



The Habitats Regulations Assessment for the Ceredigion LDP

Final Screening Report

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Appendices and Technical Background Paper

Are available on the Authority's website.

Executive Summary

- I. Ceredigion County Council (CCC) is required by the Planning and Compulsory Purchase Act, 2004 to produce a Local Development Plan (LDP). Part of this process involves a Habitats Regulations Assessment (HRA) being undertaken on the LDP to ensure that key international nature conservation sites are safeguarded and that the plan will not cause adverse effects on their integrity.
- II. Habitats Regulations Assessment (HRA) of spatial development plans incorporates the requirements of the Habitats Directive (1992/43/EEC) as set out in the amended Conservation of Habitats and Species Regulations (2010) as amended.
- III. This document is the 'Screening Report' of the Ceredigion Local Development Plan 2007 – 2022 (Ceredigion County Council, 2013a). It incorporates results from all previous screenings of the LDP.
- IV. The following preliminary stages of the HRA process are included in this report;
 - a. the identification of protected areas;
 - b. the collection of data;
 - c. the assessment of the effects LDP policies and allocations may have on these protected sites, and;
 - d. the identification of existing objectives from other plans, policies and programmes and details on projects which would, in combination with the LDP, be likely have a significant negative effect on any international nature conservation site.
- V. During the process, 20 International Sites were identified as potentially being affected by the Ceredigion Local Development Plan. This included 12 Special Areas of Conservation (SACs), 2 Special Protection Areas (SPAs) and 2 Ramsar sites. 16 of these were all or partly within Ceredigion.
- VI. The Ceredigion Local Development Plan 2007 – 2022 (Ceredigion County Council, 2013a) was then assessed for its effects on these International Sites, alone or in-combination. Each element of the plan has been assessed for its potential effects using systematic analysis following good practice guidance published by CCW in 2009 and revised in 2010 (Tyldesley, D & Associates, 2010), and in accordance with guidance from the Welsh Assembly Government in Annex 6 of TAN 5, published in 2009 (Welsh Assembly Government, 2009b).
- VII. Taking account of mitigation measures, the Ceredigion LDP proposals will have no effect or no significant negative effect, alone or in-combination with other plans or projects on the International Sites identified.

- VIII. It is therefore concluded that an AA of the implications of the plan for the International sites, in view of their conservation objectives, is not necessary in this case, in accordance with Regulation 102 of the Conservation of Habitats and Species Regulations 2010.

1. Introduction

- 1.1 Ceredigion County Council (CCC) is required by the Planning and Compulsory Purchase Act, 2004 to produce a Local Development Plan (LDP). Part of this process involves a Habitats Regulations Assessment (HRA) being undertaken on the LDP to ensure that key international nature conservation sites are safeguarded and that the plan will not cause adverse effects on their integrity. The HRA has been produced to fulfil legal requirements and this legislation is described in Section 2.
- 1.2 This document forms the preliminary part of the HRA process (Screening) and is based on the guidance (Technical Advice Note (TAN) 5 annex 3) on how to undertake HRA in Wales (Welsh Assembly Government, 2009b) and Assessing Projects under the Habitats Directive: Guidance for Competent Authorities (Tyldesley, D & Associates, 2010).
- 1.3 This document is the 'Screening Report' of the Ceredigion Local Development Plan 2007 – 2022 (Ceredigion County Council, 2013a). It incorporates results from all previous screenings of the LDP:
- Habitat Regulations Assessment for the Ceredigion LDP: Screening Report Pre-Deposit Version (Ceredigion County Council, 2009b);
 - Habitat Regulations Assessment for the Ceredigion LDP: Screening Report Deposit Version (Ceredigion County Council, 2010e);
 - Addendum to the 'Habitat Regulation Assessment for Ceredigion LDP Screening Report: Deposit Version' (Ceredigion County Council, 2011a); and
 - Addendum to the 'Habitat Regulation Assessment for Ceredigion LDP Screening Report: Deposit Version: Proposed Changes from Matters Arising (of the S0 policies) Version (Ceredigion County Council, 2012a).
- 1.4 It also incorporates the assessment of the Matters Arising Changes (MACs) that came through the LDP Inquiry process (see Chapter 7 for more information).
- 1.5 The following preliminary stages of the HRA process are included in this report:
- a. the identification of protected areas;
 - b. the collection of data;
 - c. the assessment of the effects LDP policies and allocations may have on these protected sites; and
 - d. the identification of existing objectives from other plans, policies and programmes and details on projects which would, in combination with the LDP, be likely have a significant negative effect on any international nature conservation site.

- 1.6 If it was determined that the LDP was likely to have significant effects on the protected areas, alone or in-combination with other plans or projects, a more detailed assessment (an Appropriate Assessment (AA)) would have been required.

2. Habitat Regulation Assessments (HRA)

Habitats Regulation Assessments in its broader context

- 2.1 The LDP is a plan which will guide the way in which development will come forward within the County.
- 2.2 One of the things which differentiate LDPs from previous development plans is that it is required to be sustainable. To aid this, three separate pieces of legislation have to be adhered to;
- a. The Planning and Compulsory Purchase Act 2004 which requires a Sustainability Appraisal (SA) to be made of the LDP;
 - b. The SEA Regulations (The Environmental Assessment of Plans and Programmes (Wales) 2004) requires that a Strategic Environmental Assessment (SEA) has to be undertaken on the LDP; and
 - c. Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) (1992/43/EEC), which is translated into UK legislation by the new Conservation of Habitat and Species Regulations 2010 (as amended) (consolidation of the (Conservation (Natural Habitats &c.) Regulations (as amended) 1994) and Offshore Habitat Regulations (Offshore Marine Conservation (Natural Habitats &c. Regulations 2007), requires that an AA has to be completed if the plan is likely to have a significant effect on a European Site, alone or in-combination.
- 2.3 The SA and SEA assess the LDP's sustainability and Welsh Government (WG) guidance (Welsh Assembly Government, 2006)) states that these can be undertaken and reported upon in one single process. The end result is a 'Final Sustainability Appraisal Report' which identifies the significant environmental effects likely to arise from the LDP (Ceredigion County Council, 2013b). It also measures the sustainability of the LDP and it will be monitored over the lifetime of the plan from both an SA and SEA perspective. A 'SA/SEA Statement' has also been produced that outlines how SEA process was conducted and shows where the requirements of the regs have been met (Ceredigion County Council, 2013c).
- 2.4 The Habitats Directive requires that key areas of European importance for nature conservation are protected in the development plan process. In order to assess this, Local Authorities should carry out a process known as the Habitat Regulations Assessment (HRA), which incorporates the required AA if necessary. Although a lot of

the data used in the SA/SEA will be relevant, the reporting for this process must be separate from the SA/SEA.

- 2.5 For more information on the adopted version of the LDP and SA/SEA, please see the Ceredigion Local Development Plan 2007-2022 (Ceredigion County Council, 2013a) and Local Development Plan 2007-2022: Final Sustainability Appraisal Report and associated appendices (Ceredigion County Council, 2013b), as well as the SA/SEA Statement (Ceredigion County Council, 2013c).

Habitats Directive, Ramsar Convention and the Habitats Regulations Assessments

- 2.6 The key areas of European importance referred to above are those sites identified by the following legislation:

- a. European Directive (1992/43/EEC) on the Conservation of Natural Habitats and Wild Flora and Fauna (the Habitats Directive) protects habitats and non-avian species of European nature conservation importance; and
- b. EC Directive (1979/409/EEC) on the Conservation of Wild Birds (Birds Directive) protects bird species of European nature conservation importance.

- 2.7 The Habitat and Birds Directives have been translated into UK law into the Conservation of Habitats and Species Regulations 2010 (Habitat Regulations) and Offshore Marine Conservation (Natural, & c.) Regulations 2007 (Offshore Habitat Regulations). Within the Habitat Regulations, key areas of European importance are referred to as 'European Sites', and comprise of Special Areas of Conservation (SACs) and candidate Special Areas of Conservation (cSACs) which protect habitats and species of plants and non-avian animals and Special Protected Areas (SPAs) which are designated to protect important bird sites. They also include Sites of Community Importance (SCIs) and sites hosting priority natural habitat types or priority species in respect of which consultation has been initiated under Article 5(1) of the Habitats Directive. The Offshore Habitat Regulations also refer to 'European Offshore Marine Sites' which are sites that are located beyond territorial sea adjacent to the UK (i.e. beyond 12 nautical miles). There are currently no 'European Offshore Marine Sites in the UK'.

- 2.8 In accordance with TAN 5 and Planning Policy Wales (PPW), potential SPAs (pSPAs) and Ramsar Sites (sites designated under Article 2 of the Convention of Wetlands of International Importance (especially as waterfowl habitat) (Convention on Wetlands of International Importance, 1971) should be treated as if they are 'European Sites' for the purposes of land use planning (Annex 6 to Technical Advice Note (TAN) 5 Nature Conservation and Planning 2006) (Welsh Assembly Government, 2009b). Therefore they will be considered as part of this HRA Screening report. For simplicity and in line with the Ministerial letter that accompanied the TAN 5, SACs,

SPAs, cSACs, pSPAs and Ramsar sites will all be referred to as 'International Sites' for the rest of this report unless otherwise stated (Welsh Assembly Government, 2009a).

- 2.9 Articles 6 (3) and 6 (4) of the Habitats Directive require an AA to be undertaken on all plans or projects not directly connected with or necessary to the management of an International site but likely to have a significant effect thereon, either alone or in combination with other plans or projects. In 2007 this was transposed into UK law in Part IV of the Habitats Regulations (The Conservation (Natural Habitats, & c.) (Amended) (England and Wales) Regulations 2007). This has recently been consolidated and replaced with the Conservation of Habitat and Species Regulations 2010.
- 2.10 The AA forms part of the HRA process. The preliminary stage of the HRA is a screening of the Plan to assess whether it is likely to have an effect on an International Site, alone or in-combination with other plans or projects (whether the site is inside or outside the local authority (LA) boundary), and therefore whether an AA is required. For sites which are designated for the presence of a particular species the effect of the plan on that species where it occurs away from that site should also be assessed. The scope of the HRA is dependent on the location, size and significance of the proposed plan or project.
- 2.11 The aims of the AA are then to gather more information about the proposed policy and conservation objectives and decide if the plan, if carried out, will have an adverse effect on the integrity of the International site. Where there is potential for the plan to have an adverse effect, alternative solutions should be explored or mitigation measures should be included to avoid any potential damaging effects from the plan, only then can the plan go ahead. Alternatively, if it is deemed that the policy represents a development which is of over-riding public interest, in line with Regulation 103, the plan may continue. In the latter case the Welsh Government will assess whether the plan will be allowed to be adopted.
- 2.12 It is the aim of the screening report to identify any policies or allocations in the LDP which may have resulted in the LDP requiring an AA.

3. Guidance on Habitats Regulations Assessment

- 3.1 Guidance on how to undertake HRA in Wales, on which this assessment is based, was produced by WAG (2009b) and guidance by Tyldesley, D. (2010) on behalf of CCW.
- 3.2 Under this guidance the HRA process covers:
- a. Determining likely significant effects of a development plan on International sites, alone and in-combination;

- b. Screening what parts of the plan require an AA and how it will be undertaken;
- c. Undertaking the AA; and
- d. Applying a 'site integrity test' (to determine the impact of the plan on the integrity and conservation objectives of an International site) and determining whether development plans or elements within them have no alternative solutions and there are reasons of over-riding public interest.

3.3 The WG guidance states that HRA is part of an iterative process and needs to be revisited at each stage of the plan process depending on the nature and scale of the changes to the plan. Details of how the assessment has affected the LDP policies and allocations can be found in Appendix 6 – Key Changes to the LDP from the HRA.

4. Methodology

4.1 In accordance with the guidance and existing practice in undertaking HRAs, the methodology described in Table 1 below was adopted in the screening report.

Table 1. Methodology Adopted for HRA Screening

Stage	Description
Stage 1 Identification of International Sites	<ul style="list-style-type: none"> • Identification of International sites within Ceredigion and those outside that might be adversely affected by the LDP
Stage 2 Identification and collation of site information and key issues	<ul style="list-style-type: none"> • Identification of features of these sites, their status, the conservation objectives and the site vulnerabilities • Identification of key issues
Stage 3 Policies and Allocations Review	<ul style="list-style-type: none"> • Identification of possible significant effects of LDP's policies and allocations • Assessment of whether these will have a negative impact on the features of the International Sites
Stage 4 Consideration of other plans and programmes	<ul style="list-style-type: none"> • Consideration, where appropriate, of plans and programmes that may have 'in-combination effects' with Ceredigion LDP
Stage 5 Assessment of likely significant effects	<ul style="list-style-type: none"> • Assessment of whether the effects highlighted are likely to be 'significant' and if so whether they will require an AA

Stage 1: Identification of International sites

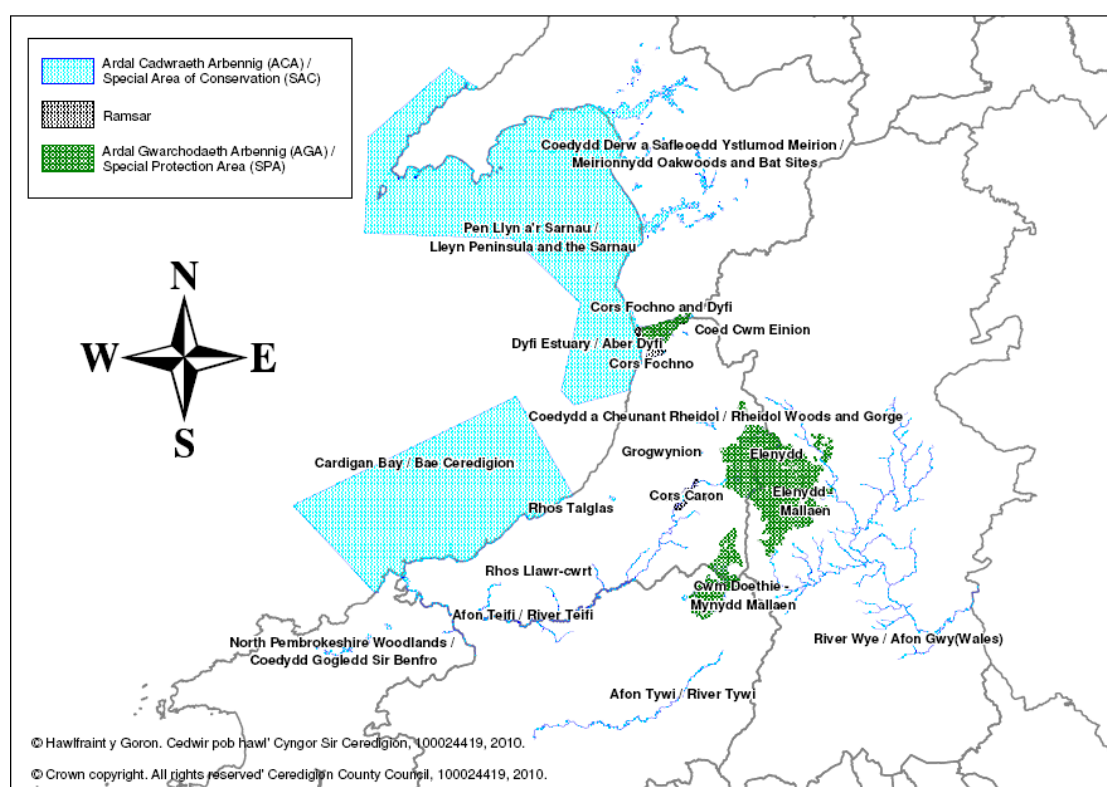
- 4.2 The first step in the assessment process was to identify which International sites were found within the county and which ones outside the county may be affected by the LDP.
- 4.3 In the HRA Screening of the Preferred Strategy, the Countryside Council for Wales' MapInfo GIS layer of all SAC, SPA and Ramsar sites within Wales provided a baseline of what International sites were found within the County (see Map 1). To confirm that this list was correct, it was cross referenced with the lists found on the Joint Nature Conservation Committee (JNCC) website (www.jncc.gov.uk). This process added Afonydd Cleddau / Cleddau Rivers to the list of International sites which should be considered in the HRA. However, at a preliminary meeting with CCW in December 2007, where the list of International sites proposed for the HRA was discussed, there was broad agreement that the Afonydd Cleddau / Cleddau Rivers SAC should be removed from the HRA assessment list. This is because Ceredigion is not within its catchment and any significant effects caused by development in Ceredigion would be unlikely. In addition it was decided to add the Afon Tywi SAC to the list of International sites to be in the HRA assessment as Ceredigion is within its catchment.
- 4.4 Since the initial HRA Screening report of the Preferred Strategy was undertaken, it came apparent that two more sites should be included due to their bat features and new guidance. Both Meirionnydd Oakwood and Bats Sites SAC (Lesser horseshoe bats) and North Pembrokeshire Woodlands SAC (Barbastelle bats) are within 30km of Ceredigion, which is most likely to be the distance they could be affected (Highways Agency et al, 2009).
- 4.5 All the sites identified are listed in Table 2 below and viewed in Map 1 below. Further details on the sites can be found in Table 1 in Appendix 1.

Table 2. International Sites selected for assessment in the HRA for the Ceredigion LDP.

International Site	International Designation (s)	Within or partially within Ceredigion?
Afon Teifi / River Teifi	SAC	Yes
Cardigan Bay/ Bae Ceredigion	SAC	Yes
Coed Cwm Einion	SAC	Yes
Coedydd a Cheunant Rheidol/ Rheidol Woods & Gorge	SAC	Yes
Cors Caron	SAC and Ramsar	Yes
Cors Fochno and Dyfi Estuary / Aber Dyfi	SAC, SPA and Ramsar	Yes
Cwm Doethie - Mynydd Mallaen	SAC	Yes

Elenydd – Mallaen	SAC and SPA	Yes
Grogwynion	SAC	Yes
Pen Llyn a'r Sarnau/ Llyn Peninsular and the Sarnau**	SAC	Yes
Rhos Llwrw Cwrt	SAC	Yes
Rhos Talglas	SAC	Yes
Afon Tywi / River Towy	SAC	No
River Wye / Afon Gwy	SAC	No
North Pembrokeshire Woodlands/Coedydd Gogledd Sir Benfro	SAC	No
Meirionnydd Oakwoods and Bat Sites/Coedydd Derw a Safleoedd Ystlumod Meirion	SAC	No

Map 1. Location of the International Sites assessed in this HRA



Stage 2: Identification and collation of site information and key issues

4.6 Data on the International sites in the assessment list came from several sources:

- The JNCC website detailed the notification for each International site;
- The original Natura 2000 notification forms gave useful information on the factors affecting the sites (JNCC website);
- CCW themselves were able to offer a lot of experience as to what issues have had a significant effect on the International sites in recent years;

- d. CCW's SAC/SPA monitoring identified the current condition of the SACs and identified reasons why any particular site was in an unfavourable condition;
- e. The CCW's Core Management Plans and Regulation 33's contained the conservation objectives and gave more detailed information on the specific state of individual SACs/SPAs and the factors that affected them; and
- f. The Environment Agency Wales' Review of Consents (RoC) programme identified any current issues with consents affecting the International sites, to ensure we do not add to these pressures.

- 4.7 Using the above information, Table 1 in Appendix 1 details;
- a. the International sites;
 - b. how the site is designated;
 - c. what its qualifying features are;
 - d. the latest assessment of the condition of those features;
 - e. the factors which are likely to negatively affect these sites (taken from Natura 2000 forms; site Conservation Objectives, Site Management Statements, management plans, CCW and EAW review of consents and from individual CCW officers);
 - f. the Conservation Objectives ; and
 - g. the significance of the LDP's influence on the factors/vulnerabilities (one tick (√) for minimal or in-direct relationship, two ticks (√√) for strong influence and cross (X) for the LDP has no influence).

Key Issues

- 4.8 The HRA Screening Report of the LDP Pre-Deposit Version (Ceredigion County Council, 2009b) identified several key issues from the assessment of the Preferred Strategy on the International sites. These have been updated, as further evidence has come to light over the plan period, and have been summarised in Table 3 below. These are further discussed in the discussion section, Chapter 8.

Table 3. Summary of key issues and sites affected.

International Site	Key issues, either from LDP Preferred Strategy alone or in-combination
Afon Teifi / River Teifi SAC	<ul style="list-style-type: none"> • Habitat loss • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Effects on natural processes • Others: Spreading or introduction of non-native invasive species
Cardigan Bay/ Bae Ceredigion	<ul style="list-style-type: none"> • Habitat loss

SAC	<ul style="list-style-type: none"> • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Spreading or introduction of non-native invasive species
Coed Cwm Einion SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on micro-climate • Disturbance and erosion • Atmospheric Deposition
Coedydd a Cheunant Rheidol/ Rheidol Woods & Gorge SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on micro-climate • Disturbance and erosion • Atmospheric Deposition
Cors Caron SAC and Ramsar	<ul style="list-style-type: none"> • Habitat loss • Effect on hydrology • Effect on micro-climate • Disturbance and erosion • Atmospheric Deposition
Cors Fochno SAC and Cors Fochno and Dyfi Ramsar	<ul style="list-style-type: none"> • Habitat loss • Effect on hydrology • Effect on micro-climate • Erosion • Atmospheric Deposition
Cwm Doethie - Mynydd Mallaen SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on hydrology • Effect on micro-climate • Erosion • Atmospheric Deposition
Dyfi Estuary SPA	<ul style="list-style-type: none"> • Habitat loss • Disturbance • Atmospheric Deposition
Elenydd SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on hydrology • Effect on micro-climate • Erosion • Atmospheric Deposition
Elenydd – Mallaen SPA	<ul style="list-style-type: none"> • Habitat loss • Disturbance • Atmospheric Deposition
Grogwynion SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on micro-climate • Erosion • Atmospheric Deposition
Pen Llyn a'r Sarnau/ Lleyrn	<ul style="list-style-type: none"> • Habitat loss

Penisular and the Sarnau SAC	<ul style="list-style-type: none"> • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Spreading or introduction of non-native invasive species
Rhos Llawr Cwrt SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on hydrology • Effect on micro-climate • Erosion • Atmospheric Deposition
Rhos Talglas SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on hydrology • Effect on micro-climate • Erosion • Atmospheric Deposition
Afon Tywi / River Towy SAC	<ul style="list-style-type: none"> • Habitat loss • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Effects on natural processes • Others: Spreading or introduction of non-native invasive species
River Wye / Afon Gwy SAC	<ul style="list-style-type: none"> • Habitat loss • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Effects on natural processes • Others: Spreading or introduction of non-native invasive species
North Pembrokeshire Woodlands/Coedydd Gogledd Sir Benfro SAC	<ul style="list-style-type: none"> • Habitat loss (removal of features important for flight lines)
Meirionnydd Oakwoods and Bat Sites/Coedydd Derw a Safleoedd Ystlumod Meirion SAC	<ul style="list-style-type: none"> • Habitat loss (removal of features important for flight lines)

Stage 3: Policies and Allocations review

4.9 The HRA Screening Report of the LDP Pre-Deposit Version identified that none of the International Sites could be screened out due to the strategic nature of the LDP Preferred Strategy. Therefore, all sites were screened in this assessment. In addition, as described above, two new International Sites were screened due to new information. The HRA Screening Report of the LDP Pre-Deposit

Version highlighted key issues that were brought up for each site in the assessment. These are shown in Table 3 and have been updated in light of new information.

- 4.10 Therefore, the adopted version of the Ceredigion LDP was assessed to determine their likely effects on the International sites with these key issues described above in mind.

Policies

- 4.11 A detailed assessment of the LDP Policies can be found in Appendix 3 and the results are discussed further in Chapter 8: Discussion.

- 4.12 The policies were assessed using an adapted system of that recommended in 'Assessing Projects under the Habitats Directive. Guidance for Competent Authorities' published by CCW in 2009 and revised in 2010 (Tyldesley, D & Associates, 2010). This methodology allows proposals to be split into categories for potential effects. These categories can be summarised as follows. More detail is provided in Appendix 2.

- **Category A:** No negative effects
- **Category B:** No significant negative effects, alone or in-combination with other parts of the plan or other plans or projects
- **Category C:** Likely significant negative effects alone
- **Category D:** Likely significant negative effects, in-combination with other parts of the plan or other plans or projects
- **Category E:** Either proposal is implemented through other policies/allocations or detail will be assessed as part of a lower tier plan/project
- **Category F:** Depends on implementation.

Allocations

- 4.13 LDP Allocations have also been assessed. The summary of this can be found in Appendix 4 and is discussed in Chapter 8: Discussion. A more detailed assessment can be found in the HRA Technical Background Paper. Due to the more detailed nature of the allocations, the allocations were assessed by International Site and type of effect (see Table 3: Summary of key issues and sites affected). This was then summarised into the categories of potential effects, as described above in 4.12, for Appendix 4.

- 4.14 The LDP process is different from previous land use plan processes as the plan should not repeat national policy. Therefore, there may be effects of the plan that are mitigated by national policies, where this is the case it has been highlighted.

Stage 4: Consideration of other plans, programmes and projects

- 4.15 This involved the consideration of other plans and programmes that may, in-combination with the adopted version of the Ceredigion LDP, have the potential to adversely impact International sites. In-

combination effects were only considered where a policy or allocations had no likely significant effects on its own but had potential in-combination.

- 4.16 The Plans, Policies and Programmes looked at in the HRA Screening of the LDP Preferred Strategy were used as a starting point for potential in-combination effects. This list was then updated to include any new or updated plans. These documents were checked and any policies or objectives that could relate to an International site were highlighted. Any large projects that were applicable were also assessed as well as relevant outstanding consents and planning applications. Note that this has not been updated since the Deposit version of the HRA as any changes made to the plan since then have not affected the in-combination assessments.
- 4.17 More detail can be found in Table 1 in Appendix 7. The cumulative and in-combination assessments can be found in Appendix 5.

Stage 5: Assessment of likely significant effects

- 4.18 By undertaking the previous four stages, potentially significant adverse effects were identified. These were assessed with mitigation in mind and it was indicated whether any of the policies or proposals could still cause a significant effect, alone or in-combination, or where it is uncertain, and therefore whether they needed an Appropriate Assessment. Any mitigation that could be introduced into the plan before it was complete, was introduced and the effects were re-assessed.

5. Changes Since LDP Deposit

- 5.1 The screening assessment is a compilation of the original LDP Deposit assessment of the policies and allocations and all the changes that have occurred throughout the LDP process.
- 5.2 During the production of the LDP, the HRA was an integrated process. As draft policies and allocations were produced, or likely changes to policies and allocations were coming through, these were provisionally and informally assessed. At official draft stages this assessment was unofficially recorded and changes necessary were made to the plan.
- 5.3 Formal assessments were made at key stages of the plan. These assessments can be found in the following previous versions of the HRA Screening Reports:
- Habitat Regulations Assessment for the Ceredigion LDP: Screening Report Pre-Deposit Version (Ceredigion County Council, 2009b);
 - Habitat Regulations Assessment for the Ceredigion LDP: Screening Report Deposit Version (Ceredigion County Council, 2010e);

- Addendum to the 'Habitat Regulation Assessment for Ceredigion LDP Screening Report: Deposit Version' (Ceredigion County Council, 2011a); and
- Addendum to the 'Habitat Regulation Assessment for Ceredigion LDP Screening Report: Deposit Version: Proposed Changes from Matters Arising (of the S0 policies) Version (Ceredigion County Council, 2012a).

5.4 During the LDP Inquiry, a number of changes to policies and allocations developed at the request of the Inspector. Although mainly minor changes to wording, these changes have been assessed to ensure that they will not now result in the policies or allocations having a significant negative effect (alone or in-combination) where it was previously assessed that they would not. Some of these changes were assessed in the Addendum to the 'Habitat Regulation Assessment for Ceredigion LDP Screening Report: Deposit Version: Proposed Changes from Matters Arising (of the S0 policies) Version (Ceredigion County Council, 2012a). The full assessment of all the changes that came through the Inquiry process (Matters Arising Changes (MACs) and Inspector Changes (ICs) to determine whether the proposal they affected needed re-screening can be found in Appendix 9. Where this has resulted in changes to the original screening the re-screening is noted in Appendix 10.

5.5 For consistency when all the assessments are together, the re-screening assessments suggest further mitigation that is already in the plan.

5.6 In addition, for ease of reading, the discussion is based on the original LDP Deposit discussion (incorporating changes from the LDP Deposit Consultation and grammatical and factual corrections). Any changes that are relevant to the text are highlighted in 8.2 in Chapter 8: Discussion.

5.7 None of these changes were found to now result in the policies or allocations having a significant negative effect, alone or in-combination with other plans or projects.

6. Consultation

6.1 The Ceredigion Ecologist has consulted the Countryside Council for Wales (CCW) throughout the preparation of the screening report for the adopted version of the LDP. CCW is also a member of the Sustainability Working Group of the Ceredigion LDP's SA/SEA. CCW were formally consulted on the LDP Preferred Strategy stage on the:

- Habitat Regulations Assessment for the Ceredigion LDP: Screening Report Pre-Deposit Version (Ceredigion County Council, 2009b);

- Habitat Regulations Assessment for the Ceredigion LDP: Screening Report Deposit Version (Ceredigion County Council, 2010e);
- Addendum to the 'Habitat Regulation Assessment for Ceredigion LDP Screening Report: Deposit Version' (Ceredigion County Council, 2011a); and
- Addendum to the 'Habitat Regulation Assessment for Ceredigion LDP Screening Report: Deposit Version: Proposed Changes from Matters Arising (of the S0 policies) Version (Ceredigion County Council, 2012a).

6.2 They were also consulted at various informal stages of the process.

7. Habitat Regulations Assessment Screening

7.1 The International sites were assessed against the LDP Proposals using the methodology described above. More details, including the adopted LDP Policies, can be found in Appendices 1 – 12.

Assessment of LDP Policies

7.2 The detailed screening assessment of the adopted LDP Policies can be found in Appendix 3 and the results are discussed further in Chapter 8: Discussion.

Assessment of LDP Allocations

7.3 A summary of the allocations assessment can be found in Appendix 4 with full detail in the HRA Technical Background Paper. Any issues that arose are discussed below in Chapter 8: Discussion.

8. Discussion

8.1 The assessment is discussed below by key issue. For ease of reading, the discussion is based on the original LDP Deposit discussion (incorporating changes from the LDP Deposit Consultation and grammatical and factual corrections). Any changes that are relevant to the text are highlighted in 8.2 below. Please note further changes have occurred but they do not affect the discussion.

8.2 Changes since LDP Deposit

8.1.18 Since the Deposit LDP, various changes have occurred to the plan through proposed Focused Changes, proposed Minor Changes, Matters Arising Changes and Inspector Changes (see Chapter 5 for more information). This has not affected the overall assessment; however, the following are changes are those that affect the text below:

Part of plan affected	Change
Policy S06: Opportunities for Housing Growth	Deleted. Content is now covered by Policy S01: Sustainable Growth and it now incorporates the distribution of housing for USC, RSC and Linked Settlements and

	Other Locations.
Policy S02: USCs	Now called 'Development in USCs'
Policy S03: RSCs	Now called 'Development in RSCs'
Policy S04: Settlements in Other Locations	Now called 'Development in Linked Settlements and Other Locations'
Policy S05, S07 and S08	Deleted and incorporated into other policies
Policy LU03: Affordable Housing	Deleted and now S05: Affordable Housing
Policy LU22:	Now called 'Community Provision'.
Policy LU23: Existing Open Space	Deleted and incorporated into LU22
Policy DM03: Sustainable Travel	Has been amended (see Appendix 11 for final policy wording)
Policy DM10: Design and Landscaping	has been amended (see Appendix 11 for final policy wording)
Policy DM12: Utility Infrastructure	There have been minor amendments to the wording of policy (see Appendix 11 for final policy wording)
Paras 8.131 and 8.132 (HRA Caveat)	<p>Have been replaced with the following wording:</p> <p>'The plan policies and allocations (including the in combination effects of this plan with other strategies/plans and projects) have been the subject of a HRA which concluded that in principle their implementation ought not to result in any adverse effects on the integrity of International sites. However further assessment and relevant mitigation may be required at the planning application stage to ensure that development proposals will not adversely affect the integrity of such sites. National policy will therefore apply to planning applications in these circumstances. Where it is found that there would be an adverse effect on the integrity of an international site which cannot be mitigated the application will be refused unless the proposed development satisfies Regulation 62 of the Conservation of Habitat and Species Regulations 2010. Further guidance can be found in 'Technical Advice Note 5: Nature Conservation and Planning' and in the authority's Supplementary Planning Guidance 'Nature</p>

	Conservation”
Policy DM22: General Environmental Protection and Enhancement	has been amended (see Appendix 11 for final policy wording)
Policy DM23: Coastal Management	has been amended (see Appendix 11 for final policy wording)
Allocation E0203 in Cardigan	Deleted
Allocation H1002 in New Quay	Deleted
Monitoring	It was considered more appropriate to monitor atmospheric deposition and air pollution as part of the SA/SEA (see the Final Sustainability Appraisal Report for more information)

Habitat Loss

Potential affect of development

- 8.1.1 Depending on location, development potentially could result in the loss of parts of International Sites or land that is on or near the site's boundary which is relevant for the sites' or features' natural processes. In some cases, loss of habitat quite a distance from an International Site can have a negative effect.

Development within site boundaries

- 8.1.2 Development within any of the International sites may result in a direct loss of area of habitat features for which the site is designated from the development footprint, but also any infrastructure associated with the development e.g. loss of International dry heaths at Elenydd-Mallaen to a wind farm's utilities.

- 8.1.3 The majority of International Sites could also be affected by development on site that is not on a feature habitat. This is because a feature species may be dependent on that habitat that is affected for feeding, breeding, shelter or movement e.g. a physical barrier caused by a weir preventing the migration of migratory fish.

- 8.1.4 Alternatively, development within the site boundary that doesn't result in a direct loss of area of a feature may still have an effect from modifications affecting the ecosystem processes. For example, flood defences on the coast can serve as a barrier to natural landward migration of the shoreline habitats in response to sea level rise, resulting in coastal squeeze. This is mainly an issue for the river and marine International Sites.

Development outside the site boundary

- 8.1.5 These effects don't only occur from development on the site. For example, development on the boundary of a raised or blanket bog

may require drainage and this can affect the hydrology of the bog, increasing risk of erosion and steepening the boundary, further accelerating effects. This would mainly be an issue for the peat bog sites such as Cors Caron SAC and rhos pasture sites such as Rhos Talglas. Additionally, for Rhos Talglas and Rhos Llawr Cwrt, loss of suitable available habitat within the surrounding area of the sites able to support marsh fritillary butterflies, could result in loss of the species for which these sites are designated.

- 8.1.6 Another major effect is the modification of rivers, e.g. flood defences, channelisation and micro-hydro, which could result in alteration in flows and change in sedimentation regimes of the river. In addition development on a flood plain could have a similar effect. This could affect the sites features including fragmenting habitats for otters. Additionally, abstraction can also result in a loss of habitat for lamprey ammocoete by reducing the wetted area in freshwaters and drying out of bogs resulting in accelerated erosion. Also, there is a potential for wind farms to affect birds, particularly soaring birds (Lucas, 2004).
- 8.1.7 Furthermore, another potential effect of development in general is the potential increase of visitors in Cardigan Bay SAC and Pen Llyn a'r Sarnau SAC causing a rise in boating activities. This could result in the smothering of benthic organisms (Countryside Council for Wales, 2005) and (Countryside Council for Wales, 2009). Also, the removal of tree lines or woodland could affect bats that may use parts of Ceredigion, even though they are part of International Sites outside the county. This could affect the two bat sites within 30km of Ceredigion.
- 8.1.8 Many of the International Sites' habitats are already in unfavourable condition, so any loss in habitat could result in a significant negative effect.
- 8.1.9 Issues of habitat loss caused as a secondary impact from effects on hydrology or reduced or altered flow rates are assessed under water availability in 7.2.

Policies

Assessment of the affects

- 8.1.10 The majority of policies were found to have no effect or the different factors of the policy were implemented through other policies. However, there were a few policies that without mitigation had the potential to have an effect.
- 8.1.11 Policy S06: Opportunities for Housing Growth aims to provide 6000 new homes over the plan period. Although this policy contains a spatial element, this is dealt with in the assessment of Policies S02-S04; however, just the sheer magnitude of development has the potential to have an effect due to the increase in boating traffic in

Cardigan Bay SAC and Pen Llyn a'r Sarnau SAC from increased population. However, only 4.4% of people in Wales participated in a boating activity in 2009 (Royal Yachting Association, 2009)). Therefore, due to the actual population increase that 6000 homes are provided to serve (around 7,400 people), the increase in people taking part in boating activities is likely to be around 300 more people in the 15 years. In addition, around 3.4% of households in the UK were found to own a boat (including canoes, power boats etc) in the Wales/West/South West region in 2009 by the same study. This would relate to only around an additional 200 households owning a boat. Considering the total number of boats estimated to be owned in the Wales/West/South West region is 110,248, an additional 200 is minimal. Therefore, the increase in people taking part in boating activities will be 'de-minimis'.

8.2 In addition, the Cardigan Bay SAC Management Scheme, draft Pen Llyn a'r Sarnau SAC Management Scheme and Ceredigion County Council's Recreational Boating Plan all address the issue of recreational boating in Cardigan Bay (Cardigan Bay SAC Relevant Authorities Group, 2001), (Pen Llyn a'r Sarnau Relevant Authorities Group, in preparation) and (Ceredigion County Council, 2010c). There is the potential for recreational boating to cause disturbance to marine mammal features of the two SACs (both within and beyond the boundaries of the protected areas). This is mitigated for by the active promotion of a code of conduct for boaters (the Ceredigion Marine Code), the use of speed restriction zones along particularly sensitive stretches of coast, awareness-raising boat patrols and monitoring of boat behaviour and interactions with marine mammals through the 20 year Dolphin Watch study.

8.2.1 The following policies, although they are criteria based policies, depending on how they are implemented, may have a significant negative effect on International Sites through development within the SAC, resulting in loss of habitat;

- S02: Urban Service Centres (USCs);
- S03: Rural Service Centres (RSCs);
- S04: Settlements and Locations other than Service Centres;
- LU03: Affordable Housing;
- LU14: Countywide Tourism Accommodation sites: Static and Touring Caravans, Camping pitches, Cabins and Chalets;
- LU16: Tourism Accommodation – Types of Accommodation not covered by Policy LU14;
- LU17: Tourism Facilities/Attractions;
- LU22: Community, Leisure and Recreation Facilities and Services; and
- LU31: Resource Recovery and Waste Management Facilities.

8.2.2 This is because either they steer development towards the Urban Service Centres (USCs), Rural Service Centres (RSCs) and Linked Settlements (LS), of which several are adjacent or near to

International sites, or, in the case of Policy LU31, permit the storage and recycling of construction, demolition and excavation waste within active mineral sites, former quarry sites and within or immediately adjacent to farm complexes.

Mitigation

8.2.3 The effects will be partially mitigated by National Policies in PPW and TAN 5 and LDP policy DM14: Nature Conservation and Ecological Connectivity.

8.2.4 However, this will only ensure there are no significant effects and so to further mitigate and in order to ensure no presumption of development, a HRA caveat was introduced into the explanatory text in Policy DM14: Nature Conservation and Ecological Connectivity to make it clear that any development that would be likely to have a significant negative effect on an International Site would not be in line with the LDP (8.131 and 8.132). Therefore, just because a policy steers a type of development towards a particular area does not guarantee development there, it will still be subject to other policies within the LDP and national policies.

8.2.5 The HRA caveat explains that some policies and allocations steered development to areas where they could have significant negative effect on an International Site and lists the proposals of concern. It then says:

Applicants are therefore reminded that:

- i. Any development that would be likely to have a significant effect on a International site, either alone or in combination with other plans or projects would not, therefore, have the benefit of the presumption in favour accorded via S.38 of the Planning and Compulsory Purchase Act (2004) at application stage; and
- ii. any development that would be likely to have a significant effect on a International site, either alone or in combination with other plans or projects, will be subject to assessment under Part IV of the Habitats Regulations at project application stage. If it cannot be ascertained that there would be no adverse effects on site integrity the project will have to be refused or pass the tests of Regulation 103, in which case any necessary compensatory measures will need to be secured in accordance with Regulation 105.

8.2.6 Therefore, when considered with mitigation, these policies should have no likely significant effects, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be 'de-minimis'.

Allocations

Assessment of the effects

- 8.2.7 There are no allocations within any of the International Sites' boundaries. There were two employment sites (E0203 and E0501) that included a small amount of the Afon Teifi SAC but both boundaries were altered and also for E0501, the Allocated Site Schedule includes that at least a 10m buffer should be included and therefore direct effects were avoided.
- 8.2.8 As allocations E0202, E0203 (Cardigan) and E0501 and E0502 (Lampeter) are right on the boundary of the Afon Teifi SAC, or very close to it, there is a potential for an effect if any defences are required.
- 8.2.9 There is a potential for the housing and mixed use allocations to increase boating traffic within Cardigan Bay SAC and Pen Llyn a'r Sarnau SAC through more people participating in boating activities. This could result in smothering of benizic organisms. However, this issue is not location specific and although it may be more likely near the coast, it essentially could occur wherever the allocations are. Therefore, this issue in terms of housing is dealt with above in the assessment of Policy S06: Opportunities for Housing Growth. In addition, the mixed use allocations will have a 'de-minimis' effect as they will not generally increase population or the combined effects will be 'de-minimis'. All the other allocations will not increase boating traffic.
- 8.2.10 Allocations in Cardigan, Adpar, Llandysul, Aberporth/Parc Llyn and Cenarth are within 30 km of the North Pembrokeshire Woodlands SAC and allocations in Aberystwyth, Bow Street, Penrhyncoch, Talybont and Borth are within 30km of Meirionnydd Oakwoods and Bat Sites SAC and so these could have an effect through loss of habitat used for flight lines.
- 8.2.11 Most of the allocations have some sort of hedgerow or tree line as a boundary around the site and there are several allocations that include areas of semi-natural broadleaved woodland. Therefore there could be a negative effect if these features are removed for development.

Mitigation

- 8.2.12 All of the Allocated Site Schedules include information on whether there are trees and woodland and say that they should be protected in line with Policies DM10, DM15 and DM20. They also say that appropriate surveys and reports will be required with proposals and species, habitats and ecological connectivity protected and managed in accordance with national policies and Policies DM14 and DM15. This should ensure there is a 'de-minimis' effect from allocated sites on the two bat sites.

- 8.2.13 In addition, Policies DM10, DM15 and DM20 will ensure a 'de-minimis' effect from non-allocated sites.
- 8.2.14 However, in order to ensure no presumption of development that may result in habitat loss from defences etc on the Afon Teifi SAC boundary, a HRA caveat was introduced into Policy DM14 and linked in the Allocated Site Schedules for the sites E0202, E0203, E0501 and E0502.
- 8.2.15 Therefore the allocations will have no significant effect, alone or in-combination, on the International Sites from habitat loss from development.

Conclusion

- 8.2.16 Therefore, once mitigation was taken into account, none of the LDP policies or allocations were found to have a likely significant effect alone or in-combination with other parts of the plan or other plans or projects and therefore will not have an effect of habitat loss from development on International Sites.

Effect	International Sites	Likely sig. effect alone	Likely sig. affect in-combination	Appropriate Assessment?
Habitat Loss	All	X	X	No

8.3 Water availability, effects on hydrology and affects on micro-climate from abstraction

Potential effect of development

- 8.3.1 Depending on location and abstraction requirements, development potentially could affect International Sites. It could affect them differently depending on the type of sites.
- 8.3.2 The river International sites (Afon Teifi SAC, Afon Tywi SAC and the River Wye SAC) could be affected by the LDP through the reduction and alteration of flow rates from abstraction through an increased demand on water. As described above in habitat loss, over-abstraction could also reduce habitat available for species and as described below in water quality, over-abstraction can also decrease water quality and so these issues are also discussed in this section.
- 8.3.3 The marine sites (Cardigan Bay SAC and Pen Llyn a'r Sarnau SAC) could also be affected by change in water flow/velocity, chemical regime, habitat loss, salinity and dilution capacity from abstraction.
- 8.3.4 In addition, Cors Caron SAC and Ramsar, Cors Fochno SAC and Cors Fochno and Dyfi Ramsar, Cwm Doethie-Mallaen SAC, Elenydd SAC, Rhos Llawr Cwrt SAC and Rhos Talglas SAC could be affected by development adjacent to sites affecting the hydrology or abstractions reducing the amount of water in or around the site.

- 8.3.5 Coed Cwm Einion SAC, Coedydd a Cheunant Rheidol SAC and Grogwynion SAC all could be affected by anything that affects the micro-climate reducing moisture.

Current issues and background information

DC/WW Draft Water Resources Management Plan (2008)

- 8.3.6 An issue has been highlighted in the past in relation to water availability in Ceredigion, particularly in the south of the county. Dwr Cymru / Welsh Water's (DC/WW's) recent Draft Water Resources Management Plan (2008) outlines that the supply-demand of water for the Mid and South Ceredigion Zone will be in a surplus for the plan period (until 2034/35). DC/WW is satisfied that recent network improvements and extensive pressure reduction management work throughout the area has reduced the demand loading for the Mid and South Ceredigion zone. The North Ceredigion Zone is also forecast to be in surplus up to 2034/35. 100% of Ceredigion's public water supply comes from these two zones. This means that there is currently enough water available for DC/WW customer supply.

- 8.3.7 Other zones that the Ceredigion LDP may have an impact on from private abstraction are Pembrokeshire (surplus to 2034/35), Tywi Conjunctive Use System (surplus 2034/35), Elan - Bwlth (surplus 2034/35), South Meirionnydd (deficit 2010/11 and for rest of the Management Plan period) and Tywyn - Aberdyfi (currently in deficit). According to the forecast, demand from the Pembrokeshire and Mid and South Ceredigion Zones will have almost reached the supply amount by 2034/35. However, proposed solutions were included in the Management Plan for the areas in deficit. Once these measures were taken into account, the HRA of the Management Plan concluded that none of those areas listed above were likely to have a significant effect alone or in-combination with other plans or projects. Even so, any LDP proposals that are likely to result in abstractions from these areas in deficit should be looked at in more detail.

- 8.3.8 Although these forecasts include impacts of climate change, they do not consider sustainability reductions. However, upon publishing their plan, DC/WW released an update on the sustainability reductions from the EAW Review of Consents process and issues with abstraction were highlighted in particular on the Wye, Usk and Cleddau. Therefore, Ceredigion County Council need to ensure the Ceredigion LDP does not add to the problem.

EAW's Catchment Abstraction Management Strategies (CAMS)

- 8.3.9 According to the Environment Agency Wales's (EAW) Teifi CAMS (Environment Agency Wales, 2004) and Annual Update (Environment Agency Wales, 2010c), unconstrained licences are still available on most of the Teifi. The exceptions are Afon Clettwr and Afon Dulas, where no abstraction is available at low flows and only constrained licences are allowed at other times. Various informal discussions and a consultation response has confirmed that there

are two abstraction licences (three abstraction points) from the Afon Teifi that provide the public water supply for the south of the county (Dwr Cymru Welsh Water, 2009) and (Dwr Cymru Welsh Water, 2010a).

- 8.3.10 According to the EAW's North Ceredigion CAMS (Environment Agency Wales, 2008e) and Annual Update (Environment Agency Wales, 2009e), there is water available in the Water Resources Management Unit 1 (Aeron, Arth, Wyre & Clarach), even at low flows. However, there is no water available on the Afon Rheidol as it is currently over-extracted and has to be topped up with water from the Dyfi. There is no public water supply from the North Ceredigion catchment.
- 8.3.11 According to the EA's Meirionnydd CAMS (Environment Agency Wales, 2005a) there are currently unconstrained licences still available on most of the Afon Leri. The exceptions are sections of the upper catchment which is nominally "No Water Available" as a result of the Llyn Craig y Pistyll Public Water Supply abstraction. There is also water available in the Water Resources Management Unit 3 (Dyfi etc).
- 8.3.12 No public water supply for Ceredigion comes from the Afon Tywi or the River Wye. Unconstrained licences are still available on the Afon Tywi and its tributaries (Environment Agency Wales, 2006) and (Environment Agency Wales, 2010d). No water is currently available on the River Wye and its tributaries (Environment Agency Wales, 2008f).
- EAW Review of consents (RoC)*
- 8.3.13 A review of consents study of the consents affecting the Teifi (Environment Agency Wales, 2007a) has highlighted current issues with abstraction in the Teifi. Stage 3 highlighted 8 non-consumption consents that could be having a significant negative effect on the integrity of the Teifi's SAC features by impinging on migratory routes, limiting access to potential spawning habitat of salmon and lamprey, causing damage to lamprey ammocoete habitat and entrainment of fish. This could then cause an indirect effect on the food supply of otter. However, only one consumptive abstraction licence was taken through to stage 3 and this was because of its inadequate screening, not due to over-abstraction.
- 8.3.14 The Cardigan Bay SAC Review of Consents has confirmed that there are currently no adverse effects on the Cardigan Bay SAC from water abstraction (Environment Agency Wales, 2009c).
- 8.3.15 The Pen Llyn a'r Sarnau SAC Review of Consents screened out all EAW licences for water abstraction in stage one as having no effect on Pen Llyn a'r Sarnau SAC (Environment Agency Wales, 2007c),

(Environment Agency Wales, 2009b) and (Pen Llyn a'r Sarnau SAC Officer, 2010).

- 8.3.16 The RoC for the Dyfi SPA found that no abstractions were having an adverse effect on water abstraction, alone or in-combination (Environment Agency Wales, 2008b).
- 8.3.17 The RoC for the Afon Tywi SAC found that there were four water abstractions that could be having an adverse effect on the SAC and outcomes have been identified to address these issues (Environment Agency Wales, 2007g) and (Environment Agency Wales, 2009a).
- 8.3.18 The RoC for the River Wye SAC found that 47 abstraction licences and 15 trickle abstractions could be having an adverse effect on the SAC. Of those 1 licence was revoked, 39 were modified and the rest were affirmed (Environment Agency Wales, 2009d).
- 8.3.19 In the RoC of Elenydd SAC and Elenydd-Mallaen SPA, one licence was found to potentially be having an adverse effect from abstraction. However, when it was looked at in more detail, the licence was found to be having no adverse effect (Environment Agency Wales, 2008a).
- 8.3.20 No abstraction licences were found to be having a significant negative effect, alone or in-combination with other plans or projects on Cors Fochno SAC (Environment Agency Wales, 2007b).
- 8.3.21 All other International Sites either had no relevant permissions, no abstraction licences were thought to be having an effect or are not affected by abstractions.

EA River Basin Management Plans (RBMP)

- 8.3.22 The EA West Wales River Basin Management Plan (RBMP) (2009b), which outlines the current status of water bodies according to the Water Framework Directive (WFD) and actions to improve the status of failing water bodies, listed water abstraction as not being a significant water management issue for the river basin district. However, the upper reaches of the Afon Rheidol are listed as 'probably at risk' and 'at risk' from abstraction. Also, North Ceredigion is a water dependent terrestrial ecosystem that is 'at risk'.

Consultation

- 8.3.23 Various informal discussions and a consultation response has confirmed that there are two abstraction licences (three abstraction points) from the Afon Teifi that provide the public water supply for the south of the county (Dwr Cymru Welsh Water, 2009) (Dwr Cymru Welsh Water, 2010a).
- 8.3.24 Various informal discussions and a consultation response has confirmed that there are 4 abstraction licences in the north of the

County (1 groundwater and 3 surface water) and one further groundwater abstraction which is in the groundwater licence exemption area (Dwr Cymru Welsh Water, 2009) (Dwr Cymru Welsh Water, 2010a).

- 8.3.25 Although the Rheidol abstraction is 'over-abstracted', the majority of water is committed to the Rheidol Hydro Scheme which although it is non-consumptive affects flows (Environment Agency Wales, 2008e) and (Environment Agency Wales, 2009e). Informal consultation with DC/WW and EAW has not highlighted any issues with the public water abstractions on the Rheidol.
- 8.3.26 DC/WW were provided with the housing and mixed use allocated sites as part of the consultation process and they raised no issues of limited capacity for abstraction. The only issues raised were where additional piping may be required to connect development to the mains. Due to the uncertainty of what development would be placed there and whether they would require connection to the public water supply, the LA were unable to collect this information on the Employment Sites (Dwr Cymru Welsh Water, 2010a).
- 8.3.27 In addition, correspondence with DC/WW confirmed that they would not be required to increase their abstraction licences for public water supply (Dwr Cymru Welsh Water, 2009).

Conclusion of current issues

- 8.3.28 The Draft Water Resources Management Plan, the Afon Teifi Review of Consents, The EAW Catchment Abstraction Management Plan and consultation with DC/WW and EAW has confirmed that there is enough water for the projected population growth within the current abstraction licences and, even at full capacity, the Teifi abstractions would not have a significant negative effect, either alone or in combination with other plans or projects. The effects of the borehole abstractions in the north are unknown but the one that is licensed was thought to have no effect on the SAC and the other is in a groundwater licence abstraction exemption area. Any proposals that direct development requiring abstraction from the periphery of Ceredigion, particularly the River Wye, Afon Tywi, may have an effect and will need to be looked at closer.

Policies

Assessment of the effects from the LDP

- 8.3.29 The majority of policies were found to have no effect or were dealt with through other policies. However, there were a few policies that without mitigation, had the potential to have an effect.
- 8.3.30 The following policies, although they are criteria based policies, depending on how they are implemented, may have a significant negative effect on the International Sites through location of development and abstraction, resulting in reduced or altered flow

rates, effect on hydrology, effect on micro-climate, loss of habitat and decreased water quality;

- S02: Urban Service Centres (USCs);
- S03: Rural Service Centres (RSCs);
- S04: Settlements and Locations other than Service Centres;
- LU14: Countywide Tourism Accommodation sites: Static and Touring Caravans, Camping pitches, Cabins and Chalets;
- LU16: Tourism Accommodation – Types of Accommodation not covered by Policy LU14;
- LU17: Tourism Facilities/Attractions;
- LU22: Community, Leisure and Recreation Facilities and Services; and
- LU31: Resource Recovery and Waste Management Facilities.

8.3.31 This is because they steer development towards the USCs, RSCs and LSs, of which a large proportion are within the Afon Teifi abstraction catchment, within the catchments of the International Sites, or, in the case of Policy LU31, permit the storage and recycling of construction, demolition and excavation waste within active mineral sites, former quarry sites and within or immediately adjacent to farm complexes.

8.3.32 As described above, there are currently no water resources issues so it is unlikely these policies would have a negative effect from abstraction, however, their exact location and requirements in terms of water resources are not known, and therefore the precautionary principle is taken.

Mitigation

8.3.33 All development within Ceredigion will be subject to LDP Policy DM12: Utility Infrastructure which states that:

**Policy DM12:
Utility Infrastructure**

Development will be permitted provided that;

1. Adequate infrastructure exists to facilitate the development and there are no capacity issues, either within the infrastructure itself or within the water bodies affected; or
2. Where infrastructure facilities or capacity levels are inadequate and therefore new infrastructure/upgrades/works are required:
 - i. the receiving water bodies have not reached their natural capacity to absorb and assimilate impacts of abstraction and discharges, unless the new infrastructure/ upgrades/ works could resolve these issues; and

- ii. private contributions or provision can be made to secure that the new infrastructure/upgrades/works have been completed prior to the development commencing; or
 - iii. where planned works are known development does not come forward until upgrades works have been carried out or interim measures have been suggested.
3. Services are routed underground as far as possible:
- i. In any event reduce damage or disturbance to the environment, and
 - ii. If services cannot be placed underground, justification as to why this is not feasible should be provided as part of the application; and
4. The provision constitutes an orderly and coordinated approach to the effective provision of services.

Interim measures will only be considered where known improvements are scheduled for the public sewer. Where interim measures are considered appropriate, planning conditions will be applied or planning obligations will be sought through negotiations, to require connection to the public sewer once the necessary improvements have been completed. Any proposed improvement schemes should not have a significant adverse effect on the environment, amenity or public health. The interim measures should also not affect future works and should minimise future work and cost.

8.3.34 These effects are further mitigated by National Policies in PPW and TAN 5 and LDP Policies DM14: Nature Conservation and Ecological Connectivity and DM22: General Environmental Protection and Enhancement. Therefore, when considered with mitigation, these policies should have no likely significant effects from abstraction, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be 'de-minimis'.

8.3.35 However, there is still potential for effects from development close to International Sites affecting hydrology and micro-climate. The policies above will only ensure there are no significant effects and so to further mitigate and in order to ensure no presumption of development, a HRA caveat, as explained above, was introduced into the explanatory text in Policy DM14: Nature Conservation and Ecological Connectivity to make it clear that any development that would be likely to have a significant negative effect on an International Site would not be in line with the LDP. Therefore, just because a policy steers a type of development towards a particular area does not guarantee development there, it will still be subject to other policies within the LDP and national policies.

- 8.3.36 Therefore, when considered with mitigation, these policies should have no likely significant effects, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be 'de-minimis'.

Allocations

Assessment of the effects

- 8.3.37 In consultation with DC/WW we have been able to confirm that there is sufficient capacity for all the housing allocations and mixed use allocations with a housing element (Dwr Cymru Welsh Water, 2009) and (Dwr Cymru Welsh Water, 2010b).

- 8.3.38 Therefore, for the south of the county, as there are currently no water resources issues on the Afon Teifi, even when combined with other parts of the plan and other plans and projects, the housing allocations and mixed use allocations with a housing element that are abstracted from the two abstraction points in the Afon Teifi will have a 'de-minimis' effect on the Afon Teifi SAC, Cardigan Bay SAC and Cors Caron SAC and Ramsar. This is because the abstraction licence is already in place and would have no effect at full capacity and any future non-public water supply development that requires an additional abstraction licence will be assessed with that in mind. Abstraction licences are provided on a first come, first serve basis, as long as the application meets the requirements of the EAW.

- 8.3.39 As the north of the county is supplied via two ground water abstractions, it is unknown whether they are having effects on Pen Llyn a'r Sarnau as one of the consents is unlicensed. However, this is because it is in an area currently designated as a groundwater licence exempt area (Dwr Cymru Welsh Water, 2010b). In addition, no issues have been highlighted and all abstraction licences were screened out in stage 1 of the RoC of Pen Llyn a'r Sarnau SAC (Environment Agency Wales, 2007a and 2009c). Furthermore, there is potential for there to be water available in the lower reaches of the Rheidol, Castell & Melindwr catchment which suggests there are unlikely to be issues in Pen Llyn a'r Sarnau SAC in terms of abstractions (Environment Agency, 2010d). Therefore, as DC/WW are happy that there is sufficient capacity for the housing in the north, there will be no significant effect from these allocations.

- 8.3.40 The mineral allocations for mineral workings extensions will have no effect because, one of them does not abstract water and the other will not require abstraction of any more water. Currently the abstraction is small and well below what is licensed. All licences were probably assessed in the EAW Review of Consents where the abstractions were found to have no effect at the full licence capacity.

- 8.3.41 However, the employment allocations and mixed use allocations (the non-housing element) have the potential to have an effect on the Afon Teifi SAC, Cardigan Bay SAC, Pen Llyn a'r Sarnau SAC

through abstraction, resulting in reduced or altered flow rates, loss of habitat and decreased water quality. Particularly, E0501 and E0502 in Lampeter as, as described above, the Afon Dulas has restricted abstraction. Although the class use is known for these sites, it is unclear how much water any developments within these allocations will need, and so it will depend on how these allocations are implemented. It's unlikely that most of the mixed use allocations will have a significant effect as they are mainly re-development.

- 8.3.42 All other allocations (e.g. Transport) will have no effect as they do not require abstraction or the abstraction is away from vulnerable sites.

Mitigation

- 8.3.43 All development within Ceredigion will be subject to LDP Policy DM12: Utility Infrastructure as described above. The effects of these are further mitigated by National Policies in PPW and TAN 5 and LDP Policies DM14: Nature Conservation and Ecological Connectivity and DM22: General Environmental Protection and Enhancement.

- 8.3.44 In addition, the following has been included in the monitoring chapter of the LDP Deposit:

The AMR will monitor the effectiveness of the LDP and identify any issues that need addressing. In addition to the AMR throughout the year local, regional and national publications, policies, reports and events will be reviewed to ensure any issues relevant to the LDP are identified and where applicable addressed.

The outcomes of monitoring could require action by the LPA or its partners, to improve delivery. Alternatively, it might identify a need for a partial or full review of the LDP. Changes could be direct or indirect in nature. For instance changes to schemes e.g. the Cardigan Bay SAC Management Scheme, that were identified in the HRA and SA/SEA as mitigation measures, would necessitate a revision of the HRA and SA/SEA assessment of one or more policies within the LDP, which would indirectly result in the policy amendments or additions. Any amendments to the LDP may need to be reassessed under SEA Regulations and/or Habitats Regulations.

- 8.3.45 This will include the review of the results of the forthcoming North Ceredigion CAMS to see whether any water resources issues are flagged up for either the groundwater abstractions or Pen Llyn a'r Sarnau SAC.

- 8.3.46 Therefore, when considered with mitigation, these allocations should have no likely significant effects, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be 'de-minimis'.

Conclusion

- 8.3.47 Therefore, once mitigation was taken into account, none of the LDP policies or allocations were found to have a likely significant effect alone or in-combination with other parts of the plan or other plans or projects and therefore will not have an effect of reduced or altered flow rates, effect on hydrology, effect on micro-climate, loss of habitat and decreased water quality from abstraction and development near sites.

Effect	International Sites	Likely sig. effect alone	Likely sig. affect in-combination	Appropriate Assessment ?
Water availability	All	X	X	No

Future considerations

- 8.3.48 As highlighted in the HRA Screening Report Pre-Deposit Version, although it is likely that the current capacity will be able to meet the needs of development during this plan's lifetime, it's possible that by the end of the 15 year period there could be uncertainty as to whether there is capacity for another 15 years. Ceredigion is a high rain fall area and so there shouldn't be a deficit in water, particularly with increased storm events, however, due to the lack of water storage this could be a sincere possibility in the future. Additionally, the predicted hotter drier summers will put pressure on water availability. The Ceredigion LDP can assist with this through the requirement for developments to incorporate the use of SUDs, water butts and grey water.

8.4 Water Quality**Potential effect of development**

- 8.4.1 Depending on location, type of development and discharge requirements, development potentially could affect International Sites through increased wastewater disposal and abstraction, pollution or increased sediment affecting water quality.
- 8.4.2 Effects of the plan on reduced water quality from abstraction are discussed above in 'Water availability, effects on hydrology and effects on micro-climate', 7.2 to avoid repetition.
- 8.4.3 Reduced water quality is a major effect that can come from increasing development, as it can come from so many sources. Reduced water quality can affect river and marine SACs and most terrestrial habitats are sensitive to pollution.

Current issues and background information**EA River Basin Management Plans (RBMP)**

- 8.4.4 The EA West Wales RBMP (Environment Agency, 2009b) has identified significant water management issues for the West Wales

river basins. Of the eight significant issues, seven were related to water quality, the following five of which could be affected by the LDP and affect International Sites features;

- a. Phosphorus in rivers and standing waters;
- b. Mines and mine waters;
- c. Organic pollution (ammonia and biochemical oxygen demand);
- d. Sediment (rivers and lakes); and
- e. Acidification.

8.4.5 Phosphorous is a major plant nutrient and enters water bodies from either diffuse agricultural pollution or sewage effluent. High amounts of phosphorous are a contributor to eutrophication in freshwaters. There are some water bodies through the county that are failing their Water Framework Directive (WFD) objectives through their chemical status of phosphorus. Several catchments on the Teifi are 'probably at risk' or 'at risk' from phosphorus affecting water quality. There are possibly also small catchments of the Tywi 'at risk'. The river basin is 'probably not at risk' from high levels of phosphorus in the groundwater (Environment Agency, 2009b).

8.4.6 Mines and mine waters are toxic to river ecosystems, containing several metals, affecting the food web and adding to acidification due to the low pH. Several disused mines are scattered around the county and although now disused, are still having an effect on the water quality from run-off. Liming is used in some areas to try to counteract the effects, e.g. the Teifi. Tributaries of the Wye and Pen Llyn a'r Sarnau 'at risk', and parts of the Teifi and the Dyfi estuary are 'probably at risk' (Environment Agency, 2009b). However, Grogwynion SAC relies on the metals released from these mines so any capping of works or remediation may have an effect.

8.4.7 Organic pollution, in terms of ammonia and biological oxygen demand (BOD) mainly comes from treated sewage effluent. Ammonia is toxic to fish and other aquatic life, depending on the temperature and pH of the water. BOD is a measure of the demand that biological organic matter has on oxygen. The higher the BOD, the less oxygen available which can have big impacts on the ecosystem. Over the last 15 years these issues have improved greatly with tightening of standards and the cessation of the discharges of raw sewage to coastal waters. There are some water bodies through the county that are failing their Water Framework Directive (WFD) objectives through their chemical status of dissolved oxygen and ammonia. The Teifi is 'at risk' from ammonia and BOD levels in many of its upper catchments (Environment Agency, 2009b).

8.4.8 Increases in sediment over and above the natural levels can have a big impact on river ecosystems, affecting fish survival at all stages

and reducing photosynthesis through reduction in light and coating. Sediments can also carry pollutants such as phosphorus, metals and other toxic compounds. These can also be disturbed during flooding events. Main contributors to increased suspended sediment are construction on river banks, forestry and agricultural run-off and any other activity causing accelerated erosion e.g. canoe launch points. Also a contributor is treated sewage effluent and other run-off from roads etc and water related recreation churning up the sediment. Many of the Teifi and Tywi catchments are 'at risk' from suspended sediments (Environment Agency, 2009b).

- 8.4.9 Acidification is discussed in more detail under air quality. Additional contributors to acidity are woodlands/forestry and metal mines.

EAW Review of consents

- 8.4.10 The Review of Consents (RoC) process has highlighted two continuous discharges to go through to stage 4 as they could be having an adverse impact on the integrity of the Afon Teifi SAC (Environment Agency Wales, 2007a). This is due to one being marginally non-compliant with Phosphate standards and the other a breach in water quality of the receiving water course on BOD and ammonia. The former could cause nutrient enrichment affecting oligotrophic to mesotrophic standing waters. The latter could be affecting brook, river and sea lamprey, Atlantic salmon and otter, either alone or in-combination with other pollution as low oxygen levels limit migration and distribution and disrupt food webs. The environmental outcomes from this assessment were;

- a. Achieve guideline phosphorus (P) standard in the receiving watercourse through appropriate action on all sources of P
- b. To ensure water Quality Objectives (RE classification) for BOD & Ammoniacal-N are met in the receiving watercourse downstream of failing discharge (Hood, A & Potter, L, 2008)

- 8.4.11 A further 13 intermittent discharges were taken forward to stage 4 and would have been dealt with by the AMP 4 improvement scheme (Environment Agency Wales, 2007a)

- 8.4.12 The Cardigan Bay SAC Review of Consents has confirmed that currently there are no effects from consented discharges alone and in-combination. There are several discharges that discharge directly to the sea or into the low reaches of rivers that enter the sea at Cardigan Bay that could start to have an effect if pressure is put on these systems (Environment Agency Wales, 2009c).

- 8.4.13 This RoC detailed how a recent study showed that diffuse sources account for 91% of the total input of BOD, 84% of the ammonium-N input and 98% of the total oxidised nitrogen input to the Teifi catchment. Studies elsewhere in South Wales have shown that suspended solids inputs from point sources are also relatively

insignificant compared with diffuse inputs. This is likely to be especially true in a rural area such as Ceredigion (Environment Agency Wales, 2009d).

- 8.4.14 Of the 4 discharge consents that were found to have a likely significant effect on the Dyfi SPA, none were found to be having an adverse effect on site integrity (Environment Agency Wales, 2008b).
- 8.4.15 The Afon Twyi SAC RoC found that 5 consents could have an adverse effect on the SAC. These however were all put forward to AMP4 (Environment Agency Wales, 2009a).
- 8.4.16 The River Wye SAC RoC identified 282 consents that could be having an adverse effect on the SAC. Three of these consents were revoked, 20 were modified and 259 were affirmed (Environment Agency Wales, 2009d).
- 8.4.17 Five consents were found potentially to have a likely significant effect on Cors Fochno SAC. However, when looked at in more detail these were found to be having no adverse effect on the integrity of the site (Environment Agency Wales, 2007b).
- 8.4.18 One consent was found potentially to have a likely significant effect on Rhos Talglas SAC. However, when looked at in more detail this was found to be having no adverse effect on the integrity of the site (Environment Agency Wales, 2008c).
- 8.4.19 Three consents were found potentially to have a likely significant effect on Rhos Llawr Cwrt SAC. However, when looked at in more detail these were found to be having no adverse effect on the integrity of the site (Environment Agency Wales, 2007d).
- 8.4.20 All other International Sites either had no relevant permissions, no discharge consents were thought to be having an effect or are not affected by discharge consents.

Other sources of information

- 8.4.21 The Ceredigion Shoreline Management Plan (Cardigan Bay Coastal Group, 2004)) identified areas where the beaches were eroding, adding to sedimentation, and where there are storm effluent emergency discharges into the sea. This could be used at an increasing rate with climate change. The draft Shoreline Management Plan 2 is not yet available.

Consultation

- 8.4.22 DC/WW have also identified, through the allocation consultation, that some of the sewage works have limited capacity (Dwr Cymru Welsh Water, 2010a). If these issues are not sorted then this could have a negative impact on water quality within the SAC.

- 8.4.23 In addition, the local EA officers raised concerns on the capacity of the works at Cardigan (Environment Agency Wales, 2010a).

Conclusion of current issues

- 8.4.24 The Review of Consents documents, the River Basin Management Plans and consultation with DC/WW and EAW has confirmed that in general there are currently limited effects on the International Sites from discharge of sewage effluent. The main effects appear to be from diffuse pollution from agriculture and forestry.
- 8.4.25 There are a few localised areas where discharges from WwTW are having an effect. However, these were put forward for AMP 5 and therefore should be dealt with. DC/WW have also identified, through the allocation consultation, that some of the sewage works have limited capacity (Dwr Cymru Welsh Water, 2010a).
- 8.4.26 There appear to be some sediment issues in the rivers but this is likely to be mainly from agriculture.
- 8.4.27 There are no known current issues with pollution on the International Sites.

Policies

Assessment of the effects

- 8.4.28 The majority of policies were found to have no effect or were dealt with through other policies. However, there were a few policies that without mitigation, had the potential to have an effect.
- 8.4.29 Policy S06: Opportunities for Housing Growth aims to provide 6000 new homes over the plan period. Although this policy contains a spatial element, this is dealt with in the assessment of Policies S02-S04, however, just the sheer magnitude of development has the potential to have an effect due to the issues described above and the effects of intensifying this from increased growth.
- 8.4.30 In addition, the following policies, although they are criteria based policies, depending on how they are implemented, may have a significant negative effect on the International Sites through increased pressure on WwTW or direct discharges decreasing water quality;
- S02: Urban Service Centres (USCs);
 - S03: Rural Service Centres (RSCs);
 - S04: Settlements and Locations other than Service Centres;
 - LU03: Affordable Housing;
 - LU14: Countywide Tourism Accommodation sites: Static and Touring Caravans, Camping pitches, Cabins and Chalets;
 - LU16: Tourism Accommodation – Types of Accommodation not covered by Policy LU14;
 - LU17: Tourism Facilities/Attractions;

- LU22: Community, Leisure and Recreation Facilities and Services; and
- LU31: Resource Recovery and Waste Management Facilities.

8.4.31 This is because either they steer development towards the USCs, RSCs and LSSs, of which a large proportion are likely to discharge into the Afon Teifi, may discharge into the other International Sites' catchments, or, in the case of Policy LU31, permit the storage and recycling of construction, demolition and excavation waste within active mineral sites, former quarry sites and within or immediately adjacent to farm complexes.

Mitigation

8.4.32 All development within Ceredigion will be subject to Policy DM12: Utility Infrastructure. In addition, all development within Ceredigion which has a physical structure will be subject to the legislative requirements of the Flood and Water Management (FWM) Act 2010, which requires all developments to put in place a Sustainable Drainage System (SUDS), and LDP Policy DM13: Sustainable Drainage Systems which furthers the requirements of the Act. The aim of SUDs is to ensure that the run-off rate of the land is not more than that of what was originally there and the run-off does not contain pollution.

8.4.33 The effects will be further mitigated by National Policies in PPW and TAN 5 and LDP Policies DM14: Nature Conservation and Ecological Connectivity and DM22: General Environmental Protection and Enhancement. The Settlement Group Statements (including the Allocated Sites Schedule) and the Council website also highlight capacity issues.

8.4.34 However, there is still potential for effects from Policy LU31 as the FWM Act and Policy DM13 do not apply to development without a physical structure and so the policies above will only ensure there are no significant effects. In addition, the other policies could result in sedimentation and pollution during construction. Therefore, to further mitigate and in order to ensure no presumption of development, a HRA caveat, as explained above, was introduced into the explanatory text in Policy DM14: Nature Conservation and Ecological Connectivity to make it clear that any development that would be likely to have a significant negative effect on an International Site would not be in line with the LDP. Therefore, just because a policy steers a type of development towards a particular area does not guarantee development there, it will still be subject to other policies within the LDP and national policies.

8.4.35 Therefore, when considered with mitigation, these policies should have no likely significant effects, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be 'de-minimis'.

Allocations*Assessment of the effects*

- 8.4.36 In consultation with DC/WW we have been able to confirm where there is capacity, where there are capacity issues with WwTW and where there are local sewerage problems.
- 8.4.37 All housing allocations in Llwynceilyn, Llandysul, Aberporth, Felinfach/Ystrad Aeron, Llanarth, Llanon, Llanrhystud, Penrhyncoch, Y Borth and one in Pontrhydfendigaid have been described as having limited capacity in their WwTW. There are also localised sewerage issues for allocations H0301, H0302 and H0306 (Aberystwyth) H0801, H0802, H0805 and H0806 (Aberporth/Parc Llyn), H1001 (New Quay), H1301 (Llanarth) H2001 (Pontrhydfendigaid) and all housing within Llandysul, Tregaron, Felinfach/Ystrad Aeron, Penrhyncoch and Y Borth and the mixed use allocation M0701 (Tregaron). Local EAW officers are also concerned about capacity issues in Cardigan. (DC/WW, 2010a and Environment Agency Wales, 2010c). In addition, sites in Lampeter and Tregaron may have an effect as the WFD scores are moderate in the section the WwTW enters the Teifi. It is moderate for dissolved oxygen (and copper, cypermethrin and zinc). Also, Teifi is at risk from failing WFD objectives from ammonia and BOD around Tregaron, Llandysul and Lampeter. Therefore we cannot rule out effects.
- 8.4.38 All other housing allocations were described as having no sewage works capacity issues or local sewerage issues and therefore should not require further discharge consents.
- 8.4.39 If these issues are not resolved, this could have an effect on water quality. Also, to resolve these issues, new treatment works may be required resulting in a new discharge consent.
- 8.4.40 In addition, the requirements for discharges (magnitude, contents and whether it will be treated) from the employment allocations and the mixed use allocations (the non-housing element) are unknown and therefore could have a significant effect. The mixed use allocations are mainly re-developments so should have a minimal impact. Local EAW officers are concerned about capacity issues in Cardigan. There are no other known issues where the employment allocations are likely to discharge.
- 8.4.41 The mineral allocations for mineral workings extensions will have no effect because, one of them does not release a discharge and the other will not require to discharge any further wastewater. Currently the discharge is small. All licences were assessed in the EAW Review of Consents, which should have included this one and all discharge was found to have no adverse effect at the full licence capacity.

- 8.4.42 All other allocations (e.g. transport) will not discharge waste water or are not likely to discharge into the Afon Teifi catchment due to their geographical location.
- 8.4.43 The housing allocations in H0101, H0102 and H0104 (Aberaeron), H1002 (New Quay), H1301 (Llanarth), H1401 (Llanilar), H1501 and H1502 (Llanon), H2002 (Pontrhydfendigaid) and H2103 (Talybont), employment allocations E0301, E0302, E0303 and E0305 (Aberystwyth) and all employment allocations in Cardigan and Lampeter, mixed use allocations M0303, M0305 and M0306 (Aberystwyth), mineral application MNA0201 and transport allocation T0301 are on the river bank, have ditches/streams running through or are adjacent to ditches/streams that run into some of the International Sites. Therefore they could have a significant negative affect from suspended sediment entering the water courses from the construction process and run-off.
- 8.4.44 Also, the transport allocation T2101 is adjacent to the Pen Llyn a'r Sarnau SAC and Cors Fochno and Dyfi Ramsar so could also have an effect during construction and from run-off.
- 8.4.45 In addition, all other housing, mixed use and employment allocations are either adjacent to a water course, near one or potentially could have run-off piped to one within the International Sites' catchments.. Furthermore, the run-off from employment allocations (Cardigan, Lampeter, Llandysul, Horeb, Aberporth and Felinfach/Ystrad Aeron) could also contain more pollution depending on the employment that is developed.
- 8.4.46 Although not technically an allocation, the SSA D 'preferred search area' has ditches running through that eventually lead to the Pen Llyn a'r Sarnau SAC.

Mitigation

- 8.4.47 All development within Ceredigion will be subject to Policy DM12: Utility Infrastructure. In addition, all development within Ceredigion which has a physical structure will be subject to the legislative requirements of the Flood and Water Management Act 2010, which requires all developments to put in place a Sustainable Drainage System (SUDS), and LDP Policy DM13: Sustainable Drainage Systems which furthers the requirements of the Act. The aim of SUDs is to ensure that the run-off rate of the land is not more than that of what was originally there and the run-off does not contain pollution.
- 8.4.48 The effects of these are further mitigated by National Policies in PPW and TAN 5 and LDP policies DM14: Nature Conservation and Ecological Connectivity and DM22: General Environmental Protection and Enhancement.

- 8.4.49 In addition, the Allocated Site Schedules detail when there are water courses adjacent or near to the allocations and say that these should be protected in line with national policies and Policies DM14, DM15 and DM22. The Settlement Group Statements also highlight capacity issues.
- 8.4.50 However, the FWM Act and Policy DM13 do not apply to development without a physical structure and so the Mineral allocation MNA0201 could have an effect. Also allocations T2101, E0201, E0202, E0203, E0501 and E0502 are directly adjacent or very close to the Afon Teifi SAC, Cardigan Bay SAC, Pen Llyn a'r Sarnau SAC and/or Cors Fochno and Dyfi Ramsar and therefore could have effects from construction.
- 8.4.51 Therefore, in order to ensure no presumption of development that may result in decreased water quality, a HRA caveat was introduced into Policy DM14 and linked in the Allocated Site Schedules for the sites MNA0201, T2101, E0201, E0202, E0203, E0501 and E0502 affected.
- 8.4.52 Therefore, when considered with mitigation, these allocations should have no likely significant effects, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be 'de-minimis'.

Conclusion

- 8.4.53 Therefore, once mitigation was taken into account, none of the LDP policies or allocations were found to have a likely significant effect alone or in-combination with other parts of the plan or other plans or projects and therefore will not have an effect of decreased water quality from wastewater disposal and abstraction, pollution or increased sediment.

Effect	International Sites	Likely sig. effect alone	Likely sig. affect in-combination	Appropriate Assessment?
Water quality	All	X	X	No

8.5 Increased disturbance and erosion

Potential effect of development

- 8.5.1 Depending on location, type of development and scale, development potentially could affect International Sites through increased disturbance and erosion from increased recreation.
- 8.5.2 The Afon Teifi SAC, Cardigan Bay SAC, Cors Caron SAC and Ramsar, Dyfi Estuary SPA, Elenydd-Mallaen SPA, Pen Llyn a'r Sarnau SAC, Afon Tywi SAC and River Wye SAC could be affected by increased disturbance to mobile species. Of particular concern to the sites with otters as a feature is any development that increases

dog walkers as dogs can disturb otters both physically and through scent and anything that is on or within the watercourse that could disturb otters or fish, or the sediment affecting fish eggs. Other issues include disturbance of dolphins and seals from water related recreation including boating, swimming, wildlife watching etc. and disturbance to birds from walking, off-roading and wildlife watching.

- 8.5.3 Coed Cwm Einion SAC, Coedydd a Cheunant Rheidol SAC, Cors Caron SAC and Ramsar, Cor Fochno SAC, Cors Fochno and the Dyfi Ramsar, Cwm Doethie-Mynydd Mallaen SAC, Elenydd SAC, Grogwynion SAC, Rhos Llawr Cwrt SAC and Rhos Talglas SAC could be affected by erosion of the habitat from increased visitors either from walking or motorised vehicles. In addition, some site could be affected by people removing log piles.

Current issues and background information

- 8.5.4 Statistics from the 1991 census indicate that for the mid-Wales area the origin of domestic visitors was West Midlands (39%), Wales (19%) and S.E. England (17%) (1991 census as cited by Ceredigion County Council *et al*, 2001).

- 8.5.5 Currently, it is thought that 71% of the total river length in Wales are used for water related recreation, although only 4% of the length has navigational rights and 2% is covered by pilot canoe access agreements. The majority of the Teifi's length has game fishing rights, but only a small length has navigation (Teifi estuary) and canoeing access rights (Llandysul and Teifi Estuary). Additionally, 59% of enclosed waters are currently being utilised for water related recreation, however, there are currently no inland areas for sailing and windsurfing in Ceredigion. The coast and estuaries are used for a wide range of activities (20+ on the coast, 15+ in the estuaries) including swimming, sailing, angling, surfing, cruising and use of personal watercrafts. Around 97-98% of coastal waters, estuaries and canals in Wales are used by at least one water related recreational activity. (University of Brighton , 2008))

- 8.5.6 According to the Welsh Outdoor Recreation Survey (Countryside Council for Wales, 2008)), 27.3% of people surveyed had been swimming outdoors, 4.6% had undertaken a motorised water sport and 9.6% had undertaken another form of water sport in the last 12 months. In addition, the majority of people would not travel more than 5 miles to the outdoors.

- 8.5.7 According to a survey in 2009, only 18.7% of people in Wales participated in any water sport activity in 2009 and 4.4% participated in a boating activity (Royal Yachting Association, 2009). In addition, around 3.4% of households in the UK were found to own a boat (including canoes, power boats etc) in the Wales/West/South West region in 2009 by the same study. The total number of boats

estimated to be owned in the Wales/West/South West region is 110,248.

- 8.5.8 The Draft Cambrian Mountains Recreational Vehicle Pilot Project (exeGesIS SDM Ltd, 2008)) has highlighted the problem of legal and illegal off-roading in the Cambrian Mountains and the need to manage a network that balances both the requirement for routes for this activity and the impact on the Cambrian Mountains, including natural heritage, archaeological heritage, remoteness and surface suitability. It was estimated that 38% of motor vehicle traffic was recreational. A length of 609 km was surveyed which is thought to be the current network, including tracks over several protected sites. The potential managed network proposed is around 173 km, however it is thought it will turn out to be much smaller. This still includes areas over the International Sites.
- 8.5.9 There are 2506 km of Rights of Way in Ceredigion and some areas of 'open access' (25,993 hectares) which include areas on or beside most of the International Sites in Ceredigion. In Wales, 51% of people walk for pleasure, with 33% of countryside visits being for walking, hill-walking and rambling. (Ceredigion County Council, 2008b)
- 8.5.10 An acceptable walking distance for people in a settlement is 400m (The Institution of Highways and Transportation, 2000). Therefore, with sites that could be affected by dog walkers on breeding otters, a 400m distance from an accessible watercourse could have an effect.
- 8.5.11 According to the Welsh Outdoor Recreation Survey (Countryside Council for Wales, 2008), 31% of people asked had participated in wildlife watching in the previous 12 months.
- 8.5.12 Currently, Cors Caron SAC is able to easily absorb an increase in visitors and in fact looks to increase them as it is a National Nature Reserve. In addition, a couple of the other International Sites have limited access and therefore an increase in population is unlikely to have an effect.

Consultation

- 8.5.13 In consultation with CCW it was agreed that although there is potential for the LDP to have an effect of increasing recreation on the marine sites, the level of increase in population is likely to be insignificant. As long as the Ceredigion LDP does not contain any proposals that encourage recreation, and the Cardigan Bay SAC Management Scheme and Recreational Boating Scheme continue, no significant effects are likely. This is likely to be the same for Pen Llyn a'r Sarnau SAC. (Countryside Council for Wales, 2010a)

In addition, it was agreed with CCW that development within 1 field of the Afon Teifi SAC, Afon Tywi SAC, River Wye SAC and Pen Llyn a'r Sarnau SAC or of any water course associated with them, is the most likely to have an effect on direct disturbance of otters. In addition, it was agreed that housing within walking distance of an accessible water course could increase disturbance if the area was used for breeding as it is likely to increase dog walkers (Countryside Council for Wales, 2010c)

Conclusion of current issues

- 8.5.14 Although the plan has several potential ways that it could affect the International Sites through increased recreation, it is likely that it would not be a significant increase compared to the number of tourists and current visitors to the sites. Additionally, some of the sites are not sensitive to or are easily able to absorb the increases in visitors or are not accessible to the public.

Policies

Assessment of the effects

- 8.5.15 The majority of policies were found to have no effect or were dealt with through other policies. However, there were a few policies that without mitigation, had the potential to have an effect.
- 8.5.16 Policy S06: Opportunities for Housing Growth aims to provide 6000 new homes over the plan period. Although this policy contains a spatial element, this is dealt with in the assessment of Policies S02-S04, however, just the sheer magnitude of development has the potential to have an effect due to the increase in recreation, including boating, in Cardigan Bay SAC and Pen Llyn a'r Sarnau SAC from increased population. However, as only 4.4% of people in Wales participated in a boating activity in 2009 (Royal Yachting Association, 2009). Also, only 18.7% of people in Wales were found to participate in any water sport activity (Royal Yachting Association, 2009). Therefore, due to the actual population increase that 6000 homes will provide for (around 7,400 people), the increase in people taking part in boating activities is likely to be around 300 more people in the 15 years. In addition, around 3.4% of households in the UK were found to own a boat (including canoes, power boats etc) in the Wales/West/South West region in 2009 by the same study. This would relate to only around an additional 200 households owning a boat. Considering the total number of boats estimated to be owned in the Wales/West/South West region is 110,248, an additional 200 is minimal. Therefore, the increase in people taking part in boating activities will not be a significant effect.
- 8.5.17 Additionally, the following policies, although they are criteria based policies, depending on how they are implemented, may have a significant negative effect on the International Sites through increased disturbance and erosion from development and recreation.

- S02: Urban Service Centres (USCs);
- S03: Rural Service Centres (RSCs);
- S04: Settlements and Locations other than Service Centres;
- LU14: Countywide Tourism Accommodation sites: Static and Touring Caravans, Camping pitches, Cabins and Chalets;
- LU16: Tourism Accommodation – Types of Accommodation not covered by Policy LU14;
- LU17: Tourism Facilities/Attractions;
- LU22: Community, Leisure and Recreation Facilities and Services; and
- LU31: Resource Recovery and Waste Management Facilities.

8.5.18 This is because either they steer development towards the USCs, RSCs and LSs, of which a large proportion are near to International Sites, or, in the case of Policy LU31, permit the storage and recycling of construction, demolition and excavation waste within active mineral sites, former quarry sites and within or immediately adjacent to farm complexes.

Mitigation

8.5.19 The effects will be mitigated by National Policies in PPW and TAN 5 and LDP Policies DM14: Nature Conservation and Ecological Connectivity, LU23: Existing open space and LU24: Provision of New Open Space.

8.5.20 However, it was felt that this was not enough to ensure there are no significant effects and so to further mitigate and in order to ensure no presumption of development, a HRA caveat was introduced, as described above, into the explanatory text in Policy DM14: Nature Conservation and Ecological Connectivity to make it clear that any development that would be likely to have a significant negative effect on an International Site would not be in line with the LDP. Therefore, just because a policy steers a type of development towards a particular area does not guarantee development there, it will still be subject to other policies within the LDP and national policies.

8.5.21 Therefore, when considered with mitigation, these policies should have no likely significant effects, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be ‘de-minimis’.

Allocations

Assessment of the effects

8.5.22 Housing allocations in Cardigan, Lampeter, Tregaron (H0701), Cenarth (H1102 and H1103) and Pontrhydfendigaid and mixed use allocation M0701 could potentially have a significant negative effect on the Afon Teifi SAC through otter disturbance alone as they are within 400m (The Institution of Highways and Transportation, 2000) of an accessible watercourse potentially used by otters for breeding. However, this is uncertain as it is unknown whether otters use these

sections for breeding. Also, employment allocations E0202, E0501 and E0502 are directly adjacent to the Afon Teifi SAC and so could potentially have an effect of disturbance from construction or removing lying up areas. E0201, although more than 1 field away, is adjacent to woodland which is 1 field away and therefore also has a potential to have an effect.

- 8.5.23 Housing allocations H0304 (Aberystwyth), H1401 (Llanilar) and H2103 (Talybont) could potentially have a significant negative effect on the Pen Lyn a'r Sarnau SAC through otter disturbance alone as they are within 400m of an accessible watercourse potentially used by otters for breeding. However, this is uncertain as it is unknown whether otters use these sections for breeding. Also, employment allocations E0301, E0302 and E0305 (Aberystwyth), mixed use allocation M0303 and transport allocation T0301 are directly adjacent to or within 1 field of watercourses that could be used by otters and therefore could potentially have an effect of disturbance from construction or removing lying up areas.
- 8.5.24 Allocations H1901 and H1902 (Devils Bridge) are within 400m of a footpath that goes through the Coedydd Cheunant Rheidol SAC. This could have a negative effect on the SAC through increasing erosion and removal of log piles through increased visitors. However, this would not be significant.
- 8.5.25 Housing allocation H2001 (Pontrhydfendigaid) is within 400m of a footpath that goes through Cors Caron SAC and Ramsar. This could have a negative effect through increasing erosion of the habitat and disturbance of otters and water voles through increased visitors. However, these effects would be 'de-minimis' as Cors Caron is not sensitive to visitor pressure and being a National Nature Reserve, an increase in visitors is encouraged.
- 8.5.26 Housing allocations H2103 and H2104 (Talybont) and H2201 and H2202 (Borth) are within 400m of a footpath that goes to Cors Fochno SAC and Cors Fochno and Dyfi Ramsar. This could have a negative effect through erosion through increased visitors. However, these effects would be 'de-minimis' as the footpath is quite a distance before it reaches the site and the sensitivities on site are minimised with a boardwalk.
- 8.5.27 The majority of the housing allocations are within 5 miles of an International Site, the distance the majority of people in Wales would travel to the outdoors (Countryside Council for Wales, 2008). Therefore could have a negative effect on the Sites through increased recreation. However, none of these on their own would be significant, and many would have 'de-minimis' effects.
- 8.5.28 Transport allocation T2101 (Dyfi railway improvement access) is adjacent to the Dyfi Estuary SPA, Pen Llyn a'r Sarnau SAC and Cors

Fochno and Dyfi Ramsar. This could have an effect through increasing the number of people who have access to the footpath and therefore increasing disturbance and erosion. However, these effects would not be significant.

- 8.5.29 There is a potential for the housing and mixed use allocations to increase boating and other water related recreation within Cardigan Bay SAC and Pen Llyn a'r Sarnau SAC through a population increase. This could result in disturbance of bottlenose dolphins and grey seals. However, this issue is not location specific and although may be more likely near the coast, it essentially could occur wherever the allocations are. Therefore, this issue in terms of housing is dealt with above in the assessment of Policy S06: Opportunities for Housing Growth. In addition, the mixed use allocations will have a 'de-minimis' effect as they will not generally increase population, with the exceptions of M0306 and M0701 which may still have a negative effect. All the other allocations will not increase boating traffic.

Mitigation

- 8.5.30 The effects will be mitigated by National Policies in PPW and TAN 5 and LDP Policies DM14: Nature Conservation and Ecological Connectivity, LU23: Existing open space and LU24: Provision of New Open Space.

- 8.5.31 However, because of the unknown effects from the increase of housing within walking distance, construction adjacent to a watercourse associated with the Afon Teifi SAC and Pen Llyn a'r Sarnau SAC and increased access through a road to a car park, in order to ensure no presumption of development that may result in increased disturbance or erosion, a HRA caveat was introduced to the Allocated Site Schedules for the sites affected.

Cumulative effects

- 8.5.32 However, there may still be some effect on Cardigan Bay SAC and Pen Llyn a'r Sarnau SAC from a general increase in population and so it was necessary to look at these sites cumulatively. Even so, all together and combined with other parts of the plan, there would not be a significant negative effect due to the percentage of people who undertake water related recreation and the expected increase in population (7,400).

In-combination effects

- 8.5.33 Again, as there was likely to be some effect, it was necessary to look at these allocations in-combination with other plans or projects. There are several plans which encourage the increase of water related recreation, including the Wales Coastal Tourism Strategy (Welsh Assembly Government, 2007b) and therefore there was a potential for a likely significant effect.

- 8.5.34 However, the effects will be mitigated by National Policies in PPW and TAN 5 and LDP Policies DM14: Nature Conservation and Ecological Connectivity, LU23: Existing open space and LU24: Provision of New Open Space. Also, the Recreational Boating Plan (Ceredigion County Council, 2010c)the Cardigan Bay SAC Management Scheme (Cardigan Bay SAC Relevant Authorities Group, 2001)have identified that disturbance to the SAC features including dolphins is a potential issue and have actions and monitoring to deal with the identified issues. Ceredigion County Council manages the Recreational Boating Scheme and co-ordinate the Cardigan Bay SAC Management Scheme.
- 8.5.35 In addition, although the current Draft Pen Llyn a'r Sarnau SAC Management Scheme (Pen Llyn a'r Sarnau Relevant Authorities Group, in preparation)does not include it, the forthcoming review will most likely identify that disturbance to the SAC features including dolphins is a potential issue and have actions and monitoring to deal with the identified issues. It is not included in the current scheme as dolphins were not a feature when it was drafted. Ceredigion County Council are a Relevant and Competent Authority of this plan. The review is likely to be ready in Summer 2011.
- 8.5.36 However, there is acceptance that these assessments rely on these plans actually being funded and implemented and, therefore, a paragraph has been included in the Monitoring chapter of the LDP which says;

The outcomes of monitoring could require action by the LPA or its partners, to improve delivery. Alternatively, it might identify a need for a partial or full review of the LDP. Changes could be direct or indirect in nature. For instance changes to schemes e.g. the Cardigan Bay SAC Management Scheme, that were identified in the HRA and SA/SEA as mitigation measures, would necessitate a revision of the HRA and SA/SEA assessment of one or more policies within the LDP, which would indirectly result in the policy amendments or additions. Any amendments to the LDP may need to be reassessed under SEA Regulations and/or Habitats Regulations.

- 8.5.37 This will ensure that it if these plans discontinue to address the issues identified (i.e. managing recreational pressures on the Cardigan Bay SAC and Pen Llyn a'r Sarnau SAC), then the LDP will consider whether it is necessary to make alternative provision during plan review.

Conclusion

- 8.5.38 Given that the LDP itself is not proposing any specific policies or developments which are likely to lead to significant effects alone and the Recreational Boating Plan and the Cardigan Bay SAC Management Scheme will seek to both minimise the impacts and

also ensure that over-all impacts are managed effectively, this should provide adequate mitigation and effects will be 'de-minimis'.

- 8.5.39 Therefore, once mitigation was taken into account, none of the LDP policies or allocations were found to have a likely significant effect alone or in-combination with other parts of the plan or other plans or projects and therefore will not have an effect of reduced or altered flow rates or habitat loss from abstraction.

Effect	International Sites	Likely sig. effect alone	Likely sig. affect in-combination	Appropriate Assessment?
Increased disturbance and erosion	All	X	X	No

8.6 Atmospheric deposition

Potential effect of development

- 8.6.1 The International Sites could be affected by the LDP through increased atmospheric deposition from increased emissions from increase in traffic, employment, dust etc.
- 8.6.2 Air pollution such as NO₂, NO_x, NH₃, Ozone, SO₄ and dust including PM₁₀ can lead to negative effects on terrestrial and water habitats. Nitrogen based pollutants can lead to a build up of nutrient nitrogen from atmospheric nitrogen deposition (depositing of pollutants from the air back to the earth's surface). This can then lead to eutrophication of surface waters, which can; de-oxygenate the water, killing fish; increase turbidity, reducing light levels to plants and restricting photosynthesis; and could lead to toxic blooms. This could have severe implications for freshwater SACs, such as the Teifi SAC.
- 8.6.3 Additionally, atmospheric nitrogen deposition can lead to eutrophication of terrestrial habitats, causing a shift in plant competition, eventually causing a change in community composition. This has implications for sites designated for their habitat such as raised bogs.
- 8.6.4 Another effect of air pollution is acid deposition. This is where combined sulphur and nitrogen compound emissions react and are deposited back to the earth surface. This then increases the acidity of freshwater and terrestrial habitats (acidification), affecting water quality, life cycles, species composition of vegetation and bog processes. Additionally, ammonia (NH₃) can react with these sulphur and nitrogen compound emissions to create fine ammonium containing aerosol which can last a lot longer in the atmosphere

than NH₃, consequently it can be transferred much longer distances (100->1000 km) (Air Pollution Information System (APIS)).

Current issues and background information

- 8.6.5 Generally, Ceredigion has low levels of air pollution in the county. NO₂ and NO_x annual mean emissions are relatively low compared to areas in South Wales and areas of England (Centre of Ecology and Hydrology (CEH) website). This is mainly due to Ceredigion being a rural county with no large industrial processes or high concentrations of use of private transport. However, although a rural county, Ceredigion's NH₃ levels are also relatively low compared to other parts of the UK, with some higher peaks in the odd month in 1997, 2003, 2004, 2006 and 2007 (Air Pollution Information System (APIS)) and (CEH). The main contributors from Ceredigion to emissions of sulphur dioxide and nitrogen dioxide are from road traffic (Ceredigion County Council, 2010a).
- 8.6.6 However, local recording has found that nitrogen dioxide emissions are around the Air Quality Standards Regulations (AQSR) 2010 protection of vegetation critical load (CL) for oxides of nitrogen in key monitoring sites of Aberystwyth, Cardigan and Lampeter. These are however at specific high traffic points and background levels are well below the critical load. Sulphur dioxide emissions are well below the Environmental Protection Act CL (Ceredigion County Council, 2010a).
- 8.6.7 Ozone, however, is a bigger problem due to the rural location of Ceredigion. Ground-level ozone is formed from sunlight acting on volatile organic compounds and increases with more sunlight. More urban areas don't usually suffer from as high levels as NO_x emissions inhibit the formation of ozone at roadside and urban locations (AEA, 2007). Ozone levels are at a medium level and have remained relatively stable over the last 10 years, with a slight increase (AEA, 2007)
- 8.6.8 Despite Ceredigion's relatively low production of air pollution, atmospheric deposition is relatively high in Ceredigion (CEH). The main contributions to levels of deposition are likely to be transboundary to the east and south. It is thought that certainly areas such as the West Midlands are contributing but it has also been shown that some of our pollution events can come from as far as Ukraine and Russia depending on air flow patterns (AEA, 2007).
- 8.6.9 According to APIS the main cause of nutrient nitrogen is livestock emissions, with the next largest cause being imported emissions. Combustion from commercial, Institutional & residential sectors (commercial and institutional plants; residential plants; plants in agriculture, forestry and aquaculture) and road transport (passenger cars; light-duty vehicles; heavy-duty vehicles; motorcycles; railways; military; maritime activities; inland waterways; air traffic; agriculture,

forestry and domestic) account for a relatively smaller proportion in most cases, however at some sites it accounts for more. Additionally, the acid deposition rates are largely due to SO₂ emissions from shipping and imported emissions. The rest mainly arises from 14 power stations across Wales and England (outside of Ceredigion) with a small proportion being attributed to combustion in commercial, Institutional & residential sectors.

- 8.6.10 Due to these high levels of deposition, nutrient nitrogen and/or acidity critical loads have still been exceeded in the majority of International Sites assessed in the HRA for one or more of their features, and some of the sites' critical loads are unknown (Air Pollution Information System (APIS)).
- 8.6.11 Often this can be from combined effects, for example, on the Teifi, it is thought that acid deposition is working in combination with run-off from woodlands and metal mines (Environment Agency Wales, 2007a). Additionally, nutrient nitrogen from nitrogen deposition can be working in combination of effects from livestock emissions and other NH₃ producers (APIS website). Pigs and poultry are thought to be the worst offenders and therefore intensive pig and poultry farms are required to apply for an Integrated Pollution Prevention and Control (IPPC) permit under the IPPC Directive 96/61/EC.
- 8.6.12 Despite this air quality monitoring figures for Wales over the last few years tend to indicate a gradual improvement over time with a reduction in atmospheric pollution (Air Pollution in Wales 2004 – Welsh Air Quality Forum 2005, cited by (TraCC (Trafnidiaeth Canolbarth Cymru - Mid Wales Transport Consortium), 2009)). In addition, atmospheric deposition at the International Sites has decreased (Air Pollution Information System (APIS)).

EAW Review of Consents

- 8.6.13 The review of consents process has highlighted that there are no PPC (Pollution Prevention and Control) consents from Ceredigion or the immediate surrounding area having a significant negative effect on the International Sites. Therefore, it was concluded that a large proportion of the effects are from long range sources such as power stations. Source apportionment indicates that imported EAW regulated major point source emissions are contributing to 23.8% of the acid deposition at Elenydd SAC. The rest of the emissions come from point sources within the county (around 7%), transport (around 15%) and diffuse agricultural sources (38%). The remaining 4% comes from non-agricultural emissions.
- 8.6.14 This conclusion has been highlighted to National EA teams in England so that they consider this in their review of consents process. However, data and information is lacking. New IPPC permits will consider long range sources for major contributors to sulphur and nitrogen emissions, using detailed analysis. This

knowledge will then be used in the future with the aim to revisit permits if they are shown to be having an effect.

Consultation

- 8.7 In consultation with CCW it was agreed that although the LDP has the potential to increase air pollution and therefore atmospheric deposition, mainly through traffic increases, this would be insignificant compared to the current air pollution. Therefore, as long as the Ceredigion LDP does not include an unsustainable strategy and proposals that would encourage car travel etc; and it includes measures to help mitigate these effects and encourage more sustainable transport; along with Regional Transport Plan, the LDP should not have a significant negative effect, even in combination (Countryside Council for Wales, 2010b) and (Countryside Council for Wales, 2010c).

Conclusion of current issues

- 8.7.1 Although atmospheric deposition levels are relatively high and critical loads have been exceeded, there is a trend in both air pollution and atmospheric deposition reducing over time. Furthermore, it is clear that the contribution from Ceredigion to the deposition is relatively low and is mainly from road traffic. Therefore, it is unlikely that the Ceredigion LDP would have a significant negative effect.

Policies

Assessment of the effects

- 8.7.2 The majority of policies were found to have no effect or were dealt with through other policies. However, there were a few policies that without mitigation, had the potential to have an effect.
- 8.7.3 Policy S06: Opportunities for Housing Growth aims to provide 6000 new homes over the plan period. Although this policy contains a spatial element, this is dealt with in the assessment of Policies S02-S04, however, just the sheer magnitude of development has the potential to have an effect due to an increase in population potentially resulting in an increase in traffic and therefore emissions and therefore deposition. However, due to the magnitude of growth, this is unlikely to have a significant effect on whether or not the deposition surpasses the critical loads. Although 6000 new homes will be built, the actual number of extra people in the county will not directly relate to this as a lot of the homes will be taken up by people already living in the county (average 2.24 people per household). Population estimates for the plan period estimate an increase in 7,400 people over the plan period (Ceredigion County Council, 2010d).
- 8.7.4 However, it is effectively impossible to determine what (if any) is the actual impact from the development proposed by the Ceredigion LDP on the deposition in relation to the critical loads, therefore, a precautionary approach has been taken.

8.7.5 In addition, the following policies, although they are criteria based policies, depending on how they are implemented, may have a significant negative effect on the International Sites through increased atmospheric deposition;

- S02: Urban Service Centres (USCs);
- S03: Rural Service Centres (RSCs);
- S04: Settlements and Locations other than Service Centres;
- LU14: Countywide Tourism Accommodation sites: Static and Touring Caravans, Camping pitches, Cabins and Chalets;
- LU16: Tourism Accommodation – Types of Accommodation not covered by Policy LU14;
- LU17: Tourism Facilities/Attractions;
- LU22: Community, Leisure and Recreation Facilities and Services; and
- LU31: Resource Recovery and Waste Management Facilities.

This is because they either steer development towards the USCs, RSCs and LSs of which a large proportion are near to International Sites and could increase local air pollution, or, in the case of Policy LU31, permit the storage and recycling of construction, demolition and excavation waste within active mineral sites, former quarry sites and within or immediately adjacent to farm complexes. Although the majority of these would not emit air pollution themselves, they would increase local traffic. In particular, as there are already quite high oxides of nitrogen in the towns of Lampeter and Cardigan, putting further development within these areas could have an effect on dry deposition to the Afon Teifi SAC, as well as background deposition.

Mitigation

8.7.6 The effects will be partially mitigated by National Policies in PPW and TAN 5 and LDP Strategy, LDP Policies DM14: Nature Conservation and Ecological Connectivity, DM22: General Environmental Protection and Enhancement and DM03: Sustainable Travel. The latter of which states:

**Policy DM03:
Sustainable Travel**

Development should minimize the need to travel, provide opportunity for and promote sustainable modes of transport in Ceredigion. Parking provision for all modes of transport should be in accordance with Ceredigion SPG. A Transport Assessment should be provided at the thresholds set out in SPG. A s106 planning agreement will be used to secure an associated Transport Implementation Strategy.

- 8.7.7 However, it was felt that this may not be enough to ensure there are no significant effects and so to further mitigate, in order to ensure no presumption of development of high polluting or high traffic developments adjacent to International Sites, a HRA caveat was introduced into the explanatory text in Policy DM14: Nature Conservation and Ecological Connectivity to make it clear that any development that would be likely to have a significant negative effect on an International Site would not be in line with the LDP. Therefore, just because a policy steers a type of development towards a particular area does not guarantee development there, it will still be subject to other policies within the LDP and national policies.
- 8.7.8 Therefore, when considered with mitigation, these policies should have no likely significant effects, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be 'de-minimis'.
- 8.7.9 However, Policy S06 should have no significant effect alone but there is still potential for there to be an effect cumulatively with other parts of the plan or other plans and projects to increase background levels of air pollution.

Allocations

Assessment of the effects

- 8.7.10 The housing and mixed use allocations will not have a significant effect alone but they could increase atmospheric deposition through an increase in background levels of pollutants through increase in traffic, but this would only marginally increase atmospheric deposition. The cumulative effect of the housing increase is discussed above in the assessment of Policy S06: Opportunities for Housing Growth above. In addition, the mixed use allocations will have a 'de-minimis' effect as they will not generally increase population, with the exceptions of M0306 and M0701 which may still have a negative effect.
- 8.7.11 The employment allocations have the potential to have a significant negative effect through an increase in background emissions from traffic and employment emissions. However, although the use class is known, the exact employment development is unknown and therefore for all allocations, apart from E0203, E0304 and E0502 which are B1, the effects are uncertain.
- 8.7.12 The mineral allocation MNA0701 could have a likely significant effect from dust as it is within 1km of the Afon Teifi SAC and MNA0201 is within 1km of Cardigan Bay SAC (Defra, 2009).
- 8.7.13 The rest of the allocations would have no effects as they are intended to reduce traffic, and therefore emissions.

Mitigation

- 8.7.14 The effects will be partially mitigated by National Policies in PPW and TAN 5 and LDP Strategy, LDP Policies DM14: Nature Conservation and Ecological Connectivity, DM22: General Environmental Protection and Enhancement and DM03: Sustainable Travel.
- 8.7.15 Also, because of the unknown effects from the employment allocations (apart from E0203, E0304 and E0502) and the potential effects from the mineral allocations MNA0701 and MNA0201, in order to ensure no presumption of development that may result in increased atmospheric deposition, a HRA caveat was introduced to the Allocated Site Schedules for the sites affected.
- 8.7.16 This will ensure there is no significant effect alone but because critical loads are already exceeded and the emissions from traffic are an in-direct effect that developments have limited control over there is still potential for there to be an effect cumulatively with other parts of the plan or other plans and projects.

Cumulative effects

- 8.7.17 However, there may still be some effect from a general increase in traffic and so it was necessary to look at these sites cumulatively. Cumulatively with the rest of the plan, when mitigation is taken into account, the allocations and policies will still have no significant negative effect due to the small contribution that Ceredigion's traffic provides to atmospheric deposition in Ceredigion and the controls that will be put in place on any employment emissions.

In-combination effects

- 8.7.18 In-combination with other plans and projects, the plan has potential to have a likely significant effect. However, the effects will be partially mitigated by National Policies in PPW and TAN 5 and LDP Strategy, LDP Policies DM14: Nature Conservation and Ecological Connectivity, DM22: General Environmental Protection and Enhancement and DM03: Sustainable Travel. In addition, the Regional Transport Plan (TraCC (Trafnidiaeth Canolbarth Cymru - Mid Wales Transport Consortium), 2009) provides a counteracting measure as one of the aims to reduce car use and increase the use of other modes of transport and Ceredigion County Council have actions within it. One of these actions is to provide a sustainable development strategy in the Ceredigion LDP.

Conclusion

- 8.7.19 Given that the LDP is not putting forward any proposals that could significantly increase air pollution, the LDP (and Regional Transport Plan) contain a number of measures to ensure that pollution levels are minimised and, in many cases reduced, and as air pollution and atmospheric decomposition levels are reducing, providing these measures are implemented effectively then it should be safe to

assume that any negative air quality effects on these sites will not be as a result of the Ceredigion LDP.

- 8.7.20 Even so, as a precaution, a monitoring indicator has been included into LDP Monitoring Chapter to see whether atmospheric decomposition on the International Sites continues to decrease or stays the same. If it starts to increase again then investigations should take place to see if this is from an increase in traffic, which can be done through the APIS website, and policies may need to be looked at again in the LDP review.
- 8.7.21 Therefore, once mitigation was taken into account, none of the LDP policies or allocations were found to have a likely significant effect alone or in-combination with other parts of the plan or other plans or projects and therefore will not have an effect of increased atmospheric decomposition.

Effect	International Sites	Likely sig. effect alone	Likely sig. affect in-combination	Appropriate Assessment?
Atmospheric Deposition	All	X	X	No

8.8 Other effects

Effects on natural river, coastal and sea processes from development, flood defences, culverting etc.

Potential effect of development

- 8.8.1 The Afon Teifi SAC, Afon Tywi SAC, River Wye SAC, Cardigan Bay SAC and Pen Llyn a'r Sarnau SAC could be affected by the LDP through development, flood defences or culverting etc affecting natural river, coastal and sea processes. Amongst other things, this includes modification of the channel, building on floodplains and any works that would accelerate erosion, cause coastal squeeze etc.
- 8.8.2 The majority of the above mentioned International Sites are currently unmodified, apart from mainly sections through the towns and larger settlements.
- ### **Policies**
- Assessment of the effects*
- 8.8.3 The majority of policies were found to have no effect or were dealt with through other policies. However, there were a few policies that without mitigation, had the potential to have an effect.
- 8.8.4 The following policies, although they are criteria based policies, depending on how they are implemented, may have a significant negative effect through effects on natural processes from development, flood defences, culverting etc.

- S02: Urban Service Centres (USCs);
- S03: Rural Service Centres (RSCs);
- S04: Settlements and Locations other than Service Centres
- LU14: Countywide Tourism Accommodation sites: Static and Touring Caravans, Camping pitches, Cabins and Chalets;
- LU16: Tourism Accommodation – Types of Accommodation not covered by Policy LU14;
- LU17: Tourism Facilities/Attractions;
- LU22: Community, Leisure and Recreation Facilities and Services; and
- LU31: Resource Recovery and Waste Management Facilities.

8.8.5 This is because they steer development towards the USCs, RSCs and LSs, of which a large proportion are along the Afon Teifi SAC or Cardigan Bay SAC, or, in the case of Policy LU31, permit the storage and recycling of construction, demolition and excavation waste within active mineral sites, former quarry sites and within or immediately adjacent to farm complexes.

Mitigation

8.8.6 The effects will be partially mitigated by National Policies in PPW and TAN 5 and LDP Policies DM14: Nature Conservation and Ecological Connectivity, DM22: General Environmental Protection and Enhancement and DM23: Coastal Management. In particular, LDP Policy DM22, criterion 3 which states:

Policy DM22:

General Environmental Protection and Enhancement.

In order to help achieve environmental protection and enhancement, proposed development will be permitted provided that:

1. It protects and enhances where possible air, soil and water quality and safeguards water resources, both on and off site;
2. It does not have a significant adverse effect on noise and light levels, both on and off site;
3. A step-wise approach is adopted to ensure that it does not have a significant adverse effect on natural processes and ecosystem services, both on and off site, and, where possible, seeks to restore, achieve condition of or enhance associated features;
4. Any land reclamation, capping of works associated with the restoration or the development of derelict metal mines

- results in minimum intervention and is:
- a. essential to eliminate a pollution threat; or
 - b. essential safety works; and
 - c. specifically intended to educate, promote, protect or preserve the mines remains.
5. Any land affected by instability is accompanied by evidence which illustrates that:
- a. development will not result in instability of neighbouring properties; and
 - b. any works that are required to stabilise the site do not have a significant adverse impact on the environment.

8.8.7 Also, Policy DM23: Coastal Management, criterion 4 which states:

- Policy DM23:
Coastal Management**
- Coastal management schemes will be permitted provided:
1. They are required for public safety;
 2. They protect the socio-economic interests of the community;
 3. All environmental effects have been considered and it would not contribute to, or transfer the risk of, flooding, coastal or river erosion, coastal inundation and coastal squeeze;
 4. Facilities for recreation and leisure are provided, where appropriate; and
 5. Public access can be provided, where appropriate and maintained where already in existence.

8.8.8 However, this will only ensure there are no significant effects and so to further mitigate and in order to ensure no presumption of development, a HRA caveat was introduced into the explanatory text in Policy DM14: Nature Conservation and Ecological Connectivity to make it clear that any development that would be likely to have a significant negative effect on an International Site would not be in line with the LDP. Therefore, just because a policy steers a type of development towards a particular area does not guarantee

development there, it will still be subject to other policies within the LDP and national policies.

- 8.8.9 Therefore, when considered with mitigation, these policies should have no likely significant effects, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be 'de-minimis'.

Allocations

Assessment of the effects

- 8.8.10 The employment allocations E0201, E0202 and E0203 (Cardigan) and E0501 and E0502 (Lampeter) and mixed use site M0201 are all on the riverbank of the Afon Teifi SAC or within the floodplain of the SAC and therefore they could have a significant negative effect on natural processes from development or flood defences on the river bank. There is also potential, as the sites in Cardigan are within the estuary, to have a negative effect on Cardigan Bay SAC. Sites M0201, E0502, E0202 and E0203 are already built up right to the bank, with only a small strip of habitat remaining. However, E0501 has a large strip of vegetation before a cemented area that is currently undeveloped and E0202 and E0203 are right on the riverbank.
- 8.8.11 The housing allocation H2002 (Pontrhydfendigaid) is also within the river corridor. Although this part of the river is not in the Afon Teifi SAC, it feeds into the Afon Teifi SAC so has the potential to have an effect.

- 8.8.12 All other allocations will not have an effect due to their location.

Mitigation

- 8.8.13 The effects will be partially mitigated by National Policies in PPW and TAN 5, DM14: Nature Conservation and Ecological Connectivity and DM22: General Environmental Protection and Enhancement.
- 8.8.14 However, this will only ensure there are no significant effects and so to further mitigate information on a buffer from the river and also details of regaining some riverside habitat for conservation were also included in the Allocated Site Schedules after consultation with CCW and the EA. Also, in order to ensure no presumption of development that may result in effects on natural processes, a HRA caveat was introduced to Policy DM14 and linked in the Allocated Site Schedules for E0201, E0202, E0203 and E0501.
- 8.8.15 Therefore, when considered with mitigation, these policies should have no likely significant effects, alone or in-combination with other parts of the plan or other plans or projects, as any effects will be 'de-minimis'.

Conclusion

- 8.8.16 Therefore, once mitigation was taken into account, none of the LDP policies or allocations were found to have a likely significant effect alone or in-combination with other parts of the plan or other plans or projects and therefore will not have an effect of reduced or altered flow rates or habitat loss from abstraction.

Effect	International Sites	Likely sig. effect alone	Likely sig. affect in-combination	Appropriate Assessment?
Effect on natural river, coastal and sea processes	All	X	X	No

Spreading or introduction of non-native invasive species**Potential effect of development**

- 8.8.17 Since the HRA Screening of the LDP Pre-deposit version, another concern that was raised was that the river and marine International Sites could be affected by the LDP through spreading or introduction of non-native invasive species.
- 8.8.18 The natural environment is vulnerable to non-native invasive species outcompeting native species. Of particular concern on the Afon Teifi SAC and other riverine SAC's is species such as *Crassula helmsii* which could affect Floating water-plantain (*Luronium natans*). A significant source of such introductions could be via the boots, clothing or equipment of anglers visiting the Teifi Pools. Therefore this could be dealt with through the LDP.
- 8.8.19 Other concerns are Japanese Knotweed (*Fallopia japonica*) and Himalayan Balsam (*Impatiens glandulifera*) which could affect water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation.
- 8.8.20 Also a consideration is the Chinese mitten crab (*Eriocheir sinensis*) which is a freshwater invasive species that can damage river banks and could be a problem for the Teifi but not really of relevance to the LDP.
- 8.8.21 Within the marine SACs, two invasive species that are already well established in the SAC are *Sargassum muticum* (Wireweed, a Pacific seaweed) and *Crepidula fornicata* (Slipper limpets, from the northwest Atlantic). Neither are spread directly by boats but are well established in southern Britain and spreading around the coast. They can out compete native species on reef features of the site and the slipper limpet may be found on sandbanks too.

- 8.8.22 Of more relevance to the LDP is the carpet sea squirt (*Didemnum vexillum*). This was found in Holyhead harbour last year where CCW led a project to eradicate it. It is also known from a number of other harbours and marinas in the UK and Ireland and is spread on the hulls of boats and can spread over rocky reefs, smothering native species. Although generally more of a problem in marinas, it might be able to spread from anchoring boats or those using deep water moorings (it doesn't live in the intertidal, so Ceredigion's harbours shouldn't be at risk).
- 8.8.23 Orange sheath tunicate (*Botrylloides violaceus*) is another colonial sea squirt from the north west Pacific and has been found in Milford Haven.
- 8.8.24 Other species include the leathery sea squirt (*Styela clava*), large populations of which can dominate and displace other species through competition for food and space and has been recorded in Cardigan Bay, and the Chinese mitten crab (*Eriocheir sinensis*) which is a freshwater invasive species that can damage river banks and could be a problem for the Teifi but not really of relevance to the LDP.
- 8.8.25 However, it is an offence to plant or cause Japanese knotweed to spread in the wild under the Wildlife and Countryside Act 1981 and all waste containing Japanese knotweed or Himalayan Balsam comes under the control of Part II of the Environmental Protection Act 1990.
- 8.8.26 In addition, Himalayan Balsam, Giant Knotweed and the knotweed hybrid *Fallopia japonica x Fallopia sachalinensis* have just this year been added to the legislative restrictions of the Wildlife and Countryside Act 1981.
- 8.8.27 Also, it was concluded that the LDP would increase boating by a 'de-minimis' amount so therefore, will have a 'de-minimis' effect of spreading the non-native invasive species transportable on the hulls of boats.
- 8.8.28 The other non-native invasive species will not be affected by the plan.
- Conclusion*
- 8.8.29 Therefore, the spreading or introduction of non-native invasive species that could affect the river and marine International Sites is not something that can be dealt with through the LDP.
- 8.8.30 However, as an extra precaution and to deal with other non-native invasive species, Policy DM10: Design and Landscaping states:

**Policy DM10:
Design and Landscaping**

A landscaping scheme should be submitted as part of any proposed development. The scheme should demonstrate that the development:

1. Respects the natural contours and features of the landscape;
2. Respects and protects local and strategic views;
3. Respects, retains and complements any existing positive natural features, landscapes, or other features on site;
4. Identifies trees, hedgerows, water courses and topographical features to be retained;
5. Justifies the removal/loss of existing trees, hedgerows, water courses and topographical features and provides details of replacements;
6. Provides details of proposed new landscaping together with a phased programme of planting;
7. Includes plants and trees of mainly native species of local provenance and does not include any non-native invasive species within the landscaping;
8. Ensures that selection of species and planting position of any trees allows for them to grow to their mature height without detriment to nearby buildings, services and other planting; and
9. Provides details of permeable hard surface landscaping.

Effect	International Sites	Likely sig. effect alone	Likely sig. affect in-combination	Appropriate Assessment?
Spreading and introduction of non-native invasive species	All	X	X	No

8.9 Summary

8.9.1 Table 1 gives a summary of the assessment for the International Sites.

Table 4: Summary of HRA screening assessment on International Sites

International Site	Key issues alone or in-combination	Likely sig. effect alone	Likely sig. affect in-combination	Appropriate Assessment?
Afon Teifi / River Teifi SAC	<ul style="list-style-type: none"> • Habitat loss • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Effects on natural processes • Others: Spreading or introduction of non-native invasive species 	X	X	No
Cardigan Bay/ Bae Ceredigion SAC	<ul style="list-style-type: none"> • Habitat loss • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Spreading or introduction of non-native invasive species 	X	X	No
Coed Cwm Einion SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on micro-climate • Disturbance and erosion • Atmospheric Deposition 	X	X	No

Coedydd a Cheunant Rheidol/ Rheidol Woods & Gorge SAC	<ul style="list-style-type: none"> ● Habitat loss ● Effect on micro-climate ● Disturbance and erosion ● Atmospheric Deposition 	X	X	No
Cors Caron SAC and Ramsar	<ul style="list-style-type: none"> ● Habitat loss ● Effect on hydrology ● Effect on micro-climate ● Disturbance and erosion ● Atmospheric Deposition 	X	X	No
Cors Fochno SAC and Cors Fochno and Dyfi Ramsar	<ul style="list-style-type: none"> ● Habitat loss ● Effect on hydrology ● Effect on micro-climate ● Erosion ● Atmospheric Deposition 	X	X	No
Cwm Doethie - Mynydd Mallaen SAC	<ul style="list-style-type: none"> ● Habitat loss ● Effect on hydrology ● Effect on micro-climate ● Erosion ● Atmospheric Deposition 	X	X	No
Dyfi Estuary SPA	<ul style="list-style-type: none"> ● Habitat loss ● Disturbance ● Atmospheric Deposition 	X	X	No
Elenydd SAC	<ul style="list-style-type: none"> ● Habitat loss ● Effect on hydrology ● Effect on micro-climate ● Erosion ● Atmospheric Deposition 	X	X	No
Elenydd – Mallaen SPA	<ul style="list-style-type: none"> ● Habitat loss ● Disturbance ● Atmospheric Deposition 	X	X	No
Grogwynion SAC	<ul style="list-style-type: none"> ● Habitat loss ● Effect on micro- 	X	X	No

	climate <ul style="list-style-type: none"> • Erosion • Atmospheric Deposition 			
Pen Llyn a'r Sarnau/ Llyn Penisular and the Sarnau SAC	<ul style="list-style-type: none"> • Habitat loss • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Spreading or introduction of non-native invasive species 	X	X	No
Rhos Llwr Cwrt SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on hydrology • Effect on micro-climate • Erosion • Atmospheric Deposition 	X	X	No
Rhos Talglas SAC	<ul style="list-style-type: none"> • Habitat loss • Effect on hydrology • Effect on micro-climate • Erosion • Atmospheric Deposition 	X	X	No
Afon Tywi / River Towy SAC	<ul style="list-style-type: none"> • Habitat loss • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Effects on natural processes • Others: Spreading or introduction of non-native invasive species 	X	X	No
River Wye / Afon Gwy SAC	<ul style="list-style-type: none"> • Habitat loss • Water availability • Water quality • Disturbance • Atmospheric Deposition • Others: Effects on 	X	X	No

	natural processes <ul style="list-style-type: none"> • Others: Spreading or introduction of non-native invasive species 			
North Pembrokeshire Woodlands/Coedydd Gogledd Sir Benfro SAC	<ul style="list-style-type: none"> • Habitat :Loss (Removal of features important for flight lines) 	X	X	No
Meirionnydd Oakwoods and Bat Sites/Coedydd Derw a Safleoedd Ystlumod Meirion SAC	<ul style="list-style-type: none"> • Habitat Loss (Removal of features important for flight lines) 	X	X	No

9. Conclusions

9.1 Ceredigion Local Development Plan 2007 – 2022 (Ceredigion County Council, 2013a) was assessed for its effects on International Sites, alone or in-combination. Each element of the plan has been assessed for its potential effects using systematic analysis following good practice guidance published by CCW in 2009 and revised in 2010 (Tyldesley, D & Associates, 2010), and in accordance with guidance from the Welsh Government in Annex 6 of TAN 5, published in 2009 (Welsh Assembly Government, 2009a).

9.2 Taking into account of mitigation measures including (but not limited to);

- Policies that reduce or eliminate effects such as DM12: Utility Infrastructure, which prevents development if there are any capacity issues within the infrastructure or the water bodies affected, unless these issues can be resolved or acceptable interim measures can be included;
- A sustainable Strategy with development being focussed on reducing the need to travel;
- Counteracting measures such as the Regional Transport Plan; and
- A HRA caveat for any policies where the effects were unknown and could not be mitigated otherwise;

the Ceredigion LDP proposals will have no effect or no significant negative affect, alone or in-combination with other plans or projects on the International Sites identified.

9.3 It is therefore concluded that an AA of the implications of the plan for the International sites, in view of their conservation objectives, is not necessary in this case, in accordance with Regulation 102 of the Conservation of Habitats and Species Regulations 2010.

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