HABITATS REGULATIONS ASSESSMENT:

A TOOLKIT TO SUPPORT HRA SCREENING AND APPROPRIATE ASSESSMENT OF PLANS

South East Wales Strategic Planning Group (SEWSPG) September 2008

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INTRODUCTION TO THE TOOLKIT

This Toolkit has been produced By Enfusion Ltd to provide the members of the South East Wales Strategic Planning Group (SEWSPG) with a simple, clear, systematic method to support planners in the completion of robust and compliant Habitats Regulations Assessment (HRA) Screening and full Appropriate Assessment if necessary.

The Toolkit comprises a shared information database and standardised guidance, including assessment and reporting templates to support the delivery and completion of the HRA process. It is designed for the practitioner to use and the focus is on providing a simple, concise and logical path through the process.

The Toolkit has been produced in the context of a changing regulatory environment and prior to the publication of final guidance from the Welsh Assembly Government (WAG). It is also recognised that HRA of spatial plans is a rapidly evolving discipline that currently lacks a history of case decisions against which contentious or uncertain questions on HRA can be assessed.

The Toolkit, therefore, provides guidance that is based on experience to date, and that references available official and independent guidance on the HRA of spatial plans. Where detailed or useful guidance already exists, this work is referenced rather than repeated within the Toolkit. In all situations where there is uncertainty or specialist advice is required, officers are advised to seek expert help from the Statutory Body, Countryside Council for Wales and suitably qualified consultants.

Structure of the Toolkit

The Toolkit is organised into five main sections:

Section One: Introduction provides an introduction to HRA and outlines the key legislation and guidance available to support the process

Section Two: HRA Screening describes the key stages for undertaking a HRA screening in order to come to a screening decision/ opinion

Section Three: Appropriate Assessment works through the stages necessary to complete the Appropriate Assessment stage of a HRA

Section Four: Information Database provides core information to support the HRA Screening and Appropriate Assessment stages including site characterisations for Natura 2000 sites in the South East Wales area and an assessment of other plans and programmes relevant to the HRA process

Section Five: Templates provides standardised templates to support HRA screening and the Appropriate Assessment stage of the HRA as necessary

INTRODUCTION TO HRA

Background to HRA

Habitats Regulations Assessment (HRA) is the process that competent authorities must undertake to consider whether a proposed development plan or programme is likely to have significant effects on a European site designated for its nature conservation interest.[1] HRA is often referred to as 'Appropriate Assessment' (AA) although the requirement for AA is first determined by an initial 'Screening' stage undertaken as part of the full HRA.

Legislation & Guidance

The European Directive (92/43/EEC) on the Conservation of Natural Habitats and Wild Flora and Fauna (the **Habitats Directive**) protects habitats and species of European nature conservation importance. The Habitats Directive establishes a network of internationally important sites designated for their ecological status. These are referred to as Natura 2000 (N2K) sites or European Sites, and comprise:

- **Special Areas of Conservation (SAC**) designated under the Habitats Directive including candidate SACs (cSAC)
- **Special Protection Areas (SPAs)** designated under Council Directive 79/409/EEC on the conservation of wild birds the Birds Directive

In addition, the Welsh Assembly Government (WAG) expects authorities to treat the following as European Sites:

- **potential Special Protection Areas (pSPA)**;
- **Ramsar Sites** designated under the Ramsar Convention on Wetlands of International Importance, and
- **Offshore Marine Sites (OMS)** when designated

It is Articles 6 (3) and 6 (4) of the Habitats Directive that require AA to be undertaken on proposed plans or projects which are not necessary for the management of the site but which are likely to have a significant effect on one or more European sites either individually, or in combination with other plans and projects.

In 2007, this requirement was transposed into UK law in Part IVA of the Habitats Regulations (The Conservation (Natural Habitats, & c.)(Amendment) (England and Wales) Regulations 2007). These regulations require the application of HRA to all land use plans.

[1] HRA is also applicable at a project level where it is typically carried out in more detail.

Guidance

The Habitats Directive and the Habitats Regulations set the requirement for HRA but do not prescribe how HRA/AA should be undertaken. Draft guidance for the HRA of Plans in Wales 'The Assessment of Development Plans in Wales under the Provisions of the Habitats Regulations', has been produced by WAG as an Annex to the Technical Advice Notes (TAN)5 (David Tyldesley and Associates, October 2006). The final WAG guidance is due in 2008.

Additional guidance on HRA of plans has been produced for Local Authorities in England by the Department for Communities and Local Government (DCLG) and by independently by consultants to support planners & practitioners more widely. A list of the additional available guidance is provided in **References & Bibliography** in the Information Database section of this toolkit.

The methods and approach outlined in this Toolkit are based on the current WAG guidance and emergent practice which recommends that HRA is approached in three main stages:

HRA: KEY STAGES (see Table 1)

- **STAGE 1:** Screening for Likely Significant Effect
- **STAGE 2:** Appropriate Assessment
- **STAGE 3:** Procedures where Significant Effect on the Integrity of International Sites Remains

Timing

HRA should be undertaken as early as possible in the plan making process alongside other assessment processes (Strategic Environmental Assessment/ Sustainability Appraisal) so that it informs and guides decision making. Where plans are already underway HRA should be undertaken at the earliest opportunity with a view to formalising the HRA documentation at the pre-deposit consultation and deposit stages of the Local Development Plan (LDP).

Consultation

The competent authority should take advice from and consult with the Statutory Body Countryside Council for Wales (CCW) throughout the HRA process. It is also recommended that the Environment Agency Wales (EAW) and local authority ecologists are included as consultees as necessary.

Public consultation is a discretionary requirement for HRA however, good practice indicates that HRA reports be made available alongside public consultation on the LDP.

HINTS & TIPS!

- **Begin early**
- **Seek advice from and consult with CCW and wider stakeholders**

Table 1 **Habitats Regulations Assessment: Key Stages**	
Stage 1	
Screening for likely significant effect	▪ Identify international sites in and around the plan/ strategy area in search area/ buffer zone agreed with the Statutory Body the Countryside Council for Wales ▪ Examine conservation objectives of the interest feature(s)(where available) ▪ Review LDP policies and proposals and consider potential effects on European sites (magnitude, duration, location, extent) ▪ Examine other plans and programmes that could contribute to 'in combination' effects ▪ Produce Screening Assessment
	▪ *If no effects likely – report no significant effect (taking advice from CCW as necessary).* ▪ *If effects are judged likely or uncertainty exists – the precautionary principle applies proceed to* ***stage 2***
Stage 2	

Table 1 **Habitats Regulations Assessment: Key Stages**	
Appropriate Assessment	▪ Complete additional scoping work including the collation of further information on sites as necessary to evaluate impact in light of conservation objectives ▪ Agree scope and method of AA with CCW ▪ Consider how plan 'in combination' with other plans and programmes will interact when implemented (the Appropriate Assessment) ▪ Consider how effect on integrity of site could be avoided by changes to plan and the consideration of alternatives ▪ Develop mitigation measures (including timescale and mechanisms) ▪ Report outcomes of AA including mitigation measures, consult with CCW and wider [public] stakeholders as necessary ▪ If plan will not significantly effect European site proceed without further reference to Habitats Regs
	▪ *If effects or uncertainty remain following the consideration of alternatives and development of mitigations proceed to* ***stage 3***
Stage 3	

Table 1 **Habitats Regulations Assessment: Key Stages**	
Procedures where significant effect on integrity of international site remains	▪ Consider alternative solutions, delete from plan or modify ▪ Consider if priority species/ habitats affected ▪ Identify 'imperative reasons of overriding public interest' (IROPI) economic, social, environmental, human health, public safety ▪ Notify Welsh Assembly Government ▪ Develop and secure compensatory measures

HRA SCREENING

Introduction

The purpose of 'Screening' is to make an initial evaluation of the Plan's potential effects on one or more European sites in order to determine whether or not a more detailed Appropriate Assessment is required. The detail and depth of information gathered for a Screening should be sufficient to allow an informed decision to be reached. The WAG guidance supports a more 'front loaded' approach where information gathered at the Screening is substantive and sufficient to support subsequent more detailed assessment if required.

Screening: Key Tasks

The process of Screening can be broken down into four main task areas. Each Task is outlined in more detail below.

HRA Screening: Key Tasks

- **Task 1**: Identification & Characterisation of European Sites
- **Task 2**: Review and screening of Development Plan to identify potential impacts and likely effects on European Sites
- **Task 3:** Consideration of other plans and projects that may act 'in-combination'
- **Task 4**: Screening Assessment, recording the opinion and the supporting information and analysis

Task 1: Identification & Characterisation of European Sites

Identification of European Sites

The first stage of the Screening process is to identify the European sites both within and outside the plan area that may be affected by the plan.

HRAs published to date have typically considered European sites with a 10-15km boundary around the plan area. It is important to remember however, that distance in itself is not a definitive guide to the likelihood or severity of an impact [inaccessibility/ remoteness is typically more relevant] as factors such as the prevailing wind direction, river flow and ground water flow direction will all have a bearing on the relative distance at which an impact can occur. This means that a plan directing development some distance away (i.e. beyond 15km) from a European Site could still have effects on the site and therefore, needs to be considered as part of the screening process. CCW advice should be sought on which European sites are to be included in the Screening.

INFORMATION DATABASE

For each Authority with the SEWSPG area **European sites within individual plan area boundaries and within a 15km search area** are identified in the Information Database.

Characterisation of European Sites

The aim of European site characterisation is to understand the nature of the site and the reasons for its designation. This involves gathering data on a number of key factors; the Sites':

- Qualifying Interests
- Conservation Objectives
- Condition Status
- Key Environmental Conditions (factors that support site integrity)
- Vulnerabilities (pressures and trends affecting site integrity)

Qualifying Features will be an Annex I habitats listed under the Habitats Directive or an Annex II species as listed under the Directive. Bird species protected under Article 4.1, 4.2 and Annex I of the Birds Directive are also qualifying features. For Ramsar sites it is any feature listed under the criteria of the Ramsar Convention.

Conservation Objectives are set out in the Core Management Plans for European sites produced by CCW. The role of the Conservation Objectives is to deliver against the aims of the Habitats Directives: to achieve the maintenance, or where appropriate the restoration of the 'favourable conservation status' of habitats and species features for which SACs and SPAs are designated

HINTS & TIPS!

Qualifying Features information can be accessed through the JNCC website www.jncc.gov.uk and in CCW Core Management Plans for European sites, which also include details of site **Conservation Objectives** http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/special-sites-project-landing.aspx

Condition Status is described by CCW as 'a description of the state of a [site] feature that comprises both its condition and the state of factors likely to affect it'. In other words it tells you both how a site is currently faring and what its future prospects are. Condition assessment to determine status (e.g. favourable, unfavourable) is undertaken by CCW and the information is provided in the Core Management Plans.

Key Environmental Conditions information provides background on factors, be they physical (e.g. ground water flow) or anthropogenic (e.g. farming practices, grazing regimes) that serve to provide the core environmental conditions necessary to support site integrity. Wider environmental trends (e.g. background air quality) also provide valuable contextual information.

Vulnerabilities (existing pressures and trends) are linked to the key environmental conditions information and focus specifically on areas of sensitivity for sites by identifying threats (e.g. scrub encroachment, predation from domestic pets).

INFORMATION DATABASE

Full characterisations for all the European sites within the SEWSPG area and in a 15km area around the Authorities' boundaries are provided in the **Information Database Section**

Task 2: **Review and screening of Development Plan to identify potential impacts and likely effects on European Sites**

Screening Task 2 involves reviewing the Development Plan and considering the potential impacts arising and their likely effects on the identified European Sites at a strategic level.

A review of the Development Plan should firstly identify:

- its purpose/aims/objectives
- its spatial extent and the period of implementation
- any known development allocations including the quanta of development (e.g. housing, highway, industrial/ employment)

The Plan should then be screened at a strategic level to determine which policies have the potential for significant effect on the European Sites identified at Task 1. A **template** for screening the plan is provided in the **Information Database**. The screening is directed by a set of criteria designed to help you consider whether or not the plan [in implementation] is likely to result in significant effects.

The purpose of this 'plan level' screening is to assist in determining whether or not the plan on its own is likely to have a significant effect and to ensure that the HRA screening stage overall focuses on those elements of the plan where significant effects are most likely. The outcome of this task should be a clearer view of which elements of the plan have the potential to generate effects that may be

significant for European Sites, and which elements can be screened out from further consideration.

HINTS & TIPS!

Screening of plan policies can be used as an early & iterative tool to inform plan development

Task 3: Consideration of other plans and projects that may act 'in-combination'

A key requirement of the Habitats Directive is to determine whether the Plan is likely to have a significant effect when considered in combination with other plans and projects. The main driver for addressing plans in combination is ensuring that cumulative effects are captured. For example, the effects of a plan on air quality may be insignificant when considered alone, but when combined with the effects of increased air pollution from other plans, may lead to significant adverse impacts on site integrity.

Plans & Project to Consider

Determining which plans and projects to consider requires a pragmatic approach given the nature and scale of development occurring at any one time in the South East Wales Region. Existing official guidance suggests focusing on other development plans, sectoral plans and significant project directing spatial development in the region. Examples include:

- The Wales Spatial Plan Update
- Adjacent Local Development Plans
- Sectoral plans, e.g. waste and transport
- Strategies that set the framework for, or will have a strong influence on, project level decisions e.g. Tourism Strategies

INFORMATION DATABASE

A core list of key plans, programmes, projects and strategies relevant to the South East Wales Planning Authorities have been **reviewed for the purposes of 'in-combination' assessment**. Full details, including the potential effects arising are identified in the Information Database.

There is no single agreed method for addressing the issue of in-combination effects, however, current practice and available guidance suggests a staged approach which takes into account the following:

- a) if it can be clearly demonstrated that the plan will not result in any effects at all that are relevant to European site integrity then the plan should proceed without considering the HRA requirement (including the in-combination test) further
- b) if there are identified effects arising from the plan, even if they are perceived as minor and not likely to have a significant effect on the European Site[s] alone, then these effects must be considered 'in-combination' with the effects arising from other plans and projects

Task 4: **Screening Assessment, recording the opinion and the supporting information and analysis**

Task 4, the Screening Assessment, is where the information gained through Tasks 1-3 is brought together to inform the Screening Opinion.

This means considering:

- The information gathered on the European sites
- The review of the Plan and its likely impacts (including the findings of the Plan screening, as these are the policy proposals that you will be considering further in your Screening Assessment)
- The review of other relevant plans, programmes, projects and strategies

The core part of the assessment process involves taking a view of the impacts arising from the plans (and in-combination plans) and determining whether or not the effects of these impacts will be significant when considered against the factors necessary to support the integrity of a European site.

The process of considering and recording this information is captured in the **Significant Effects Screening Template** which is provided in the **Information Database.** This template presents a transparent method of recording how the analysis of significant effects has been considered, including

demonstrating that the 'in-combination' requirement has been dealt with.

HINTS & TIPS!

What is significant?

Significance is typically a determined by considering the following factors in relation to the effect:

- **Extent**– will the effect be localised or occur across the whole site?
- **Complexity** – is the impact pathway direct or are there potentially multiple routes?
- **Probability** – how likely is it that the effect will occur ?
- **Duration** – how long is the effect likely to last?
- **Frequency** – is the effect likely to occur on a regular basis?
- **Reversibility** – will the effect be temporary or permanent?

Screening Decision

The **Significant Effects Screening Template** provides the main record of your screening analysis. At this point you will have determined whether the effects you identified in Tasks 2 3 in relation to the sites characterised in Task 1 are: significant; are not significant; or are uncertain.

It is useful to record these findings in a short descriptive narrative as part of your screening report. See the **Templates Section** of this toolkit for the **HRA Screening Report** template.

Pre Report Consultation

At this stage is it good practice, prior to the production of the Screening report, to discuss your findings with CCW (and EAW as necessary). This allows you to take regard of CCW's opinion prior to any wider consultation. Additional comments can then be addressed and incorporated into the report prior to publication.

If your finding is one of 'no significant effect' then the completion of the HRA Screening Report concludes the HRA process for your plan. You should ensure that your report is supported by a formal written consultation commentary from CCW confirming your conclusions. If your findings suggest the potential for significant effect at one or more European Sites, or uncertainty remains, then the precautionary principle applies and you should proceed to the more detailed 'Appropriate Assessment' stage of the HRA process.

Next Stages (AA Scope)

If you have determined that a more detailed Appropriate Assessment (AA) is required, then it is useful to agree the

scope of this work with CCW during your discussions and before concluding the screening consultation phase.

Your Screening work will have identified the nature of the impacts associated with your plan and the vulnerabilities associated with the European Site[s]. You should therefore seek advice on additional information to support the AA and also discuss and agree the proposed method for the AA (see the **Appropriate Assessment section** of this toolkit).

HRA Screening Report

Use the **HRA Screening Report template**, provided in the **Templates Section** of this toolkit to complete and finalise your Screening. This Report provides a systematic and transparent record of your process and findings, including future AA work if required.

If the findings are that there will be no significant effect then the LPA should ensure that the HRA is submitted to WAG at the relevant formal plan consultation phase [deposit stage].

Consultation

The Habitats Regulations [Section 85B(2)]require the plan making/competent authority to consult the appropriate nature conservation statutory body [CCW], however, the Regulations leave consultation with other bodies and the public to the discretion of the plan making authority. The draft WAG guidance states that it is good practice to make information on HRA available to the public at each formal development plan consultation stage.

It is, therefore, recommended that the HRA Screening Report is made available alongside the plan you have been assessing. In the case of Local Development Plans which have also been subject to Strategic Environmental Assessment and Sustainability Appraisal, the HRA Report may be linked to or if appropriate incorporated [e.g. as a distinct chapter] within these documents. The key requirement is for the HRA to be clearly identified and distinct process. The consultation period for the HRA should be in line with the requirements set out in the Community Involvement Scheme.

HINTS & TIPS!

Carry out consultation with CCW iteratively as the HRA develops to ensure that your findings are well informed and supported. Wider stakeholders including, groups with nature conservation interests can provide useful information to support the assessment process.

TEMPLATES

The reporting template for the HRA Screening Report provides a structured way of reporting the Screening findings.

APPROPRIATE ASSESSMENT

Introduction

This section of the toolkit provides a framework for approaching the second stage of a HRA – the Appropriate Assessment (AA). The purpose of the AA is to critically examine the impacts identified by the Screening process and closely examine the effects on European sites and the potential for avoidance and mitigation.

Appropriate Assessment Key Tasks

The AA can be broken down into a number of key tasks.

AA: Key Tasks

- **Task 1: Scoping and Additional Information Gathering**
- **Task 2: Assessing the Impacts – Appropriate Assessment**
- **Task 3: Avoidance and Mitigation**
- **Task 4: AA Conclusions and Recommendations**

Task 1: Scoping and Additional Information Gathering

The main purpose of scoping at this point of the HRA is to address information gaps and secure sufficient data to ensure that a meaningful AA of effects can be undertaken. This information gathering phase will be informed by your earlier consultation with CCW and wider stakeholders in the Screening stage.

The information gathered may include:

- ***gathering more information about the European sites [s]***, for example, survey/ study information that provides greater detail about the nature of the habitats/ species and their responses to identified effects
- ***additional data on background environmental conditions***, for example, known concentrations of air pollutants at the site[s] and current background trends
- ***further analysis of potential 'in-combination' plans and projects***, for example, known infrastructure projects will localised effects that may be relevant to the site[s] being assessed

HINTS & TIPS!

The WAG guidance recognises that the HRA of plans under Regulation 85 will not as detailed, as that undertaken for project level consents assessed under Regulation 48 of the Habitats Regulations. Accordingly your approach should be as 'rigorous … as can reasonably be undertaken' given the constraints of content, details and geographic extent of the plan.

Task 2: Assessing the Impacts – Appropriate Assessment

Examining the effects of the policies and proposals identified during the Screening phase is the core focus of the AA. The aim of Task 2 is to really concentrate on: the **nature** of the impact; its **magnitude;** and **likelihood** that it will persist during the plan's implementation phase.

To do this consideration should be given to whether the impacts are:

Direct – e.g. habitat loss
Indirect – e.g. disturbance or trampling due to recreation
Cumulative – e.g. an increase air pollutants as a result of traffic growth

A useful approach for addressing these issues and ensuring that the AA is focused and systematic is to take each identified impact in turn and use a key set of questions to guide the assessment.

Issue: E.g. Recreational Pressure

What are the issues arising from the plan? Provide a comprehensive outline of the impacts identified and their origins; include consideration of whether the impacts are direct, indirect or cumulative.

How might the European Site be affected? Describe how the impacts identified may lead to effects at the sites given your knowledge about environmental conditions and vulnerabilities.

What other plans and projects could lead to in-combination effects? Revisit the screening analysis and your observations about the potential for cumulative impacts to ensure that you have capture the potential effect arising from the interaction of plans.

The answers to these questions will give you the core analysis for your assessment and the **Templates** section of this toolkit provides an **Appropriate Assessment Template** to capture and present the information.

It is possible that having completed this analysis the assessment indicates that there will be no significant effect. It is important to note that the onus is on the plan making authority to be *clear that there will be no adverse effect on integrity* a the site[s]. If uncertainty exists then the precautionary principle applies and significant effects should be assumed.

HINTS & TIPS!

It is recommended that the HRA process including the AA stage combines a 'plan' and a 'site' focus.

- Focusing on the **plan** helps you to understand which elements have the potential to affect European site integrity and how the plan may be amended to avoid or mitigate impacts arising.
- Focusing on the **site** ensure that you understand the environmental conditions of the site and the factors required to maintain site integrity, and therefore how the plan may impact. A site focus also closely reflects the intent of the Habitats Directive.

Task 3: Mitigation Measures (avoidance)

A core aim of HRA (and wider assessment processes SA/SEA) is to inform the planning process by sifting out potentially damaging elements of the plan and either replacing them with elements that can provide more positive outcomes, or developing policy safeguards that protect against damage at sensitive sites.

HINTS & TIPS!

Recent case law has shown that mitigation measures <u>can be taken into account</u> when reaching a decision on the likelihood of significant effect.[2]

Considering mitigation measures is, therefore, an integral part of the HRA process. At its simplest mitigation may be about removing the policy or proposal. Can the policy be amended? Can an alternative location be proposed?

Mitigation measures may also involve more targeted strategies, but you must be clear that it is possible for the solutions proposed to be delivered through the planning system and have a means for ensuring that they will be effective.

Mitigation examples:

- Provision of defined alternative recreational spaces to buffer SAC where housing allocations threaten disturbance
- Include requirements for pollution control strategies at employment sites where risks to SAC downstream
- Ensuing provision of alternative water supplies/ strict standards for water efficiency/ neutrality supply drawn from European Site

[2] Hart District Council Vs Secretary of State for Communities and Local Government (May 2008); Planning (25th July, 2008) Mitigation Plan Counts on Appropriate Assessment.

Task 4: AA Conclusions & Recommendations

Following the assessment and, if necessary the consideration of mitigation measures, you should be in a position to set out your conclusions as to whether the plan is likely to have a significant effect on the integrity of the European site[s] under consideration. If you have determined that mitigation measures will be required, then you must indicate clearly how implementation will take place to ensure that there will be no significant effect.

If our final conclusions are that the plan will not adversely affect the integrity of any European site then you should summarise the findings of your assessment. Use the **HRA Report Template** from the **Templates** section of the toolkit to organise your analysis.

Task 5: Consultation

As noted previously it is good practice to consult iteratively with your key [including statutory] stakeholders during the HRA process. If you have proposed mitigation measures as part of the AA stage, then it useful at this stage to seek their views on whether your proposals are robust and can be implemented; as well as on the conclusions of the assessment overall.

HINT & TIPS!

Authorities should use the HRA process to amend and develop the plan in order to avoid, remove or mitigate significant effects on European sites.

It is considered that only in exceptional circumstances will HRAs progress to the consideration of Alternative Solutions and Imperative Reasons of Overriding Public Interest (IROPI) – these are difficult hurdles to pass, as yet untested in UK law.

Remaining Adverse Effects on Site Integrity

If the conclusion of your assessment is that adverse effects on site integrity remain then you are referred to the current WAG guidance which sets out diagrammatically how to comply with Regulations 85C and 85E. In summary, the key steps to follow are:

1. Consideration of Alternative Solutions
2. Imperative Reasons of Overriding Public Interest ((IROPI)

Alternative Solutions

Whilst the official guidance details the consideration of alternatives as an option following the main AA, in reality reasonable alternatives should be taken into account

throughout the HRA process alongside the plan development. Specifically, the HRA process should be used to address the potential impacts of different options/ alternatives as you uncover them, with the results guiding and informing planners.

As noted by Scott Wilson et al (2006) the Habitats Directive allows for alternative solutions to be sought outside the plan boundaries, therefore you should also be prepared to think creatively when considering potential options.

If suitable alternatives are available, that ensure there will be no significant effect at any European site then the plan must be amended to accommodate the revised proposals (Regulation 85C). If there are no alternative solutions available then the Authority will need to consider whether there are reasons of overriding public interest that justify the adoption of the plan despite the potentially significant effects on European site integrity.

Imperative Reasons of Overriding Public Interest ((IROPI)

The official WAG guidance sets out the specific steps to be followed should you consider it necessary to consider the IROPI rationale for your plan. The guidance states that *' there will be few cases where it can be judged that imperative reasons of overriding public interest will allow a plan to proceed that will have an adverse effect on the integrity of European sites'.*

In the exceptional event that the IROPI test is passed compensatory measures must be secured, including a programme of implementation and monitoring in advance of the plan.

HINTS & TIPS!

IROPI, should in all cases be viewed as a last resort with potentially high associated costs.

INFORMATION DATABASE:

European Sites within Local Authority Boundaries and Buffer Zones/ Search Area

South East Wales Strategic Planning Group Authorities:
Natura 2000 Sites Within Boundaries & Within 15km Buffer Zone/ Search Area

Council Phase 1 Phase 2	LDP Stage as of 08/01/08 (Council website ref)	HRA Work	No of European Sites Within Boundaries	No of N2K in 15km Buffer Zone	Site Name and Designation (from JNCC website 08/01/81) 1. Within Boundaries 2. Within Buffer Zone
Bridgend	Strategic Options Preferred Strategy Stage	Carrying out AA as part of the SA process (Scoping). **No HRA Screening work published to date.** http://www.bridgend.gov.uk/Web1/groups/public/documents/report/019181.pdf Accessed 08/01/08	3	7	**1. Within Boundaries** 1. Blackmill Woodlands – SAC 2. Cefn Cribwr Grasslands – SAC 3. Kenfig/ Cynffig – SAC **2. Within Buffer Zone** 1. Dunraven Bay – SAC (3.52km) 2. Blaen Cynon – SAC (10.4km) 3. Crymlyn Bog / Cors Crymlyn – SAC/Ramsar (11.6km) 4. Crymlyn Bog / Cors Crymlyn – Ramsar (11.6km) 5. Coedydd Nedd a Mellte – SAC (11.6km) 6. Cardiff Beech Woods – SAC (12.32km) 7. Cwm Cadlan – SAC (13.7km)
Rhondda Cynon Taff	Preparing Deposit LDP.	**AA Screening Report Jan 07. Enfusion. Formal consultation**	4	11	**1. Within Boundaries**

Council Phase 1 Phase 2	LDP Stage as of 08/01/08 (Council website ref)	HRA Work	No of European Sites Within Boundaries	No of N2K in 15km Buffer Zone	Site Name and Designation (from JNCC website 08/01/81) 1. Within Boundaries 2. Within Buffer Zone
		with CCW undertaken, written comments received. http://www.rhondda-cynon-taff.gov.uk/stellent/groups/Public/documents/RelatedDocuments/012830.pdf Accessed 08/01/08 Sites identified by screening as requiring AA: 1. Blaen Cynon SAC 2. Cardiff Beech Woods SAC Potential for LSE at Coedydd Nedd a Mellte – SAC & Cwm Cadlan – SAC to be reviewed at AA (scoping) stage.			1. Blaen Cynon - SAC 2. Cardiff Beech Woods - SAC 3. Coedydd Nedd a Mellte - SAC 4. Cwm Cadlan - SAC (3&4 within Brecon Beacons National Park and outside LDP area) **2. Within Buffer Zone** 1. Brecon Beacons - SAC (4.1km) 2. Aberbargoed Grasslands – SAC (8.44km) 3. River Usk – SAC (8.77km) 4. Blackmill Woods – SAC (8.85km) 5. Cefn Cribwr Grasslands – SAC (10.05km) 6. Kenfig/ Cynffig – SAC (10.97km) 7. Severn Estuary - cSAC (11.02km) 8. Severn Estuary - SPA (11.02km) 9. Severn Estuary - Ramsar (11.02km) 10. Dunraven Bay – SAC (12.07km) 11. Usk Valley Bat Sites – SAC (14.83km)
Vale of Glamorgan	Identifying and testing strategic options.	**AA Screening Report Dec 07. Informal consultation with CCW undertaken.** .	4	3	**1. Within Boundaries** 1. Dunraven Bay – SAC 2. Severn Estuary – cSAC

Council Phase 1 Phase 2	LDP Stage as of 08/01/08 (Council website ref)	HRA Work	No of European Sites Within Boundaries	No of N2K in 15km Buffer Zone	Site Name and Designation (from JNCC website 08/01/81) 1. Within Boundaries 2. Within Buffer Zone
		http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf Sites identified by screening as needing AA – intend to appoint consultants: 1. Severn Estuary cSAC/SPA/Ramsar 2. Kenfig/ Cynffig SAC			3. Severn Estuary – Ramsar 4. Severn Estuary – SPA **2. Within Buffer Zone** 1. Cardiff Beech Woods - SAC (3.62km) 2. Blackmill Woodlands – SAC (3.88km) 3. Cefn Cribwr Grasslands - SAC (5.36km)
Cardiff	Preferred Strategy Consultation (finished).	HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. **Informal consultation with CCW undertaken.** www.**cardiff**.gov.uk/ObjView.asp?Object_ID=9788	4	3	**1. Within Boundaries** 1. Cardiff Beech Woods - SAC 2. Severn Estuary – cSAC 3. Severn Estuary – Ramsar 4. Severn Estuary – SPA **2. Within Buffer Zone** 1. River Usk – SAC (6.59km) 2. Aberbargoed Grassland – SAC (13.56km) 3. Blackmills Woodlands – SAC (13.93km)
Caerphilly	Deposit LDP Prepared	HRA Screening and AA for	1	?	**1. Within Boundaries**

Council Phase 1 Phase 2	LDP Stage as of 08/01/08 (Council website ref)	HRA Work	No of European Sites Within Boundaries	No of N2K in 15km Buffer Zone	Site Name and Designation (from JNCC website 08/01/81) 1. Within Boundaries 2. Within Buffer Zone
		Aberbargoed Grasslands completed August 2008, CCW formally consulted.			1. Aberbargoed Grasslands – SAC **2. Within Buffer Zone** 1. River Usk – SAC (5.35km) 2. Severn Estuary - cSAC (5.71km) 3. Severn Estuary - SPA (5.71km) 4. Severn Estuary - Ramsar (5.71km) 5. Usk Valley Bat Sites – SAC (6.75km) 6. Cwm Clydach Woodlands – SAC (8.05km) 7. Brecon Beacons - SAC (10km) 8. Cwm Cadlan – SAC (11.1km) 9. Blaen Cynon – SAC (13.51km) 10. Llangorse Lake / Llyn Syfaddan - SAC (14.32m)
Merthyr Tydfil	Deposit LDP in preparation.	**HRA Screening completed, full AA not required. Formal consultation with CCW completed.**	0	10	**2. Within Buffer Zone** 1. Brecon Beacons - SAC (2.89km) 2. Cwm Cadlan – SAC (3.86km) 3. Aberbargoed Grasslands - SAC (4.42km) 4. Blaen Cynon – SAC (4.97km) 5. River Usk – SAC (7.43km) 6. Coedydd Nedd a Mellte – SAC

Council Phase 1 Phase 2	LDP Stage as of 08/01/08 (Council website ref)	HRA Work	No of European Sites Within Boundaries	No of N2K in 15km Buffer Zone	Site Name and Designation (from JNCC website 08/01/81) 1. Within Boundaries 2. Within Buffer Zone
					(7.48km) 7. Usk Valley Bat Sites – SAC (9.65km) 8. Cwm Clydach Woodlands – SAC (12.64km) 9. Cardiff Beech Woods – SAC (12.71km) 10. Llangorse Lake / Llyn Syfaddan - SAC (14.8km)
Blaenau Gwent	Identifying and testing strategic options.	No reference to AA in SA Scoping Report Nov 2007. http://www.blaenau-gwent.gov.uk/documents/Documents_Environment/LDP_Scoping_Report.pdf Accessed 08/01/08	1	7	**1. Within Boundaries** 1. Cwm Clydach Woodlands – SAC **2. Within Buffer Zone** 1. River Usk - SAC (3.94km) 2. Aberbargoed Grasslands - SAC (4.37km) 3. Sugar Loaf Woodlands – SAC (7.88km) 4. Brecon Beacons - SAC (10.13km) 5. Llangorse Lake / Llyn Syfaddan- SAC (10.97km) 6. Coed Y Cerrig - SAC (11.61km) 7. Cwm Cadlan – SAC (12.87km) 8.
Torfaen	Preferred Strategy	Screening Report Jan 2008.	0	7	**2. Within Buffer Zone**

Council Phase 1 Phase 2	LDP Stage as of 08/01/08 (Council website ref)	HRA Work	No of European Sites Within Boundaries	No of N2K in 15km Buffer Zone	Site Name and Designation (from JNCC website 08/01/81) 1. Within Boundaries 2. Within Buffer Zone
	Consultation.	Consultation undertaken with CCW, Wye Valley Bat Sites and Forest of Dean Bat sites included as a result of consultation). **Intend to appoint consultants for HRA** **Sites carried forward to full AA:** **Aberbargoed Grasslands SAC** **River Usk SAC** **Severn Estuary** **Usk Valley Bat Sites**			1. Usk Valley Bat Sites - SAC (0.8km) 2. Cwm Clydach Woodlands – SAC(1.2km) 3. River Usk - SAC (1.85km) 4. Sugar Loaf Woodlands – SAC (6.43km) 5. Aberbargoed Grasslands SAC - (6.59km) 6. Severn Estuary - cSAC/SPA/Ramsar (7.48km) 7. Coed Y Cerrig - SAC (11.15km) (Wye Valley Bat Sites, SAC, Forest of Dean Bat Sites, SAC)
Newport ***Contracted HRA separately as part of SA/SEA***	Review and development of evidence base.	None reported.	4	5	**1. Within Boundaries** 1. River Usk - SAC 2. Severn Estuary – cSAC 3. Severn Estuary – Ramsar 4. Severn Estuary – SPA **2. Within Buffer Zone** 1. Wye Valley and Forest of Dean Bat Sites – SAC (4.82km) 2. Cardiff Beech Woods - SAC (8.3km)

Council Phase 1 Phase 2	LDP Stage as of 08/01/08 (Council website ref)	HRA Work	No of European Sites Within Boundaries	No of N2K in 15km Buffer Zone	Site Name and Designation (from JNCC website 08/01/81) 1. Within Boundaries 2. Within Buffer Zone
					3. River Wye/ Afon Gwy – SAC (9.33km) 4. Wye Valley Woodlands - SAC(9.65km) 5. Aberbargoed Grassland – SAC (11.66km)
Monmouthshire ***Contracted HRA separately as part of SA/SEA***	Review and development of evidence base.	None reported.	11	2	**1. Within Boundaries** 1. Coed y Cerrig - SAC 2. Cwm Clydach Woodlands - SAC 3. River Usk – SAC 4. River Wye/ Afon Gwy - SAC 5. Severn Estuary – cSAC 6. Severn Estuary – Ramsar 7. Severn Estuary – SPA 8. Sugar Loaf Woodlands - SAC 9. Usk Bat Sites - SAC 10. Wye Valley Woodlands - SAC 11. Wye Valley and Forest of Dean Bat Sites - SAC **2. Within Buffer Zone** 1. Llangorse Lake / Llyn Syfaddan- SAC (11.73km) 2. Aberbargoed Grassland – SAC (12.87km)

INFORMATION DATABASE:

European Site Characterisations

Natura 2000 Site Information Proforma

To go to a specific Natura 2000 Site Information Proforma - Hold Ctrl and Left Click on site name.

Special Areas of Conservation

1. Aberbargoed Grasslands
2. Blackmill Woodlands
3. Blaen Cynon
4. Brecon Beacons
5. Cardiff Beech Woods
6. Cefn Cribwr Grasslands
7. Coed Y Cerrig
8. Coedydd Nedd a Mellte
9. Crymlyn Bog
10. Cwm Cadlan
11. Cym Clydach Woodlands
12. Dunraven Bay
13. Kenfig/ Cynffig
14. Llangorse Lake/ Lyn Syfaddan
15. River Usk
16. River Wye
17. Sugar Loaf Woodlands
18. Usk Bat Sites
19. Wye Valley and Forest of Dean Bat Sites
20. Wye Valley Woodlands

Candidate Special Areas of Conservation

1. Severn Estuary

Special Protection Areas

1. Severn Estuary

Ramsar Sites

1. Crymlyn Bog
2. Severn Estuary

All core site specific information unless otherwise stated has been referenced from the Countryside Council for Wales website (Natura 2000 Management Plans) and the Joint Nature Conservation Committee website (Protected Sites).

Special Areas of Conservation

Site Name: Aberbargoed Grasslands **Location Grid Ref: ST163992** **JNCC Site Code: UK0030071** **Size: 39.78** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Aberbargoed Grasslands covers an area of 42.5ha and lies on a southwest facing hillside in the Rhymney Valley, 1km east of Bargoed and adjacent to the A4049. A large and relatively isolated population of marsh fritillary butterfly (*Euphydryas aurinia*) is present on a series of damp pastures and heaths in Gwent, representing the species on the eastern edge of its range in Wales. The fields in the south and west of Aberbargoed Grasslands have impeded drainage and contain a mixture of marshy grassland communities. Areas of particular interest are characterised by abundant purple moor grass *Molinia caerulea* and meadow thistle *Cirsium dissectum* with devil's bit scabious *Succisa pratensis* and carnation sedge *Carex panicea*. Other species such as saw-wort *Serratula tinctoria* and lousewort *Pedicularis sylvatica* occur frequently in heavily flushed areas. Associated stands of *Molinia caerulea – Potentilla erecta* mire contain abundant purple moor grass with *tormentil Potentilla erecta*, mat grass *Nardus stricta*, common sedge *Carex nigra* and spotted orchid *Dactylorhiza maculata*. Small stands of rush pasture are scattered across the site, with soft rush *Juncus effuses*, greater bird's foot trefoil *Lotus uliginosus* and marsh bedstraw *Galium palustre*.
Qualifying Features	Annex I Habitats qualifying feature: ▪ Molinia meadows on calcareous, peaty or clayey-silt-laden soils *(Molinion caeruleae)* Annex II Species primary reason for selection: ▪ Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia*
Conservation Objectives	**Conservation Objective for Feature 1:** **Marsh fritillary Butterfly *Euphydryas* (*Eurodryas, Hypodryas*) *aurinia***

Site Name: Aberbargoed Grasslands **Location Grid Ref: ST163992** **JNCC Site Code: UK0030071** **Size: 39.78** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The site will support a sustainable metapopulation of the marsh fritillary in the Aberbargoed area. This will require at least 50ha of suitable habitat, although not all of this will be within the SAC ▪ The population will be viable in the long term, acknowledging the extreme population fluctuations of the species. ▪ Habitats on the site will be in optimal condition to support the metapopulation. ▪ At least 25ha of the total site area will be marshy grassland suitable for supporting marsh fritillary, with *Succisa pratensis* present and only a low cover of scrub. ▪ At least 6.25ha will be good marsh fritillary breeding habitat, dominated by purple moor-grass *Molinia caerulea*, with *S. pratensis* present throughout and a vegetation height of 10-20cm over the winter period. ▪ All factors affecting the achievement of the foregoing conditions are under control. **Conservation Objective for Feature 2:** **Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)** Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ *eu-Molinion* marshy grassland will occupy at least 70% of the total site area. ▪ The remainder of the site will be other semi-natural habitat or areas of permanent pasture. ▪ The following plants will be common in the *eu-Molinion* marshy grassland: purple moor-grass *Molinia caerulea*; meadow thistle *Cirsium dissectum*; devil's bit scabious *Succisa pratensis*; carnation sedge *Carex*

Site Name: Aberbargoed Grasslands **Location Grid Ref: ST163992** **JNCC Site Code: UK0030071** **Size: 39.78** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	panicea; saw wort *Serratula tinctoria*; and lousewort *Pedicularis sylvestris*. ▪ Cross-leaved heath *Erica tetralix* and common heather *Calluna vulgaris* will also be common in some areas. ▪ Rushes and species indicative of agricultural modification, such as perennial rye grass *Lolium perenne* and white clover *Trifolium repens* will be largely absent from the *eu-Molinion* marshy grassland. ▪ Scrub species such as willow Salix and birch *Betula* will also be largely absent from the *eu-Molinion* marshy grassland. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Aberbargoed Grasslands Management Plan.
Component SSSIs	▪ Aberbargoed Grasslands SSSI The site has been divided into 2 management units of which unit 1 forms the Aberbargoed Grasslands SAC. A map of the management units can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	The Marsh fritillary butterfly is dependent on the Molinia meadows and wet heath. ▪ **Livestock grazing** - The *eu-Molinion* marshy grassland needs to be maintained through traditional farming practices. Without an appropriate grazing regime, the grassland will continue to become rank and eventually turn to scrub and woodland. Light grazing by cattle and ponies between April and November each year is essential in maintaining the marshy grassland communities.
SAC Condition Assessment	**Conservation Status of Feature 1:**

Site Name: Aberbargoed Grasslands **Location Grid Ref: ST163992** **JNCC Site Code: UK0030071** **Size: 39.78** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia* The Marsh Fritillary feature at Aberbargoed Grasslands SAC is considered to be in **unfavourable** condition and conservation status (October 2003). Web counts have in recent years been very low, but the species naturally undergoes significant fluctuations in population numbers due to a variety of factors, including cold and wet weather conditions and parasitic attack. **Conservation Status of Feature 2:** **Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)** The SAC report dated October 2003 states that the site is considered to be **Unfavourable** condition and conservation status. This is because the habitat is not in suitable condition for the marsh fritillary. In areas of the site the vegetation is too tall, is dominated by Molinia and does not have sufficient *Succisa*. There is only 2.3ha of good condition habitat and 9.7ha of suitable habitat within the site.
Vulnerabilities (includes existing pressures and trends)	**The marsh fritillary butterfly population is under threat from:** ▪ **Parasites** - Parasitic wasps. **The Molinia meadows is under threat from:** ▪ **Anti-social behaviours** - In previous years anti-social behaviour such as off-roading and burning have occurred at Aberbargoed grasslands. This issues need to be addressed to prevent the *eu-Molinion* habitat from being damaged.

Site Name: Aberbargoed Grasslands **Location Grid Ref: ST163992** **JNCC Site Code: UK0030071** **Size: 39.78** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	CCW states that work has progressed well on the site in the past few years; the site is now stock-proof and a mixture of Welsh Black and Belted Galloways graze the land with a Limousin bull. Scrub clearance and bracken control has begun and flight lines have been cut to improve the connectivity for the butterflies. A programme has been set up to educate the local community to understand why this area is important. A newsletter has been created detailing activities on the grassland and difficulties the site is facing. This and the presence of staff and stock onsite seem to have halted the illegal burning and off-roading.
Landowner/ Management Responsibility	▪ Caerphilly County Borough Council.
HRA/AA Studies undertaken that address this site	HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. www.cardiff.gov.uk/ObjView.asp?Object_ID=9788 ▪ The Screening concluded that the only potential significant effects from the Cardiff LDP are likely to occur through atmospheric pollution. A detailed evaluation of air pollution impacts to the Aberbargoed Grasslands SAC will be required before the potential risks to the habitats and species can be properly assessed but according to the Site Issues Briefing for this site, issued by CCW, no potential increases in atmospheric pollution should be tolerated. HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ The screening identified airborne pollution as the most likely mechanism for the Preferred Strategy to have a negative impact on this site. The provision of 7000 new homes in Torfaen alongside 60 ha of employment land will have the effect of increasing airborne pollution. It has been identified that acid deposition at Aberbargoed Grasslands already exceeds the critical load factor. In relation to Strategic Housing Sites the LDP, South Sebastopol, Cwmbran lies approximately 10- 15km to the East of the SAC but is likely to accommodate approximately 1200 dwellings on a previously greenfield site. Therefore although the effect

Site Name: Aberbargoed Grasslands Location Grid Ref: ST163992 JNCC Site Code: UK0030071 Size: 39.78 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	of the LDP is unlikely to be 'significant' precautionary approach will be adopted and the potential effect of the Torfaen LDP should warrant further consideration in the next stage of the AA process.

Site Name: Blackmill Woodlands **Location Grid Ref: SS929859** **JNCC Site Code: UK0030090** **Size: 71.01** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Blackmill Woodlands is an example of old sessile oak woods at the southern extreme of the habitat's range in Wales, and contributes to representation of the habitat in Wales and in south-west England. The site is situated within Bridgend County Borough and is approximately 3km away from the City of Bridgend. The A4061 runs directly between the two areas that comprise to make up the SAC. The ground flora is restricted by the relative dryness of the site, but the main habitat features of sessile oak *Quercus petraea* canopy, acidic ground flora of *Vaccinium myrtillus* and wavy hair-grass *Deschampsia flexuosa*, and moderate fern and bryophyte cover are present. The woodlands have a long cultural history of management, reflected in the distinctive gnarled appearance of many of the trees.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
Conservation Objectives	**Conservation Objective for Feature 1:** **Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles** Vision for feature 1 There is only one feature for the site, and so the vision for this feature is the same as that for the site: At least 90% of the site will be covered by semi-natural broadleaved woodland. The trees will be locally native broadleaved species, with a dominance of oak in the canopy. In the long term, the canopy will include trees of a wide range of age classes, with particular attention given to retaining old or veteran trees and encouraging natural regeneration of tree species, in particular oak. Dead wood, standing and fallen, will be maintained where possible to provide habitat for invertebrates, fungi and other woodland species. The tree canopy will not be completely closed; approximately 10% of the woodland will include a naturally occurring dynamic, shifting pattern of gaps. It is required that the feature be in a favourable conservation status, where all of the conditions set out in the

<table>
<tr><td>Site Name: Blackmill Woodlands
Location Grid Ref: SS929859
JNCC Site Code: UK0030090
Size: 71.01
Designation: SAC</td><td>Habitats Regulations Assessment: Data Proforma</td></tr>
<tr><td></td><td>Performance Indicators table are satisfied, and all factors affecting the achievement of these conditions are under control.

Performance indicators for Feature 1

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Blackmill Woodlands Management Plan.</td></tr>
<tr><td>Component SSSIs</td><td>▪ Blackmill Woodlands - is composed of 2 management units Allt Y Rhiw (Unit 1) and Craig Tal Y Fan (Unit 2), the SAC covers the same area. A map of the management units can be viewed on the CCW website.</td></tr>
<tr><td>Key Environmental Conditions (factors that maintain site integrity</td><td>▪ Management of woodland - focus on restoring an uneven age structure and providing increased opportunity for natural regeneration through removal of grazing and gap creation/maintenance.</td></tr>
<tr><td>SAC Condition Assessment</td><td>Conservation Status of Feature 1:
Old sessile oak woods with Ilex and Blechnum in the British Isles

<table>
<tr><td>Broad Attribute</td><td>Allt Y Rhiw (Unit 1)</td><td>Craig Tal Y Fan (Unit 2)</td></tr>
<tr><td>Extent</td><td>PASS</td><td>PASS</td></tr>
<tr><td>Structure and Natural Processes</td><td>FAIL</td><td>FAIL</td></tr>
<tr><td>Regeneration</td><td>FAIL</td><td>FAIL</td></tr>
<tr><td>Composition</td><td>PASS</td><td>PASS</td></tr>
<tr><td>Quality Indicators</td><td>PASS</td><td>PASS</td></tr>
</table>

The results shown above indicate that both Allt y Rhiw and Craig Tal-y-Fan failed to meet the limits set for two of the broad attributes, namely Structure, Natural Process and Regeneration. A closer look at the data reveals</td></tr>
</table>

Site Name: Blackmill Woodlands **Location Grid Ref: SS929859** **JNCC Site Code: UK0030090** **Size: 71.01** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	that both woodland blocks had insufficient gaps in the canopy, although the average number of gaps per sample was slightly higher for Craig Tal Y Fan than for Allt Y Rhiw. With regard to regeneration, seedlings > 5cm high were seen throughout Allt Y Rhiw and as a result this woodland block passed the limits set for this attribute. However fewer seedlings were seen throughout Craig Tal Y Fan and this woodland block failed this attribute. It is worth noting however that this attribute needs to be assessed over a ten-year period. Both woodland blocks failed to have sufficient seedlings and saplings within canopy gaps. To summarise, the feature within this site is considered to be in **unfavourable** condition. However Unit 1 should be classified as **unfavourable recovering** and Unit 2 as **unfavourable declining**.
Vulnerabilities (includes existing pressures and trends)	▪ **Grazing** - Sheep grazing has, and continues to have, a major impact on the condition of the site with significant problems as a result of the heavy grazing in the Craig Tal-y-Fan (unit 2) woodland block. Excessive sheep grazing leads to a severely impoverished ground flora and severely inhibits the growth or recruitment of young seedlings and saplings for regeneration. Cessation of all grazing over a long period could be detrimental to the field layer, especially bryophytes, as they can become shaded out. The ideal is either to mimic the very low level within a natural woodland ecosystem, or to periodically vary grazing pressure. ▪ **Air pollution*** - Possible in-combination effect of EA permitted licences, currently under investigation. o Acidification. o Eutrophication. o Photochemical oxidants. o Particulate matter.
Landowner/ Management	These woodlands are situated entirely on Common Land, and are subject to rights of common. These include

* Air Pollution Information System (APIS). Oak Woodland. Available from: http://www.apis.ac.uk/cgi_bin/habitat_result.pl?habResult=Oak+woodland&choice=allHabs&haborspec=habitat&submit.x=23&submit.y=8

Site Name: Blackmill Woodlands **Location Grid Ref: SS929859** **JNCC Site Code: UK0030090** **Size: 71.01** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Responsibility	the lopping of branches for firewood which has resulted in the distinctive gnarled shape of many of the trees.
HRA/AA Studies undertaken that address this site	HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. www.cardiff.gov.uk/ObjView.asp?Object_ID=9788 ▪ The Screening states that the most likely mechanism for the Preferred Strategy to have a significant effect on this site is through airborne pollution. AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07. http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf ▪ It is considered unlikely that the Vale of Glamorgan LDP Draft Preferred Strategy LDP would result in development likely to have a significant effect on the integrity of the primary features of this site. The remaining activities that could adversely affect the designated site are extremely localised and site specific and will not be affected by the draft preferred strategy.

Site Name: Blaen Cynon **Location Grid Ref: SN946066** **JNCC Site Code: UK0030092** **Size: 66.83** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	This site lies adjacent to a housing estate, approximately 1 km south of the village of Penderyn, at an altitude of 220-265 m. Blaen Cynon contains an extensive complex of damp pastures and heaths supporting the largest metapopulation of marsh fritillary *Euphydryas aurinia* on the southern edge of the Brecon Beacons National Park. The marsh fritillary butterfly *Euphydryas aurinia* is found in a range of habitats in which its larval food plant, devil's-bit scabious *Succisa pratensis*, occurs. Marsh fritillaries are essentially grassland butterflies in the UK, and although populations may occur occasionally on wet heath, bog margins and woodland clearings, most colonies are found in damp acidic or dry calcareous grasslands. Populations of marsh fritillary vary greatly in size from year to year, and, at least in part, this is related to cycles of attack from parasitic wasps. Adults tend to be sedentary and remain in a series of linked metapopulations, forming numerous temporary sub-populations, which frequently die out and recolonise. Blaen Cynon also supports a range of habitats. Marshy grassland, and flush and spring are of particular importance as they provide habitat for the marsh fritillary. Also present are areas of raised bog, species-rich neutral grassland, acid grassland and semi-natural broadleaved woodland.
Qualifying Features	Annex II Species primary reason for selection: ▪ Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia*
Conservation Objectives	**Conservation Objective for Feature 1:** **Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia*** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The site will contribute towards supporting a sustainable metapopulation of the marsh fritillary in the Penderyn/Hirwaun area. This will require a minimum of 50ha of suitable habitat, of which at least 10ha must

Site Name: Blaen Cynon **Location Grid Ref: SN946066** **JNCC Site Code: UK0030092** **Size: 66.83** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	be in good condition, although not all is expected to be found within the SAC. Some will be on nearby land within a radius of about 2km. ▪ The population will be viable in the long term, acknowledging the extreme population fluctuations of the species. ▪ A minimum of 30% of the total site area will be grassland suitable for supporting marsh fritillary. (As the total area of the SAC is 66.62 ha, 30% represents approximately 20 ha.) ▪ At least 40% of the suitable habitat (approximately 8 ha) must be in optimal condition for breeding marsh fritillary. ▪ Suitable marsh fritillary habitat is defined as stands of grassland where Succisa pratensis is present and where scrub more than 1 metre tall covers no more than 10% of the stands ▪ Optimal marsh fritillary breeding habitat will be characterised by grassland where the vegetation height is 10-20 cm, with abundant purple moor-grass Molinia caerulea, frequent "large-leaved" devil's-bit scabious Succisa pratensis suitable for marsh fritillaries to lay their eggs and only occasional scrub. In peak years, a density of 200 larval webs per hectare of optimal habitat will be found across the site. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Blaen Cynon Management Plan.
Component SSSIs	▪ Cors Bryn-y-Gaer ▪ Woodland Park and Pontpren The SAC is composed of 13 management units with Cors Bryn-y-Gaer containing units 1 to 6 and Woodland Park and Pontpren containing units 7 to 13. A map of the management units can be viewed on the CCW website.

Site Name: Blaen Cynon **Location Grid Ref: SN946066** **JNCC Site Code: UK0030092** **Size: 66.83** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Key Environmental Conditions (factors that maintain site integrity	▪ **Grazing** - Without an appropriate grazing regime, the grassland will become rank and eventually turn to scrub and woodland. Conversely, overgrazing, or grazing by inappropriate stock (particularly sheep) will also lead to unwanted changes in species composition, through selective grazing, increased nutrient inputs and poaching. Balancing grazing is the single most important issue in the management of this site. ▪ **Extent and quality of the marshy grassland** as habitat for marsh fritillary. Approximately 50ha of habitat is required to maintain the population in the long-term, with at least 10ha is good condition. Not all is expected to be within the SAC. The operational limits reflect the minimum contribution of the Blaen Cynon SAC towards the favourable conservation status of the species in the Hirwaun/Penderyn area. Operational Limits: 20 hectares of Available marshy grassland, including: 8 hectares of Good Condition marsh fritillary habitat Within Areas 1, 2, 3 and 4 50% of the vegetation meets the following criteria: Within a 50cm radius: *Molinia* is present. AND The cover of *Succisa* is 10% or greater. AND The vegetation height is between 10-20cm when measured using a Boorman's disc. AND The cover of *Juncus* spp. does not exceed 50%. Definition of Good Condition marsh fritillary habitat Grassland, with *Molinia* abundant where, for at least 80% of

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	sampling points, the vegetation height is within the range of 10 to 20 cm (when measured using a Boorman's disc) and *Succisa pratensis* is present within a 1 m radius. Scrub (>0.5 metres tall) covers no more than 10% of area. ▪ **Maintain population of devil's-bit scabious** *Succisa pratensis* - Marsh Fritillary Buttefly's larval food plant. ▪ **Hydrological Regime** - the drainage and hydrological conditions on the site should be maintained to favour the habitats that support the marsh fritillary and their management. Devil's-bit scabious prefers moist soils. ▪ **Conserve a cluster of sites in close proximity** - existing SAC boundary does not take in all areas of suitable habitat in the surrounding area.
SAC Condition Assessment	**Conservation Status of Feature 1** **Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia*** Counts of marsh fritillary larval webs have been undertaken regularly since 1999. Numbers of webs have not achieved the levels required by the performance indicators. Monitoring has also concluded that there is insufficient good and available habitat. The assessment for both component SSSIs was that they were in **unfavourable** condition, and in this case we can give condition information at the unit level. Cors Bryn-y-Gaer SSSI failed due to insufficient good quality marsh fritillary habitat. In addition, counts of marsh fritillary larval webs have not reached the required 200 per hectare of available habitat. Balancing grazing across the site with the right livestock is the key to successful management for this species. It involves using cattle or horses, and avoiding sheep. It also needs the level of grazing right to create the tussocky structure the butterfly requires, whilst avoiding over or under-grazing. Current assessments are: MU1 Unfavourable MU2 Unfavourable

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	MU3 Unfavourable MU4 Unfavourable MU5 Unfavourable MU6 Unfavourable Woodland Park and Pontpren SSSI failed due to insufficient good quality marsh fritillary habitat. In addition, counts of marsh fritillary larval webs have not reached the required 200 per hectare of available habitat. Balancing grazing across the site with the right livestock is the key to successful management for this species. It involves using cattle or horses, and avoiding sheep. It also needs the level of grazing right to create the tussocky structure the butterfly requires, whilst avoiding over or under-grazing. Scrub encroachment is also a factor at this SSSI. Current assessments are: MU1 Unfavourable MU2 Unfavourable MU3 Unfavourable MU4 Unfavourable MU5 Unfavourable MU6 Unfavourable MU7 Unfavourable
Vulnerabilities (includes existing pressures and trends)	▪ **Scrub encroachment** - Scrub encroachment is an issue, particularly on some wet grassland areas. A programme of scrub control is currently (2008) being undertaken, but it is likely that even with the ideal grazing management, a more or less continuous programme of scrub control will be required at this site. It is clear from aerial photographs and from discussions with landowners, that many areas that are currently covered in alder and willow woodland were formerly wet pasture. Therefore a long-term aim would be to investigate returning some of this to wet pasture that would likely increase the availability of marsh fritillary habitat. ▪ **Grazing** - suitable areas of grassland are overgrazed while others are undergrazed.

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	▪ **Inappropriate tree planting** - Parts of Woodland Park and Pontpren, notably units 3 and 4 have been subject to improvement in preparation for tree planting, including draining, planting with trees and use of fertiliser. ▪ **Eutrophication** ▪ **Reduced air quality** ▪ **Parasites** - the larvae of marsh fritillaries can be parasitised by species of braconid wasp of the *Cotesia* genus. The parasites can have good years and infect a large number of larval webs, causing a crash in the subsequent adult population of marsh fritillary. This factor is outside the influence of the site manager; and an operational limit is not required. ▪ **Weather conditions** - Weather conditions have an effect on the breeding success of the marsh fritillary. In particular, poor weather conditions during the adult flight period will reduce opportunities for mating, egg-laying and dispersal from core areas. Weather conditions during early spring influence the rate of larval development of the marsh fritillary and the effects of the parasitic wasp. This site is situated in an area of relatively high rainfall, which will has a large influence on the population dynamics of the marsh fritillary. This factor is outside the influence of the site manager and an operational limit is not required. ▪ **Management of surrounding habitats** - The SAC only includes the core of the marsh fritillary habitat (and hence core of the metapopulation). There are likely to be other small areas of habitat outside the SAC boundary which are used by the butterfly only occasionally, but which likely contribute to the long-term success of the metapopulation. Efforts should be made to encourage better management of these areas of land through schemes such as Tir Gofal or through specific grazing projects. ▪ **Owner/occupier objectives** - the owners/occupiers of the land typically have an interest in securing some

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	financial/agricultural benefit from the land. This return could be optimised by the agricultural improvement of the land, e.g. by installing new drainage, fertiliser application, or re-seeding; however these operations would cause significant long-term damage to the marsh fritillary habitat, namely the marshy grassland. Additionally unimproved marshy grasslands that are waterlogged for much of the year are difficult to manage for many landowners, possibly resulting in a mixture of over- and under- grazing, with a tendency for scrub to spread. Because of the wet nature of some of the ground, some landowners may be reluctant to graze large stock. This factor will be controlled through management agreements and the SSSI legislation. An operational limit is not required. There are no known off-site factors, such as pollution, that are affecting the marsh fritillary to any significant extent, although there is still much industry in the locality. The two overwhelming issues of grazing and scrub encroachment would probably obscure any off-site issues. As management of the site improves off-site factors may become more apparent.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	AA Screening of the Rhondda Cynon Taff County Borough Council's Local Development Plan (2006-2021): Preferred Strategy January 2007 (http://www.rhondda-cynon-taff.gov.uk/stellent/groups/Public/documents/RelatedDocuments/012830.pdf) ▪ The residential development proposed to the south and west of Blaen Cynon is identified as a potential source of adverse impacts on the Blaen Cynon SAC. Taken in conjunction with the plan to upgrade the A465 Abergavenny / Hirwaun to a dual carriageway, there is potential for significant adverse effects on this SAC.

Site Name: Brecon Beacons **Location Grid Ref: SO024211** **JNCC Site Code: UK0030096** **Size: 269.67** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The Brecon Beacons SAC is located to the south of the town of Brecon and the Old Red Sandstone cliffs and escarpment is typical of the upland scenery within the National Park. The site is comprised of 4 different units contained within Brecon Beacons SSSI. Pen y Fan is the highest peak in south Wales. The site is of particular interest for the arctic-alpine plants and plant communities growing on the sandstone rocks and ledges on its precipitous mostly north and east facing cliffs. The escarpments also support stands of dry heath vegetation. Within the SAC boundary the only significant areas of dry heath are found on the steep slopes of the NNR. The heath is largely dominated by single species stands of heather Calluna vulgaris and bilberry Vaccinium myrtillus, although some stands have crowberry Empetrum nigrum. Heather and biberry also grow on the cliff ledges and are sometimes joined by cowberry (Vaccinium vitis-idaea). Here, there is some gradation into the other Annex I habitat types for which this SAC is designated. On the lower slopes, where grazing levels are higher, heath species become less dominant and are replaced by acid grassland. Bracken is locally abundant both on the steeper slopes, where it grows where the soil is slightly deeper, and on the lower slopes where it is sometimes mixed with scrub. Trees, including endemic whitebeams (Sorbus), and shrubs are an important element of the crag vegetation.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ Calcareous rocky slopes with chasmophytic vegetation ▪ Siliceous rocky slopes with chasmophytic vegetation Annex I Habitats qualifying feature: ▪ European dry heaths ▪ Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
Conservation Objectives	**Conservation Objective for Feature 1:** **Calcareous rocky slopes with chasmophytic vegetation**

Site Name: Brecon Beacons **Location Grid Ref: SO024211** **JNCC Site Code: UK0030096** **Size: 269.67** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	Vision for Feature 1 ▪ The base-rich sandstone cliffs, including crevices, scree and associated patches of thin soil remains free from disturbance and support typical plants, including mosses and liverworts. ▪ A variety of rare and scarce plants thrive in these areas, including purple saxifrage, green spleenwort, Oeder's apple-moss, lesser rough earwort and several rare hawkweeds. ▪ Populations of these species are sufficiently large and widespread to be sustained into the future (currently some populations may be critically low). ▪ All factors affecting the achievement of the above conditions are under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Brecon Beacons Management Plan. **Conservation Objective for Feature 2:** **Siliceous rocky slopes with chasmophytic vegetation** Vision for feature 2 ▪ The acidic sandstone rocks, including crevices and scree, remain free from disturbance to and support typical plants, including mosses, ferns and lichens. ▪ A variety of rare and scarce plants thrive in these areas, including fir clubmoss, dwarf willow, and greater streak-moss. ▪ Populations of these species are sufficiently large and widespread to be sustained into the future. ▪ All factors affecting the achievement of the above conditions are under control.

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	Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Brecon Beacons Management Plan. **Conservation Objective for Feature 3:** **European dry heaths** Vision for Feature 3 ▪ The extent, quality and diversity of heath vegetation are maintained and, where possible, degraded heath is restored to good condition. ▪ The main heathland areas within the SAC and SSSI have a varied age structure with a mosaic of young heath, mature heath and degenerate heath. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 3 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Brecon Beacons Management Plan. **Conservation Objective for Feature 4:** **Hydrophilous tall herb fringe communities of plains and montane to alpine levels** Vision for feature 4 ▪ The cliff ledges with less acidic soil remain largely free from grazing, such that the typical flowering plants

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	can flourish and flower freely. ▪ Several uncommon plants thrive in these areas, including serrated wintergreen and rare hawkweeds. ▪ The populations of these plants are sufficiently large and widespread to be sustained into the future. ▪ All factors affecting the achievement of the above conditions are under control. Performance indicators for Feature 4 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Brecon Beacons Management Plan.
Component SSSIs	Brecon Beacons SSSI is composed of 10 management units of which numbers 1, 4, 8, and 9 comprise to form the Brecon Beacons SAC. A map of the management units can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	▪ **Grazing** - Some areas under-grazed while others are over-grazed. o Upper limit: 0.2 livestock units/ha/year (One livestock unit is equivalent to 1 cow or horse. A sheep (with lamb) is equivalent to 0.15 livestock units). o Lower limit: Sufficient to prevent the development of scrub within heathland/grassland of conservation interest and/ or spread of bracken and ivy. ▪ **Air Quality** - Ensure that no critical loads for acidic and nitrogen deposition are exceeded. ▪ **Erosion** - No noticeable impacts from human or livestock induced erosion in units 1, (2), 4, (7), 8, 9, (10). Walkers and livestock cause erosion of paths along the cliffs resulting in rock and soil being washed down from eroded areas on the cliffs above. ▪ **Rock Climbing** - No rock climbing in units 1, (2), (3), 4, (7), 8, 9, (10) without agreement. Although most of the rocks at this site are too soft or unstable for climbing, intensive use can dislodge plants and disturb

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	breeding birds. These impacts may be avoided if climbing is subject to specific agreements, which include a code of conduct.
SAC Condition Assessment	**Conservation Status of Feature 1:** Calcareous rocky slopes with chasmophytic vegetation The conservation status of the feature within the site is **Un-favourable** (2005). The extent and quality of this type of vegetation was being adversely affected by sheep grazing, this probably applies to units 4, (7), 9, (10) as well. With reduced grazing, or less sheep grazing, this community would be more widespread. There are still some problems with rock and soil being washed down from eroded areas on the cliffs above in units 8 & 9. The feature in Units 1 and (2) is subject to lower grazing levels, particularly by sheep, and there may be less public access to the cliffs here. Therefore, the habitat in these units is likely to be in favourable, maintained condition. **Conservation Status of Feature 2:** Siliceous rocky slopes with chasmophytic vegetation The conservation status of the feature within the site is **Un-favourable** (2005). The siliceous chasmophytic vegetation appeared to be in reasonable condition but the Environment Agency has reported that critical loads for air pollutants are still being exceeded, which is likely to be having an adverse impact on the vegetation. **Conservation Status of Feature 3:** European dry heaths The conservation status of the feature within the site is **Un-favourable** (2006).

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	The European dry heath feature is considered to be in un-favourable (no change) condition within the SSSI and SAC as a whole, largely because grazing levels in units 4, 8, 9, are suppressing the development of heath on the slightly deeper acidic soils. Within the NNR (units 1 & 2) stocking rates are lower and the slopes are generally steep, with a bias towards cattle, which ensures grazing levels are low. The condition attributes are satisfied in both units 1 & 2 (November 2006). Within the remainder of the SSSI, feature condition is thought to be favourable, maintained in unit 5 but un-favourable, no-change in units 3, 7, 10 as result of grazing pressure. **Conservation Status of Feature 4:** Hydrophilous tall herb fringe communities of plains and montane to alpine levels The conservation status of the feature within the site is **Un-favourable** (2005). Although the vegetation appeared to be thriving in areas that are naturally in-accessible to grazing stock, it is likely that the feature would be more widespread in some of the units within commonland (units 4, 7?, 10) if the grazing pressure was reduced. The part of this feature in Unit 1 is subject to lower grazing levels and there is considered to be in a favourable, maintained condition.
Vulnerabilities (includes existing pressures and trends)	▪ **Air pollution** – Acidification of rain and soils, due to atmospheric pollution, and nutrient enrichment (especially increased nitrogen and phosphorus), through a combination of atmospheric pollution, excessive dunging/urination in areas where stock preferentially graze and other inputs from diffuse sources. Mosses, liverworts and lichens are particularly vulnerable to pollution from atmospheric sources. Much of this atmospheric pollution comes from distant, diffuse sources, such as traffic and domestic emissions, but some can be attributed to large point sources, such as major power stations or industrial processes. The Environment Agency has reported that critical loads for air pollutants are still being exceeded, which is likely to be having an adverse impact on the vegetation. ▪ **Grazing pressure** - Many of the interesting plants on the cliffs are intolerant of grazing and are confined to

Site Name: Brecon Beacons **Location Grid Ref: SO024211** **JNCC Site Code: UK0030096** **Size: 269.67** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	areas less accessible to stock. Reduced grazing levels on the main escarpment would allow these plants to spread out from their craggy refuges. Sheep tend to graze any lime-rich grassland preferentially at certain times of year and can cause localised damage in these areas, but there are some areas they will never be able to access on vertical or unstable slopes. However, some light grazing of slopes may help to prevent encroachment by coarse vegetation, trees and scrub. Those areas currently ungrazed are not likely to be accessible to stock types currently grazing the land, therefore core areas of the feature are currently safe. Potential changes in the type of grazing animals, such as goats, which would be better suited to climbing, will be monitored and appropriate action taken to remove them. ▪ **Recreational pressure** from walkers and rock climbers - This along with livestock can cause erosion of paths along the cliffs resulting in rock and soil being washed down from eroded areas on the cliffs above.
Landowner/ Management Responsibility	▪ Unit 1 - SAC area within the CCW-owned land ▪ Unit 4 - SAC area within Great Forest common land (CL50 Brecknock) ▪ Unit 8 - SAC area within National Trust common land (Brecon Beacons CL56 Brecknock) ▪ Unit 9 - SAC area within Buckland Manor common (CL62 Brecknock)
HRA/AA Studies undertaken that address this site	▪ N/A

Site Name: Cardiff Beech Woods **Location Grid Ref: ST118824** **JNCC Site Code: UK0030109** **Size: 115.62** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Cardiff Beech Woods lies to the north east of Cardiff and is intersected by the A4054 and the A470. The site contains one of the largest concentrations of *Asperulo-Fagetum* beech forests in Wales, and represents the habitat close to the western limit of its past native range in both the UK and Europe. The woods show mosaics and transitions to other types, including more acidic beech woodland and oak Quercus and ash *Fraxinus excelsior* woodland. Characteristic and notable species in the ground flora include ramsons *Allium ursinum*, *sanicle Sanicula europaea*, bird's-nest orchid *Neottia nidus-avis* and yellow bird's-nest *Monotropa hypopitys*.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ *Asperulo-Fagetum* beech forests Annex I Habitats qualifying feature: ▪ *Tilio-Acerion* forests of slopes, screes and ravines* Priority feature
Conservation Objectives	**Conservation Objective for Feature 1:** **Aperulo-Fagetum beech forest** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ At least 85% of the site will continue to be covered by semi-natural broadleaved woodland. ▪ The range of woodland communities within the site will be maintained - including both of the woodland types considered to be of international importance - Asperulo-Fagetum and Tilio Acerion. ▪ At least 95% of canopy forming trees will be locally native species such as beech, ash and oak. ▪ The tree canopy will not be completely closed; approximately 10% of the canopy will include a dynamic

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	shifting pattern of gaps encouraging natural regeneration of tree species of all ages. ▪ Dead wood, standing and fallen, will be maintained where possible to provide habitat for invertebrates, fungi and other woodland species. ▪ The ground flora will comprise species typical of lime-rich beech wood, including indicators of ancient woodland, such as wood anemone, ramsons and sanicle. ▪ There is little evidence of browsing. ▪ Recreational use of the site will continue to be managed so it does not damage the wildlife interest of the site. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Cardiff Beech Woods Management Plan. **Conservation Objective for Feature 2:** ***Tilio-Acerion* forest of slopes, screes and ravines** Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ At least 85% of the site will continue to be covered by semi-natural broadleaved woodland. ▪ The range of woodland communities within the site will be maintained, as for feature 1 ▪ At least 95% of canopy forming trees will be locally native species (sycamore included).

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	▪ The tree canopy will not be completely closed; approximately 10% of the canopy will include a dynamic shifting pattern of gaps encouraging natural regeneration of tree species of all ages. ▪ Dead wood, standing and fallen, will be maintained where possible to provide habitat for invertebrates, fungi and other woodland species. ▪ The ground flora will comprise species typical of lime-rich beech wood, including indicators of ancient woodland, such as wood anemone, ramsons and sanicle. ▪ There is little evidence of browsing. ▪ Recreational use of the site will continue to be managed so it does not damage the wildlife interest of the site. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Cardiff Beech Woods Management Plan.
Component SSSIs	▪ Fforestganol, Tongwynlais a Cwm Nofydd (units 1-5) ▪ Castell Coch Woodlands and Road Section (units 6-9) ▪ Garth Wood (units 10-12) There are 12 management units of which numbers 1, 2, 3, 4, 8, 9 and 10 comprise to form the Cardiff Beech Woods SAC. A map showing the management units can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	▪ **Maintain/manage the surrounding woodland** - Commercial forestry in the vicinity of Castell Coch may have implications for surface water supply and quality. There are also a number of active and disused limestone quarries in the area. Garth Wood surrounds Taff's Well Quarry but there are other, smaller quarries in and around all component SSSIs. Quarrying can lead to direct loss of the feature together with indirect impacts

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	from issues such as access. There are also a number of impacts arising from restoration at the end of a quarry's working life. ▪ **Manage public access** - Management of the recreational use of the woodlands should focus on maintaining the network of public footpaths and access routes. Regular maintenance of the footpaths and bridleways is essential to stop them spreading onto the adjacent woodland habitat. By restricting recreational use of the woodlands to certain areas and paths, natural woodland processes can be left to occur away from these areas of recreational use and without the need for intervention from a public health and safety perspective.
SAC Condition Assessment	**Conservation Status of Feature 1** **Aperulo-Fagetum beech forest** The sites were monitored in March 2004 to gather the extent or condition of the habitat. The current feature status for the Asperulo-fagetum beech forest is **Unfavourable** - Unclassified (March 2004). The justification for the above feature status (March 2004) is as follows: CCW view is that the site is still recovering from undesirable effects of past management. Although most if not all aspects of the component sites are heading in the right direction the status is still short of favourable. Implementation of appropriate management will be addressed but in our view there is no urgent or immediate need for action. The Garth Wood component is thought to be 'unfavourable recovering' although a management plan has not been prepared to date so its status has not been fully assessed. The management is mostly limited intervention and for most of the site there is good age structure and gap regeneration. Natural processes could be enhanced by localised intervention and this will be addressed through management

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	recommendations. Fforestganol a Chwm Nofydd is thought to be 'unfavourable recovering', although a management plan has not been prepared to date so its status has not been fully assessed. Although there are small areas of even age structure there is generally a diverse age structure. This, together with concerns at the percentage of beech at some locations, will be addressed through management recommendations. Castell Coch Woodlands and Road Section is thought to be 'unfavourable recovering'. A full management plan has not been prepared to date so its status has not been fully assessed. There is generally an even age structure with low canopy cover. However, there is evidence of natural woodland processes, with good regeneration within the pattern of gaps. Recovery is expected over time and this could be hastened with increased localised intervention. This, together with concerns over the species composition (particularly ash and sycamore) at some locations will be addressed through management recommendations. **Conservation Status of Feature 2** **Tilio-Acerion forest of slopes, screes and ravines** The sites were monitored in February 2004 to gather the extent or condition of the habitats and the species. The current feature status for the Tilio-Acerion forest of slopes, screes and ravines is **Unfavourable - Recovering** (February 2004). The justification for the above feature status (February 2004) is as follows: CCW view is that the site is still recovering from undesirable effects of past management. Although most if not all aspects of the component sites are heading in the right direction the status is still short of favourable. Implementation of appropriate management will be addressed but in our view there is no urgent or immediate need for action.

Site Name: Cardiff Beech Woods **Location Grid Ref: ST118824** **JNCC Site Code: UK0030109** **Size: 115.62** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	The Garth Wood component is thought to be 'unfavourable recovering' although a management plan has not been prepared to date so its status has not been fully assessed. The management is mostly limited intervention and for most of the site there is good age structure and gap regeneration. Natural processes could be enhanced by localised intervention and this will be addressed through management recommendations. Fforestganol a Chwm Nofydd is thought to be 'unfavourable recovering', although a management plan has not been prepared to date so its status has not been fully assessed. Although there are small areas of even age structure there is generally a diverse age structure. This, together with concerns at the percentage of beech at some locations, will be addressed through management recommendations.
Vulnerabilities (includes existing pressures and trends)	▪ **Atmospheric Pollution** - its location in industrialised South Wales, together with the presence of nearby quarrying and associated activities, means that there is the potential for localised atmospheric pollution. Quarry dust deposition is an issue that occasionally comes up. o Nitrogen deposition. o Photochemical oxidants (ozone). o Acidification. ▪ **Recreational pressure** - All component SSSIs are used to a greater or lesser extent for recreation purposes. Castell Coch Woodlands and Fforestganol a Chwm Nofydd experience the most recreation pressure, and are popular for walking, climbing and mountain biking. The Taff train runs through part of the Castell Coch Woodlands site and the historic building of Castell Coch attracts many visitors, which increases the access pressure on the woodlands. The road section is becoming increasingly popular for climbing, and this is unlikely to be a problem for the geological interest of the site. However, climbing could be potentially damaging to trees at the top of the crag and needs to be kept under review. Management of access is nominally through the individual site owners but there are potential conflicts between different users which

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	to date have been addressed through the Local Authority Access Forum. Recreation within the areas supporting this habitat feature is restricted due to the steep and rocky nature of the terrain. Therefore the recreational pressure on areas of Tilio-acerion is less than on areas of Asperulo-fagetum habitat. Nonetheless, given the high recreation pressure experienced by Fforestganol a Chwm Nofydd, which supports areas of Tilio-acerion habitat, aspects of recreational management still apply to this feature. ▪ **Mineral extraction and related activities** - There are a number of active and disused limestone quarries in the area. Garth Wood surrounds Taff's Well Quarry but there are other, smaller quarries in and around all component SSSIs. Quarrying can lead to direct loss of the feature together with indirect impacts from issues such as access. There are also a number of impacts arising from restoration at the end of a quarry's working life. ▪ **Development** - Its location in the populated South Wales area means that there is considerable development pressure in the vicinity including associated infrastructure on land adjacent to the site. There is the potential for a range of impacts arising from increasing urbanisation. ▪ **Commercial Forestry** - Commercial forestry in the vicinity of Castell Coch may have implications for surface water supply and quality, and this needs to be kept under review. ▪ **Non-native species** - The presence of a number of species considered to be non-native e.g. sycamore and Japanese knotweed, is currently under review to determine any detrimental effects on the woodland communities of special interest.
Landowner/ Management Responsibility	The majority of the woodlands are owned, or in the guardianship of government agencies, with most of the remainder of the woodland covered by a Section 106 agreement. Cardiff County Council, Cadw and Forestry Commission carry out woodland management for conservation purposes and occasionally health and safety purposes.

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HRA/AA Studies undertaken that address this site	AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07. http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf ▪ The screening report concluded that there is unlikely to be any significant impact on the Cardiff Beech Woods SAC. AA Screening of the Rhondda Cynon Taff County Borough Council's Local Development Plan (2006-2021): Preferred Strategy Jan 2007 (http://www.rhondda-cynon-taff.gov.uk/stellent/groups/Public/documents/RelatedDocuments/012830.pdf) ▪ There is potential for significant impact on the Cardiff Beech Woods SAC, primarily in-combination with development proposed in the Cardiff's Development Plan. HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. www.cardiff.gov.uk/ObjView.asp?Object_ID=9788 ▪ Policies to deliver economic growth and the provision for up to 24750 new dwellings in the preferred strategy could lead to an increase in traffic volume and may well result in increased deposition of airborne pollutants at this site. The screening report identified that there is the potential for significant effects on the Cardiff Beech Woods SAC.

Site Name: Cefn Cribwr Grasslands **Location Grid Ref: SS870830** **JNCC Site Code: UK0030113** **Size: 58.35** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The site(s) is situated to the east of Bridgend in close proximity to the M4. This is one of four sites representing *Molinia* meadows in south and central Wales, one of the major UK strongholds for this habitat type. At this site, there are extensive stands of M24 *Molinia – Cirsium dissectum* fen-meadow, including the heathy sub-type with cross-leaved heath *Erica tetralix*, as well as other forms with a stronger representation of grasses, rushes and small sedges. Transitions to stands of more acidic *Molinia* and *Juncus* pasture, dry neutral grassland and wet scrub vegetation are well-represented. Uncommon and declining species associated with the *Molinia* meadows at this site include the nationally rare viper's-grass *Scorzonera humilis* and the nationally scarce soft-leaved sedge *Carex montana*. The Cefn Cribwr group of SSSIs is also of importance for the presence of marsh fritillary butterflies. This small species, whose wings have an attractive chequerboard pattern of red, brown and cream, is now rare throughout Britain, and is only found where its food plant, devil's bit scabious, grows in abundance.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) Annex II Species qualifying feature: ▪ Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia*
Conservation Objectives	**Conservation Objective for Feature 1:** **Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

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	▪ eu-Molinion marshy grassland will occupy between 50% and 55% of the total site area. ▪ The remainder of the site will be other semi-natural habitat or areas of permanent pasture. ▪ The following plants will be common in the eu-Molinion marshy grassland: purple moor-grass Molinia caerulea; meadow thistle Cirsium dissectum; Carex hostiana; Carex pulicaris; devil's bit scabious Succisa pratensis; carnation sedge Carex panicea; saw wort Serratula tinctoria and; tormentil Potentilla erecta. ▪ Cross-leaved heath Erica tetralix and common heather Calluna vulgaris will also be common in some areas. ▪ Rushes and species indicative of agricultural modification, such as perennial rye grass Lolium perenne and white clover Trifolium repens will be largely absent from the eu-Molinion marshy grassland. ▪ Scrub species such as willow Salix (excluding Salix repens) and birch Betula will also be largely absent from the eu-Molinion marshy grassland. ▪ All factors affecting the achievement of the foregoing conditions are under control. Performance indicators for feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Cefn Cribwr Grasslands Management Plan. **Conservation Objective for Feature 2:** **Marsh fritillary butterfly *Euphydryas* (*Eurodryas*, *Hypodryas*) *aurinia*** Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The site will contribute towards supporting a sustainable metapopulation of the marsh fritillary in the Cefn

Site Name: Cefn Cribwr Grasslands **Location Grid Ref: SS870830** **JNCC Site Code: UK0030113** **Size: 58.35** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	Cribwr area. This will require a minimum of 50ha of suitable habitat, of which at least 10ha must be in good condition, although not all is expected to be found within the SAC. Some will be on nearby land within a radius of about 2km. ▪ The population will be viable in the long term, acknowledging the extreme population fluctuations of the species. ▪ Habitats on the site will be in optimal condition to support the metapopulation. ▪ At least 40ha within the SAC & associated SSSI will be marshy grassland suitable for supporting marsh fritillary, with Succisa pratensis present and only a low cover of scrub. ▪ At least 8ha will be marsh fritillary breeding habitat in good condition, dominated by purple moor-grass Molinia caerulea, with S. pratensis present throughout and a vegetation height of 10-20cm over the winter period. ▪ Suitable marsh fritillary habitat is defined as stands of grassland where Succisa pratensis is present and where scrub more than 1 metre tall covers no more than 10% of the stands ▪ Optimal marsh fritillary breeding habitat will be characterised by grassland where the vegetation height is 10-20 cm, with abundant purple moor-grass Molinia caerulea, frequent "large-leaved" devil's-bit scabious Succisa pratensis suitable for marsh fritillaries to lay their eggs and only occasional scrub. In peak years, a density of 200 larval webs per hectare of optimal habitat will be found across the site. ▪ The marshy grassland will be well sheltered by hedgerows and mature trees. ▪ All factors affecting the achievement of the foregoing conditions are under control. Performance indicators for feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Cefn Cribwr Grasslands Management Plan.
Component SSSIs	▪ Bryn-Bach, Cefn Cribwr.

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	▪ Pen y Castell Cefn Cribwr. ▪ Waun-fawr, Cefn Cribwr. ▪ Caeau Cefn Cribwr. There are 12 management units of which numbers 1 to 10 comprise to form the Cefn Cribwr Grasslands SAC. A map showing the management units can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	▪ **Livestock grazing** - Without an appropriate grazing regime, the grassland would become rank and eventually turn to scrub and woodland. Conversely, overgrazing, or grazing by inappropriate stock (particularly sheep) would also lead to unwanted changes in species composition, through selective grazing, increased nutrient inputs and poaching. Grazing levels (the number of grazing animals and the period of grazing) need to be assessed against feature condition and modified accordingly. The preferred livestock regime is light grazing by cattle and ponies between April and November at a rate of 0.4LSU/ha/yr. Grazing alone may not be sufficient to prevent the gradual encroachment of scrub, woodland or bracken. A scrub control programme may need to be implemented. The abundance of rushes may also increase and may need to be controlled by topping subject to condition assessments. The habitat management required on this site will be best achieved through management agreements with the owners/occupiers. Agreements should specify grazing periods and levels and other details necessary for the management of the site, namely scrub control, rush topping, and fencing/gates required. The life cycle and population dynamics of the marsh fritillary, particularly the periodic population crashes, make it difficult assess whether the population is in a state to maintain itself in the long-term. In addition, further site specific data is required to establish confidence in the influence of grazing levels on habitat condition for marsh fritillaries. Annual monitoring of larval web densities and habitat condition are required until some confidence on these issues is achieved. ▪ **Shelter** belts - Hedgerows, woodland and mature trees in and around the site provide the sheltered conditions which the marsh fritillary requires. These should be retained and managed. On each component

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	SSSI o Lower limit: at any given time least 80% of the existing mature hedgerows (over 4 metres tall) should be retained. The remaining 20% should be subject to a sustainable hedgerow management rotation. The existing blocks of woodland should be retained. ▪ **Hydrological regime** - The eu-Molinion marshy grassland is dependent on a number of springs and watercourses feeding the site. CCW states that investigation is required to achieve a better understanding of the hydrological regime and to confirm that adjacent mineral workings are having no significant adverse effects.
SAC Condition Assessment	**Conservation status for Feature 1:** **Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)** This assessment relates to monitoring results from 2001 and provisional results from monitoring undertaken in 2007. The current status of the feature is **Unfavourable** The status within each management unit where Eu-Molinion is Key Habitat: Caeau Cefn Cribwr SSSI: MU1 Unfavourable MU2 Unfavourable MU3 Unfavourable MU5 Unfavourable Pen y Castell SSSI:

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	MU1 Unfavourable MU2 Unfavourable Bryn Bach SSSI: MU1 Unfavourable Waun Fawr SSSI: MU1 Unfavourable **Conservation status for Feature 2: Marsh fritillary butterfly *Euphydryas* (*Eurodryas*, *Hypodryas*) *aurinia*** Both larvae and adults of marsh fritillary have been recorded on the site more recently, but it is suspected that the site does not currently support the required density of larval webs that would indicate a sustainable metapopulation. The current status of the feature is **unfavourable** The status within each management unit where marsh fritillary butterfly is the Key species: Caeau Cefn Cribwr SSSI: MU5 Unfavourable MU7 Unfavourable MU8 Unfavourable Pen y Castell SSSI: MU1 Unfavourable MU2 Unfavourable

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	Bryn Bach SSSI: MU1 Unfavourable MU3 Unfavourable
Vulnerabilities (includes existing pressures and trends)	▪ **Inappropriate Grazing** - There is a danger of under/over grazing. ▪ **Burning** - is not a sympathetic habitat management tool for maintaining marsh fritillary populations. Burning should only be employed in the restoration of Eu Molinion/marshy grassland, where marsh fritillaries are known not to breed. ▪ **Hydrological regime** - The marshy grassland communities are strongly influenced by the quantity and base status of the groundwater. Reductions in the quality and quantity of the water in the springs and watercourses feeding the site may lead to a loss of marshy grassland or changes in species composition. Conversely, reduced/impeded drainage may lead to ground-water stagnation and a different change in species composition, e.g. increased abundance of rushes. Two of the component SSSIs lie close to opencast coal workings and other active mineral workings. These may have indirect effects on the hydrological regime. ▪ **Off-site pollution** - Two of the component SSSIs lie close to opencast coal workings and other active mineral workings. The effects of the releases of lime dust into the atmosphere from the adjacent works on the SSSI are not known; these emissions are subject to the authorisation of other competent authorities, particularly the Environment Agency. CCW states that further investigation is required to establish the existence and significance of any adverse effects. ▪ **Owner/occupier objectives** - the owners/occupiers of the land typically have an interest in securing some financial/agricultural benefit from the land. This return could be optimised by the agricultural improvement of the land, e.g. by installing new drainage, fertiliser application, or re-seeding; however these operations

Site Name: Cefn Cribwr Grasslands **Location Grid Ref: SS870830** **JNCC Site Code: UK0030113** **Size: 58.35** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	would cause significant long-term damage to the eu-Molinion marshy grassland. ▪ **Weather conditions** - Weather conditions have an effect on the breeding success of the marsh fritillary. In particular, poor weather conditions during the adult flight period will reduce opportunities for mating, egg-laying and dispersal from core areas. Weather conditions during early spring influence the rate of larval development of the marsh fritillary and the effects of the parasitic wasp (see below). This factor is outside the influence of the site manager and an operational limit is not required. ▪ **Parasites** - The larvae of marsh fritillaries can be parasitised by species of braconid wasp of the *Cotesia* genus. The parasites can have good years and infect a large number of larval webs, causing a crash in the subsequent adult population of marsh fritillary. This factor is outside the influence of the site manager; and an operational limit is not required.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07. http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf ▪ It is considered highly unlikely that the Draft Preferred Strategy for the Vale of Glamorgan LDP would result in development likely to have a significant effect on the integrity of the primary features of the designated site(s). However, Marsh Fritillary butterflies have been recorded within the Vale of Glamorgan and while it is considered highly unlikely that they originated from the Cefn Cribwr Grassland site, the species has been known to range up to 15 kilometres from it primary habitat. In addition, as the Vale supports a number of similar grassland habitats, it is considered that a precautionary approach should be adopted and further investigations undertaken.

Site Name: Coed Y Cerrig **Location Grid Ref: SO291210** **JNCC Site Code: UK0012766** **Size: 9.1ha** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Coed y Cerrig is situated approximately 4.8km to the North of Abergavenny and is a good example of alluvial forest in southern Wales. The valley-bottom woodland has a canopy dominated by alder *Alnus glutinosa* with ash *Fraxinus excelsior*, and a rich understorey that includes guelder-rose *Viburnum opulus* and bird cherry *Prunus padus*. The ground flora is characterised by abundant large sedges *Carex spp.*, and a wide diversity of wet woodland species. The woodland is continuous with diverse ash-elm *Fraxinus-Ulmus* and oak *Quercus spp.* woodland on the valley sides.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* Priority feature
Conservation Objectives	**Conservation Objective for Feature 2: Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incarnae, Salicion albae*)** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Around a third of the site is covered by wet alder and willow woodland. ▪ This wet woodland grades into areas of permanent open swamp dominated by lesser pond-sedge or other typical wetland plants, where the hydrological conditions are suitable. Adjacent areas of marshy grassland and spring-fed mire are intimately linked to the wet woodland and swamp. ▪ The remainder of the site supports mainly dry semi-natural woodland. ▪ The wet woodland has a variable canopy structure, based on a small-scale patchwork, with alder of different ages and some standing as well as fallen dead wood. Ash does not make up more than 25% of the canopy.

Site Name: Coed Y Cerrig **Location Grid Ref: SO291210** **JNCC Site Code: UK0012766** **Size: 9.1ha** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ Young trees/saplings and/or vegetative re-growth of the above species are present. ▪ The understorey includes locally native shrubs typical of this habitat and the ground flora consists of a variety of typical wetland plants, such as lesser pond-sedge, common marsh-bedstraw, meadowsweet, yellow pimpernel, opposite-leaved golden-saxifrage, marsh-marigold, hemlock water-dropwort, water mint, lady fern and rushes. ▪ Plants associated with nutrient enrichment, such as stinging nettle and cleavers, are not dominant over large areas and invasive alien plants like Japanese knotweed and Indian balsam are absent. ▪ This wet woodland grades into areas of permanent open swamp dominated by lesser pond-sedge or other typical wetland plants, where the hydrological conditions are suitable. Adjacent areas of marshy grassland and spring-fed mire are intimately linked to the wet woodland and swamp. ▪ There is no significant input of nutrient-rich water from ditches and surrounding land. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. . The performance indicators can be found within the Coed Y Cerrig Management Plan.
Component SSSIs	▪ Coed Y Cerrig SSSI Coed Y Cerrig SSSI is divided into 10 management units of which numbers 2, 4, 5 and 9 comprise to form the Coed Y Cerrig SAC. The management units can be viewed on a map that is available on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	▪ **Livestock grazing** - In units 2 & 4 there should be no deliberate grazing but light grazing, preferably by cattle or ponies, is desirable in unit 5 to maintain the fen-meadow vegetation. o Lower limits: Unit 5 should be subject to light summer grazing by cattle and/or ponies at least 4 in every 5 years. o Upper limits: No significant grazing in units 2 and 4;

Site Name: Coed Y Cerrig Location Grid Ref: SO291210 JNCC Site Code: UK0012766 Size: 9.1ha Designation: SAC	Habitats Regulations Assessment: Data Proforma
	o AND: No significant grazing outside the growing season in unit 5 or heavy grazing at any time during the summer. Light summer grazing is defined as - cattle and/or ponies at a rate of 0.4 LSU/ha/year for the period April to October. Heavy grazing is defined as greater than 1 LSU/ha/year (1 LSU is equivalent to a cow/horse, plus calf/foal). ▪ **Woodland Management** - Small-scale coppicing over a long cycle is desirable to maintain the dominance of alder and create a varied canopy structure in the wet woodland. More frequent coppicing is required to maintain the open glades that are dominated by sedge swamp. Standing and fallen dead timber provides an important habitat for a variety of wildlife, including fungi, invertebrates and birds and is also essential for nutrient recycling and restoring soil nutrients. Therefore dead and decaying trees should normally be retained. Wherever possible, standing dead trees should be allowed to decay and fall naturally. Movement and cutting/tidying of fallen trees and dead wood should be avoided unless essential for legal obligations or public safety. ▪ **Drainage** - hydrology is important in maintaining wet woodland. The alder woodland and associated swamp, marshy grassland and spring-fed mire, as well as the marsh fern, are found in areas of impeded drainage in the valley bottom. There should be no drainage works that could interfere with the springs and the generally waterlogged ground. o No new drainage ditches to be installed within units 2, 4 & 5. ▪ **Public Access** - Maintain boardwalks and footpaths to minimise trampling damage within the wet woodland. In theory, public access to the Nature Reserve area could cause a lot trampling damage but in practice the ground is so wet that visitors tend to keep to the boardwalks provided. o Upper limits: No more that 30% bare ground with signs of trampling within 10m radius of a sample point; o AND: No net loss of habitat to provide additional boardwalks.

Site Name: Coed Y Cerrig **Location Grid Ref: SO291210** **JNCC Site Code: UK0012766** **Size: 9.1ha** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
SAC Condition Assessment	**Conservation Status of Feature 1: Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incarnae, Salicion albae*)** Conservation Status of Feature 1 The conservation status of this feature within the site is considered to be **Favourable** (2005). Monitoring carried out in June 2005 indicated that the condition of the feature was favourable, maintained [Draft Monitoring Report by L Barton-Allen, October 2005]. However, there is a threat to future conservation status if coppicing and glade maintenance is not kept up in units 2 & 4 or sufficient grazing maintained in unit 5.
Vulnerabilities (includes existing pressures and trends)	▪ **Grazing** - Past sporadic grazing in the wet woodland may have restricted the ash content and light grazing can have some positive benefits on overall species composition. However, the marsh fern and other grazing sensitive plants would be at risk from uncontrolled and anything more than light grazing. Heavy grazing in unit 5 is likely to eliminate sensitive species and could cause localised physical damage to the sward leading to invasion by "weedy" species. ▪ **Drainage** - There should be no drainage works that could interfere with the springs and the generally waterlogged ground. New drainage ditches could cause drying out of the site, leading to a loss of alluvial forest in favour of drier woodland types. Drainage maintenance along the roads (units 9 & 10) must be undertaken in a very sensitive manner. Maintenance of the road itself need to be carefully considered so as not to affect the drainage and adjoining habitat; CCW needs to be consulted before any materials are brought in to maintain the road so that there is no risk of invasive species such as Indian balsam being imported. ▪ **Nutrient Enrichment** - The wet woodland has developed relatively fertile valley soils because nutrients accumulate here as a result of down-slope water movement and leaf-fall. However, further enrichment

Site Name: Coed Y Cerrig **Location Grid Ref: SO291210** **JNCC Site Code: UK0012766** **Size: 9.1ha** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	from agricultural run-off would promote dominance by weed species, such as nettles. No new agricultural drains should be routed into the site and existing drains may need to be diverted if they are causing an enrichment problem.
Landowner/ Management Responsibility	▪ Unit 2 - NNR alder woodland (SAC). ▪ Unit 4 - Private broadleaved woodland (SAC). ▪ Unit 5 - Marshy grassland included in SAC boundary, with small area of alder woodland by stream and on boundaries. ▪ Unit 9 - Road straddling SAC habitat. Road within SAC but with no SAC habitat. Road straddles an area of SAC habitat and included for management reasons such that any works on road does not affect the SAC.
HRA/AA Studies undertaken that address this site	HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ Given the distance of the site from Torfaen the Screening states that it is unlikely that proposals in the LDP Preferred Strategy would have a direct impact on Coed Y Cerrig SAC. The most likely mechanism for the Preferred Strategy to have a negative impact on the site is through airborne pollution. However the document states that the sites location within industrial south Wales means that it is already subject to high levels of pollution and it is therefore considered unlikely that development resulting from the LDP would result in a significant detrimental effect on the integrity of the primary features of the designated site.

Site Name: Coedydd Nedd a Mellte **Location Grid Ref: SN919093** **JNCC Site Code: UK0030141** **Size: 378.18** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Coedydd Nedd a Mellte is a very large and diverse example of old sessile oak wood in south Wales. The SAC oak woodland habitat is mostly confined to the river valleys where the underlying geology is mainly carboniferous sandstones and coal measures. The SAC ash woodland is less widespread, occurring mainly on the more base rich-sandstones, particularly along tops of crags, and on limestone in the north and south. The whole site is biologically rich, with many woodland plant communities represented and rich bryophyte and lichen assemblages. Notable higher plant species include wood fescue *Festuca altissima* and the ferns *Dryopteris aemula*, *Hymenophyllum tunbrigense* and *Asplenium viride*. Some of the woodland at the site has been heavily grazed in the past, with parts managed as coppice, and with other areas undoubtedly managed for the production of pit props etc. In the past, quarrying and silica mining were carried out in various parts of the site, particularly in the Pontneddfechan area, where there was also a gunpowder industry. Most of the woodland is subject to non-intervention management, but some small areas of ash and hazel are coppiced. The FC have declared their land as Open Access land. The wooded valleys, particularly within Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI ('the Waterfalls' area) are popular with tourists and increasingly so with recreational/outdoor groups. As a result of high levels visitor usage, erosional problems are widespread.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ Old sessile oak woods with Ilex and Blechnum in the British Isles - The woods extend along a series of deeply incised valleys and ravines. Annex I Habitats qualifying feature: ▪ Tilio-Acerion forests of slopes, screes and ravines* Priority feature
Conservation Objectives	**Conservation Objective for Feature 1:** ***Tilio-Acerion* forests of slopes, screes and ravines**

Site Name: Coedydd Nedd a Mellte **Location Grid Ref: SN919093** **JNCC Site Code: UK0030141** **Size: 378.18** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	Vision for Feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Upland ash woodland will occupy at least 18 ha of the total site area. ▪ The canopy should be predominantly ash and the following trees will be common in the woodland: ▪ Ferns will be common ground flora species. ▪ Although they may be present in the canopy in small quantities, sycamore and beech should not become dominant at the expense of ash. ▪ Introduced invasive species will be absent and any conifers seeding in from adjoining plantations will be removed whilst at the seedling/sapling stage. ▪ Damage to the ground flora and soil erosion due to public pressure will be at a minimum. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Coedydd Nedd a Mellte Management Plan. **Conservation Objective for Feature 2:** **Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles** Vision for feature 2

Site Name: Coedydd Nedd a Mellte **Location Grid Ref: SN919093** **JNCC Site Code: UK0030141** **Size: 378.18** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Sessile oak woodland will occupy at least 175 ha of the total site area. ▪ The canopy should be predominantly oak and locally native trees will be common in the woodland. ▪ Ferns will be common ground flora species. ▪ Bryophytes will continue to be abundant and the bryophyte flora will continue to include those western/Atlantic species that mark out this woodland type. A suite of rarer species and species at the edge of their geographical range will continue to be present. ▪ Heathy species such as bilberry and common heather *Calluna vulgaris* will be common in some areas. ▪ Introduced invasive species such as rhododendron will be absent and any conifers seeding in from adjoining plantations will be removed whilst at the seedling/sapling stage. ▪ Damage to the ground flora and soil erosion due to public pressure will be at a minimum. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Coedydd Nedd a Mellte Management Plan.
Component SSSIs	▪ Blaen Nedd (units 1 to 13) ▪ Dyffrynnoedd Nedd a Mellte, a Moel Penderyn (units 14 to 29) The two SSSIs above are divided into 29 management units of which numbers 7, 8, 9, 15 to 29 comprise to form the Coedydd Nedd a Mellte SAC. The management units can be viewed on maps available on the CCW website.

Site Name: Coedydd Nedd a Mellte **Location Grid Ref: SN919093** **JNCC Site Code: UK0030141** **Size: 378.18** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Key Environmental Conditions (factors that maintain site integrity	▪ **Grazing** - Upper limit: grazing levels likely to be in the region of 0.1 Livestock units/ha/yr or less (One livestock unit is equivalent to 1 cow or horse. A sheep (with lamb) is equivalent to 0.15 livestock units). Grazing to the extent practiced routinely by the farming community prevents regeneration of woodland and damages the field layer. Cessation of all grazing over a long period, however, may be detrimental to the field layer as these may become shaded out. The ideal may be to mimic the very low level within a natural woodland ecosystem, or to periodically vary grazing pressure. ▪ **Non-native species** - There will be low tolerance of non-native species. Although some sycamore will be tolerated, it should not be allowed to become dominant over ash. A maximum of about 5% of non-native trees and shrubs, including conifers, will be tolerated. No invasive non-native shrubs in the understorey or shrub layer. ▪ **Woodland Management** - Natural ecological processes should be allowed to operate as far as possible. In the majority of units these processes should gradually create greater structural diversity. ▪ **Maintain/manage the surrounding woodland**. ▪ **Manage public access** - Throughout the site the cover of bare soil or denuded rocks due to footpaths, trampling and grazing and other activities undertaken by visitors (but not including natural landslips, naturally bare ground where leaf litter etc), should be less than X % (limit to be determined but likely to be close to the area taken up by footpaths). Additional limits may need to be set to address issues in more sensitive parts of the site.
SAC Condition Assessment	**Conservation Status of Feature 1** **Tilio-Acerion forests of slopes, screes and ravines** The conservation status of the feature within the site is **Unfavourable** (2006)

Site Name: Coedydd Nedd a Mellte Location Grid Ref: SN919093 JNCC Site Code: UK0030141 Size: 378.18 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	Further monitoring is required to fully assess the condition as the 2006 assessment used slightly different management units to those in the current plan. The upland ash woodland is considered to be unfavourable largely because of the presence of non-native species and insufficient understorey cover in parts of the site due to heavy grazing in the past - particularly in Unit DNM16 and Units BN7 and BN9. Negative effects as a result of visitor pressure are also affecting the feature, however at this stage (2008), the significance is not clear and further investigation is required. Following some initial monitoring work in 2007, it appear that the main problem areas are in Units DNM4, DNM11 and Unit BN7. **Conservation Status of Feature 2** **Old sessile oak woods with Ilex and Blechnum in the British Isles** The conservation status of the feature within the site is **Unfavourable** (2006) Further monitoring is required to fully assess the condition as the 2006 assessment used slightly different management units to those in the current plan. The sessile oak woodland is considered to be unfavourable largely because of the presence of non-native species in management Units DNM4, DNM8, DNM14. The understorey was also considered to be insufficient in parts of the site, usually due to heavy grazing in the past - particularly in Units DNM2, DNM4, DNM8, DNM11, DNM14, DNM15, and DNM16. Negative effects as a result of visitor pressure are also affecting the feature, however at this stage (2008), the

Site Name: Coedydd Nedd a Mellte Location Grid Ref: SN919093 JNCC Site Code: UK0030141 Size: 378.18 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	significance is not clear and further investigation is required. Sizeable areas of ground, particularly around waterfalls are heavily trampled and denuded with the prospects for tree regeneration greatly reduced. Ultimately, some areas could lose their canopy cover. Following some initial monitoring work in 2007, it appear that the main problem areas are in Units DNM4, DNM5, DNM7, DNM8 and DNM11.
Vulnerabilities (includes existing pressures and trends)	▪ **Air pollution**[*]. o Acidification. o Photochemical oxidants (Oak woodland). o Eutrophication. o Particulate matter. ▪ **Unchecked grazing** - Stray livestock still gain access in places and could pose a threat to tree and shrub regeneration. ▪ **Non-native species** - Sycamore should not be allowed to become dominant over ash. ▪ **Recreational pressure** - the wooded valleys, particularly within Dyffrynoedd Nedd a Mellte, a Moel Penderyn SSSI ('the Waterfalls' area) are popular with tourists and increasingly so with recreational/outdoor groups. As a result of high levels visitor usage, erosional problems are widespread. ▪ **Fire risk** - during prolonged dry periods.
Landowner/ Management Responsibility	A large proportion of the site is owned by the Forestry Commission (FC), with significant areas owned by the Brecon Beacons National Park Authority (BBNPA) and National Trust (NT).

[*] Air Pollution Information System (APIS). Oak & Ash Woodland. Available from: http://www.apis.ac.uk/cgi_bin/query_habitat.pl?habitat_species=allHabs&submit.x=17&submit.y=5

Site Name: Coedydd Nedd a Mellte **Location Grid Ref: SN919093** **JNCC Site Code: UK0030141** **Size: 378.18** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
HRA/AA Studies undertaken that address this site	AA Screening of the Rhondda Cynon Taff County Borough Council's Local Development Plan (2006-2021): Preferred Strategy January 2007 (http://www.rhondda-cynon-taff.gov.uk/stellent/groups/Public/documents/RelatedDocuments/012830.pdf) ▪ Coedydd Nedd a Mellte lies outside the area covered by the LDP and on this basis, consideration of direct impacts (i.e. habitat loss) arising from any of the proposal would not need to be considered. ▪ Given the distance of the site relative to the closest proposed development, the risk from indirect impacts would appear negligible. For example, a cluster of residential development (e.g. Proposal No 406, 407) is proposed to the south of the A465 close to Rhigos although this type of development would not be expected to generate potential impacts of relevance to Coedydd Nedd a Mellte.

Site Name: Crymlyn Bog **Location Grid Ref: SS694947** **JNCC Site Code: UK0012885** **Size: 299.45ha** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Crymlyn Bog SAC is situated to the East of Swansea and lies in close proximity to the A483. The site supports transition mires and quaking bogs, which occur on deep, wet topogenous peats over a relatively small area of this extensive coastal lowland site. Bottle sedge *Carex rostrata* and bogbean *Menyanthes trifoliata* are important components of some stands, together with common cottongrass *Eriophorum angustifolium*, water horsetail *Equisetum fluviatile*, star sedge *Carex echinata*, the locally rare mud sedge *Carex limosa* and, in places, the nationally rare slender cottongrass *Eriophorum gracile*. The transition mire and quaking bog at this site is vulnerable to the continuing expansion of common reed Phragmites australis, encouraged by trends of increasing site wetness, nutrient-enrichment and lack of grazing. The site also supports the largest area of Cladium-dominated vegetation in south Wales. Many of the stands in which great fen-sedge *Cladium mariscus* occurs as sole dominant are typically species-poor, but other areas display a more diverse vegetation in which tufted-sedge *Carex elata*, royal fern *Osmunda regalis* and a range of tall-herb fen species are prominent.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ Transition mires and quaking bogs ▪ Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae** Priority feature Annex I Habitats qualifying feature: ▪ Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)* Priority feature
Conservation Objectives	**Conservation Objective for Feature 1:** **Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*** Vision for feature 1

Site Name: Crymlyn Bog **Location Grid Ref: SS694947** **JNCC Site Code: UK0012885** **Size: 299.45ha** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Calcareous fen will occupy at least 15 ha of Crymlyn Bog SAC. ▪ Most of the remainder of the site will comprise related fen vegetation. ▪ The following plant species will be common in the calcareous fen vegetation: *Cladium mariscus*, *Carex elata*, *Osmunda regalis*, *Phragmites australis*. ▪ Although *Cladium mariscus* may form dense stands in places, the majority of the calcareous fen at Crymlyn Bog will be the more open, species-rich form, with *Cladium* typically present at less than 20% cover. ▪ Similarly although *Phragmites australis* is a frequent constituent of calcareous fen vegetation, this species will not generally exceed 20% cover. ▪ Scrub species such as willow Salix and birch *Betula* will be largely absent. ▪ All factors affecting the achievement of these conditions will be under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Crymlyn Bog Management Plan. **Conservation Objective for Feature 2:** **Transition mires and quaking bogs** Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

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	▪ Transition mire vegetation will occupy at least 12 ha of Crymlyn Bog SAC. ▪ Most of the remainder of the site will comprise related fen vegetation. ▪ The transition mire will comprise varying mixtures of the following plant species: *Schoenus nigricans*, *Carex rostrata*, *C. echinata*, C. limosa, *Equisetum fluviatile, Eriophorum angustifolium, E. gracile, Menyanthes trifoliata, Sphagnum spp.* ▪ Although *Phragmites australis* and *Cladium mariscus* may be present, these species will not attain high cover. ▪ Scrub species such as willow Salix and birch *Betula* will be largely absent. ▪ All factors affecting the achievement of these conditions will be under control. Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Crymlyn Bog Management Plan. **Conservation Objective for Feature 3:** **Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)** Vision for feature 3 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Alluvial forest will occupy at least 8 ha of Crymlyn Bog SAC. ▪ Most of the remainder of the site will comprise fen vegetation. ▪ The alluvial forest canopy will be dominated by varying mixtures of alder *Alnus glutinosa*, willow *Salix spp.* and birch *Betula spp*, including mature specimens of *Alnus glutinosa.*

Site Name: Crymlyn Bog **Location Grid Ref: SS694947** **JNCC Site Code: UK0012885** **Size: 299.45ha** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ Regeneration of *Alnus*, *Salix* and *Betula* will be present either as saplings or as regrowth from the base of trees or fallen stems. ▪ The field layer will be dominated by Carex paniculata, with associates such as *Lysimachia vulgaris, Osmunda regalis, Lythrum salicaria, Solanum dulcamara, Iris pseudacorus and Scutellaria galericulata.* ▪ Oak saplings will be absent, along with other negative species such as *Pteridium aquilimun, Urtica dioica, Cirsium palustre, Juncus effusus* and *Ranunculus repens*. ▪ All factors affecting the achievement of these conditions will be under control. Performance indicators for Feature 3 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Crymlyn Bog Management Plan.
Component SSSIs	▪ Crymlyn Bog SSSI (units 1 to 13) ▪ Pant-y-Sais SSSI (units 14 & 15) The two SSSIs above are divided into 16 management units which comprise to form the Crymlyn Bog SAC. The management units can be viewed on a map available on the CCW website. Apart from approximately 35 hectares of land at the northern end of Crymlyn Bog, the majority of the SAC (including Pant-y-Sais SSSI) is also designated a Ramsar site.
Key Environmental Conditions (factors that maintain site integrity	**Key environmental conditions for the Calcareous fens with *Cladium mariscus* and species of the *Caricion davalliana*:** ▪ **Site Level Management** - The calcareous fen is currently (2008) subject to light grazing by cattle belonging to the neighbouring tenant farmer. The cattle wander on and off the bog from the adjoining farmland, as ground conditions on the bog allow. Despite this grazing, the most recent SAC monitoring result suggests

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	the current level of management is insufficient to maintain the calcareous fen feature in favourable condition. To address the decline in condition of the calcareous fen feature, CCW recommend that grazing levels should be increased to tackle the overgrown vegetation. If this cannot be achieved, or if increased grazing levels do not bring about a return to favourable condition, other alternative management techniques such as vegetation cutting or burning should be explored. Scrub control is already carried out within the calcareous fen area and there are no current concerns about scrub levels. Scrub control should continue in future to maintain this position. ▪ **Water quality** - Good water quality is fundamental to the long-term conservation of the calcareous fen feature. Calcareous fen is dependent on low nutrient levels to maintain its characteristic suite of plant species, and avoid replacement by vegetation typical of more eutrophic conditions (e.g. dense Phragmites australis). Good water quality must therefore be maintained to protect the calcareous fen feature. The following parameters and provisional limits are proposed as key indicators of water quality. The limits are based on recommended maximum levels for Dissolved Available Inorganic Nitrogen (DAIN) and Phosphorus (DAIP). o **Water quality: DAIN** - Upper limit: 1.5 mg/l DAIN o **Water quality: DAIP** - Upper limit: 0.05 mg/l DAIP ▪ **Water levels** - A high and stable water table is essential for the long-term conservation of the calcareous fen feature. Water levels should be maintained at or slightly above ground level for much of the year to prevent drying out of the fen habitat. There are no current concerns over water levels at the site, backed up by ongoing hydrological monitoring carried out by Environment Agency Wales. ▪ **Atmospheric pollution** - Atmospheric nutrient deposition also contributes to the overall nutrient budget of Crymlyn Bog. This factor is especially relevant given the site's location on the urban edge of Swansea, with major historic and recent industrial development around its margins. The critical load for calcareous fen is 13-20 kg N/ha/yr. Atmospheric deposition should not exceed this threshold, either in isolation or in combination with other nutrient inputs. However, the critical load for N is currently exceeded at the site,

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	chiefly through inflowing streams. o Upper limit: 20 kg N/ha/yr **Key environmental conditions for the Transition mires and quaking bogs:** ▪ **Water quality** - refer above to water quality limits relating to fen features. ▪ **Water Levels** - refer above to water levels relating to fen features. ▪ **Atmospheric pollution –** The critical load for transition mire and quaking bog is 5-10 kg N/ha/yr. Atmospheric deposition should not exceed this threshold, either in isolation or in combination with other nutrient inputs. However, the critical load for N is currently exceeded at the site, chiefly through inflowing streams. o Upper limit: 10 kg N/ha/yr **Key environmental conditions for the Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)** ▪ **Water quality** - Good water quality is important in maintaining the characteristic species composition of alluvial woodland. Increased nutrient levels would result in an increase in undesirable ground flora species. In the current case, agricultural run-off from adjoining farmland is the main potential source of any eutrophication. No limits set at present. There are no current concerns over water quality within the alluvial woodland areas and the adjoining agricultural land is not farmed intensively. ▪ **Water levels** - A high water table is essential for the long-term conservation of the alluvial forest feature. Water levels should be maintained at or above ground level for much of the year to prevent drying out of the wet woodland habitat. No limits set at present. There are no current concerns over water levels at the site, backed up by ongoing hydrological monitoring carried out by EAW.

Site Name: Crymlyn Bog Location Grid Ref: SS694947 JNCC Site Code: UK0012885 Size: 299.45ha Designation: SAC	Habitats Regulations Assessment: Data Proforma
	▪ **Atmospheric pollution** - No limits set for alluvial forest feature, but refer to atmospheric pollution limits relating to fen features. ▪ **Grazing** - Heavy grazing of wet woodland can lead to excessive poaching of the ground, with damaging effects on the woodland ground flora. No limits set at present. Apart from a minor amount of sheep trespass at the very edge of the woodland, there is no grazing of the alluvial forest feature (the wet ground conditions are a natural deterrent to livestock).
SAC Condition Assessment	**Conservation Status of Feature 1:** **Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*** In 1998 the feature was judged to be in favourable condition. However, in 2005 the feature was assessed as **unfavourable** and probably **declining**. The main reason for this later assessment was the high cover of *Cladium mariscus* at many of the sample points. It was inferred that the calcareous fen vegetation had become more dense and overgrown since 1998, with a reduction in species-richness, through natural vegetation succession. Although the calcareous fen area is lightly grazed by cattle, the main reason for its shift from favourable to unfavourable condition is presumably insufficient management. **Conservation Status of Feature 2:** **Transition mires and quaking bogs** The transition mire feature was monitored in 1998 by Hurford & Perry (2000). The feature was judged to be in **unfavourable** condition. The reason for this assessment was the perceived loss of transition mire vegetation since an earlier mapping exercise carried out in the late 1980s (Headley, 1990). The decline in transition mire was thought to be due to an expansion of *Phragmites australis*, linked to lack of grazing management and/or

Site Name: Crymlyn Bog Location Grid Ref: SS694947 JNCC Site Code: UK0012885 Size: 299.45ha Designation: SAC	Habitats Regulations Assessment: Data Proforma
	increased nutrient levels. No formal SAC monitoring work has been carried since 1998, but an assessment was made in 2004, when it was concluded the feature was still in **unfavourable** condition (Wilkinson, 2004b). The rationale behind this latest assessment was that no grazing management had been introduced to the transition mire areas at that time. CCW therefore deduced that the feature must still be in unfavourable condition, without the need to undertake any further sampling work. **Conservation Status of Feature 3:** **Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)** The alluvial forest feature was monitored by CCW's SAC monitoring team in 2004 (Wilkinson, 2004a). The feature was judged to be in **unfavourable** condition. The reason for this assessment was the presence of oak saplings and the shortage of positive ground flora indicator species in Area A; plus the presence of dead/dying alder trees and the frequency of negative ground flora indicator species in Area B. Doubts have been raised by CCW over the particular performance indicators used in the monitoring of the alluvial forest feature. It intendeds to review these performance indicators during the 2008 field season, and perhaps amend the criteria as necessary. Until then it suggests that the above condition assessment should be viewed with some caution. It is also likely that further areas of wet woodland at Crymlyn Bog merit inclusion in the alluvial forest feature; again this will be given further consideration in 2008.
Vulnerabilities (includes existing pressures and trends)	▪ **Site Level Management** - The calcareous fen is currently (2008) subject to light grazing by cattle belonging to the neighbouring tenant farmer. The cattle wander on and off the bog from the adjoining farmland, as ground conditions on the bog allow. Despite this grazing, the most recent SAC monitoring result suggests the current level of management is insufficient to maintain the calcareous fen feature in favourable condition. To address the decline in condition of the calcareous fen feature, CCW recommend that grazing levels should be increased to tackle the overgrown vegetation. If this cannot be achieved, or if increased grazing levels do not bring about a return to favourable condition, other alternative management techniques such as vegetation cutting or burning should be explored. Scrub control is

Site Name: Crymlyn Bog Location Grid Ref: SS694947 JNCC Site Code: UK0012885 Size: 299.45ha Designation: SAC	Habitats Regulations Assessment: Data Proforma
	already carried out within the calcareous fen area and there are no current concerns about scrub levels. Scrub control should continue in future to maintain this position. ▪ **Alien plant species** - Himalayan balsam has recently invaded several areas around the western edge of Crymlyn Bog. This annual plant can be very invasive, often colonising along stream-sides and watercourses by its water-borne seeds. Given its preference for damp substrates, Himalayan balsam is a potentially serious threat to the fen habitats at Crymlyn Bog. The CCW management plan for the site states that there are no concerns over the water table and nutrient levels for the alluvial forest feature at the current time. Similarly there is no threat from excessive grazing at present, as the wet ground conditions provide a natural deterrent to livestock.
Landowner/ Management Responsibility	Approximately one-third of Crymlyn Bog, and all of Pant-y-Sais (excluding the adjoining Tennant Canal), is declared as a National Nature Reserve (NNR). Pant-y-Sais is also a Local Nature Reserve (LNR). ▪ NNR/CCW manage units 4, 5, 6a, 6b, 8, 9 & 15
HRA/AA Studies undertaken that address this site	AA of the Neath Port Talbot UDP June 2007: http://www.neath-porttalbot.gov.uk/pdf/udp_200706_appropriate_assessment.pdf ▪ "The application of regulatory policies within the respective UDPs, together with the Appropriate Assessment procedure (which applies both to planning applications and other projects) provide a secure mechanism to ensure that allocations neither individually or in-combination would create an adverse effect on the integrity of the site". The potential impacts that policies were assessed against were: o Water quality; o Water quantity; o Air Pollution; o Human interference; o Invasive species; and o Habitat loss.

Site Name: Cwm Cadlan **Location Grid Ref: SN961098** **JNCC Site Code: UK0013585** **Size: 83.93** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Cwm Cadlan is situated approximately 1km north-east of the village of Penderyn and about 4km north of Hirwaun, near Aberdare. The SAC interests are: 'Molinia meadows on calcareous, peaty or clayey silt-laden soils (*Molinion caeruleae*)' - Cwm Cadlan has the largest recorded example of 'Molinia meadows' (or fen-meadow) in Wales. The typical form of purple moor-grass–meadow thistle (*Molinia caerulea - Cirsium dissectum*) fen-meadow is extensively developed, and there are clearly displayed transitions to a range of associated habitats, including base-rich flush and neutral grassland. 'Alkaline Fens' - Cwm Cadlan supports an outstanding suite of flushed short-sedge mire communities on glacial drift overlying Carboniferous limestone within the valley of the Nant Cadlan on the southern fringe of Brecon Beacons National Park. Communities referable to National Vegetation Classification (NVC) type M10 dioecious sedge–common butterwort (*Carex dioica-Pinguicula vulgaris*) mire occur widely, often in close association with flushed examples of M24 fen-meadow. Characteristic species include common butterwort *Pinguicula vulgaris*, bog pimpernel *Anagallis tenella*, marsh arrowgrass *Triglochin palustris* and the moss Campylium stellatum. Other sedge-rich swards are also present which display floristic affinities to both M10 and M24; basiphilous elements of this vegetation include tawny sedge *Carex hostiana*, flea sedge *Carex pulicaris* and quaking-grass *Briza media*. Both these habitats are considered to be 'best areas in the United Kingdom'. Part of the site is owned by CCW and was declared NNR in 2006. The site was traditionally managed as pasture and some as hay-meadow but there has long been a liver fluke problem in this area and there have been past attempts to drain many fields within the SAC - there is an extensive network of drainage ditches within the site. Some of these are slowly infilling, but some vegetation is likely to have been permanently modified by these drains.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)

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	▪ Alkaline fens
Conservation Objectives	**Conservation Objective for Features 1 & 3:** **Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) - this also encompasses Feature 3: other non-SAC marshy grassland habitat** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Fen-meadow will occupy at least 26 ha of a total area of marshy grassland habitat which itself will cover at least 42 ha. ▪ The remainder of the site will mainly consist of other semi-natural habitat, including alkaline fen. ▪ Typical fen-meadow plants will be common. ▪ Plants indicating agricultural modification or alteration to hydrology and drying of soils will be absent or present at only low cover. ▪ Although rushes are frequent, the more bulky species will not exceed 33% cover. ▪ Bare ground will generally not exceed 5% cover and vegetation litter 25%. ▪ Dense scrub will be largely absent from the fen-meadow, but it is probably desirable for invertebrates and birds to have a sparse scattering of shrubs or trees. ▪ All factors affecting the achievement of these conditions are under control. The rationale behind the selection and identification of performance indicators for fen-meadow and other marshy grassland and a map showing the main fen-meadow areas is given in Annex 1. Performance indicators for Feature 1 (& 3)

Site Name: Cwm Cadlan Location Grid Ref: SN961098 JNCC Site Code: UK0013585 Size: 83.93 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Cwm Cadlan Management Plan. **Conservation Objective for Feature 2:** **Alkaline Fen** Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Alkaline Fen will occupy about 11 ha or more. ▪ The remainder of the site will mainly consist of other semi-natural habitat including fen-meadow. ▪ Typical alkaline fen plants will be common. ▪ Plants indicating agricultural modification or alteration of hydrology and drying of soils will be absent or present only at low cover. ▪ Although rushes are frequent, the more bulky species will not exceed 33% cover. ▪ Bare ground will generally not exceed 5% cover and vegetation litter 10 %. ▪ Scrub species will be largely absent from the alkaline fen. ▪ At selected springheads, water should flow in all but the most severe drought conditions. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Cwm Cadlan Management Plan.

Site Name: Cwm Cadlan **Location Grid Ref: SN961098** **JNCC Site Code: UK0013585** **Size: 83.93** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Component SSSIs	▪ Cwm Cadlan SSSI is divided into 12 management units, the Cwm Cadlan SAC covers the same area. The management units can be viewed on a map available on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	▪ **Grazing** - the marshy grassland has been maintained through traditional farming practices. Without an appropriate grazing regime, the grassland would become rank and eventually turn to scrub and woodland. Light grazing by mainly cattle and ponies between April and November each year is essential in maintaining the marshy grassland and fen-meadow communities. o Lower limits: The wetland areas will be subject to light summer grazing by cattle and/or ponies at least 4 in every 5 years. Light summer grazing is defined as - cattle and/or ponies at a rate of 0.4 LSU/ha/year for the period April to October. Heavy grazing is defined as greater than 1 LSU/ha/year (1 LSU is equivalent to a cow/horse, plus calf/foal). o Upper limits: No significant grazing outside the growing season or heavy grazing at any time during the summer. ▪ **Scrub control** - open wetland areas are prone to invasion by alder and willow scrub. Optimum grazing levels should help control spread of scrub, but occasionally active scrub eradication is necessary. Scrub and woodland is also a natural component of such wetland complexes and enhances the site both biologically and visually, therefore older well-established stands will be retained. Scattered scrub will be tolerated within the following limits: o Lower limits: Scattered scrub present in defined locations. o Upper limits: No scrub covering area greater than 5m x 5m within stands mapped as marshy grassland. ▪ **Hydrological regime** - the marshy grassland communities are strongly influenced by the quantity and base status of the groundwater. Reductions in the quality and quantity of the water in the springs and watercourses feeding the site may lead to a loss of marshy grassland or changes in species composition. Conversely, reduced/impeded drainage may lead to ground-water stagnation and a different change in species composition, e.g. increased abundance of rushes. Infilling some of the many ditches at the site is

Site Name: Cwm Cadlan Location Grid Ref: SN961098 JNCC Site Code: UK0013585 Size: 83.93 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	likely to lead to re-wetting of some marshy grassland. o Upper limit: No new drainage ditches to be installed within the open meadow areas of the site. ▪ **Air Quality** - Atmospheric deposition at this site has the potential to harm the alkaline fen feature. Dust deposition is likely to be high given the close proximity of Penderyn Quarry, and the absence of a published critical load for this pollutant against this habitat should be taken as indicating lack of impact. Atmospheric Nitrogen deposition in this area is estimated at 21.8 kg N/ha/yr which lies above the lower critical load limit for this pollutant (15-35 kg N / ha / yr). It's likely that the critical load for Nitrogen for M10 forms of alkaline fen is towards the lower end of this range. o Lower limits: None set – very low dust and N deposition regimes may be beneficial. o Upper limits: Suggest 15 kg N / ha / year for N. None yet defined for dust.
SAC Condition Assessment	**Conservation Status of Feature 1** **Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) - this also encompasses Feature 3: other non-SAC marshy grassland habitat** The conservation status of these features within the site is considered to be **Unfavourable** (2007). Assessment carried out in 2004 indicated that the condition of both was: Unfavourable, no change. White clover, at a low cover and frequency, may be a natural component of the sward. In 2004, the cover and frequency of white clover was a little on the high side in some areas, which detracts somewhat from the quality of the stands of fen-meadow. Part of the site, until purchased by CCW, had been quite heavily grazed by sheep - sometimes throughout the year. Current management by CCW (Unit 1) has returned the grazing to a more cattle-based state and other areas are now in favourable management (units 2, 6 & 7) that should ensure that the quality of the more modified swards recover. Unit 4 is only occasionally grazed and this has resulted in some of the vegetation being rather tussocky. Overall the factors affecting the feature appear to be largely under control, apart from continuing uncertainty over the impacts of drainage and quarrying and the need for more a suitable more grazing in some parts of the site.

Site Name: Cwm Cadlan **Location Grid Ref: SN961098** **JNCC Site Code: UK0013585** **Size: 83.93** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	Conservation Status of Feature 2 **Alkaline Fen** The conservation status of this feature within the site is considered to be **Unfavourable** (2007). Assessment carried out in 2004 indicated that feature condition was: Unfavourable, recovering. Some alkaline fen has been modified by past attempts at drainage resulting in a few stands, which are rather dry and somewhat intermediate to fen-meadow. It is also possible that some stands of fen-meadow were derived from alkaline fen. Part of the site, until purchased by CCW, had been quite heavily grazed by sheep - sometimes throughout the year. Current management by CCW (Unit 1) has returned the grazing there to a more cattle-based regime and sympathetic management elsewhere (units 2, 6 & 7) should ensure that the quality stands are maintained. Some areas are slightly under-grazed or partially affected by past tree planting. Removal of some planted trees has been undertaken and the remaining trees should be removed with the next few years (Unit 8). Under-grazing for a year or two is probably not detrimental to the quality of the fen, but is something that needs addressing (Unit 4). Overall, the factors affecting the feature are still not quite under control, although the habitat is recovering, hence the unfavourable status assessment for 2007.
Vulnerabilities (includes existing pressures and trends)	▪ **Inappropriate grazing regime** - without an appropriate grazing regime, the grassland would become rank and eventually turn to scrub and woodland. Any excessive grazing pressure would be expected to increase the frequency and cover of bare ground and agricultural species. Cessation of cattle farming could affect the vegetation, as sheep are more selective grazers. ▪ **Scrub encroachment** - woodland and scrub should not encroach further into the unimproved grassland, in particular the communities of highest conservation value (alkaline fen, fen-meadow and neutral grassland). ▪ **Changes to hydrological regime** - Activities that effect groundwater level and flow, such as mineral extraction. Dewatering of the adjacent quarry has potential to affect the hydrology of the site.

Site Name: Cwm Cadlan **Location Grid Ref: SN961098** **JNCC Site Code: UK0013585** **Size: 83.93** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ **Eutrophication** - there has been concern about fertilizer run-off from some adjacent improved fields causing localised nutrient enrichment. ▪ **Atmospheric Pollution*** - atmospheric deposition at this site has the potential to harm the alkaline fen feature. Dust deposition is likely to be high given the close proximity of Penderyn Quarry, and the absence of a published critical load for this pollutant against this habitat should be taken as indicating lack of impact. Atmospheric Nitrogen deposition in this area is estimated at 21.8 kg N/ha/yr which lies above the lower critical load limit for this pollutant (15-35 kg N / ha / yr). It's likely that the critical load for Nitrogen for M10 forms of alkaline fen is towards the lower end of this range.
Landowner/ Management Responsibility	▪ Unit 1 is owned by CCW.
HRA/AA Studies undertaken that address this site	AA Screening of the Rhondda Cynon Taff County Borough Council's Local Development Plan (2006-2021): Preferred Strategy January 2007 (http://www.rhondda-cynon-taff.gov.uk/stellent/groups/Public/documents/RelatedDocuments/012830.pdf) ▪ Cwm Cadlan lies outside the area covered by the LDP and on this basis, consideration of direct impacts (i.e. habitat loss) arising from any of the proposal would not need to be considered. ▪ Given the distance of the site relative to the closest proposed development, the risk from indirect impacts would appear negligible. For example, the cluster of proposed residential development north of Hirwaun would not result in any foreseeable activities of relevance to Cwm Cadlan.

* Air Pollution Information System (APIS). Calcareous grassland. Available from: http://www.apis.ac.uk/cgi_bin/habitat_result.pl?habResult=Calcareous+grassland&choice=allHabs&haborspec=habitat&submit.x=35&submit.y=13

Site Name: Cym Clydach Woodlands **Location Grid Ref: SO207123** **JNCC Site Code: UK0030127** **Size: 28.81** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The site is situated on the southern side of the River Clydach valley, approximately 2km east, north east of Brynmawr and is in close proximity to the A465 Heads of the Valley Road. The underlying geology varies across the site, consisting of sedimentary rocks that range from Old Red Sandstone through Carboniferous Limestone into shales and sandstones of the Millstone Grit and Coal Measures. Soils mainly consist of typical brown earths and humo-ferric podsols. Altitude ranges from 170m by the River Clydach to 350m in Cwm Llammarch. Cwm Clydach is of special interest for its stands of broadleaved woodland dominated by beech, intergrading with more open habitats, which together support a number of rare and scarce vascular plants including whitebeams *Sorbus spp*. and soft-leaved sedge *Carex montana*. There are important woodland and grassland fungi assemblages with rare species such as *Squamanita paradoxa*.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ *Asperulo-Fagetum* beech forests Annex I Habitats qualifying feature: ▪ Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (*Quercion robori-petraeae or Ilici-Fagenion*)
Conservation Objectives	**Conservation Objective for Feature 1:** *Asperulo – Fagetum* beech forests Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

Site Name: Cym Clydach Woodlands Location Grid Ref: SO207123 JNCC Site Code: UK0030127 Size: 28.81 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	▪ At least 50% of the canopy-forming trees are beech. ▪ The canopy cover is at least 80% (excluding areas of crag) and composed of locally native trees. ▪ The woodland has trees of all age classes with a scattering of standing and fallen dead wood. ▪ Regeneration of trees is sufficient to maintain the woodland cover in the long term. ▪ The shrub layer and ground flora can be quite sparse, but where present consist of locally native plants such as yew, hawthorn, wych elm, ash, hazel, field maple and elder, bramble, dog's mercury, enchanter's-nightshade, lords-and-ladies, woodruff, male fern, sanicle, wood melick, ivy, false brome, violets, herb robert, wood avens, and tufted hair-grass. ▪ Scarcer plants, such as soft-leaved sedge and bird's-nest orchid are locally frequent and, more rarely, yellow bird's-nest orchid can be found. ▪ All factors affecting the achievement of the above conditions are under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Cym Clydach Management Plan. **Conservation Objective for Feature 2:** Atlantic *acidophilous* beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion* Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

Site Name: Cym Clydach Woodlands **Location Grid Ref: SO207123** **JNCC Site Code: UK0030127** **Size: 28.81** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	At least 75% of the woodland vegetation meets the criteria for intact acid beech wood, where: ▪ At least 10% of the canopy forming trees are beech. ▪ The canopy cover is at least 80% and composed of locally native species. ▪ The woodland has trees of all age classes with a scattering of standing and fallen dead wood. ▪ Regeneration of trees is sufficient to maintain the woodland cover in the long term. ▪ The shrub layer and ground flora can be quite sparse, but where present consist of locally native plants. ▪ All factors affecting the achievement of the above conditions are under control. Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Cym Clydach Management Plan.
Component SSSIs	▪ Cym Clydach SSSI is composed of 5 management units of which numbers 1and 5 comprise to form the Cym Clydach Woodlands SAC. A map of the management units can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	▪ **Grazing** - Sufficiently low to allow regeneration in the long term. ▪ **Non-native and invasive species** - No increase in the area of woodland floor that is dominated by invasive species.
SAC Condition Assessment	**Conservation Status of Feature 1** *Asperulo – Fagetum* beech forests The conservation status of this feature within the site is considered to be **Favourable** (2006).

Site Name: Cym Clydach Woodlands **Location Grid Ref: SO207123** **JNCC Site Code: UK0030127** **Size: 28.81** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	Conservation Status of Feature 2 Atlantic *acidophilous* beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion* The conservation status of this feature within the site is considered to be **Favourable** (2006).
Vulnerabilities (includes existing pressures and trends)	▪ **Woodland management** - Recent changes in management within the locality, a general reduction of sheep numbers and the construction of cycle route through the site may have the potential to adversely effect the grassland areas and the fungi in particular. ▪ **Grazing** - Past grazing has influenced the structure of the woodland, such as the dominance of beech in the canopy. It is therefore likely that occasional light grazing would be beneficial for the woodland habitat, although any increase in grazing pressure could prevent all tree and shrub regeneration and and suppress the woodland ground flora. ▪ **Dumping** - Due to roads passing through the site, parts are accessible to vehicles and the illegal dumping of domestic and commercial waste and abandoned vehicles can be a problem. It is essential that these barriers be maintained to prevent any future occurrences. ▪ **Invasive alien plants** - Japanese knotweed is a problem in parts of the site, usually having been introduced by illegal dumping of waste material, and this species will be controlled as necessary. Airborne acid and nutrient deposition are not a significant threat here as most of the woodland soils are well-buffered and nutrient-rich.
Landowner/ Management	▪ Unit 1 is owned by CCW and comprises the bulk of the SAC beech woodland. Most of the acidiophilous

Site Name: Cym Clydach Woodlands **Location Grid Ref: SO207123** **JNCC Site Code: UK0030127** **Size: 28.81** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Responsibility	beech woodland is found towards the western part of Unit 1. ▪ Unit 5 is other land within the SAC not owned by CCW.
HRA/AA Studies undertaken that address this site	HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/Environm]entAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ It is considered that the potential impact from development in Torfaen would be negligible. Taking the precautionary approach the HRA Assessment for the LDP has identified the potential for in-combination effects on 4 SAC sites, which includes Cwm Clydach Woodlands SAC.

Site Name: Dunraven Bay **Location Grid Ref: SS886727** **JNCC Site Code: UK0030139** **Size: 6.47** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Dunraven Bay SAC is situated on a southwest facing cliff about 1km south east of the village of Southerndown in the Vale of Glamorgan. The coastline is generally eroding and the 20 or so plants of shore dock growing here on damp coastal limestone are the only remnant of the species former Bristol Channel range. This has now declined to six individuals due to cliff falls removing plants. The Dunraven Bay population is a significant seed-source for recolonisation of Bristol Channel dunes and beachheads when future management restores these habitats to favourable condition.
Qualifying Features	Annex II Species primary reason for selection: ▪ Shore dock *Rumex rupestris*
Conservation Objectives	**Conservation Objective for Feature 1:** ***Rumex rupestris* (shore dock)** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ There are at least 10 mature plants at the site ▪ The plant present are flowering and setting seed ▪ The population is stable and viable in the long term. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Dunraven Bay Management Plan.

Site Name: Dunraven Bay **Location Grid Ref: SS886727** **JNCC Site Code: UK0030139** **Size: 6.47** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Component SSSIs	▪ Southerndown Coast SSSI A map of the site can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	▪ **Manage Scrub** - no increase in area of scrub from 2003 area. ▪ **Hydrological regime** - Availability of water seeping down the cliff face, Shore dock appears to prefer slightly damp ground.
SAC Condition Assessment	**Conservation Status of Feature 1:** ***Rumex rupestris* (shore dock)** In September 2003, 14 plants with flowering spikes greater than 10cm were identified (10 of which were confirmed as being shore dock). There was at least one plant found in each of the two areas, A and B. Therefore these two attributes were considered to be favourable. In October 2004, 10 plants were identified again with at least one plant in Area A and one in Area B. Therefore these attributes are again considered to be favourable. It is noted however that due to lateness in the season it was extremely difficult to locate the plants, even with binoculars and it is likely that more plants were present. In 2006 a cliff fall swept away 4 of the plants, leaving 6 remaining. The feature is therefore considered to be **unfavourable**.
Vulnerabilities (includes existing pressures and trends)	The Rumex rupestris colony has a naturally very restricted distribution within the site, being limited to a small area of groundwater seepage. It is accessible only with difficulty and this gives it natural protection from grazing animals and accidental damage by people. It is important that the hydrological regime is maintained but there are no known threats to it at present. Research will be undertaken to ascertain the source of the

Site Name: Dunraven Bay **Location Grid Ref: SS886727** **JNCC Site Code: UK0030139** **Size: 6.47** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	groundwater. In the very long term, the current site of the R. rupestris colony will be lost as a result of coastal erosion. Nothing can be done to prevent this, but the natural processes of erosion may be expected to simultaneously create replacement habitat for this plant in the immediate vicinity.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07. http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf ▪ The Screening concludes that development resulting from the LDP in the proximity of the SAC is therefore unlikely to be of scale that would result in a detrimental impact upon the site. While increased pressure for recreation could result from increased housing provision, the location of the site within the Glamorgan Heritage Coast, which is actively managed for conservation, affords it significant protection. In addition, the location of the species population on an inaccessible liassic limestone cliff face means that it is highly unlikely to be impacted upon by increases in recreational pressure. While increases in airborne pollution could impact upon the site, its location within industrial south Wales means that it is already subject to high levels of pollution and it is therefore considered unlikely that development resulting from the LDP would result in a significant detrimental effect on the integrity of the primary features of the designated site. Notwithstanding the above it is considered that the sites close proximity to Bridgend could result in in-combination effects on the site and that a precautionary approach should be adopted and further investigations undertaken.

Site Name: Kenfig/ Cynffig **Location Grid Ref: SS790813** **JNCC Site Code: UK0012566** **Size: 1191.67** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Kenfig is a largely intact dune system in south Wales with extensive areas of fixed dune vegetation with red fescue *Festuca rubra* and lady's bedstraw *Galium verum* and semi-fixed dune grassland with marram *Ammophila arenaria* and red fescue. The site also contains one of the largest series of dune slacks in Wales. The dune slacks are species-rich and there are extensive areas of dunes with *Salix repens* ssp. *argentea*, which represent a mature phase in dune slack development. This site is in the central part of the range of this community on the west coast and is a highly representative example of this habitat type. Kenfig Pool is a shallow lake system within the extensive sand dune system of Kenfig, alongside Swansea Bay in south Wales. The water chemistry is indicative of a coastal, alkaline lake with a moderate nutrient status. High alkalinity, conductivity, sodium and chloride values reflect this marine influence. Elevated calcium values are probably derived from marine shell remains in the sandy substrate. Large stands of common reed *Phragmites australis* are found on the pool's seaward side. Grey club-rush Scirpus *lacustris* ssp. *tabernaemontani*, sea club-rush *Scirpus maritimus*, branched bur-reed *Sparganium erectum* and yellow iris *Iris pseudacorus* are also present. The site is also designated as it is one of two sites selected for petalwort *Petalophyllum ralfsii* in south Wales and supports a large population of the species, numbering thousands of thalli. The calcareous dune system has many dune slacks that include the early successional, open slack vegetation this species requires. It also holds the largest populations of fen orchid *Liparis loeselii* in the UK, comprising about 50% of the UK resource. Management of the site is directed towards the maintenance and enhancement of the populations of fen orchid. The variety that occurs here, as at Whiteford Burrows, is var. *ovata*, which is currently known to occur only in Wales and on the coast of Brittany, as well as in the past at Braunton Burrows, Devon, England.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ Fixed dunes with herbaceous vegetation (`grey dunes`)* Priority feature ▪ *Dunes with Salix repens ssp. argentea (Salicion arenariae)* ▪ Humid dune slacks

Site Name: Kenfig/ Cynffig Location Grid Ref: SS790813 JNCC Site Code: UK0012566 Size: 1191.67 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	▪ Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp.* Annex I Habitats qualifying feature: ▪ Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Annex II Species primary reason for selection: ▪ Petalwort Petalophyllum ralfsii ▪ Fen orchid Liparis loeselii
Conservation Objectives	**Conservation Objective for Feature 1 and 2:** **Humid dune slacks and Dunes with Salix *repens* ssp. argentea (*Salicion arenariae*)** NB The division between 'humid dunes' and 'dunes with *Salix repens* ssp. *argentea* is unclear and difficult to define. The humid dune slack habitat includes both successionally young and mature slacks, which equate to NVC communities SD13-16. The dunes with *Salix repens* spp. *argentea* equate to drier areas of mature dune slack, and the low hummocks found around dune slacks which support *Salix repens*. These are sometimes known as hedgehog dunes. Because of the difficulties in separating these two habitats, for the purposes of monitoring these features are considered together. Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Dunes with Salix repens and humid dune slacks will occur as part of the dune system, their location will be determined by natural processes and appropriate grazing management ▪ A range of successional stages will be found in both features ▪ Factors affecting the features will be under control

Site Name: Kenfig/ Cynffig Location Grid Ref: SS790813 JNCC Site Code: UK0012566 Size: 1191.67 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	Performance indicators for Feature 1 & 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Kenfig Management Plan. **Conservation Objective for Feature 3:** **Fixed dunes with herbaceous vegetation (`grey dunes`)** Vision for feature 3 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Fixed dunes with herbaceous vegetation (grey dunes) will occur where older, shifting dunes become more stabilised and in early successional stages become colonised by lichens and other species indicative of the transition from less mobile habitat. ▪ The habitat will encompass a range of successional stages throughout the area, determined by patterns of natural factors and grazing. ▪ Grey dunes will comprise a significant part of the dune system but will increase and decrease in extent and location as natural processes determine the landscape of the dune systems ▪ All factors are under management control Performance indicators for Feature 3 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The

Site Name: Kenfig/ Cynffig Location Grid Ref: SS790813 JNCC Site Code: UK0012566 Size: 1191.67 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	performance indicators can be found within the Kenfig Management Plan. **Conservation Objective for Feature 4:** **Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.** Vision for feature 4 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Submerged Chara beds (mainly *Chara aspera* and *C. virgata*) growing in relatively shallow water form the predominant submerged macrophyte vegetation throughout most of the lake. ▪ Chara occur at more than 50% frequency along regular surveillance transects within the Western and Central arms. ▪ Charophyte species and uncommon pondweeds such as *Potamogeton gramineus* and *P. x nitens* are present in other embayments and pools, including *Tolypella glomerata* in dune pools. ▪ The lake is spring-fed so nutrient levels remain low. One of the main nutrients (phosphorus) reaches no more than 25 micrograms per litre in regular sampling areas. Nitrogen levels in the water are low (less than 1 milligram per litre) and declining or stable. ▪ The lake water is clear, but well vegetated with dense beds of submerged and marginal plants. A Secchi disc is visible on the lake bed in the deepest part of the lake (2.6m). ▪ Water depth is relatively stable, fluctuating naturally with groundwater. ▪ Reed, swamp and fringing bur-reed are restricted to shallow zones – covering not more than 10 % of the site. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 4

Site Name: Kenfig/ Cynffig Location Grid Ref: SS790813 JNCC Site Code: UK0012566 Size: 1191.67 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Kenfig Management Plan. **Conservation Objective for Feature 5:** **Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)** Vision for feature 5 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The quality of the saltmarsh is within specified limits ▪ There is no increase in erosion along the length of the transition from salt marsh to sand dune ▪ The saltmarsh flora will continue to include the following scarce species; *Limonium binervosum*, and *Frankenia laevis* ▪ Light grazing by rabbits and /or stock will continue to be tolerated within limits ▪ The damaging effects of pony riding will have been reduced or eliminated Performance indicators for Feature 5 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Kenfig Management Plan. **Conservation Objective for Feature 6:** **Petalwort *Petalophyllum ralfsii***

Site Name: Kenfig/ Cynffig Location Grid Ref: SS790813 JNCC Site Code: UK0012566 Size: 1191.67 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	Vision for feature 6 *Petalophyllum ralfsii* will continue to be found at its current locations in each of the two SSSI within the SAC. The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: The species will be found where conditions are suitable in sufficient numbers to form a viable and sustainable population The population will vary from year to year depending on conditions, especially in drier years, but the long term population will remain steady and sustainable Suitable dune slacks will have patches of bare ground that is being colonised by jelly lichens (*Collema* spp.) and *Barbula* mosses. The factors affecting the feature are under control Performance indicators for Feature 6 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Kenfig Management Plan. **Conservation Objective for Feature 7:** **Fen orchid *Liparis loeselii*** Vision for feature 7 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

Site Name: Kenfig/ Cynffig **Location Grid Ref: SS790813** **JNCC Site Code: UK0012566** **Size: 1191.67** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ Sufficient suitable habitat is present to support the populations ▪ The factors affecting the feature are under control Performance indicators for Feature 7 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Kenfig Management Plan.
Component SSSIs	▪ Cynffig/ Kenfig (units 1 to 9) ▪ Merthyr Mawr Warren (10 to 16) The two SSSIs above are divided into 16 management units of which numbers 1, 2, 5 to 9 and 10 to 15 comprise to form the Kenfig SAC. The management units can be viewed on maps available on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	▪ **Hydrological regime** - It is thought that the dune slacks at Kenfig and Merthyr Mawr as well as Kenfig Pool are mainly fed by groundwater, and possibly a deep Carboniferous Limestone aquifer. There are also three small ephemeral streams that enter Kenfig Pool. Maintenance of the natural hydrological regime of both dune systems is critical for the maintenance of the character, composition and condition of the features. ▪ **Water quality** - management should aim to protect and maintain the required water quality. The major water quality concerns are related to elevated macro-nutrient levels. Elevated levels of nitrogen have been found at Burrows Well (a karstic spring) on the Merthyr Mawr component and there is also some indication that dune slacks are becoming increasingly eutrophic. The nature of the underlying limestone aquifer means that off-site activities a considerable distance away can potentially have an impact on the SAC. This effect may occur both spatially and temporally. The limits set for Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. to achieve stable nutrient levels are: o Upper limit:

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- Mean annual levels of Total Phosphate (TP) should not exceed 24 microgrammes per litre within the pool. This figure is an annual mean based on the availability of at least four different water samples, collected.

AND

- Winter nitrate (November-February) <1 milligramme per litre.

AND

- No excessive growth of cyanobacteria or green algae

- Lower Limit:
  - >5mg l^{-1} dissolved O_2 throughout the water column

- **Air quality** - management should aim to protect and maintain the required air quality. Critical level or exposure (over the averaging/summing period):
  - Acid - 4 keq ha^{-1} yr^{-1} (calendar year)
  - NO_X as NO_2 - 30 µg m^{-3} (calendar year)
  - SO_2 – 20 µg m^{-3} (calendar year and winter Oct 1 to Mar 31)
  - Nitrogen - 10-20 kg ha^{-1} yr^{-1} (calendar year)
  - Ammonia - 3 µg m^{-3} (calendar year)
  - Ozone – 3000 ppb h (3 months)

- **Manage/Restrict recreation and access** - People and vehicle access should be managed so that it does not adversely affect the dune slack SAC features. Dune stabilisation works should only be considered in exceptional cases where severe erosion has been caused by vehicle or visitor pressure. The first action should be to manage the source of the problem. Vehicle restrictions to the dunes need to be continued, and be reviewed as problems arise. Wardening and surveillance of access for horse riders among certain areas of the dune slacks at Merthyr Mawr where it is impacting on *P. ralfsii* habitat should be continued, with access to sensitive habitats discouraged via deviation onto other less sensitive habitat.

- **Maintain natural coastal processes** - management should be aimed at minimising any constraints to the

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	natural movement of sand. This should allow the continued process of slack formation, maintaining a presence of embryo and successionally young slacks on site. ▪ **Management of Grazing/ Scrub** - Humid dune slacks and dunes with *Salix repens* are maintained by the seasonally high water table, grazing and scrub control. Grazing by domestic stock facilitates rabbit and hare grazing since rabbits tend to graze where the sward is already short. Grazing levels should be set to allow the maintenance of a low, species rich sward throughout the majority of the dune slacks and to reduce the spread of scrub. Continued scrub clearance is necessary at Merthyr Mawr and Kenfig since scrub encroachment has been considerable over the last 30 years and grazing alone cannot keep scrub in check. Where natural processes such as mobility, erosion, and wind scour are significant, scrub invasion is not an issue. Dune slacks should be lightly grazed, preferably by cattle during the summer. Grazing by cattle in winter is acceptable provided supplementary feeding and poaching do not take place. Management aimed at encouraging the return of rabbits and hares at Kenfig, such as mowing and burrow creation, should be continued, and rabbit grazing should be maintained at Merthyr Mawr. Mowing has taken place within certain dune slacks at Kenfig on a regular basis over the past few years, to facilitate the spread of grazing and to some extent to control dense low willow scrub growth and re-growth following initial clearance management. Mowing has achieved good results by reducing the competitive advantage of coarse and woody growth thereby favouring desirable species such as marsh helleborine *Epipactis palustris*. ▪ **Fishery** (Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp) - No further fish species introduction. Removal of the few remaining carp is an essential prerequisite to the site achieving favourable status.
SAC Condition Assessment	**Conservation Status and Management Requirements of Feature 1 & 2:** **Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*) and Humid dune slacks** These two features have been considered together as the issues and management of both are intimately

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	linked. Conservation Status of Feature 1 & 2 No distinction has been made between the Humid dune slacks and Dunes with *Salix repens* ssp. *argentea* as outlined in the conservation objectives, and this monitoring data will be used to determine the condition of both features. Results show that the proportion of early successional stages in Areas Y and Z is below that required. Therefore, vegetation in both areas is considered to be unfavourable. Areas Y and Z contained the largest blocks of embryo and successionally young habitat in 1997. As the system is stabilising and no new natural areas of habitat have been created, we can assume that the slack habitats outside of the sample plots are also unfavourable, despite mowing and scraping has artificially created areas of habitat (see comments below). Therefore, the Humid dune slacks and Dunes with *Salix repens* ssp. *argentea* at Kenfig SAC are considered to be in **unfavourable declining** condition (August 2006 SAC Monitoring Report). **Conservation Status and Management Requirements of Feature 3:** **Fixed dunes with herbaceous vegetation (`grey dunes`)** Conservation Status of Feature 3 The fixed dune with herbaceous vegetation feature of Kenfig/Cynffig SAC is considered to be in **Unfavourable declining** conservation status (August 2006 SAC Monitoring Report). This is due primarily to over-stabilisation, undergrazing and scrub development. **Conservation Status and Management Requirements of Feature 4:** **Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.** Conservation Status of Feature 4 The Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. feature of Kenfig/Cynffig SAC is considered to be in **unfavourable recovering** conservation status (2006).

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	The main reason for the unfavourable condition is the presence of introduced fish (carp). If carp removal can be carried out favourable condition should follow. (Burgess et al., 2006) **Conservation Status and Management Requirements of Feature 5:** **Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)** Conservation Status of Feature 5 The condition of the Atlantic salt meadows at Merthyr Mawr were assessed as **favourable** condition on the basis of SAC monitoring carried out in December, 2004. In addition the SSSI salt marsh feature was assessed as being in favourable condition (December, 2004). **Conservation Status and Management Requirements of Feature 6: Petalwort *Petalophyllum ralfsii*** Conservation status of Feature 6 The *Petalophyllum ralfsii* of Kenfig/Cynffig SAC is considered to be in **unfavourable declining** conservation status (November 2007). This analysis is based on the most recent SAC monitoring report for the feature, which shows that the performance indicators for the habitat and the extent, distribution and numbers of thalli were not met. Long-term surveillance indicates that *P. ralfsii* used to have a much wider distribution and that it was regularly found with greater than 50 thalli per m² in more than two discrete locations within more than two dune slacks. **Conservation Status and Management Requirements of Feature 6:** **Fen Orchid *Liparis loeselii*** Conservation status of Feature 6 The *Liparis loeselii* of Kenfig/Cynffig SAC is considered to be in **unfavourable declining** conservation status (July 2007).

Site Name: Kenfig/ Cynffig **Location Grid Ref: SS790813** **JNCC Site Code: UK0012566** **Size: 1191.67** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	This analysis is based on the most recent SAC monitoring report for the feature, which shows that the number of plants and the number of slacks within which it occurs have decreased dramatically. Long-term surveillance indicates that *L. loeselii* used to have a much wider distribution and that on any occasion it was regularly found in six or more discrete dune slacks with numbers of flowering spikes greater than 200.
Vulnerabilities (includes existing pressures and trends)	▪ **Erosion and progradation** - Unless artificially constrained, the seaward edges of sand dunes can be a highly mobile feature, though there is a natural trend to greater stability further inland. Very few dune systems are in overall equilibrium, and a majority of those in the UK demonstrate net erosion rather than net progradation; insufficient sand supply is frequently the underlying cause. ▪ **Falling water tables** - As a result of local extraction of water and/or drainage of adjacent land used for agriculture or housing. ▪ **Grazing** - In the absence of human interference, most stable dunes, with the exception of those experiencing severe exposure, would develop into scrub and woodland. The preponderance of grassland and heath vegetation on British dunes is due to a long history of grazing by livestock. Continued grazing is normally necessary to maintain the typical fixed dune communities, but over-grazing, particularly when combined with the provision of imported feedstuffs, can have damaging effects. A more widespread problem is under-grazing, leading to invasion by coarse grasses and scrub, though rabbits are locally effective in maintaining a short turf. Kenfig National Nature Reserve (NNR) has been grazed by sheep in recent years, and grazing is currently under review. Selected dune slacks are mown in order to provide appropriate conditions for the maintenance of these species and the vegetation. ▪ **Scrub** - scrub encroachment has been considerable over the last 30 years and grazing alone cannot keep scrub in check. Where natural processes such as mobility, erosion, and wind scour are significant, scrub invasion is not an issue. Where slacks are more mature, scrub can become a problem especially when grazing ceases or is reduced for a period and early scrub encroachment is not controlled. As scrub

Site Name: Kenfig/ Cynffig Location Grid Ref: SS790813 JNCC Site Code: UK0012566 Size: 1191.67 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	becomes established shelter and seeding increases and the problem is then exacerbated as stock cannot gain easy access to graze. ▪ **Recreation and access** - people and vehicle access should be managed so that it does not adversely affect the dune slack SAC features. Dune stabilisation works should only be considered in exceptional cases where severe erosion has been caused by vehicle or visitor pressure. The first action should be to manage the source of the problem. Vehicle restrictions to the dunes need to be continued, and be reviewed as problems arise. Wardening and surveillance of access for horse riders among certain areas of the dune slacks at Merthyr Mawr where it is impacting on *P. ralfsii* habitat should be continued, with access to sensitive habitats discouraged via deviation onto other less sensitive habitat. ▪ **Natural successional changes** - within the dune systems are detrimental to the plant communities of the dune grassland and humid dune slacks as well as to *Liparis loeselii* and *Petalophyllum ralfsii*, which are species of early successional changes. ▪ **Air quality*:** o Eutrophication. o Photochemical oxidants. o Particulate matter. ▪ **Water quality** - The major water quality concerns are related to elevated macro-nutrient levels. Elevated levels of nitrogen have been found at Burrows Well (a karstic spring) on the Merthyr Mawr component and there is also some indication that dune slacks are becoming increasingly eutrophic. The nature of the underlying limestone aquifer means that off-site activities a considerable distance away can potentially have an impact on the SAC. This effect may occur both spatially and temporally.

* Air Pollution Information System (APIS). Sand Dunes. Available from: http://www.apis.ac.uk/cgi_bin/habitat_result.pl?habResult=Sand+dunes&choice=allHabs&haborspec=habitat&submit.x=17&submit.y=7

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	▪ **Non-native species** - Large populations of coarse fish (such as introduced carp for example) can distort the balance between the plant community, nutrient levels and the coarse fish population by eating small microscopic animals (zooplankton) that feed on tiny algae (phytoplankton).There should be no new non-native invasive species on the UKTAG Red List present. No increase in *Elodea canadensis*. This species is currently rare. ▪ The **Fen Orchid** is also under threat from: o Natural processes of succession in dune slacks. o Work undertaken to stabilise sand dunes. ▪ The **Pealwort** is also under threat from: o Loss of habitat due to development, dune stabilisation and natural succession. o Drainage. o Recreation. o Botanical collection. Indirect effects on dunes include atmospheric nutrient deposition, and coastal squeeze due to rising sea levels and increased storminess. The potential for dredging and marine aggregate extraction, through the disruption of coastal processes, to have cumulative and long-term effects on sand dunes is an area for further investigation.
Landowner/ Management Responsibility	All parts of the Kenfig Dunes SSSI are owned by a charitable organisation, the Kenfig Corporation Trust, dedicated to holding the site in trust for the benefit and enjoyment of the community of Kenfig, allowing unrestricted access in time and space. Bridgend County Borough Council manages the site, in consultation with other parties through the Kenfig NNR management committee. Their aim is to maintain and enhance its value for nature conservation, including the provision of educational and public interpretation resources, run from the visitor centre. CCW manage the grazing licences. Fishing is a traditional activity and is dealt with

Site Name: Kenfig/ Cynffig Location Grid Ref: SS790813 JNCC Site Code: UK0012566 Size: 1191.67 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	through a separate lease with The Kenfig Hill and District Angling Association.
HRA/AA Studies undertaken that address this site	AA of the Neath Port Talbot UDP June 2007: http://www.neath-porttalbot.gov.uk/pdf/udp_200706_appropriate_assessment.pdf ▪ The assessment of potential impacts concluded that the plan policies provide a rigorous test which would prevent a significant impact either alone or in-combination on a European site. The potential impacts that policies were assessed against were: o Water quality; o Water quantity; o Air Pollution; o Human interference; and o Invasive species. AA Screening of Porthcawl Design Code and Land Use Guidance SPG August 07. http://www.bridgend.gov.uk/Web1/groups/public/documents/report/024319.pdf#xml=?IdcService=GET_EXTERNAL_XML_HIGHLIGHT_INFO&QueryText=%3cNOT%3e+xDepartment+%3cMATCHES%3e+%60A+%2d+Z%60+AND+%3cNOT%3e+dDocName+%3cSUBSTRING%3e+%60MapFile_%60+AND+%28Appropriate+assessment+screening%29&SortField=SCORE&SortOrder=Desc&dDocName=z303234333139&sCollectionID=Web1&HighlightType=PdfHighlight ▪ The Screening identified two processes that require further study as they have the potential to effect the site as a result of the SPG. These processes were identified as: o sediment transportation pathways and linkage; and o hydrological pathways and processes. AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07. http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf ▪ The Screening concludes that development resulting from the LDP in the proximity of the SAC is therefore

Site Name: Kenfig/ Cynffig Location Grid Ref: SS790813 JNCC Site Code: UK0012566 Size: 1191.67 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	unlikely to be of scale that would result in a detrimental impact upon the site. Notwithstanding this, there are three operational quarries (Ewenny, Pant, Lithalun) within 3 kilometres of the SAC. Mineral extraction and/or after use of the site could therefore impact upon the SAC however this is considered to be unlikely due to the distance and ground contours. However, the site should be subject to a more detailed assessment at a later stage of the LDP development.

Site Name: Llangorse Lake **Location Grid Ref: SO131262** **JNCC Site Code: UK0012985** **Size: 215.64** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The site is situated towards the head of the Afon Llynfi between the hills of Mynydd Llangorse and Allt yr Esgair. Llangorse Lake is a large shallow lake with a mean depth 2-3 metres lying in a natural depression of the Old Red Sandstone drift formed during the last glacial period. It is the largest natural lowland water in south Wales. It is one of the few natural eutrophic lakes in Britain and is of European importance in this context. The combination of the mineral-rich geology and size and shape of the lake encourages the growth of a wide range of aquatic and marginal plants, including several that are rare in this part of Wales. The site also demonstrates a gradation from open water, with submerged and floating plant beds, through marginal swamp and fen vegetation, marshy grassland to drier unimproved grassland, with patches of willow scrub and wet woodland. The lake also has a diverse plankton community and supports a wide variety of invertebrates, including rare and scarce species.
Qualifying Features	Annex I Habitats primary reason for selection: ▪ Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation
Conservation Objectives	**Conservation Objective for Feature 1:** Natural Eutrophic Lakes with Magnopotamion or Hydrochariton – type vegetation Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ There is no loss of lake area, as defined in 2006 aerial photographs for summer levels. ▪ The aquatic plant community is typical of this lake type in terms of composition and structure, including species such as water-starworts, stoneworts, duckweeds, broad-leaved and fine-leaved pondweeds, water lilies, amphibious bistort, water-crowfoots, rigid hornwort, spiked water-milfoil, mare's-tail and horned

Site Name: Llangorse Lake Location Grid Ref: SO131262 JNCC Site Code: UK0012985 Size: 215.64 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	pondweed. ▪ Plants indicating very high nutrient levels and excessive silt loads are not dominant and invasive non-native water plants do not threaten to out-compete the native flora. ▪ The nutrient, pH and dissolved oxygen levels are typical for a lake of this type and there is no excessive growth of cyanobacteria or green algae. ▪ There is a natural hydrological regime. ▪ The natural shoreline is maintained. ▪ The natural and characteristic substrate is maintained. ▪ The natural sediment load maintained. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Llangorse Lake Management Plan.
Component SSSIs	Llyn Syfaddan (Llangorse Lake) SSSI – is composed of 13 management units, the SAC covers the same area. A map of the site can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	▪ **Water Quality** - there should be no eutrophication: o Upper limit: Annual mean total phosphorus (TP) of 35 µgl-1 or less. o Lower limit: At least 5 mgl-1 dissolved oxygen (O2) throughout the water column. ▪ **Hydrology** - No new structures that will reduce inflow or deepening or enlargement of outflow points. ▪ **Sediment loads and lake substrate** - No extensive poaching of the lake margins by stock.

Site Name: Llangorse Lake **Location Grid Ref: SO131262** **JNCC Site Code: UK0012985** **Size: 215.64** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ **Recreational Disturbance** - No use outside agreed zones and periods of year as described in printed guidance. ▪ **Development** - No new permanent jetties, slipways or hard bank structures. ▪ **Non-native species** (Fish) - Any introduction of species that are not native to Llangorse would be highly undesirable. o Upper limit: Introduced species should be removed or populations controlled as necessary. This will be guided by regular EA fish sampling. o Lower limit: Fish are an essential component of the lake ecology. Populations need to be maintained by a sensible fisheries policy/rules and by ensuring other factors such as water quality are under control. ▪ **Non-native & Invasive Species** - Canadian and/or Nuttall's waterweed (Elodea spp.) no more than frequent. AND: No invasive non-native species, such as New Zealand pigmyweed, floating pennywort, curly waterweed, parrot's-feather, water fern, signal crayfish and zebra mussel, are present in the lake.
SAC Condition Assessment	**Conservation Status of Feature 1:** Natural Eutrophic Lakes with Magnopotamion or Hydrochariton – type vegetation The conservation status of this feature within the site is considered to be **Un-favourable** (2006). The full restoration of the lake to favourable condition may be difficult to achieve in the short term because of residual nutrients stored within the lake's sediments. However, every effort should be made to restore the structure and functioning of the lake to a favourable, sustainable status, with particular attention being paid to the management of environmental factors which could cause the lake to switch from the plant-dominated to phytoplankton-dominated stable state.

Site Name: Llangorse Lake **Location Grid Ref: SO131262** **JNCC Site Code: UK0012985** **Size: 215.64** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Vulnerabilities (includes existing pressures and trends)	▪ **Eutrophication** - The quality of the water at Llangorse Lake is very important to the maintenance of its very special plants and animals. The lake sits within a small, predominantly lowland catchment and so receives its water from a very limited area. As the small Afon Llynfi is the main outlet for water from the lake, the water flows through the lake very slowly and any pollutants entering the lake will potentially remain there for long periods. Much of the current pollution is in the form of nutrients from the air and the many small watercourses entering the lake. Extra nutrients in a naturally nutrient rich lake dramatically change the types of plants growing in the lake and the number and type of insects that are able to live among the plants. This has a knock-on effect on the fish, birds and mammals of the lake. Since the diversion directly to the Afon Llynfi of water that was causing eutrophication of the lake, the lake has been slowly recovering from a polluted state and it is vital that this recovery continues. The lake is surrounded by land that is agriculturally productive, with much used as arable or grass ley. ▪ **Sediment run-off** - Llangorse Lake sits in a shallow natural basin; the average depth of the lake is only 2-3 metres. The natural processes of erosion from the surrounding hills will naturally reduce the depth of the lake, albeit at a very slow rate, over time, but because of the shallowness of the lake it is exceptionally vulnerable to any extra sediments that may enter the lake from sources other than the natural inputs. It is essential that land in the catchment be carefully managed to avoid sediment run-off, which could cause rapid siltation of the lake. It is therefore important that any land management practices such as ploughing and stock feeding within the SSSI or lake catchment should be compliant with good agricultural practice. Avoiding any exposed soil or mud where is can wash into watercourses entering the lake and keeping a buffer zone of permanent grassland in the lake's flood zone and next to water courses. Any ditches feeding into the lake need to be carefully managed to enable sediments to be trapped rather than enter the lake. ▪ **Recreation** - Llangorse Lake is a very popular location for water-based recreation, attracting fishermen, sailing craft, water-skiers, canoeists/kayakers and outdoor groups. However, there is great potential to disturb habitats and the wildlife that inhabits the lake. The many bird species that feed, nest or rest on and around the lake are particularly vulnerable to disturbance from recreational use of the lake itself and from walkers and dogs. Wash from motorboats can be a problem, as it can erode vegetation and the shoreline

Site Name: Llangorse Lake Location Grid Ref: SO131262 JNCC Site Code: UK0012985 Size: 215.64 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	and it is essential than the numbers using the lake are limited and exclusion zones observed. Fishing should be managed to ensure that the balance of fish populations is maintained, predatory fish such as pike, are returned to the lake, and that there is no introduction of fish species not native to the lake. It is essential that this land-based recreation should continue to have a low impact on the lake's wildlife and that people continue to behave responsibly, do not disturb the habitats and importantly keep dogs under control to prevent disturbance to nesting birds. Parts of the lake have no public access and it is essential that this should continue, as it is in these quiet areas that birds such as lapwing are able to continue to breed, wildfowl such as coot and wigeon can feed, and mammals such as otters can find quiet areas to rest. ▪ **Non-native invasive species** - Non-native species including Canada geese and Canadian pondweed already exist in and around Llangorse Lake. Although all of the consequences of their presence (especially the impacts of grazing and enrichment from geese) are not desirable, their impact is not well understood at present and further research is required. Similarly, the presence of introduced fish species such as bream, which through feeding can disturb the lake sediments, raise the amount of available nutrients and cloud the water, which in turn can affect algal and aquatic weed vegetation. There are many non-native species such as New Zealand pigmyweed, zebra mussels and carp that, if introduced, could out-compete native species or in the case of carp cause severe disturbance to lake sediments. ▪ **Management of surrounding habitats** - The many other habitats around the lake, such as the fen, woodlands and grassland are very important in their own right and often require management. The grasslands should be managed sympathetically, being either cut for hay in early summer and the aftermath grazed by sheep or cattle or lightly grazed throughout the growing season from spring into the early autumn. However, this would need to be carefully managed, so that the marginal vegetation is not damaged and marginal sediments not disturbed by excessive trampling. Much of the woodland surrounding the fringes of the lake adds greatly to the lake's diversity and provides further sheltering opportunities for its wildlife and requires little management. However, should the wet woodlands continue their expansion into the reed beds, non-chemical measures to control it should be employed to prevent losses of the other important habitats. The winter cutting of some reed beds could also be employed to aid

Site Name: Llangorse Lake **Location Grid Ref: SO131262** **JNCC Site Code: UK0012985** **Size: 215.64** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	the continuation of this fragile habitat.
Landowner/ Management Responsibility	▪ Unit 1 is owned or leased by the Brecon Beacons National Park Authority. ▪ Unit 9 is the crannog - a man-made island and a Scheduled Ancient Monument (SAM). The island supports a few trees and there is a little marginal aquatic vegetation, but the main interest is archaeological. The boundary of the SAM extends beyond the island to include part of the water body and aquatic vegetation. ▪ Unit 11 is common land, which has been developed in connection with recreational use. This is where the main jetties for launching boats are situated. There are also buildings, car parks, tracks and amenity grassland. ▪ Unit 13 is the main body of water, which is a common in its own right. The size of the water body fluctuates and the lake is generally more extensive in the wetter winter months. The lake margin as illustrated on the accompanying map shows the boundary of Unit 13, and represents mean summer level. ▪ In Units 1-8 & 10-12, which are mainly small fields, the SAC habitat is largely confined to the innundation zones (consisting of marginal fen and related habitats) which are flooded during the winter months and during high rainfall periods in summer months. Most of these units also contain habitats including marshy grassland, neutral grassland and woodland, which are not submerged by winter water levels.
HRA/AA Studies undertaken that address this site	▪ N/A

Site Name: River Usk **Location Grid Ref: SO301113** **JNCC Site Code: UK0013007** **Size: 1007.71** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The River Usk SAC rises in the Black Mountain range in the west of the Brecon Beacons National Park and flows east and then south, to enter the Severn Estuary at Newport. The overall form of the catchment is long and narrow, with short, generally steep tributaries flowing north from the Black Mountain, Fforest Fawr and Brecon Beacons, and south from Mynydd Epynt and the Black Mountains. The underlying geology consists predominantly of Devonian Old Red Sandstone with a moderate base status, resulting in waters that are generally well buffered against acidity. This geology also produces a generally low to moderate nutrient status, and a moderate base-flow index, intermediate between base-flow dominated rivers and more flashy rivers on less permeable geology. The run-off characteristics and nutrient status are significantly modified by land use in the catchment, which is predominantly pastoral with some woodland and commercial forestry in the headwaters and arable in the lower catchment. The Usk catchment is entirely within Wales. The ecological structure and functions of the site are dependent on hydrological and geomorphological processes (often referred to as hydromorphological processes), as well as the quality of riparian habitats and connectivity of habitats. Animals that move around and sometimes leave the site, such as migratory fish and otters, may also be affected by factors operating outside the site. The River Usk is also important for its population of sea lamprey *Petromyzon marinus*. The site also supports a healthy population of brook lamprey *Lampetra planeri* and river lamprey *Lampetra fluviatilis* and is considered to provide exceptionally good quality habitat likely to ensure the continued survival of the species in this part of the UK. The site supports a range of Annex II fish species, which includes twaite shad *Alosa falla*, salmon *Salmo sala* and bullhead *Cottus gobi*. The River Usk is an important site for otters Lutra lutra in Wales.
Qualifying Features	Annex I Habitats qualifying feature: ▪ Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation Annex II Species primary reason for selection:

Site Name: River Usk **Location Grid Ref: SO301113** **JNCC Site Code: UK0013007** **Size: 1007.71** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ Sea lamprey *Petromyzon marinus* ▪ Brook lamprey *Lampetra planeri* ▪ River lamprey *Lampetra fluviatilis* ▪ Twaite shad *Alosa fallax* ▪ Atlantic salmon *Salmo salar* ▪ Bullhead *Cottus gobio* ▪ Otter *Lutra lutra* Annex II Species qualifying feature: ▪ Allis shad *Alosa alosa*
Conservation Objectives	**The ecological status of the water course is a major determinant of Favourable Condition Status (FCS) for all features. The required conservation objective for the water course is defined below.** **Conservation Objective for the water course** ▪ The capacity of the habitats in the SAC to support each feature at near-natural population levels, as determined by predominantly unmodified ecological and hydromorphological processes and characteristics, should be maintained as far as possible, or restored where necessary. ▪ The ecological status of the water environment should be sufficient to maintain a stable or increasing population of each feature. This will include elements of water quantity and quality, physical habitat and community composition and structure. It is anticipated that these limits will concur with the relevant standards used by the Review of Consents process given in Annexes 1-3. ▪ Flow regime, water quality and physical habitat should be maintained in, or restored as far as possible to, a near-natural state, in order to support the coherence of ecosystem structure and function across the whole area of the SAC. ▪ All known breeding, spawning and nursery sites of species features should be maintained as suitable habitat as far as possible, except where natural processes cause them to change.

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	▪ Flows, water quality, substrate quality and quantity at fish spawning sites and nursery areas will not be depleted by abstraction, discharges, engineering or gravel extraction activities or other impacts to the extent that these sites are damaged or destroyed. ▪ The river planform and profile should be predominantly unmodified. Physical modifications having an adverse effect on the integrity of the SAC, including, but not limited to, revetments on active alluvial river banks using stone, concrete or waste materials, unsustainable extraction of gravel, addition or release of excessive quantities of fine sediment, will be avoided. ▪ River habitat SSSI features should be in favourable condition. In the case of the Usk Tributaries SSSI, the SAC habitat is not underpinned by a river habitat SSSI feature. In this case, the target is to maintain the characteristic physical features of the river channel, banks and riparian zone. ▪ Artificial factors impacting on the capability of each species feature to occupy the full extent of its natural range should be modified where necessary to allow passage, eg. weirs, bridge sills, acoustic barriers. ▪ Natural factors such as waterfalls, which may limit the natural range of a species feature or dispersal between naturally isolated populations, should not be modified. ▪ Flows during the normal migration periods of each migratory fish species feature will not be depleted by abstraction to the extent that passage upstream to spawning sites is hindered. ▪ Flow objectives for assessment points in the Usk Catchment Abstraction Management Strategy will be agreed between EA and CCW as necessary. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 1 of this document. ▪ Levels of nutrients, in particular phosphate, will be agreed between EA and CCW for each Water Framework Directive water body in the Usk SAC, and measures taken to maintain nutrients below these levels. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 2 of this document. ▪ Levels of water quality parameters that are known to affect the distribution and abundance of SAC features will be agreed between EA and CCW for each Water Framework Directive water body in the Usk SAC, and measures taken to maintain pollution below these levels. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 3 of this document. ▪ Potential sources of pollution not addressed in the Review of Consents, such as contaminated land, will be

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	considered in assessing plans and projects. ▪ Levels of suspended solids will be agreed between EA and CCW for each Water Framework Directive water body in the Usk SAC. Measures including, but not limited to, the control of suspended sediment generated by agriculture, forestry and engineering works, will be taken to maintain suspended solids below these levels. **Conservation Objective for Features 1-5:** - **Sea lamprey** *Petromyzon marinus*; - **Brook lamprey** *Lampetra planeri*; - **River lamprey** *Lampetra fluviatilis*; - **Twaite shad** *Alosa fallax*; - **Allis shad** *Alosa alosa*; - **Atlantic salmon** *Salmo salar*; - **Bullhead** *Cottus gobio*. Vision for features 1-5 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The conservation objective for the water course as defined in 4.1 above must be met. ▪ The population of the feature in the SAC is stable or increasing over the long term. ▪ The natural range of the feature in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches where predominantly suitable habitat for each life stage exists over the long term. Suitable habitat is defined in terms of near-natural hydrological and geomorphological processes and forms eg. suitable flows to allow upstream migration, depth of water and substrate type at spawning sites, and ecosystem structure and functions eg. food supply. Suitable habitat need not be present throughout the SAC but where present must be secured for the foreseeable

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	future. Natural factors such as waterfalls may limit the natural range of individual species. Existing artificial influences on natural range that cause an adverse effect on site integrity, such as physical barriers to migration, will be assessed in view of the following bullet point. ▪ There is, and will probably continue to be, a sufficiently large habitat to maintain the feature's population in the SAC on a long-term basis. Performance indicators for features 1-5 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the River Usk Management Plan. **Conservation Objective for Feature 6:** **- European otter** *Lutra lutra* Vision for feature 6 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The population of otters in the SAC is stable or increasing over the long term and reflects the natural carrying capacity of the habitat within the SAC, as determined by natural levels of prey abundance and associated territorial behaviour. ▪ The natural range of otters in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches that are potentially suitable to form part of a breeding territory and/or provide routes between breeding territories. The whole area of the Usk SAC is considered to form potentially suitable breeding habitat for otters. The size of breeding territories may vary depending on prey abundance. The population size should not be limited by the availability of suitable undisturbed breeding sites. Where these are insufficient they should be created through habitat

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	enhancement and where necessary the provision of artificial holts. No otter breeding site should be subject to a level of disturbance that could have an adverse effect on breeding success. Where necessary, potentially harmful levels of disturbance must be managed. ▪ The safe movement and dispersal of individuals around the SAC is facilitated by the provision, where necessary, of suitable riparian habitat, and underpasses, ledges, fencing etc at road bridges and other artificial barriers. Performance indicators for feature 6 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the River Usk Management Plan. **Conservation Objective for Feature 7:** **- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation** Vision for feature 7 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. ▪ The conservation objectives for the water course as defined above must be met. ▪ The natural range of the plant communities represented within this feature should be stable or increasing in the SAC. The natural range is taken to mean those reaches where predominantly suitable habitat exists over the long term. Suitable habitat and associated plant communities may vary from reach to reach. Suitable habitat is defined in terms of near-natural hydrological and geomorphological processes and forms eg. depth and stability of flow, stability of bed substrate, and ecosystem structure and functions eg. nutrient levels, shade. Suitable habitat for the feature need not be present throughout the SAC but where

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	present must be secured for the foreseeable future, except where natural processes cause it to decline in extent. ▪ The area covered by the feature within its natural range in the SAC should be stable or increasing. ▪ The conservation status of the feature's typical species should be favourable. The typical species are defined with reference to the species composition of the appropriate JNCC river vegetation type for the particular river reach, unless differing from this type due to natural variability when other typical species may be defined as appropriate. Performance indicators for feature 7 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the River Usk Management Plan.
Component SSSIs	▪ River Usk (Upper Usk) SSSI ▪ River Usk (Lower Usk) SSSI ▪ River Usk (Tributaries) SSSI ▪ Penllwyn-yr-hendy SSSI ▪ Coed Dyrysiog SSSI ▪ Coed Nant Menascin SSSI ▪ Coed Ynysfaen SSSI The SAC has been divided into 10 management units: ▪ Units 1 to 3 - River Usk (Lower Usk) SSSI. ▪ Units 4 to 6 - River Usk (Upper Usk) SSSI. ▪ Units 7 to 10 - River Usk (Tributaries) SSSI. A map showing the various management units can be seen within the River Usk Management Plan.

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Key Environmental Conditions (factors that maintain site integrity	▪ **Hydrological processes**: o **River flow** (level and variability) and **water chemistry**, determine a range of habitat factors of critical importance to the SAC features, including current velocity, water depth, wetted area, substrate quality, dissolved oxygen levels and water temperature. Maintenance of both high 'spate' flows and base-flows is essential. Reduction in flows may reduce the ability of the adults of migratory fish to reach spawning sites. Water-crowfoot vegetation thrives in relatively stable, moderate flows and clean water. The flow regime should be characteristic of the river in order to support the functioning of the river ecosystem. ▪ **Geomorphological processes** - of erosion by water and subsequent deposition of eroded sediments downstream, create the physical structure of the river habitats. Whilst some sections of the river are naturally stable, especially where they flow over bedrock, others undergo constant and at times rapid change through the erosion and deposition of bed and bank sediments as is typical of meandering sections within floodplains (called 'alluvial' rivers). These processes help to sustain the river ecosystem by allowing a continued supply of clean gravels and other important substrates to be transported downstream. In addition, the freshly deposited and eroded surfaces, such as shingle banks and earth cliffs, enable processes of ecological succession to begin again, providing an essential habitat for specialist, early-successional species. Lampreys need clean gravel for spawning, and marginal silt or sand for the burrowing juvenile ammocoetes. Processes at the wider catchment scale generally govern processes of erosion and deposition occurring at the reach scale, although locally, factors such as the effect of grazing levels on riparian vegetation structure may contribute to enhanced erosion rates. In general, management that interferes with natural geomorphological processes, for example preventing bank erosion through the use of hard revetments or removing large amounts of gravel, are likely to be damaging to the coherence of the ecosystem structure and functions. ▪ **Riparian habitats** - including bank sides and habitats on adjacent land, are an integral part of the river ecosystem. Diverse and high quality riparian habitats have a vital role in maintaining the SAC features in a favourable condition. The type and condition of riparian vegetation influences shade and water

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	temperature, nutrient run-off from adjacent land, the availability of woody debris to the channel and inputs of leaf litter and invertebrates to support in-steam consumers. Light, temperature and nutrient levels influence in-stream plant production and habitat suitability for the SAC features. Woody debris is very important as it provides refuge areas from predators, traps sediment to create spawning and juvenile habitat and forms the base of an important aquatic food chain. Otters require sufficient undisturbed riparian habitats as breeding and resting sites. It is important that appropriate amounts of tree cover, in general at least 50% high canopy cover, tall vegetation and other semi-natural habitats are maintained on the riverbanks and in adjacent areas, and that they are properly managed to support the SAC features. This may be achieved, for example, through managing grazing levels, selective coppicing of riparian trees and restoring adjacent wetlands. In the urban sections the focus may be on maintaining the river as a communication corridor but this will still require that sufficient riparian habitat is present and managed to enable the river corridor to function effectively. ▪ **Habitat connectivity** - is an important property of a river ecosystem structure and function. Many of the fish that spawn in the river are migratory, depending on the maintenance of suitable conditions on their migration routes to allow the adults to reach available spawning habitat and juvenile fish to migrate downstream. For resident species, dispersal to new areas, or the prevention of dispersal causing isolated populations to become genetically distinct, may be important factors. Naturally isolated feature populations that are identified as having important genetic distinctiveness should be maintained. Artificial obstructions including weirs and bridge sills can reduce connectivity for some species. In addition, reaches subject to depleted flow levels, pollution, or disturbance due to noise, vibration or light, can all inhibit the movement of sensitive species. The dispersal of semi-terrestrial species such as the otter can be adversely affected by structures such as bridges under certain flow conditions; therefore, these must be designed to allow safe passage. The continuity of riparian habitats enables a wide range of terrestrial species, for example lesser horseshoe bats, to migrate and disperse through the landscape. Connectivity should be maintained or restored where necessary as a means to ensure access for the features to sufficient habitat within the SAC.

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SAC Condition Assessment	**Conservation status of Feature 1: Sea lamprey *Petromyzon marinus*** Status: **Unfavourable**: Unclassified. Sea lamprey monitoring showed that overall catchment mean ammocoete density considerably exceeded the JNCC target threshold and also complied with targets for spawning site and ammocoete distribution. A caveat on the latter is uncertainty over whether the natural range of sea lamprey extends above Brecon weir: this is assumed not to be the case. Factors leading to an unfavourable assessment are the presence of probable partial barriers further downstream (notably Crickhowell Bridge), and flow depletion resulting from abstractions including Brecon canal and Prioress Mill public water supply abstraction. The latter in particular has been shown to have effects both on a seasonal timescale by reducing spate flows during the migration period and on a diurnal timescale by substantially depleting flows during the night time to the extent that sea lamprey nests and nursery areas are likely to be exposed above the water level. The effect of the Brecon canal abstraction has been shown to comprise a substantial depletion of flows, at least locally, during low flow periods with a resulting reduction in river depth downstream of the off-take weir. **Conservation status of Feature 2: Brook lamprey *Lampetra planeri* and River lamprey *Lampetra fluviatilis*** Status: **Favourable**. Brook/river lamprey monitoring showed that overall catchment mean ammocoete density considerably exceeded the JNCC target threshold and also complied with targets for ammocoete distribution1. It has not been possible to distinguish between these two species during monitoring, due to the reliance on juvenile stages (ammocoetes). Anecdotal evidence suggests that both species are likely to be present in many reaches, though brook lamprey are expected to predominate in the headwaters and river lamprey may be the more abundant species in the main channel and the lower reaches of larger tributaries. More information on the relative abundance of these two species in different parts of the Usk SAC is desirable.

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	Records of spawning adult river lamprey would be particularly useful. **Conservation status of Feature 3: Twaite shad *Alosa fallax* and Allis shad *Alosa alosa*** Status: **Unfavourable**: Unclassified. Monitoring of these species in the Usk relies on two methods, Kick sampling for eggs provides qualitative information on spawning distribution, Netting for juveniles in the lower river and tidal reaches during late summer/autumn when juveniles drift downstream towards the estuary. These methods do not distinguish between the two species. Allis shad is thought to be rare, with no recent records in the Usk, while twaite shad is relatively common. Kick sampling for eggs is only able to give a broad scale indication of presence or absence at sampled locations. Netting for juveniles gives a quantitative estimate of abundance, though may be subject to a high degree of uncertainty due to sampling error. This uncertainty is likely to be compounded by variation between years in the size of the adult run, spawning success and resulting numbers of juveniles. Poor adult runs are likely to result from unsuitable flows during the March to June migration period, in particular prolonged low flows, while poor survival of eggs and juveniles is related to spate flows in the mid to late summer which can flush them into the estuary prematurely. CSM guidance states that adult run size should comply with an agreed target for each river, with no drop in the annual run greater than would be expected from variations in natural mortality alone. This attribute is not currently assessed in the Usk due to the absence of a fish counter. The current unfavourable status results from a precautionary assessment of feature distribution and abundance, and from the presence of adverse factors, in particular flow depletion and physical barriers to migration. **Conservation status of Feature 4: Atlantic salmon *Salmo salar***

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	Status: **Unfavourable**: Unclassified. Monitoring of Atlantic salmon in the Usk relies on two methods, 1. Estimation of adult run size from angling catch returns, 2. Electro-fishing for juveniles in nursery areas. The estimate of adult numbers is converted into an estimate of numbers of eggs deposited which is compared against an Egg Deposition Target (EDT), calculated by considering the area of suitable spawning habitat within the catchment. The equivalent adult run to achieve the EDT is described in terms of a Conservation Limit, which must be exceeded 4 years in 5 for the Management Target to be considered attained. Electro-fishing for juveniles is either quantitative or semi-quantitative, and estimated juvenile densities are classified in one of six categories A to F. The monitoring guidance produced by the LIFE in UK Rivers project recommends that ideally juvenile densities should be compared to predicted densities for the sample reach using the HABSCORE model6. These targets are calculated and monitored by the Environment Agency as part of the Salmon Action Plan for the Usk. The current unfavourable status results from a precautionary assessment of feature distribution and abundance, in particular the results of juvenile surveys, and from the presence of adverse factors, in particular flow depletion and localised water quality failures. **Conservation status of Feature 5: Bullhead *Cottus gobio*** Status: **Unfavourable**: Unclassified. The current unfavourable status results from the presence of adverse factors, in particular flow depletion and localised water quality failures. Records obtained from juvenile salmon monitoring show that bullhead are widespread in the main river and tributaries. There is a need for quantitative information on bullhead abundance, which will be addressed by targeted monitoring in 2007. **Conservation status of Feature 6: European otter *Lutra lutra*** Status: **Favourable**. The conservation status of otters in the Usk SAC is determined by monitoring their

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	distribution, breeding success, and the condition of potential breeding and feeding habitat outlined in the Performance Indicators. Their current condition can be considered favourable, but with scope for further improvement, if habitat and other natural factors can be maintained and enhanced. **Conservation status of Feature 7: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation** Status: **Unfavourable**: Unclassified. This feature is not identified as one of the primary reasons for designation of the River Usk SAC; its distribution being apparently limited by the availability of suitable hydromorphological conditions. Important stands have been identified in the lower reaches of the main river below Abergavenny down to the tidal limit, and in the upper reaches of a headwater stream, the Afon Senni. These reaches may represent a sub-type of the feature where large submerged and floating leaved flowering plants, in particular Ranunculus, are dominant. Habitat suitability studies4 suggest that the natural range of the feature may be more widespread within the SAC. More widespread sub-types may consist of communities dominated by aquatic bryophytes. Where necessary, examples of these sub-types may be identified as priorities for management, for example through the management of riparian vegetation to preserve shade and humidity. Further understanding of the distribution and status of this feature and its natural range within the River Usk SAC is required. The present unfavourable status of the feature results from the over-abundance of invasive non-native species of bankside plant communities, which are included within the feature definition. These are predominantly giant hogweed and Himalayan balsam in the lower reaches of the main river.
Vulnerabilities (includes existing pressures and trends)	▪ **Abstraction levels -** Entrainment in water abstractions directly impacts on lamprey population dynamics through reduced recruitment and survival rates. The impact of flow depletion resulting from a small number of major abstractions was highlighted in the Review of Consents process. ▪ **Eutrophication** - factors that are important to the favourable conservation status of this feature include flow,

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	substrate quality and water quality, which in turn influence species composition and abundance. These factors often interact, producing unfavourable conditions by promoting the growth of a range of algae and other species indicative of eutrophication. Under conditions of prolonged low flows and high nutrient status, epiphytic algae may suppress the growth of aquatic flowering plants. ▪ **Diffuse Pollution** - The Atlantic salmon is the focus for much of the management activity carried out on the Usk. The relatively demanding water quality and spawning substrate quality requirements of this feature mean that reduction in diffuse pollution and siltation impacts is a high priority. In the Usk catchment, the most significant sources of diffuse pollution and siltation are from agriculture, including fertiliser run-off, livestock manure, silage effluent and soil erosion from ploughed land. The most intensively used areas such as heavily trampled gateways and tracks can be especially significant sources of polluting run-off. Farm operations should avoid ploughing land which is vulnerable to soil erosion or leaving such areas without crop cover during the winter. Contamination by synthetic pyrethroid sheep dips, which are extremely toxic to aquatic invertebrates, has a devastating impact on crayfish populations and can deprive fish populations of food over large stretches of river. These impacts can arise if recently dipped sheep are allowed access to a stream or hard standing area, which drains into a watercourse. Pollution from organophosphate sheep dips and silage effluent can be very damaging locally. Pollution from slurry and other agricultural and industrial chemicals, including fuels, can kill all forms of aquatic life. All sheep dips and silage, fuel and chemical storage areas should be sited away from watercourses or bunded to contain leakage. Recently dipped sheep should be kept off stream banks. Discharges from sewage treatment works, urban drainage, engineering works such as road improvement schemes, contaminated land, and other domestic and industrial sources can also be significant causes of pollution, and must be managed appropriately. Pollution of rivers with toxic chemicals, such as PCBs, was one of the major factors identified in the widespread decline of otters during the last century. ▪ **Barriers to migration** - There are few barriers to migration for the anadromous species and where barriers exist, investigation is proposed to analyse for potential impacts and remedy them through multi-species fish passes. Crickhowell Bridge is considered to be the most significant barrier to fish migration in the Usk.

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	Management to reduce or remove the effect of this barrier is a high priority for the River Usk SAC. Artificial physical barriers are probably the single most important factor in the decline of shad in Europe. Impassable obstacles between suitable spawning areas and the sea can eliminate breeding populations of shad. Both species (but particularly allis shad) can make migrations of hundreds of kilometres from the estuary to spawning grounds in the absence of artificial barriers. Existing fish passes designed for salmon are often not effective for shad. ▪ **Development pressure** - in the lower catchment can cause temporary physical, acoustic, chemical and sediment barrier effects that need to be addressed in the assessment of specific plans and projects. Noise/vibration e.g. due to impact piling, drilling, salmon fish counters present within or in close proximity to the river can create a barrier to shad migration. Land on both sides of the river in Newport is potentially highly contaminated. Contamination of the river can arise when this is disturbed e.g. as a result of development. Contamination can also arise from pollution events (which could be shipping or industry related). Barriers resulting from vibration, chemicals, low dissolved oxygen and artificially high sediment levels must be prevented at key times (generally March to June). ▪ **Invasive non-native plants** - are a detrimental impact on the water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. Giant hogweed, Himalayan balsam and Japanese knotweed should be actively managed to control their spread and hopefully reduce their extent in the SAC. ▪ **Artificially enhanced densities of other fish** - may introduce unacceptable competition or predation pressure and the aim should be to minimise these risks in considering any proposals for stocking. ▪ **External factors** - operating outside the SAC, may also be influential, particularly for the migratory fish and otters. For example, salmon may be affected by barriers to migration in the Severn Estuary, inshore fishing and environmental conditions prevailing in their north Atlantic feeding grounds. Otters may be affected by developments that affect resting and breeding sites outside the SAC boundary.

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Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. www.cardiff.gov.uk/ObjView.asp?Object_ID=9788 ▪ The Screening states that the most likely mechanism for the Preferred Strategy to have a significant effect on this site is through airborne pollution. HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/Environm]entAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ The Screening concludes that there is potential for significant effects on this site through discharge of sewerage, increased surface run-off and an increase in airborne pollutants.

Site Name: River Wye **Location Grid Ref: SO109369** **JNCC Site Code: UK0012642** **Size: 2234.89** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The River Wye rises on Plynlimon in the Cambrian Mountains and flows in a generally south-easterly direction to enter the Severn Estuary at Chepstow. The upper catchment comprises several large sub-catchments, including the Irfon on the generally infertile upland landscape in the north-west, the Ithon in the north-east often on more low-lying, fertile terrain and the Lugg in the east in a predominantly low-lying fertile landscape much of which lies within England. The underlying geology consists predominantly of impermeable, acidic rocks of Silurian and Ordovician age in the north-west and more permeable Devonian Old Red Sandstone with a moderate base status in the middle and lower catchment. This geology produces a generally low to moderate nutrient status and a low to moderate base-flow index, making the river characteristically flashy. The run-off characteristics and nutrient status are significantly modified by land use in the catchment, which is predominantly pastoral with some woodland and commercial forestry in the headwaters and arable in the lower catchment and the Lugg. The Wye catchment is divided between Wales and England; the river forms the border from south of Monmouth to Chepstow and to the east of Hay-on-Wye. Historically, the Wye is the most famous and productive river in Wales for Atlantic salmon *Salmo salar*, with high-quality spawning grounds and juvenile habitat in both the main channel and tributaries. The Wye salmon population is particularly notable for the very high proportion (around 75%) of multi sea winter (MSW) fish, a stock component which has declined sharply in recent years throughout the UK. This pattern has also occurred in the Wye, with a consequent marked decline in the population since the 1980s. However, the Wye salmon population is still of considerable importance in UK terms. The Atlantic salmon is the focus for much of the management activity carried out on the Wye. The relatively demanding water quality and spawning substrate quality requirements of this feature mean that reduction in diffuse pollution and siltation impacts is a high priority. The Wye also holds the densest and most well-established otter *Lutra lutra* population in Wales, representative of otters occurring in lowland freshwater habitats in the borders of Wales. The river has bank-side vegetation cover, abundant food supply, clean water and undisturbed areas of dense scrub suitable for breeding, making it particularly favourable as otter habitat. The population remained even during the lowest point of the UK decline, confirming that the site is particularly favourable for this species and the population likely to be highly stable. The site is considered one of the best in the UK for white-clawed crayfish

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	Austropotamobius pallipes. The tributaries are the main haven for the species, particularly at the confluences of the main river and the Edw, Dulas Brook, Sgithwen and Clettwr Brook. Other importance species supported by the River Wye are twaite shad, bullhead and river, sea and brook lamprey.
Qualifying Features	Annex I habitats primary reason for selection: ▪ Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation Annex I habitats qualifying feature: ▪ Transition mires and quaking bogs Annex II species primary reason for selection: ▪ White-clawed (or Atlantic stream) crayfish Austropotamobius pallipes ▪ Sea lamprey *Petromyzon marinus* ▪ Brook lamprey *Lampetra planeri* ▪ River lamprey *Lampetra fluviatilis* ▪ Twaite shad *Alosa fallax* ▪ Atlantic salmon *Salmo salar* ▪ Bullhead *Cottus gobio* ▪ Otter *Lutra lutra* Annex II Species qualifying feature: ▪ Allis shad *Alosa alosa*
Conservation Objectives	The ecological status of the watercourse is a major determinant of Favourable Condition Status for all features. The required conservation objective for the watercourse is defined below. **Conservation Objective for the watercourse**

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	▪ The capacity of the habitats in the SAC to support each feature at near-natural population levels, as determined by predominantly unmodified ecological and hydromorphological processes and characteristics, should be maintained as far as possible, or restored where necessary. ▪ The ecological status of the water environment should be sufficient to maintain a stable or increasing population of each feature. This will include elements of water quantity and quality, physical habitat and community composition and structure. It is anticipated that these limits will concur with the relevant standards used by the Review of Consents process given in Annexes 1-3. ▪ Flow regime, water quality and physical habitat should be maintained in, or restored as far as possible to, a near-natural state, in order to support the coherence of ecosystem structure and function across the whole area of the SAC. ▪ All known breeding, spawning and nursery sites of species features should be maintained as suitable habitat as far as possible, except where natural processes cause them to change. ▪ Flows, water quality, substrate quality and quantity at fish spawning sites and nursery areas will not be depleted by abstraction, discharges, engineering or gravel extraction activities or other impacts to the extent that these sites are damaged or destroyed. ▪ The river planform and profile should be predominantly unmodified. Physical modifications having an adverse effect on the integrity of the SAC, including, but not limited to, revetments on active alluvial river banks using stone, concrete or waste materials, unsustainable extraction of gravel, addition or release of excessive quantities of fine sediment, will be avoided. ▪ River habitat SSSI features should be in favourable condition. Where the SAC habitat is not underpinned by a river habitat SSSI feature, the target is to maintain the characteristic physical features of the river channel, banks and riparian zone. ▪ Artificial factors impacting on the capability of each species feature to occupy the full extent of its natural range should be modified where necessary to allow passage, eg. weirs, bridge sills, acoustic barriers. ▪ Natural factors such as waterfalls, which may limit, wholly or partially, the natural range of a species feature or dispersal between naturally isolated populations, should not be modified. ▪ Flows during the normal migration periods of each migratory fish species feature will not be depleted by

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	abstraction to the extent that passage upstream to spawning sites is hindered. ▪ Flow objectives for assessment points in the Wye Catchment Abstraction Management Strategy will be agreed between EA and CCW as necessary. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 1 of this document. ▪ Levels of nutrients, in particular phosphate, will be agreed between EA and CCW for each Water Framework Directive water body in the Wye SAC, and measures taken to maintain nutrients below these levels. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 2 of this document. ▪ Levels of water quality parameters that are known to affect the distribution and abundance of SAC features will be agreed between EA and CCW for each Water Framework Directive water body in the Wye SAC, and measures taken to maintain pollution below these levels. It is anticipated that these limits will concur with the standards used by the Review of Consents process given in Annex 3 of this document. ▪ Potential sources of pollution not addressed in the Review of Consents, such as contaminated land, will be considered in assessing plans and projects. ▪ Levels of suspended solids will be agreed between EA and CCW for each Water Framework Directive water body in the Wye SAC. Measures including, but not limited to, the control of suspended sediment generated by agriculture, forestry and engineering works, will be taken to maintain suspended solids below these levels. **Conservation Objective for Features 1-5:** - **Sea lamprey** *Petromyzon marinus*; - **Brook lamprey** *Lampetra planeri*; - **River lamprey** *Lampetra fluviatilis*; - **Twaite shad** *Alosa fallax*; - **Allis shad** *Alosa alosa*; - **Atlantic salmon** *Salmo salar*; - **Bullhead** *Cottus gobio*.

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	Vision for features 1-5 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The conservation objective for the water course as defined in 4.1 above must be met. ▪ The population of the feature in the SAC is stable or increasing over the long term. ▪ The natural range of the feature in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches where predominantly suitable habitat for each life stage exists over the long term. Suitable habitat is defined in terms of near-natural hydrological and geomorphological processes and forms eg. suitable flows to allow upstream migration, depth of water and substrate type at spawning sites, and ecosystem structure and functions eg. food supply. Suitable habitat need not be present throughout the SAC but where present must be secured for the foreseeable future. Natural factors such as waterfalls may limit the natural range of individual species. Existing artificial influences on natural range that cause an adverse effect on site integrity, such as physical barriers to migration, will be assessed in view of the following bullet point. ▪ There is, and will probably continue to be, a sufficiently large habitat to maintain the feature's population in the SAC on a long-term basis. Performance indicators for features 1-5 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the River Wye Management Plan. **Conservation Objective for Feature 6:** **- European otter** *Lutra lutra*

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	Vision for feature 6 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The population of otters in the SAC is stable or increasing over the long term and reflects the natural carrying capacity of the habitat within the SAC, as determined by natural levels of prey abundance and associated territorial behaviour. ▪ The natural range of otters in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches that are potentially suitable to form part of a breeding territory and/or provide routes between breeding territories. The whole area of the Wye SAC is considered to form potentially suitable breeding habitat for otters. The size of breeding territories may vary depending on prey abundance. The population size should not be limited by the availability of suitable undisturbed breeding sites. Where these are insufficient they should be created through habitat enhancement and where necessary the provision of artificial holts. No otter breeding site should be subject to a level of disturbance that could have an adverse effect on breeding success. Where necessary, potentially harmful levels of disturbance must be managed. ▪ The safe movement and dispersal of individuals around the SAC is facilitated by the provision, where necessary, of suitable riparian habitat, and underpasses, ledges, fencing etc at road bridges and other artificial barriers. Performance indicators for feature 6 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the River Wye Management Plan. **Conservation Objective for Feature 7:** **- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation**

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	Vision for feature 7 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The conservation objectives for the water course as defined above must be met. ▪ The natural range of the plant communities represented within this feature should be stable or increasing in the SAC. The natural range is taken to mean those reaches where predominantly suitable habitat exists over the long term. Suitable habitat and associated plant communities may vary from reach to reach. Suitable habitat is defined in terms of near-natural hydrological and geomorphological processes and forms eg. depth and stability of flow, stability of bed substrate, and ecosystem structure and functions eg. nutrient levels, shade. Suitable habitat for the feature need not be present throughout the SAC but where present must be secured for the foreseeable future, except where natural processes cause it to decline in extent. ▪ The area covered by the feature within its natural range in the SAC should be stable or increasing. ▪ The conservation status of the feature's typical species should be favourable. The typical species are defined with reference to the species composition of the appropriate JNCC river vegetation type for the particular river reach, unless differing from this type due to natural variability when other typical species may be defined as appropriate. Performance indicators for feature 7 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the River Wye Management Plan. **Conservation Objective for Feature 8:** **- White-clawed crayfish *Austropotamobius pallipes***

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	Vision for feature 8 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The conservation objective for the water course as defined in 4.1 above must be met. ▪ The population of the feature in the SAC is stable or increasing over the long term. ▪ The natural range of the feature in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future. The natural range is taken to mean those reaches where predominantly suitable habitat for each life stage exists over the long term. Suitable habitat is defined in terms of near-natural hydrological and geomorphological processes and forms e.g. substrate type, water hardness and temperature, and ecosystem structure and functions e.g. food supply, absence of invasive non-native competitors. Suitable habitat need not be present throughout the SAC but where present must be secured for the foreseeable future. Natural factors such as waterfalls may limit the natural range of individual species. Existing artificial influences on natural range that cause an adverse effect on site integrity will be assessed in view of the objective below. ▪ There is, and will probably continue to be, a sufficiently large habitat to maintain the feature's population in the SAC on a long-term basis. Performance indicators for feature 8 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the River Wye Management Plan. **Conservation Objective for Feature 9:** **- Quaking bogs and transition mires**

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	Vision for feature 9 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The conservation objective for the water course as defined in 4.1 above must be met. ▪ The natural range of the plant communities represented within this feature should be stable or increasing in the SAC. The natural range is taken to mean those reaches where near-natural hydrological and geomorphological processes and landforms favour the development of this habitat. The feature need not be present in all suitable locations in the SAC but where present must be secured for the foreseeable future. ▪ The area covered by the feature within its natural range in the SAC should be stable or increasing. ▪ The conservation status of the feature's typical species should be favourable. The typical species are defined with reference to the species composition of the appropriate NVC type(s), unless differing from this type due to natural variability/local distinctiveness when other typical/indicator species may be defined as appropriate. Performance indicators for feature 9 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the River Wye Management Plan.
Component SSSIs	The site has been divided into management units to enable practical communication about features, objectives, and management. This will also allow us to differentiate between the different designations where necessary. In this plan the management units have been based on the following: ▪ SSSI boundaries

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- Natural hydromorphology, where there are significant differences in management issues/key features between reaches
- Units partly within England coincide with Natural England's equivalent units, as far as is practicable
- The units include one or more of EA's River Basin Management Plan water bodies; as far as is practicable, unit boundaries coincide with these water body boundaries.

The component SSSIs and management units that comprise to form the River Wye SAC are:

- **River Wye (Lower Wye) SSSI - Management units 1A to 1D;**
  - Twaite shad spawn in Unit 1C & possibly in 1D and migrate through Units 1A & 1B, where they may be subject to disturbance impacts, so are selected as key features in all units. Sea and river lamprey migrate though all units and may spawn.
  - Management for twaite shad and sea lamprey is expected to also be sympathetic for Atlantic salmon, river/brook lamprey and bullhead.
  - Specific management measures for otter relating to adjacent habitats and disturbance require its selection as a key feature in all units.
  - The status of allis shad is uncertain in River Wye (Lower Wye) SSSI. It is assumed to be present in the same units as twaite shad.
  - White-clawed crayfish have been recorded in the River Wye at Hay-on-Wye and in adjacent tributaries including Clyro Brook and Dulas Brook.
- **River Wye (Upper Wye) SSSI - Management units 2A & 2B;**
  - Atlantic salmon is a key feature in Unit 2B due to the presence of spawning sites, although salmon may occasionally also spawn within Unit 2A.
  - Twaite shad is recorded spawning throughout Unit 2A but only infrequently upstream of the River Irfon confluence.
  - The status of Allis shad is uncertain in the River Wye SAC. Allis shad is assumed to be present in the same units as twaite shad, but normally migrates further upstream and therefore would be expected to occur in the upper river.
  - Sea lamprey is frequently recorded spawning within Unit 2A; spawning has also been recorded within

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	Unit 2B as far upstream as Rhayader. o Management for Atlantic salmon, twaite shad and sea lamprey is expected to be sympathetic for river/brook lamprey and bullhead. o Specific management measures for otter relating to adjacent habitats and disturbance require its selection as a key feature in all units. ▪ **River Wye (Tributaries) SSSI - Management unit 3;** o The tributaries included in this SSSI form the core range of the white-clawed crayfish in the River Wye SAC. o Atlantic salmon spawn in all tributaries within this SSSI although in the Sgithwen and Cletwr their natural range is limited to the lower reaches by waterfalls. o Twaite shad, allis shad and sea lamprey are thought not to occur within this SSSI. ▪ **Afon Llynfi SSSI - Management unit 4;** o An important population of white-clawed crayfish occurs in this SSSI. o Twaite shad, allis shad and sea lamprey are not known to occur within this SSSI but habitat in the lower reaches may possibly be suitable. ▪ **Duhonw SSSI - Management unit 5;** o An important population of white-clawed crayfish formerly occurred in this SSSI; restoration of the species here is a management objective. o Twaite shad, allis shad and sea lamprey are thought not to occur within this SSSI. ▪ **Afon Irfon SSSI - Management unit 6;** o Small populations of white-clawed crayfish are known to occur in the rivers Hafrena and Chwefri in this SSSI; restoration of the species here and to parts of its former range including the Garth Dulas is a management objective. o Twaite shad is frequently recorded spawning in the lowest approximately 0.6km of the Afon Irfon and at the confluence with the River Wye. o The status of Allis shad is uncertain in the River Wye SAC. Allis shad is assumed to be present in the same units as twaite shad, but normally migrates further upstream and therefore would be expected to occur in the upper river.

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	○ Sea lamprey is reported spawning within the Afon Irfon. ○ Atlantic salmon is recorded spawning throughout this SSSI but reproductive success is limited in parts of the upper Afon Irfon and Gwesyn due to acidification related to forestry. ▪ **River Ithon SSSI - Management unit 7;** ○ White-clawed crayfish has been recorded in this SSSI, including in Howey Brook, however its restoration to this sub-catchment is not a current management objective. ○ Twaite shad, allis shad and sea lamprey are not known to occur within this SSSI but habitat in the lower reaches may possibly be suitable. ▪ **Upper Wye Tributaries SSSI - Management unit 8; and** ○ This SSSI forms an important part of the spawning range of Atlantic salmon. ▪ **Colwyn Brook Marshes (North & South) SSSI - Management units 9A to 9G & 10A & 10E.** ○ This is the only component SSSI of the River Wye SAC that contains the feature 'quaking bogs and transition mires'. ○ The site comprises 5 separate ownership units. Note: a number of smaller SSSI have part of their area included within the River Wye SAC. These are not all included separately here, but management actions for adjacent SAC units also apply to these sites. Maps containing the component SSSIs and management units can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	The **ecological structure and functions of the site are dependent on hydrological and geomorphological processes** (often referred to as hydromorphological processes), as well as the quality of riparian habitats and connectivity of habitats. Animals that move around and sometimes leave the site, such as migratory fish and otters, may also be affected by factors operating outside the site. ▪ **Hydrological processes** in particular river flow (level and variability) and water chemistry, determine a range of habitat factors of importance to the SAC features, including current velocity, water depth, wetted area, substrate quality, dissolved oxygen levels and water temperature. Maintenance of both high 'spate'

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	flows and base-flows is essential. Reductions in flow may reduce the ability of the adult migratory fish to reach spawning sites. Water-crowfoot vegetation thrives in relatively stable, moderate flows and clean water. The flow regime should be characteristic of the river in order to support the functioning of the river ecosystem. ▪ **Geomorphological processes** of erosion by water and subsequent deposition of eroded sediments downstream create the physical structure of the river habitats. While some sections of the river are naturally stable, especially where they flow over bedrock, others undergo continual and at times rapid change through the erosion and deposition of bed and bank sediments as is typical of meandering sections within floodplains (called 'alluvial' rivers). These processes help to sustain the river ecosystem by allowing a continued supply of clean gravels and other important substrates to be transported downstream. In addition, the freshly deposited and eroded surfaces, such as shingle banks and earth cliffs, enable processes of ecological succession to begin again, providing an essential habitat for specialist, early-successional species. Processes at the wider catchment scale generally govern processes of erosion and deposition occurring at the reach scale, although locally factors such as the effect of grazing levels on riparian vegetation structure may contribute to enhanced erosion rates. In general, management that interferes with natural geomorphological processes, for example preventing bank erosion through the use of hard revetments or removing large amounts of gravel, are likely to be damaging to the coherence of the ecosystem structure and functions. ▪ **Riparian habitats** including bank sides and habitats on adjacent land, are an integral part of the river ecosystem. Diverse and high quality riparian habitats have a vital role in maintaining the SAC features in a favourable condition. The type and condition of riparian vegetation influences shade and water temperature, nutrient run-off from adjacent land, the availability of woody debris to the channel and inputs of leaf litter and invertebrates to support in-steam consumers. Light, temperature and nutrient levels influence in-stream plant production and habitat suitability for the SAC features. Woody debris is very important as it provides refuge areas from predators, traps sediment to create spawning and juvenile habitat and forms the base of an important aquatic food chain. Otters require sufficient undisturbed

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	riparian habitat for breeding and resting sites. It is important that appropriate amounts of tree cover, in general at least 50% high canopy cover, tall vegetation and other semi-natural habitats are maintained on the riverbanks and in adjacent areas, and that they are properly managed to support the SAC features. This may be achieved for example, through managing grazing levels, selective coppicing of riparian trees and restoring adjacent wetlands. In the urban sections the focus may be on maintaining the river as a communication corridor but this will still require that sufficient riparian habitat is present and managed to enable the river corridor to function effectively. Overhanging trees provide valuable shade and food sources for Atlantic salmon whilst tree root systems provide important cover and flow refuges for juveniles. Bullheads are particularly associated with woody debris in lowland reaches, where it is likely that it provides an alternative source of cover from predators and floods. It may also be used as an alternative spawning substrate. Debris dams and woody debris should be retained where characteristic of the river/reach. Woody debris removal should be minimised, and restricted to essential activities such as flood defence. ▪ **Habitat connectivity** is an important property of river ecosystem structure and function. Many of the fish that spawn in the river are migratory, depending on the maintenance of suitable conditions on their migration routes to allow the adults to reach available spawning habitat and juvenile fish to migrate downstream. For resident species, dispersal to new areas, or the prevention of dispersal causing isolated populations to become genetically distinct, may be important factors. Naturally isolated feature populations that are identified as having important genetic distinctiveness should be maintained. In all river types, artificial barriers should be made passable. Physical modification of barriers is required where depth/velocity/duration of flows is unsuitable to allow passage. Complete or partial natural barriers to potentially suitable spawning areas should not be modified or circumvented. Certain areas of the SAC are critical to the movement of otters both within the system and to adjacent sites. The Wye SAC provides a key movement corridor for otters passing between the relatively high densities in mid Wales and the south-east Wales coastal strip (Seven Estuary and Gwent Levels). The function of this aspect of the site should be protected through the maintenance of suitable resting sites (in terms of size, quality and levels of disturbance) through urban centres such as Monmouth. Connectivity should be maintained, or restored

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	where necessary, as a means to ensure access for the features to sufficient habitat within the SAC. ▪ **External factors** operating outside the SAC, may also be influential, particularly for the migratory fish and otters. For example, salmon may be affected by barriers to migration in the Severn Estuary, inshore fishing and environmental conditions prevailing in their north Atlantic feeding grounds. Otters may be affected by developments that affect resting and breeding sites outside the SAC boundary.
SAC Condition Assessment	**Conservation status of Feature 1: Sea lamprey *Petromyzon marinus*** Conservation status (2006) Status within the site: **Favourable: Unclassified**. Sea lamprey monitoring showed that overall catchment mean ammocoete density considerably exceeded the JNCC target threshold and also complied with targets for spawning site and ammocoete distribution. Sea lamprey ammocoetes were recorded in good numbers immediately upstream of the falls at Rhayader, their most upstream recorded site on the main Wye. They were also recorded in the Irfon and Ithon tributaries. **Conservation status of Feature 2: Brook lamprey Lampetra planeri and River lamprey *Lampetra fluviatilis*** Conservation status (2006) Status within the site: **Favourable: Unclassified**. Brook/river lamprey monitoring showed that overall catchment mean ammocoete density considerably exceeded the JNCC target threshold. However, Lampetra ammocoetes were recorded at only 30 of the 54 sample sites (56%) thus failed to meet the criterion of presence at least two thirds of sites within their natural range. Consequently, the feature may be in unfavourable condition. Further clarification is needed concerning a number of sample sites in the upper reaches (Upper Wye and Elan), which may reflect unsuitable habitat and be outside the natural ranges of the species.

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	It has not been possible to distinguish between these two species during monitoring, due to the reliance on juvenile stages (ammocoetes). Anecdotal evidence suggests that both species are likely to be present in many reaches, though brook lamprey are expected to predominate in the headwaters and river lamprey may be the more abundant species in the main channel and the lower reaches of larger tributaries. More information on the relative abundance of these two species in different parts of the Wye SAC is desirable. Records of spawning adult river lamprey would be particularly useful. **Conservation status of Feature 3: Twaite shad *Alosa fallax* and Allis shad *Alosa alosa*** Conservation status (2006) Status within the site: **Unfavourable: Unclassified**. Physical barriers to migration are a major cause of unfavourable status of these species in Europe as a whole; however, there are not thought to be any significant barriers to shad migration in the Wye. The current unfavourable status results from a precautionary assessment of feature abundance, and from the presence of adverse factors, in particular the potential for damaging flow depletion and entrainment/impingement in water intakes. **Conservation status of Feature 4: Atlantic salmon *Salmo salar*** Conservation status (2006) Status within the site: **Unfavourable: Unclassified**. The current unfavourable status results from failure of the Management Target for adult run size as well as a

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	precautionary assessment of juvenile distribution and abundance and the presence of adverse factors, in particular the potential for flow depletion and localised water quality failures. Acidification due to forestry is a factor in the upper reaches of the Wye and Irfon. **Conservation status of Feature 5: Bullhead *Cottus gobio*** Conservation status (2006) Status within the site: **Unfavourable: Unclassified**. The current unfavourable status results from the presence of adverse factors, in particular localised water quality failures. Records obtained from juvenile salmon monitoring show that bullhead are widespread in the main river and tributaries. Quantitative information on bullhead abundance is being provided through targeted monitoring. **Conservation status of Feature 6: European otter *Lutra lutra*** Conservation status (2006) Status within the site: **Unfavourable**. The conservation status of otters in the Wye SAC is determined by monitoring their distribution, breeding success, and the condition of potential breeding and feeding habitat as outlined in the Performance Indicators. Their current condition is considered unfavourable due a lack of suitable breeding sites around the middle reaches of the river. **Conservation status of Feature 7: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation** Conservation status (2006) Status within the site: **Unfavourable: Declining**. The present unfavourable status of the feature results from

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	declining water quality in some tributaries of the Wye e.g. parts of the Ithon and Llynfi sub-catchments, due mainly to diffuse pollution from agriculture. A further adverse factor is the over-abundance of invasive non-native species of bankside plant communities, which are included within the feature definition. Japanese knotweed and Himalayan balsam are widespread in the catchment, including the Irfon sub-catchment. **Conservation status of Feature 8: White-clawed crayfish *Austropotamobius pallipes*** Conservation status (2006) Status within the site: **Unfavourable: Declining**. There is considerable anecdotal evidence of a major decline in the distribution and abundance of the native white-clawed crayfish in the Wye catchment over the last few decades. Native crayfish may have been lost from the main river channel, from tributaries such as the Duhonw and Ithon and have almost disappeared from the Afon Irfon. Significant populations within the Wye SAC are now confined to the Sgithwen, Cletwr, Edw, Llynfi Dulas and Builth Road Dulas. The most recent assessment of the condition of crayfish in the Wye SAC, using modified Common Standards Monitoring techniques, found that populations are unfavourable.
Vulnerabilities (includes existing pressures and trends)	▪ **Abstraction levels -** entrainment in water abstractions directly impacts on species population dynamics through reduced recruitment and survival rates. The impact of flow depletion resulting from a small number of major abstractions was highlighted in the Review of Consents process. As a result of this process, flow targets have been set which are considered likely to significantly reduce or remove the potential impacts on SAC features. ▪ **Eutrophication** - factors that are important to the favourable conservation status of this feature include flow, substrate quality and water quality, which in turn influence species composition and abundance. These factors often interact, producing unfavourable conditions by promoting the growth of a range of algae

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	and other species indicative of eutrophication. Under conditions of prolonged low flows and high nutrient status, epiphytic algae may suppress the growth of aquatic flowering plants. ▪ **Diffuse Pollution** - in the Wye catchment the most significant sources of diffuse pollution and siltation are from agriculture, including fertiliser run-off, livestock manure, silage effluent and soil erosion from ploughed land. The most intensively used areas such as heavily trampled gateways and tracks can be especially significant sources of polluting run-off. Preventative measures can include surfacing of tracks and gateways, moving feeding areas, and separating clean and dirty water in farmyards. Farm operations should avoid ploughing land which is vulnerable to soil erosion or leaving such areas without crop cover during the winter. Among toxic pollutants, sheep dip and silage effluent present a particular threat to aquatic animals in this predominantly rural area. Contamination by synthetic pyrethroid sheep dips, which are extremely toxic to aquatic invertebrates, has a devastating impact on crayfish populations and can deprive fish populations of food over large stretches of river. These impacts can arise if recently dipped sheep are allowed access to a stream or hard standing area, which drains into a watercourse. Pollution from organophosphate sheep dips and silage effluent can be very damaging locally. Pollution from slurry and other agricultural and industrial chemicals, including fuels, can kill all forms of aquatic life. All sheep dips and silage, fuel and chemical storage areas should be sited away from watercourses or bunded to contain leakage. Recently dipped sheep should be kept off stream banks. Discharges from sewage treatment works, urban drainage, engineering works such as road improvement schemes, contaminated land, and other domestic and industrial sources can also be significant causes of pollution, and must be managed appropriately. Used dip should be disposed of strictly in accordance with Environment Agency Regulations and guidelines. Statutory and voluntary agencies should work closely with landowners and occupiers to minimise the risk of any pollution incidents and enforce existing regulations. Measures to control diffuse pollution in the water environment, including 'Catchment Sensitive Farming', may be implemented as a result of the Water Framework Directive and, along with existing agri-

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	environment schemes, will help to achieve the conservation objectives for the SAC. Pollution of rivers with toxic chemicals, such as PCBs, was one of the major factors identified in the widespread decline of otters during the last century. There should be no increase in pollutants potentially toxic to otters. ▪ **Barriers to migration** - Artificial obstructions including weirs and bridge sills can reduce connectivity for some species. In addition, reaches subject to depleted flow levels, pollution, or disturbance due to noise, vibration or light, can all inhibit the movement of sensitive species. The dispersal of semi-terrestrial species, such as the otter, can be adversely affected by structures such as bridges under certain flow conditions, therefore these must be designed to allow safe passage. ▪ **Development pressure** - can cause temporary physical, acoustic, chemical and sediment barrier effects that need to be addressed in the assessment of specific plans and projects. Noise/vibration eg. due to impact piling, drilling, salmon fish counters present within or in close proximity to the river can create a barrier to shad migration. Barriers resulting from vibration, chemicals, low dissolved oxygen and artificially high sediment levels must be prevented at key times. Engineering works such as bridge repairs in reaches where white-clawed crayfish are known to occur should include appropriate pollution prevention measures and a crayfish rescue by a suitably licensed person where there is a risk of physical damage to crayfish. ▪ **Invasive and non-native species** - are a detrimental impact on the water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. Giant hogweed, Himalayan balsam and Japanese knotweed should be actively managed to control their spread and hopefully reduce their extent in the SAC. The American signal crayfish is present in the Wye catchment and poses a very serious threat to the continued existence of the native white-clawed crayfish in the site and in Wales. Native crayfish are unable to co-exist where signal crayfish are present, due to the latter's superior competitive ability and a disease, crayfish plague, which it carries but to which native crayfish have no immunity. American signal crayfish and crayfish plague are widespread and abundant in nearby catchments such as the Lugg, Arrow and Severn. Crayfish plague can be transferred to streams on wet fishing gear, boots, canoes, machinery, stocked fish etc., so measures such as raising awareness, disinfection facilities and

Site Name: River Wye Location Grid Ref: SO109369 JNCC Site Code: UK0012642 Size: 2234.89 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	where appropriate restrictions on access, should be implemented where a significant risk is identified. Signal crayfish are also extremely harmful to fish communities and the overall ecology of the river. It is illegal to release non-native crayfish into the wild, to keep live crayfish in most of Wales or to trap crayfish without a licence from the Environment Agency. Bullhead densities have been found to be negatively correlated with densities of non-native crayfish, suggesting competitive and/or predator-prey interactions. Non-native crayfish should be absent from the SAC. ▪ **Artificially enhanced densities of other fish** - may introduce unacceptable competition or predation pressure and the aim should be to minimise these risks in considering any proposals for stocking. A small-scale salmon rearing and stocking programme is currently in operation in the Wye, run by the Wye and Usk Foundation. The management objectives for SAC salmon populations are to attain naturally self-sustaining populations. Salmon stocking should not be routinely used as a management measure. Salmon stocking represents a loss of naturalness and, if successful, obscures the underlying causes of poor performance (potentially allowing these risks to perpetuate). It carries various ecological risks, including the loss of natural spawning from broodstock, competition between stocked and naturally produced individuals, disease introduction and genetic alterations to the population. Therefore, there is a presumption that salmon stocking in the Wye SAC will be phased out over time. The presence of artificially high densities of salmonids and other fish will create unacceptably high levels of predatory and competitive pressure on juvenile and adult bullhead. Stocking of fish should be avoided in the SAC. ▪ **External factors** - operating outside the SAC, may also be influential, particularly for the migratory fish and otters. For example, salmon may be affected by barriers to migration in the Severn Estuary, inshore fishing and environmental conditions prevailing in their north Atlantic feeding grounds. Otters may be affected by developments that affect resting and breeding sites outside the SAC boundary.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken	HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008.

Site Name: River Wye **Location Grid Ref: SO109369** **JNCC Site Code: UK0012642** **Size: 2234.89** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
that address this site	http://www.torfaen.gov.uk/Environm]entAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ The screening concludes that due to the distance between the SAC and Torfaen (approximately 30-35km) it is considered that the LDP is unlikely to have any significant effects on this SAC. Increases in airborne pollution could potentially have effects on particular habitats but this impact is considered negligible.

Site Name: Sugar Loaf Woodlands **Location Grid Ref: SO295166** **JNCC Site Code: UK0030072** **Size: 173.84** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Sugar Loaf Woodlands are the largest example of old sessile oak woods near the south-eastern fringe of the habitat's range in the UK and Europe. The relatively dry situation restricts the development of the Atlantic flora associated with the habitat, but the main floristic components of sessile oak *Quercus petraea* canopy, acidic ground flora (typically of bilberry *Vaccinium myrtillus* and wavy hair-grass *Deschampsia flexuosa*) and extensive fern and bryophyte cover are in place. The woodland is grazed, but regenerates within gaps and at the fringes, where transitions to upland grassland and heath communities occur. The woodland also supports a smaller area of beech woodland and a large colony of red wood ants, which are more commonly found in southern and eastern Britain.
Qualifying Features	Annex I Habitats qualifying feature: ▪ Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
Conservation Objectives	**Conservation Objective for Feature:** **Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles** Vision for feature: The vision for this feature is for it to be in favourable conservation status within the site, as a functioning and regenerating* oak wood, where all of the following conditions are satisfied: ▪ The wooded area is no less than 122 ha; ▪ The remainder of the site is semi-natural acid grassland, heathland, bracken and scrub, often forming a transition zone at the woodland edge; ▪ Saplings of birch betula spp, oak Quercus petraea, alder Alnus glutinosa or holly Ilex aquifolium dominate the tree regeneration; ▪ Young beech Fagus sylvatica and sycamore Acer pseudoplatanus trees are rare;

Site Name: Sugar Loaf Woodlands **Location Grid Ref: SO295166** **JNCC Site Code: UK0030072** **Size: 173.84** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ The woodland ground flora is composed of a range of typical native plants including bilberry Vaccinium myrtillus, wavy-hair grass Deschampsia flexuosa and the mosses Plagiothecium undulatum, Rhytidiadelphus loreus, Dicranum majus. ▪ The liverwort Bazzania trilobata to continue to be present in its core area of Unit 1. ▪ All factors affecting the achievement of these conditions will under control. *A "functioning and regenerating oak woodland" would include all the positive attributes described in the performance indicators. Performance indicators for Feature The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Sugar Loaf Woodlands Management Plan.
Component SSSIs	▪ Sugar Loaf Woodlands SSSI The site has been divided into 4 management units. A map of these units can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	Canopy regeneration is a key attribute for signifying the functioning, habitat quality and sustainability of most woodland types, including sessile oak woods. ▪ **Grazing regime** - The grazing within all 4 units has suppressed the regeneration of native woody species and in combination with past coppicing has resulted in a uniform age structure. The areas of Sugarloaf woodlands not subjected to continuous grazing appear to become densely populated with saplings of all species. This may demonstrate that the main factor restricting natural regeneration of woody species in

Site Name: Sugar Loaf Woodlands Location Grid Ref: SO295166 JNCC Site Code: UK0030072 Size: 173.84 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	Sugar Loaf Woodlands is grazing and that current grazing levels are incompatible with sustainable semi-natural woodland at this site. Liaison between owners/commoners is needed to discuss possible means of managing grazing to encourage natural regeneration in the woodland areas, including possible agreements to fence all new and some existing canopy gaps. Most of Unit 4 is already fenced and stock free and regeneration is now taking place, though some periodic grazing may be required to control bramble. ▪ **Manage non-native species** (Tree/shrub) - if necessary control the spread of non-native species (principally beech) through a programme of selective removal of saplings to ensure no further trees get into the canopy. Non-native beech trees can be accepted as part of the canopy in the short to medium term. Consequently, the limits need only be met in 75% of existing woodland. The upper limits are 5% cover of non-native trees in the canopy and no beech (or other invasive non-native shrubs) in the understorey or shrub layer. The conservation objectives state that the canopy should be composed of locally native trees and, apart from a beech woodland area within Unit 1, the canopy of Sugar Loaf Woodlands is currently dominated by oak throughout. Where beech is present its seedlings tend to dominate the regeneration and without management to control these locally non-native seedlings further parts of the SAC feature will become unfavourable. ▪ **Manage woodland by thinning/small group felling** - Much of the woodland lacks structure due to past woodland management to remove timber. It is likely to be decades before a more natural woodland structure can develop. Trees could be thinned to create a more uneven age structure or open gaps in the canopy when an appropriate means of controlling grazing levels have been identified and all dead/felled timber to be left in situ. This is already taking place in Unit 4 but elsewhere the grazing regime may be unsuitable. ▪ **Increase amounts of deadwood** - Deadwood is present on the site, but much has been removed in the past. In future, the owners should be encouraged to leave as much dead wood as possible.

Site Name: Sugar Loaf Woodlands **Location Grid Ref: SO295166** **JNCC Site Code: UK0030072** **Size: 173.84** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ **Veteran trees** - Retain all veteran trees. ▪ **Manage bracken** - Bracken may require management where it is thought to be hindering successful regeneration, largely in the open areas and gaps. However, this needs to be balanced against the protection bracken offers for young saplings against browsing and its place as a key natural component of acidic woodlands. Together bracken and bramble should cover less than 75% of the woodland floor.
SAC Condition Assessment	**Conservation Status of Feature 1:** **Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles** Unfavourable (2007), due to: ▪ Grazing having a strong role in preventing some of the canopy regeneration and in creating a sparser ground flora; ▪ Some areas within the SAC/SSSI remain as open areas, especially on the fringe of the site. Whilst having some open areas is beneficial for a range of species, not all these open areas are of benefit to either the SAC or SSSI features; ▪ The even-aged and dense canopy in much of the wooded area. This is creating very densely shaded ground, field and shrub layers and is one of the barriers to regeneration of saplings and ground flora. However, more canopy gaps would be expected in the long term as the canopy trees die, or through storm damage in the more exposed parts of the site;
Vulnerabilities (includes existing pressures and trends)	▪ **Innapropriate grazing regime** - The grazing within all 4 units has suppressed the regeneration of native woody species and in combination with past coppicing has resulted in a uniform age structure. The areas of Sugarloaf woodlands not subjected to continuous grazing appear to become densely populated with

Site Name: Sugar Loaf Woodlands Location Grid Ref: SO295166 JNCC Site Code: UK0030072 Size: 173.84 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	saplings of all species. This may demonstrate that the main factor restricting natural regeneration of woody species in Sugar Loaf Woodlands is grazing and that current grazing levels are incompatible with sustainable semi-natural woodland at this site. ▪ **Non-native species** - Where beech is present its seedlings tend to dominate the regeneration and without management to control these locally non-native seedlings further parts of the SAC feature will become unfavourable. ▪ **Bracken encroachment** - can hinder successful regeneration in the open areas and gaps. However the bracken also offers protection for young saplings against browsing and its place as a key natural component of acidic woodlands. The accumulation of bracken litter on the common poses a fire risk in dry weather. Restrictions on public access could be considered, but it would be very difficult to control most incidents as they appear to be the result of children deliberately setting fires. Control of bracken in a buffer strip at the wood edges may be a more sensible consideration. ▪ **Air pollution*** - Airborne acid and nutrient deposition could be a particular problem for epiphytic lichens on the oak trees. o Acidification. o Eutrophication. o Photochemical oxidants. o Particulate matter.
Landowner/ Management Responsibility	▪ Unit 1 - National Trust (common) ▪ Unit 3 - National Trust (common)

* Air Pollution Information System (APIS). Oak Woodland. Available from: http://www.apis.ac.uk/cgi_bin/habitat_result.pl?habResult=Oak+woodland&choice=allHabs&haborspec=habitat&submit.x=23&submit.y=8

Site Name: Sugar Loaf Woodlands **Location Grid Ref: SO295166** **JNCC Site Code: UK0030072** **Size: 173.84** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ Unit 4 - National Trust (tenanted) The management units have been largely based on the three woodland blocks that make up the SAC and SSSI. The SAC feature is the same for each block of woodland and units 1& 3 are on the same common and so are under broadly the same management, but their geographical isolation from each other gives them the status of separate units. Unit 2 is a small privately owned and enclosed area within Unit 1. Unit 4 is on a farm in the Tir Gofal agri-environment scheme and so is easily separated from the other two units. Unit 3 includes one isolated area of woodland joined to the enclosed Unit 4, but on the common and so potentially under the same management regime as the rest of Unit 3.
HRA/AA Studies undertaken that address this site	HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ The screening states that the LDP will not have a direct impact on the site; however, it is identified that airborne acid and nutrient deposition may be a problem for this site. It concludes that given the distance of the site from the Torfaen boundary the effect that the LDP could have on the site is negligible.

Site Name: Usk Bat Sites **Location Grid Ref: SO190145** **JNCC Site Code: UK0014784** **Size: 1686.4** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The site encompasses a series of lesser horseshoe bat roosts, upland habitats, woodlands and cave systems located around the valley of the River Usk near to Abergavenny. Mynydd Llangatwg is an area of open moorland and bog, with an impressive limestone escarpment along the northeastern edge, and is one of the largest exposures of upland limestone crag in south Wales. The Craig y Cilau National Nature Reserve (NNR) covers a large proportion of this escarpment area, including most of the unquarried scarp, with areas of limestone grassland, scree and quarry spoil, woodland and scrub. A small raised bog (Waun Ddu) bordered by two small streams has developed below the escarpment. An extensive system of caves lies beneath Mynydd Llangatwg and the plateau is peppered with sinkholes. The main reason for the presence of the NNR is to help control and manage access to the cave system to protect the bat roosts and the underground geology and also the surface habitats, which support an outstanding assemblage of plants. Species include large and small-leaved lime, several species of whitebeam (including least whitebeam (*Sorbus minima*) which is unique to this area of Brecknock), limestone fern, endemic hawkweeds and alpine enchanter's-nightshade. The chasmophytic vegetation encompasses the various crevices, nooks and crannies on the cliffs, boulders and partially vegetated unstable slopes of the limestone escarpment. It supports a typical range of ferns, bryophytes and calcareous lichens; these include ferns such as maidenhair spleenwort, mosses like *Tortella tortuosa*, and liverworts like *Scapania aspera*. This site is known to support a number of notable lichen species and provides some of the best examples in the area of calcicolous lichen communities, which include the jelly lichen Collema cristatum and examples of lichen communities like the *Leproplacetum chrysodetae* and *Aspicilion calcarea*. Patches of Tileo-Acerion forest are also scattered along the length of the cliffs on Mynydd Llangatwg and intermixed with beechwood in the Clydach gorge. These areas also support a number of rare whitebeams (*Sorbus* spp.).

Site Name: Usk Bat Sites **Location Grid Ref: SO190145** **JNCC Site Code: UK0014784** **Size: 1686.4** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Qualifying Features	Annex I Habitats qualifying feature: ▪ European dry heaths ▪ Degraded raised bogs still capable of natural regeneration ▪ Blanket bogs* Priority feature ▪ Calcareous rocky slopes with chasmophytic vegetation ▪ Caves not open to the public ▪ Tilio-Acerion forests of slopes, screes and ravines* Priority feature Annex II Species primary reason for selection: ▪ Lesser horseshoe bat *Rhinolophus hipposideros*
Conservation Objectives	**Conservation Objective for Feature 1:** **Lesser Horseshoe Bat *Rhinolophus hipposideros*** Vision for Feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The site will support a sustainable population of lesser horseshoe bats in the River Usk area. ▪ The population will viable in the long term, acknowledging the population fluctuations of the species. ▪ Buildings, structures and habitats on the site will be in optimal condition to support the populations. ▪ Sufficient foraging habitat is available, in which factors such as disturbance, interruption to flight lines, and mortality from predation or vehicle collision, changes in habitat management that would reduce the available food source are not at levels which could cause any decline in population size or range ▪ Management of the surrounding habitats is of the appropriate type and sufficiently secure to ensure there is likely to be no reduction in population size or range, nor any decline in the extent or quality of breeding, foraging or hibernating habitat.

Site Name: Usk Bat Sites Location Grid Ref: SO190145 JNCC Site Code: UK0014784 Size: 1686.4 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	▪ There will be no loss or decline in quality of linear features (such as hedgerows and tree lines) which the bats use as flight lines - there will be no loss of foraging habitat use by the bats or decline in its quality, such as due to over-intensive woodland management ▪ All factors affecting the achievement of the above conditions are under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Usk Bat Sites Management Plan. **Conservation Objective for Feature 2:** **Blanket bog** Vision for Feature 2 ▪ The extent, quality and species richness of the blanket bog vegetation is maintained and, where possible, degraded bog is restored to good condition so that this habitat occupies its full potential range within the site. ▪ The bog vegetation is largely a mixture of dwarf shrubs, hare's-tail cottongrass and mosses, including bog-mosses. ▪ Extensive areas of purple moor-grass or hare's-tail cottongrass show signs of recovery towards a more mixed dwarf shrub sward. ▪ The natural hydrological regime is maintained and there is continued peat formation and thus carbon storage. ▪ Areas of bare peat are not extensive and most areas show signs of recovery. ▪ Peat profiles containing important pollen records are maintained. ▪ All factors affecting the achievement of the above conditions are under control.

Site Name: Usk Bat Sites Location Grid Ref: SO190145 JNCC Site Code: UK0014784 Size: 1686.4 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Usk Bat Sites Management Plan. **Conservation Objective for Feature 3:** **Tilio-Acerion forests of slopes, screes and ravines** Vision for Feature 3 The vision for this feature is for it to be in favourable conservation status within the site, as a functioning and regenerating ash woodland, where all of the following conditions are satisfied: ▪ There are extensive patches of semi-natural woodland on the cliffs of the Llangatwg escarpment and hillsides in the Clydach gorge. ▪ The woodland canopy is dominated by locally native species, including lime ash Fraxinus excelsior, Tilia spp., pedunculate oak Quercus robur, hazel Corylus avellana, birch Betula spp., whitebeams Sorbus spp. and, in the Clydach gorge, beech Fagus sylvatica. Rare whitebeams are a significant component of the canopy. ▪ Saplings of locally native species dominate the tree regeneration and there is evidence of sufficient regeneration to maintain the canopy in the long term. ▪ There is an accumulation of standing and fallen deadwood as the woodland develops. ▪ The woodland ground flora is composed of a range of typical native plants including enchanters-nightshade Circaea lutetiana, dog's-mercury Mercurialis perennis, wood-sorrel Oxalis acetosella, hart's-tongue Phyllitis scolopendrium and wood sage Teucrium scorodonia. ▪ The populations of rare whitebeams are stable or increasing. ▪ Young sycamore Acer pseudoplatanus trees are rare, as are beech Fagus sylvatica in areas away from the Clydach gorge.

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	▪ Plants indicating disturbance and nutrient enrichment, such as nettles, cleavers and weeds, are not dominant in the ground flora of the woodland. ▪ All factors affecting the achievement of the above conditions are under control. Performance indicators for Feature 3 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Usk Bat Sites Management Plan. **Conservation Objective for Feature 4:** **Calcareous rocky slopes with chasmophytic vegetation** Vision for Feature 4 ▪ Sufficient vegetation within crevices remains free from disturbance to support typical plants, including mosses, ferns and rare hawkweeds (Hieracium spp.) and allow them to sustain their populations into the future. ▪ Areas accessible to grazing animals should free from being smothered by ivy or heavily shaded by trees. ▪ All factors affecting the achievement of the above conditions are under control. Performance indicators for Feature 4 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Usk Bat Sites Management Plan. **Conservation Objective for Feature 5:** **Caves not open to the public**

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	Vision for Feature 5 ▪ The cave system provides a winter hibernation site for large numbers of lesser horseshoe bats and other bat species, including Brandt's, whiskered, Daubenton's, Natterer's, brown long-eared and, occasionally, greater horseshoe bats. ▪ Numbers of roosting bats are stable or increasing in the system as a whole. ▪ All factors affecting the achievement of the above conditions are under control. Also see the vision for lesser horseshoe bats. As outlined in the JNCC description of this feature, the cavernicolous fauna is considered to be impoverished throughout the UK and this feature is not a primary reason for selection of any SAC in the UK (www.jncc.gov.uk). There is however significant bat interest associated with many of the caves within this SAC, particularly Lesser Horseshoe Bat. Great Horseshoe Bat has also been recorded in very small numbers. Several other bat species are recorded, particularly from the genus Myotis, but their habit of hibernating deep within crevices in the caves (rather than hanging freely from the cave roof, like horseshoe species) makes them extremely difficult to record. Performance indicators for Feature 5 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Usk Bat Sites Management Plan. **Conservation Objective for Feature 6:** **Degraded raised bogs still capable of natural regeneration**

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	Vision for Feature 6 ▪ The extent, quality and diversity of raised bog vegetation is maintained and, where possible, restored to good condition, with active moss and peat growth across the raised bog surface. ▪ The vegetation consists of a mixture of dwarf shrubs, hare's-tail cottongrass, deergrass and bog mosses, grading at the edges into acid and alkaline flushes influenced by acidic water draining from the bog and springs rising in the limestone catchment. ▪ All factors affecting the achievement of the above conditions are under control. Performance indicators for Feature 6 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Usk Bat Sites Management Plan. **Conservation Objective for Feature 7:** **European dry heaths** Vision for Feature 7 ▪ The extent, quality and diversity of heath vegetation within the constituent sites is maintained and, where possible, degraded heath is restored to good condition. ▪ The main heathland areas have a varied age structure with a mosaic of young heath, mature heath and degenerate heath. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 7 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans

Site Name: Usk Bat Sites **Location Grid Ref: SO190145** **JNCC Site Code: UK0014784** **Size: 1686.4** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Usk Bat Sites Management Plan.
Component SSSIs	▪ Mynydd Llangatwg/ Mynydd Llangattock SSSI (units 1 to 15) ▪ Siambre Ddu SSSI (unit 19) ▪ Buckland Coach House & Ice House SSSI (unit 20) ▪ Foxwood SSSI (unit 21) The site has been divided into 21 management units of which units 1 to 15, 19, 20 and 21 comprise to form the Usk Bat Sites SAC. A map of the management units can be viewed on the CCW website.
Key Environmental Conditions (factors that maintain site integrity	**Key environmental conditions for the Lesser Horseshoe Bat:** **Buckland House Maternity Roost** ▪ Site security - Access to the site should be secured against unauthorized access ensuring doors, gates and security fences are in sound condition. ▪ External condition of building - Fabric of building sufficient to maintain roost conditions internally with: o Weatherproof roof. The roof covering materials (slates, tiles etc.) in weatherproof condition with no significant gaps, slippage or damage. o No holes large enough to allow soaking of roof timbers, excessive heat loss or high light levels in the roost area o Walls sound, rainwater goods in adequate condition. o The building is structurally stable. No significant deterioration in overall condition of the building. ▪ Roost entrance -buildings and underground sites: o Unobstructed roost entrance large enough for bats to fly through unimpeded. Normal minima: 300 x 200 mm. o No artificial lights shining on access or associated flight paths. ▪ External Disturbance - Disturbance levels acceptable to bats with:

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	○ No increase since previous visit. ○ Human access to roost controlled and limited. ▪ Internal condition of building/ underground site in roost area: ○ A vital element of the bats' behaviour involves extensive flight within a roost prior to emergence, which occurs shortly after dusk. Therefore the bats require fairly large open areas within the coach house roof and first floor voids to fly before they emerge. It is important that these areas are unobstructed and that the flying space (volume) is not significantly reduced. Areas used for pre-emergence flight should not be used for storage. ○ Low light levels with no through draught. ○ No toxic substances present, which would adversely affect the health of the bats (e.g. chemical timber treatment within inappropriate substances). ▪ Temperature of roost area: ○ Range of temperatures available to bats with mean temperature in July greater than 20°C ▪ Internal disturbance: ○ Human access to roost area controlled and limited. ○ Disturbance is kept to a minimum. **Hibernation Sites** ▪ Site entrance: ○ Existing entrances should be unobstructed. ○ No human-influenced new entrances causing a change to ventilation. ○ No change in size sufficient to affect airflow and internal temperature. ▪ External conditions of site: ○ Vegetation present close to entrance(s) but not obstructing it (them). ○ No artificial lights shinning on entrance(s). ▪ Internal conditions: ○ The temperature should remain constantly cool (8-12°C) and dark, once beyond the entrance zone. ○ No significant man-induced changes to ventilation or temperature regime.

Site Name: Usk Bat Sites Location Grid Ref: SO190145 JNCC Site Code: UK0014784 Size: 1686.4 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	o No toxic substances present (dumping of oil or other substances). ▪ Internal disturbance: o Human access to roost area controlled and limited (at Agen Allwedd the number of visitors is already controlled). Lesser horseshoe bats are very sensitive to disturbance and even the presence of a single person in close proximity can cause problems. Cavers and geologists should avoid areas where bats are likely to be disturbed during the winter months. Where there is a risk of disturbance by unauthorised persons, grilling the cave entrances should be considered. Any structures placed at cave entrances to prevent unauthorized access should not hinder the passage of bats. o Disturbance is kept to a minimum. **Foraging areas and links to roosts** ▪ Habitat Quality: o There should be no nett loss of suitable woodland, scrub and hedgerows within the SAC or adjoining areas used by the bats. Lesser horseshoe bats feed on flies (mainly midges), small moths, caddis flies, lacewings, beetles, small wasps and spiders. Suitable foraging habitat includes open broadleaved woodland, scrub, parkland, scrubby wetland and permanent pasture. Lesser horseshoe bats do not normally fly across open land and when foraging, remain close to wooded canopy. The insects they eat, though, may be derived from other unimproved insect rich habitat nearby. Management of foraging habitat should aim to maximise the amount of insect food as well as provide sufficient canopy cover to maximise opportunities for the bats to find their prey. ▪ Connectivity: o Connectivity of woodland, hedgerows, linear habitat and field boundary features should be maintained as lesser horseshoe bats tend to feed in wooded areas and use linear features to navigate their way between roosts and foraging habitat. Some management of woodlands and hedgerows and trees will be necessary to preserve these features in the landscape but such work should be carried out in a sensitive manner, particularly within the SAC itself, so as not to disrupt habitat continuity. Disturbance - Lesser horseshoe bats are very sensitive to disturbance and even the presence of a single person

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	in close proximity can cause problems. Light and noise pollution Habitat fragmentation **Key Environmental Conditions for the Blanket Bog:** ▪ **Drainage** - No new drainage ditches should be dug, and wherever possible old drainage ditches should be allowed to infill naturally. o There should be no evidence of new drains or major clearance of old drains or deepening of bog outlet streams. ▪ **Burning** - blanket bog should not normally be burnt, as burning is likely to damage important plant and animal species, especially bog mosses and invertebrates, and encourage the growth of rank species, like hare's-tail cottongrass; it can also result in erosion of the peat which can then cause water quality problems in cave system and adjacent reservoirs. Past unplanned or uncontrolled burning is likely to be at least partly responsible for the scarcity of bog-mosses in some areas. o No evidence of significant burning (patches larger than 1ha) in any areas of blanket bog. ▪ **Peat Erosion** - There is a natural cycle of peat erosion and deposition but the balance can be upset by burning, heavy grazing, pollution and vehicle damage. o The total extent of active erosion over a 5-year period should not exceed the total extent of areas showing signs of peat accumulation and re-vegetation. ▪ **Air quality** - No exceedence of critical loads for: o Sulphur dioxide – 20µg/m³ o Nitrous Oxides – 30µg/m³ o Ozone – 3000 ppb o ammonia – 1µg/m³ o N – 5-10 kg/ha/yr

Site Name: Usk Bat Sites Location Grid Ref: SO190145 JNCC Site Code: UK0014784 Size: 1686.4 Designation: SAC	Habitats Regulations Assessment: Data Proforma

- acid – 0.35keq/ha/yr

Monitoring stations located at grid location:
319097.79 214637.88

Key Environmental Conditions for the Tilio-Acerion forests of slopes, screes and ravines:

- **Grazing** - The greatest influence on the woodland, and its continued regeneration, is grazing. The present structure and species composition of the northern escarpment woodland, excluding the cliff ledges, is a result of natural regeneration. The cliff ledges are inaccessible to stock, have developed naturally and are not actively managed. In units 1 & 2, the woodland has developed on common land and parts are subject to high grazing levels by sheep. The woodland in units 5, 12 & 13 is now largely un-grazed and the ground flora is noticeably more luxuriant in these areas.
  - Grazing levels should be sufficient to allow regeneration in the long term.
  - On the common (units 1 & 2), maintain grazing at or below the current (2007) levels.
  - Un-grazed areas (unit 5, 12, 13) should remain un-grazed.

- **Woodland Management** - Natural ecological processes should be allowed to operate as far as possible. In many areas, these are gradually creating greater structural diversity. Most of the woodland on the site is not actively managed as the woodland occupies cliffs and steeply sloping ground, such that active woodland management is not a practical or desirable option
  - There should be no evidence of tree felling or coppicing within the past five years. (Tree surgery for safety reasons excluded).
  - Dead wood should ideally be left where it falls and standing dead trees should be allowed to fall naturally. Movement and cutting/tidying of dead wood should be avoided and/or limited, unless essential for public safety.

- **Non-native species** - Beech is at the edge of its range in this part of Wales. In units 5, 12 and 13 the beech wood appears to be natural, but the spread of beech over much of Units 1 & 2 may not be desirable, as it

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	would replace the ash woodland. Limits should be met in 70% of the woodland. o 5% cover of non-native trees in the canopy. o No cotoneaster (or other invasive non-native shrubs) in the understorey or shrub layer. **Key Environmental Conditions for the Calcareous rocky slopes with chasmophytic vegetation:** ▪ **Grazing** - Low grazing levels on the more accessible rocky areas in units 1 & 2 in are important in controlling the growth of ground-smothering species such as ivy, which have the potential to smother boulders and cliff faces that are important for their lower plant communities. Tree growth at the base of the cliffs may shade out important calcareous chasmophytic habitat, so should be controlled within limits outside the areas of agreed woodland. Surveillance of grazing levels and type should be maintained so that changes that may influence the features on the site are identified and recorded. o Sufficient grazing to prevent the development of scrub or spread of ivy and tall vegetation in units 1 & 2. ▪ **Rock Climbing** - Intensive rock climbing can dislodge plants and disturb breeding birds. These impacts may be avoided if climbing is subject to specific agreements, which include a code of conduct. o No rock climbing in the key areas of units 1 & 2 without agreement. ▪ **Quarrying** - any quarrying in the key areas of units 1 & 2 would lead to habitat loss. **Key Environmental Conditions for the Degraded raised bogs still capable of natural regeneration:** ▪ **Drainage** - See blanket bog above. ▪ **Grazing** - A way of reducing the grazing to acceptable levels must be found. A period without grazing will promote recovery, although some light grazing, ideally by cattle or ponies, will be required in the longer term to prevent the development of scrub or the dominating growth of dwarf shrubs or purple moor-grass. o Upper limits: Overall grazing pressure of 0.05 livestock units/ha/year on the bog area.

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	AND: o Minimal winter grazing. AND: o No stock feeding o Lower limit: Sufficient to prevent the establishment of trees and shrubs in the long term. ▪ **Burning** - will damage the feature and could encourage dominance by purple-moor grass if grazing is significantly reduced and result in a decline in the cover of bog mosses. At present there is generally insufficient vegetation to be burnt here. ▪ **Air quality** - See blanket bog above. **Key Environmental Conditions for the European dry heaths:** ▪ **Burning** - can be a useful management tool on the heathlands, provided that it forms part of an appropriate and controlled cycle of management. It is important to ensure that such management does not encourage the spread of bracken. o In areas subject to any burning plan, only a maximum of up to 15% of the total heathland area should be burnt in any one year. ▪ **Erosion/Bare Ground** - Is generally caused by uncontrolled fires (see above) or heavy trampling. o Upper Limit - 10% bare ground ▪ **Air Quality** - Increased cover of grasses and de-generate heather may be symptomatic of air pollution, as there is evidence that pollution makes heather plants more susceptible to damage by frost and heather beetles. The Environment Agency has set critical levels for these pollutants in relation to various types of vegetation. No critical loads are exceeded: o Sulphur dioxide - 20µg/m³

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	o Nitrous Oxides - 30µg/m³ o Ozone - 3000 ppb o Ammonia - 1µg/m³ o N - 10-20 kg/ha/yr o Acid - 0.35keq/ha/yr Monitoring station located at grid location: 319097.79 214637.88
SAC Condition Assessment	**Conservation Status of Feature 1:** **Lesser horseshoe bat *Rhinolophus hipposideros*** The conservation status of this feature within the site is considered to be **Favourable** (2006). Based on annual counts made at all locations between 2000 and 2006, the lesser horseshoe bat feature is considered to be in favourable condition. **Conservation Status of Feature 2:** **Blanket bog** The conservation status of this feature within the site is considered to be **Unfavourable** (2006). Assessment carried out in April 2002 indicated that feature condition was: Unfavourable, no change. In many areas there was little or no bog mosses and the cover of dwarf shrubs exceeded the upper limits defined. In other areas the vegetation was dominated by hare's-tail cottongrass and the cover of bog mosses was limited. Past grazing, burning and drainage activity means that some stands of blanket bog have been damaged by deep drainage. There is also concern that the vegetation is being damaged by atmospheric pollution, due to

Site Name: Usk Bat Sites Location Grid Ref: SO190145 JNCC Site Code: UK0014784 Size: 1686.4 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	exceedence of many of the critical loads identified for this feature. **Conservation Status of Feature 3:** **Tilio-Acerion forests of slopes, screes and ravines** The conservation status of this feature within the site is considered to be **Favourable** (2006). Assessment carried out in August 2004 indicated that feature condition was: Favourable, maintained. All the factors affecting the features appear to be under control. **Conservation Status of Feature 4:** **Calcareous rocky slopes with chasmophytic vegetation** The conservation status of this feature within the site is considered to be **Favourable** (2006). Assessment carried out in August 2004 indicated that feature condition was: Favourable, maintained. All the factors affecting the features appear to be under control. **Conservation Status of Feature 5:** **Caves not open to the public** The conservation status of this feature within the site is considered to be **Favourable** (2006). Based on records of made at all locations between 2000 and 2006, the feature condition is considered to be: Favourable, maintained. All the factors affecting the features appear to be under control. **Conservation Status of Feature 6:** **Degraded raised bogs still capable of natural regeneration**

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	The conservation status of this feature within the site is considered to be **Unfavourable** (2006). Assessment carried out in July 2002 indicated that feature condition was: Unfavourable, declining. The feature is currently (2007) too heavily grazed because the most of it is common land and because it is on the sheltered side of the hill, is subject to high levels of grazing, particularly by sheep. There is also concern that the vegetation is being damaged by atmospheric pollution, due to exceedence of many of the critical loads identified for this feature. **Conservation Status of Feature 7:** **European dry heaths** The conservation status of this feature within the site is considered to be **Unfavourable** (2006). Assessment carried out in April 2002 indicated that feature condition was: Unfavourable, no change. Past grazing and burning activity means that some stands of dry heath have insufficient cover of dwarf shrubs. There is also concern that the vegetation is being damaged by atmospheric pollution, due to exceedence of many of the critical loads identified for this feature.
Vulnerabilities (includes existing pressures and trends)	**Lesser Horseshoe bat:** ▪ **Deterioration of buildings used to roost** - Alterations/neglect to the structure of the buildings could result in the site becoming unsuitable as a nursery roost by causing changes to the internal conditions of the roost. ▪ **Disturbance** - It is important that access to the cave systems and roosts is managed to protect the bats. Lesser horseshoe bats are very sensitive to disturbance, such as light and noise pollution and even the presence of a single person in close proximity can cause problems. Where there is a risk of disturbance by unauthorised persons, grilling the cave entrances should be considered. Any structures placed at cave

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	entrances to prevent unauthorised access should not hinder the passage of bats. ▪ **Temperature change** - Underground hibernation roosts should be dark, cool and humid with stable temperature (8 -120C) beyond the entrance zone. However, the boulder roof of the Foxwood cave is gappy and internal temperatures are dependant on external temperatures, unlike the situation in many true caves. The consequence is that declining winter ambient temperature leads to a decline in roost temperature and in the colder winter months roost temperature falls below the required temperature range, triggering departures of bats to other unknown roosts. ▪ **Habitat fragmentation** - Development allocations pressures and transport development could lead to the loss or decline in quality of linear features (such as hedgerows and tree lines) which the bats use as flight lines. Connectivity of woodland, hedgerows, linear habitat and field boundary features are important as lesser horseshoe bats tend to feed in wooded areas and use linear features to navigate their way between roosts and foraging habitat. **Blanket bog**: ▪ **Air pollution** - High levels of air pollution are believed to be damaging and there may be combined effects. Increased cover of hare's-tail cottongrass and flat-topped bog-moss may be symptoms, as could increased levels of peat erosion. Blanket bogs are at risk from*: o Acidification; o Photochemical oxidants; o Direct toxicity; and o Eutrophication.

* Pollution Information System (APIS). Raised bog and blanket bog. Available from: http://www.apis.ac.uk/cgi_bin/habitat_result.pl?habResult=Raised+bog+and+blanket+bog&choice=allHabs&haborspec=habitat&submit.x=27&submit.y=9

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	▪ **Hydrological change** - the blanket bog has been subject to hydrological change as a result of past ditch construction to supply water to reservoirs. ▪ **Recreational activities** - Unauthorised vehicle use is a threat to the moorland areas. Bog vegetation is easily damaged and may take a long time to recover. Ground nesting birds may be disturbed during the breeding season. Although the common land within the site is subject to a right of public access on foot, such use does not appear to be so intensive as to cause habitat damage or significant disturbance to birdlife. ▪ **Development** - The ground along the existing pipeline routes, which cross the Llangatwg hill, has been disturbed during the engineering phase. Some habitats naturally recover better than others, whilst some will require specific management to restore it to its natural state. Generally, further pipeline construction or other engineering works affecting sensitive habitats within the site should be avoided. Any future engineering or pipeline works would need to show that the SAC features would not be adversely affected and if any licence was approved then there would be a requirement to restore the vegetation to its original character and quality. **Tilio-Acerion forests of slopes, screes and ravines:** ▪ **Grazing** - In the cliff and woodland areas any more than light grazing may prevent tree regeneration and damage the populations of rare and scarce plants that may be accessible to grazing stock. ▪ **Non-native species** - The ash woodland in units 1 & 2 is vulnerable to the introduction of beech. **Calcareous rocky slopes with chasmophytic vegetation:** ▪ **Invasive plants** - Introduced and invasive species such as cotoneaster can smother large areas of grassland and cliff habitats, displacing native species and would need to be controlled. Cotoneaster has spread on

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	the south side of Mynydd Llangatwg above the Clydach gorge and some control is desirable to stop it spreading into feature habitats. ▪ **Recreational activities** - Rare plants, and plants in general, on the cliffs and ledges, may be dislodged by climbers and some breeding birds are particularly sensitive to disturbance during the nesting season. Rock climbing at this site should be restricted to suitable areas and be subject to a suitable code of conduct in order to minimise such damage and disturbance. **Degraded raised bogs still capable of natural regeneration:** ▪ **Air Pollution** - See blanket bog above. ▪ **Hydrological Change** - No new drainage ditches should be dug within the bog and outlet and inflow channels must not be deepened or altered in any way. ▪ **Grazing** - This area of bog has been damaged by heavy grazing in the past and current (2008) grazing levels are still too high to enable the re-generation of the bog habitats. Most of the bog is on commonland and therefore it is difficult to control grazing without agreement and fencing. Supplementary stock feeding can lead to damage of the sward and cause poaching and gradual nutrient enrichment. Feeding should not occur on this habitat. **European dry heaths:** ▪ **Grazing** - levels are believed to be lower than they have been historically but they may still be too high in some parts of the common to enable the heathland to regenerate. It may not be possible to address this problem in unit 1 because the adjoining limestone grassland and rocky habitats require a relatively high stocking rate to maintain their interest. Supplementary stock feeding can lead to localised damage of the sward and cause poaching and gradual nutrient enrichment. Feeding should be confined to acceptable

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	areas off the common, such as agriculturally improved land. ▪ **Bracken and scrub encroachment** - Scrub invasion in the open moorland areas can be controlled by the correct combination of grazing and burning. Bracken however can be more problematical. Grazing may not prevent bracken invasion particularly if sheep rather than heavier animals are the main stock-type and burning can encourage the spread of bracken. Bracken control will be considered if there is significant spread within the drier heathy areas. ▪ **Burning in combination with intense grazing** - can result in the loss of those heathland shrub species that give this habitat its characteristic appearance, and which are so important to the value of these moorland habitats. ▪ **Dumping** - The plateau areas at Mynydd Llangatwg are easily accessible from nearby population centres, so the illegal dumping of domestic and commercial waste and abandoned vehicles is a problem. ▪ **Development** - See blanket bog above.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ The Screening concludes that whilst the LDP will not have a direct impact on this SAC in terms of land take, there is the potential however for development of residential and employment uses to increase airborne pollution in Torfaen which could have an impact on this SAC. The Strategic Ecological Corridor of the Afon Llywd is present in Torfaen, which is an important river riparian habitat. This corridor could potentially be used by lesser horseshoe bats although details of the foraging areas from the Usk Valley sites are not known.

Site Name: Wye Valley and Forest of Dean Bat Sites **Location Grid Ref: SO605044** **JNCC Site Code: UK0014794** **Size: 142.7** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The Wye Valley and Forest of Dean Bats SAC straddles the Wales-England border and covers an area of 142.7ha. It is underpinned by 4 SSSI in Wales and 9 in England, all of which lie entirely within the SAC. This complex of sites contains by far the greatest concentration of lesser horseshoe bat *Rhinolophus hipposideros* in the UK, totalling about 26% of the national population. It has been selected on the grounds of the exceptional breeding population, and the majority of sites within the complex are maternity roosts. The site also supports the greater horseshoe bat *Rhinolophus ferrumequinum* in the northern part of its range, with about 6% of the UK population. The site contains the main maternity roost for bats in this area, which are believed to hibernate in the many disused mines in the Forest.
Qualifying Features	Annex II Species primary reason for selection: ▪ Lesser horseshoe bat *Rhinolophus hipposideros* ▪ Greater horseshoe bat *Rhinolophus ferrumequinum*
Conservation Objectives	**Conservation Objective for Feature 1:** **Greater Horseshoe Bat *Rhinolophus ferrumequinum*** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The site will support a sustainable population of greater horseshoe bats in the Wye Valley area. ▪ The population will viable in the long term, acknowledging the population fluctuations of the species. ▪ Buildings, structures and habitats on the site will be in optimal condition to support the populations. ▪ Sufficient foraging habitat is available, in which factors such as disturbance, interruption to flight lines, and mortality from predation or vehicle collision, changes in habitat management that would reduce the available food source are not at levels which could cause any decline in population size or range

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	▪ Management of the surrounding habitats is of the appropriate type and sufficiently secure to ensure there is likely to be no reduction in population size or range, nor any decline in the extent or quality of breeding, foraging or hibernating habitat. ▪ There will be no loss or decline in quality of linear features (such as hedgerows and tree lines) which the bats use as flight lines - there will be no loss of foraging habitat use by the bats or decline in its quality, such as due to over-intensive woodland management ▪ All factors affecting the achievement of the foregoing conditions are under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Wye Valley and Forest of Dean Bat Sites Management Plan. **Conservation Objective for Feature 2:** **Lesser Horseshoe Bat *Rhinolophus hipposideros*** Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ The site will support a sustainable population of lesser horseshoe bats in the Wye Valley area. ▪ The population will viable in the long term, acknowledging the population fluctuations of the species. ▪ Buildings, structures and habitats on the site will be in optimal condition to support the populations. ▪ Sufficient foraging habitat is available, in which factors such as disturbance, interruption to flight lines, and mortality from predation or vehicle collision, changes in habitat management that would reduce the available food source are not at levels which could cause any decline in population size or range.

Site Name: Wye Valley and Forest of Dean Bat Sites **Location Grid Ref: SO605044** **JNCC Site Code: UK0014794** **Size: 142.7** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ Management of the surrounding habitats is of the appropriate type and sufficiently secure to ensure there is likely to be no reduction in population size or range, nor any decline in the extent or quality of breeding, foraging or hibernating habitat. ▪ There will be no loss or decline in quality of linear features (such as hedgerows and tree lines) which the bats use as flight lines – there will be no loss of foraging habitat use by the bats or decline in its quality, such as due to over-intensive woodland management. ▪ All factors affecting the achievement of the foregoing conditions are under control. Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Wye Valley and Forest of Dean Bat Sites Management Plan.
Component SSSIs	▪ Component SSSIs in Wales o Llangovan Church o Mwyngloddfa Mynydd-bach o Newton Court Stable Block o Wye Valley Lesser Horseshoe Bat Sites ▪ Component SSSIs in England o Blaisdon Hall o Buckshraft Mine and Bradley Hill Railway Tunnel o Caerwood and Ashberry Goose House o Dean Hall Coach House and Cellar o Devil's Chapel Scowles o Old Bow and Old Ham Mines

Site Name: Wye Valley and Forest of Dean Bat Sites Location Grid Ref: SO605044 JNCC Site Code: UK0014794 Size: 142.7 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	○ Sylvan House Barn ○ Westbury Brook Ironstone Mine ○ Wigpool Ironstone Mine
Key Environmental Conditions (factors that maintain site integrity	▪ **Site security** - of buildings/structures that bat use should be maintained. ▪ **External condition of the building** - Fabric of building sufficient to maintain roost conditions internally with: ○ Weatherproof roof. ○ No holes allowing excessive heat loss or high light levels in the roost area. ○ Walls sound, rainwater goods in adequate condition. ○ Solar heating sufficient to maintain adequate roost temperature, with no significant shading of the roost. ○ The building is structurally stable. ▪ **Internal condition of building** - The internal fabric of the building is sufficient to maintain the roost location with: ○ No significant water penetration. ○ Low light levels with no through draught. ○ No toxic substances present which would adversely affect the health of the bats. ▪ **Roost access** -The roost access is in a suitable condition to allow emergence by bats with: ○ A greater horseshoe bat entrance a minimum of 400mm x 300mm. ○ An entrance that is unobstructed and allows the bats to fly through unimpeded. ○ No artificial lights shining on access or associated flight paths. ▪ **Minimal disturbance** - Human access to roost controlled and limited. Lesser horseshoe bats are very sensitive to disturbance and even the presence of a single person in close proximity can cause problems. ▪ **Temperature of roost area** - Site specific requirements based on site monitoring ▪ **Flight Lines** - Bats require connectivity of habitat features for commuting and foraging. Active management of the habitats used by bats for these activities may be required. The importance of linear habitat features off site for bat flight lines should be recognised. ▪ **Management of surrounding habitat -** The loss of flight lines in the form of walls, hedges or woodland rides

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	within 1km around the roost should be prevented, as this is where juvenile bats learn to forage and navigate. There should be a similar aim to maintain or improve the quality of woodland and grazed pasture around and between areas identified as being used by the bats. Management of river habitats in the area is also critical due to the diversity of insect life that sustains the bats. The River Wye has also been shown to be an important flight line/feeding habitat for greater horseshoe bats. Increases in the amount of land that is cattle grazed, development of 'less managed' bushier hedgerows and conversion of improved grassland to semi-improved grassland, particularly close to the notified nursery roost, would improve the extent and quality of available greater horseshoe bat feeding habitat. Surrounding habitat management important for all units. ▪ **Hibernaculum access** - These limits cover only the Mwyngloddfa Mynydd-Bach SSSI. Horseshoe bats prefer to fly through an entrance. The site entrance is in suitable condition to allow continued use by bats with: o Existing access unobstructed. o No unplanned new access causing a change to the ventilation. o No change in the size sufficient to affect the airflow and internal temperature. o The access used by the bats is stable. o No recent falls or signs of geological instability. o Vegetation present close to the access but not obstructing it. o No artificial lights shining on access or associated flight paths.

Site Name: Wye Valley and Forest of Dean Bat Sites **Location Grid Ref: SO605044** **JNCC Site Code: UK0014794** **Size: 142.7** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
SAC Condition Assessment	**The following condition assessments only account for the component SSSIs that are situated in Wales:** **Conservation Status of Feature 1: Greater Horseshoe Bat *Rhinolophus ferrumequinum*** The greater horseshoe bat numbers of Newton Court Stable Block SSSI are monitored annually in June. The assessment found the SSSI to be in **Favourable** condition. But Favourable Condition Status is **Unfavourable declining**. Newton Court Stable Block SSSI Current assessments are: MU1 Unfavourable declining **Conservation Status of Feature 2: Lesser Horseshoe Bat *Rhinolophus hipposideros*** The lesser horseshoe bat numbers for all component SSSIs are annually monitored. The assessment of all 3 component SSSIs showed lesser horseshoe bats to be favourable in two of the three areas. As all of the three SSSIs units have to be in good condition for the Lesser Horseshoe Bat overall to be favourable the feature is in **unfavourable** condition, and in this case we can give condition information at the unit level. Llangovan Church SSSI Current assessments are: MU1 Favourable maintained Mwyngloddfa Mynydd Bach SSSI Current assessments are: MU1 Favourable maintained Wye Valley Lesser Horseshoe Bats SSSI Current assessments are: MU1 Favourable maintained MU2 Unfavourable declining MU3 Unfavourable maintained MU4 Unfavourable declining

Site Name: Wye Valley and Forest of Dean Bat Sites **Location Grid Ref: SO605044** **JNCC Site Code: UK0014794** **Size: 142.7** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**					
	The following table containing condition assessments only accounts for the component SSSIs that are situated in England:					
	% Area meeting PSA[3] target	**% Area favourable**	**% Area unfavourable recovering**	**% Area unfavourable no change**	**% Area unfavourable declining**	**% Area destroyed / part destroyed**
	Blaisdon Hall SSSI condition summary[4] (compiled 01 August 2008).					
	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
	Buckshraft Mine and Bradley Hill Railway Tunnel SSSI condition summary[5] (compiled 01 August 2008).					
	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
	Caerwood and Ashberry Goose House SSSI condition summary[6] (compiled 01 August 2008).					
	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
	Dean Hall Coach House and Cellar SSSI condition summary[7] (compiled 01 August 2008).					
	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%

[3] PSA target - The Government's Public Service Agreement (PSA) target to have 95% of the SSSI area in favourable or recovering condition by 2010.
[4] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1007183
[5] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=2000192
[6] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1005562
[7] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1001562

<table>
<tr><td>Site Name: Wye Valley and Forest of Dean Bat Sites
Location Grid Ref: SO605044
JNCC Site Code: UK0014794
Size: 142.7
Designation: SAC</td><td colspan="6">Habitats Regulations Assessment: Data Proforma</td></tr>
<tr><td rowspan="8"></td><td colspan="6">Devil's Chapel Scowles SSSI condition summary[8] (compiled 01 August 2008).</td></tr>
<tr><td>100.00%</td><td>100.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td colspan="6">Old Bow and Old Ham Mines SSSI condition summary[9] (compiled 01 August 2008).</td></tr>
<tr><td>100.00%</td><td>100.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td colspan="6">Sylvan House Barn SSSI condition of units[10] (compiled 31 January 2006).

Favourable

Condition summary data for this area is currently unavailable.</td></tr>
<tr><td colspan="6">Westbury Brook Ironstone Mine SSSI condition summary[11] (compiled 01 August 2008).</td></tr>
<tr><td>100.00%</td><td>100.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td colspan="6">Wigpool Ironstone Mine SSSI condition summary[12] (compiled 01 August 2008).</td></tr>
<tr><td>100.00%</td><td>100.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
</table>

[8] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=2000189
[9] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=2000187
[10] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt13&category=S&reference=1007184
[11] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=2000188
[12] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=2000191

Site Name: Wye Valley and Forest of Dean Bat Sites **Location Grid Ref: SO605044** **JNCC Site Code: UK0014794** **Size: 142.7** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Vulnerabilities (includes existing pressures and trends)	▪ **Deterioration of buildings used to roost** - Alterations/neglect to the structure of the buildings could result in the site becoming unsuitable as a nursery roost by causing changes to the internal conditions of the roost. ▪ **Disturbance** - It is important that access to the mine systems and roosts is managed to protect the bats. Lesser horseshoe bats are very sensitive to disturbance, such as light and noise pollution and even the presence of a single person in close proximity can cause problems. Where there is a risk of disturbance by unauthorised persons, grilling the cave entrances should be considered. Any structures placed at cave entrances to prevent unauthorised access should not hinder the passage of bats. ▪ **Temperature change** - Underground hibernation roosts should be dark, cool and humid with stable temperature (8 -120C) beyond the entrance zone. ▪ **Habitat fragmentation** - Development allocations pressures and transport development could lead to the loss or decline in quality of linear features (such as hedgerows and tree lines) which the bats use as flight lines. Connectivity of woodland, hedgerows, linear habitat and field boundary features are important as lesser horseshoe bats tend to feed in wooded areas and use linear features to navigate their way between roosts and foraging habitat.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/Environm]entAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ Due to the distance between this SAC and Torfaen it is concluded that the LDP is unlikely to have any significant effects on this SAC.

Site Name: Wye Valley and Forest of Dean Bat Sites **Location Grid Ref: SO605044** **JNCC Site Code: UK0014794** **Size: 142.7** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	HRA of the Draft South West Regional Spatial Strategy Proposed Changs (Land Use Consultants) July 2008. http://gosw.limehouse.co.uk/portal/regional_strategies/drss ▪ There are a number of N2K sites in the South West where development of housing, employment and transport infrastructure has the potential to adversely affect bat foraging and commuting habitat, as it is proposed in close proximity to such areas. Due to the proximity of proposed development to bat foraging and commuting habitats, it is recommended that the supporting text to ENV1 also makes specific reference to the need for bat foraging and commuting habitats to be considered when carrying out development. To ensure that adverse effects to the Wye Valley and Forest of Dean Bat Sites SAC does not occur the site should be specifically identified in the supporting text.

Site Name: Wye Valley Woodlands **Location Grid Ref: ST530957** **JNCC Site Code: UK0012727** **Size: 916.24** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The Wye Valley Woodlands SAC is a large woodland SAC that straddles the Wales–England border. The site covers an area of 914ha and is underpinned by 9 SSSIs in Wales and 7 in England, all of which lie entirely within the SAC. The Wye Valley contains abundant and near-continuous semi-natural woodland along the gorge. Beech stands occur as part of a mosaic with a wide range of other woodland types, and represent the western range of *Asperulo-Fagetum* beech forests. Such a variety of woodland types is rare within the UK. In places lime *Tilia* sp., elm *Ulmus* sp. and oak *Quercus* sp. share dominance with the beech. Structurally the woods include old coppice, pollards and high forest types. Lady Park Wood, one of the component sites, is an outstanding example of near-natural old-growth structure in mixed broad-leaved woodland, and has been the subject of detailed long-term monitoring studies. The woods of the lower Wye Valley on the border of south Wales and England form one of the most important areas for woodland conservation in the UK and provide the most extensive examples of *Tilio-Acerion* forest in the west of its range. A wide range of ecological variation is associated with slope, aspect and landform. The woodland occurs here as a mosaic with other types, including beech *Fagus sylvatica* and pedunculate oak *Quercus robur* stands. Uncommon trees, including large-leaved lime *Tilia platyphyllos* and rare whitebeams such as *Sorbus porrigentiformis* and *S. rupicola* are found here, as well as locally uncommon herbs, including wood barley *Hordelymus europaeus*, stinking hellebore *Helleborus foetidus*, narrow-leaved bitter-cress *Cardamine impatiens* and wood fescue *Festuca altissima*. Wye Valley is representative of yew *Taxus baccata* woods in the south-west of the habitat's range. It lies on the southern Carboniferous limestone, and yew occurs both as an understorey to other woodland trees and as major yew-dominated groves, particularly on the more stony slopes and crags.
Qualifying Features	Annex I habitats primary reason for selection:

Site Name: Wye Valley Woodlands **Location Grid Ref: ST530957** **JNCC Site Code: UK0012727** **Size: 916.24** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ *Asperulo-Fagetum* beech forests ▪ *Tilio-Acerion* forests of slopes, screes and ravines* Priority feature ▪ *Taxus baccata* woods of the British Isles* Priority feature Annex II species qualifying feature: ▪ Lesser horseshoe bat *Rhinolophus hipposideros*
Conservation Objectives	**Conservation Objective for Feature 1:** ***Tilio–Acerion* forests of slopes, screes and ravines** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Tilio–Acerion woodland is found in all eight of the Welsh SSSIs that contribute to the Wye Valley Woodlands SAC. ▪ The woodland area covers the entire site. ▪ The woodland is maintained as far as possible by natural processes. ▪ The location of open glades varies over time. ▪ Trees and shrubs are mainly locally native broadleaved species. ▪ The abundance and density of individual native species varies across the site. ▪ Trees and shrubs of a wide range of ages and sizes are present. ▪ Tree seedlings are plentiful throughout the site. ▪ Tree seedlings develop into saplings in the open glades. ▪ There are abundant dead and dying trees with holes and hollows, rot columns, torn off limbs and rotten branches. ▪ Some dead and dying trees will be partially or completely hollow.

Site Name: Wye Valley Woodlands Location Grid Ref: ST530957 JNCC Site Code: UK0012727 Size: 916.24 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	▪ Fallen dead wood is dense enough to obstruct progress by foot across the entire site, except on established maintained paths. ▪ Dead wood dependent species of moss, liverwort, fungi and specialised invertebrates are present, in spatially and temporally variable abundance, throughout the site. ▪ Field and ground layers are well developed with a patchwork of vegetation communities characteristic of local soil and humidity conditions. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Wye Valley Woodlands Management Plan. **Conservation Objective for Feature 2:** ***Asperulo–Fagetum* beech forests** Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Asperulo–Fagetum woodland continues to be present in Fiddler's Elbow, Harper's Grove-Lord's Grove, Lower Hael, Cleddon Shoots and Blackcliff Wyndcliff, woods that contribute to the Wye Valley Woodlands SAC. ▪ The woodland area covers the entire site. ▪ The woodland is maintained as far as possible by natural processes. ▪ One quarter of the woodland canopy is open at any time.

Site Name: Wye Valley Woodlands Location Grid Ref: ST530957 JNCC Site Code: UK0012727 Size: 916.24 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	▪ The location of open glades varies over time. ▪ Trees and shrubs are mainly locally native broadleaved species. ▪ The abundance and density of individual native species varies across the site. ▪ Trees and shrubs of a wide range of ages and sizes are present. ▪ Tree seedlings are plentiful throughout the site. ▪ Tree seedlings develop into saplings in the open glades. ▪ There are abundant dead and dying trees with holes and hollows, rot columns, torn off limbs and rotten branches. ▪ Some dead and dying trees will be partially or completely hollow. ▪ Fallen dead wood is dense enough to obstruct progress by foot across the entire site, except on established maintained paths. ▪ Field and ground layers are a patchwork of vegetation communities characteristic of local soil and humidity conditions. ▪ The woodland supports populations of birds (including pied flycatchers, redstarts, wood warblers) and mammals (including several bat species, otters and badgers). ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Wye Valley Woodlands Management Plan. **Conservation Objective for Feature 3:** ***Taxus Baccata* woods of the British Isles** Vision for feature 3

Site Name: Wye Valley Woodlands Location Grid Ref: ST530957 JNCC Site Code: UK0012727 Size: 916.24 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	▪ Taxus Baccata woodland continues to be present in Blackcliff Wyndcliff Woods that contribute to the Wye Valley Woodlands SAC. ▪ The woodland area covers the entire site. ▪ The woodland is maintained as far as possible by natural processes. ▪ The location of open glades varies over time. ▪ Trees and shrubs are mainly locally native broadleaved species. ▪ The abundance and density of individual native species varies across the site. ▪ Trees and shrubs of a wide range of ages and sizes are present. ▪ Tree seedlings are plentiful throughout the site. ▪ Tree seedlings develop into saplings in the open glades. ▪ There are abundant dead and dying trees with holes and hollows, rot columns, torn off limbs and rotten branches. ▪ Some dead and dying trees will be partially or completely hollow. ▪ Fallen dead wood is dense enough to obstruct progress by foot across the entire site, except on established maintained paths. ▪ Dead wood dependent species of moss, liverwort, fungi and specialised invertebrates are present, in spatially and temporally variable abundance, throughout the site. ▪ Field and ground layers are a patchwork of vegetation communities characteristic of local soil and humidity conditions. ▪ The woodland supports populations of birds (including pied flycatchers, redstarts, wood warblers) and mammals (including several bat species, otters and badgers). ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 3 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The

Site Name: Wye Valley Woodlands **Location Grid Ref: ST530957** **JNCC Site Code: UK0012727** **Size: 916.24** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	performance indicators can be found within the Wye Valley Woodlands Management Plan. **Conservation Objective for Feature 4:** **Lesser horseshoe bat *Rhinolophus hipposideros*** Vision for feature 4 ▪ The woodlands continue to support populations of lesser horseshoe bat. ▪ Sufficient foraging habitat is available, in which factors such as disturbance, interruption to flight lines, mortality from predation or vehicle collision, and changes in habitat management that would reduce the available food source are not at levels, which could cause any decline in population size. ▪ Management of the woodland SAC is of the appropriate type and sufficiently secure to ensure there is likely to be no reduction in population size or range, nor any decline in the extent or quality of breeding, foraging or hibernating habitat, for example due to over-intensive woodland management. ▪ There will be no loss or decline in quality of linear features (such as hedgerows and tree lines), which the bats use as flight lines. ▪ Disturbance to roost sites both within the site and in the surrounding area, especially from human physical presence, noise and lighting, is minimized. ▪ All factors affecting the achievement of these conditions are under control. Performance indicators for Feature 4 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Wye Valley Woodlands Management Plan.
Component SSSIs	▪ Component SSSIs in Wales o Blackcliff-Wyndcliff

Site Name: Wye Valley Woodlands Location Grid Ref: ST530957 JNCC Site Code: UK0012727 Size: 916.24 Designation: SAC	Habitats Regulations Assessment: Data Proforma
	○ Cleddon Shoots Woodland ○ Fiddlers Elbow ○ Graig Wood ○ Harper's Grove-Lord's Grove ○ Livox Wood ○ Lower Hael Wood ○ Pierce, Alcove and Piercefield Woods ○ Upper Wye Gorge (In Wales but managed by NE) ▪ Component SSSIs in England ○ Astridge Wood ○ Bigsweir Wood ○ Highbury Wood ○ Lower Wye Gorge ○ Shorn Cliff and Caswell Woods ○ Swanpool Wood and Furnace Grove ○ The Hudnalls
Key Environmental Conditions (factors that maintain site integrity	**Habitat management** - The *Tilio–Acerion* woodland should be maintained through traditional woodland management, a combination of minimum intervention, coppice with standards and managed high forest. The *Asperulo–Fagetum* woodlands should be maintained through minimum intervention, with some areas also using traditional management practices of coppice with standards and managed high forest. The *Taxus baccata* woods should be maintained through minimum intervention. All the habitat management requirements for the lesser horseshoe bat will be met through the appropriate management of the features above. **Grazing management** - Deer management and protection from rabbits or livestock is necessary.

Site Name: Wye Valley Woodlands Location Grid Ref: ST530957 JNCC Site Code: UK0012727 Size: 916.24 Designation: SAC	Habitats Regulations Assessment: Data Proforma

Site Name: Wye Valley Woodlands **Location Grid Ref: ST530957** **JNCC Site Code: UK0012727** **Size: 916.24** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
SAC Condition Assessment	**The following condition assessments only account for the component SSSIs that are situated in Wales:** **Conservation Status of Feature 1: *Tilio–Acerion* forests of slopes, screes and ravines** The *Tilio-Acerion* forests and associated non-SAC semi natural broadleaved woodland features were monitored in detail in the summer 2005-6. In this case CCW can give condition information at the unit level. As all of the five areas have to be in good condition for the *Tilio-Acerion* overall to be favourable the feature is in **unfavourable** condition. **Conservation Status of Feature 2: *Asperulo–Fagetum* beech forests** The *Asperulo-Fagetum* forests and associated non-SAC semi natural broadleaved woodland features were monitored in detail in the 2005-6. The assessment on all 5 component SSSIs showed *Asperulo-Fagetum* to be unfavourable in one of the three key areas. As all of the three areas have to be in good condition for the *Asperulo-Fagetum* overall to be favourable the feature is in **unfavourable** condition. **Conservation Status of Feature 3: *Taxus baccata* woods of the British Isles** The *Taxus baccata* woods were monitored in detail in the Winter 2005. The assessment of Blackcliff- Wyndcliff component SSSI was that the feature was in **favourable** condition. **Conservation Status of Feature 4: *Rhinolophus hipposideros* lesser horse shoe bat** CCW need to speak with Natural England to get monitoring results of this feature.

Site Name: Wye Valley Woodlands **Location Grid Ref: ST530957** **JNCC Site Code: UK0012727** **Size: 916.24** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**

The following table containing condition assessments only accounts for the component SSSIs that are situated in England:

% Area meeting PSA[13] target	% Area favourable	% Area unfavourable recovering	% Area unfavourable no change	% Area unfavourable declining	% Area destroyed / part destroyed
Astridge Wood SSSI condition summary[14] (compiled 01 July 2008).					
100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Bigsweir Wood SSSI condition summary[15] (compiled 01 July 2008).					
100.00%	11.90%	88.10%	0.00%	0.00%	0.00%
Highbury Wood SSSI condition summary[16] (compiled 01 July 2008).					
40.20%	40.20%	0.00%	0.00%	59.80%	0.00%
Lower Wye Gorge Wood SSSI condition summary[17] (compiled 01 July 2008).					
100.00%	100.00%	0.00%	0.00%	0.00%	0.00%

[13] PSA target - The Government's Public Service Agreement (PSA) target to have 95% of the SSSI area in favourable or recovering condition by 2010.
[14] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1003696
[15] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1003764
[16] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1000049
[17] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1003607

<table>
<tr><td>Site Name: Wye Valley Woodlands
Location Grid Ref: ST530957
JNCC Site Code: UK0012727
Size: 916.24
Designation: SAC</td><td colspan="6">Habitats Regulations Assessment: Data Proforma</td></tr>
<tr><td rowspan="6"></td><td colspan="6">Shorn Cliff and Caswell Woods SSSI condition summary[18] (compiled 01 July 2008).</td></tr>
<tr><td>100.00%</td><td>100.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td colspan="6">Swanpool Wood and Furnace Grove SSSI condition summary[19] (compiled 01 July 2008).</td></tr>
<tr><td>0.00%</td><td>0.00%</td><td>0.00%</td><td>100.00%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td colspan="6">The Hudnalls SSSI condition summary[20] (compiled 01 July 2008).</td></tr>
<tr><td>100.00%</td><td>100.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td><td>0.00%</td></tr>
<tr><td>Vulnerabilities (includes existing pressures and trends)</td><td colspan="6">Inappropriate management - Principal pressures are from lack of management (particularly traditional management, e.g. coppice) and inappropriate management proposals which would alter the recognised woodland stand types.

Grazing - When woodland is grazed for many years it can prevent the natural regeneration of the woodland, since seedlings and coppice stools are given no opportunity to grow into viable trees. There is a serious problem with deer grazing in these woodlands. It is necessary to control the number of animals grazing in the wood using appropriate measures. Fences and gates should be erected and maintained around areas of regeneration in order to prevent damage. In the future, light grazing by stock may be considered to help reduce the competition from other species allowing seedling regeneration to replace older stools.</td></tr>
</table>

[18] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1002428
[19] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1000840
[20] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1001654

Site Name: Wye Valley Woodlands **Location Grid Ref: ST530957** **JNCC Site Code: UK0012727** **Size: 916.24** **Designation: SAC**	**Habitats Regulations Assessment: Data Proforma**
	Off-site pollution - The effects of the releases of quarry dust into the atmosphere from the works adjacent to the Blackcliff -Wyndcliff SSSI are not known; these emissions are subject to the authorisation of other competent authorities, particularly the Environment Agency.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ Due to the distance between this SAC and Torfaen it is concluded that the LDP is unlikely to have any significant effects on this SAC. HRA of the Draft South West Regional Spatial Strategy Proposed Changs (Land Use Consultants) July 2008. http://gosw.limehouse.co.uk/portal/regional_strategies/drss ▪ There are a number of N2K sites in the South West where development of housing, employment and transport infrastructure has the potential to adversely affect bat foraging and commuting habitat, as it is proposed in close proximity to such areas. Due to the proximity of proposed development to bat foraging and commuting habitats, it is recommended that the supporting text to ENV1 also makes specific reference to the need for bat foraging and commuting habitats to be considered when carrying out development. To ensure that adverse effects to the Wye Valley Woodlands SAC does not occur the site should be specifically identified in the supporting text.

Candidate Special Areas of Conservation

Site Name: Severn Estuary **Location Grid Ref: ST321748** **JNCC Site Code: UK0013030** **Size: 73715.4** **Designation: cSAC**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The Severn Estuary is the largest coastal plain estuary in the UK with extensive mudflats and sandflats, rocky shore platforms, shingle and islands. Saltmarsh fringes the coast, backed by grazing marsh with freshwater and occasional brackish ditches. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second highest tidal range in the world (after the Bay of Fundy in Canada) at more than 12 meters. This tidal regime results in plant and animal communities typical of the extreme physical conditions of strong flows, mobile sediments, changing salinity, high turbidity and heavy scouring. The resultant low diversity invertebrate communities, that frequently include populations of ragworms, lugworms and other invertebrates in high densities, form an important food source for passage and wintering birds. The site is important in the spring and autumn migration periods for waders moving along the west coast of Europe, as well as in winter for large numbers of waterbirds including swans, geese, ducks and waders. These bird populations are regarded as internationally important. Glassworts and annual sea-blite colonise the open mud, with beds of all three species of eelgrass *Zostera* occurring on more sheltered mud and sandbanks. Large expanses of common cord-grass also occur on the outer marshes. Heavily grazed saltmarsh fringes the estuary with a range of saltmarsh types present. The middle marsh sward is dominated by common saltmarsh-grass with typical associated species. In the upper marsh, red fescue and saltmarsh rush become more prominent. Areas of saltmarsh fringe the estuary, mostly grazed with a range of vegetation communities. There are gradual and stepped transitions between bare mudflat to upper marsh and grassland. Main vegetation types are: upper saltmarsh with *Festuca rubra* and *Juncus gerardii*; middle marsh dominated by *Puccinellia maritima* with *Glaux maritima* and *Triglochin maritima*; dense monocultures of *Spartina anglica* at the edge of the mudflats-brackish pools and depressions with *Phragmites australis* and *Bolboschoenus maritimus*.
Qualifying Features	Annex I Habitats primary reason for selection:

Site Name: Severn Estuary **Location Grid Ref: ST321748** **JNCC Site Code: UK0013030** **Size: 73715.4** **Designation: cSAC**	**Habitats Regulations Assessment: Data Proforma**
	▪ Estuaries ▪ Mudflats and sandflats not covered by seawater at low tide ▪ Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Annex I Habitats qualifying feature: ▪ Sandbanks which are slightly covered by sea water all the time ▪ Reefs Annex II Species primary reason for selection: ▪ Sea lamprey *Petromyzon marinus* ▪ River lamprey *Lampetra fluviatilis* ▪ Twaite shad *Alosa fallax*
Conservation Objectives	▪ No conservation objectives currently available for this site.
Component SSSIs	▪ N/A
Key Environmental Conditions (factors that maintain site integrity	▪ **Hydrodynamic and sedimentary regime** - The conservation of the site features is dependent on the tidal regime. The tidal range in the Severn Estuary is the second-highest in the world and the scouring of the seabed and strong tidal streams result in natural erosion of the habitats and the presence of high sediment loads. ▪ **Maintain suitable distance between the site and development** - to allow for managed retreat of intertidal habitats and avoid coastal squeeze. ▪ **Manage public access and activities**.

Site Name: Severn Estuary **Location Grid Ref: ST321748** **JNCC Site Code: UK0013030** **Size: 73715.4** **Designation: cSAC**	**Habitats Regulations Assessment: Data Proforma**
SAC Condition Assessment	▪ N/A
Vulnerabilities (includes existing pressures and trends)	▪ **Physical loss of supporting habitats through removal** - The physical loss of areas of intertidal habitats may be caused directly through change of land use or indirectly as a consequence of changes to sedimentation processes (e.g. coastal defences) as well as via the effects of smothering by artificial structures (e.g. jetties) or the disposal of spoils. The intertidal mudflats and sandflats and the saltmarsh are highly sensitive to removal by land reclamation and barrage construction. Information provided by NE and CCW states that large areas of the European marine site are not currently under threat, however when combined with a high level of sensitivity this leads to a moderate vulnerability. ▪ **Contamination by synthetic and/or non-synthetic toxic compounds** - At the moment there is no evidence to show that this is the case on the Severn Estuary, but the estuary is vulnerable to oil spills and there is a continuous discharge of toxins into the estuary, some of which bind to the sediments. NE and CCW identify this is an area which requires further assessment. The intertidal mudflats and sandflats and the saltmarsh are currently highly vulnerable to the introduction of synthetic and non-synthetic compounds. ▪ **Damage by abrasion or selective extraction** - Saltmarsh may be physically damaged from overgrazing or eroded when boats are moored on it and when paths are worn through it to reach moored boats on foot or via vehicles. Currently all supporting habitats are considered to be moderately vulnerable to abrasion. Intertidal habitats are highly sensitive to damage by direct and indirect effects of aggregate dredging. The intertidal mudflats and sandflats and the shingle and rocky shore are therefore considered by NE and CCW to be highly vulnerable to selective extraction. ▪ **Changes in nutrient and/or organic loading** - Changes in organic or nutrient loading can change the species composition of the plants on the saltmarsh and thus the structure of the sward. Increases in nutrients can also cause excessive algal growth on the mudflats, denying the birds access to their invertebrate prey and changing the invertebrate species composition in the sediment. Though the water quality has been improved in recent years there are still local areas of concern and any increase in nutrient loading should

Site Name: Severn Estuary Location Grid Ref: ST321748 JNCC Site Code: UK0013030 Size: 73715.4 Designation: cSAC	Habitats Regulations Assessment: Data Proforma
	be avoided. At present the intertidal mudflats and sandflats are moderately vulnerable to this category of operation. ▪ **Inappropriate grazing** - Much of the saltmarsh is managed by grazing and changes in management can alter the availability of prey and suitability of roosting sites. The saltmarsh is currently highly vulnerable to the selective extraction of species.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. www.cardiff.gov.uk/ObjView.asp?Object_ID=9788 ▪ The Screening states that the significance of the potential impacts of the Eastern Bay Link (Pg. 50, Paragraph 6.23) in the Preferred Strategy (either alone or in-combination with other plans and projects) will be considered when a more detailed scheme is available. An appropriate assessment may be required for the scheme. HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/EnvironmJentAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ It is likely that an increase of 7000 dwellings in Torfaen and associated development will in some way impact upon the site. It is likely however that the potential impact will be as a result of in-combination effects with other implemented plans and programmes in close proximity to the Severn Estuary. AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07. http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf ▪ Given the extent of the Severn Estuary and the diverse range of activities and operations that could result in

Site Name: Severn Estuary Location Grid Ref: ST321748 JNCC Site Code: UK0013030 Size: 73715.4 Designation: cSAC	Habitats Regulations Assessment: Data Proforma
	adverse impact to the European Site, it is considered inevitable that the Draft Preferred Strategy will in some way, impact upon the designated site. While much of the development arising from the draft preferred strategy is likely to be located well away from the Severn Estuary, the south-eastern zone has been identified as a growth area and abuts the boundary of the designated site. Therefore, it is recommended that a more detailed assessment of the LDP be undertaken following consultation on the Draft Preferred Strategy to ascertain and mitigate against any likely significant effects to the SPA, cSAC, RAMSAR.

Special Protection Areas

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK9015022 Size: 24662.98 Designation: SPA	Habitats Regulations Assessment: Data Proforma
Site Description	The Severn Estuary is the largest coastal plain estuary in the UK with extensive mudflats and sandflats, rocky shore platforms, shingle and islands. Saltmarsh fringes the coast, backed by grazing marsh with freshwater and occasional brackish ditches. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second highest tidal range in the world (after the Bay of Fundy in Canada) at more than 12 meters. This tidal regime results in plant and animal communities typical of the extreme physical conditions of strong flows, mobile sediments, changing salinity, high turbidity and heavy scouring. The resultant low diversity invertebrate communities, that frequently include populations of ragworms, lugworms and other invertebrates in high densities, form an important food source for passage and wintering birds. The site is important in the spring and autumn migration periods for waders moving along the west coast of Europe, as well as in winter for large numbers of waterbirds including swans, geese, ducks and waders. These bird populations are

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK9015022 Size: 24662.98 Designation: SPA	Habitats Regulations Assessment: Data Proforma
	regarded as internationally important. Glassworts and annual sea-blite colonise the open mud, with beds of all three species of eelgrass *Zostera* occurring on more sheltered mud and sandbanks. Large expanses of common cord-grass also occur on the outer marshes. Heavily grazed saltmarsh fringes the estuary with a range of saltmarsh types present. The middle marsh sward is dominated by common saltmarsh-grass with typical associated species. In the upper marsh, red fescue and saltmarsh rush become more prominent. Areas of saltmarsh fringe the estuary, mostly grazed with a range of vegetation communities. There are gradual and stepped transitions between bare mudflat to upper marsh and grassland. Main vegetation types are: upper saltmarsh with *Festuca rubra* and *Juncus gerardii*; middle marsh dominated by *Puccinellia maritima* with *Glaux maritima* and *Triglochin maritima*; dense monocultures of *Spartina anglica* at the edge of the mudflats-brackish pools and depressions with *Phragmites australis* and *Bolboschoenus maritimus*.

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK9015022** **Size: 24662.98** **Designation: SPA**	**Habitats Regulations Assessment: Data Proforma**
Qualifying Features	Article 4.1 Qualification Over winter the area regularly supports: ▪ Bewick's Swan *Cygnus columbianus bewickii* 3.9% of the GB population Article 4.2 Qualification Over winter the area regularly supports: ▪ Gadwall *Anas strepera* 0.9% of the population ▪ White-fronted Goose *Anser albifrons albifrons* 0.4% of the population ▪ Dunlin *Calidris alpina alpine* 3.3% of the population ▪ Shelduck *Tadorna tadorna* 1.1% of the population ▪ Redshank *Tringa totanus* 1.3% of the population Article 4.2 Qualification: Internationally Important Assemblage of Birds Over winter the area regularly supports: ▪ 84317 waterfowl
Conservation Objectives	**Interest feature 1: Internationally important population of regularly occurring Annex 1 species: Bewick's swan** The conservation objective is to maintain the Bewick's swan population and its supporting habitats in **favourable condition**, as defined below. The interest feature Bewick's swan will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met:

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK9015022 Size: 24662.98 Designation: SPA	Habitats Regulations Assessment: Data Proforma
	i. the 5 year peak mean population size for the Bewick's swan population is no less than 289 individuals (ie the 5 year peak mean between 1988/9 - 1992/3); ii. the extent of saltmarsh at the Dumbles is maintained; iii. the extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained; iv. the extent of vegetation with an effective field size of >6 ha and with unrestricted bird sightlines > 500m at feeding, roosting and refuge sites are maintained; v. greater than 25% cover of suitable soft leaved herbs and grasses in winter season throughout the transitional saltmarsh at the Dumbles is maintained; vi. aggregations of Bewick's swan at feeding, roosting and refuge sites are not subject to significant disturbance. **Interest feature 2: Internationally important population of regularly occurring migratory species: wintering dunlin** The conservation objective is to maintain the dunlin population and its supporting habitats in **favourable condition**, as defined below. The interest feature dunlin will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met: i. the 5 year peak mean population size for the wintering dunlin population is no less than 41,683 individuals (ie the 5 year peak mean between 1988/9 - 1992/3); ii. the extent of saltmarsh is maintained; iii. the extent of intertidal mudflats and sandflats is maintained;

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK9015022 Size: 24662.98 Designation: SPA	Habitats Regulations Assessment: Data Proforma
	iv. the extent of shingle and rocky shore is maintained; v. the extent of vegetation with a sward height of <10cm is maintained throughout the saltmarsh; vi. the distribution and abundance of suitable invertebrates in intertidal mudflats and sandflats is maintained; vii. the distribution and abundance of suitable invertebrates in shingle and rocky shore is maintained; viii. the extent of strandlines is maintained; ix. unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; x. aggregations of dunlin at feeding or roosting sites are not subject to significant disturbance. **Interest feature 3: Internationally important population of regularly occurring migratory species: wintering European white-fronted goose** The conservation objective is to maintain the European white-fronted goose population and its supporting habitats in **favourable condition**, as defined below. The interest feature European white-fronted goose will be considered to be in favourable condition when, subject to natural processes (Box 1), each of the following conditions are met: i. the 5 year peak mean population size for the wintering European white fronted goose population is no less than 3,002 individuals (ie the 5 year peak mean between 1988/9- ii. 1992/3); iii. the extent of saltmarsh at the Dumbles is maintained; iv. the extent of intertidal mudflats and sandflats at Frampton Sands, Waveridge Sands and the Noose is maintained; v. greater than 25% cover of suitable soft-leaved herbs and grasses is maintained during the winter on saltmarsh areas;

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK9015022 Size: 24662.98 Designation: SPA	Habitats Regulations Assessment: Data Proforma
	vi. unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; vii. aggregations of European white-fronted goose at feeding or roosting sites are not subject to significant disturbance. **Interest feature 4: Internationally important population of regularly occurring migratory species: wintering redshank** The conservation objective is to maintain the redshank population and its supporting habitats in **favourable condition**, as defined below. The interest feature redshank will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met: i. the 5 year peak mean population size for the wintering redshank population is no less than 2,013 individuals (ie the 5 year peak mean between 1988/9 - 1992/3); ii. the extent of saltmarsh is maintained; iii. the extent of intertidal mudflats and sandflats is maintained; iv. the extent of shingle and rocky shore is maintained; v. the extent of vegetation with a sward height of <10cm throughout the saltmarsh is maintained; vi. the distribution and abundance of suitable invertebrates in intertidal mudflats and sandflats is maintained; vii. the distribution and abundance of suitable invertebrates in shingle and rocky shore is maintained; viii. strandlines are not subject to significant disturbance; ix. unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; x. aggregations of redshank at feeding or roosting sites are not subject to significant disturbance.

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK9015022** **Size: 24662.98** **Designation: SPA**	**Habitats Regulations Assessment: Data Proforma**
	Interest feature 5: Internationally important population of regularly occurring migratory species: wintering shelduck The conservation objective is to maintain the shelduck population and its supporting habitats in **favourable condition**, as defined below. The interest feature shelduck will be considered to be in favourable condition when, subject to natural processes, each of the following conditions are met: i. the 5 year peak mean population size for the wintering shelduck population is no less than 2,892 individuals (ie the 5 year peak mean between 1988/9 - 1992/3); ii. the extent of saltmarsh is maintained; iii. the extent of intertidal mudflats and sandflats is maintained; iv. the extent of shingle and rocky shore is maintained; v. the distribution and abundance of suitable invertebrates in intertidal mudflats and sandflats is maintained; vi. unrestricted bird sightlines of >200m at feeding and roosting sites are maintained; aggregations of shelduck at feeding or roosting sites are not subject to significant disturbance. **Interest feature 6: Internationally important assemblage of waterfowl** The conservation objective is to maintain the waterfowl assemblage and its supporting habitats in **favourable condition**, as defined below. The interest feature waterfowl assemblage will be considered to be in favourable condition when, subject to natural processes (Box1), each of the following conditions are met:

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK9015022** **Size: 24662.98** **Designation: SPA**	**Habitats Regulations Assessment: Data Proforma**
	i. the 5 year peak mean population size for the waterfowl assemblage is no less than 68,026 individuals (ie the 5 year peak mean between 1988/9 - 1992/3); ii. the extent of saltmarsh is maintained; iii. the extent of intertidal mudflats and sandflats is maintained; iv. the extent of shingle and rocky shore is maintained; v. extent of vegetation of <10cm throughout the saltmarsh is maintained; vi. the distribution and abundance of suitable invertebrates in intertidal mudflats and sandflats is maintained; vii. the distribution and abundance of suitable invertebrates in shingle and rocky shore is maintained; viii. greater than 25% cover of suitable soft leaved herbs and grasses during the winter on saltmarsh areas is maintained; ix. strandlines are not subject to significant disturbance; x. unrestricted bird sightlines of >500m at feeding and roosting sites are maintained; xi. waterfowl aggregations at feeding or roosting sites are not subject to significant disturbance.
Component SSSIs	▪ Severn Estuary SSSI ▪ Flat Holm SSSI ▪ Bridgwater Bay SSSI ▪ Penarth Coast SSSI ▪ Steep Holm SSSI ▪ Sully Island SSSI ▪ Upper Severn Estuary SSSI Maps of the site can be viewed on the CCW website.

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK9015022** **Size: 24662.98** **Designation: SPA**	**Habitats Regulations Assessment: Data Proforma**
Key Environmental Conditions (factors that maintain site integrity	**Key supporting habitats for the Annex I species:** ▪ **Intertidal mudflats and sandflats**: o Habitat extent - The focal area for the Bewick's swans is the upper Severn Estuary in the vicinity of the New Grounds, Slimbridge area. The mudflats and sandflats exposed as the tide falls where the estuary widens in the upper reaches of the site at Waveridge Sands, Frampton Sands and The Noose are used as safe refuge areas when the birds are disturbed. o Unimpeded sightlines at feeding and roosting sites - Bewick's swan require unrestricted views >500m to allow early detection of predators when feeding and roosting. ▪ **Saltmarsh communities**: o Habitat extent - The birds feed on the saltmarsh and the transition from saltmarsh to coastal grazing marsh in front of the sea defences in the upper estuary at The Dumbles, where areas of the high marsh are mainly affected only by brackish water during tidal inundation. o Vegetation characteristics - Bewick's swan graze on a range of 'soft' meadow grasses such as *Agrostis stolonifera* and *Alopecurus geniculatus* found in wet meadows which are outwith the European marine site boundary. o Unimpeded sightlines at feeding and roosting sites - Bewick's swan require unrestricted views >500m to allow early detection of predators when feeding and roosting. **Key supporting habitats for populations of regularly occurring migratory species and assemblage of waterfowl:** ▪ **Intertidal mudflats and sandflats:** o Habitat extent - Intertidal mudflats and sandflats and their communities are important habitats as they provide both roosting and feeding areas. The European white-fronted geese roost at night on estuarine sandbanks and usually fly less than 10km to the daytime feeding grounds. Therefore conservation of

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK9015022 Size: 24662.98 Designation: SPA	Habitats Regulations Assessment: Data Proforma
	traditional roosting sites is necessary to enable the population to exploit potential feeding habitats. o Food availability - Most of the waders and waterfowl within the assemblage including the internationally important regularly occurring migratory birds feed on invertebrates within and on the sediments. o Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting. ▪ **Saltmarsh**: o Habitat extent - Saltmarsh and their communities are important habitats as they provide both roosting and feeding areas. Upper and lower saltmarsh provide important feeding and roosting areas for the internationally important migratory birds throughout the estuary. o Food availability - The saltmarshes provide a rich feeding habitat for redshank and shelduck, which feed on invertebrate species in the sediments, such as the mudsnail Hydrobia. The European white-fronted geese graze on a range of saltmarsh grasses and herbs such as common saltmarsh grass Puccinellia maritime and sea barley Hordeum marinum. The birds feed on the saltmarsh and the transition to coastal grazing marsh in front of the sea defences in the upper estuary and particularly at the The Dumbles. o Vegetation characteristics - Vegetation of <10 cm is required throughout areas used by roosting waders. This is managed by grazing. o Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting. The saltmarshes also have an important function providing a safe haven from the tides that flood the mudflats twice a day. The low-growing dense vegetation provides a suitable roosting habitat for redshank and dunlin, which prefer to roost on areas of short vegetation ensuring good visibility. ▪ **Shingle and rocky shore:** o Habitat extent - the shingle and rocks in the estuary provide feeding areas for dunlin and redshank and some limited foraging at high tide. It is also provides important roost sites at high tide particularly for the

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK9015022 Size: 24662.98 Designation: SPA	Habitats Regulations Assessment: Data Proforma
	dunlin and redshank. Many of the rocks are off shore and are therefore generally free from human disturbance. These include Guscar Rocks in the upper reaches, Blackstone Rocks at Clevedon and Stert Island in Bridgwater Bay. o Food availability - see above. o Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting. ▪ **Wet coastal grazing marsh, improved grassland and open standing waters** - these supporting habitats lie outside the European marine site boundary but within the SPA. They provide key areas for feeding and roosting for all the migratory species particularly at high tide. **Key environmental conditions for the supporting habitats:** ▪ **Hydrodynamic and sedimentary regime** - the tidal range in the Severn Estuary is the second-highest in the world and the scouring of the seabed and strong tidal streams result in natural erosion of the habitats and the presence of high sediment loads. ▪ **Maintain suitable distance between the site and development** - to allow for managed retreat of intertidal habitats and avoid coastal squeeze. **Other key conditions:** ▪ **Manage/restrict public access** - at certain times of the year. Significant disturbance attributable to human activities can result in reduced food intake and/or increased energy expenditure. ▪ **Maintain levels of prey.**

<table>
<tr><td>Site Name: Severn Estuary
Location (Lat & Long):
51 13 29 N
03 02 57 W
JNCC Site Code: UK9015022
Size: 24662.98
Designation: SPA</td><td>Habitats Regulations Assessment: Data Proforma</td></tr>
<tr><td></td><td>Maps showing supporting habitats of the Severn Estuary SPA can be found on the CCW Website.</td></tr>
<tr><td>SPA Condition Assessment</td><td>Severn Estuary SSSI condition summary[21] (compiled 09 April 2008).
<table>
<tr><th>% Area meeting PSA* target</th><th>% Area favourable</th><th>% Area unfavourable recovering</th><th>% Area unfavourable no change</th><th>% Area unfavourable declining</th><th>% Area destroyed / part destroyed</th></tr>
<tr><td>95.71%</td><td>95.71%</td><td>0.00%</td><td>2.44%</td><td>1.85%</td><td>0.00%</td></tr>
</table>
*PSA target - The Government's Public Service Agreement (PSA) target to have 95% of the SSSI area in favourable or recovering condition by 2010.</td></tr>
<tr><td>Vulnerabilities (includes existing pressures and trends)</td><td>Internationally important populations of regularly occurring Annex 1 species:

▪ Physical loss of supporting habitats through removal - The physical loss of areas of intertidal habitats may be caused directly through change of land use or indirectly as a consequence of changes to sedimentation processes (e.g. coastal defences) as well as via the effects of smothering by artificial structures (e.g. jetties) or the disposal of spoils. Activities or developments resulting in physical loss of the intertidal supporting habitats are likely to reduce the availability of feeding and roosting habitat and thus be detrimental to the favourable condition of the SPA interest features including the Annex 1 species, Bewick's swan. The intertidal mudflats and sandflats and the saltmarsh are highly sensitive to removal by land reclamation and barrage construction. Information provided by NE and CCW states that large areas of the European marine</td></tr>
</table>

[21] Natural England SSSI condition summary. Available [online]: http://www.english-nature.org.uk/special/sssi/reportAction.cfm?report=sdrt18&category=S&reference=1002284

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK9015022 Size: 24662.98 Designation: SPA	Habitats Regulations Assessment: Data Proforma
	site are not currently under threat, however when combined with a high level of sensitivity this leads to a moderate vulnerability. ▪ **Noise or visual disturbance** - Overwintering birds are disturbed by sudden movements and sudden noises. This can displace the birds from their feeding grounds. Disturbance can prevent the birds from feeding and in response they either a) decrease their energy intake at their present (disturbed) feeding site through displacement activity, or b) move to an alternative less favoured feeding site. Such a response affects energy budgets and thus survival. There is intermittent disturbance from both the landward and seaward side of the site. Bewick's swans are mainly affected by disturbance from the landward side and any increase in disturbance should be avoided. At present NE and CCW assess that the Annex 1 species are moderately vulnerable to noise and visual disturbance on the intertidal mudflats and sandflats and highly vulnerable to this category of operation on the saltmarsh. ▪ **Contamination by synthetic and/or non-synthetic toxic compounds** - Waterfowl are subject to the accumulation of toxins through the food chain or through direct contact with toxic substances when roosting or feeding. Their ability to feed can also be affected by the abundance or change in palatability of their prey caused by toxic contamination. At the moment there is no evidence to show that this is the case, but the estuary is vulnerable to oil spills and there is a continuous discharge of toxins into the estuary, some of which bind to the sediments. NE and CCW identify this is an area which requires further assessment. They also identify Bewick's swans as currently moderately vulnerable to toxic contamination. **Internationally important waterfowl assemblage including populations of regularly occurring migratory species:** ▪ **Physical loss through removal** - The physical loss of areas of intertidal habitats may be caused directly

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	through change of land use or indirectly as a consequence of changes to sedimentation processes (e.g. coastal defences) as well as via the effects of smothering by artificial structures (e.g. jetties) or the disposal of spoils. Eelgrass beds are being affected by siltation due to changes in sediment movement after construction of the Second Severn Crossing which has resulted in smothering. Activities or developments resulting in physical loss of the intertidal supporting habitats are likely to reduce the availability of food and roosting habitat and thus be detrimental to the favourable condition of the SPA interest features including all the migratory species and waterfowl assemblage. All three supporting habitats are highly sensitive to removal by land reclamation and barrage construction. Information provided by NE and CCW states that large areas of the European marine site are not currently under threat, however when combined with a high level of sensitivity this leads to a moderate vulnerability. ▪ **Damage by abrasion or selective extraction** - Saltmarsh may be physically damaged from overgrazing or eroded when boats are moored on it and when paths are worn through it to reach moored boats on foot or via vehicles. Currently all supporting habitats are considered to be moderately vulnerable to abrasion. Intertidal habitats are highly sensitive to damage by direct and indirect effects of aggregate dredging. The intertidal mudflats and sandflats and the shingle and rocky shore are therefore considered by NE and CCW to be highly vulnerable to selective extraction. ▪ **Noise or visual disturbance** - Overwintering birds are disturbed by sudden movements and sudden noises. This can have the effect of displacing the birds from their feeding grounds. Disturbance can prevent the birds from feeding and in response they either a) decrease their energy intake at their present (disturbed) feeding site through displacement activity, or b) move to an alternative less favoured feeding site. Such a response affects energy budgets and thus survival. There is intermittent disturbance to the internationally important migratory species and the waterfowl assemblage from both the landward and seaward side of the site which has increased in recent years, due to the estuary becoming more populated and the development of all weather recreational pursuits. All supporting habitats are currently highly vulnerable to

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	noise and visual disturbance. ▪ **Contamination by synthetic and/or non-synthetic toxic compounds** - Waterfowl are subject to the accumulation of toxins through the food chain or through direct contact with toxic substances when roosting or feeding. Their ability to feed can also be affected by the abundance or change in palatability of their prey caused by toxic contamination. At the moment there is no evidence to show that this is the case on the Severn Estuary, but the estuary is vulnerable to oil spills and there is a continuous discharge of toxins into the estuary, some of which bind to the sediments. NE and CCW identify this is an area which requires further assessment. The intertidal mudflats and sandflats and the saltmarsh are currently highly vulnerable to the introduction of synthetic and non-synthetic compounds. ▪ **Changes in nutrient and/or organic loading** - Changes in organic or nutrient loading can change the species composition of the plants on the saltmarsh and thus the structure of the sward. Increases in nutrients can also cause excessive algal growth on the mudflats, denying the birds access to their invertebrate prey and changing the invertebrate species composition in the sediment. Though the water quality has been improved in recent years there are still local areas of concern and any increase in nutrient loading should be avoided. At present the intertidal mudflats and sandflats are moderately vulnerable to this category of operation. ▪ **Biological disturbance through the selective extraction of species** - Wildfowling is carried out all around the estuary. NE and CCW have not established that it has a detrimental effect on the overall bird populations but state that wildfowling needs to be exercised in a managed and sustainable manner preferably by a British Association of Shooting and Conservation (BASC) affiliated association, applying the BASC wildfowlers code of conduct. Bait digging is also carried out around the estuary. If too large an area is regularly dug over, it can change the availability of prey in the sediment as the area needs a period of recovery and recolonisation. The removal of strandline vegetation by beach cleaning removes an

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK9015022** **Size: 24662.98** **Designation: SPA**	**Habitats Regulations Assessment: Data Proforma**
	important habitat for invertebrates, as well as many of the invertebrates themselves, reducing the quantity and variety of prey available to the birds. Much of the saltmarsh is managed by grazing and changes in management can alter the availability of prey and suitability of roosting sites. The saltmarsh is currently highly vulnerable to the selective extraction of species.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. www.cardiff.gov.uk/ObjView.asp?Object_ID=9788 ▪ The Screening states that the significance of the potential impacts of the indicative route in the Preferred Strategy (either alone or in-combination with other plans and projects) will be considered when a more detailed scheme is available. An appropriate assessment may be required for the scheme. HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/Environm]entAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ It is likely that an increase of 7000 dwellings in Torfaen and associated development will in some way impact upon the site. It is likely however that the potential impact will be as a result of in-combination effects with other implemented plans and programmes in close proximity to the Severn Estuary. AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07. http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf ▪ Given the extent of the Severn Estuary and the diverse range of activities and operations that could result in adverse impact to the European Site, it is considered inevitable that the Draft Preferred Strategy will in some

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK9015022** **Size: 24662.98** **Designation: SPA**	**Habitats Regulations Assessment: Data Proforma**
	way, impact upon the designated site. While much of the development arising from the draft preferred strategy is likely to be located well away from the Severn Estuary, the south-eastern zone has been identified as a growth area and abuts the boundary of the designated site. Therefore, it is recommended that a more detailed assessment of the LDP be undertaken following consultation on the Draft Preferred Strategy to ascertain and mitigate against any likely significant effects to the SPA, cSAC, RAMSAR.

Ramsar Sites

Site Name: Crymlyn Bog **Location Grid Ref: SS694947** **JNCC Site Code: UK14006** **Size: 264.18ha** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
Site Description	Crymlyn Bog is situated to the East of Swansea and lies in close proximity to the A483. The site comprises of a floodplain-valley mire located within a lowland coastal context and is the most extensive wetland of its type in Wales. The mire features a complex mosaic of vegetation types, supporting examples of swamp, tall herb fen, fen meadow and carr communities. The site supports an exceptionally wide range of rich and poor fen communities, some of which bear a close floristic affinity to certain floodplain mires in East Anglia. The presence of significant areas of saw sedge Cladium mariscus swamp is notable in extensive stands of this uncommon vegetation type, occurring at only three other sites in Wales. Crymlyn Bog is part of a larger inter-estuarine complex which includes the adjacent Pant y Sais fen. The bog at Crymlyn is surrounded by a major oil refinery, a waste disposal tip and large housing estates. Earlier, industries used its water to establish a transport system, and the remains of a 19th century canal network are still evident today. The bog is the most extensive area of lowland fen in Wales, and it lies in the flood plain of the Neath river estuary. The plants here are more typical of East Anglia. The habitats include swamps, meadows, tall reed beds, and waterlogged scrub, mainly of willow, where the wetter areas merge with woodland.
Qualifying Features	Ramsar criterion 1 ▪ Largest example of valley floodplain topogenous mire in South Wales, and one of the largest surviving fens in the west of Britain. Very few other sites are known to support a comparable complexity and diversity of vegetation. Habitats Directive Annex I features present on the SAC include: o Transition mires and quaking bogs o Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* o Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* Ramsar criterion 2

Site Name: Crymlyn Bog **Location Grid Ref: SS694947** **JNCC Site Code: UK14006** **Size: 264.18ha** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
	▪ Supports a substantial population of the nationally-rare slender cotton-grass *Eriophorum gracile*, and a rich invertebrate fauna including many rare and highly localised species. Ramsar criterion 3 ▪ The site supports 199 vascular plant species including 17 regionally-uncommon and one nationally rare.
Conservation Objectives	**No specific conservation objects are available for the Crymlyn Bog Ramsar Site. However conservation objectives are available for the Crymlyn Bog SAC, which covers approximately 35 hectares more land at the northern end of Crymlyn Bog than the Ramsar site. The conservation objectives for the Crymlyn Bog SAC are:** **Conservation Objective for Feature 1:** **Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*** Vision for feature 1 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Calcareous fen will occupy at least 15 ha of Crymlyn Bog SAC. ▪ Most of the remainder of the site will comprise related fen vegetation. ▪ The following plant species will be common in the calcareous fen vegetation: *Cladium mariscus*, *Carex elata*, *Osmunda regalis*, *Phragmites australis*. ▪ Although *Cladium mariscus* may form dense stands in places, the majority of the calcareous fen at Crymlyn Bog will be the more open, species-rich form, with *Cladium* typically present at less than 20% cover. ▪ Similarly although *Phragmites australis* is a frequent constituent of calcareous fen vegetation, this species will not generally exceed 20% cover. ▪ Scrub species such as willow Salix and birch *Betula* will be largely absent. ▪ All factors affecting the achievement of these conditions will be under control.

Site Name: Crymlyn Bog Location Grid Ref: SS694947 JNCC Site Code: UK14006 Size: 264.18ha Designation: Ramsar	Habitats Regulations Assessment: Data Proforma
	Performance indicators for Feature 1 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Crymlyn Bog Management Plan. **Conservation Objective for Feature 2:** **Transition mires and quaking bogs** Vision for feature 2 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Transition mire vegetation will occupy at least 12 ha of Crymlyn Bog SAC. ▪ Most of the remainder of the site will comprise related fen vegetation. ▪ The transition mire will comprise varying mixtures of the following plant species: *Schoenus nigricans*, *Carex rostrata*, *C. echinata*, C. limosa, *Equisetum fluviatile, Eriophorum angustifolium, E. gracile, Menyanthes trifoliata, Sphagnum spp.* ▪ Although *Phragmites australis* and *Cladium mariscus* may be present, these species will not attain high cover. ▪ Scrub species such as willow Salix and birch *Betula* will be largely absent. ▪ All factors affecting the achievement of these conditions will be under control. Performance indicators for Feature 2 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans

Site Name: Crymlyn Bog Location Grid Ref: SS694947 JNCC Site Code: UK14006 Size: 264.18ha Designation: Ramsar	Habitats Regulations Assessment: Data Proforma
	and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Crymlyn Bog Management Plan. **Conservation Objective for Feature 3:** **Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)** Vision for feature 3 The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ▪ Alluvial forest will occupy at least 8 ha of Crymlyn Bog SAC. ▪ Most of the remainder of the site will comprise fen vegetation. ▪ The alluvial forest canopy will be dominated by varying mixtures of alder *Alnus glutinosa*, willow *Salix spp.* and birch *Betula spp*, including mature specimens of *Alnus glutinosa.* ▪ Regeneration of *Alnus*, *Salix* and *Betula* will be present either as saplings or as regrowth from the base of trees or fallen stems. ▪ The field layer will be dominated by Carex paniculata, with associates such as *Lysimachia vulgaris, Osmunda regalis, Lythrum salicaria, Solanum dulcamara, Iris pseudacorus and Scutellaria galericulata.* ▪ Oak saplings will be absent, along with other negative species such as *Pteridium aquilimun, Urtica dioica, Cirsium palustre, Juncus effusus* and *Ranunculus repens*. ▪ All factors affecting the achievement of these conditions will be under control. Performance indicators for Feature 3 The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators. The performance indicators can be found within the Crymlyn Bog Management Plan.

Site Name: Crymlyn Bog **Location Grid Ref: SS694947** **JNCC Site Code: UK14006** **Size: 264.18ha** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
Component SSSIs	▪ Crymlyn Bog SSSI
Key Environmental Conditions (factors that maintain site integrity	**Key environmental conditions for the Calcareous fens with *Cladium mariscus* and species of the *Caricion davalliana*:** ▪ **Site Level Management** - The calcareous fen is currently (2008) subject to light grazing by cattle belonging to the neighbouring tenant farmer. The cattle wander on and off the bog from the adjoining farmland, as ground conditions on the bog allow. Despite this grazing, the most recent SAC monitoring result suggests the current level of management is insufficient to maintain the calcareous fen feature in favourable condition. To address the decline in condition of the calcareous fen feature, CCW recommend that grazing levels should be increased to tackle the overgrown vegetation. If this cannot be achieved, or if increased grazing levels do not bring about a return to favourable condition, other alternative management techniques such as vegetation cutting or burning should be explored. Scrub control is already carried out within the calcareous fen area and there are no current concerns about scrub levels. Scrub control should continue in future to maintain this position. ▪ **Water quality** - Good water quality is fundamental to the long-term conservation of the calcareous fen feature. Calcareous fen is dependent on low nutrient levels to maintain its characteristic suite of plant species, and avoid replacement by vegetation typical of more eutrophic conditions (e.g. dense Phragmites australis). Good water quality must therefore be maintained to protect the calcareous fen feature. The following parameters and provisional limits are proposed as key indicators of water quality. The limits are based on recommended maximum levels for Dissolved Available Inorganic Nitrogen (DAIN) and Phosphorus (DAIP). o **Water quality: DAIN** - Upper limit: 1.5 mg/l DAIN o **Water quality: DAIP** - Upper limit: 0.05 mg/l DAIP ▪ **Water levels** - A high and stable water table is essential for the long-term conservation of the calcareous

Site Name: Crymlyn Bog Location Grid Ref: SS694947 JNCC Site Code: UK14006 Size: 264.18ha Designation: Ramsar	Habitats Regulations Assessment: Data Proforma
	fen feature. Water levels should be maintained at or slightly above ground level for much of the year to prevent drying out of the fen habitat. There are no current concerns over water levels at the site, backed up by ongoing hydrological monitoring carried out by Environment Agency Wales. ▪ **Atmospheric pollution** - Atmospheric nutrient deposition also contributes to the overall nutrient budget of Crymlyn Bog. This factor is especially relevant given the site's location on the urban edge of Swansea, with major historic and recent industrial development around its margins. The critical load for calcareous fen is 13-20 kg N/ha/yr. Atmospheric deposition should not exceed this threshold, either in isolation or in combination with other nutrient inputs. However, the critical load for N is currently exceeded at the site, chiefly through inflowing streams. o Upper limit: 20 kg N/ha/yr **Key environmental conditions for the Transition mires and quaking bogs:** ▪ **Water quality** - refer above to water quality limits relating to fen features. ▪ **Water Levels** - refer above to water levels relating to fen features. ▪ **Atmospheric pollution –** The critical load for transition mire and quaking bog is 5-10 kg N/ha/yr. Atmospheric deposition should not exceed this threshold, either in isolation or in combination with other nutrient inputs. However, the critical load for N is currently exceeded at the site, chiefly through inflowing streams. o Upper limit: 10 kg N/ha/yr **Key environmental conditions for the Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)** ▪ **Water quality** - Good water quality is important in maintaining the characteristic species composition of

Site Name: Crymlyn Bog Location Grid Ref: SS694947 JNCC Site Code: UK14006 Size: 264.18ha Designation: Ramsar	Habitats Regulations Assessment: Data Proforma
	alluvial woodland. Increased nutrient levels would result in an increase in undesirable ground flora species. In the current case, agricultural run-off from adjoining farmland is the main potential source of any eutrophication. No limits set at present. There are no current concerns over water quality within the alluvial woodland areas and the adjoining agricultural land is not farmed intensively. ▪ **Water levels** - A high water table is essential for the long-term conservation of the alluvial forest feature. Water levels should be maintained at or above ground level for much of the year to prevent drying out of the wet woodland habitat. No limits set at present. There are no current concerns over water levels at the site, backed up by ongoing hydrological monitoring carried out by EAW. ▪ **Atmospheric pollution** - No limits set for alluvial forest feature, but refer to atmospheric pollution limits relating to fen features. ▪ **Grazing** - Heavy grazing of wet woodland can lead to excessive poaching of the ground, with damaging effects on the woodland ground flora. No limits set at present. Apart from a minor amount of sheep trespass at the very edge of the woodland, there is no grazing of the alluvial forest feature (the wet ground conditions are a natural deterrent to livestock).
Ramsar Condition Assessment	No specific condition assessments are available for the Crymlyn Bog Ramsar Site. However condition assessments are available for the Crymlyn Bog SAC, which covers approximately 35 hectares more land at the northern end of Crymlyn Bog than the Ramsar site. The condition assessments for the Crymlyn Bog SAC are: **Conservation Status of Feature 1:** **Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*** In 1998 the feature was judged to be in favourable condition. However, in 2005 the feature was assessed as **unfavourable** and probably **declining**. The main reason for this later assessment was the high cover of *Cladium mariscus* at many of the sample points. It was inferred that the calcareous fen vegetation had

Site Name: Crymlyn Bog Location Grid Ref: SS694947 JNCC Site Code: UK14006 Size: 264.18ha Designation: Ramsar	Habitats Regulations Assessment: Data Proforma
	become more dense and overgrown since 1998, with a reduction in species-richness, through natural vegetation succession. Although the calcareous fen area is lightly grazed by cattle, the main reason for its shift from favourable to unfavourable condition is presumably insufficient management. **Conservation Status of Feature 2:** **Transition mires and quaking bogs** The transition mire feature was monitored in 1998 by Hurford & Perry (2000). The feature was judged to be in **unfavourable** condition. The reason for this assessment was the perceived loss of transition mire vegetation since an earlier mapping exercise carried out in the late 1980s (Headley, 1990). The decline in transition mire was thought to be due to an expansion of *Phragmites australis*, linked to lack of grazing management and/or increased nutrient levels. No formal SAC monitoring work has been carried since 1998, but an assessment was made in 2004, when it was concluded the feature was still in **unfavourable** condition (Wilkinson, 2004b). The rationale behind this latest assessment was that no grazing management had been introduced to the transition mire areas at that time. CCW therefore deduced that the feature must still be in unfavourable condition, without the need to undertake any further sampling work. **Conservation Status of Feature 3:** **Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)** The alluvial forest feature was monitored by CCW's SAC monitoring team in 2004 (Wilkinson, 2004a). The feature was judged to be in **unfavourable** condition. The reason for this assessment was the presence of oak saplings and the shortage of positive ground flora indicator species in Area A; plus the presence of dead/dying alder trees and the frequency of negative ground flora indicator species in Area B. Doubts have been raised by CCW over the particular performance indicators used in the monitoring of the

Site Name: Crymlyn Bog **Location Grid Ref: SS694947** **JNCC Site Code: UK14006** **Size: 264.18ha** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
	alluvial forest feature. It intendeds to review these performance indicators during the 2008 field season, and perhaps amend the criteria as necessary. Until then it suggests that the above condition assessment should be viewed with some caution. It is also likely that further areas of wet woodland at Crymlyn Bog merit inclusion in the alluvial forest feature; again this will be given further consideration in 2008.
Vulnerabilities (includes existing pressures and trends)	▪ **Site Level Management** - The calcareous fen is currently (2008) subject to light grazing by cattle belonging to the neighbouring tenant farmer. The cattle wander on and off the bog from the adjoining farmland, as ground conditions on the bog allow. Despite this grazing, the most recent SAC monitoring result suggests the current level of management is insufficient to maintain the calcareous fen feature in favourable condition. To address the decline in condition of the calcareous fen feature, CCW recommend that grazing levels should be increased to tackle the overgrown vegetation. If this cannot be achieved, or if increased grazing levels do not bring about a return to favourable condition, other alternative management techniques such as vegetation cutting or burning should be explored. Scrub control is already carried out within the calcareous fen area and there are no current concerns about scrub levels. Scrub control should continue in future to maintain this position. ▪ **Alien plant species** - Himalayan balsam has recently invaded several areas around the western edge of Crymlyn Bog. This annual plant can be very invasive, often colonising along stream-sides and watercourses by its water-borne seeds. Given its preference for damp substrates, Himalayan balsam is a potentially serious threat to the fen habitats at Crymlyn Bog. The CCW management plan for the site states that there are no concerns over the water table and nutrient levels for the alluvial forest feature at the current time. Similarly there is no threat from excessive grazing at present, as the wet ground conditions provide a natural deterrent to livestock.
Landowner/ Management Responsibility	▪ CCW
HRA/AA Studies undertaken	AA of the Neath Port Talbot UDP June 2007: http://www.neath-

Site Name: Crymlyn Bog **Location Grid Ref: SS694947** **JNCC Site Code: UK14006** **Size: 264.18ha** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
that address this site	porttalbot.gov.uk/pdf/udp_200706_appropriate_assessment.pdf ▪ "The application of regulatory policies within the respective UDPs, together with the Appropriate Assessment procedure (which applies both to planning applications and other projects) provide a secure mechanism to ensure that allocations neither individually or in-combination would create an adverse effect on the integrity of the site". The potential impacts that policies were assessed against were: o Water quality; o Water quantity; o Air Pollution; o Human interference; o Invasive species; and o Habitat loss.

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK11081** **Size: 24662.98** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
Site Description	The Severn Estuary is the largest coastal plain estuary in the UK with extensive mudflats and sandflats, rocky shore platforms, shingle and islands. Saltmarsh fringes the coast, backed by grazing marsh with freshwater and occasional brackish ditches. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second highest tidal range in the world (after the Bay of Fundy in Canada) at more than 12 meters. This tidal regime results in plant and animal communities typical of the extreme physical conditions of strong flows, mobile sediments, changing salinity, high turbidity and heavy scouring. The resultant low diversity invertebrate communities, that frequently include populations of ragworms, lugworms and other invertebrates in high densities, form an important food source for passage and wintering birds. The site is important in the spring and autumn migration periods for waders moving along the west coast of Europe, as well as in winter for large numbers of waterbirds including swans, geese, ducks and waders. These bird populations are regarded as internationally important. Glassworts and annual sea-blite colonise the open mud, with beds of all three species of eelgrass *Zostera* occurring on more sheltered mud and sandbanks. Large expanses of common cord-grass also occur on the outer marshes. Heavily grazed saltmarsh fringes the estuary with a range of saltmarsh types present. The middle marsh sward is dominated by common saltmarsh-grass with typical associated species. In the upper marsh, red fescue and saltmarsh rush become more prominent. Areas of saltmarsh fringe the estuary, mostly grazed with a range of vegetation communities. There are gradual and stepped transitions between bare mudflat to upper marsh and grassland. Main vegetation types are: upper saltmarsh with *Festuca rubra* and *Juncus gerardii*; middle marsh dominated by *Puccinellia maritima* with *Glaux maritima* and *Triglochin maritima*; dense monocultures of *Spartina anglica* at the edge of the mudflats-brackish pools and depressions with *Phragmites australis* and *Bolboschoenus maritimus*.
Qualifying Features	Ramsar criterion 1

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK11081** **Size: 24662.98** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
	▪ Immense tidal range (second-largest in world) creating diversity of physical environment and biological communities. Ramsar criterion 3 ▪ Due to unusual estuarine communities, reduced diversity and high productivity. Ramsar criterion 4 ▪ This site is important for the run of migratory fish between sea and river via estuary. Species include Salmon *Salmo salar*, sea trout *S. trutta*, sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, allis shad *Alosa alosa*, twaite shad *A. fallax*, and eel *Anguilla anguilla*. It is also of particular importance for migratory birds during spring and autumn. Ramsar criterion 5 Species with peak counts in winter: ▪ 70919 waterfowl Ramsar criterion 6 Species with peak counts in winter: ▪ Bewick's swan ▪ Greater white-fronted goose ▪ Common shelduck ▪ Gadwall ▪ Dunlin ▪ Common redshank Ramsar criterion 8

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK11081** **Size: 24662.98** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
	▪ The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon *Salmo salar*, sea trout *S. trutta*, sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, allis shad *Alosa alosa*, twaite shad *A. fallax*, and eel *Anguilla Anguilla* use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad Alosa alosa and twaite shad *A. fallax* which feed on mysid shrimps in the salt wedge.
Conservation Objectives	▪ No conservation objectives currently available for this site.
Component SSSIs	▪ Sully Island SSSI ▪ Steep Holm SSSI ▪ Bridgwater Bay SSSI ▪ Flat Holm SSSI ▪ Severn Estuary SSSI ▪ Severn Estuary SSSI ▪ Flat Holm SSSI ▪ Upper Severn Estuary SSSI ▪ Bridgwater Bay SSSI ▪ Penarth Coast SSSI ▪ Steep Holm SSSI ▪ Sully Island SSSI ▪ Upper Severn Estuary SSSI
Key Environmental Conditions (factors that maintain site integrity	**Key supporting habitats for the Berwick's swan:** ▪ **Intertidal mudflats and sandflats**:

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK11081 Size: 24662.98 Designation: Ramsar	Habitats Regulations Assessment: Data Proforma
	○ Habitat extent - The focal area for the Bewick's swans is the upper Severn Estuary in the vicinity of the New Grounds, Slimbridge area. The mudflats and sandflats exposed as the tide falls where the estuary widens in the upper reaches of the site at Waveridge Sands, Frampton Sands and The Noose are used as safe refuge areas when the birds are disturbed. ○ Unimpeded sightlines at feeding and roosting sites - Bewick's swan require unrestricted views >500m to allow early detection of predators when feeding and roosting. ▪ **Saltmarsh communities**: ○ Habitat extent - The birds feed on the saltmarsh and the transition from saltmarsh to coastal grazing marsh in front of the sea defences in the upper estuary at The Dumbles, where areas of the high marsh are mainly affected only by brackish water during tidal inundation. ○ Vegetation characteristics - Bewick's swan graze on a range of 'soft' meadow grasses such as *Agrostis stolonifera* and *Alopecurus geniculatus* found in wet meadows which are outwith the European marine site boundary. ○ Unimpeded sightlines at feeding and roosting sites - Bewick's swan require unrestricted views >500m to allow early detection of predators when feeding and roosting. **Key supporting habitats for populations of regularly occurring migratory species and assemblage of waterfowl** ▪ **Intertidal mudflats and sandflats:** ○ Habitat extent - Intertidal mudflats and sandflats and their communities are important habitats as they provide both roosting and feeding areas. The European white-fronted geese roost at night on estuarine sandbanks and usually fly less than 10km to the daytime feeding grounds. Therefore conservation of traditional roosting sites is necessary to enable the population to exploit potential feeding habitats. ○ Food availability - Most of the waders and waterfowl within the assemblage including the internationally important regularly occurring migratory birds feed on invertebrates within and on the sediments.

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK11081 Size: 24662.98 Designation: Ramsar	Habitats Regulations Assessment: Data Proforma
	○ Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting. ▪ **Saltmarsh**: ○ Habitat extent - Saltmarsh and their communities are important habitats as they provide both roosting and feeding areas. Upper and lower saltmarsh provide important feeding and roosting areas for the internationally important migratory birds throughout the estuary. ○ Food availability - The saltmarshes provide a rich feeding habitat for redshank and shelduck, which feed on invertebrate species in the sediments, such as the mudsnail Hydrobia. The European white-fronted geese graze on a range of saltmarsh grasses and herbs such as common saltmarsh grass Puccinellia maritime and sea barley Hordeum marinum. The birds feed on the saltmarsh and the transition to coastal grazing marsh in front of the sea defences in the upper estuary and particularly at the The Dumbles. ○ Vegetation characteristics - Vegetation of <10 cm is required throughout areas used by roosting waders. This is managed by grazing. ○ Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting. The saltmarshes also have an important function providing a safe haven from the tides that flood the mudflats twice a day. The low-growing dense vegetation provides a suitable roosting habitat for redshank and dunlin, which prefer to roost on areas of short vegetation ensuring good visibility. ▪ **Shingle and rocky shore:** ○ Habitat extent - the shingle and rocks in the estuary provide feeding areas for dunlin and redshank and some limited foraging at high tide. It is also provides important roost sites at high tide particularly for the dunlin and redshank. Many of the rocks are off shore and are therefore generally free from human disturbance. These include Guscar Rocks in the upper reaches, Blackstone Rocks at Clevedon and Stert Island in Bridgwater Bay.

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK11081 Size: 24662.98 Designation: Ramsar	Habitats Regulations Assessment: Data Proforma
	○ Food availability - see above. ○ Unimpeded sightlines at feeding and roosting sites - Waterfowl require unrestricted views >500m to allow early detection of predators when feeding and roosting. ▪ **Wet coastal grazing marsh, improved grassland and open standing waters** - these supporting habitats lie outside the European marine site boundary but within the SPA. They provide key areas for feeding and roosting for all the migratory species particularly at high tide. **Key environmental conditions for the supporting habitats:** ▪ **Hydrodynamic and sedimentary regime** - the tidal range in the Severn Estuary is the second-highest in the world and the scouring of the seabed and strong tidal streams result in natural erosion of the habitats and the presence of high sediment loads. ▪ **Maintain suitable distance between the site and development** - to allow for managed retreat of intertidal habitats and avoid coastal squeeze. **Other key conditions:** ▪ **Manage/restrict public access** - at certain times of the year. Significant disturbance attributable to human activities can result in reduced food intake and/or increased energy expenditure. ▪ **Maintain levels of prey.**
Ramsar Condition Assessment	▪ N/A

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK11081** **Size: 24662.98** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
Vulnerabilities (includes existing pressures and trends)	▪ **Physical loss of supporting habitats through removal** - The physical loss of areas of intertidal habitats may be caused directly through change of land use or indirectly as a consequence of changes to sedimentation processes (e.g. coastal defences) as well as via the effects of smothering by artificial structures (e.g. jetties) or the disposal of spoils. Activities or developments resulting in physical loss of the intertidal supporting habitats are likely to reduce the availability of feeding and roosting habitats. The intertidal mudflats and sandflats and the saltmarsh are highly sensitive to removal by land reclamation and barrage construction. Information provided by NE and CCW states that large areas of the European marine site are not currently under threat, however when combined with a high level of sensitivity this leads to a moderate vulnerability. ▪ **Noise or visual disturbance** - Overwintering birds are disturbed by sudden movements and sudden noises. This can displace the birds from their feeding grounds. Disturbance can prevent the birds from feeding and in response they either a) decrease their energy intake at their present (disturbed) feeding site through displacement activity, or b) move to an alternative less favoured feeding site. Such a response affects energy budgets and thus survival. There is intermittent disturbance to the internationally important migratory species and the waterfowl assemblage from both the landward and seaward side of the site which has increased in recent years, due to the estuary becoming more populated and the development of all weather recreational pursuits. Bewick's swans are mainly affected by disturbance from the landward side and any increase in disturbance should be avoided. All supporting habitats are currently highly vulnerable to noise and visual disturbance. ▪ **Contamination by synthetic and/or non-synthetic toxic compounds** - Waterfowl are subject to the accumulation of toxins through the food chain or through direct contact with toxic substances when roosting or feeding. Their ability to feed can also be affected by the abundance or change in palatability of their prey caused by toxic contamination. At the moment there is no evidence to show that this is the case, but the estuary is vulnerable to oil spills and there is a continuous discharge of toxins into the estuary, some of which bind to the sediments. NE and CCW identify this is an area which requires further assessment.

Site Name: Severn Estuary Location (Lat & Long): 51 13 29 N 03 02 57 W JNCC Site Code: UK11081 Size: 24662.98 Designation: Ramsar	Habitats Regulations Assessment: Data Proforma
	The intertidal mudflats and sandflats and the saltmarsh are currently highly vulnerable to the introduction of synthetic and non-synthetic compounds. ▪ **Damage by abrasion or selective extraction** - Saltmarsh may be physically damaged from overgrazing or eroded when boats are moored on it and when paths are worn through it to reach moored boats on foot or via vehicles. Currently all supporting habitats are considered to be moderately vulnerable to abrasion. Intertidal habitats are highly sensitive to damage by direct and indirect effects of aggregate dredging. The intertidal mudflats and sandflats and the shingle and rocky shore are therefore considered by NE and CCW to be highly vulnerable to selective extraction. ▪ **Changes in nutrient and/or organic loading** - Changes in organic or nutrient loading can change the species composition of the plants on the saltmarsh and thus the structure of the sward. Increases in nutrients can also cause excessive algal growth on the mudflats, denying the birds access to their invertebrate prey and changing the invertebrate species composition in the sediment. Though the water quality has been improved in recent years there are still local areas of concern and any increase in nutrient loading should be avoided. At present the intertidal mudflats and sandflats are moderately vulnerable to this category of operation. ▪ **Biological disturbance through the selective extraction of species** - Wildfowling is carried out all around the estuary. NE and CCW have not established that it has a detrimental effect on the overall bird populations but state that wildfowling needs to be exercised in a managed and sustainable manner preferably by a British Association of Shooting and Conservation (BASC) affiliated association, applying the BASC wildfowlers code of conduct. Bait digging is also carried out around the estuary. If too large an area is regularly dug over, it can change the availability of prey in the sediment as the area needs a period of recovery and recolonisation. The removal of strandline vegetation by beach cleaning removes an important habitat for invertebrates, as well as many of the invertebrates themselves, reducing the quantity

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK11081** **Size: 24662.98** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
	and variety of prey available to the birds. Much of the saltmarsh is managed by grazing and changes in management can alter the availability of prey and suitability of roosting sites. The saltmarsh is currently highly vulnerable to the selective extraction of species.
Landowner/ Management Responsibility	▪ N/A
HRA/AA Studies undertaken that address this site	HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. www.cardiff.gov.uk/ObjView.asp?Object_ID=9788 ▪ The Screening states that the significance of the potential impacts of the indicative route in the Preferred Strategy (either alone or in-combination with other plans and projects) will be considered when a more detailed scheme is available. An appropriate assessment may be required for the scheme. HRA Screening of the Torfaen Local Development Plan (2006-2021) January 2008. http://www.torfaen.gov.uk/Environm]entAndPlanning/Planning/ForwardPlanning/Publications/HabitatsRegulationAssessment.pdf ▪ It is likely that an increase of 7000 dwellings in Torfaen and associated development will in some way impact upon the site. It is likely however that the potential impact will be as a result of in-combination effects with other implemented plans and programmes in close proximity to the Severn Estuary. AA Screening of the Vale of Glamorgan Local Development Plan Preferred Strategy Dec 07. http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf ▪ Given the extent of the Severn Estuary and the diverse range of activities and operations that could result in adverse impact to the European Site, it is considered inevitable that the Draft Preferred Strategy will in some way, impact upon the designated site. While much of the development arising from the draft preferred

Site Name: Severn Estuary **Location (Lat & Long):** **51 13 29 N** **03 02 57 W** **JNCC Site Code: UK11081** **Size: 24662.98** **Designation: Ramsar**	**Habitats Regulations Assessment: Data Proforma**
	strategy is likely to be located well away from the Severn Estuary, the south-eastern zone has been identified as a growth area and abuts the boundary of the designated site. Therefore, it is recommended that a more detailed assessment of the LDP be undertaken following consultation on the Draft Preferred Strategy to ascertain and mitigate against any likely significant effects to the SPA, cSAC, RAMSAR.

INFORMATION DATABASE:

Plans, Programmes & Projects Effects (in-combination)

Plans, Programmes and Projects Review

National

National	
People, Places, Futures: The Wales Spatial Plan (update) 2008: http://wales.gov.uk/consultations/currentconsultation/improveps/wspconsult/?lang=en	
Plan Type	**Regional Spatial Strategy**
Plan Owner/ Competent Authority	**Welsh Assembly**
Currency	**Adopted 2004**
Region/Geographic Coverage	**Wales**
Sector	**Planning**
Related work SA/SEA HRA/AA	**SEA of the Wales Spatial Plan Update 2008:** *http://wales.gov.uk/consultations/currentconsultation/improveps/wspconsult/?lang=en*
Document Details	**Potential impacts that could cause 'in-combination' effects**
The Wales Spatial Plan sets out an agenda for the sustainable development of Wales over the next 20 years. The purpose of the update is to reflect new drivers of change and to give status to the Area work which has developed over the past two years. The plan aims to make South East Wales a networked city-region able to provide quality of life for the population and to be able to compete with comparable areas in the UK and the EU for investment and growth. The pattern of housing development across South East Wales is seen as developing a greater mix and balance of housing in the Heads of the Valleys and Connections Corridor whilst ensuring that development in the Coastal Belt of South East Wales does not undermine this housing market. There should also be a targeted action to secure a supply of affordable	▪ Direct loss of habitat through development - One of the three Strategic Opportunity Areas identified is 'the area around Llantrisant and North West Cardiff'; Cardiff Beech Woods SAC is in close proximity to this. ▪ Housing and employment growth may lead to increased transport movements - the potential for in-combination effect is greater where housing sites are in close proximity to Natura 2000 sites. ▪ New communities require increased infrastructure – potential for land take, pollution increase, disturbance/ severance of habitats and species. ▪ Growth in the requirement for waste management/ transport disposal from new communities and businesses has the potential to increase pollution, and introduce land take issues. ▪ Recreation pressures may result from housing developments near/ adjacent to Natura 2000 sites. ▪ Atmospheric pollution generated as a result of housing, employment

National	
People, Places, Futures: The Wales Spatial Plan (update) 2008: http://wales.gov.uk/consultations/currentconsultation/improveps/wspconsult/?lang=en	
housing. Three Strategic Opportunity Areas (SOA) were identified as offering potential regional benefits from their sustainable development. These areas are: developments linked to the dualling of the Heads of the Valleys road (A465); the area around Llantrisant and North West Cardiff which has seen major growth over the past 30 years; and development in the Vale of Glamorgan linked to the proposed St Athan military training academy. The Plan states that improvements to transport are essential to making the city-region work, and to the regeneration of Valleys communities, highlighting the importance of external transport links, such as the M4, east/west rail links and Cardiff International Airport.	and transport growth.

National	
Property Strategy for Employment in Wales 2004- 2008: http://new.wales.gov.uk/topics/businessandeconomy/property/Prop-strat/?lang=en	
Plan Type	**Employment Strategy**
Plan Owner/ Competent Authority	**Welsh Development Agency**
Currency	**2004 - 2008**
Region/Geographic Coverage	**Wales**
Sector	**Planning**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**

National	
Property Strategy for Employment in Wales 2004- 2008: http://new.wales.gov.uk/topics/businessandeconomy/property/Prop-strat/?lang=en	
The Property Strategy for Employment in Wales 2004-2008 sets out the Welsh Assembly Government's approach for employment sites and buildings across Wales. The document aims to provide a framework to ensure that Wales can provide high quality employment sites and premises in the right locations for inward investors and indigenous businesses. **Premier Business Park** (1) - focused on M4/capital of Wales One park is needed for Wales as a whole, with a land requirement of some 100-300 acres (40-121 hectares). The current lack of such a premier business park is a major weakness in Wales' current property armoury and investor offer. Only the "Greater Cardiff" area can in principle meet the criteria set out in the strategy. **Business Parks** (6) - 2/3 on M4 Corridor. **Strategic Sites** (15/20) -concentrated on large centres of population with proximity to the primary road network. **Strategic Mixed Use Sites** (5-10) - to complement the business parks and strategic sites network. **Special Category Sites** (1) - but with other sites having 'key' sector roles	▪ Direct loss of habitat through development - There are 4 SACs in close proximity to the M4, these are: o River Usk SAC; o Cardiff Beech Woods SAC; o Cefn Cribwr Grasslands SAC; and o Kenfig SAC. ▪ Employment growth may lead to increased transport movements. ▪ New development requires increased infrastructure - potential for land take, pollution increase, disturbance/ severance of habitats and species. ▪ Growth in the requirement for waste management/ transport disposal from new businesses has the potential to increase pollution, and introduce land take issues. ▪ Recreation pressures may result from developments near/ adjacent to Natura 2000 sites. ▪ Atmospheric pollution generated as a result of employment and transport growth.

National	
Property Strategy for Employment in Wales 2004- 2008: http://new.wales.gov.uk/topics/businessandeconomy/property/Prop-strat/?lang=en	
City/Town Centre Office Sites Extensive network based on the main centres of population and existing critical mass, supplemented by smaller scale opportunities The following areas are recommended for early consideration: - major settlements ▪ Cardiff/Cardiff Bay ▪ Swansea ▪ Newport ▪ Wrexham - other settlements ▪ Caerphilly ▪ Cwmbran ▪ Merthyr Tydfil ▪ Carmarthen ▪ Newtown ▪ Bangor ▪ Colwyn Bay **Industrial Estates/Local Sites** 50-70 – to serve essentially sub-regional and local markets.	

National	
Wales Transport Strategy 2006: http://new.wales.gov.uk/consultations/closed/busandeconcloscons/951740/?lang=en	
Plan Type	**Transport**
Plan Owner/ Competent Authority	**Welsh Assembly Government – Transport Wales**
Currency	**Consultation document (ended Oct 2006)**
Region/Geographic Coverage	**Wales – with regional sections Including South East Wales Transport Alliance (SEWTA) region**
Sector	**Transport**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The Wales Transport Strategy (WTS) Consultation Document is the 'parent document' to RTPs and sets out how the Welsh Assembly Government proposes to deliver its transport duty to 2030. The WTS vision is: 'To provide a framework that connects national, regional and local policy to maximise the contribution that transport can make to achieving a sustainable future for Wales, where actions for social, economic and environmental improvement work together to create positive change'. The WTS seeks to maximise the contribution transport can make to delivering 15 social, economic and environmental outcomes: **Social** ▪ Improving access to healthcare ▪ Improving access to education and life-long learning ▪ Improving access to shopping and leisure facilities	▪ Improving the efficient, reliable and sustainable movement of people and freight as well as reducing the contribution of transport to greenhouse gas emissions will help to mitigate or offset any increase in diffuse air pollution as a result of this Strategy.

National	
Wales Transport Strategy 2006: http://new.wales.gov.uk/consultations/closed/busandeconcloscons/951740/?lang=en	
▪ Encouraging healthy lifestyles ▪ Improving the actual and perceived safety of travel **Economic** ▪ Improving connectivity (links) within Wales and internationally ▪ Improving the efficient, reliable and sustainable movement of people ▪ Improving the efficient, reliable and sustainable movement of freight ▪ Improving access to employment opportunities ▪ Improving access to key visitor attractions ▪ Increasing the use of more sustainable materials in the maintenance of Wales' transport assets and in the provision of new transport infrastructure **Environmental** ▪ Reducing the contribution of transport to greenhouse gas emissions, adapting to the impacts of climate change and reducing the contribution of transport on air pollution and other harmful pollutant emissions ▪ Reducing the negative impact of transport on the local environment - water pollution, land contamination, noise and vibration, light pollution and links between communities ▪ Reducing the negative impact of transport on our heritage - landscape, townscape, historical environment and Wales' distinctiveness ▪ Reducing the negative impacts of transport on biodiversity and increasing positive impacts	

National	
The Trunk Road Forward Programme 2002: http://wales.gov.uk/topics/transport/roads/1397701/?lang=en	
Plan Type	**Transport**
Plan Owner/ Competent Authority	**Welsh Assembly Government – Transport Wales**
Currency	**Consultation document (ended Oct 2006)**
Region/Geographic Coverage	**Wales – with regional sections Including South East Wales Transport Alliance (SEWTA) region**
Sector	**Transport**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
Phase 1 (Start March 2007) A465 Abergavenny to Gilwern ▪ The scheme comprises the on-line widening of some 6km of the A465 between the existing Hardwick Roundabout and Glanbaiden junction, and then continues for just under 1km to Gilwern. Includes the areas: Hardwicke roundabout, Llanfoist, West of Llanfoist, Govilon and Gilwern East. http://new.wales.gov.uk/docrepos/40382/4038231141/403821125/Roads/newroadsphase1/40382112415/Section1.pdf?lang=en M4 Castleton to Coryton Widening ▪ A 13.5km (8.0 mile) long scheme to widen from dual two lane to dual three lane motorway standard at an estimated cost of £71m. The main programme of construction work started in May 2007. Reconstruction and realignment of the motorway within the central reserve is currently underway between Junctions 30 and 32. This will continue until June 2008. The main widening will then follow in core phases: o June 2008 - November 2008: J30 to J32 - Westbound	▪ A465 Abergavenny to Gilwern - Runs in close proximity and across the River Usk SAC. Potential for disturbance at point which the A465 crosses the River Usk and for pollution as a result of construction activities. ▪ M4 Castleton to Coryton Widening - Junction 32 of the M4 lies approximately 1.2km away from Cardiff Beech Woods SAC. ▪ A465 Gilwern to Brynmawr - This section of the A465 runs directly through Cwm Clydach Woodlands SAC and Usk Bat Sites SAC. Potential for direct land take, increased disturbance for bat population and possible pollution as a result of construction activities. ▪ New M4 Magor to Castleton - This development would involve the building of a bridge across the River Usk SAC. Potential for disturbance at point which the bridge crosses the River Usk and for pollution as a result of construction activities. There is potential for the bridge to have significant effects on migratory fish populations. ▪ All the development proposed has the potential to increase levels of traffic and therefore contribute to an increase in diffuse air pollution.

National	
The Trunk Road Forward Programme 2002: http://wales.gov.uk/topics/transport/roads/1397701/?lang=en	
widening. o November 2008 - April 2009: J29 to J30 - Eastbound widening. o April 2009 - August 2009: J29 to J30 - Central Reserve works. o August 2009 - December 2009: J29 to J32 - Westbound widening. **Phase 2 (Could be ready to start by April 2010)** A465 Brynmawr to Tredegor ▪ The A465 Trunk Road is part of the Trans European Road Network and is an important strategic route in South Wales, linking the Midlands and Northern England to West Wales and Ireland. Includes the areas: The Dingle, Blaen-y-Cwm Reservoir, Garn Lydan, Rassau Industrial Estate East, Rassau Industrial Estate West and Nantybwch Junction (phase two). http://new.wales.gov.uk/docrepos/40382/4038231141/403821125/Roads/newroadsphase1/40382112415/Section3.pdf?lang=en A465 Gilwern to Brynmawr ▪ The A465 Trunk Road is part of the Trans European Road Network and is an important strategic route in South Wales, linking the Midlands and Northern England to West Wales and Ireland. Includes the areas: Gilwern East (phase two), Gilwern West, Maesygwartha, Upper Clydach, Blackrock and Brynmawr. http://new.wales.gov.uk/docrepos/40382/4038231141/403821125/Roads/newroadsphase1/40382112415/Section2.pdf?lang=en	

National	
The Trunk Road Forward Programme 2002: http://wales.gov.uk/topics/transport/roads/1397701/?lang=en	
New M4 Magor to Castleton ▪ The Welsh Assembly Government has proposed a new dual 3-lane motorway link between Magor and Castleton as part of the optimum long-term wider integrated transport strategy for South-East Wales. The new dual 3-lane motorway will be 15 miles (24 km) long, linking Junction 23A at Magor and Junction 29 at Castleton. The route crosses the Gwent Levels, including several Sites of Special Scientific Interest (or SSSIs), so great care will be taken to minimise the effects on the SSSIs by using previous industrial land where feasible. http://new.wales.gov.uk/docrepos/40382/4038231141/403821125/Roads/newroadsphase2/NewM4/New_M4_Preferred_Route.pdf?lang=en **Phase 3 (Unlikely to start before April 2010)** A4042 Llanellen ▪ A narrow bridge crossing with limited pedestrian facilities and narrow winding approach from the south. Cardiff International Airport Access ▪ The scheme is proposed to address access problems to Cardiff International Airport and Culverhouse Cross. Detailed investigations are underway to ascertain how well various options address the identified issues whilst taking into account environmental, social and economic considerations. As part of the ongoing study traffic surveys and roadside interviews with travellers on roads in the Vale of Glamorgan area will be carried out in early March 2008. It is anticipated that solutions which are considered to best	

National	
The Trunk Road Forward Programme 2002: http://wales.gov.uk/topics/transport/roads/1397701/?lang=en	
address the issues will be the subject of a public consultation planned to start in July 2008. The study is expected to be complete by the end of 2008. http://new.wales.gov.uk/topics/transport/roads/NewRoads3/ImprovingAccessToCardiffAirport/?lang=en A465:A470 to Hirwaun A465 Dowlais Top to A470 ▪ Includes the areas: Dowlais Top Junction (phase two), Penywern, Galon Uchaf, Gurnos, Cefn Coed, A470 Junction and West of A470. http://new.wales.gov.uk/docrepos/40382/4038231141/403821125/Roads/newroadsphase1/40382112415/Section5.pdf?lang=en **On Hold** A4042 Penperlleni A40 Abergavenny	

National	
Minerals Planning Policy Wales 2001: http://new.wales.gov.uk/topics/planning/policy/minerals/mineralsplanning?lang=en	
Plan Type	**Minerals & Waste**
Plan Owner/ Competent Authority	**Welsh Assembly Government**
Currency	**2001 - ?**
Region/Geographic Coverage	**Wales**
Sector	**Minerals**

National	
Minerals Planning Policy Wales 2001: http://new.wales.gov.uk/topics/planning/policy/minerals/mineralsplanning?lang=en	
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar Sites 23. Minerals proposals within or likely to significantly affect potential and classified SPAs, designated, candidate or proposed SACs or Ramsar sites must be carefully examined in relation to the site's conservation objectives in order to ascertain whether or not they are likely to be significant in terms of the ecological objectives of the site. For the purpose of considering development proposals affecting them, potential SPAs and candidate SACs should be given the same protection and treated as classified SPAs and designated SACs. As a matter of policy, the Assembly has chosen to apply the same considerations to Ramsar sites. If a proposal individually or in combination with other proposals and sites with extant planning permission is likely have a significant effect on such a site, an appropriate assessment of the implications for the site must be made by the planning authority. If the proposal would adversely affect the integrity of the site (taking into account advice from the Countryside Council for Wales) and conditions would not remove this effect, planning permission will not be granted unless there are: ▪ no alternative solutions (i.e. alternative supplies cannot be made available at reasonable cost; and there is no scope for meeting the need in some other way); and, ▪ imperative reasons of overriding public interest – including those of a social and economic nature. In determining this,	No locations are specified. The document contains strong policies in regard to the protection of Natura 2000 and Ramsar sites.

National	
Minerals Planning Policy Wales 2001: http://new.wales.gov.uk/topics/planning/policy/minerals/mineralsplanning?lang=en	
authorities should have regard to considerations such as the need for the development in terms of UK mineral supply; and, the impact of permitting the development or refusing it on the local economy. The Assembly would consider the question of whether there are imperative reasons of overriding public interest for the development, taking account of advice from the Countryside Council for Wales, and bearing in mind the views of any other competent authority. **Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs)** 25. Minerals proposals within SSSIs or likely to affect them should be very carefully considered, and where the impact is likely to be significant they should be subject to the most rigorous examination, and the need for the mineral must be balanced against environmental and other relevant considerations. Particular care should be taken in assessing proposals that are likely to affect an SSSI which has been designated an NNR24. Consideration must always include an assessment of: ▪ the need for the development in terms of UK considerations of mineral supply; ▪ the impact of permitting the development or refusing it on the local economy; ▪ whether alternative supplies can be made available at reasonable cost; and the scope for meeting the need in some other way; ▪ any detrimental effect of the proposals on the nature conservation interest of the site in terms of habitat,	

National	
Minerals Planning Policy Wales 2001: http://new.wales.gov.uk/topics/planning/policy/minerals/mineralsplanning?lang=en	
protected species, bio-diversity, environment and landscape, and the extent to which that should be moderated; and, ▪ in the case of extensions to existing quarries and other mineral extraction sites, the extent to which the proposal would achieve an enhancement to the nature conservation and biodiversity interest of the site. **Proposals for opencast or deep-mine development or colliery spoil disposal will be expected to meet the following requirements otherwise they should not be approved:** ▪ within or likely to affect Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar Sites must meet the additional tests set out in paragraphs 23 and 25 above;	

National	
Welsh Coastal Tourism Strategy Draft Final Strategy Document 2007: http://new.wales.gov.uk/docrepos/40371/403823114/403821/1257853/strategy?lang=en	
Plan Type	**Coastal Strategy**
Plan Owner/ Competent Authority	**Welsh Assembly Government**
Currency	**2007 - ?**
Region/Geographic Coverage	**Wales**
Sector	**Planning**

National	
Welsh Coastal Tourism Strategy Draft Final Strategy Document 2007: http://new.wales.gov.uk/docrepos/40371/403823114/403821/1257853/strategy?lang=en	
Related work SA/SEA HRA/AA	
Document Details	**Potential impacts that could cause 'in-combination' effects**
South East – The Capital Network South East Wales is the most populous area of Wales with the coast zone being a main economic driver. Cardiff and Newport are both coastal located cities and the former has an important tourism role as a capital city, regional shopping and cultural centre, a major sporting venue and increasingly as a conference centre and the Ryder Cup at Newport in 2010. The regeneration of Cardiff Waterfront has created an important arc of leisure and recreation facilities around an impounded area of water. The area also has the more traditional seaside resorts of Barry and Penarth and in the Vale of Glamorgan an extensive length of Heritage Coast. In the east of the area the Gwent Levels are important for its wildlife particularly migrating birds. Elements to consider in the South East Spatial Plan Area ▪ Establish and implement standards with regard to tourism facilities, information, accommodation and visitor expectations at popular coastal locations. ▪ To consider the potential of identifying a pilot area as a 'Coastal Recreation Area'. ▪ To continue to support the waterfront regeneration initiatives in Barry, Cardiff and Newport. ▪ To consider the opportunities for enhancing the role of beach wardens and voluntary/coastcare groups in the	▪ Direct loss of habitat through development - Severn Estuary SPA, Ramsar and cSAC is present all along the Cardiff coastline. ▪ Increased levels of tourism and employment may lead to increased transport movements. ▪ Atmospheric pollution generated as a result of employment and transport growth. ▪ Increased recreational pressure through water sports. ▪ An increased level of waterborne transport and development along the coast has the potential to increase diffuse levels of water pollution.

National	
Welsh Coastal Tourism Strategy Draft Final Strategy Document 2007: http://new.wales.gov.uk/docrepos/40371/403823114/403821/1257853/strategy?lang=en	
management and maintenance of beaches. ▪ To consider the potential of additional or new berths at Cardiff and Newport and the provision of visiting berths at existing marinas. ▪ To consider the improvement of facilities for cruise liners and for passengers in Cardiff. ▪ To consider opportunities for exploiting the potential of food, heritage and culture.	

National	
'Catching the Wave' - A watersports tourism strategy for Wales 2004: http://www.industry.visitwales.co.uk/server.php?show=ConWebDoc.383	
Plan Type	**Tourism Strategy**
Plan Owner/ Competent Authority	**Welsh Assembly Government**
Currency	**2004 - 2010**
Region/Geographic Coverage	**Wales**
Sector	**Planning**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The strategy is underpinned by a number of targets for 2010 including: ▪ to grow the number of domestic watersports trips and nights by 20% to just over one million trips representing around 5 million bed nights ▪ to grow the value of domestic watersports tourist spending by 40% to over £200 million	▪ Increased recreational pressure on the Severn Estuary, Ramsar and cSAC. ▪ An increased level of watersports has the potential to increase diffuse levels of water pollution. ▪ There is also the potential of increased levels of disturbance on nesting birds.

National	
'Catching the Wave' - A watersports tourism strategy for Wales 2004: http://www.industry.visitwales.co.uk/server.php?show=ConWebDoc.383	
▪ to grow the numbers of trips taken by the higher spend overseas market by 50% and to increase overseas visitor spend by 40% to £15 million.	

Regional

Regional	
The South East Wales Consultation Draft Regional Waste Plan 1st Revision Oct 2007: http://www.sewaleswasteplan.org/	
Plan Type	**Waste & Minerals**
Plan Owner/ Competent Authority	**South East Wales Regional Waste Group**
Currency	**Consultation document (ended Dec 2007) Final document due 2008**
Region/Geographic Coverage	**Wales**
Sector	**Waste**
Related work SA/SEA HRA/AA	**Sustainability Appraisal & Life Cycle Analysis of the Strategic Waste Management Options (Environment Agency Wales, 2007).**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The **estimated total land area required** in South East Wales for new in-building facilities by 2013 for the seven sub-Options ranges from between 48 hectares to 108 hectares. An analysis of the potentially available land area on existing B2 or major industry sites and B2 sites that have already been allocated in development plans has shown that in each UA area for which data is available there is, at the current time, a clear surplus of developable land with a B2 planning permission or proposed use to accommodate the highest estimate of the total land area required for new in-building waste management facilities. In South East Wales there is a total of 734 developable hectares of land with a B2 planning permission or proposed use. **Biodiversity** - The footprint of statutory designated sites, including Special Areas of Conservation, Ramsar sites, Sites of Special Scientific Interest, National Nature Reserves and Special Protection Areas have all been **designated as absolute areas of constraint**, constituting areas that are unsuitable for	Natura 2000 sites have designated as absolute areas of constraint, constituting areas that are unsuitable for waste management facilities. In addition, impacts on designated sites as a result of placing waste management facilities nearby have been considered.

Regional	
The South East Wales Consultation Draft Regional Waste Plan 1st Revision Oct 2007: http://www.sewaleswasteplan.org/	
waste management facilities. These have subsequently been omitted from the search. In addition, impacts on designated sites as a result of placing waste management facilities nearby have been considered. This has been undertaken by applying buffer areas around the footprint of designated sites, which present areas of some constraint. As the distance from the designated sites increases, the level of constraint decreases as reflected by the lowering weighting. The buffer zones vary depending on the importance of the designated site; buffers have been derived from information held within current planning policy regarding siting development near such sites, the weightings are appropriate to this and reflect the distance from the designated site, as well as the type of waste facility. For biodiversity issues, the Areas of Search subsequently reflect areas that are considered to be constrained by virtue of planning policy, reflected at the broad, national level. By excluding sites of nature conservation importance and applying buffers around them representing constraints, the permanent negative effects on biodiversity, including flora and fauna, are minimised.	

Regional	
South East Wales Transport Alliance: Outline of the Regional Transport Plan Jan 2007 http://www.sewta.gov.uk/PDF/OutlineRTP-Feb07.pdf	
Plan Type	**Regional Transport Plan**
Plan Owner/ Competent Authority	**South East Wales Transport Alliance**
Currency	**Consultation document (ended Oct 2006) Final document due March 2008**

Regional	
South East Wales Transport Alliance: Outline of the Regional Transport Plan Jan 2007 http://www.sewta.gov.uk/PDF/OutlineRTP-Feb07.pdf	
Region/Geographic Coverage	**Wales – with regional sections Including South East Wales Transport Alliance (SEWTA) region**
Sector	**Transport**
Related work SA/SEA HRA/AA	**SEA Scoping Report completed on Outline Regional Transport Plan** http://www.sewta.gov.uk/strategy.htm
Document Details	**Potential impacts that could cause 'in-combination' effects**
Our vision is "to provide a modern, integrated and sustainable transport system for south east Wales that increases opportunity, promotes prosperity and protects the environment; where public transport, walking, cycling and sustainable freight provide real travel alternatives". Our priorities build on our vision. They set the general direction of the Plan by answering the question "what really matters?" ▪ To improve access to services, facilities and employment, particularly by public transport, walking and cycling. ▪ To provide a transport system that increases the use of sustainable modes of travel. ▪ To reduce the demand for travel. ▪ To develop an efficient and reliable transport system with reduced levels of congestion and improved transport links within the SEWTA region and to the rest of Wales, the UK and Europe. ▪ To provide a transport system that encourages healthy and active lifestyles, is safer and supports local communities. ▪ To reduce significantly the emission of greenhouse gases and air pollution from transport. ▪ To ensure that land use development in south east Wales is supported by sustainable transport measures.	▪ The key focus of the outline regional transport plan is to rebalance capital investment away from road building towards public transport, walking and cycling, this includes investment in travel planning measures. ▪ The overarching aim of this plan is to seek long term sustainable transport solutions. Key objectives include seeking a modal shift for private and freight transports onto more sustainable modes, reducing the impact of the transport system on the natural environment, reducing greenhouse gas emissions from transport, and reducing traffic growth and congestion. ▪ The in-combination effects of the Regional Transport Plan with Local Development Plans are likely to be positive in the long term. ▪ The shared approach of these plans to deliver more sustainable transport and travel solutions for commercial and private traffic provides strong support for overarching aims to reduce air pollution which can contribute to the reduction of damaging effects to habitats and species.

Regional	
South East Wales Transport Alliance: Outline of the Regional Transport Plan Jan 2007 **http://www.sewta.gov.uk/PDF/OutlineRTP-Feb07.pdf**	
▪ To make better use of the existing transport system. ▪ To play a full role in regenerating south east Wales. Our main problems are: ▪ Too many people are excluded from fully participating in society because their transport is poor. ▪ People see the transport system as being unsafe. They fear the impact of motor traffic on their local communities. ▪ We have become over-dependent on the motor car. That leads to high levels of traffic congestion and consequently an inefficient transport system. ▪ Carbon emissions hasten climate change and motor traffic degrades the environment. Our strategy has five practical cornerstones: ▪ Reducing the demand for travel through better land use planning and local service provision; ▪ Providing safer neighbourhoods for people to live in and to walk and cycle; ▪ Providing a much improved public transport system for medium and longer distance travel; ▪ Getting the best out of the existing highways, particularly the core highway network; ▪ Working with others to seek joint solutions to problems.	

Regional	
SEWTA Rail Strategy Study Jan 2006: http://www.sewta.gov.uk/PDF/RailStrategy.pdf	
Plan Type	**Rail Strategy**
Plan Owner/ Competent Authority	**South East Wales Transport Alliance**
Currency	**2009 - 2018**
Region/Geographic Coverage	**Wales – with regional sections Including South East Wales Transport Alliance (SEWTA) region**
Sector	**Transport**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
In summary the strategy includes: ▪ Additional rolling stock to strengthen peak trains to provide for passenger growth and to avoid overcrowding and rolling stock renewal; ▪ Station improvements including improved station facilities, information, security and access - including additional parking; ▪ Reliability and capacity improvements; changes to the network to reduce delays and improve the ability to cope with performance problems; specifically at Cardiff Central, Cardiff Queen Street, Barry, Cogan Junction and Llandaff; ▪ Frequency enhancements on existing lines; improving the levels of service on selected routes to meet passengers' expectations and increase the transfer of car trips to rail; specifically new services on the Abergavenny, Chepstow, Ebbw Vale, Rhymney Valley, Taff Vale and Vale of Glamorgan Lines. Additional services to the north of Cardiff are required to cope with the growth in passenger demand and will require a significant investment in the capacity of	▪ Improvements to the rail network could lead to a reduction in car use and improvements to air quality in the region.

Regional	
SEWTA Rail Strategy Study Jan 2006: http://www.sewta.gov.uk/PDF/RailStrategy.pdf	
the network at and between Cardiff Queen Street and Cardiff Central stations; ▪ New stations on existing lines; improving access to the rail network and integrated with the development of improved services; specifically at Caerleon, Magor with Undy, Llanwern, Coedkernew and St Mellons. With those on the main line between Cardiff and Severn Tunnel sited on the Relief Lines; ▪ Network extensions and new stations; to investigate further improving access to the rail network through extending to Ebbw Vale Town and from Pontyclun to Beddau (with stations at Talbot Green, Llantrisant, Gwaun Meisgyn & Beddau); and ▪ Rail - Link Bus Services; to extend the reach of the rail services to communities remote from the network, specifically providing access to the Valleys to the north of Cardiff and Newport.	

Regional	
Turning Heads... A Strategy for the Heads of the Valleys 2020: http://new.wales.gov.uk/docrepos/40382/4038231141/403821125/TransportPublications/565049/HoV_TurningHeads_eng.pdf?lang=en	
Plan Type	**Regional Spatial Planning and Regeneration Strategy**
Plan Owner/ Competent Authority	**Welsh Assembly Government**
Currency	**June 2006**
Region/Geographic Coverage	**Heads of the Valleys covering parts of the administrative areas of (Rhondda Cynon Taf, Merthyr Tydfil, Caerphilly, Blaenau Gwent)**

Regional	
Turning Heads... A Strategy for the Heads of the Valleys 2020: http://new.wales.gov.uk/docrepos/40382/4038231141/403821125/TransportPublications/565049/HoV_TurningHeads_eng.pdf?lang=en	
Sector	**Planning/ Regeneration**
Related work SA/SEA HRA/AA	**SA/SEA Report** http://new.wales.gov.uk/topics/businessandeconomy/property/HofV/hofv-about/?lang=en
Document Details	**Potential impacts that could cause 'in-combination' effects**
Strategy set within context of Wales Spatial Plan - sets a shared vision for planning for the Heads of the Valleys. **Preferred Approach - Option A 'Developing Balanced Communities'** ▪ mix strong employment opportunities with distinctive communities. ▪ provide mix of housing, retail, leisure/ tourism. ▪ exploit internal and external employment opportunities including along M4 corridor. Public Sector Investment for 2006-09 includes: ▪ Environment c£300m, including improvements to Merthyr Tydfil, Ebbw Vale, Bargoed, Abertillery, Blaenavon and Mountain Ash Town Centres. ▪ Economy c£500m incuding the next phase of the A465(T) dualling. ▪ Tourism and leisure - c£50m, including local authority investment in community facilities. ▪ Continued major public investment in the area, including the regeneration of the former Ebbw Vale Steelworks site. ▪ Housing renewal £0.6billion investment n social housing stock between now and 2012. **Key Strategic Goals include:**	▪ Direct loss of habitat through development - One of the three Strategic Opportunity Areas identified is 'the area around Llantrisant and North West Cardiff'; Cardiff Beech Woods SAC is in close proximity to this. ▪ Housing and employment growth may lead to increased transport movements - the potential for in-combination effect is greater where housing sites are in close proximity to Natura 2000 sites. ▪ Atmospheric pollution generated as a result of housing, employment and transport growth. ▪ The A465 runs in close proximity and across the River Usk SAC and runs directly through Cwm Clydach Woodlands SAC and Usk Bat Sites SAC. There is the potential for direct land take, increased disturbance and increased levels of diffuse air pollution. ▪ Employment development along the M4 could have implications for Cardiff Beech Woods SAC, River Usk SAC, Kenfig SAC and Cefn Cribwr Grasslands SAC. There is the potential for direct land take, increased disturbance and increased levels of diffuse air pollution.

Regional	
Turning Heads... A Strategy for the Heads of the Valleys 2020: http://new.wales.gov.uk/docrepos/40382/4038231141/403821125/TransportPublications/565049/HoV_TurningHeads_eng.pdf?lang=en	
SP2: A Perception Changing Landscape With stakeholders, we will develop and implement a number of key strategic landscape-scale environmental enhancements, concentrating on key corridors and gateways such as the A465(T) Heads of the Valleys Road, and approaches to the former Ebbw Vale Steelworks and Hirwaun. **SP5: Joined-Up Solutions for Business** Informed by market demand, we will actively encourage developers to improve and expand the range of business premises in the area, including within town centres, to help the Heads of the Valleys become a realistic investment option alongside centres such as Newport and Cardiff. This will be supported by good community and public transport links connecting people with jobs and services - integrated into the wider South East Wales Transport Plan.	

Regional outside SE Wales

Regional	
Outline Regional Transport Plan for South West Wales Jan 2007: http://www.swwitch.net/images/users/1/RTP/RTP%20Outline.pdf	
Plan Type	**Regional Transport Plan**
Plan Owner/ Competent Authority	**South West Wales Integrated Transport Consortium (SWWITCH)**
Currency	**2008 - 2013**
Region/Geographic Coverage	**South West Wales**
Sector	**Transport**
Related work SA/SEA HRA/AA	**SEA Scoping of the South West Wales Transport Plan http://www.swwitch.net/environmental.aspx**
Document Details	**Potential impacts that could cause 'in-combination' effects**
Vision for the south west Wales RTP Our vision for south west Wales is to improve transport and access within and beyond the region to facilitate economic development and the development and use of more sustainable and healthier modes of transport. Objectives for the south west Wales RTP: ▪ To improve access to employment, business opportunities and tourism to support the sustainable growth of the regional economy. ▪ To improve access to education and training to facilitate increasing skill levels in south west Wales. ▪ To improve access to health care to support a healthier south west Wales population. ▪ To improve the range and quality of, and awareness about,	▪ No specific locations for new development identified though it is possible that the plan could lead to increase in diffuse air pollution. ▪ However, key priorities within the Plan will help to mitigate or offset any increase in diffuse air pollution as a result of this Strategy. These include improving the quality, affordability and awareness of public transport, walking, cycling and car sharing and making the movement of people and freight more sustainable, safer and more secure, reliable and efficient.

Regional	
Outline Regional Transport Plan for South West Wales Jan 2007: http://www.swwitch.net/images/users/1/RTP/RTP%20Outline.pdf	
sustainable transport options to improve health and fitness. ▪ To improve the efficiency, reliability and sustainability of the movement of people and freight within and beyond south west Wales. ▪ To improve integration between policies, service provision and modes of transport in south west Wales. ▪ To implement measures which make a positive contribution to improving air quality and reducing the impact of transport on ill health and Climate Change. ▪ To implement measures which help to reduce the negative impact of transport across the region on the natural and built environment. ▪ To improve road safety and personal security in south west Wales. RTP Key Priorities: ▪ Improving access to jobs and business opportunities to help the local economy to prosper, including addressing congestion issues in urban areas and at pinch points in networks. ▪ Promoting social inclusion through better partnership working to facilitate improved access to a range of services and activities including health, education and leisure. ▪ Improving the quality, affordability and awareness of public transport, walking, cycling and car sharing. ▪ Making the movement of people and freight more sustainable, safer and more secure, reliable and efficient.	

Regional	
Regional Transport Plan for Mid Wales 2006: http://www.tracc.gov.uk/english/pdfs/tracc_rtp_prior_outline.pdf	
Plan Type	**Regional Transport Plan**
Plan Owner/ Competent Authority	**Mid Wales Transport Consortium (TraCC)**
Currency	**2008 - 2013**
Region/Geographic Coverage	**South West Wales**
Sector	**Transport**
Related work SA/SEA HRA/AA	
Document Details	**Potential impacts that could cause 'in-combination' effects**
The Vision for TraCC's RTP is: 'To plan for and deliver an integrated transport system in Mid Wales that facilitates economic development, ensures access for all to services and opportunities, sustains and improves the quality of community life and respects the environment.' TraCC RTP Objectives ▪ To improve safety for all transport users; ▪ To improve accessibility to services, jobs and facilities for all sectors of society; ▪ To improve the quality and integration of the public transport system including the role of community transport; ▪ To provide, promote and improve sustainable forms of transport; ▪ To improve the efficiency and use of the highway network including connectivity to other regions; ▪ To maintain and improve the existing highway and transport infrastructure; ▪ To minimise the impact of movement on the local and global environment; and	▪ No specific locations for new development identified though it is possible that the plan could lead to increase in diffuse air pollution.

Regional	
Regional Transport Plan for Mid Wales 2006: http://www.tracc.gov.uk/english/pdfs/tracc_rtp_prior_outline.pdf	
▪ To ensure that transport, the need to travel and accessibility issues are paramount in land use decisions.	

Catchment Abstraction Management Strategies	
The Thaw & Cadoxton Catchment Abstraction Management Strategy 2006: http://www.environment-agency.gov.uk/regions/wales/858612/1317944/1325232/315609/?version=1&lang=_e	
Plan Type	**Catchment Abstraction Management Strategy**
Plan Owner/ Competent Authority	**Environment Agency Wales**
Currency	**2006-2011**
Region/Geographic Coverage	**Thaw and Cadoxton Catchment**
Sector	**Water**
Related work SA/SEA HRA/AA	
Document Details	**Potential impacts that could cause 'in-combination' effects**
Document Details	
The document sets out how the Environment Agency Wales will manage water abstraction from the Thaw and Cadoxton catchment until 2011. The strategy provides the framework for any decision on an abstraction license application. The Thaw & Cadoxton CAMS area encompasses approximately 159km2 of the distinctive lowland landscape of the Vale of Glamorgan. The principal town in the catchment is Barry, with the market town of Cowbridge to the west and Penarth to the east. Although some parts of the catchment are heavily industrialised the catchment as a	Under the Habitats Regulations the Environment Agency Wales has a duty to assess the effects of existing abstraction licences and any new applications to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in setting a time limit for that license. The catchment has been split into 5 Water Resource Management Units (WRMU) and 5 Groundwater Management Units (GWMU). The document states that WRMU 1 and all 5 of the GWMUs have 'water available'. WRMUs 2

whole is predominantly rural with much of the land area used for agriculture.	to 4 are considered to have 'no water available', while WRMU 10 is assessed to be 'over abstracted'. Both the River Thaw and the River Cadoxton ultimately flow into the Severn Estuary. Therefore any impact to the Severn Estuary caused by changes to the water resource management of the catchment needs is considered as part of the CAMS process.

Catchment Abstraction Management Strategies	
The Taff and Ely Catchment Abstraction Management Strategy 2006	
Plan Type	**Catchment Abstraction Management Strategy**
Plan Owner/ Competent Authority	**Environment Agency Wales**
Currency	**2006-2010**
Region/Geographic Coverage	**Taff and Ely Catchment**
Sector	**Water**
Related work SA/SEA HRA/AA	
Document Details	**Potential impacts that could cause 'in-combination' effects**
The document sets out how the Environment Agency Wales will manage water abstraction from the Taff and Ely catchment until 2010. The strategy provides the framework for any decision on an abstraction license application. The Taff and Ely have a total catchment area of approximately 576 km2, which encompasses the River Taff, the River Ely and their respective tributaries. A large groundwater abstraction occurs at Ely Wells (in the lower Ely catchment) providing water for operations at Aberthaw Power Station. In the upper areas of the catchment there are carboniferous limestone and sandstone units (capable	Under the Habitats Regulations the Environment Agency Wales has a duty to assess the effects of existing abstraction licences and any new applications to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in setting a time limit for that license. The catchment has been split into 3 Water Resource Management Units (WRMU) and 1 Groundwater Management Unit (GWMU). The document states that two of the WRMUs and the GWMU are over licensed. The WRMU that contains the River Ely has water available for abstraction.

of supporting significant yields), which are currently not being used to their full potential.	Blaen Cynon SAC falls within WRMU 6 which according to the CAMS is over licensed. The Resource availability status of WRMU 6 is that there will be no water available by 2016. A reduction in the water table could affect the devil's-bit scabious, which prefers moist soils. The Marsh Fritillary Butterfly requires this plant species as it is their larval food.

Catchment Abstraction Management Strategies	
The Ebbw and Lwyd Catchment Abstraction Management Strategy 2006: http://www.environment-agency.gov.uk/regions/wales/858612/1317944/1325232/315612/?version=1&lang=_e	
Plan Type	**Catchment Abstraction Management Strategy**
Plan Owner/ Competent Authority	**Environment Agency Wales**
Currency	**2006-2010**
Region/Geographic Coverage	**Ebbw and Lwyd Catchment**
Sector	**Water**
Related work SA/SEA HRA/AA	**Details – hyperlink or reference to document**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The document sets out how the Environment Agency Wales will manage water abstraction from the Ebbw and Lwyd catchment until 2010. The strategy provides the framework for any decision on an abstraction license application. The Ebbw and Lwyd CAMS cover an area of approximately 330 km2 and encompasses the River Ebbw, River Sirhowy and the River Lwyd as well as their respective tributaries. The area extends from the mountainous landscape and steep river channels in the north to the urbanised valley floors in the south. The main urban areas associated with the River Lwyd are Cwmbran and Blaenavon. The main urban areas, which	Under the Habitats Regulations the Environment Agency Wales has a duty to assess the effects of existing abstraction licences and any new applications to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in setting a time limit for that license. The catchment has been split into 3 Water Resource Management Units (WRMU). The document states that WRMU 1 (Ebbw and Sirhowy) is over abstracted, WRMU 2 (Lwyd) has no water available and WRMU 3 (Lwyd) is over licensed.

are situated on the Ebbw River are Ebbw Vale and Risca. The River Sirhowy passes through the towns of Tredegar and Blackwood. In this CAMS area water is abstracted from both surface water and groundwater for agriculture, industry, domestic use and public water supply.	The River Usk SAC lies outside the boundary of the Ebbw and Lwyd CAMS. The River Lwyd (WRMU 10 & 14) however is a tributary of the River Usk and could therefore have an influence on water flow within the lower reaches of the River Usk SAC. The site is sensitive to changes in water flow and eutrophication, which can both be influenced by levels of abstraction. The Severn Estuary SAC, SPA and Ramsar sites are all sensitive to changes in the hydrological regime. All CAMS in SE Wales drain into the Severn Estuary and therefore have the potential to affect the habitats and species reliant on the estuary.

Catchment Abstraction Management Strategies	
The Rhymney Catchment Abstraction Management Strategy 2006: http://www.environment-agency.gov.uk/regions/wales/858612/1317944/1325232/315605/?version=1&lang=_e	
Plan Type	**Catchment Abstraction Management Strategy**
Plan Owner/ Competent Authority	**Environment Agency Wales**
Currency	**2006-2010**
Region/Geographic Coverage	**Rhymney Catchment**
Sector	**Water**
Related work SA/SEA HRA/AA	**Details – hyperlink or reference to document**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The document sets out how the Environment Agency Wales will manage water abstraction from the Rhymney catchment until 2010. The strategy provides the framework for any decision on an abstraction license application. The Rhymney CAMS area, some 221km2, comprises the hydrological surface water catchment to the River Rhymney	Under the Habitats Regulations the Environment Agency Wales has a duty to assess the effects of existing abstraction licences and any new applications to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in setting a time limit for that license.

and Roath Brook catchment (Cardiff). This includes the River Rhymney and all its tributaries, but not the Rhymney Estuary. The catchment can be divided into two main parts: a steep-sided, wet, mountainous upper valley with limited floodplain and short steep tributaries, and a flatter wider valley below Machen, where the river assumes a lowland meandering character. Being a narrow valley with limited floodplain, towns lie in close proximity to and on the banks of the main river and its tributaries. Thus, urban development and historical industrial developments have resulted in extensive riverbank protection works and a loss of riverine habitats. Despite this the main river and tributaries follow a largely natural course with many of the watercourses remaining tree-lined. Within Cardiff, the Brook and its tributaries have been modified by man including diversions, culverting, revetments and reprofiling.	The catchment has been split into 4 Water Resource Management Units (WRMU). The document states that WRMU 1, 2 and 3 all have water available. WRMU 6 has no water available. All the WRMUs are combined surface water/groundwater units. Aberbargoed Grasslands SAC is situated within WRMU 3, which according to the CAMS has water available for abstraction. The CAMS states that the Aberbargoed Grasslands SAC "*will be taken into consideration during the licence determination process for applications within its vicinity*".

Catchment Abstraction Management Strategies	
The Usk Catchment Abstraction Management Strategy 2006: http://www.environment-agency.gov.uk/regions/wales/858612/1317944/1325232/315618/?version=1&lang=_e	
Plan Type	**Catchment Abstraction Management Strategy**
Plan Owner/ Competent Authority	**Environment Agency Wales**
Currency	**2007-2013**
Region/Geographic Coverage	**Usk Catchment**
Sector	**Water**

Related work SA/SEA HRA/AA	Details – hyperlink or reference to document
Document Details	**Potential impacts that could cause 'in-combination' effects**
The document sets out how the Environment Agency Wales will manage water abstraction from the Rhymney catchment until 2013. The strategy provides the framework for any decision on an abstraction license application. The Usk CAMS covers an area of approximately 1169 km2 and encompasses the River Usk and its tributaries, but not the Usk Estuary. The main settlements within the catchment are Abergavenny, Brecon, Brynmawr, Crickhowell, Gilwern, Llanelly Hill, Llanfoist, Newport, Raglan, Sennybridge and Usk. In this CAMS area water is taken from both surface water and groundwater resources. Water is abstracted for public water supply, navigation, agriculture, commerce/industry, domestic use, spray irrigation, horticultural watering, lake/pond maintenance, fish farming and hydropower generation. The River Usk is a sandstone river of considerable ecological diversity, which provides an important wildlife corridor, an essential migration route and a key breeding area for many nationally and internationally important species. The ecology of the River Usk SAC is currently affected by, or at risk of being affected by, a number of factors including abstraction. As a competent and relevant authority, the Environment Agency has a statutory duty, under the Habitats Regulations, to ensure that the integrity of the riverine ecosystem is maintained or restored through sustainable water resources management.	Under the Habitats Regulations the Environment Agency Wales has a duty to assess the effects of existing abstraction licences and any new applications to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in setting a time limit for that license. The catchment has been split into 3 Water Resource Management Units (WRMU). The document states that WRMU 1 (Sor Brook) has water available, WRMU 2 (River Usk) is over licensed and WRMU 18 (Bettws/Malpas Brook) is over licensed. The River Usk SAC, Usk Bat Sites SAC and Coed y Cerrig SAC are situated within WRMU 2, which according to the CAMS is over licensed. The River Usk SAC is sensitive to any changes in the hydrological regime, more specifically any changes to water flow and quality. Usk Bat Sites SAC are primarily designated for the population of Lesser Horseshoe Bats. Abstraction levels are unlikely to have a direct effect on the bat population but could have issues for the habitats the bats use for feeding. The Blanket Bog protected as a qualifying feature is sensitive to hydrological change. Coed y Cerrig SACs naturally high, largely spring-fed water table is essential to the Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*.

Catchment Abstraction Management Strategies	
The Wye Catchment Abstraction Management Strategy March 2008: http://www.environment-agency.gov.uk/regions/wales/858612/1317944/1325232/315621/?version=1&lang=_e	
Plan Type	**Catchment Abstraction Management Strategy**
Plan Owner/ Competent Authority	**Environment Agency Wales**
Currency	**2008 - 2014**
Region/Geographic Coverage	**Wye Catchment**
Sector	**Water**
Related work SA/SEA HRA/AA	
Document Details	**Potential impacts that could cause 'in-combination' effects**
Document Details	
The document sets out how the Environment Agency Wales will manage water abstraction from Wye catchment until 2014. The strategy provides the framework for any decision on an abstraction license application. TheWye CAMS covers an area of 4171 km2, encompasses the RiversWye, Lugg and their tributaries, and spans the border of England andWales. The main urban areas within the catchment are Hereford, Monmouth, Leominster, Ross-on-Wye and Hay-on-Wye.	Under the Habitats Regulations the Environment Agency Wales has a duty to assess the effects of existing abstraction licences and any new applications to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in setting a time limit for that license. The Environment Agency has a statutory duty, to ensure that the integrity of the riverine SAC ecosystem is maintained or restored through sustainable water resources management. As part of this duty, they have to ensure that permissions (abstraction licences, discharge consents, radioactive substance authorisations, waste management licences and integrated pollution control (IPC) authorisations) do not have an adverse effect on the integrity of the designated SAC species. The catchment has been split into 4 Water Resource Management Units (WRMU). The document states that all 4 WRMUs are assessed to have 'no

	water available'. The River Wye ultimately flows into the Severn Estuary. Therefore any impact to the Severn Estuary caused by changes to the water resource management of the catchment needs is considered as part of the CAMS process.

Local Development Plans

Local Development Plans	
Blaenau Gwent County Borough Council Local Development Plan: http://www.blaenau-gwent.gov.uk/environment/7732.asp	
Plan Type	**Local Development Plan**
Plan Owner/ Competent Authority	**Blaenau Gwent County Borough Council**
Currency	**Issues Consultation Apr – Dec 07, Preferred Strategy Sept-Nov 08**
Region/Geographic Coverage	**Blaenau Gwent County Borough Council administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**SA/SEA Scoping Report http://www.blaenau-gwent.gov.uk/environment/7732.asp**
Document Details	**Potential impacts that could cause 'in-combination' effects**
LDP at vision and strategy options stage. **Timetable:** Early participation Apr – Dec07 Preferred Strategy Sep- Nov 08 Deposit Plan Sep-Nov 09 Examination Dec-Fev '11 Adoption Aug'11 Issues paper presented in July 2007 designed to focus debate on issues of strategic significance for the County Borough. Workshops held between July 2007 and Nov 2007 focused on developing option. **Options presented:** 1. UDP Regeneration (Decline – Urban Containment) 2. Growth and Regeneration (Growth - Head of Valleys focus)	**Overarching Development Pressures** LDP impacts will be dependant on the Preferred Strategy options. Generic effects related to development/ growth scenarios include: ▪ Potential for land take/ habitat fragmentation ▪ Increased demand for water resources/ abstraction/ hydrological impacts ▪ Increased traffic movements, contributions to atmospheric pollution loading ▪ Growth in requirements for waste management facilities, increased demand for minerals ▪ Increased recreational pressure from existing/ new populations **SAC Specific Issues** ▪ Cym Clydach Woodlands SAC within the County Borough Boundary is vulnerable to urbanisation impacts (e.g. illegal waste dumping activities

Local Development Plans	
Blaenau Gwent County Borough Council Local Development Plan: http://www.blaenau-gwent.gov.uk/environment/7732.asp	
3. Balanced and Interconnected Communities (Trend – equalise growth) 4. Alternative option – (main focus not indicated)	made possible by roads passing through the site) and increased recreational pressures (e.g. from greater access due to the construction of a cycle route through the site).

Local Development Plans	
Brecon Beacons National Park Authority Interim Unitary Development Plan 2007: http://www.breconbeacons.org/content/the-authority/planning/strategy-and-policy/deposit-udp	
Plan Type	**Unitary Development Plan**
Plan Owner/ Competent Authority	**Brecon Beacons National Park Authority**
Currency	**2001 - 2016**
Region/Geographic Coverage	**Brecon Beacons National Park Authority administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
Part 1 Policy 11: Ensuring Access to Employment Opportunities Proposals for appropriate commercial development will be permitted where they: i. enable the creation and expansion of businesses which support and diversify the rural economy; ▪ retain existing employment uses; ▪ utilise redundant buildings or brownfield sites; ▪ use local skills, products or resources including natural resources in a sustainable way; ▪ use existing transport routes and facilitate the use of alternative modes of transport;	**Overarching Development Pressures** ▪ Enhanced growth implies potential land take and habitat fragmentation issues (the SA/SEA identified enhanced growth as resulting in higher environmental impacts on biodiversity and landscape). Land without statutory designation can act as corridors and linkages for protected habitats and species. ▪ Housing and employment growth - increased transport movements and associated air pollutants - e.g. as a result of development in the Heads of the Valleys Regeneration Area which may lead to commuting across administrative boundaries. ▪ Water abstraction for new development - potential to impact surface

Local Development Plans	
Brecon Beacons National Park Authority Interim Unitary Development Plan 2007: http://www.breconbeacons.org/content/the-authority/planning/strategy-and-policy/deposit-udp	
▪ are reasonably accessible to adequate services and utilities; ▪ facilitate mixed-use development; or ▪ support Welsh culture. ii. Development proposals that cause unacceptable adverse impacts to the commercial vitality and viability of the area will not be permitted. iii. A number of sites are allocated for commercial use under Policies SS4 and SS5. The supply and demand for land for commercial uses will be regularly reviewed. **Part 1 Policy 12:** Supply of Housing Land The UDP will make provision for 1980 new dwellings. **Policy SS1: Housing Land in the First Tier Settlements** Within the First Tier Settlements of Brecon, Hay-on-Wye, Crickhowell, Sennybridge, Talgarth, Gilwern, and Govilon, are allocated for residential development of 6 or more units. The majority of development will be focused in the North and South East of the National Park.	and groundwater. ▪ Recreational pressures from housing/ development that is close to European sites. **Policy Q1: Sites of European Importance** Proposals for development which may have an unacceptable impact on a European Site or potential European Site will not be permitted unless: i. the proposed development is directly connected with or necessary for the protection, enhancement and positive management of the site for conservation purposes; ii. the proposed development will not have an unacceptable impact on the conservation objectives associated with the site or the integrity of the site; iii. where the site supports priority habitats and/or species, there are reasons of public health or safety why the development should proceed; iv. where the site supports interests not identified as a priority, there are imperative reasons of overriding public interest why the development should proceed; and v. there is no alternative solution.

Local Development Plans	
Bridgend County Borough Council Local Development Plan Strategic Options and Preferred Strategy: http://www.bridgend.gov.uk/Web1/groups/public/documents/services/009560.hcsp#TopOfPage	
Plan Type	**Local Development Plan**

Local Development Plans	
Bridgend County Borough Council Local Development Plan Strategic Options and Preferred Strategy: http://www.bridgend.gov.uk/Web1/groups/public/documents/services/009560.hcsp#TopOfPage	
Plan Owner/ Competent Authority	**Bridgend County Borough Council**
Currency	**Draft Preferred Options May/June 2007** **Deposit LDP April 2008- May 2009**
Region/Geographic Coverage	**Bridgend County Borough Council administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**SA/SEA Report** http://www.bridgend.gov.uk/Web1/groups/public/documents/report/019181.pdf
Document Details	**Potential impacts that could cause 'in-combination' effects**
Spatial Assessment of Draft Strategic Growth Options – Nov 2007. Two Draft Strategic Growth Options recommended by the Council (June 2007). **Trends-Based Growth Strategy** ▪ Produces a dwelling requirement up to 2021 of 8,100 dwellings. Includes an implicit commitment to 6,930 dwellings. ▪ A 217ha supply of employment land is currently available (applies to both strategy options). **UDP Growth Strategy** ▪ Produces a dwelling requirement of 7,470 dwellings between 2006 and 2021. **Options for pursuing the Trend Based Growth Strategy:** ▪ **1. Economic led** – focusing development on Bridgend and other main settlements with available employment opportunities to optimise their locational economic	**Overarching Development Pressures** LDP impacts will be dependant on the final Preferred Strategy option. Generic effects related to development/ growth scenarios include: ▪ Potential for land take/ habitat fragmentation ▪ Increased demand for water resources/ abstraction/ hydrological impacts ▪ Increased traffic movements, contributions to atmospheric pollution loading ▪ Growth in requirements for waste management facilities, increased demand for minerals ▪ Increased recreational pressure from existing/ new populations **SAC Specific Issues** ▪ Blackmill Woodlands SAC and Cefn Cribwr Grasslands SAC are both vulnerable to air pollution and development patterns that result in traffic growth near these sites have the potential to lead to significant effects.

Local Development Plans	
Bridgend County Borough Council Local Development Plan Strategic Options and Preferred Strategy: http://www.bridgend.gov.uk/Web1/groups/public/documents/services/009560.hcsp#TopOfPage	
advantages whilst reducing the need to travel. Dwellings accommodated within existing settlement boundaries. ▪ **2. Regeneration Led** – focusing development with the Valleys and Valley Gateway north of the M4 to promote the regeneration priorities of the County Borough. Development can be accommodated within existing settlement boundaries in Llynfi Valley and the Valleys gateway but may need relaxing in the Ogmore and Garw Valleys. ▪ **3. Population Led** – a dispersed pattern of development with in the main urban areas optimizing the use of committed sites and allocating new development relative to the existing size of the settlement. Dwellings can be accommodated within existing settlement boundaries.	

Local Development Plans	
Caerphilly County Borough Council Local Development Plan Strategic Options and Preferred Strategy: http://www.caerphilly.gov.uk/yourservices/planning/ldp/index.htm	
Plan Type	**Local Development Plan**
Plan Owner/ Competent Authority	**Caerphilly County Borough Council**
Currency	**Consultation ended on Preferred Strategy (May 2007)**
Region/Geographic Coverage	**Caerphilly County Borough Council administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**Local Development Plan SEA/SA Scoping Report, Plans, Programmes & Policies Review, Assessment of Preferred and Alternative Strategies**

Local Development Plans	
Caerphilly County Borough Council Local Development Plan Strategic Options and Preferred Strategy: http://www.caerphilly.gov.uk/yourservices/planning/ldp/index.htm	
	http://www.caerphilly.gov.uk/pdf/planning/ldp-the-scoping-report.pdf **http://www.caerphilly.gov.uk/pdf/planning/ldp-review-plans-programmes-policies.pdf** **http://www.caerphilly.gov.uk/pdf/planning/ldp-assessment-preferred-alt-strategies.pdf**
Document Details	**Potential impacts that could cause 'in-combination' effects**
Sets out the Vision and Strategic policies for spatial planning in Caerphilly. LDP focused around four themes (as outlined in the community strategy): ▪ Health, Social Care and Well Being ▪ The Living Environment ▪ Regeneration and ▪ Education for Life. **Preferred themes for development arising as a result of consultation:** ▪ Allow for development opportunities in the north ▪ Promote a balanced approach to managing future growth ▪ Exploit brownfield opportunities where appropriate ▪ Promote resource efficient settlement patterns ▪ Ensure development contributes towards necessary infrastructure improvements ▪ Ensure development provides the necessary community facilities ▪ Target development to reflect the roles and functions of individual settlements **Promotes three key areas of change**: ▪ Heads of Valleys Regeneration Area,	**Overarching Development Pressures** ▪ Housing and employment growth - increased transport movements and associated air pollutants - e.g. as a result of development in the Heads of the Valleys Regeneration Area which may lead to commuting across administrative boundaries. ▪ Water abstraction for expanding communities - potential to impact surface and groundwater. ▪ Recreational pressures from housing/ development that is close to European sites. **SAC Specific Issues** ▪ The Preferred Strategy includes focused development around Bargoed (one of the LDP's principle towns) and at Aberbargoed (utilisation of brownfield land). Both settlements are proximal to the Aberbargoed Grasslands SAC which is under pressure from direct (land take) and indirect (recreation, vandalism, air pollution) impacts of urbanisation. ▪ Cym Clydach Woodlands (located 8km beyond Caerphilly boundaries) is not considered vulnerable to air borne acid and nutrient deposition that may arise through a growth in road based traffic. **Relevant Policy Mitigation** ▪ Development (housing) to be focused where public transport services are

Local Development Plans	
Caerphilly County Borough Council Local Development Plan Strategic Options and Preferred Strategy: http://www.caerphilly.gov.uk/yourservices/planning/ldp/index.htm	
▪ Northern Connections Corridor, ▪ Southern Connections Corridor. **Overall summary aims of the Preferred Strategy**: ▪ Concentrated housing growth in settlements with good public transport facilities ▪ Employment growth focused at Caerphilly and in the Northern Corridor – particularly in the mid valleys conurbation ▪ Retail, leisure, health, training and urban facilities concentrated in Caerphilly town and the mid valleys conurbation ▪ Mid Valleys conurbation to play a central role in regneration	good and include rail connections. ▪ Employment to be focused in south near rail connections.

Local Development Plan	
Cardiff Local Development Plan Preferred Strategy 2006-2021	
Plan Type	**Local Development Plan**
Plan Owner/ Competent Authority	**Cardiff Council**
Currency	**2006-2021**
Region/Geographic Coverage	**Cardiff Council administrative boundary**
Sector	**Planning**
Related work SA/SEA HRA/AA	**Cardiff Council Local Development Plan 2006 – 2021 Initial Sustainability Appraisal Report 2007:** http://www.cardiff.gov.uk/content.asp?Parent_Directory_id=2865&nav=2870,3139,3154,3952

Local Development Plan	
Cardiff Local Development Plan Preferred Strategy 2006-2021	
	HRA Screening of the County Council of the City and County of Cardiff Local Development Plan Preferred Strategy Sept 2007. www.**cardiff**.gov.uk/ObjView.asp?Object_ID=9788
Document Details	**Potential impacts that could cause 'in-combination' effects**
The document sets out the Council's objectives for the development and use of land in Cardiff and policies to implement them. It also presents the key strategic growth and spatial options available. Provision will be made for between 22,750 and 24,750 new dwellings in Cardiff over the plan period (2006-21). The LDP will accommodate 23,200 new jobs in Cardiff between 2006 and 2021. The City Centre and Bay Waterfront areas will be the main focus for leisure and tourism development, which includes the International Sports Village. In terms of transport the LDP will give priority to developing an efficient, integrated and sustainable transport system for Cardiff and linking to its hinterland. Proposals identified as a means to achieve this are: ▪ Additional park & ride facilities; ▪ New public transport interchange beside Cardiff Central Station; ▪ New station to serve the St Mellons area; ▪ A major extension to the segregated public transport network; and ▪ Strategic highway improvements.	**Overarching Development Pressures** ▪ Housing and employment growth may lead to increased transport movements - the potential for in-combination effect is greater where housing sites are in proximity to Natura 2000 sites. ▪ Atmospheric pollution is likely to be the main impact of the Preferred Strategy on sites outside of Cardiff. **SAC Specific Issues** ▪ Increased transport movements and therefore increased emissions have the potential for in-combination effects on Cardiff Woods SAC as the site is sensitive to atmospheric pollution. ▪ Increased recreational pressure on Cardiff Woods SAC. The woodland is easily accessible to the public and some places are subject to significant visitor pressure.

Local Development Plans	
Merthyr Tydfil County Borough Council Local Development Plan 2006 – 2021 Preferred Strategy 2007	
Plan Type	**Local Development Plan**
Plan Owner/ Competent Authority	**Merthyr Tydfil County Borough Council**
Currency	**2006-2021**
Region/Geographic Coverage	**Merthyr Tydfil County Borough Council administrative boundary**
Sector	**Planning**
Related work SA/SEA HRA/AA	**Merthyr Tydfil County Borough Council Local Development Plan 2006 – 2021 Initial Sustainability Appraisal Report 2007:** http://www.merthyr.gov.uk/NR/rdonlyres/44264E40-25BE-4E87-B1ED-073AC92246E9/0/MTCBC_LDP_0621_ISus_Report_April2007.pdf
Document Details	**Potential impacts that could cause 'in-combination' effects**
This document outlines the main development issues to be addressed in Merthyr Tydfil and sets out a vision and objectives for tackling these issues. It considers the spatial strategy options available and considers the development implications of following this particular route, including the major sites on which the strategy will depend. The LDP is pursuing an Enhanced Growth Strategy that aims to "facilitate a reduction in current levels of out migration from the County Borough so that population levels stabilise by 2011 and a 10- year period of enhanced growth is achieved thereafter". Merthyr Tydfil is identified as a Primary Growth Area and will form the focus for the majority of development, with the town centre acting as the lynchpin for regeneration.	**Overarching Development Pressures** ▪ Enhanced growth implies potential land take and habitat fragmentation issues (the SA/SEA identified enhanced growth as resulting in higher environmental impacts on biodiversity and landscape). Land without statutory designation can act as corridors and linkages for protected habitats and species. ▪ Enhanced growth seeks to focus (economic) development in the North at Merthyr Tyfil and in the south along the A469. Enhanced economic development has the potential to reduce outward commuting along the main transport corridors (A470 and the A465 Heads of the Valleys road). The long term effect of the LDP may result in reduced road traffic and associated atmospheric pollution issues. **SAC Specific Issues** ▪ There are no European sites within the Count Borough Boundaries.

Local Development Plans	
Merthyr Tydfil County Borough Council Local Development Plan 2006 – 2021 Preferred Strategy 2007	
The Enhanced Growth Strategy will provide the opportunity for: ▪ substantial inward migration; ▪ large scale provision of land for housing, employment, retail and leisure uses; ▪ the potential development of an urban extension of up to 200ha on the southwestern flank of the Merthyr Tydfil Basin; ▪ ongoing strategic highway improvements; ▪ substantial improvements to services and infrastructure; ▪ a new strategic employment site would be provided adjacent to the A4060; and ▪ development of the former Merthyr Vale Colliery site. The options assumes net out migration can be turned into net in migration by 2011 and assumes an increase of 1,000 between 2011 and 2016 increasing to 2,300 from 2016 to 2021. The equates to a housing requirement of 3,800. The option assumes that population stability followed by growth will result in 1,850 additional jobs and a land requirement of 35ha by 2021.	▪ Blaen Cynon SAC (approx 5km) and Cardiff Beech Woods SAC (12.1km) are situated adjacent to major transport routes (A 470, A465) which intersect within the County Borough. LDP policies seek to reduce road based transportation, and air quality assessments in the County Borough (2004 most recent figures) show that no air quality objectives are being exceeded. ▪ Improved emissions standards/ greater use of public transport likely to contribute to improvements in air quality – lessens likelihood of cumulative impacts at sensitive sites.

Local Development Plans	
Monmouthshire County Council Adopted Unitary Development Plan 2006: http://www.monmouthshire.gov.uk/NR/rdonlyres/214D6B65-56D6-4DFC-8A62-429830AAC178/0/AdoptedUDPJune06.pdf	
Plan Type	**Local Development Plan**
Plan Owner/ Competent Authority	**Monmouthshire County Council**
Currency	**1996 – 2011 (Adopted June 2006)**

Local Development Plans	
Monmouthshire County Council Adopted Unitary Development Plan 2006: http://www.monmouthshire.gov.uk/NR/rdonlyres/214D6B65-56D6-4DFC-8A62-429830AAC178/0/AdoptedUDPJune06.pdf	
Region/Geographic Coverage	**Monmouthshire County Council administrative boundary**
Sector	**Planning**
Related work SA/SEA HRA/AA	**SA of the Monmouthshire County Council Adopted Unitary Development Plan 2006.** **Statement on Appropriate Assessment of the Monmouthshire County Council UDP 2006:** http://www.monmouthshire.gov.uk/NR/rdonlyres/7B788577-2E5B-4FAB-A55A-CA99A06A9E98/0/HabitatsDirectiveAppropriateAssessmentStatement.pdf
Document Details	**Potential impacts that could cause 'in-combination' effects**
Housing **SP2** Provision is made to meet a need for about 5000 residential units within the County in the period 1996 - 2011. Urban expansion will be focused on Abergavenny, Caldicot, Chepstow, Monmouth and Usk. Industry and Employment **SP3** Land is identified for 90ha of employment development in all main areas of the County that is sufficient, at recent rates of take-up, to cater for the anticipated needs within the plan period and provide a degree of choice. Transport Proposals **SP6** Safeguard the following proposed highway schemes from development that would prejudice their implementation: ▪ M4 - Relief Road (Magor to Castleton); ▪ A465T - Heads of the Valleys Dualling (Abergavenny to Hirwaun);	**Overarching Development Pressures** ▪ Enhanced growth implies potential land take and habitat fragmentation issues (the SA/SEA identified enhanced growth as resulting in higher environmental impacts on biodiversity and landscape). Land without statutory designation can act as corridors and linkages for protected habitats and species. ▪ Housing and employment growth - increased transport movements and associated air pollutants - e.g. as a result of development in the Heads of the Valleys Regeneration Area which may lead to commuting across administrative boundaries. ▪ Water abstraction for new development - potential to impact surface and groundwater. ▪ Recreational pressures from housing/ development that is close to European sites. **SAC Specific Issues** Monmouthshire County Council has 11 European sites within its administrative

Local Development Plans	
Monmouthshire County Council Adopted Unitary Development Plan 2006: http://www.monmouthshire.gov.uk/NR/rdonlyres/214D6B65-56D6-4DFC-8A62-429830AAC178/0/AdoptedUDPJune06.pdf	
▪ B4293 - New Monnow Bridge and Approach Roads; and ▪ B4245 - Magor Undy Bypass.	boundary. 12. Coed y Cerrig - SAC 13. Cwm Clydach Woodlands - SAC 14. River Usk - SAC 15. River Wye/ Afon Gwy - SAC 16. Severn Estuary - cSAC 17. Severn Estuary - Ramsar 18. Severn Estuary - SPA 19. Sugar Loaf Woodlands - SAC 20. Usk Bat Sites - SAC 21. Wye Valley Woodlands - SAC 22. Wye Valley and Forest of Dean Bat Sites - SAC International Sites **NC1** Development which is likely to have a significant effect on a European site, proposed European site or a Ramsar site will be subject to the most rigorous examination and assessment requirements, in accordance with the procedures set out in the Habitats Regulations 1994. Where development is permitted in accordance with the Habitats Regulations, the use of conditions or planning obligations will be considered in order to avoid and minimise harm to the site, to enhance the site's nature conservation interest and to secure any compensatory measures and appropriate management that may be required. **Statement on Appropriate Assessment of the Monmouthshire County Council UDP.** The plan area contains a number of Natura 2000 sites. It is unlikely that the Plan will have a significant effect on European sites/species, or adversely affect a site's integrity. Neither is it reasonably practicable or feasible to carry

Local Development Plans	
Monmouthshire County Council Adopted Unitary Development Plan 2006: http://www.monmouthshire.gov.uk/NR/rdonlyres/214D6B65-56D6-4DFC-8A62-429830AAC178/0/AdoptedUDPJune06.pdf	
	out an Appropriate Assessment of the UDP at this late stage. It is therefore concluded that it would be inappropriate to undertake Appropriate Assessment at this advanced stage of plan preparation.

Local Development Plans	
Newport City Council Unitary Development Plan (Adopted May 2006): http://www.newport.gov.uk/_dc/index.cfm?fuseaction=planning.udpinquiry&contentid=DevXP002061	
Plan Type	**Local Development Plan**
Plan Owner/ Competent Authority	**Newport City Council**
Currency	**1996 – 2011 (Adopted May 2006)**
Region/Geographic Coverage	**Newport City Council administrative boundary**
Sector	**Planning**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The main emphasis of the plan is a "Brownfield" strategy. Newport has a considerable quantity of regeneration sites, and their redevelopment is a key aim of the plan. As well as conserving land, this also helps to achieve the objective of reducing the need to travel, and thereby contributes to sustainability. Housing **SP10** sufficient land will be made available to provide for additional dwellings as follows: 1996-2001: 1800 2001-2006: 2000	**Overarching Development Pressures** ▪ Housing and employment growth - increased transport movements and associated air pollutants - e.g. as a result of development in the Heads of the Valleys Regeneration Area which may lead to commuting across administrative boundaries. ▪ Water abstraction for new development – potential to impact surface and groundwater. ▪ Recreational pressures from housing/ development that is close to European sites. **SAC Specific Issues**

Local Development Plans	
Newport City Council Unitary Development Plan (Adopted May 2006): http://www.newport.gov.uk/_dc/index.cfm?fuseaction=planning.udpinquiry&contentid=DevXP002061	
2006-2011: 3700 Each period is to be regarded as self-contained, with excesses or deficits of house building not being carried over into the next period. The land will be provided primarily on previously developed land in the following ways: i. existing commitments, sites under construction and completions since 1 january 1996; ii. new allocations as set out in policy h1; iii. infill and windfall site development within the settlement boundaries, not specifically allocated, to provide a further 400 dwellings. Further major housing development outside existing settlement boundaries will not be permitted. Major Road Schemes **SP14** land will be safeguarded for the following strategic highway schemes: i. M4 relief road; ii. eastern extension of the southern distributor road along queensway through the llanwern steelworks site. Employment Land Requirement **SP15** provision will be made for about 200 hectares of employment land for the period 1996-2011. Employment Sites **SP16** new industrial and business development will be located mainly in the following areas: i. Duffryn/Cleppa park; ii. South-East Newport;	▪ Development of Brownfield sites in close proximity to the River Usk SAC could have the potential to significantly affect water quality as a result of construction activities. This also has implications for the River Severn SPA/ Ramsar/ cSAC as the River Usk flows into the Severn Estuary. Any development that would involve the building of a bridge across the River Usk SAC has the potential to have significant effects on migratory fish populations. Below are policies within the Plan that have specific reference to European sites. **CE5** in the case of development proposals which would affect a European site or a Ramsar site: i. where there would be an adverse effect, the development will only be permitted if it is directly necessary for the beneficial management of the site, or if there are imperative reasons of over-riding public interest for the development and there is no alternative solution; ii. where the site also hosts a priority natural habitat or a priority species, development will only be permitted if it is directly necessary for human health, public safety or is directly connected with the beneficial management of the site. **CE9** planning permission will not be granted for development which could disturb or adversely affect a species protected by European legislation unless: i. there is no alternative location for the proposed development and appropriate mitigation measures can be implemented; ii. it can be established on the advice of the relevant conservation bodies that the development proposed would not be detrimental to the protected species.

Local Development Plans	
Newport City Council Unitary Development Plan (Adopted May 2006): http://www.newport.gov.uk/_dc/index.cfm?fuseaction=planning.udpinquiry&contentid=DevXP002061	
iii. riverside, dock and urban areas. Eastern Expansion Area **SP26** an expansion area is allocated to the east of the city, to include the redundant part of the llanwern steelworks and land to the north between the steelworks and the m4 motorway, to provide for 1,700 dwellings and a mix of business, commercial, leisure and community uses in accordance with a masterplan. Peripheral expansion elsewhere will not be permitted. The development of greenfield sites must not be allowed to do harm to the regeneration of inner urban sites.	

Local Development Plans	
The Vale of Glamorgan Council Local Development Draft Preferred Strategy Dec 2007: http://www.valeofglamorgan.gov.uk/living/planning/planning_policy/local_development_plan.aspx	
Plan Type	**Local Development Plan**
Plan Owner/ Competent Authority	**The Vale of Glamorgan Council**
Currency	**Preferred Strategy January 2008**
Region/Geographic Coverage	**The Vale of Glamorgan Council administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**The Vale of Glamorgan Council Local Development Plan 2006 – 2021 Initial Sustainability Appraisal Report 2007:** http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Initial_Sustainability_Appraisal_Report.pdf **AA Screening of the Vale of Glamorgan Local Development Plan Preferred**

Local Development Plans	
The Vale of Glamorgan Council Local Development Draft Preferred Strategy Dec 2007: http://www.valeofglamorgan.gov.uk/living/planning/planning_policy/local_development_plan.aspx	
	Strategy Dec 07. http://www.valeofglamorgan.gov.uk/files/Living/Planning/Policy/LDP/Appropriate_Assessment_Screening_Report.pdf
Document Details	**Potential impacts that could cause 'in-combination' effects**
The document sets out the Vale of Glamorgan Council's strategic priorities for development between 2011 and 2026. It outlines a range of key issues affecting the Vale that the Draft Preferred Strategy will need to address and defines a vision of how the Vale of Glamorgan should develop. It identifies the general location of development, sets objectives and establishes a series of strategic policies that will guide future growth and development. The Draft Preferred Spatial Strategy "To concentrate development opportunities in Barry and the South East Zone. The St Athan area to be a key development opportunity. Other sustainable settlements to accommodate further housing and associated development" **CSP4: Housing Need** Provision for the development of 7500 new dwellings during the period 2011-2026. This provision will be met through: ▪ existing committed sites with planning permission ▪ the development of a range of strategic sites that accord with the council's strategic settlement hierarchy, and ▪ the subdivision of suitable dwellings, the appropriate reuse of vacant dwellings and buildings, and appropriate infill development.	The Habitats Regulations Assessment Screening for the Vale of Glamorgan LDP Draft Preferred Strategy has identified the potential for the Strategy to have a negative impact on 2 of the 6 European Sites identified within or in close proximity to the Vale of Glamorgan namely, the Severn Estuary SPA/cSAC/RAMSAR and the Kenfig SAC. In addition, it is concluded that a precautionary approach be undertaken in respect of the other 4 sites and that further investigations be undertaken. It is therefore recommended that an Appropriate Assessment is undertaken to fully ascertain the effect of the LDP on the integrity of the sites identified. **Severn Estuary SPA, Ramsar & cSAC** ▪ Given the extent of the Severn Estuary and the diverse range of activities and operations that could result in adverse impact to the European Site, it is considered inevitable that the Draft Preferred Strategy will in some way, impact upon the designated site. While much of the development arising from the draft preferred strategy is likely to be located well away from the Severn Estuary, the south-eastern zone has been identified as a growth area and abuts the boundary of the designated site. Therefore, it is recommended that a more detailed assessment of the LDP be undertaken following consultation on the Draft Preferred Strategy to ascertain and mitigate against any likely significant effects to the SPA, cSAC, RAMSAR. **Kenfig SAC** ▪ The primary focus of the Draft Preferred Strategy will be in Barry and the south-eastern zone with St Athan being seen as a major development opportunity. Development resulting from the LDP in the proximity of the

Local Development Plans	
The Vale of Glamorgan Council Local Development Draft Preferred Strategy Dec 2007: http://www.valeofglamorgan.gov.uk/living/planning/planning_policy/local_development_plan.aspx	
To ensure a sustainable supply of housing land is maintained during the plan period, housing development will be phased as follows: ▪ 2011-2016 2500 dwellings ▪ 2016-2021 2500 dwellings ▪ 2021-2026 2500 dwellings The phasing of sites will be considered in accordance with the council's strategic settlement hierarchy. **CSP8: Employment** The employment needs of the Vale of Glamorgan will be met through: ▪ the enhancement and improvement of existing employment sites; ▪ suitable extensions to existing employment sites; ▪ the safeguarding of existing employment sites from non-employment uses, and ▪ favouring farm diversification, and tourism initiatives. **CSP11: Strategic Transport Improvements** Strategic transport improvements that serve the economic, social and environmental needs of the Vale of Glamorgan and the objectives of the South East Wales Regional Transport Plan will be favoured. In support of these objectives land will be safeguarded for: ▪ the Barry Waterfront to Cardiff Link Road. ▪ Llysworney Bypass Priority will be given to schemes that improve safety and accessibility, public transport, walking and cycling.	SAC is therefore unlikely to be of scale that would result in a detrimental impact upon the site. Notwithstanding this, there are three operational quarries (Ewenny, Pant, Lithalun) within 3 kilometres of the SAC. Mineral extraction and/or after use of the site could therefore impact upon the SAC as described above however this is considered to be unlikely due to the distance and ground contours. However, the site should be subject to a more detailed assessment at a later stage of the LDP development.

Local Development Plans	
The Vale of Glamorgan Council Local Development Draft Preferred Strategy Dec 2007: http://www.valeofglamorgan.gov.uk/living/planning/planning_policy/local_development_plan.aspx	
CSP12: Sustainable Waste Management Proposals for the sustainable management of waste will be favoured where they support the objectives of the South East Wales Regional Waste Plan and the Council's Local Waste Management Strategy. In support of these objectives the following locations have been identified as being suitable for waste management facilities: ▪ Atlantic trading estate. ▪ the operational Port of Barry Docks.	

Local Development Plans	
Torfaen County Borough Council Local Development Plan Preferred Strategy 2006-2021 Consultation of Strategic Options and Preferred Strategy: http://www.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/LocalDevelopmentPlan/LocalDevelopmentPlan.aspx	
Plan Type	**Local Development Plan**
Plan Owner/ Competent Authority	**Torfaen County Borough Council**
Currency	**Preferred Strategy January 2008**
Region/Geographic Coverage	**Torfaen County Borough Council administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**Torfaen County Borough Council Local Development Plan 2006 – 2021 Initial Sustainability Appraisal Report 2008:** http://www.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/Publications/InitialSustainabilityAppraisalReport.pdf
Document Details	**Potential impacts that could cause 'in-combination' effects**

Local Development Plans	
Torfaen County Borough Council Local Development Plan Preferred Strategy 2006-2021 Consultation of Strategic Options and Preferred Strategy: http://www.torfaen.gov.uk/EnvironmentAndPlanning/Planning/ForwardPlanning/LocalDevelopmentPlan/LocalDevelopmentPlan.aspx	
This document sets out the Council's objectives and priorities for the development and use of land within Torfaen and its policies for implementing them. The Network of Integrated Communities Strategy would aim to ensure a network of integrated communities, focusing particularly on the two key settlements of Cwmbran and Pontypool to ensure that they are successful and function as service hubs for the surrounding settlements. Development will be emphasised along key transport routes and expanded settlements could potentially include Greenfield land. The LDP Preferred Strategy will make provision for 7,000 new dwellings in Torfaen over the period 2006 - 2021 primarily within the existing settlements and with a preference for brownfield sites, ▪ of which: o 900 dwellings in North Torfaen Housing Market Area (Blaenavon and Abersychan Wards); o 2,800 dwellings in Pontypool Housing Market Area; and o 3,300 dwellings in Cwmbran Housing Market Area. ▪ and made up from: o 2,800 dwellings on sites already allocated, permitted or under construction (Jan 2006 JHLAS); o 3,400 dwellings on New Site Allocations (10 or more dwellings); o 400 dwellings in a 'Windfall Allowance'; and o 400 dwellings on Small Sites (9 or less dwellings).	Generic effects related to development/ growth scenarios include: ▪ Increased demand for water resources/ abstraction/ hydrological impacts. ▪ Increased traffic movements, contributions to atmospheric pollution loading. ▪ Growth in requirements for waste management facilities, increased demand for minerals. ▪ Increased recreational pressure from existing/ new populations. Measures within the LDP may help to offset or mitigate some of these generic effects through: ▪ Protecting and enhance important international, national, regional and local species and habitats, including: o European Protected Species; o Special Areas of Conservation (SAC); o Sites of Special Scientific Interest (SSSI); o Local Nature Reserves (LNR); and o Sites of Interest for Nature Conservation (SINC). ▪ Placing an emphasis on Public Transport, Cycling & Walking schemes rather than road improvements and trying to ensure that developments take measures to reduce the need to travel, reducing reliance on the motor car. ▪ Protecting formal leisure facilities and the various typologies of open space and ensure new provision from development sites, including the use of S106 contributions. ▪ Requiring a minimum 10% reduction in CO2 emissions (to the BREEAM Good level) from all major new developments; ▪ Requiring a financial contribution from all non BREEAM Excellent (40%

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▪ with all Demolitions to be net against this target. The LDP proposes the following Strategic Housing Sites, detailed in Figure 1. (of 100 or more dwellings): - 1. Boral Edenhall & Candlewick Sites, Blaenavon; 2. The British, Talywain; 3. Mamhilad New Village, Nr Pontypool; 4. Trevethin Comprehensive School; 5. Rear of Twmpath Road / Dog Pound, Tranch, Pontypool; 6. Pontypool College; 7 & 8. Possibly County Hospital or Panteg Steelworks; 9. South Sebastopol, Cwmbran; 10. County Hall, Cwmbran; 11. Cwmbran Town Centre 12. Former Police College & adjacent land, Cwmbran; 13. Llanfrechfa Grange Hospital; 14. Malthouse Lane, Llantarnam, Cwmbran; and The LDP Preferred Strategy is that over the period 2006-2021 the plan will identify 60ha of land for general employment purposes within the urban area. The LDP proposes the following Strategic Employment Sites: 1. Kays & Kears, Blaenavon; 2. The British, Pontypool; 3. Mamhilad, Pontypool; 4. Panteg Steelworks, (South), Pontypool; 5. Craig y Felin, Cwmbran; 6. Llantarnam, Cwmbran.	reduction in CO2 emissions) developments to improve the carbon footprint of existing buildings; ▪ Requiring development to be resource efficient; ▪ Requiring development to consider small to medium renewable energy generation; ▪ Ensuring that developments are designed to be resilient to the likely future effects of climate change; and ▪ Maintaining habitat connectivity to allow wildlife to adapt to a changing climate. **SAC Specific Issues** ▪ There are no European sites within the Count Borough Boundaries.

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Local Development Plans	
Rhondda Cynon Taff County Borough Council Local Development Plan Preparation & Deposit: http://www.rhondda-cynon-taf.gov.uk/stellent/groups/public/documents/hcst/content.hcst?lang=en&textonly=false&xNodeID=2015	
Plan Type	**Local Development Plan**
Plan Owner/ Competent Authority	**Rhondda Cynon Taf County Borough Council**
Currency	**Preferred Strategy January 2007**
Region/Geographic Coverage	**Rhondda Cynon Taf County Borough Council administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**Preferred Strategy SA/SEA and Habitats Regulations Assessment Screening** http://www.rhondda-cynon-taf.gov.uk/stellent/groups/public/documents/hcst/content.hcst?lang=en&textonly=false&xNodeID=2015
Document Details	**Potential impacts that could cause 'in-combination' effects**
LDP Preferred Strategy adopts a hybrid approach which combines a growth scenario where settlement geography allows (i.e. where lateral growth not limited by valley locations) with development that meets the needs of local communities.	**Overarching Development Pressures** ▪ Potential for increased traffic movements and air pollution as a result of growth in road traffic in the Northern Area where enhanced is development sought. ▪ The promotion of commercial development in the southern transport

Local Development Plans	
Rhondda Cynon Taff County Borough Council Local Development Plan Preparation & Deposit: http://www.rhondda-cynon-taf.gov.uk/stellent/groups/public/documents/hcst/content.hcst?lang=en&textonly=false&xNodeID=2015	
The Strategy divides the County Borough into Northern and Southern Areas. For the Northern Area the emphasis is on building sustainable communities and halting the processes of depopulation and decline. In the Southern Area the focus is on sustainable growth within settlement boundaries, taking advantage of the cross regional road and rail connections to promote economic development and commerce of a national and international caliber. The Strategy identifies the need for14,850 dwellings during the plan period. The overall supply of employment land has been established at 195 hectares but analysis shows that it is not all appropriate for identified need (smaller, flexible space meeting the needs of micro-businesses). The Preferred Strategy includes 8 proposed strategic sites of more than 20 hectares (5 in the Northern Area and 3 in the Southern area) for a range of mixed use developments.	corridors may also lead to induced traffic flows across the region with associated rises in background and localised air pollution. **SAC Specific Issues** ▪ Blaen Cynon SAC and Cardiff Beech Woods SAC, both within the County Borough Boundary, lie adjacent to major transport routes (A465 and A470 respectively). ▪ Both sites are easily accessible and Cardiff Beech Woods in particular has known vulnerabilities to air pollution and recreational pressures.

Local Development Plans outside SE Wales

Local Development Plans	
Forest of Dean District Council Core Strategy Second Preferred Options (March 2008) http://www.fdean.gov.uk/content.asp?nav=765%2C884&parent_directory_id=200	
Plan Type	**Local Development Framework**
Plan Owner/ Competent Authority	**Forest of Dean District Council**
Currency	**Second Preferred Options 2008**
Region/Geographic Coverage	**Forest of Dean District Council administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**SA of the Core Strategy Second Preferred Options 2008:** http://fdean-consult.limehouse.co.uk/portal
Document Details	**Potential impacts that could cause 'in-combination' effects**
Land for housing will be provided in accordance with the overall requirements of the RSS, the submitted draft of which makes provision for about 310 new dwellings a year until 2026. The housing to be provided will be distributed according to the overall spatial strategy, with approximately 50% of all completions on allocated sites being in Lydney, 20% in Cinderford, 12% in Coleford and 8% in Newent. Priority will be given to previously developed land where possible and no new greenfield sites will be released unless it can be proven that land is not available from other sources. With the exception of small sites where site conditions and the local environment are the major considerations, new housing sites will be required to achieve a density of at least 30 dwellings per hectare. Higher densities will be encouraged in town centres especially where flats and smaller dwellings are	**Overarching Development Pressures** ▪ Housing and employment growth - direct land take and increased transport movements and associated air pollutants. ▪ Water abstraction for expanding communities - potential to impact surface and groundwater. ▪ Recreational pressures from housing/ development that is close to European sites. **SAC Specific Issues** ▪ The River Wye SAC, Wye Valley Woodlands SAC, Wye Valley and Forest of Dean Bat Sites SAC and the Severn Estuary SPA, Ramsar & cSAC are all within the district boundary. ▪ Coleford lies in close proximity to the River Wye, Wye Valley Woodlands and Wye Valley and Forest of Dean Bat Sites. There is the potential for disturbance as a result of the construction of new development and increased levels of recreational activity. Horseshoe bats are very

Local Development Plans	
Forest of Dean District Council Core Strategy Second Preferred Options (March 2008) http://www.fdean.gov.uk/content.asp?nav=765%2C884&parent_directory_id=200	
being provided. **Policy 15 (Cindeford)** The Core strategy will: Provide for 700 dwellings to be allocated over the period to 2026; 40% (on sites eligible for an affordable share)* to be affordable, and a total of 60% to be developed on previously developed land. Enable 26ha of employment land to be developed, including sites for educational use, an hotel, a biomass plant, and office (B1) accommodation as part of a new mixed development at Steam Mills. Support the continued redevelopment of the town centre, to bring improved facilities, including retail outlets and the re modelling of parts of it to improve its attractiveness and ease of circulation. Ensure improvements in the urban fabric throughout the town. Enable the development of a new access to the northern quarter. **Policy 16 (Lydney)** In order to enhance the role of the town the Core strategy will	sensitive to disturbance and even the presence of a single person in close proximity can cause problems. ▪ Lydney lies in close proximity to the Severn Eastuary SPA, Ramsar and cSAC. There is the potential for increased levels of disturbance as a result of new development and increased recreational activity. **Policy 2** Design and environmental protection (strategic objective: providing quality environments) In order to improve or retain the quality of the environment, new development should be designed to enhance or be compatible with its surroundings. Development Proposals will be expected to be supported by design statements which fully explain the impact of what is proposed. It should be located to avoid the loss of protected habitats, be well related to the landscape, and safeguard and enhance the historic environment. Where some loss of natural or historic environment is justified, mitigation will be necessary. New development should comply with the prevailing national guidance on flood risk. Examples include the Special Areas for Conservation, Ancient Monuments and sites of Special Scientific Interest. In addition it is essential to take proper account of the need to safeguard certain protected species which may be present throughout the district. As a general principle development in these areas or development which adversely affects protected Species is unlikely to be permitted.

Local Development Plans	
Forest of Dean District Council Core Strategy Second Preferred Options (March 2008) http://www.fdean.gov.uk/content.asp?nav=765%2C884&parent_directory_id=200	
continue to promote the land east of Lydney for a mixed neighbourhood and will promote a new mixed development along the axis between the harbour and the town centre. The continued development of the town centre including improvements following the implementation of the highway strategy and the improvement of key retail sites will be supported. This will: Enable 38ha of employment land to be developed, including 15ha at Hurst Farm and a further 9ha as part of the east of Lydney. Provide for approximately 1500 allocated new dwellings over the period to 2026, 40% of the number built on sites eligible for a share of affordable housing to be affordable and make maximum use of previously developed land. **Policy 17 (Coleford)** The Core strategy will: Provide for 200 allocated new dwellings over the period to 2026, 40%of those built on eligible Sites to be affordable whilst maximising the use of previously developed land. Enable 8ha of employment land to be developed, including service provision and continue to support the development of tourism facilities or accommodation.	

Local Development Plans	
Forest of Dean District Council Core Strategy Second Preferred Options (March 2008) http://www.fdean.gov.uk/content.asp?nav=765%2C884&parent_directory_id=200	
Support the continued redevelopment of the town centre including areas for community uses and further retailing. **Policy 18 (Newent)** The Core strategy will: Provide for 200 allocated new dwellings over the period to 2026, 40%of those built on eligible sites to be affordable. Additional housing beyond this level will only be permitted on small unidentified sites and suitable previously developed land within the town. Enable 5ha of employment land to be developed. Support the continued improvement of the town centre allowing further retail and service provision.	

Local Development Plans	
Herefordshire County Council Unitary Development Plan (adopted March 2007)	
Plan Type	**Unitary Development Plan**
Plan Owner/ Competent Authority	**Herefordshire County Council**
Currency	**2011**
Region/Geographic Coverage	**Herefordshire County Council administrative boundaries**
Sector	**Planning**

Local Development Plans	
Herefordshire County Council Unitary Development Plan (adopted March 2007)	
Related work SA/SEA HRA/AA	HRA Screening of the Herefordshire County Council Unitary Development Plan, 2007
Document Details	**Potential impacts that could cause 'in-combination' effects**
S3 Housing Provision will be made for additional dwellings to be built at an annual rate of 800 dwellings a year for the period 2001-2007 and for 600 dwellings a year beyond 2007. Having regard to existing commitments and the likely supply of dwellings arising from windfall sites, a maximum of about 12,200 dwellings would thereby be built over the period 1996-2011. Priority will be given to the use of previously developed land, ahead of urban extensions, including making the most effective use of existing buildings through conversion and bringing vacant property back into use. The target is for 68% of housing completions in the period 2001-2011 to be on previously developed land. Dwelling completions 1996-2001 approximately 5,000 dwellings 2001-2007 approximately 4,800 dwellings at 800 dwellings a year 2007-2011 approximately 2,400 dwellings at 600 dwellings a year A four tier housing location strategy has been adopted. Most provision will be concentrated in Hereford (the first tier) and the market towns (the second tier) principally from a combination of allocated sites, urban capacity sites and some urban extensions. The third tier locates housing on allocation sites in the more sustainable main villages. In addition, there will be some windfall development mainly on capacity sites in these	**Overarching Development Pressures** ▪ Housing and employment growth - increased transport movements and associated air pollutants. ▪ Water abstraction for expanding communities - potential to impact surface and groundwater. The HRA Screening indicates that a full Appropriate Assessment of the UDP is not necessary as development proposals will be required to comply with policy NC2 Sites of International Importance. **NC2 Sites of international importance** Development which may affect a European Site, a proposed or candidate European Site or a Ramsar site will be subject to the most rigorous examination. Development that is not directly connected with or necessary to the management of the site for nature conservation, which is likely to have significant effects on the site (either individually or in combination with other plans or projects) and where it cannot be ascertained that the proposal would not adversely affect the integrity of the site, will not be permitted unless: 1. there is no alternative solution; and 2. there are imperative reasons of over-riding public interest for the development. Where the site concerned hosts a priority natural habitat type and/or a priority species, development or land use change will not be permitted unless the authority is satisfied that it is necessary for reasons of human

Local Development Plans	
Herefordshire County Council Unitary Development Plan (adopted March 2007)	
villages. The fourth tier of the strategy caters for other rural housing needs essentially through windfall developments on infill plots in named smaller settlements. The distribution of housing is as follows: Hereford 3,781 dwellings Leominster 1,037 dwellings Ross-on-Wye 693 dwellings Ledbury 956 dwellings Bromyard 480 dwellings Kington 275 dwellings Main villages 3,044 dwellings Wider rural area 1,918 dwellings **M3 Criteria for new aggregate mineral workings** Planning applications for aggregate extraction will only be granted in exceptional circumstances, notably where the permitted aggregate reserves in the County prove insufficient to meet the County's sub-regional apportionment. In such cases planning permission for extraction will only be granted where the site is not affected by one or more primary constraints or two or more secondary constraints unless the adverse effects on the secondary constraints can be satisfactorily mitigated, or where the specialised nature of the mineral constitutes a material consideration sufficient to override the constraints, or there is no lesser constrained minerals bearing land elsewhere in the County. Primary Constraints 1. Areas of Outstanding Natural Beauty;	health or public safety or for beneficial consequences of primary importance for nature conservation.

Local Development Plans	
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2. sites and species of international and national importance to nature conservation; 3. Scheduled Ancient Monuments and other sites of national or regional archaeological importance. Where a proposal satisfies the above constraints process, applicants will also be required to submit evidence to demonstrate the extent to which the development impacts on: ▪ people and local communities; ▪ natural and cultural assets; ▪ the highway network and other public rights of way; ▪ land stability; ▪ public open space, and ▪ air, soil and water resources. Unless such impacts can be satisfactorily mitigated, planning permission will be refused. **W1 New waste management facilities** Planning applications for new waste management facilities which do not fall into Class B1 and B2 will only be permitted where the site is not affected by one or more primary constraints or two or more secondary constraints except where: a. in the case of sites affected only by two or more secondary constraints, such constraints can be satisfactorily mitigated; or b. where the specialised nature of the facility constitutes a material consideration sufficient to override the	

Local Development Plans	
Herefordshire County Council Unitary Development Plan (adopted March 2007)	
constraints or there is no other lesser constrained land elsewhere in the County. Primary Constraints 1. Areas of Outstanding Natural Beauty; 2. sites and species of international and national importance to nature conservation; 3. Scheduled Ancient Monuments and other sites of national or regional archaeological importance; 4. Groundwater Source Protection Zones 1 and 2. Where a proposal satisfies the above constraints, applicants will also be required to submit evidence to demonstrate the extent to which the development impacts on: ▪ people and local communities; ▪ natural and cultural assets; ▪ the highway network and other public rights of way; ▪ public open space; and ▪ air, soil and water resources. Unless such impacts can be satisfactorily mitigated, planning permission will be refused.	

Local Development Plans	
Neath Port Talbot County Borough Council Unitary Development Plan (adopted March 2008) http://www.neath-porttalbot.gov.uk/PDF/udp_adopted_text.pdf	
Plan Type	**Unitary Development Plan**
Plan Owner/ Competent Authority	**Neath Port Talbot County Borough Council**
Currency	**Adopted March 2008 (Work on the LDP is programmed to start in September 2008)**
Region/Geographic Coverage	**Neath Port Talbot County Borough Council administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**AA of the Neath Port Talbot UDP June 2007**: http://www.neath-porttalbot.gov.uk/pdf/udp_200706_appropriate_assessment.pdf **SEA of the Neath Port Talbot UDP**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The majority of significant development will be concentrated in the Port Talbot- Neath urban area and to a lesser extent Pontardawe. The main new housing allocation will result in the creation of the Urban Village at Llandarcy on the site of the former BP refinery. It will form an extension to the Greater Neath urban area at Skewen. Llandarcy will be a sustainable, fine grained, mixed-use community. Through its internal and external transport links it will encourage the use of public transport, cycling and walking rather than the car and make an important contribution to helping reduce overall traffic generation within the area. The Baglan Bay development will accommodate a substantial portion of the Port Talbot area's housing needs in an extension to the main urban area that is well located and maximises the use of brownfield land. The Urban Village and Baglan Bay allocations will make	**Overarching Development Pressures** ▪ Housing and employment growth – direct land take and increased transport movements and associated air pollutants. ▪ Water abstraction for expanding communities - potential to impact surface and groundwater. ▪ Recreational pressures from housing/ development that is close to European sites. **SAC Specific Issues** Crymlyn Bog SAC/ Ramsar, Coedydd Nedd a Mellte SAC and Kenfig SAC are partly within the County Borough's boundary. The AA Screening concludes that the sites that lie entirely outside the County Borough are unlikely to be significantly affected by any proposals in the Unitary Development Plan alone or in-combination. It also states that significant effects on Coedydd Nedd a Mellte as a result of the UDP either alone or in-combination are also unlikely.

Local Development Plans	
Neath Port Talbot County Borough Council Unitary Development Plan (adopted March 2008) http://www.neath-porttalbot.gov.uk/PDF/udp_adopted_text.pdf	
important contributions in terms of housing and employment and will have important implications throughout the Plan. In order that the proposals can be fully explained and considered they are addressed in separate chapters in addition to the specific allocations contained in the relevant topic chapters. **Housing** **Policy 7** In order to meet the County Borough's new housing needs, land will be made available for the development of approximately 6155 houses during the period mid 2001- mid 2016, distributed as follows: Port Talbot - 1954 Greater Neath - 3335 Neath & Dulais - Valley 308 Upper Afan Valley - 35 Swansea Valley - 523 An overall capacity for the Llandarcy Urban Village of 4,000 dwellings is allocated, this will extend beyond the plan period. **Economy and Employment** **Policy 8** The main sources of employment will be concentrated along the coastal belt within the urban area of Jersey Marine - Neath - Port Talbot. **Transport** **Policy 12** Improvements to the transport system will concentrate on:	An Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive was considered necessary in relation to the likely effects of the Unitary Development Plan on the Crymlyn Bog SAC and Ramsar site and Kenfig SAC. The AA concluded that the application of regulatory policies within the respective UDPs, together with the Appropriate Assessment procedure provide a secure mechanism to ensure that allocations neither individually or in-combination would create an adverse effect on the integrity of Crymlyn Bog SAC/ Ramsart and Kenfig SAC.

Local Development Plans	
Neath Port Talbot County Borough Council Unitary Development Plan (adopted March 2008) http://www.neath-porttalbot.gov.uk/PDF/udp_adopted_text.pdf	
a) improving accessibility and highway safety and reducing congestion, pollution and disturbance generated by traffic; b) encouraging travel by public transport, cycling and walking as alternatives to the car; and c) encouraging the movement of freight by rail and sea as alternatives to road. **Retail** **Policy 15** Neath, Port Talbot and Pontardawe, as the primary town centres, providing retail, leisure, commercial and cultural facilities serving the County Borough's communities will be protected and enhanced. **Minerals** **Policy 20** A) Proposals for coal extraction will be favoured where they contribute to the County Borough's share of local, regional or national production subject to: - a) ensuring that the impacts on the environment and local communities are acceptable; and b) securing appropriate, high quality and prompt restoration and aftercare to provide a beneficial after-use. B) Aggregates and dimension stone production will be catered for by the expansion of the Gilfach and Cwm Nant Lleuci quarries. **Waste** **Policy 25**	

Local Development Plans	
Neath Port Talbot County Borough Council Unitary Development Plan (adopted March 2008) http://www.neath-porttalbot.gov.uk/PDF/udp_adopted_text.pdf	
The creation of a network of waste management facilities will be promoted through the plan in order to: a) meet the existing and future needs of the County Borough; and b) contribute to meeting the needs and potential new demands of the region. **Llandarcy Urban Village** **Policy 27** A new urban village will be created at Llandarcy providing a mixed use development on brownfield land as an extension to the Neath urban area at Skewen. **Port Talbot Docks and Industrial Estate** **Policy 28** The potential of the Port Talbot Docks and adjacent areas as a key regeneration area for the County Borough will be promoted. **Baglan Bay Development** **Policy 29** The potential of the Baglan Bay area as a key regeneration area for the County Borough will be promoted.	

Local Development Plans

Powys Unitary Development Plan Deposit Draft 2004 **http://www.powys.gov.uk/uploads/media/written_statement_en.pdf** **Powys Unitary Development Plan Proposed Modifications Nov 2007 to the Deposit Draft 2004** **http://www.powys.gov.uk/uploads/media/Proposed_Modifications_en.pdf**	
Plan Type	**Unitary Development Plan**
Plan Owner/ Competent Authority	**Powys**
Currency	**2008 - 2016**
Region/Geographic Coverage	**Powys administrative boundaries**
Sector	**Planning**
Related work SA/SEA HRA/AA	**HRA Screening of the Powys UDP Nov 2007:** http://www.powys.gov.uk/uploads/media/HRA_en_01.pdf **SA/SEA of the Powys UDP Oct 2007:** http://www.powys.gov.uk/uploads/media/SEA__SA_addendum_en.pdf
Document Details	**Potential impacts that could cause 'in-combination' effects**
Policy SP4 - Economic and Employment Developments Up to 55 hectares of land is allocated for employment related aevelopments during the plan period, 2001-2016 and developments For these purposes on such allocated sites will be acceptable. **Policy SP5 - Housing Developments** Sufficient land is allocated, including appropriate existing allocations and commitments, to accommodate up to approximately 6140 additional dwellings (410 per annum) during the plan period mid 2001 - mid 2016, in accordance with the Council's strategic settlement hierarchy. **Policy HP1 - Shire Housing Allocations** Sufficient land is allocated to the three shires to accommodate 6750 new dwellings in the Powys UDP area between 2001-2016 as: ▪ Brecknockshire (ex BBNP)1240	The HRA Screening of the Powys UDP (Oct 2007) concludes that the policies and proposals contained in the Powys UDP are not likely to give rise to any significant effects either alone or in-combination on any European site in Powys. It is therefore considered that a detailed appropriate assessment of the Powys UDP, or of any part of it, is not necessary.

Local Development Plans	
Powys Unitary Development Plan Deposit Draft 2004 **http://www.powys.gov.uk/uploads/media/written_statement_en.pdf** **Powys Unitary Development Plan Proposed Modifications Nov 2007 to the Deposit Draft 2004** **http://www.powys.gov.uk/uploads/media/Proposed_Modifications_en.pdf**	
▪ Montgomeryshire 4100 ▪ Radnorshire 1410 **Policy T1 - Highway Improvement Schemes** The council will protect programmed routes from development that would obstruct the undertaking of the planned highway improvement scheme, **Highway Improvement Schemes** The following major improvements to the County Highway Network are proposed by the Council: Canal Road / Llanllwchaiarn Road, Newtown; Waterloo Road Link, Llandrindod. In addition to these, the Welsh Assembly Government in their Trunk Road Forward Programme 2002 has identified the following Trunk Road improvement schemes: ▪ Repair & Upgrade Schemes (£1M+): A483 Esgairdraenllwyn Bends; A470 Christmas Pitch; A470 Ysgiog; A487 Pont ar Ddyfi; A458 Nant y Dugoed; A458 Garreg Bank – Middletown. ▪ Technically ready for delivery before March 2005: Talgarth Relief Road. ▪ Could be ready to proceed by March 2008: A470 Cwmbach – Newbridge, A470 Alltmawr, and A483 Four Crosses Relief Road. ▪ Unlikely to proceed before April 2008: A470 Builth Wells; A470 Rhayader; A470 Llandinam; A483/A489 Newtown; A458 Buttington Cross – Middletown; A458 Sylfaen – Cyfronydd.	

Local Development Plans	
Powys Unitary Development Plan Deposit Draft 2004 **http://www.powys.gov.uk/uploads/media/written_statement_en.pdf** **Powys Unitary Development Plan Proposed Modifications Nov 2007 to the Deposit Draft 2004** **http://www.powys.gov.uk/uploads/media/Proposed_Modifications_en.pdf**	
▪ No ranking applied: A470 Commins Coch; A470 Llangurig – Wern Villa; A483 Brynsadwrn improvement	

Minerals and Waste Strategies

Minerals & Waste	
Blaenau Gwent County Borough Council Waste Strategy 2004: http://www.blaenau-gwent.gov.uk/documents/Documents_Education/waste_strategy.pdf	
Plan Type	**Municipal Waste Strategy**
Plan Owner/ Competent Authority	**Blaenau Gwent County Borough Council**
Currency	**2004**
Region/Geographic Coverage	**Blaenau Gwent County Borough Council administrative boundaries**
Sector	**Waste**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
Vision Statement The Council's vision statement is "to provide economic, efficient and effective public services which seek to enhance the quality of life of the people of Blaenau Gwent". Objective Blaenau Gwent undertakes to provide all waste management services in line with Best Available Technology, having evaluated each process for Best Practicable Environmental Option, Proximity Principle and Environmental Impact Assessment. Furthermore, any such technologies employed shall comply with the principle of value for money delivery of services and take into account the wishes of the authority's stakeholders. Future Options for Waste Management Diversion of wastes will play a key role in our future waste	**Overarching Development Pressures** **Recycling** Air Pollution/ Disturbance ▪ Transport and energy emissions generated by collection, sorting and processing ▪ Dust, noise and odour associated with industrial process **Composting** Air/ Water Pollution, Introduced/Invasive Species ▪ Odour, litter, possible vermin generation ▪ Release of spores [non-native], requirement for buffer zones (at least 250 metres between composting operations and sensitive receptors) ▪ Production of liquid pollutant ▪ Potential for combustion **Mechanical Biological Treatment (MBT)** Air Pollution, Land Take, Hydrology ▪ Emissions, traffic impacts, land take and wider environmental impacts analogous with industrial process ▪ Processes produce residue

Minerals & Waste	
Blaenau Gwent County Borough Council Waste Strategy 2004: http://www.blaenau-gwent.gov.uk/documents/Documents_Education/waste_strategy.pdf	
management activities under the Landfill Directive, Article 5. Blaenau Gwent will need to achieve diversion rates of biodegradable municipal wastes (BMW), as a percentage, based on total 1995 municipal waste figures. This equates to a diversion from landfill of 2,606 tonnes (assuming BMW composition at 30%) in 2010. Simultaneously, they will need to achieve a 40% recycling/composting rate (with at least 15% composting) by 2009/10. The public consultation exercise carried out under the Technical Advice Note (TAN) Group, has identified the preferred option as Mechanical Biological Treatment (MBT) with more Recycling and Composting. This is, therefore, likely to be the option selected under partnership arrangements.	**Refuse Derived Fuel (energy from waste)** Air Pollution ▪ Emission concerns, particulates and potentially dioxins **Anaerobic Digestion (energy from Waste)** Air/Water Pollution ▪ Emissions to air – odour (during collection, transport and pre-treatment) ▪ Wastewater – potential for high concentrations of metals, dissolved nitrogen and organic material **Incineration with Energy Recovery** Air/ Water Pollution ▪ Noise, dust, traffic, visual amenity, potential to impact fauna and flora ▪ Deposition of substances on surface water ▪ Solid, liquid emissions ▪ Gaseous emissions include odour, acid gas, heavy metals, particulates, organic compounds ▪ Ash residues comprising fine particles, [need to landfill ash/ scrap] dioxins, heavy metals salts, unreacted lime and carbon ▪ Contamination, accumulation of toxic substance (food chain)] **Landfill & Landraise** Air/ Water Pollution, Invasive Species, Land Take ▪ Methane and carbon monoxide emissions ▪ Leachate, salts, heavy metals, biodegradable and persistent organics ▪ Accumulation of hazardous substances in soil ▪ Topography alteration, visual intrusion ▪ Soil occupancy, prevention of other land uses ▪ Attraction of vermin ▪ Contamination, accumulation of toxic substances ▪ Potential exposure to hazardous substances ▪ Impact on surface water runoff, flood risk

Minerals & Waste	
Blaenau Gwent County Borough Council Waste Strategy 2004: http://www.blaenau-gwent.gov.uk/documents/Documents_Education/waste_strategy.pdf	
	SAC Specific Issues ▪ Specific potential in-combination impacts cannot be explored in absence of specific waste locations.

Minerals & Waste	
Bridgend County Borough Council Municipal Waste Strategy 2003: http://www.bridgend.gov.uk/Web1/groups/public/documents/consultation/000852_ia483c442b-1.hcsp#P127_7259	
Plan Type	**Municipal Waste Strategy**
Plan Owner/ Competent Authority	**Bridgend County Borough Council**
Currency	**2003 - 2010**
Region/Geographic Coverage	**Bridgend County Borough Council administrative boundaries**
Sector	**Waste**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The strategic objectives underpinning the Municipal Waste Management Strategy are: a) To set standards and targets and to monitor performance in implementing the Council's Municipal Waste Management Strategy and to review and update the Strategy on a regular basis. b) To promote waste minimisation to householders and local business through the provision of information, advice, education and awareness raising campaigns and, where appropriate, to provide support for local	**Overarching Development Pressures** **Recycling** Air Pollution/ Disturbance ▪ Transport and energy emissions generated by collection, sorting and processing ▪ Dust, noise and odour associated with industrial process **Composting** Air/ Water Pollution, Introduced/Invasive Species ▪ Odour, litter, possible vermin generation ▪ Release of spores [non-native], requirement for buffer zones (at least

Minerals & Waste	
Bridgend County Borough Council Municipal Waste Strategy 2003: http://www.bridgend.gov.uk/Web1/groups/public/documents/consultation/000852_ia483c442b-1.hcsp#P127_7259	
schemes to reduce waste through such measures as home composting, re-use of waste and reduction of waste at source. c) To promote the principles of sustainable waste management and waste minimisation, re-use and recycling by adopting and developing 'good practice' in the management and delivery of the Council's services and purchasing systems. d) To increase the amount of municipal waste that is recovered for re-use, particularly where such re-use creates employment and training opportunities locally. e) To increase the segregation at source of municipal waste for recycling and composting, with due regards to the benefits and costs and to ensure that further value is recovered from residual waste either for recycling, mixed waste composting or energy recovery. f) To ensure that contractors carry out the treatment or disposal of waste in a manner that minimises risks to the environment or health. g) To take measures to prevent the illegal disposal of waste through litter, fly-tipping or abandoned vehicles, and that to ensure that where it does occur, that due consideration is given to taking appropriate enforcement action against identified offenders.	250 metres between composting operations and sensitive receptors) ▪ Production of liquid pollutant ▪ Potential for combustion **Mechanical Biological Treatment (MBT)** Air Pollution, Land Take, Hydrology ▪ Emissions, traffic impacts, land take and wider environmental impacts analogous with industrial process ▪ Processes produce residue **Refuse Derived Fuel (energy from waste)** Air Pollution ▪ Emission concerns, particulates and potentially dioxins **Anaerobic Digestion (energy from Waste)** Air/Water Pollution ▪ Emissions to air – odour (during collection, transport and pre-treatment) ▪ Wastewater – potential for high concentrations of metals, dissolved nitrogen and organic material **Incineration with Energy Recovery** Air/ Water Pollution ▪ Noise, dust, traffic, visual amenity, potential to impact fauna and flora ▪ Deposition of substances on surface water ▪ Solid, liquid emissions ▪ Gaseous emissions include odour, acid gas, heavy metals, particulates, organic compounds ▪ Ash residues comprising fine particles, [need to landfill ash/ scrap] dioxins, heavy metals salts, unreacted lime and carbon ▪ Contamination, accumulation of toxic substance (food chain)] **Landfill & Landraise** Air/ Water Pollution, Invasive Species, Land Take ▪ Methane and carbon monoxide emissions

Minerals & Waste	
Bridgend County Borough Council Municipal Waste Strategy 2003: http://www.bridgend.gov.uk/Web1/groups/public/documents/consultation/000852_ia483c442b-1.hcsp#P127_7259	
	▪ Leachate, salts, heavy metals, biodegradable and persistent organics ▪ Accumulation of hazardous substances in soil ▪ Topography alteration, visual intrusion ▪ Soil occupancy, prevention of other land uses ▪ Attraction of vermin ▪ Contamination, accumulation of toxic substances ▪ Potential exposure to hazardous substances ▪ Impact on surface water runoff, flood risk **SAC Specific Issues** ▪ Specific potential in-combination impacts cannot be explored in absence of specific waste locations.

Minerals & Waste	
Caerphilly County Borough Council Municipal Waste Management Strategy & Litter Plan 2004: http://www.caerphilly.gov.uk/yourservices/environment/rubbish-waste-recycling/mwms.htm	
Plan Type	**Municipal Waste Strategy**
Plan Owner/ Competent Authority	**Caerphilly County Borough Council**
Currency	**2004**
Region/Geographic Coverage	**Caerphilly County Borough Council administrative boundaries**
Sector	**Waste**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The Strategy describes the current waste situation within the	**Overarching Development Pressures**

Minerals & Waste	
Caerphilly County Borough Council Municipal Waste Management Strategy & Litter Plan 2004: http://www.caerphilly.gov.uk/yourservices/environment/rubbish-waste-recycling/mwms.htm	
authority, what targets and objectives the authority needs to achieve and how it proposes to achieve them. Strategic aims for the period 2004/05 to 2006/07 1. Continually improve the services we provide in terms of efficiency, reliability and customer focus. 2. Adhere to the waste hierarchy in our management of waste issues. 3. Divert 25% BMW from landfill by 2010 and start to make preparations for the later Landfill Directive targets of 50% diversion by 2013 and 65% diversion by 2020. 4. Recycle and compost a minimum of 15% MSW by 2003/04, 25% by 2006/07 and 40% by 2009/10. 5. Improve awareness raising programmes to reach a greater proportion of the population of Caerphilly County Borough. 6. Increase participation rates in the kerbside recycling scheme and boost capture rates. 7. Reduce the amount of waste that CCBC generates and set up schemes for the recycling and composting of council waste. 8. Make provision for the collection of special wastes at civic amenity sites. 9. Work closely with partners in all sectors to attain sustainable waste management. 10. Continue to consult and communicate with residents and other stakeholders on matters of service delivery.	**Recycling** Air Pollution/ Disturbance ▪ Transport and energy emissions generated by collection, sorting and processing ▪ Dust, noise and odour associated with industrial process **Composting** Air/ Water Pollution, Introduced/Invasive Species ▪ Odour, litter, possible vermin generation ▪ Release of spores [non-native], requirement for buffer zones (at least 250 metres between composting operations and sensitive receptors) ▪ Production of liquid pollutant ▪ Potential for combustion **Mechanical Biological Treatment (MBT)** Air Pollution, Land Take, Hydrology ▪ Emissions, traffic impacts, land take and wider environmental impacts analogous with industrial process ▪ Processes produce residue **Refuse Derived Fuel (energy from waste)** Air Pollution ▪ Emission concerns, particulates and potentially dioxins **Anaerobic Digestion (energy from Waste)** Air/Water Pollution ▪ Emissions to air – odour (during collection, transport and pre-treatment) ▪ Wastewater – potential for high concentrations of metals, dissolved nitrogen and organic material **Incineration with Energy Recovery** Air/ Water Pollution ▪ Noise, dust, traffic, visual amenity, potential to impact fauna and flora

Minerals & Waste	
Caerphilly County Borough Council Municipal Waste Management Strategy & Litter Plan 2004: http://www.caerphilly.gov.uk/yourservices/environment/rubbish-waste-recycling/mwms.htm	
	▪ Deposition of substances on surface water ▪ Solid, liquid emissions ▪ Gaseous emissions include odour, acid gas, heavy metals, particulates, organic compounds ▪ Ash residues comprising fine particles, [need to landfill ash/ scrap] dioxins, heavy metals salts, unreacted lime and carbon ▪ Contamination, accumulation of toxic substance (food chain)] **Landfill & Landraise** Air/ Water Pollution, Invasive Species, Land Take ▪ Methane and carbon monoxide emissions ▪ Leachate, salts, heavy metals, biodegradable and persistent organics ▪ Accumulation of hazardous substances in soil ▪ Topography alteration, visual intrusion ▪ Soil occupancy, prevention of other land uses ▪ Attraction of vermin ▪ Contamination, accumulation of toxic substances ▪ Potential exposure to hazardous substances ▪ Impact on surface water runoff, flood risk **SAC Specific Issues** Specific potential in-combination impacts cannot be explored in absence of specific waste locations.

Minerals & Waste	
Cardiff Council Local Development Municipal Waste Management Strategy 2005: http://www.cardiff.gov.uk/content.asp?nav=2870%2C4049%2C4265&parent_directory_id=2865	
Plan Type	**Municipal Waste Strategy**
Plan Owner/ Competent Authority	**Cardiff Council**

Minerals & Waste	
Cardiff Council Local Development Municipal Waste Management Strategy 2005: http://www.cardiff.gov.uk/content.asp?nav=2870%2C4049%2C4265&parent_directory_id=2865	
Currency	**2005 - 2010**
Region/Geographic Coverage	**Cardiff Council administrative boundaries**
Sector	**Waste**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
This strategy provides a detailed plan for managing Cardiff's municipal waste to 2010, although consideration is also given to the requirements to 2020. Changes in legislation, taxation and attitudes to waste, dictate that a regular review of detail will be necessary every 3 years, with the first review to be undertaken in 2007. The strategy for Cardiff is as follows: Expansion of recycling, composting and reuse schemes for municipal waste such that the Welsh Assembly Government targets for each of the target years of 2006/07 and 2009/10 are met. Recycling and composting levels will increase to 50% by the year 2013, with significant recovery of value from energy from waste. Continued landfill of final residues will be required. Energy from Waste can be a standalone dedicated process itself, or part of other residual treatment technologies such as Mechanical Biological Treatment leading to the production of a refuse derived fuel. Predicted Land Requirements and Timescales for Delivery of the Municipal Waste Management Infrastructure	**Overarching Development Pressures** **Recycling** Air Pollution/ Disturbance ▪ Transport and energy emissions generated by collection, sorting and processing ▪ Dust, noise and odour associated with industrial process **Composting** Air/ Water Pollution, Introduced/Invasive Species ▪ Odour, litter, possible vermin generation ▪ Release of spores [non-native], requirement for buffer zones (at least 250 metres between composting operations and sensitive receptors) ▪ Production of liquid pollutant ▪ Potential for combustion **Mechanical Biological Treatment (MBT)** Air Pollution, Land Take, Hydrology ▪ Emissions, traffic impacts, land take and wider environmental impacts analogous with industrial process ▪ Processes produce residue **Refuse Derived Fuel (energy from waste)** Air Pollution ▪ Emission concerns, particulates and potentially dioxins **Anaerobic Digestion (energy from Waste)** Air/Water Pollution

<table>
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<tr><th colspan="2">Cardiff Council Local Development Municipal Waste Management Strategy 2005:
http://www.cardiff.gov.uk/content.asp?nav=2870%2C4049%2C4265&parent_directory_id=2865</th></tr>
<tr>
<td>The Strategy provides an indication of the likely land requirements for the principal elements of waste management infrastructure that will be required to deliver this strategy for Cardiff. These should be seen as being indicative only at this stage since there will be a number of site specific design issues that influence the actual requirements for each element.

Indicative Land Requirements for Waste Infrastructure Technology:

▪ Replacement Landfill
o Approx. 25 hectares over a life of (say) 10 year
▪ Mechanical Biological Treatment Plant
o 2ha
▪ Energy from Waste Plant
o 2ha
▪ Materials Reclamation Facility extension
o Sufficient land available at existing site at Lamby Way
▪ Household Waste Recycling Centre (2 No. required)
o 1 each site
▪ Compost processing, in-vessel (including maturation area)
o 2ha
▪ Additional compost processing, open windrow
o 2ha
▪ ‘Bring’ points (approximately 35 required)
o 0.15-0.25ha each site (nominal area only)</td>
<td>▪ Emissions to air – odour (during collection, transport and pre-treatment)
▪ Wastewater – potential for high concentrations of metals, dissolved nitrogen and organic material
Incineration with Energy Recovery
Air/ Water Pollution
▪ Noise, dust, traffic, visual amenity, potential to impact fauna and flora
▪ Deposition of substances on surface water
▪ Solid, liquid emissions
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▪ Ash residues comprising fine particles, [need to landfill ash/ scrap] dioxins, heavy metals salts, unreacted lime and carbon
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Landfill & Landraise
Air/ Water Pollution, Invasive Species, Land Take
▪ Methane and carbon monoxide emissions
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Minerals & Waste	
Rhondda Cynon Taff County Borough Council Municipal Waste Strategy 2007: http://www.rhondda-cynon-taf.gov.uk/stellent/groups/public/documents/hcst/content.hcst?lang=en&textonly=false&xNodeID=877&dDocName=008130	
Plan Type	**Municipal Waste Strategy**
Plan Owner/ Competent Authority	**Rhondda Cynon Taff County Borough Council**
Currency	
Region/Geographic Coverage	**Rhondda Cynon Taff County Borough Council administrative boundaries**
Sector	**Waste**
Related work SA/SEA HRA/AA	
Document Details	**Potential impacts that could cause 'in-combination' effects**
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Minerals & Waste	
Rhondda Cynon Taff County Borough Council Municipal Waste Strategy 2007: http://www.rhondda-cynon-taf.gov.uk/stellent/groups/public/documents/hcst/content.hcst?lang=en&textonly=false&xNodeID=877&dDocName=008130	
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Minerals & Waste	
Rhondda Cynon Taff County Borough Council Municipal Waste Strategy 2007: http://www.rhondda-cynon-taf.gov.uk/stellent/groups/public/documents/hcst/content.hcst?lang=en&textonly=false&xNodeID=877&dDocName=008130	
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Minerals & Waste	
Vale of Glamorgan Council Municipal Waste Strategy 2004: http://www.valeofglamorgan.gov.uk/files/Living/Environment/Recycling%20and%20Waste/Waste%20Management%20Strategy/WasteStrategy.pdf	
Plan Type	**Municipal Waste Strategy**
Plan Owner/ Competent Authority	**Vale of Glamorgan Council**
Currency	**2004 - 2010**
Region/Geographic Coverage	**Vale of Glamorgan Council administrative boundaries**
Sector	**Waste**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The preferred strategy is as follows: Expansion of recycling and reuse schemes for municipal waste such that the waste strategy targets for each of the target years of 2006/07 and 2009/10 are met and in fact exceeded. All residual waste would be sent to a Mechanical Biological Treatment plant. Continued landfill of waste residues will be required. The strategy for the Vale of Glamorgan will comprise a number of key elements, as follows:	**Overarching Development Pressures** **Recycling** Air Pollution/ Disturbance ▪ Transport and energy emissions generated by collection, sorting and processing ▪ Dust, noise and odour associated with industrial process **Composting** Air/ Water Pollution, Introduced/Invasive Species ▪ Odour, litter, possible vermin generation ▪ Release of spores [non-native], requirement for buffer zones (at least

Minerals & Waste	
Vale of Glamorgan Council Municipal Waste Strategy 2004: http://www.valeofglamorgan.gov.uk/files/Living/Environment/Recycling%20and%20Waste/Waste%20Management%20Strategy/WasteStrategy.pdf	
▪ Waste minimisation is central to reducing the amount of waste produced in the Vale, and this will be a priority for the Council over the next few years. ▪ Continued development of the kerbside collection scheme for dry recyclable and organic (compostable) materials. It will be necessary to develop the scheme over the period up to 2009/10 in order to achieve the level of diversion required to meet the targets. ▪ Enhancement of the Household Waste Recycling Centre (HWRC) provision across the Authority to facilitate improved access to the principal population centres and increased diversion of materials for recycling and reuse. This will include replacement of the two existing civic amenity sites in Sully and Llandow. ▪ Enhancement of the existing network of 'Bring Sites', to include the provision of a number of strategically located community based recycling centres. ▪ Development of waste handling and treatment facilities within the context of a 'Waste Resource Park', to include the following: o Provision of a Materials Recycling Facility (MRF) to deal with recyclable materials diverted at the kerbside and at HWRCs and 'Bring Sites'. o Development of an 'in-vessel' composting facility for the treatment of kerbside segregated organic materials (including green waste and organic kitchen wastes). o This will need to be in place to meet the 2006/07	250 metres between composting operations and sensitive receptors) ▪ Production of liquid pollutant ▪ Potential for combustion **Mechanical Biological Treatment (MBT)** Air Pollution, Land Take, Hydrology ▪ Emissions, traffic impacts, land take and wider environmental impacts analogous with industrial process ▪ Processes produce residue **Refuse Derived Fuel (energy from waste)** Air Pollution ▪ Emission concerns, particulates and potentially dioxins **Anaerobic Digestion (energy from Waste)** Air/Water Pollution ▪ Emissions to air – odour (during collection, transport and pre-treatment) ▪ Wastewater – potential for high concentrations of metals, dissolved nitrogen and organic material **Incineration with Energy Recovery** Air/ Water Pollution ▪ Noise, dust, traffic, visual amenity, potential to impact fauna and flora ▪ Deposition of substances on surface water ▪ Solid, liquid emissions ▪ Gaseous emissions include odour, acid gas, heavy metals, particulates, organic compounds ▪ Ash residues comprising fine particles, [need to landfill ash/ scrap] dioxins, heavy metals salts, unreacted lime and carbon ▪ Contamination, accumulation of toxic substance (food chain)] **Landfill & Landraise** Air/ Water Pollution, Invasive Species, Land Take

Minerals & Waste	
Vale of Glamorgan Council Municipal Waste Strategy 2004: http://www.valeofglamorgan.gov.uk/files/Living/Environment/Recycling%20and%20Waste/Waste%20Management%20Strategy/WasteStrategy.pdf	
and 2009/10 composting targets of 10% and 15%, respectively. o Provision of facilities for the local reuse and reprocessing of materials segregated from the municipal waste stream. o Provision of a new Household Waste Recycling Centre (HWRC) to replace the existing civic amenity site in Sully. o Provision of a waste transfer facility for residual waste (i.e. materials that are not segregated for recycling or composting). o Possible provision, in the medium to long term (by 2010, or soon thereafter), of a residual waste treatment facility. ▪ The continued use of small scale farm-based open windrow composting in the short term for green wastes. Open windrow techniques will also be required for further maturation of the product from the 'in-vessel' facility.	▪ Methane and carbon monoxide emissions ▪ Leachate, salts, heavy metals, biodegradable and persistent organics ▪ Accumulation of hazardous substances in soil ▪ Topography alteration, visual intrusion ▪ Soil occupancy, prevention of other land uses ▪ Attraction of vermin ▪ Contamination, accumulation of toxic substances ▪ Potential exposure to hazardous substances ▪ Impact on surface water runoff, flood risk **SAC Specific Issues** ▪ Specific potential in-combination impacts cannot be explored in absence of specific waste locations.

Minerals and Waste Strategies outside SE Wales

Minerals & Waste Strategies	
Neath Port Talbot County Borough Council Municipal Waste Strategy 2004 http://www.neath-porttalbot.gov.uk/PDF/waste_wastestrategy_march_04.pdf	
Plan Type	**Municipal Waste Strategy**
Plan Owner/ Competent Authority	**Neath Port Talbot County Borough Council**
Currency	**2004 - 2010**
Region/Geographic Coverage	**Neath Port Talbot County Borough Council administrative boundary**
Sector	**Waste**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The preferred strategy for Neath Port Talbot County Borough Council is as follows: Continuation of the treatment of municipal solid waste at the Materials Recovery and Energy Centre alongside the kerbside recycling and composting scheme; and the improved facilities for the collection of source segregated green waste at the Household Waste and Recycling Centres. The strategy, which is currently in place for the management of municipal solid waste (MSW), comprises the following key elements: ▪ Continuation of the number of waste minimisation and awareness issues, for example, multimedia campaigns, schools' schemes, home-composting and the commissioning of a waste audit to measure Council derived waste and identify areas for waste minimisation initiatives.	**Overarching Development Pressures** **Recycling** Air Pollution/ Disturbance ▪ Transport and energy emissions generated by collection, sorting and processing ▪ Dust, noise and odour associated with industrial process **Composting** Air/ Water Pollution, Introduced/Invasive Species ▪ Odour, litter, possible vermin generation ▪ Release of spores [non-native], requirement for buffer zones (at least 250 metres between composting operations and sensitive receptors) ▪ Production of liquid pollutant ▪ Potential for combustion **Mechanical Biological Treatment (MBT)** Air Pollution, Land Take, Hydrology ▪ Emissions, traffic impacts, land take and wider environmental

Minerals & Waste Strategies	
Neath Port Talbot County Borough Council Municipal Waste Strategy 2004 **http://www.neath-porttalbot.gov.uk/PDF/waste_wastestrategy_march_04.pdf**	
▪ Continuation and review of the recently introduced kerbside recycling and composting scheme. The scheme presently serves the majority of the households in County Borough. It is the intention to expand the service to all suitable properties, including flats and sheltered housing. ▪ Continual review of the HWRC's improvements, which consisted of: o The re-branding of Civic Amenity Centres to Household Waste and Recycling Centres to remove ambiguity as to the purpose of such facilities. o The provision of containers for the collection of source segregated green garden waste. Previously this waste was co-collected with residual waste. The new arrangement allows this waste to be accounted for achieving composting targets. o The provision of facilities for the collection of hazardous waste, such as used paint (redistributed via the Re>Paint Scheme), fluorescent tubes, asbestos, oils and solvents. ▪ The treatment of all municipal solid waste at the Materials Recovery and Energy Centre (MREC) located within the County Borough. This facility has the ability to treat both mixed waste and source segregated waste via separate unit processes (kerbside collected recyclate and materials from the Household Waste and Recycling Centres etc). The facility has the capacity to compost 20% to 28% of the MSW, recycle 19% to 22% of the MSW and recover energy from 31% to 33% of the MSW. These levels of recycling and composting achieve the Welsh Assembly Government's targets. Green waste is composted off-site elsewhere to ensure a quality product.	impacts analogous with industrial process ▪ Processes produce residue **Refuse Derived Fuel (energy from waste)** Air Pollution ▪ Emission concerns, particulates and potentially dioxins **Anaerobic Digestion (energy from Waste)** Air/Water Pollution ▪ Emissions to air – odour (during collection, transport and pre-treatment) ▪ Wastewater – potential for high concentrations of metals, dissolved nitrogen and organic material **Incineration with Energy Recovery** Air/ Water Pollution ▪ Noise, dust, traffic, visual amenity, potential to impact fauna and flora ▪ Deposition of substances on surface water ▪ Solid, liquid emissions ▪ Gaseous emissions include odour, acid gas, heavy metals, particulates, organic compounds ▪ Ash residues comprising fine particles, [need to landfill ash/ scrap] dioxins, heavy metals salts, unreacted lime and carbon ▪ Contamination, accumulation of toxic substance (food chain)] **Landfill & Landraise** Air/ Water Pollution, Invasive Species, Land Take ▪ Methane and carbon monoxide emissions ▪ Leachate, salts, heavy metals, biodegradable and persistent organics ▪ Accumulation of hazardous substances in soil ▪ Topography alteration, visual intrusion ▪ Soil occupancy, prevention of other land uses

Minerals & Waste Strategies	
Neath Port Talbot County Borough Council Municipal Waste Strategy 2004 **http://www.neath-porttalbot.gov.uk/PDF/waste_wastestrategy_march_04.pdf**	
The County Borough's waste management solution is to treat all MSW at the Materials Recovery and Energy Centre (MREC). The MREC is a form of MBT and is a fully integrated facility located at **Crymyln Burrows** designed to process the waste of Neath Port Talbot and Bridgend County Borough Councils. The facility has the ability to handle both segregated and non-segregated wastes and aims to divert in the order of 75% of waste away from landfill through recycling, composting and the production of fuel.	▪ Attraction of vermin ▪ Contamination, accumulation of toxic substances ▪ Potential exposure to hazardous substances ▪ Impact on surface water runoff, flood risk **SAC Specific Issues** ▪ The Materials Recovery and Energy Centre (MREC) at Crymyln Burrows is in close proximity to Crymlyn Bog SA and Ramsar site. The Neath Port Talbot UDP proposes a new urban village at Llandarcy which is also close to Crymlyn Bog providing a mixed use development on brownfield land as an extension to the Neath urban area at Skewen. ▪ An Appropriate Assessment was carried out in regard to the likely effects of the Unitary Development Plan on the Crymlyn Bog SAC and Ramsar site and Kenfig SAC. The AA concluded that the application of regulatory policies within the respective UDPs, together with the Appropriate Assessment procedure provide a secure mechanism to ensure that allocations neither individually or in-combination would create an adverse effect on the integrity of Crymlyn Bog SAC/ Ramsar and Kenfig SAC.

Minerals & Waste Strategies	
Gloucestershire County Council Minerals Core Strategy, Preferred Options 2008:	
Plan Type	**Minerals Core Strategy**
Plan Owner/ Competent Authority	**Gloucestershire County Council**
Currency	**2008- 2026**

Minerals & Waste Strategies	
Gloucestershire County Council Minerals Core Strategy, Preferred Options 2008:	
Region/Geographic Coverage	**Gloucestershire County Council administrative boundary**
Sector	**Minerals**
Related work SA/SEA HRA/AA	**Gloucestershire County Council Minerals Core Strategy Appropriate Assessment Report, January 2008.** **Gloucestershire County Council Minerals Core Strategy Preferred Options Sustainability Appraisal Report, January 2008.**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The Mineral Core Strategy (MCS) provides the overarching framework for managing the Gloucestershire County's mineral resources. The MCS does not provide specific sites, the evolution of its preferred options provides the parameters for how future working opportunities will be allocated in a later mineral site allocations development plan document. There are 7 Strategic Objectives which are based around the following themes: ▪ **Provision & Supply** ▪ **Reuse & Recycling** ▪ **The Environment** ▪ **People** ▪ **Reclamation** ▪ **Resource Management** ▪ **Transport** The MCS identifies the following resource areas, which are of relevance: ▪ **The Cotswolds** - provides limestone used as a crushed rock and building stone and clay for brick-making; ▪ **The Severn Vale Corridor** - also encompasses sand & gravel for aggregate use; and clay for engineering projects.	The MCS identifies the potential outward supply opportunity of crushed rock into Wales and the West Midlands. This could have the potential to have in-combination effects through increased transport and associated impacts/ pollution incidents. Acid and nitrogen deposition currently exceed vegetation thresholds at Bredon Hill SAC. The MCS also identifies the provision potential of the Severn Vale Corridor resource area to provide potential new site allocations for sand and gravel working. A new site to the north of Tewkesbury would be in close proximity to the Bredon Hill SAC and could again have the potential for increased transport and associated impacts/ pollution incidents.

Minerals & Waste Strategies	
Gloucestershire County Council Minerals Core Strategy, Preferred Options 2008:	
The MCS identifies the potential outward supply opportunity of crushed rock into Wales and the West Midlands. However, ensuring that proposed transport routes are carefully assessed against the capacity of the local environment, highway network and amenity of local communities. Preferred option **MPO5a** proposes a more dispersed strategy for future sand & gravel working. Whilst recognising the strategic significance of the Upper Thames Valley resource area, it seeks to acknowledge the provision potential of the Severn Vale Corridor resource area. Where the spatial strategy indicates that new site allocations should be identified, the relative merits of potential sites within each resource area will be considered. The Appropriate Assessment Screening states that there is likely to be no significant effect on Bredon Hill SAC as a result of the Minerals Core Strategy Preferred Options.	

Minerals & Waste Strategies	
Gloucestershire County Council Waste Core Strategy, Preferred Options 2008	
Plan Type	**Waste Core Strategy**
Plan Owner/ Competent Authority	**Gloucestershire County Council**
Currency	**2008- 2026**
Region/Geographic Coverage	**Gloucestershire County Council administrative boundary**

Minerals & Waste Strategies	
Gloucestershire County Council Waste Core Strategy, Preferred Options 2008	
Sector	**Waste**
Related work SA/SEA HRA/AA	**Gloucestershire County Council Waste Core Strategy Appropriate Assessment Report, January 2008.** **Gloucestershire County Council Waste Core Strategy Preferred Options Sustainability Appraisal Report, January 2008.**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The Waste Core Strategy (WCS) will provide the framework for sustainable waste management in the County. Consultation has taken place on a centralised and dispersed spatial strategy for waste locations. Policies to avoid internationally designated sites are proposed. There are five strategic objectives: a. To influence Gloucestershire's residents to reduce the amount of waste they produce through raising awareness of waste issues. And then subsequently to encourage them to view any waste they do generate as a resource for which they must take communal responsibility. b. To make the best use of Gloucestershire's waste by encouraging competitive markets for goods made from recycled materials and obtaining a benefit (value) from left over (residual) waste materials. c. To preserve and enhance the quality of Gloucestershire's environment and to avoid undesirable environmental effects, including risks to human health and unacceptable impacts on designated landscapes / nature conservation sites. d. To reduce the environmental impacts of transporting waste by managing the majority of Gloucestershire's waste within a reasonable distance from its source of arising, and to	The Gloucestershire approach mirrors neighbouring counties in focusing waste near source and making use of existing facilities. Screening has not identified likely significant effects from Waste facilities.

Minerals & Waste Strategies	
Gloucestershire County Council Waste Core Strategy, Preferred Options 2008	
encourage the use of sustainable means of transporting waste. e. To co-locate similar or related facilities on existing waste sites or previously developed sites in preference to undesignated Greenfield locations (where appropriate) and to safeguard such land from development that may prevent this use. An Appropriate Assessment Screening of the Preferred Options identified **no likely significant effects** of the policies of the N2K sites. Uncertainties were identified for ten of the preferred options. The AA noted that this may require dropping the option, modifying the option or modifying/mitigating the option at the site allocations stage of the DPD. The AA Screening states that there is likely to be no significant effect on Bredon Hill SAC as a result of the Minerals Core Strategy Preferred Options. However the assessment was uncertain of the potential for significant effects in regard to Waste Preferred Option 4a, 7a, 7b, 7c, 7d and 8b.	

Minerals & Waste Strategies	
The Joint Municipal Waste Management Strategy for Herefordshire & Worcestershire 2004-2034: http://www.herefordshire.gov.uk/environment/rubbish_and_recycling/2286.asp	
Plan Type	**Municipal Waste Management Strategy**
Plan Owner/ Competent Authority	**Herefordshire Council and Worcestershire County Council**
Currency	**2004 - 2034**

Minerals & Waste Strategies	
The Joint Municipal Waste Management Strategy for Herefordshire & Worcestershire 2004-2034: http://www.herefordshire.gov.uk/environment/rubbish_and_recycling/2286.asp	
Region/Geographic Coverage	**Herefordshire Council and Worcestershire County Council administrative boundary**
Sector	**Waste**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
This Strategy will form a framework for the management of municipal waste in the counties of Herefordshire and Worcestershire for the next 30 years until 2034. It has been prepared jointly by all of the Local Authorities who have responsibility for managing waste across the two counties. The Practical Vision for Herefordshire and Worcestershire's Waste Management is based upon Herefordshire and Worcestershire's Waste Hierarchy. Key principles have been agreed by the Joint Members Waste Forum for Herefordshire and Worcestershire, these are: ▪ **Principle One - Commitment to the Waste Hierarchy of which Waste Minimisation is the top** o The key principle upon which the Strategy is built is that of waste minimisation, the top of the Waste Hierarchy. Through making opportunities available and through awareness raising, everyone has a critical role to play in ensuring that the amount of waste is reduced before it enters the waste stream. o Local Authorities within Herefordshire and Worcestershire will continue to promote waste minimisation through a variety of campaigns and initiatives such as the 'Waste Challenge' (see chapter 5 for further details).	**Overarching Development Pressures** **Recycling** Air Pollution/ Disturbance ▪ Transport and energy emissions generated by collection, sorting and processing ▪ Dust, noise and odour associated with industrial process **Composting** Air/ Water Pollution, Introduced/Invasive Species ▪ Odour, litter, possible vermin generation ▪ Release of spores [non-native], requirement for buffer zones (at least 250 metres between composting operations and sensitive receptors) ▪ Production of liquid pollutant ▪ Potential for combustion **Mechanical Biological Treatment (MBT)** Air Pollution, Land Take, Hydrology ▪ Emissions, traffic impacts, land take and wider environmental impacts analogous with industrial process ▪ Processes produce residue **Refuse Derived Fuel (energy from waste)** Air Pollution ▪ Emission concerns, particulates and potentially dioxins **Anaerobic Digestion (energy from Waste)** Air/Water Pollution

Minerals & Waste Strategies	
The Joint Municipal Waste Management Strategy for Herefordshire & Worcestershire 2004-2034: http://www.herefordshire.gov.uk/environment/rubbish_and_recycling/2286.asp	
▪ **Principle Two - Affordability, Mix of Method and External Funding** o Options for dealing with waste must be affordable. The Local Authorities will seek to use a mix of collection and waste processing techniques as they become available to ensure that the targets can be achieved, balancing cost against environmental impact. We will also seek to obtain external funding wherever possible in order to implement the Strategy, carrying out research to support the applications where necessary and ensuring that they are economically sustainable. ▪ **Principle Three - Partnership** o The Local Authorities cannot carry out the Strategy alone. Partnerships with commerce and industry, Parish Councils, the voluntary and community sectors and the public will continue to be developed. As part of the development of this Strategy, Best Value and service improvement, we will continue to consult with local people and other partners about the way in which waste is managed in Herefordshire and Worcestershire. ▪ **Principle Four - Promote Sustainable Waste Management** o Through the Strategy the Local Authorities will encourage the efficient use of resources, cut down on the amount of waste we produce, and where waste is generated, deal with it in a way which reduces its impact on the environment. Waste will be treated by adopting the Best Practicable Environmental Option (BPEO) and by using the Proximity Principle - i.e. waste will be managed as close to where it is produced as is practicable. ▪ **Principle Five - Active Management in a Changing World**	▪ Emissions to air – odour (during collection, transport and pre-treatment) ▪ Wastewater – potential for high concentrations of metals, dissolved nitrogen and organic material **Incineration with Energy Recovery** Air/ Water Pollution ▪ Noise, dust, traffic, visual amenity, potential to impact fauna and flora ▪ Deposition of substances on surface water ▪ Solid, liquid emissions ▪ Gaseous emissions include odour, acid gas, heavy metals, particulates, organic compounds ▪ Ash residues comprising fine particles, [need to landfill ash/ scrap] dioxins, heavy metals salts, unreacted lime and carbon ▪ Contamination, accumulation of toxic substance (food chain)] **Landfill & Landraise** Air/ Water Pollution, Invasive Species, Land Take ▪ Methane and carbon monoxide emissions ▪ Leachate, salts, heavy metals, biodegradable and persistent organics ▪ Accumulation of hazardous substances in soil ▪ Topography alteration, visual intrusion ▪ Soil occupancy, prevention of other land uses ▪ Attraction of vermin ▪ Contamination, accumulation of toxic substances ▪ Potential exposure to hazardous substances ▪ Impact on surface water runoff, flood risk **SAC Specific Issues** ▪ Specific potential in-combination impacts cannot be explored in

Minerals & Waste Strategies	
The Joint Municipal Waste Management Strategy for Herefordshire & Worcestershire 2004-2034: http://www.herefordshire.gov.uk/environment/rubbish_and_recycling/2286.asp	
○ The Local Authorities will ensure that they keep up-to-date and ahead in implementing the best possible management systems that are needed to deliver this Strategy, using a flexible and integrated approach to the waste treatment methods used. ▪ **Principle Six - Review** ○ The Strategy will be subject to a minimum of a three yearly review to determine progress and update it in the light of new legislation, new technology or other significant developments. Regular communication with partners and the public will take place to ensure that all stakeholders are aware of progress and changes made.	absence of specific waste locations.

Other Plans and Programmes

Development Plan	
Brecon Beacons National Park Management Plan 2009-2014: http://www.breconbeacons.org/content/the-authority/planning/strategy-and-policy/npmp/bbnpa-national-park-management-plan	
Plan Type	**National Park Management Plan**
Plan Owner/ Competent Authority	**Brecon Beacons National Park Authority**
Currency	**2009 - 2014**
Region/Geographic Coverage	**Brecon Beacons National Park Authority administrative boundary**
Sector	**Planning**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The Plan sets a vision for the future of the Park and specifies actions and outcomes to pursue in the next five years to bring the Park closer to this shared vision. The Plan promotes coordinated implementation, monitoring, and evaluation of these activities collectively across a wide range of partners and stakeholders. In essence, it creates a framework for Park management, guiding decision-making and developing priorities. **Twenty-year Aims for Biodiversity** 4. **Ensure that sustainable management of designated sites maintains habitats and species populations in favourable condition.** As examples of the best habitats and species within the National Park, it is critical to ensure designated sites (e.g., SSSIs, SACs, NNRs, etc.) are brought into, or remain, in favourable condition. The designations provide the means to ensure that these sites are managed with special regard to biodiversity conservation. However, these	**Overarching Development Pressures** ▪ Housing and employment growth - direct land take and increased transport movements and associated air pollutants. ▪ Water abstraction for expanding communities - potential to impact surface and groundwater. ▪ Recreational pressures from housing/ development that is close to European sites. **SAC Specific Issues** ▪ Specific potential in-combination impacts cannot be explored in absence of specific development locations.

Development Plan	
Brecon Beacons National Park Management Plan 2009-2014: http://www.breconbeacons.org/content/the-authority/planning/strategy-and-policy/npmp/bbnpa-national-park-management-plan	
sites still need to be managed in a wider context, to be considered as the focal sites of developing functional ecosystems at a landscape scale. Their sustainable management can be a catalyst to achieving better habitat condition in the surrounding land. **Twenty-year Aims for Planning and Development** 1. **Prepare an LDP which is responsive to drivers of change and enables development to meet identified needs.** The NPA will prepare an LDP which is resilient and responsive to drivers of change and which is proactive in mitigating the effects of climate change where possible. 2. **Provide a first class planning service.** In order to make its services first class, the NPA will strive to improve consistency of decision making, increase public engagement in, understanding of, and satisfaction with the NPA's planning service, and improve relationships with partner organisations. 3. **Ensure that there is sufficient land for market and affordable housing to meet the identified need.** The NPA is not a housing authority; this is the role of the unitary authorities. Nonetheless the NPA works closely with the relevant Housing Authorities in the preparation of the Local Housing Market Assessments and Local Housing Strategies. 4. **Allocate sufficient land for the provision of a variety and mix of employment opportunities to encourage a better link**	

Development Plan	
Brecon Beacons National Park Management Plan 2009-2014: http://www.breconbeacons.org/content/the-authority/planning/strategy-and-policy/npmp/bbnpa-national-park-management-plan	
between the provision of employment and housing. The NPA and its partners will ensure the availability of land and investment in the Park is consistent with the special qualities of the area and avoids damage to important nature conservation sites and species. 5. **Maintain and encourage the vitality and viability of the Park's communities and town centres.** From the standpoint of local communities, this means that the NPA and its partners should encourage development which contributes to the creation of sustainable places, promotes integrated communities, with opportunities for living, working and socialising for all, and enables development that encourages a healthy and safe lifestyle and promotes well being. 6. **Improve the physical quality, energy efficiency, accessibility and sustainable design and construction of all development throughout the park.** In keeping with the National Park's commitments to sustainability and the climate change agenda, the NPA is producing up-to-date guidance on sustainable building design and materials in the National Park. This Sustainable Design Guide will become an exemplar in sustainable design. 7. **Minimise light and noise pollution.** Despite its proximity to urban centres such as Cardiff, Bristol, and Swansea, the Park boasts a dark night sky year round where, on clear nights, a plethora of stars can be seen. Similarly, its low population density and lack of major motorways limit light	

Development Plan	
Brecon Beacons National Park Management Plan 2009-2014: http://www.breconbeacons.org/content/the-authority/planning/strategy-and-policy/npmp/bbnpa-national-park-management-plan	
and noise pollution. These factors contribute significantly to the sense of tranquillity and remoteness so often cited as a key special quality of the Brecon Beacons National Park. The NPA and its partners will seek to maintain and enhance these attributes. **Twenty-year Aims for Transport** 1. **Reduce the need for travel by controlling the location and design of development.** The NPA works closely with highway authorities in the production of integrated transport and land-use strategies and will be considering these factors as part of the development of the Park's forthcoming Local Plan. 2. **Provide an integrated transport system that encourages healthy and active lifestyles, and supports local communities.** The need to travel should be reduced, and the attractiveness of public transport increased, without adversely affecting the overall quality of people's lives. Better links between public transport, recreational travel, and access to the countryside would benefit tourists and residents alike. 3. **Maintain and develop Beacons Bus as key delivery mechanism for visitor transport.** The project should continue to grow in time and space with the aim of covering as much of the summer season as possible and increasing routes to meet demand.	

Development Plan	
Brecon Beacons National Park Management Plan 2009-2014: http://www.breconbeacons.org/content/the-authority/planning/strategy-and-policy/npmp/bbnpa-national-park-management-plan	
4. **Encourage and support use of the weekday service network.** Achievable only by partnership working, this process needs to ensure that best use is made of existing services by ensuring that journeys are made easier for visitors with high quality marketing, information, and service provision including excellent customer care from transport operators. 5. **Encourage the development of new services aimed at the visitor market.** Partnership working to develop and market services with the needs of visitors in mind to provide transport to those attractions and outdoor activity locations that would especially benefit. 6. **Facilitate sustainable long distance transport to the National Park.** The key to this process is integration with a need for rail/coach/bus interchanges to work efficiently for visitors. 7. **Work with Transport Generators on Green Travel Plans.** Public and private sector attractions, festivals, tourism businesses, and other organisations can minimise their impacts through the adoption of Green Travel Plans. 8. **Support working practices and behaviour change initiatives that reduce the Park's greenhouse gas emissions and reduce people's dependency on fossil fuels for transport.** 9. **Develop Sustainable Travel Marketing.** Whatever mechanisms are adopted, it is essential that they are	

Development Plan	
Brecon Beacons National Park Management Plan 2009-2014: http://www.breconbeacons.org/content/the-authority/planning/strategy-and-policy/npmp/bbnpa-national-park-management-plan	
attractively and consistently marketed to the visiting public. **Twenty-year Aims for Waste Management** 1. Promote the waste hierarchy of reduce, reuse, and recycle across all sectors of the National Park. The NPA and its partners should seek to minimize the production of waste and seek to contribute to sustainable waste solutions.	

Cardiff International Airport Master Plan 2006: http://info.cwlfly.com/en/content/4/274/masterplan.html	
Plan Type	**Masterplan**
Plan Owner/ Competent Authority	**Cardiff International Airport**
Currency	**2006**
Region/Geographic Coverage	**administrative boundary**
Sector	**Planning**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
Runway It is not envisaged that any runway extension is required to meet the traffic forecasts; a taxiway extension would satisfy this increased traffic. The taxiway extension would provide a parallel route running right to the end of the runway pavement. **Terminal, Aprons, Car Parks and Access Roads**	**Overarching Development Pressures** ▪ Increased air traffic - increased levels of disturbance (noise), emissions and recreational pressure. ▪ Improvements to highways access - increase in recreational pressure as a result of improved access. **SAC Specific Issues**

Cardiff International Airport Master Plan 2006: http://info.cwlfly.com/en/content/4/274/masterplan.html	
It is likely that, in addition to a reorganisation of the existing stand layout, additional stands and parking areas will be required within this time frame. There is no requirement for a new terminal at any time in the planned period. It is anticipated that all the growth forecast can be accommodated by modest extensions and re-organisations of the existing terminal building. The floor space of the Terminal totals at approximately 47,800 sq m. in 2030. Based on 6000 sq m per million passengers, which is an accepted standard, this would provide for projected passenger numbers of 7.9million for 2030. Car parking will be accommodated by structural car parking on the existing car parking sites. This will minimise land take but may lead to a slight increase in visual intrusion. **Highways Access** Short-term It was proposed in the Culverhouse Cross Study to implement a range of public transport and highway improvements, including the 'trunking' of the existing A48 between Culverhouse Cross and Bonvilston and the A4226 (Five Mile Lane) to the airport. Following the trunking of the route, highway improvements to the existing route were proposed, largely to improve safety. Medium Term In the Culverhouse Cross Study it is proposed to improve the	▪ A greater number of planes and improved highways access has the potential to increase the levels of recreational pressure at Cardiff Beech Woods SAC and the Severn Estuary SPA/ Ramsar/ cSAC. ▪ Severn Estuary SPA/ Ramsar/ cSAC - overwintering birds can be disturbed by sudden movements and noises that can result in reduced food intake and/or increased energy expenditure. ▪ Cardiff Beech Woods SAC - All component SSSIs are used to a greater or lesser extent for recreation purposes. Castell Coch Woodlands and Fforestganol a Chwm Nofydd experience the most recreation pressure, and are popular for walking, climbing and mountain biking. The Taff train runs through part of the Castell Coch Woodlands site and the historic building of Castell Coch attracts many visitors, which increases the access pressure on the woodlands. The road section is becoming increasingly popular for climbing, and this is unlikely to be a problem for the geological interest of the site. However, climbing could be potentially damaging to trees at the top of the crag.

Cardiff International Airport Master Plan 2006: http://info.cwlfly.com/en/content/4/274/masterplan.html	
A48/ Five Mile Lane route from the Culverhouse Cross junction to the airport, providing an alternative route to the current signed route via Wenvoe and north Barry. This would involve the following proposals: ▪ Junction capacity enhancement, (junction at south end A4226 Five Mile Lane / Waycock Road with A4050 in north Barry at Green Farm); ▪ Safety enhancements on Five Mile Lane / Waycock Road; ▪ Junction capacity and safety enhancements at the Five Mile Lane junction with A48 (Sycamore Cross). Longer Term In the longer-term, further improvements of this route to allow airport traffic to avoid Culverhouse Cross were to be considered. The preferred option involved a new link to the airport from the M4 at Junction 34 to the A48 at Sycamore Cross. In conjunction with the new highway link, it would be possible to provide a strategic park and ride/modal interchange at Junction 34 of the M4. These longer-term proposals are referred to in Phase 3 of the Trunk Road Forward Programme of the Welsh Assembly Government, which indicates a commencement of work after March 2010. **Future Opportunities for Rail** A number of options for introducing enhanced services to Rhoose Cardiff International Airport station have been considered. The options generally revolve around the basic principle of two all-station Valley Lines services per hour on the	

Cardiff International Airport Master Plan 2006: http://info.cwlfly.com/en/content/4/274/masterplan.html	
Vale of Glamorgan line and at least one interurban service from Bristol.	

Other Plans and Programmes outside SE Wales

Transport Plans	
Gloucestershire County Council Second Local Transport Plan 2006-2011: http://www.gloucestershire.gov.uk/index.cfm?articleid=10987	
Plan Type	**Local Transport Plan**
Plan Owner/ Competent Authority	**Gloucestershire County Council**
Currency	**2006- 2011**
Region/Geographic Coverage	**Gloucestershire County Council administrative boundary**
Sector	**Transport**
Related work SA/SEA HRA/AA	**N/A**
Document Details	**Potential impacts that could cause 'in-combination' effects**
The Second Local Transport Plan (LTP2) is a delivery programme designed to achieve targets reflecting national, regional and local priorities. The vision for transport in the county is: 'To enable people in Gloucestershire to enjoy real choices of ways of travel where there are viable alternatives to the car and be provided with high quality access to services on a safe and efficient transport network.' This vision has been expanded into six objectives: ▪ Maintenance and improvement; ▪ Economy and integration; ▪ Safety; ▪ Accessibility; ▪ Real choices and awareness; and ▪ Environment. A substantial thrust of the strategy in LTP2 is to focus on the	For Tewkesbury the road schemes under consideration include: ▪ Tewkesbury Northern Relief Road - Ashchurch Road to Bredon Road section The Tewkesbury Northern Relief Road (TNRR) is a long-standing proposal and the route is protected in the Tewkesbury Local Plan. Completion (2009/2010) of the TNRR from the B4080 Bredon Road to A438 Ashchurch Road will enable all through traffic to avoid the town centre and will link to the Tewkesbury Eastern Relief Road, funded by developer contributions, that was completed in January 1997. The specific objectives of the TNRR are: ▪ Provide environmental relief for residents of Tewkesbury ▪ Reduce traffic accidents on the A438 and on Tewkesbury High Street ▪ Reduce congestion on Tewkesbury High Street ▪ Improve air quality in Tewkesbury town centre. The A46 north of junction 9 is identified as another concern. There is localised congestion on the approaches to junction 9 (and also on the A438 from the west to junction 9). In addition there is concern about the

Transport Plans	
Gloucestershire County Council Second Local Transport Plan 2006-2011: http://www.gloucestershire.gov.uk/index.cfm?articleid=10987	
existing infrastructure and to manage it and invest in it to ensure it is functioning at its optimal level. This is in respect of condition, safety and utilisation of capacity. For these reasons, LTP2 prioritises investment in maintenance and safety measures	unimproved sections of the A46 between the M5 and M40. The A46 provides a strategically important alternative route from the South West to the Midlands and the North. Officers from Warwickshire and Worcestershire County Councils have agreed to work with Gloucestershire in lobbying for improvement schemes on this important inter-regional trunk road. Tewkesbury AQMA is exceeding the annual mean nitrogen dioxide concentration as a result of traffic on the M5 and Junction 10 slip roads. As the infrastructure improvements above will reduce congestion and improve air quality it is unlikely that they will add to ambient pollution levels in the area.

Transport Plans	
Herefordshire Council Second Local Transport Plan 2006/07-2010/11: http://www.herefordshire.gov.uk/transport/3197.asp	
Plan Type	**Local Transport Plan**
Plan Owner/ Competent Authority	**Herefordshire Council**
Currency	**2006/07- 2010/11**
Region/Geographic Coverage	**Herefordshire Council administrative boundary**
Sector	**Transport**
Related work SA/SEA HRA/AA	**SEA of the Herefordshire Council Second Local Transport Plan 2006: http://www.herefordshire.gov.uk/docs/LTP2_SEA_Environmental_Report_Final.pdf**
Document Details	**Potential impacts that could cause 'in-combination' effects**
Our vision for improving access is:	**Overarching Development Pressures**

Transport Plans	
Herefordshire Council Second Local Transport Plan 2006/07-2010/11: http://www.herefordshire.gov.uk/transport/3197.asp	
'A sustainable and integrated transport system which recognises the distinctive characteristics of Herefordshire's rural and urban areas and provides for the transport needs of residents, visitors and the business community' Key LTP Outcomes for Herefordshire: ▪ Better access to jobs & services ▪ Increased use of sustainable modes of travel ▪ Assets maintained well ▪ Reduced congestion ▪ Assets maintained well ▪ Supported and enabled economic development ▪ Increased use of sustainable modes of travel ▪ Improved safety ▪ Assets maintained well ▪ Increased use of sustainable modes of travel ▪ Safeguarded environment ▪ Reduced congestion ▪ Increased use of sustainable modes of travel We will seek to deliver the above outcomes by implementing a comprehensive programme of Transport Improvements set out in 4 investment strategies: ▪ Accessibility Strategy ▪ Integrated Transport Improvements in Hereford ▪ Safer Roads ▪ Maintaining the Network The Major Scheme priorities are:	▪ The Plan will improve access to the north east of Monmouthshire and could lead to increased recreation levels on European sites in close proximity to the south of Herefordshire. **SAC Specific Issues** ▪ Improvements to the A465, A466, A49 and A40 would lead to improved access and could therefore lead to increased recreational pressure on Coed y Cerrig SAC, River Usk SAC, River Wye SAC, Sugar Loaf Woodlands SAC, and the Wye Valley Woodlands SAC.

Transport Plans	
Herefordshire Council Second Local Transport Plan 2006/07-2010/11: http://www.herefordshire.gov.uk/transport/3197.asp	
▪ Implement the Rotherwas Access Road scheme by 2007/8; ▪ To develop proposals and submit a major scheme bid for the A49 Ross Road to A465 Abergavenny Road link 2008 - 2011. This scheme will incorporate further assessment of proposals for a Hereford Outer Distributor Road including a river crossing and will need to be coordinated with a review of the County's land use planning policies for the period after the current Unitary Development Plan; ▪ Continue to monitor traffic levels and HGV movements through the North West Herefordshire communities (Eardisley, Pembridge, Lyonshall and Shobdon) to ascertain if a road scheme would be justified for the period beyond LTP2; and ▪ To support an extension to the Ledbury Bypass to be funded through private developer contributions and linked to the Unitary Development Plan's proposals for employment land allocations.	

INFORMATION DATABASE:

Background Environmental Conditions & Trends – Air Quality

Glossary[22]

- **Acid deposition[23]** - Atmospheric input to ecosystems of pollutants which may acidify soils and freshwaters; this includes species derived from SO2, NOx and NH3 emissions, as well as a number of other minor pollutants. Acid deposition is more general than acid rain, since it includes both wet deposition and dry deposition.

- **Ammonia (NH3)** - in the atmosphere results primarily from the decomposition and volatilisation of animal wastes. As such it is in principle a natural trace gas. Emissions of ammonia lead to the deposition of nitrogen to vegetative surfaces through processes of wet and dry deposition.

- **Critical load** - a quantitative estimate of exposure to deposition of one or more pollutants, below which significant harmful effects on sensitive elements of the environment do not occur, according to present knowledge. The exceedance of a critical load is defined as the atmospheric deposition of the pollutant above the critical load.

- **Exceedance** - violation of environmental protection standards by exceeding allowable limits or concentration levels.

- **Fine Particles (PM10, PM2.5 and PM1)** - Particulate Matter less than 10 microns, tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Fine Particles are composed of a wide range of materials arising from a variety of sources including:
  - combustion sources (mainly road traffic);
  - secondary particles, mainly sulphate and nitrate formed by chemical reactions in the atmosphere, and often transported from far across Europe;
  - coarse particles, suspended soils and dusts (e.g. from the Sahara), seasalt, biological particles and particles from construction work.

- **Nitric Oxide (NO)** - precursor of ozone, nitrogen dioxide (NO2), and nitrate; usually emitted from combustion processes. Converted to NO2 in the atmosphere, it then becomes involved in the photochemical process and/or particulate formation. Nitric oxide (NO) is mainly derived from road transport emissions and other combustion processes such as the electricity supply industry. NO is not considered to be harmful to health. However, once released to the atmosphere, NO is usually very rapidly

[22] APIS (Accessed on 04/09/08) Glossary. Available online: http://www.apis.ac.uk/glossary.htm
[23] APIS (Accessed on 04/09/08) Overview - Acid Deposition. Available online: http://www.apis.ac.uk/overview/pollutants/overview_Acid_deposition.htm

oxidised to nitrogen dioxide (NO2), which is harmful to health. NO2 and NO are both oxides of nitrogen and together are referred to as nitrogen oxides (NOx).

- **Nitrogen deposition**[24] - is the term used to describe the input of reactive nitrogen species from the atmosphere to the biosphere. Most concern has addressed the impacts of nitrogen deposition to terrestrial ecosystems, but impacts may also occur in the marine environment. The pollutants that contribute to nitrogen deposition derive mainly from nitrogen oxides (NOX) and ammonia (NH3) emissions.

- **Nitrogen oxide (NOx)** - product of combustion of fossil fuels (transport, electricity supply industry); a major contributor to the formation of ozone in the troposphere and acid deposition.

- **Ozone (O3)** - is not emitted directly from any man-made source in any significant quantities. In the lower atmosphere, O3 is primarily formed by a complicated series of chemical reactions initiated by sunlight. Close to the earth's surface ("tropospheric ozone") it is produced photochemically from hydrocarbons, NOx and sunlight, and is a major component of smog. The chemical reactions do not take place instantaneously, but can take hours or days, therefore ozone measured at a particular location may have arisen from emissions many hundreds or even thousands of miles away. Maximum concentrations, therefore, generally occur downwind of the source areas of the precursor pollutant emissions.

- **Sulphur dioxide (SO2)** - is produced when a material, or fuel, containing sulphur is burned. Globally, much of the sulphur dioxide in the atmosphere comes from natural sources, but in the UK the predominant source is power stations burning fossil fuels, principally coal and heavy oils. Widespread domestic use of coal can also lead to high local concentrations of SO2.

[24] APIS (Accessed on 04/09/08) Overview – Nitrogen Deposition. Available online: http://www.apis.ac.uk/overview/pollutants/overview_N_deposition.htm

Current and Future Trends in Air Quality[25]

Figure 1: Annual Mean Nitrogen Dioxide for Wales, Automatic Sites

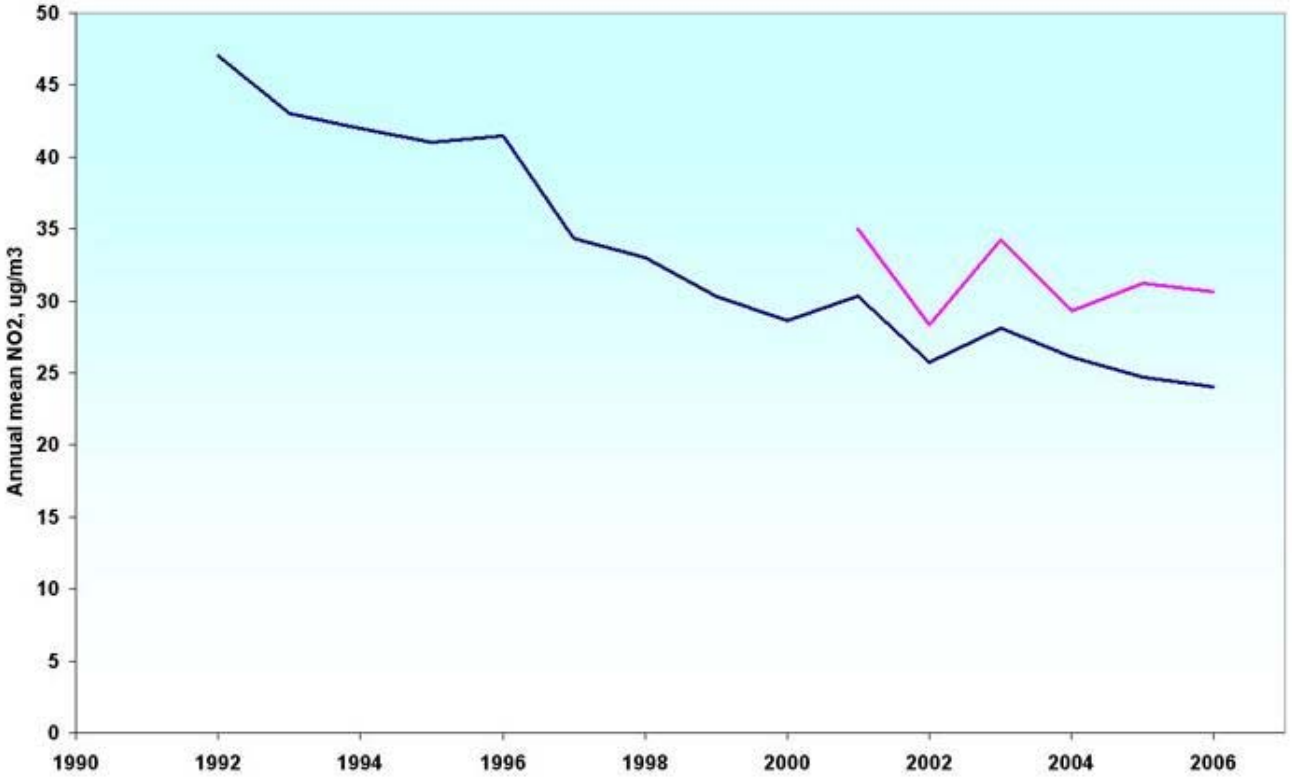
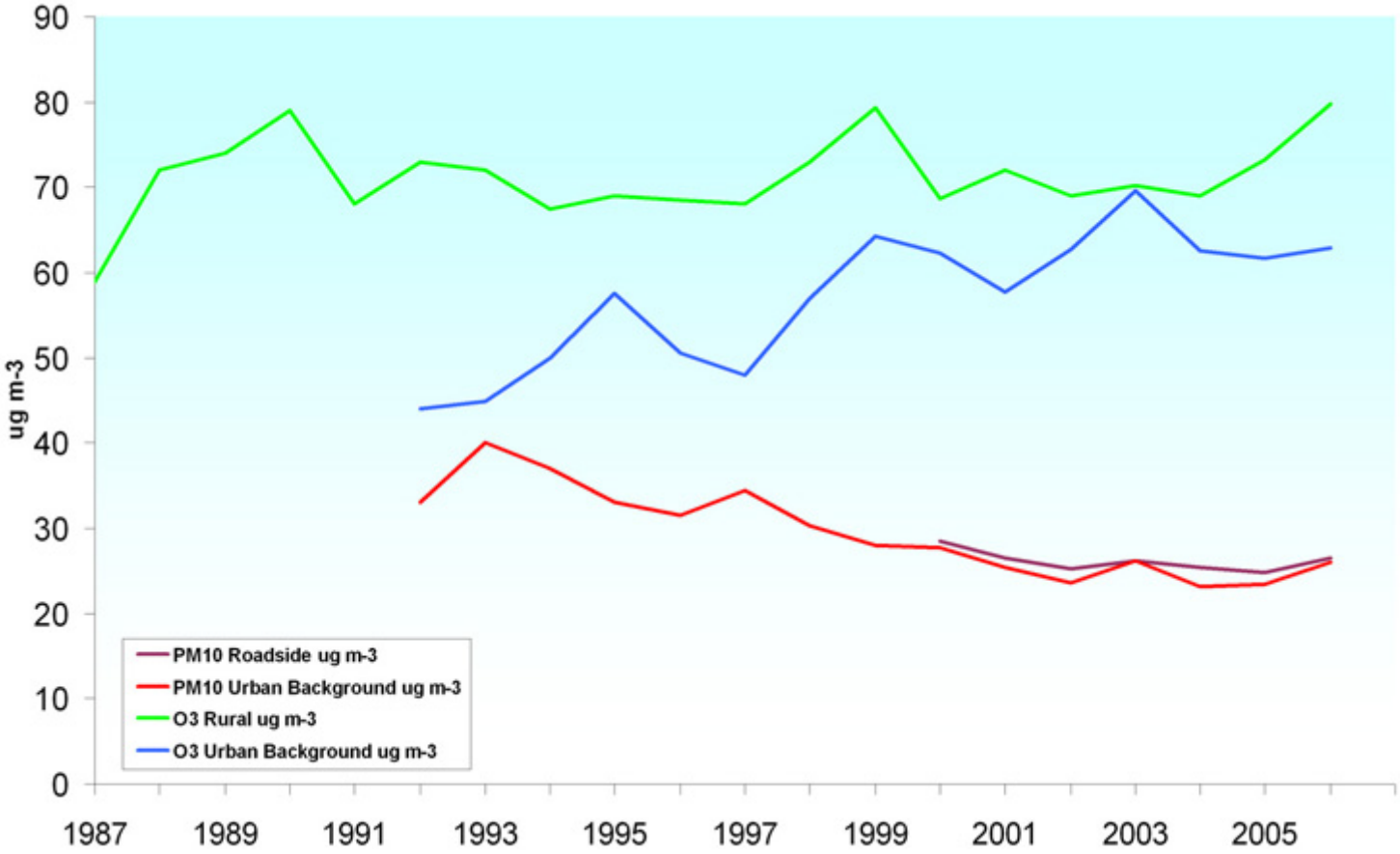


Figure 2: Ozone and PM10 Particulate Matter Trends in Wales

[25] Air Quality in Wales (Accessed on 04/09/08) Trends – Air Quality Indicators. Available online: http://www.welshairquality.co.uk/trend.php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2003
2005
PM10 Roadside ug m-3
PM10 Urban Background ug m-3
O3 Rural ug m-3
O3 Urban Background ug m-3

Figure 3: Future NO2 Modelled Scenarios for Wales

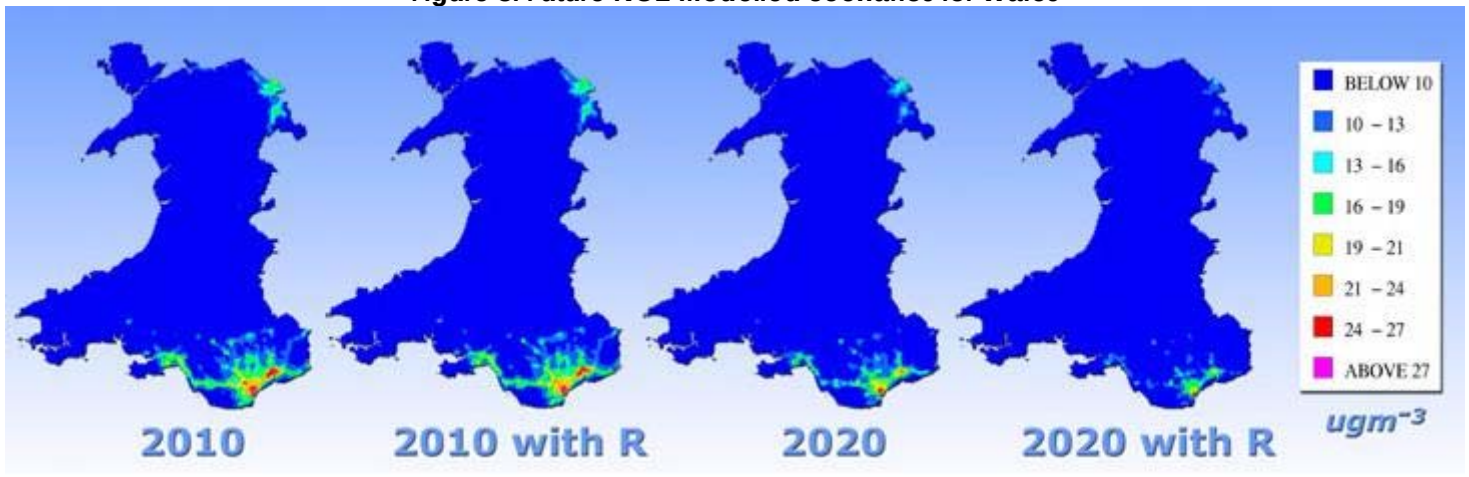

Figure 4: Future PM10 Modelled Scenarios for Wales

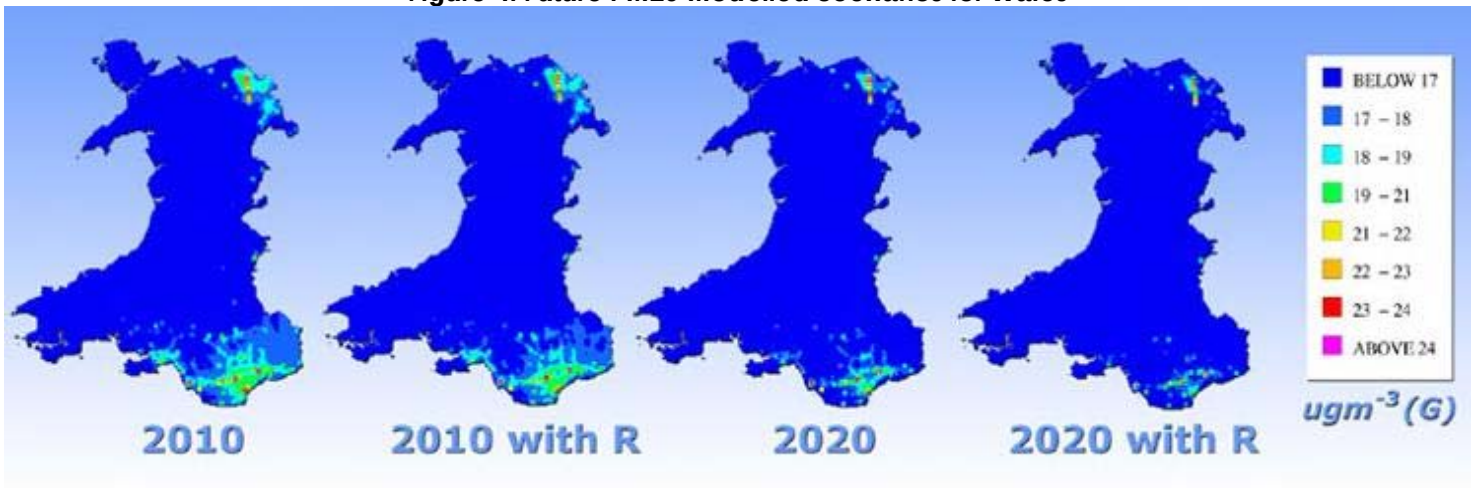

Figure 1 shows an overall long-term decline in nitrogen dioxide concentrations in urban areas. On average the concentrations of ozone in rural areas (figure 2) appear to be showing a gradually increasing trend, which according to APIS could be related to warmer summers. In urban background areas the increase is much more dramatic as concentrations of total NOx are decreasing. Ozone in these areas is now much more similar to the rural concentrations. PM10 Particulate concentrations show a decrease up until 2004, but then a slight increase over recent years. APIS states that the NO2 trends should be treated with caution up until 1997 due to the relatively small number of monitoring sites in Wales.

Levels of primary pollutants, which are those emitted directly into the atmosphere, tend to be highest around their sources; these are usually located in urban and industrial areas. Motor vehicles are a major source of primary pollution throughout the UK, with traffic being a large contributor of carbon monoxide, nitrogen dioxide and volatile hydrocarbons (VOCs) such as benzene and 1,3-butadiene and primary particles (PM10). In 2005 there was a 9% decrease in emissions of Greenhouse gases compared with base year emissions in 1990[26].

Figures 3 and 4 show maps of predicted Welsh PM10 and NO2 concentration in 2010 and 2020 with and without Measure R. 'R' represents a range of different policy measures that were incorporated into the review of the Air Quality Strategy to show the impact of currently agreed national and international policies on air quality. This included three components:

- Measures to reduce NOx and PM10 emissions from cars and light good vehicles (Euro 5 and 6) and heavy-duty vehicles (Euro VI).
- A programme of incentives to increase the penetration of low emission vehicles into the national vehicle fleet
- Measures to reduce SO2 and NOx emissions from international shipping through the International Maritime Organisation.

Measure R reduces concentrations in 2010 but the impact is greater in 2020. This is because the introduction of new vehicles with lower emissions takes several years to substantially replace the fleet of older vehicles on the road.

[26] AEA (2007) Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 - 2005

Table 1: Impact of pollutants at different scales

Extent of Impact	Pollutant	Environmental Impact	Pollutant Properties
Local	Lead, volatile organic compounds, sulphur dioxide, nitrogen oxides, carbon monoxide, benzene, 1,3-butadiene, fine particles*.	Reduction of local air quality - affecting human health and vegetation growth, and causing damage to materials.	These chemicals are emitted directly into the atmosphere and are known as primary pollutants. (An exception is NO2 which is mainly a secondary pollutant, rapidly formed from NO released to the atmosphere)
Regional	Sulphur dioxide, nitrogen oxides, hydrochloric acid.	Acid deposition - leads to degradation of the terrestrial environment.	After release into the atmosphere these compounds can be deposited close to their source. Alternatively chemical reactions can convert them into other acidic compounds that can be transported long distances before deposition to the surface.
	Ozone, peroxyacetylnitrate.	Photochemical oxidants - reduce local air quality (as above).	These chemicals are termed secondary pollutants, because they are formed by reactions involving primary pollutants (see above). Increased concentrations of these compounds occur because of the disruption of natural chemical cycles due to the action of sunlight on enhanced concentrations of volatile organic compounds and nitrogen oxides. Impacts generally occur at a distance from the source, as the chemical reactions take time to produce the oxidants.
	Fine particles (generally <2.5µm in diameter)	Formation of secondary particles - human health impacts	Unlike primary particles, which are emitted directly by various processes, secondary particles are formed in the atmosphere from chemical reactions mainly involving SO2 and NOx. These secondary particles can be transported long distances.
Global	Carbon dioxide, methane, nitrous oxide, halocarbons.	Enhanced greenhouse effect - leading to greater climate change.	These chemicals are only slowly removed from the atmosphere and therefore their concentrations are continually increasing because their emission rate is greater than their removal rate. Each chemical can effectively absorb long wave radiation, which results in a warming of the atmosphere.
	Halocarbons.	Destruction of stratospheric ozone - causing increased UV radiation at the earth's surface.	These chemicals can build up in the atmosphere like the greenhouse gases above. They remain in the atmosphere long enough to be transported to the upper part of the atmosphere, where the protective 'ozone layer' is concentrated. They can disrupt natural chemical reactions, leading to ozone destruction.

Source: Adapted from Air Quality in Wales (Accessed on 05/09/08) Available online: http://www.welshairquality.co.uk/moreinfo.php?n_action=impacts&t=2

Air Pollution Deposition against Critical Loads at Natura 2000 sites in South East Wales

The primary focus of table 2 is on pollutants which have a direct impact on habitats and species, or impact through their deposition in the UK. These include regional tropospheric pollutants such as sulphur dioxide (SO2), nitrogen oxides (NOx), ammonia (NH3), ozone (O3), acid deposition and nitrogen deposition.

The results shown in the table 2 should be used in conjunction with the detailed N2K Site Information, as although a site may be considered at risk from air pollution in the table below, the detailed information within the characterisations may show that the site is in actual fact not vulnerable to the affects of air pollution. For example, Cym Clydach Woodlands SAC is considered at risk in the table below, however after consulting the site characterisation it can be found that, '*airborne acid and nutrient deposition are not a significant threat here as most of the woodland soils are well-buffered and nutrient-rich*'.

Key:

Site within acceptable limits	
Site exceeds critical load	
n/a	Not available

Table 2:Air Pollution Deposition against Critical Loads at Natura 2000 sites

Deposition/ Critical Load	**Acid deposition** keq/ha/yr	**Ammonia** µg/m3	**Nitrogen deposition** kg N/ha/year	**Nitrogen oxides** µg NOx (as NO2) m-3	**Ozone** ppb hours	**Sulphur dioxide** µg/m3	**At Risk?**
Aberbargoed Grasslands (Location Grid Ref: ST163992)							
Deposition	2.38	1.3	25.8	15.4	3422	4.1	Yes
Critical Load	0.10	3	10-15	30	3000	20	
Exceedance	2.28	-1.7	15.8 to 10.8	-14.6	422	-15.9	
Blackmill Woodlands (Location Grid Ref: SS929859)							
Deposition	2.76	1.1	33.7	14.6	5369	1.4	Yes

Deposition/ Critical Load	**Acid deposition** keq/ha/yr	**Ammonia** µg/m3	**Nitrogen deposition** kg N/ha/year	**Nitrogen oxides** µg NOx (as NO2) m-3	**Ozone** ppb hours	**Sulphur dioxide** µg/m3	**At Risk?**
Critical Load	0.81	3	10-15	30	5000	20	
Exceedance	1.95	-1.9	23.7 to 18.7	-15.4	369	-18.6	
Blaen Cynon (Location Grid Ref: SN946066)							
Deposition	2.2	0.7	23.8	11.8	3000	2	
Critical Load	0.35	3	10-15	30	3067	20	Yes
Exceedance	1.85	-2.3	13.8 to 8.8	-18.2	67	-18	
Brecon Beacons (Location Grid Ref: SO024211)							
Deposition	2.34	0.6	26.2	7.2	3605	1	
Critical Load	0.10	3	10-15	30	3000	20	Yes
Exceedance	2.10	-2.4	16.2 to 11.2	-22.8	605	-19	
Cardiff Beech Woods (Location Grid Ref: ST118824)							
Deposition	2.82	1.3	34.3	23.7	5740	2.4	
Critical Load	11.14	3	10-15	30	5000	20	Yes
Exceedance	-8.32	-1.7	24.3 to 19.3	-6.3	740	-17.6	
Cefn Cribwr Grasslands (Location Grid Ref: SS870830)							
Deposition	n/a	1.1	14.8	15.6	2969	2.7	
Critical Load	n/a	3	15-25	30	3000	20	No
Exceedance	n/a	-1.9	-0.2 to -10.2	-14.4	-31	-17.3	
Coed Y Cerrig (Location Grid Ref: SO291210)							
Deposition	3.05	0.9	37.8	8.6	5710	0.8	
Critical Load	1.27	3	10-15	30	5000	20	Yes
Exceedance	1.78	-2.1	27.8 to 22.8	-21.4	710	-19.2	
Coedydd Nedd a Melte (Location Grid Ref: SN919093)							

Deposition/ Critical Load	**Acid deposition** keq/ha/yr	**Ammonia** µg/m3	**Nitrogen deposition** kg N/ha/year	**Nitrogen oxides** µg NOx (as NO2) m-3	**Ozone** ppb hours	**Sulphur dioxide** µg/m3	**At Risk?**
Deposition	3.25	0.7	37.4	8	5247	2	Yes
Critical Load	2.22	3	10-15	30	5000	20	
Exceedance	1.03	-2.3	27.4 to 22.4	-22	247	-18	
Crymlyn Bog (Location Grid Ref: SS694947)							
Deposition	1.26	0.7	11.8	14.6	2609	4.8	Yes
Critical Load	0.29	3	15-35	30	3000	20	
Exceedance	0.97	-2.3	-3.2 to -23.2	-15.4	-391	-15.2	
Cwm Cadlan (Location Grid Ref: SN961098)							
Deposition	2.52	0.6	27.9	8.3	3234	1.3	Yes
Critical Load	4	3	15-25	30	3000	20	
Exceedance	-1.48	-2.4	12.9 to 2.9	-21.7	234	-18.7	
Cym Clydach Woodlands (Location Grid Ref: SO207123)							
Deposition	3.59	0.8	43.3	13.1	5959	1.5	Yes
Critical Load	1.12	3	10-15	30	5000	20	
Exceedance	2.47	-2.2	33.3 to 28.3	-16.9	959	-18.5	
Dunraven Bay (Location Grid Ref: SS886727)							
Deposition	n/a	0.5	10.6	n/a	n/a	1.7	No
Critical Load	n/a	3	10-15	n/a	n/a	20	
Exceedance	n/a	-2.5	0.6 to -4.4	n/a	n/a	-18.3	
Kenfig (Location Grid Ref: SS790813)							
Deposition	0.91	0.3	9.4	12.4	2800	1.9	No
Critical Load	4	3	10-20	30	3000	20	
Exceedance	-3.09	-2.7	-0.6 to -10.6	-17.6	-200	-18.1	
Llangorse Lake (Location Grid Ref: SO131262)							

Deposition/ Critical Load	**Acid deposition** keq/ha/yr	**Ammonia** µg/m3	**Nitrogen deposition** kg N/ha/year	**Nitrogen oxides** µg NOx (as NO2) m-3	**Ozone** ppb hours	**Sulphur dioxide** µg/m3	**At Risk?**
Deposition	n/a	n/a	18.2	n/a	n/a	n/a	Yes[27]
Critical Load	n/a	n/a	n/a[28]	n/a	n/a	n/a	
Exceedance	n/a	n/a	n/a	n/a	n/a	n/a	
River Usk (Location Grid Ref: SO301113)							
Deposition	n/a	n/a	21.1	n/a	n/a	n/a	Yes[1]
Critical Load	n/a	n/a	n/a[2]	n/a	n/a	n/a	
Exceedance	n/a	n/a	n/a	n/a	n/a	n/a	
River Wye (Location Grid Ref: SO109369)							
Deposition	n/a	n/a	13.0	n/a	n/a	n/a	Yes[1]
Critical Load	n/a	n/a	n/a[2]	n/a	n/a	n/a	
Exceedance	n/a	n/a	n/a	n/a	n/a	n/a	
Severn Estuary (Location Grid Ref: ST321748)							
Deposition	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Critical Load	n/a	n/a	n/a	n/a	n/a	n/a	
Exceedance	n/a	n/a	n/a	n/a	n/a	n/a	
Sugar Loaf Woodlands (Location Grid Ref: SO295166)							
Deposition	3.31	1.1	40.9	11.4	5818	1.0	Yes
Critical Load	1.26	3	10-15	30	5000	20	
Exceedance	2.05	-1.9	30.9 to 25.9	-18.6	818	-19.0	

[27] APIS [Accessed on 03/09/08] Site relevant critical loads. "*Increase aluminium concentration associated with freshwater acidification, impact on invertebrate populations, toxicity to fish*". Available online: http://www.apis.ac.uk/cgi_bin/query_sitebased.pl

[28] APIS [Accessed on 03/09/08] Site relevant critical loads. "*No Critical Load has been assigned to the EUNIS classes for meso/eutrophic systems. These systems are often P limited (or N/P co-limiting), therefore decisions should be taken at a site specific level. Furthermore, consideration should also be given to other sources of Nitrogen, i.e.discharges to water, diffuse agricultural pollution etc*". Available online: see link above

Deposition/ Critical Load	**Acid deposition** keq/ha/yr	**Ammonia** µg/m3	**Nitrogen deposition** kg N/ha/year	**Nitrogen oxides** µg NOx (as NO2) m-3	**Ozone** ppb hours	**Sulphur dioxide** µg/m3	**At Risk?**
Usk Bat Sites (Location Grid Ref: SO190145)							
Deposition	3.92	0.9	45.8	9.9	6343	3.0	Yes
Critical Load	1.91	3	10-15	30	5000	20	
Exceedance	2.01	2.1	35.8 to 30.8	-20.1	1343	-17.0	
Wye Valley and Forest of Dean Bat Sites (Location Grid Ref: SO605044)							
Deposition	2.68	1.4	33.7	11.0	6260	2.0	Yes
Critical Load	5.83	3	10-15	30	5000	20	
Exceedance	-3.15	-1.6	23.7 to 18.7	-19.0	1260	-19.0	
Wye Valley Woodlands (Location Grid Ref: ST530957)							
Deposition	2.97	1.5	37.9	13.5	6007	1.2	Yes
Critical Load	5.84	3	10-15	30	5000	20	
Exceedance	-2.87	-1.5	27.9 to 22.9	-16.5	1007	-18.8	

Limitations:

- Table is based on data that was collected at different timescales. Acid deposition information is taken from a 3 year average (2003-2005) whereas data relating to ammonia represents a single year (2005).
- The table does not consider the critical loads for individual species. Where a site is designated primarily for a particular species (e.g. Dunraven Bay), data is based on the habitat on which the species is reliant or the habitat that covers the majority of the site.

- The data is specific to a particular grid reference (available from the JNCC), which focuses on the centre of that European site. It does no therefore take account of the varying air quality levels across sites, for example, the Wye Valley and Forest of Dean Bat Sites SAC is composed of a number of different units spread out over a large area.

- The table does not take account of current or future trends in air quality.

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European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora the 'Habitats Directive'.

Ramsar Convention on Wetlands (1971) – Intergovernmental Treaty.

The Conservation (Natural Habitats, & c.(Amendment) (England and Wales) Regulations 2007).

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WAG (2004) Strategic Environmental Assessment (SEA) of Unitary Development Plans – Interim Good Practice Guide

WAG (2006) Local Development Plans Wales.

Natura 2000 Site Specific Information

Joint Nature Conservation Committee (JNCC) - Protected Sites:
http://www.jncc.gov.uk/page-4

Browse SACs on map:
http://www.jncc.gov.uk/page-1515

Browse SPAs on map:
http://www.jncc.gov.uk/page-2598

Natural England (NE) - Sites of Special Scientific Interest (SSSI):
http://www.english-nature.org.uk/special/sssi/index.cfm

Air Pollution Information System (APIS):
http://www.apis.ac.uk/

UK Biodiversity Action Plan - Habitat Action Plans:
http://www.ukbap.org.uk/habitats.aspx

UK Biodiversity Action Plan - Species Action Plans:
http://www.ukbap.org.uk/species.aspx

UK Water Company Boundaries:
http://www.water.org.uk/home/our-members/a4-the-uk-water-industry-map.pdf

Natura 2000 Site Specific Information Wales

Countryside Council for Wales (CCW) - Site Management Plans:
http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/special-sites-project-landing.aspx

CCW - Protected Sites Map:
http://www.ccw.gov.uk/interactive-maps/protected-areas-map.aspx

CCW - Sites of Special Scientific Interest (SSSI):
http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/special-landscapes--sites/protected-landscapes/sssis/sssi--report.aspx

Catchment Abstraction Management Strategies (CAMS) Wales:
http://www.environment-agency.gov.uk/regions/wales/858612/1317944/1325232/?version=1&lang=_e

GLOSSARY

Definitions	
Appropriate Assessment	An assessment of the affect of a plan/ project on the one of more sites in the Natura 2000 network as required by the Habitats Directive
Avoidance	Preventing impacts from plans arising (e.g. by removing/ changing policy or allocation).
Birds Directive	The European directive the Conservation of Wilds Birds Directive (70/409/EEC) that introduced the Special Protection Area designation.
Countryside Council for Wales (CCW)	CCW is the Government's statutory advisor on sustaining natural beauty, wildlife and the opportunity for outdoor enjoyment in Wales and its inshore waters.
Competent Authority	The body responsible for plan/ decision making (typically the Local Authority).
Compensatory Measures	Requirements set under Article 6(4) whereby damage to a European Site that has been justified by IROPI must be compensated for to protect the overall coherence of the Natura 2000 network. This may involve the creation of new habitat prior to the plan taking effect.
Condition	A description of the state of a feature in terms of the qualities and attributes that are relevant in a nature conservation context as characterised by a condition assessment [expressed in the context of the conservation objective].
Condition categories*	Favourable: maintained Favourable: recovered Favourable: un-classified Unfavourable: recovering Unfavourable: no change Unfavourable: declining Unfavourable: un-classified Partially destroyed destroyed
Conservation Objective*	The expression of the desired conservation status of a feature [the reason for site designation] expressed as a vision for the feature and a series of performance indicators. Each feature has one conservation objective.
Core Management Plan*	A CCW document containing the conservation objectives for a site and a summary of the information contained in a full site management plan.
Environment Agency Wales (EAW)	The Environmental Regulator (Statutory body). An Assembly Government Sponsored Body (AGSB), while also being part of the corporate Environment Agency for England and Wales.
European Site	Also referred to as Natura 2000/ N2K sites. Special Protection Areas (SPA)

Definitions	
	Special Areas of Conservation (SAC) For the purposes of the HRA also consider: Proposed Special Protection Areas (pSPA) Candidate Special Areas of Conservation (cSAC) Ramsar Sites
Feature	The species population, habitat type or other entity for which a site is designated.
Habitats Directive	Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna
Habitats Regulations	Habitats Regulations (The Conservation (Natural Habitats, & c.)(Amendment) (England and Wales) Regulations 2007.
Imperative Reasons of Overriding Public Interest (IROPI)	A strict test to pass (Article 6(4) of the Habitats Directive), which allows in very limited circumstances a plan or project to go ahead even after significant adverse effects have been identified at a European Site.
In-Combination	Consideration of how the effects of plans and projects (both existing and proposed) can interact with the plan subject to HRA, and result in cumulative effects. Effects may be positive as well as negative.
Natura 2000	A network of European sites of international importance for nature conservation established under the Habitats Directive.

Definitions	
Plan or Project*	Plan: A document prepared or adopted by a public body or statutory undertaker intended to direct or influence decisions on the carrying out of projects. Project: Any form of construction work , installation, development or other intervention in the environment, the carrying out of continuance of which is subject to a decision by any public body or statutory undertaker.
Precautionary Principle	An approach that requires action to be taken to prevent harm, particularly where there is incomplete information and/or in the absence of complete certainty about the nature of the effect.
Priority Habitat/ Species	Habitats and species identified by the Habitats Directive of being of priority importance.
Ramsar Site	Sites designated as internationally important wetland habitats under the International Convention on Wetlands of International Importance (Ramsar Convention, 1976).
Scoping	A process, typically used after a screening has determined that AA is required, to establish and gather additional information to support the AA process.
Screening	The process of determining whether or not a plan or project requires a more detailed

Definitions	
	'appropriate assessment'.
Site Integrity*	The coherence of a site's ecological structure and function across its whole area that enable it to sustain the habitat or complex of habitats, and/or the levels of populations of species for which it is designated.
Site of Special Scientific Interest (SSSI)	UK national designation for area identified as being important for wildlife and/ or geological. SSSIs typically underpin SACs and SPAs although the boundaries do not necessarily coincide.
Special Area of Conservation (SAC)	Site designated under the Conservation of Natural Habitats and Wild Fauna and Flora Directive (92/43/EEC) the 'Habitats Directive' as being o European importance for nature conservation. Designated for species and habitats listed under Annexes I and II of the Directive.,
Special Protection Area (SPA)	Site designated under the Conservation of Wilds Birds Directive (70/409/EEC) as being of European Importance for nature conservation. Designated for species listed under Annex 1 of the Directive.
Strategic Environmental Assessment	The systematic identification and evaluation of effects of a strategic initiative on the Environment as required by the Strategic Environmental Assessment Directive (2001/42/EC).

Definitions	
Sustainability Appraisal	The appraisal of environmental, social and economic effects of a plan to support the delivery of sustainable development as required by the Planning and Compulsory Purchase Act (2004, Section 39(2)) – must also incorporate the requirements of the SEA Directive.
*** definitions source – Countryside Council for Wales**	