promotion of alternatives to the private car and road haulage;
- Measures to restrict developments outside defined settlement limits and allocations and to safeguard important landscapes and biodiversity;
- Measures to prevent significant pollution occurring as a result of any new development; and
- Measures to ensure that new developments meet high design standards in relation to environmental matters.

6.1.4 Further safeguards that should ensure that no adverse effects are caused to any European site include:

6 . Conclusions

- National planning policy sets out the approach that will be taken in dealing with any development that could affect internationally designated sites and will ensure that any adverse effects are prevented;
- Project-level HRA will be required for any development proposal that could affect a European site; and
- Permitting will normally be required under other regulatory regimes for activities that could cause pollution.

6.2 Next Steps

6.2.1 The HRA Report relates to the Deposit Local Development Plan and forms part of the evidence base for the Examination in Public, providing a record of the appraisal that has been undertaken to ensure that the Plan meets the requirements of the Habitats Regulations. Any subsequent changes to the Plan that could affect any impact on any European site will need further appraisal and updating of this report.



Local Development Plan
Cynllun Datblygu Lleol



Neath Port Talbot
Castell-nedd Port Talbot
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