Core Strategy Development Plan Document
Habitat Regulation Assessment

Stage 2 Report

February 2010

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1. Background and Summary of the Habitat Regulation Assessment Process

1.1 It is a legal requirement for Local Authorities to prepare a Habitat Regulation Assessment (HRA) for plans and projects which have potential to impact upon habitats of European importance. This document represents Stage 2 of the Habitat Regulation Assessment (HRA) for the Shropshire Core Strategy Development Plan Document (DPD).

1.2 There is no agreed process for carrying out a Habitat Regulation Assessment and guidance specific to the UK has not yet been issued by Natural England. This HRA Stage 2 document has been prepared using draft guidance from Countryside Council for Wales[1] and through informal advice from Natural England.

1.3 The Shropshire Core Strategy is the first of several documents which make up the Shropshire Local Development Framework (LDF). The second document is the Site Allocations and Management of Development DPD. Development Plan Documents are usually prepared in stages; an issues and options stage; a preferred options stage; a final plan stage; submission (to the Secretary of State) and finally, adoption by the Local Authority. The Shropshire Core Strategy is at final plan stage and the Site Allocations and Management of Development document is at the issues and options stage. Shropshire Council has also prepared an Implementation Plan, known as the 'Regeneration Prospectus' which identifies infrastructure constraints and requirements. This will be a living document which is refreshed annually. All LDF documents will be subject to a HRA, based on this initial HRA for the Core Strategy.

1.4 This HRA Stage 2 Report accompanies the Shropshire Core Strategy Final Plan Publication, which is open to public consultation between 15th February 2010 and 29th March 2010. The HRA Stage 2 Report will be available on the Shropshire Council website as part of the evidence base for the Core Strategy: (www.shropshire.gov.uk/planning.nsf). This document will be subject to targeted stakeholder consultation which will take place with Natural England, Countryside Council for Wales and the Environment Agency.

1.5 The Habitat Regulation Assessment plays an important role in protecting the conservation objectives of the Natura 2000 network of sites. These sites, often referred to as European Sites, consist of Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Candidate SACs and SPAs, and Offshore Marine Sites (OMS). Following UK government

[1] Draft Guidance for Plan Making Authorities in Wales, The Appraisal of Plans Under the Habitats Directive, Prepared by David Tyldesley and Associates for Countryside Council for Wales, 2009.

policy, sites designated under the Ramsar Convention are also covered by the HRA.

1.6 An initial HRA Screening Report[2] was prepared to accompany the 'Issues and Options'[3] stage of the Core Strategy, in March 2009, and was open to public consultation. Comments made by Natural England, Countryside Council for Wales and Environment Agency during that public consultation are reflected in the inclusion of several previously omitted European Sites within this HRA Stage 2 Report. The stakeholder responses to the HRA Screening Report can be found in Appendix 1.

1.7 In response to the initial HRA Screening Report, Countryside Council for Wales raised concerns over the use of an arbitrary spatial buffer zone and identified a number of European Sites outside the 15km buffer zone which they felt should have been included in the Screening Report. Those sites have been included and are considered in this HRA Stage 2 Report.

1.8 The use of a 15km buffer in the initial HRA Screening Report and in this HRA Stage 2 report is indicative only, it is necessary to limit the number of European Sites considered in some way and Natural England supported the use of the 15km buffer. It may be that there are sites outside this buffer area which could potentially be affected by plans or projects in Shropshire. The HRA of specific plans and projects and of more specific documents within the Local Development Framework (LFD) will need to determine, in detail, whether this is the case.

1.9 The purpose of this HRA Stage 2 Report is to further explore possible effect pathways between the Core Strategy policies and European Sites. It should be noted that the Core Strategy is a strategic document. It sets out the direction of travel for the more detailed development management policies and site specific land uses in the forthcoming Site Allocations and Management of Development DPD. The HRA for Site Allocations and Management of Development DPD will build on this HRA for the Core Strategy. Bearing this in mind, this HRA Stage 2 document has adopted a precautionary approach to identifying potentially significant effect pathways.

1.10 The HRA Screening Report (March 2009) identified a range of European Sites which could potentially be affected by the Core Strategy. It screened out two European Sites close to Shropshire which, it could be confidently concluded, would not be affected by the Shropshire Core Strategy.

[2] Shropshire Local Development Framework, Core Strategy Development Plan Document, Habitat Regulation Assessment Screening Report, March 2009, Shropshire Council
[3] Shropshire Core Strategy: Issues and Options – January 2009, Shropshire Council

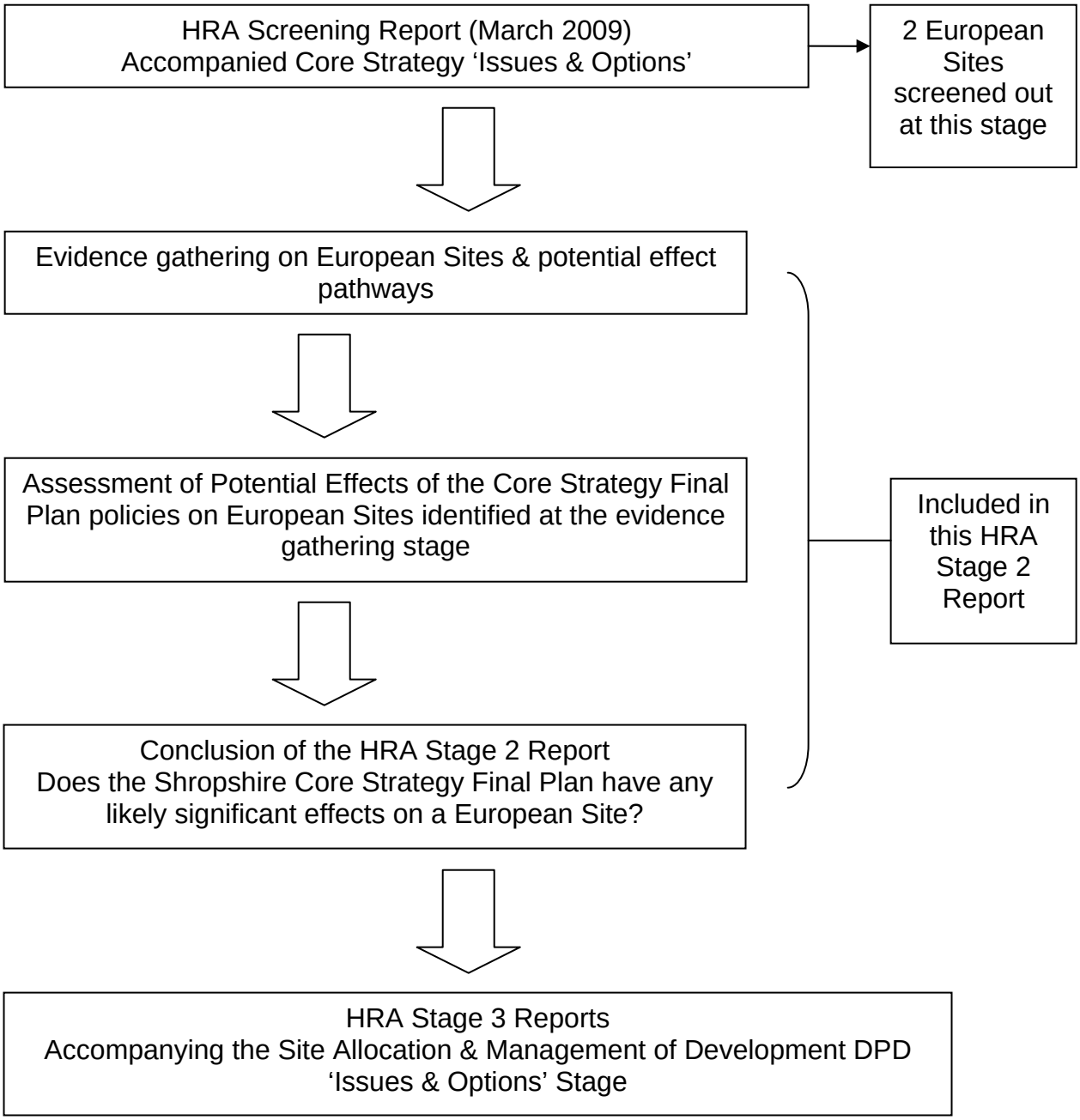
1.11 The Habitat Regulation Assessment of the Core Strategy Final Plan has concluded no likely significant effects on any European Sites provided that HRA decisions for 9 of the policies are passed down to the next tier of the Core Strategy which will be the Site Allocations and Management of Development DPD.

1.12 For 11 of the 20 policies in the Core Strategy Final Plan it can be confidently concluded that there will be no likely significant effect on any European Site. These are policies CS4, CS5, CS6, CS8, CS10, CS11, CS12, CS13, CS15, CS17 and CS18.

1.13 For the remaining 9 policies it is not possible to state with certainty that there would be no likely significant effect on any European Site. These are policies CS1, CS2, CS3, CS7, CS9, CS14, CS16, CS19 and CS20.

1.14 For the 9 policies with the potential to have a significant effect on a European Site it is not appropriate to carry out a full Appropriate Assessment at this time since the policies do not contain details of specific locations for proposed development. For these 9 policies the HRA decision and, if necessary, the full Appropriate Assessment will be passed down to a lower tier document which will set out the location for the proposed development and which will, if the Appropriate Assessment shows a likely significant effect on a European Site, have the power to feed back and alter the original care strategy policy.

Figure 1: ***Flow diagram of HRA process***



2 Habitat Regulation Assessment – Stage 2

Legal Framework

2.1 The Habitats Directive[4] places specific requirements on the preparation of plans and projects to ensure the protection of the integrity of European Sites. The Directive was transposed into UK law in Schedule 1 of the Conservation Regulations 2006.

2.2 Guidance notes on preparing a Habitat Regulation Assessment (HRA) have been prepared by the European Commission[5], Department for Communities and Local Government (CLG)[6] and The Royal Society for the Protection of Birds (RSPB)[7].

2.3 The most comprehensive UK guidance has been prepared by Natural England but has not yet been released to Local Authorities; however the Welsh draft guidance for Appraisal of Plans under the Habitats Directive[8] is available and uses much the same system of appraisal as described in the unreleased Natural England guidance. The Welsh guidance has been used in the preparation of this HRA Stage 2 Report.

2.4 The Core Strategy is the principle document of the Shropshire Local Development Framework (LDF). It sets out Shropshire Council's vision, strategic objectives and the broad spatial strategy to guide future development and growth between 2006 and 2026.

2.5 The Shropshire Core Strategy Final Plan Publication document has now been published and is subject to public consultation between 15th February 2010 and 26th March 2010.The Core Strategy Final Plan Publication document presents strategic policies to guide development in Shropshire. It takes into account both a comprehensive evidence base and responses to the key 'choices' presented in the Shropshire Core Strategy 'Issues and Options' document (January 2009) and the Shropshire Core Strategy Policy Directions document (August 2009). By its nature, the Core Strategy remains a strategic document and does **not** contain site specific allocations. Rather, it indicates the scale and broad distribution for new housing and employment development in Shropshire

[4] Article 6(3) and (4) of the European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora.
[5] Assessment of plans and projects significantly affecting Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for official publications of the European Communities, November 2001.
[6] Planning for the Protection of European Sites: Appropriate Assessment, DCLG, August 2006.
[7] The Appropriate Assessment of Spatial Plans in England: A Guide to Why, When, and How to do it, RSPB, August 2007.
[8] Draft Guidance for Plan Making Authorities in Wales, The Appraisal of Plans Under the Habitats Directive, Prepared by David Tyldesley and Associates for Countryside Council for Wales, 2009.

and sets out broad locations for growth in the two largest towns of Shrewsbury and Oswestry. The implications for strategic infrastructure requirements form part of the Local Development Framework Implementation Plan.

2.6 The allocation of land for specific uses along with detailed policies to manage development will be set out in the Site Allocations and Management of Development DPD (SAMDEV). This is currently at the Issues and Options stage. A series of documents, based on the Local Joint Committee areas will ask for views on a variety of potential development sites in and around the towns, other key centres and larger settlements in Shropshire. HRA Stage 3 summaries for each LJC will accompany this suite of documents.

HRA Stage 2 process

2.7 This report documents the methodology employed during Stage 2 of the HRA process, and records the evidence gathered and the process leading to any decisions made. A full list of European Sites considered, including maps and details of the conservation objectives, can be found in Appendix 2 to Appendix 6 of this report. This HRA Stage 2 Report should be read in conjunction with the Shropshire Core Strategy Final Plan Publication.

2.8 This HRA Stage 2 Report addresses the comments raised by Natural England and Countryside Council for Wales in response to the HRA Screening Report. The Stakeholder responses to the original HRA Screening Report can be found in Appendix 1.

2.9 It is not anticipated that it will be possible to 'screen' out any further sites at this stage of the HRA process; the Core Strategy policies are not location specific.

2.10 Appendix 3 lists European Sites within Shropshire and within a 15km buffer of the County Boundary. This list of sites will form the basis of the HRA documents for the Shropshire Local Development Framework and for HRA of all other plans and projects in Shropshire.

2.11 It should be understood that the use of the 15km buffer is indicative and that some documents within the Local Development Framework or other plans or projects in Shropshire could potentially impact on sites not listed in Appendix 3. The HRA of each document, plan or project will need to consider in detail whether there is potential to affect sites further than 15km from the Shropshire boundary.

2.12 It is important to remember that the Core Strategy is a strategic document and site location specific details have yet to be defined. By following the precautionary principal, it is therefore difficult, and often not advisable, to rule out significant effects on European sites. However, by the same token, taking a site forward to the HRA Stage 3 does not necessarily mean that a significant effect on a European Site is likely; it may just be too early to say.

2.13 During the initial screening process Natural England was contacted to provide Conservation Objectives for Special Areas of Conservation (SAC). At that time, Conservation Objectives for some SACs were not available and Natural England is still unable to provide finalised Conservation Objectives for some European Sites. As in the Screening Report, and following Natural England advice, Favourable Condition Tables for underlying SSSI units are being used in place of Conservation Objectives where the latter are not available. It is made clear in the site tables, contained in Appendix 4, which measure is being used.

2.14 There are two phases of Ramsar sites in Shropshire, Midland Meres and Mosses Ramsar Phase1 and Midland Meres and Mosses Ramsar Phase 2. These phases are spread across Shropshire, Cheshire and Staffordshire and are a large collection of distinct sites, many of which are designated as Sites of Species Scientific Interest (SSSI). It is important to understand that the Reason for Designation given in the Ramsar citation is a general statement covering a large range of sites with distinct habitats and locations.

2.15 Natural England have produced a document called Information on Natura 2000 Sites in the West Midlands[9] which provides a break down of the two phases of Ramsar site in Shropshire into the constituent SSSI's. It identifies which habitat or species criteria within the Ramsar Reason for Designation each particular SSSI represents. A breakdown of the Ramsar Midland Meres & Mosses Phase 1 and Phase 2, taken from the Natura 2000 Sites in the West Midlands document is included in Appendix 5.

2.16 Natural England has advised that effect pathways should be considered in terms of each constituent part of the Ramsar site and against the reason for which that constituent part was included in the Ramsar designation.

2.17 The Ramsar Midland Meres and Mosses Phase 1 and Phase 2 are broken down into their constituent sites and the reason for designation as a Ramsar site is given in Appendix 5. It should be noted that the reason why a SSSI unit was included in the Ramsar designation may not exactly match the reasons for designation given on the SSSI citation.

[9] Natura 2000 Sites in the West Midlands prepared for Natural England by Treweek Environmental Consultants, 2009.

2.18 Natural England is in the process of revising conservation objectives for SSSI units in Shropshire in order to take secondary European Features such as species assemblages into account. The tables in Appendix 5 include Conservation Objectives where they have been provided by Natural England; for many sites they were not available in time for publication. The most up to date conservation objectives for the SSSI units will be sought from Natural England prior to carrying out a full Appropriate Assessment on any lower tier document.

Site Identification

2.19 The first step in the scoping process was to identify all European Sites in Shropshire and within 15km of the county boundary. Appendix 3 lists the European Sites by the county/counties they are in. The map in Appendix 2 shows Shropshire with a 15km buffer and the spread of European Sites across the area considered in the HRA. Information and maps for specific sites are included in Appendices 4 to 6.

2.20 The precautionary principle has been applied in all stages of the HRA and has been re-enforced through the comments provided by Countryside Council for Wales (CCW) requesting that Elenydd SAC and Rhos Goch SAC be included in the HRA, since they are particularly sensitive to air pollution. These two sites are considerably outside of the 15km buffer but are thought to be impacted by air pollution from the West Midlands. CCW will provide further evidence relating to Elenydd SAC and Rhos Goch SAC at a later stage in the HRA process as appropriate.

2.21 The European Sites considered in this HRA Stage 2 Report are listed below:

1. Berwyn SPA
2. Berwyn and South Clwyd Mountains SAC
3. Brown Moss SAC
4. Downton Gorge SAC
5. Elenydd SAC
6. Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SAC
7. Granllyn SAC
8. Johnstown Newt Sites SAC
9. Montgomery Canal SAC
10. Rhos Goch SAC
11. River Clun SAC
12. River Dee & Bala Lake SAC
13. River Wye SAC
14. Tanat & Vrynwy Bat Sites SAC
15. The Stiperstones & the Hollies SAC

16. West Midlands Mosses SAC
17. Midland Meres & Mosses Ramsar Phase 1
18. Midland Meres & Mosses Ramsar Phase 2

Identifying Potential Effect Pathways

2.22 The term *Effect Pathway* is used in this document to describe the potential outcomes of a policy and the ecological mechanism by which that outcome impacts upon a European Site.

2.23 It is not possible, given the strategic nature of the Core Strategy, to look in precise detail at the potential effect pathways linking plans and projects to European Sites. Potential effect pathways have been identified using the information provided by Natural England in the site citation documents relating to site vulnerabilities and information in the following regional and national documents:

- Wales Spatial Plan Update, Habitat Regulation Assessment & Appropriate Assessment, C4S, June 2008.
- Development of Options for the West Midlands RSS in Response to the NHPAU Report, Volume 6: HRA Screening Report, Government Office for the West Midlands, October 2008.
- Development of Options for the West Midlands RSS in Response to the NHPAU Report, Volume 7: Updated HRA Assessment Report, Government Office for the West Midlands, March 2009.
- Habitat Regulation Assessment of the Phase One Revision of the Regional Spatial Strategy for the West Midlands for Government Office of the West Midlands by URSUS and Treweek Environmental Consultants, August 2007.
- Appropriate Assessment of the Proposed Changes to the West Midlands Draft Phase One Regional Spatial Strategy for Government Office for the West Midlands, URUS and Treweek Environmental Consultants, August 2007.
- Impact of Housing Growth on Water Supply and Water Quality at European Sites – Update to information contained within the West Midlands RSS Phase II Revision HRA for WMRA, Treweek Environmental Consultants, March 2009.
- Habitat Regulations Assessment of the Phase Two Revision of the Regional Spatial Strategy for the West Midlands, Screening Note. Prepared for Government Office for the West Midlands, URUS and Treweek Environmental Consultants, September 2007.

In Combination Effects

2.24 An analysis of the potential for 'in-combination' effects is provided in Appendix 7. The consultation response from CCW to the HRA Screening Report identified a need to consider Welsh plans and programmes likely to have an in-combination effect with the Core Strategy. Appendix 7 has been amended in this respect and updated where necessary.

2.25 The list of potential in-combination effects in Appendix 7 is not exhaustive, but begins to pick out those plans with potential for in-combination effects with the Core Strategy. It does not take into account future planning applications, i.e. projects, which may come forward. The list does not include national and international strategies (except for Wales) as it is accepted that these are reflected in strategies at the regional and local scale.

3 Summary of Findings

3.1 A total of 18 European Sites have been identified through the HRA screening process and through consultation with key stakeholders, and are listed in Appendix 3. This includes all relevant sites within 15km of the Shropshire border and 2 extra sites which CCW particularly requested were included.

3.3 Appendix 2 to Appendix 6 will, in the future, act as a resource for any department within Shropshire Council carrying out an HRA. It should be noted that plans or projects with potentially far reaching impacts may need to consider sites not considered in this HRA Stage 2 report.

3.4 It is not possible, given the strategic nature of the Core Strategy to screen out any of the Natura 2000 sites identified. It contains insufficient detail to determine if its policies, alone or in combination with another plan or project, will have a significant effect on the Conservation Objectives of a European Site.

3.5 All 18 European Sites identified in this document will be carried forward to the next stage of the Habitat Regulation Assessment.

Identification of potential effect pathways

3.6 European Sites in and around Shropshire are designated for a wide range of habitats and species and are, therefore, sensitive to a range of environmental and chemical processes both natural and man made.

3.7 Environmental changes which could potentially affect European Sites are identified below in tables 1, 2 and 3. These potential effect pathways have been drawn together from the documents referenced in section 2.23.

Information has also been taken from the conservation objectives and known vulnerabilities of European Sites supplied by Natural England and Countryside Council for Wales. Some supplementary information has also been drawn from the Shropshire Biodiversity Action Plan (BAP) relating to known vulnerabilities and threats to specific European Sites, the Shropshire BAP can be viewed at http://bit.ly/ShropshireBAP

Table 1: Issues affecting Conservation Objectives of European Sites

Environmental change	European Site potentially affected	Issues for further consideration
Local deposition of air pollutants caused by traffic emissions changing the plant species composition of vulnerable vegetation etc	Berwyn & South Clwyd Mountains SAC, Brown Moss SAC, Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SAC, Johnstown Newt Sites SAC, Montgomery Canal SAC, Midland Meres and Mosses Ramsar Phase 1 & 2, River Dee & Bala Lake SAC, River Clun SAC	Those parts of sites within 200m of a major road may be at risk from increased acidification and nitrogen deposition causing changes in terrestrial plant communities for which the sites have been designated. This problem is worse at sites which already have acid soils and have little buffering capacity. Predicting whether traffic levels will increase and then establishing whether this will translate into increased levels of deposition on a site is difficult.
Diffuse air pollution.	Berwyn & South Clwyd Mountains SAC, Brown Moss SAC, Downton Gorge SAC, Elenydd SAC, Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SAC, Rhos Goch SAC, The Stiperstones and the Hollies SAC, West Midland Meres and Mosses SAC, Midland Meres and Mosses Ramsar Phase 1 & 2.	A number of sites are currently over their critical loads for acid and nitrogen deposition. Any further increase in background levels of diffuse air pollution could have cumulative effects and exacerbate an adverse situation. Measures need to be explored for reducing air emissions in the region to stabilise background levels of air pollution.

Environmental change	European Site potentially affected	Issues for further consideration
Water quality effects from direct increase in run-off from hard standing and pollution from overloading water treatment infrastructure.	Brown Moss SAC, Downton Gorge SAC, Midland Meres and Mosses Ramsar Phase 1 & 2, River Wye SAC.	Capacity of existing wastewater infrastructure to deal with additional homes needs to be considered, especially during flood events. Some sites require local / specific management solutions. However scope for SUDS should be considered for upstream housing and other developments.
Pollution during flood events and problems resulting from raised or diverted water tables.	River Wye SAC, River Clun SAC, Midland Meres and Mosses Ramsar Phase 1 & 2.	Some of the constituent sites in the Midland Meres and Mosses Ramsar Phase 1 & 2 suffer from water logging as a result of diverted or raised water tables. Species within the River Wye SAC and River Clun SAC are vulnerable to short term increased pollution/ sedimentation resulting from flash flooding.
Concentration of pollutants or contaminants due to reduced/ low flow.	River Clun SAC, River Dee & Bala Lake SAC, River Wye SAC, Midland Meres and Mosses Ramsar Phase 1 & 2.	Species within the River Clun SAC and River Wye SAC are reliant on a clean, cool, stable flow of water. Sensitive vegetation on the Ramsar designations could be impacted by pollution.
Water abstraction resulting in lowered water tables / levels.	Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SAC, River Clun SAC, River Dee & Bala Lake SAC, River Wye SAC, West Midland Meres & Mosses SAC, Midland Meres and Mosses Ramsar Phase 1 & 2.	Increased abstraction arising from housing and economic development could impact on a range of Natura 2000 sites.
Increased silt runoff from development & roads.	Brown Moss SAC, Midland Meres and Mosses Ramsar Phase 1 & 2, River Clun SAC, River Wye SAC.	Species within the River Clun SAC and River Wye SAC are reliant on a clean, cool, stable flow of water. Sensitive vegetation on the Ramsar designations could be impacted by siltation.

Environmental change	European Site potentially affected	Issues for further consideration
Effects of increased traffic from development on species e.g. otter.	River Dee & Bala Lake SAC, River Wye SAC.	Wide ranging species such as otter are at risk from increased traffic and altered road layout.
Induced development (i.e. need for increased infrastructure on a designated site to deal with an increase in visitor pressure) and land use change in or around site.	Berwyn & South Clwyd Mountains SAC, Downton Gorge SAC, Elenydd SAC, Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SAC, Rhos Goch SAC, The Stiperstones and the Hollies SAC, West Midland Meres and Mosses SAC, Midland Meres and Mosses Ramsar Phase 1 & 2.	Sites depend on supporting habitat outside protected area boundary. Given the complexity of wetland sites in and around Shropshire there is potential for impacts relating to land use change around the designated sites as well as directly adjacent or within the designated areas. Increased recreational pressure can lead to need for greater facilities and infrastructure on designated sites.
Disturbance or damage / erosion caused by recreational/ amenity use.	Berwyn SPA, Brown Moss SAC, Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SAC, Granllyn SAC, Johnstown Newt Sites SAC Midlands Meres and Mosses Ramsar Phase 1 & 2, Montgomery Canal SAC, River Wye SAC, The Stiperstones & The Hollies SAC.	These sites are currently adversely affected to a degree by recreational pressure and are at risk from an increase in the number of households and improved physical accessibility in the region. The pathways by which recreational pressure impacts each site needs to be examined to understand the mechanisms by which further risk can be avoided. Risks include trampling, erosion, introduced species, fishing, boat use etc.
Development of sites being used by bats for breeding when away from the winter hibernation sites.	Tanat & Vrynwy Bat Sites SAC.	The populations of bats using hibernation roosts at Tanat & Vrynwy Bat Sites SAC are at risk from development in Shropshire since the breeding summer roosts used by these bat populations have not been identified. The species, and the integrity of the European site could be at risk from redevelopment of rural sites, aggregate sites, caves, mines and woodlands.

3.8 Each European Site is differently sensitive to the environmental changes identified in Table 1, the same environmental change will act through differing mechanisms depending on the location, local conditions and the specific designated features of the European Site concerned.

Table 2: Important effect pathways which are currently affecting European Sites or have the potential to affect sites in the future

European Site	Effect pathways relating to this European Site
Berwyn and South Clwyd Mountains SAC	Parts of this site are over critical load for nitrogen, acid deposition and ozone.
Berwyn SPA	The bird species for which this site is designated are potentially sensitive to increased visitor pressure and are also sensitive to direct erosion and disturbance (especially by dogs).
Brown Moss SAC	The designated feature of this site, *Luronium natans*, is sensitive to increased visitor pressure. This could result in direct disturbance and loss of plants and increase the risk of non-native and/or invasive plant introductions (from dog swimming etc). Development close to the site could potentially lead to lower water quality and increased pollution from surface water run-off.
Downton Gorge SAC	This site receives nitrogen and acid deposition above its critical load. The specialist lichen and plant species on this site are especially sensitive to air and water borne pollution.
Elenydd SAC	This site receives nitrogen, acid deposition and ozone above its critical load. This site is particularly sensitive to air borne pollution. CCW especially requested its inclusion in this Stage 2 HRA document and will provide further details of the effect pathways potentially affecting this site in later stages of the HRA process.
Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SAC	This site receives nitrogen and acid deposition above its critical load. The active mires on this site depend on high water tables and continued peat formation process. Much of the site has been affected by licensed peat extraction in the past. Drainage problems, afforestation and agricultural activities on the edge of the site are also contributing issues. Increased recreational use could result in trampling and erosion of vegetation and could exacerbate existing water quality issues (parts of this site are currently open to the public).
Granllyn SAC	Increased visitor pressure due to increased population could affect the Great Crested Newt populations for which this site is designated through direct erosion and disturbance; through increased likelihood of fish introductions and by physically isolating this site from the functional metapopulation in which it exists.

European Site	Effect pathways relating to this European Site
Johnstown Newt Sites SAC	Increased visitor pressure due to increased population could affect the Great Crested Newt populations for which this site is designated through direct erosion and disturbance; through increased likelihood of fish introductions and by physically isolating this site from the functional metapopulation in which it exists.
Montgomery Canal SAC	Increased visitor pressure due to increased population could affect this site through direct erosion and disturbance. It may also increase the likelihood of fish introductions and there may be increased disturbance if boat use expands.
Rhos Goch	This site receives nitrogen, acid deposition and ozone above its critical load. This site is particularly sensitive to air borne pollution. CCW especially requested its inclusion in this Stage 2 HRA document and will provide further details of the effect pathways potentially affecting this site in later stages of the HRA process.
River Clun SAC	Freshwater Pearl Mussel *Margaritifera margaritera* requires a reliable flow of clean, cool water and river bed clear of excessive silt. Increased water abstraction may impact Fresh Water Pearl Mussel. The Freshwater Pearl Mussel population on this site has not actively recruited juveniles for some years; the population is aging and is currently considered functionally extinct. Recruitment could potentially begin again if water quality and sedimentation issues could be resolved. Pearl mussels rely on salmonid migration as part of their reproductive cycle and therefore adequate flow and fish migration is critical in the River Severn and River Clun. There are some issues with phosphate loadings due to inadequate ground water treatment. Sedimentation due to activities upstream in catchment would have potential further impacts on Freshwater Pearl Mussels.
River Dee & Bala Lake SAC	All aquatic features of this site require suitable flow conditions to maintain favourable status. The Dee is already affected by falling groundwater levels and this may be affected by increased abstraction levels threats to water quality come from direct and diffuse pollution; eutrophication and siltation. Significant effects could stem from water supply/ quality issues, the pathways are unclear. Otter range over considerable distances and are affected by general land use change, in particular changes in road layouts and levels in traffic.

European Site	Effect pathways relating to this European Site
River Wye SAC	Qualifying species such as white clawed crayfish, sea lamprey, brook lamprey, river lamprey, twaite shad and Atlantic salmon require suitable flow conditions and good water quality to maintain favourable status. Recreational pressure is currently increasing and informal walking, dogs and water sports could all potentially affect the SAC especially the designated water crowfoot communities and other species (including otter). Otter range over considerable distances and are affected by general land use change, in particular changes in road layouts and levels in traffic. It is possible that future abstraction of surface and groundwater may affect water levels at the site as well as issues relating to sewerage discharges.
Tanat & Vrynwy Bat Sites SAC	The bat populations for which this site was designated are at risk because the breeding summer roosts used by the bats have not been identified. The roosts may be within Shropshire and could be at risk from re-development of rural buildings, aggregates sites, caves, mines and woodlands.
The Stiperstones & the Hollies SAC	Increased recreational pressure on this already heavily visited site would potentially increase trampling and erosion of sensitive vegetation, additional air pollution and deposition from traffic (most access is via car) would have impacts.
West Midlands Mosses SAC	This site is spread across several locations and specific effect pathways differ at each constituent site. Water resource issues are mainly related to groundwater; there are over-abstracted and over-licensed aquifers around several constituent sites. The sites are sensitive to air borne and water borne pollution. The sites are sensitive to increased recreational pressure which can cause erosion and disturbance and also increases the risk of introduced or invasive species.

Table 3: Potential effect pathways for the Midland Meres & Mosses Ramsar Phase 1 & 2 split by Ramsar Feature/constituent SSSI Site

Midland Meres and Mosses Ramsar Phase 1	
Berrington Pool SSSI (Phase 1)	This site receives nitrogen and acid deposition above its critical load. This site is at risk of pollution from agricultural intensification, air borne pollution and sedimentation. Physical damage of sensitive vegetation from increased recreation and increased risk of introduced species. This site is vulnerable to both lowering and raising of the water table. Drainage or abstractions could dry sensitive wetland habitats and raised water level could cause water logging of vegetation.

Midland Meres and Mosses Ramsar Phase 1	
Betley Mere SSSI (Phase 1)	This site receives nitrogen, ammonia and acid deposition above its critical load. Already hyper-eutrophic, potential effects of increased nutrients or siltation, at risk from altering of water levels - increase or drainage/abstraction. At risk from introduced species and encroachment.
Bomere, Shomere & Betton Pools SSSI (Phase 1)	At risk from increased small scale domestic soakaways,the largest risk is from nutrient and siltation from agricultural sources. At risk of increased recreational use including boats. At risk from drainage and abstraction.
Brown Moss SSSI (Phase 1)	This site receives nitrogen, ammonia and acid deposition above its critical load. At risk from increased recreational pressure through disturbance/ trampling. Already suffering high nitrogen this site could be further effected by nearby road schemes etc. Low water levels in summer drying site - may be connected to climate change. Non native species are a problem for *Luronium natans.*
Clarepool Moss SSSI (Phase 1)	Risk of eutrophication, high Nitrogen and Phosphorous currently.
Fenemere SSSI (Phase 1)	This site receives nitrogen, ammonia and acid deposition above its critical load. At risk from increased recreational pressure through disturbance/ trampling. Problems with non native species especially fish and fishing activity. Increased agricultural and domestic soakaways potential threat - key problem for the site. Site is already eutrophic but the current source of enrichment is unclear. Site is mainly supplied by rainwater and catchment runoff - at risk from abstraction / draining or diversion.
Marton Pool (Chirbury) SSSI (Phase 1)	At risk from increased recreational pressure through disturbance/trampling and fishing. At risk from future abstractions from groundwater or mere itself. Pool is eutrophic and high phosperous level. Threats from increased development and associated sewerage. At risk from siltation and introduced species.
Quoisley Mere SSSI (Phase 1)	This site receives nitrogen, ammonia and acid deposition above its critical load. Under high Canada Geese pressure (leading to vegetation erosion and nutrient enrichment?) and diffuse pollution, and siltation is a major problem. Current water levels are too high and water logging is a risk.
White Mere SSSI (Phase 1)	Affected by agricultural run off, increased nitrogen and very high phosporous currently. Mere is eutrophic. Sedimentation is big problem especially from roads in winter. At risk from increased abstraction. Risk from recreational pressure including boats and fishing. Also erosion occurring from cattle trampling.
Wynbunbury Moss SSSI (Phase 1)	Falling water level is a problem. At risk from extraction. Inputs of nitrogen from underlying aquifer, nutrients and fungus from sewerage discharges.

Midland Meres and Mosses Ramsar phase 2	
Aqualate Mere SSSI (Phase 2)	Possible risk from increased abstraction from The Hollies borehole. Highly eutrophic mere with high nitrogen and phosporous, high risk from silt in canal inflow.
Black Firs and Cranberry Bog SSSI (Phase 2)	Site is apparently drying out, at risk from abstractions. Previous problems from agricultural run-off and domestic soakaways. Poor water quality in terms of Nitrogen and Phosporous (2007 EA) At risk from siltation.
Brownheath Moss SSSI (Phase 2)	This site receives nitrogen, ammonia and acid deposition above its critical load. Site assumed to by hydrologiocally isolated but not understood.
Chapel Mere SSSI (Phase 2)	Pollution likely to be coming from surrounding soakaways.
Cole Mere SSSI (Phase 2)	Connected to Shropshire Union canal and groundwater - at risk of pollution and disturbance from recreational use for sailing, fishing etc. Site at risk from drainage and drying of boundary ditches.
Cop Mere SSSI (Phase 2)	This site receives nitrogen, ammonia and acid deposition above its critical load. At risk from long term abstractions from River Sow, high N and P levels on site.
Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses (Phase 2)	Site receives ammonia and Nitrogen deposition above its critical load. At risk from agricultural intensification, aerial suphur and groundwater N. Risk of hydrogen sulphide from industrial sources. Drainage is most significant impact affecting the site. Potential impact of abstractions.
Hanmer Mere (Phase 2)	Little formal information is available for the non-SSSI parts of this Ramsar designation.
Hencott Pool SSSI (Phase 2)	Site is eutrophic - agricultural sources suspected.
Linmer Moss SSSI (Phase 2)	Site at risk from invasive species.
Llyn Bedydd (Phase 2)	Little formal information is available for the non-SSSI parts of this Ramsar designation.
Morton Pool & Pasture SSSI (Phase 2)	At risk from drainage and has suffered from flooding in the past. Eutrophic site, at risk from invasive species such as fish.
Oss Mere SSSI (Phase 2)	Apparent decline in water quality - source unknown. Extensive fishing, risk from introduced species and recreation pressure.
Sweat Mere & Crose Mere SSSI (Phase 2)	Site receives ammonia and Nitrogen deposition above its critical load. At risk from agricultural intensification.
Vicarage Moss (Phase 2)	Little formal information is available for the non-SSSI parts of this Ramsar designation.

Critical Load Data for European Sites

3.9 Effects of airborne and waterborne pollution on European Sites can be varied and difficult to predict. The UK Air Pollution Information System (APIS www.apis.ac.uk) is a tool for UK conservation and regulatory organisations which aims to provide a consistent approach to air pollution across the UK. The APIS website is particularly designed to be used when carrying out Habitat Regulation Assessment.

3.10 The habitat descriptions used on APIS relate to Habitats Directive habitats and BAP priority habitats. Full details of which BAP priority habitat the APIS habitat description relates to can be found at www.apis.ac.uk/habitat_table.html

3.11 The APIS website allows pollutants to be considered by habitat at a specific location. Critical loads are available for many habitats in specific grid squares and deposition rates within those grid squares are available for acid, ammonia, nitrogen, nitrogen oxides, ozone and sulphur dioxide. Where the deposition or critical load for a particular habitat or location is not available on APIS this is stated in the tables in Appendix 8.

3.12 Appendix 8 shows the known critical loads and deposition rates for nitrogen, ammonia, acid, nitrogen oxides, ozone and sulphur dioxide. Appendix 8 is not intended to be exhaustive. Specific plans or projects with potential for far reaching air borne or water borne emission impacts will need to gather critical load information and model deposition rates which cover the potential impacts of the project on any relevant European Sites. This may include sites which are over 15 km from Shropshire.

3.13 It is clear from Appendix 8 that many European Sites within Shropshire are currently receiving pollutants which exceed the critical load. Where a European Site is already above critical load, any additional pollutants would be important and could be found to be significant, since this would take the site further away from favourable conservation status.

3.14 European Designated Features on European Sites are given a condition status as favourable, unfavourable recovering or unfavourable by Natural England or Countryside Council for Wales. It is possible for a European Site to have one feature in favourable condition while another is in unfavourable condition. When carrying out a Habitat Regulation Assessment the effects of a plan or project on all the European Designated Features of a site must be considered. The integrity of the European Site can only be maintained where there is no negative impact of a plan or project on any of the European Designated Features.

3.15 It is possible for a European Site to have lost some of the European Designated Features, for example a sensitive specialist plant species. This plant species remains a European Designated Feature of the site even when it is no longer present. No plan or project can have an impact which makes the recolonisation of the site by this European Designated Feature less likely to occur either naturally or through restoration.

3.16 The critical load data in Appendix 8 is included in this HRA Stage 2 Report as part of the data gathering exercise. It is useful as an indicator of which sites (i.e. those already over critical load), may be especially vulnerable to impacts from any plan or project in Shropshire.

4 Identification of Core Strategy policies which could potentially affect Natura 2000 Sites

4.1 There are 20 policies in the Shropshire Core Strategy Final Plan Publication. These policies address amount, scale, distribution, type, sustainability and visual appearance of development. There are also policies which address protection of the natural environment.

4.2 The policies within the Core Strategy Final Plan Publication are not location specific; they outline the scale of development and its broad distribution within Shropshire but are not site specific. Therefore it is not realistic to carry out a full Appropriate Assessment on this document. However, a further stage of HRA, building on this Stage 2 report, will be carried out for the Site Allocations and Management of Development DPD and these documents will be subjected to full Appropriate Assessments where this is necessary.

4.3 Policies in the Shropshire Core Strategy Final Plan Publication have been assessed below in terms of which have potential to impact upon European Sites, which have no potential impacts and which are designed to protect the natural environment.

4.4 The assessment uses a method for coding policies based on impacts taken from the Draft Guidance for Plan Making Authorities in Wales, The Appraisal of Plans under the Habitats Directive[10]. The codes are defined as follows:

Category A: Elements of the plan/options that would have no negative effect on a European site

[10] Draft Guidance for Plan Making Authorities in Wales, The Appraisal of Plans Under the Habitats Directive, Prepared by David Tyldesley and Associates for Countryside Council for Wales, 2009.

A1	Options/policies that will not themselves lead to development e.g. because they relate to design or other qualitative criteria for development, or they are not a land use planning policy.
A2	Options/policies intended to protect the natural environment, including biodiversity.
A3	Options/policies intended to conserve or enhance the natural, built or historic environment, where enhancement measures will not be likely to have any negative effect on a European site.
A4	Options/policies that positively steer development away from European sites and associated sensitive areas.
A5	General policy statements or policies which only express general intentions or political aspirations.

Category B: Elements of the plan/options that could have an effect, but the likelihood is there would be no significant negative effect on the European Site either along or in combination with other elements of the same plan, other plans or projects.

Category C: Elements of the plan/options that could or would be likely to have a significant effect alone and will require the plan to be subject to an appropriate assessment before the plan may be adopted.

C1	The option, policy or proposal could **directly affect** a European site because it provides for, or steers, a quantity or type of development onto a European site, or adjacent to it.
C2	The option, policy or proposal could **indirectly affect** a European site e.g. because it provides for, or steers, a quantity or type of development that may be very close to it, or ecologically, hydrologically or physically connected with it or it may increase disturbance as a result of increased recreational pressure.
C3	Proposals for a **magnitude of development** that, no matter where it was located, the development would be likely to have a significant effect on a European site.
C4	An option, or policy that makes provision for a quantity/type of development generally (and may indicate a broad scale and / or one or more broad locations e.g. a particular part of the plan area), so a likelihood or a significant effect cannot be ruled out, but the more precise scale and / or detailed location is to be selected following **consideration of options in a later, more specific, lower tier plan,** subject to Habitats Regulations Appraisal.
C5	Options, policies or proposals for developments or infrastructure projects that could **block options or alternatives** for the provision of other development or projects in the future, which will be required in the public interest, that may lead to adverse effects on a European site, which would otherwise be avoided.

C6	Options, policies or proposals which **depend on how the policies etc are implemented** in due course, for example, through the development management process. There is a theoretical possibility that if implemented in one or more particular ways, the proposal could possibly have a significant effect on a European site, and is not merely a general statement of policy.
C7	Any other options, policies or proposals that would be **vulnerable to failure** under the Habitats Regulations at project assessment stage; to include them in the plan would be regarded by the EC as 'faulty planning.'
C8	Any other proposal that may have an adverse effect on a European site, which might try to pass the tests of the Habitats Regulations at project assessment stage by arguing that the **plan provides the imperative reasons** for overriding public interest to justify its consent despite a negative assessment.

Category D: Elements of the plan/options that would be likely to have a significant effect in combination with other elements of the same plan, or other plans or projects and will require the plan to be subject to an appropriate assessment before the plan may be adopted.

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

4.5 Each policy in the Shropshire Core Strategy is given a code relating to potential significant impacts on European sites. Where a policy is not location specific and site allocations will be carried out in another document this/these documents have been identified.

Table 4: Shropshire Core Strategy Policy vs. likely significant effects on European sites matrix

Policy	Description of Policy	Screening Category	Can the option or policy be changed at the screening stage to avoid likely significant effect?	Is an Appropriate Assessment required?	Is the decision passed down to another document?
CS1: Strategic Approach	To deliver around 27,500 new homes, of which 9,000 will be "affordable housing", up to 290 hectares of employment land, and accompanying infrastructure across Shropshire.	C4	N/A The strategic approach is about the need for housing not the location or distribution.	Not at this stage. The strategy is implemented through other plans (Site Allocations and Management of Development DPD).	LDF Implementation Plan, Rural Renaissance Program, Market Town Revitalisation Programme, Shrewsbury Growth Point Delivery Program.
CS2: Shrewsbury - Development Strategy	A comprehensive and coordinated approach will be pursued to the planning and development of Shrewsbury. 6,500 new homes and 90ha of employment land delivered in Shrewsbury.	C4	N/A The strategic approach is about the need for housing not the location or distribution.	Not at this stage. The strategy is implemented through other plans (Site Allocations and Management of Development DPD etc).	Site Allocations & Management of Development DPD, Master plans for phased development of the two Sustainable Urban Extensions, Shrewsbury Town Centre Strategy and Action Plans, Shropshire Economic Development, Culture and Development Strategy and Action Plans, Local Transport Plan for Shropshire 2006 - 2011, Shrewsbury Integrated Transport Strategy, Shrewsbury Growth Point Programme of Development, the Shrewsbury Vision and the Northern Corridor Regeneration Strategy Implementation Framework, Shrewsbury Cycling Town programme, Shrewsbury Green Infrastructure Strategy.

Policy	Description of Policy	Screening Category	Can the option or policy be changed at the screening stage to avoid likely significant effect?	Is an Appropriate Assessment required?	Is the decision passed down to another document?
CS3: The Market Towns and other Key Centres	The market towns and other key centres will maintain and enhance their roles in providing facilities and services to their rural hinterlands, and providing foci for economic development and regeneration.	C4	N/A The strategic approach is about the need for housing and other development not the location or distribution.	Not at this stage. The strategy is implemented through other plans (Site Allocations and Management of Development DPD etc).	Site Allocations and Management of Development DPD, LDF implementation Plan.
CS4: Community Hubs and Local Clusters	In the rural area, communities will become more sustainable.	A1	N/A.	No.	Site Allocations and Management of Development DPD, LDF implementation Plan.
CS5: Countryside Greenbelt	The Greenbelt will be protected through strict control of inappropriate development within the countryside and greenbelt.	A2	N/A.	No.	Site Allocations and Management of Development DPD, LDF implementation Plan.
CS6: Sustainable Design and Development Principles	To create sustainable places, development will be designed to a high quality using sustainable design principles, to achieve an inclusive and accessible environment which respects and enhances local distinctiveness and which mitigates and adapts to climate change.	A5	N/A.	No.	Sustainable Design Supplementary Planning Document, Natural Environment Supplementary Planning Document, Historic Environment Supplementary Planning Document, Site Allocations and Management of Development DPD.

Policy	Description of Policy	Screening Category	Can the option or policy be changed at the screening stage to avoid likely significant effect?	Is an Appropriate Assessment required?	Is the decision passed down to another document?
CS7: Communication and Transport	Maintenance and improvement of integrated, accessible, attractive, safe and reliable communication and transport infrastructure and services.	C4	N/A The strategic approach is about the need for improvement of transport infrastructure but not location or distribution.	Not at this stage. The strategy is implemented through other plans (Site Allocations and Management of Development DPD etc).	Local Transport Plan for Shropshire 2006 - 2011, Site Allocations and Management of Development DPD, LTP implementation Plan.
CS8: Facilities, Services and Infrastructure Provision	The development of sustainable places in Shropshire with safe and healthy communities where residents enjoy a high quality of life.	A1	N/A.	No.	Site Allocations and Management of Development DPD, LDF implementation Plan.
CS9: Infrastructure Contributions	Development that provides additional dwellings or employment premises will help deliver more sustainable communities by making contributions to local infrastructure.	C4	N/A The strategy is about the need for local infrastructure but is not location specific.	Not at this stage. The strategy is implemented through other plans (Site Allocations and Management of Development DPD).	Site Allocations and Management of Development DPD.
CS10: Managed Release of Housing Land	The availability of housing land will be kept under review, maintaining a continuous supply of suitable sites to deliver the overall housing target.	A1	N/A.	No.	Site Allocations and Management of Development DPD.

Policy	Description of Policy	Screening Category	Can the option or policy be changed at the screening stage to avoid likely significant effect?	Is an Appropriate Assessment required?	Is the decision passed down to another document?
CS11: Type and Affordability of Housing	To meet the diverse housing needs of Shropshire residents now and in the future and to create mixed, balanced and inclusive communities.	A1	N/A.	No.	Site Allocations and Management of Development DPD, Affordable Housing Supplementary Planning Document.
CS12: Gypsy and Traveler Provision	The accommodation needs of Gypsies, Travelers and Traveling Show people will be met, as part of addressing the housing needs of all sectors of the community.	A5	N/A.	No.	Site Allocations and Management of Development DPD, Local Implementation Program.
CS13: Economic Development, Enterprise & Employment	To develop and diversify the Shropshire economy, supporting enterprise, and seeking to deliver sustainable economic growth and prosperous communities.	A1	N/A.	No.	Site Allocations and Management of Development DPD, Implementing the Sustainable Community Strategy, Shropshire Business Board Business Plan and other economy/ regeneration based strategies and action plans such as Shrewsbury Vision and the Market Town Revitalisation Programme.
CS14: Managed Release of Employment Land	To deliver around 290 hectares of employment development from 2006 to 2026.	C4	N/A The strategic approach is about the need for employment land not the specific locations or distribution.	Not at this stage. The strategy is implemented through other plans.	Site Allocations and Management of Development DPD, master planning of strategic locations in Shrewsbury and Oswestry.

Policy	Description of Policy	Screening Category	Can the option or policy be changed at the screening stage to avoid likely significant effect?	Is an Appropriate Assessment required?	Is the decision passed down to another document?
CS15: Town and Rural Centres	Development and other measures will maintain and enhance the vitality and viability of Shropshire's network of town and rural centres.	A5	N/A.	No.	Site Allocations and Management of Development DPD, Shrewsbury town centre strategy and action/master plans, Shrewsbury Growth Point delivery programme, including Shrewsbury Vision, Proposed Council Revitalisation Programme for Market Towns, Local Transport Plan for Shropshire 2006-2011 and Shrewsbury Integrated Transport Strategy.
CS16: Tourism, Culture and Leisure	To deliver high quality, sustainable tourism, and cultural and leisure development.	C4	N/A The strategy is about the need for tourism, cultural and leisure development not the location or distribution.	Not at this stage. The strategy is implemented through other plans (Site Allocations and Management of Development DPD).	Site Allocations and Management of Development DPD.
CS17: Environmental Networks	Development will identify, protect, enhance, expand and connect Shropshire's environmental assets, to create a multifunctional network of natural and historic resources.	A2	N/A.	No.	Site Allocations and Management of Development DPD, Natural Environment Supplementary Planning Document, Historic Environment Supplementary Planning Document.

Policy	Description of Policy	Screening Category	Can the option or policy be changed at the screening stage to avoid likely significant effect?	Is an Appropriate Assessment required?	Is the decision passed down to another document?
CS18: Sustainable Water Management	Developments will integrate measures for sustainable water management to reduce flood risk, avoid an adverse impact on water quality and quantity within Shropshire, including groundwater resources, and provide opportunities to enhance biodiversity, health and recreation.	A2	N/A.	No.	Site Allocations and Management of Development DPD, Surface Water Management Supplementary Planning Document.
CS19: Waste Management Infrastructure	Sustainable waste management facilities and services will help to deliver greater resource efficiency for communities and businesses. Brown Moss SAC.	C4	N/A The strategic approach is about the need for sustainable waste management not the specific locations or methods.	Not at this stage. The strategy is implemented through other plans (Site Allocations and Management of Development DPD).	Site Allocations and Management of Development DPD.
CS20: Strategic Planning for Minerals	Shropshire's important and finite mineral resources will be safeguarded.	C4	N/A The strategic approach is about the need for mineral planning not the specific locations.	Not at this stage. The strategy is implemented through other plans (Site Allocations and Management of Development DPD).	Site Allocations and Management of Development DPD.

4.6 For those policies given an A code it can be confidently concluded that there is no likely significant effect on any European Site and that no full Appropriate Assessment of this policy will be required. It can also be concluded that these policies will not have any in-combination effect with any other policy in the Core Strategy or in any other plan or project which would lead to a likely significant effect on a European Site.

4.7 Those policies given a C code have the potential to have a significant effect on European Site(s) depending on the locations and methods used in implementing them. For these policies it is not possible to carryout a full Appropriate Assessment at this stage since the policies are broad statements of intention and are not location specific.

Passing HRA decisions down to lower tier documents

4.8 HRA decisions can be passed down to lower tier documents in certain circumstances to allow a Core Strategy to pass the HRA even when it is not possible to say with absolute certainty that all policies would have no likely significant effects on European Sites.

4.9 The Draft Guidance for Plan Making Authorities in Wales, The Appraisal of Plans under the Habitats Directive gives 3 criteria under which HRA decisions can be passed down to a lower tier document. They are:

A. The higher tier plan appraisal cannot reasonably assess the effects on a European Site in a meaningful way; whereas

B. The Habitats Regulations Appraisal of the lower tier plan, which will identify more precisely the nature, scale or location of development, and thus its potential effects, will be able to change the proposal if an adverse effect on site integrity cannot be ruled out, because the lower tier plan is free to change the nature and/or scale and/or location of the proposal in order to avoid adverse effects on the integrity of any European site (e.g. it is not constrained by location specific policies in a higher tier plan); and

C. The Habitats Regulation Appraisal of the plan or project at the lower tier is required as a matter of law or government policy.

Table 5: Can the HRA decisions relating to policies identified as code C in Table 4 be legally passed down to a lower tier document according to the criteria?

Policy	Screening Category	Is decision passed down to a lower tier document?	Does the decision to pass down to a lower tier document meet the guidance criteria?		
			Criteria A	Criteria B	Criteria C
CS1: Strategic Approach	C4	LDF Implementation Plan Site Allocations & Management of Development DPD Rural Renaissance Program Market Town Revitalisation Programme Shrewsbury Growth Point Delivery Program	Policy drives scale of development with no specific information regarding location. A full Appropriate Assessment at this stage is not possible.	The Site Allocations & Management of Development DPD and LDF Implementation Plan will proposed specific locations.	The Site Allocations & Management of Development DPD and LDF Implementation Plan both require HRA as a matter of law or government policy.
CS2: Shrewsbury - Development Strategy	C4	Site Allocations & Management of Development DPD Master plans for phased development of the two Sustainable Urban Extensions Shrewsbury Town Centre Strategy and Action Plans Local Transport Plan for Shropshire 2006 – 2011 Shrewsbury Integrated Transport Strategy	This is a general policy although two rough locations for Sustainable Urban Extensions have been identified in the detail of the policy. Without knowing which plots of land will be developed within these preferred urban extensions and the type of development which would occur it is not possible to carry out a full Appropriate Assessment at this time.	The Site Allocations & Management of Development DPD will propose specific locations and the Master plans for phased development of the two Sustainable Urban Extensions will provide a programme for the development allowing an HRA and, if necessary, a full Appropriate Assessment to be carried out.	The Site Allocations & Management of Development DPD and the Master plans for phased development of the two Sustainable Urban Extensions require HRA by law or government policy.

Policy	Screening Category	Is decision passed down to a lower tier document?	Does the decision to pass down to a lower tier document meet the guidance criteria?		
			Criteria A	Criteria B	Criteria C
CS3: The Market Towns and other Key Centres	C4	Site Allocations and Management of Development DPD LDF implementation Plan	This is a general policy driving the scale of development with no specific information regarding location beyond identifying markets towns and key centres across Shropshire. A full Appropriate Assessment at this stage is not possible.	The Site Allocations & Management of Development DPD will propose specific locations allowing a HRA to be carried out and a full Appropriate Assessment to be undertaken if necessary.	The Site Allocations & Management of Development DPD requires HRA by law.
CS7: Communication and Transport	C4	Local Transport Plan for Shropshire 2006 – 2011 Site Allocations and Management of Development DPD LTP implementation Plan	This is a general policy driving the scale of development with no specific information regarding location or scale of development.	The Local Transport Plan for Shropshire 2006 – 2011 will identify more detailed policy relating to transport and the Site Allocations and Management of Development DPD will identify the locations for necessary infrastructure improvements allowing a HRA to be carried out and a full Appropriate Assessment to be undertaken if necessary.	The Local Transport Plan for Shropshire 2006 – 2011 and the Site Allocations and Management of Development DPD both require HRA as a matter of law.

Policy	Screening Category	Is decision passed down to a lower tier document?	Does the decision to pass down to a lower tier document meet the guidance criteria?		
			Criteria A	Criteria B	Criteria C
CS9: Infrastructure Contributions	C4	Site Allocations and Management of Development DPD	This is a general policy driving the scale of development with no specific information regarding location or scale of development.	The Site Allocations and Management of Development DPD will establish specific locations for development.	The Site Allocations and Management of Development DPD requires HRA as a matter of law.
CS14: Managed Release of Employment Land	C4	Site Allocations and Management of Development DPD Master planning of strategic locations in Shrewsbury and Oswestry	This is a general policy driving the scale of development with no specific information regarding location or scale of development.	The Site Allocations and Management of Development DPD will establish specific locations for development allowing a HRA to be carried out and a full Appropriate Assessment to be undertaken if necessary.	The Site Allocations and Management of Development DPD and master plans for strategic locations require HRA as a matter of law or government policy.
CS16: Tourism, Culture and Leisure	C4	Site Allocations and Management of Development DPD	This is a general policy driving the scale of development with no specific information regarding location or scale of development.	The Site Allocations and Management of Development DPD will establish specific locations for development allowing a HRA to be carried out and a full Appropriate Assessment to be undertaken if necessary.	The Site Allocations and Management of Development DPD requires HRA as a matter of law.

Policy	Screening Category	Is decision passed down to a lower tier document?	Does the decision to pass down to a lower tier document meet the guidance criteria?		
			Criteria A	Criteria B	Criteria C
CS19: Waste Management Infrastructure	C4	Site Allocations and Management of Development DPD	This is a general policy driving the scale of development with no specific information regarding location or scale of development.	The Site Allocations and Management of Development DPD will establish specific locations for development allowing a HRA to be carried out and a full Appropriate Assessment to be undertaken if necessary.	The Site Allocations and Management of Development DPD requires HRA as a matter of law.
CS20: Strategic Planning for Minerals	C4	Site Allocations and Management of Development DPD	This is a general policy driving the scale of development with no specific information regarding location or scale of development.	The Site Allocations and Management of Development DPD will establish specific locations for development allowing a HRA to be carried out and a full Appropriate Assessment to be undertaken if necessary.	The Site Allocations and Management of Development DPD requires HRA as a matter of law.

4.10 There are four policies identified as code C where some of the location specific information required for carrying out a full Appropriate Assessment is available in the detailed text of the policy. These are policies CS2, CS3, CS19 and CS 20. The justification for passing the HRA decision down to a lower tier document is discussed in detail in points 4.11 to _ below.

Policy CS2: Shrewsbury – Development Strategy

4.11 Policy CS2: Shrewsbury – Development Strategy identifies two areas known as Sustainable Urban Extensions, one to the North West edge of Shrewsbury and one on the Southern edge of Shrewsbury.

4.12 The Sustainable Urban Extension on the north-west side of Shrewsbury could have potential effect pathways to Hencott Pool SSSI, part of the Ramsar Midland Meres & Mosses Phase 2.

4.13 The Sustainable Urban Extension to the southern edge of Shrewsbury could have potential effect pathways to Bomere, Shomere & Betton Pools SSSI, part of the Ramsar Midland Meres & Mosses Phase 1.

4.14 It is not known, from policy CS2, what kinds of development will occur within the Sustainable Urban Extension areas identified in the policy nor the scale of that development. It is therefore not possible to carryout a full Appropriate Assessment at this stage since the results would be meaningless once further detail on the proposed development is specified in the Site Allocations & Management of Development DPD.

4.15 The HRA decision should therefore be passed down to the Site Allocations & Management of Development DPD when it can be carried out in a meaningful way and a full Appropriate Assessment can be completed if necessary.

Policy CS3: The Market Towns and other Key Centres

4.16 Policy CS3: The Market Towns and other Key Centres identifies a Sustainable Urban Extension on the east side of Oswestry.

4.17 The closest European Site to this Sustainable Urban Extension is over 5km away to the south of Oswestry which makes it unlikely that development in this location would have a significant effect on a European Site. Policy CS3 will go on, however, to identify locations for development in the other Market Towns and other Key Centres which have not been identified in the Core Strategy Final Plan.

4.18 The HRA for policy CS3 and the Appropriate Assessment if necessary have been passed down to the Site Allocations & Management of Development DPD when details of locations will be available.

Policy CS19: Waste Management Infrastructure

4.19 Policy CS19: Waste Management Infrastructure identifies 7 broad locations for development across Shropshire. The broad locations cover large areas but will drive a relatively small scale of development within each location. It is not appropriate to look at which European Sites could be affected by waste infrastructure development in these broad locations since such an assessment would be meaningless once the specific locations are established in the Site Allocations & Management of Development DPD and other documents.

4.20 The HRA for policy CS19 and the Appropriate Assessment if necessary have been passed down to the Site Allocations & Management of Development DPD when details of locations will be available.

Policy CS20: Strategic Planning for Minerals

4.21 Policy CS20: Strategic Planning for Minerals identifies broad locations for future sand and gravel working in Shropshire based on where the mineral resources exist in combination with the road infrastructure required to facilitate extraction. The broad locations cover a large area of Shropshire but in the long term only a small number of specific locations will be utilised.

4.22 The HRA for policy CS20 and the Appropriate Assessment if necessary have been passed down to the Site Allocations & Management of Development DPD when details of locations will be available.

5 Conclusion of the HRA Stage 2

5.1 All 9 policies identified as code C meet the three criteria for the HRA decision to be passed down to a lower tier document.

5.2 The Habitat Regulation Assessment of the Core Strategy Final Plan has shown no likely significant effects on any European Sites provided that HRA decisions for 9 of the policies are passed down to the next tier of the Core Strategy which will be the Site Allocations and Management of Development DPD.

5.3 The next stages of the HRA will be carried out for the Site Allocations and Management of Development DPD. However, it is likely that decisions will only be made on whether sites and/or policies can be screened out or whether a full Appropriate Assessment is required after the issues and options stage for this DPD.

Next Steps

5.4 The next phase of the Shropshire Local Development Framework is the production of Site Allocations and Management of Development: Issues and Options suite of documents (one document for each of the Local Joint Committee areas). These area-specific documents will invite views on the suitability of a variety of sites for different forms of development. Only some of the sites shown in these documents will be allocated for development in the later stages of the DPD. It will therefore, be necessary to pass down the Habitat Regulation Assessment to these stages. However, taking a precautionary approach and to ensure continuity, all the Site Allocations and Management of Development documents will be accompanied by a Stage 3 HRA report and it may be possible, for some Local Joint Committee areas, to conclude no likely significant effect on a European Site at that time.

Consultation

5.5 This HRA Stage 2 Report is not formally open to public consultation. It will be open to stakeholder consultation with Natural England, Countryside Council for Wales and Environment Agency and any other interested stakeholder organisations between 15th February and 29th March 2010.

5.6 Members of the public are welcome to make comments on this document if they wish.

5.7 Please send your comments to Joy Tetsill at the following address:

Shropshire Planning & Policy Team
Shropshire Council
Shirehall
Abbey Foregate
Shrewsbury
SY2 6ND

5.8 Alternatively please email your comments to planning.policy@shropshire.gov.uk

Appendix 1: Stakeholder Responses to Shropshire Local Development Framework, Core Strategy Development Plan Document, Habitat Regulation Assessment, Screening Report

Date: 15 May 2009
Our ref:
Your ref: Shropshire Core strategy Hab regs assessment

Eddie West
Planning Policy team
Shropshire Council
Shirehall
Abbey Foregate
Shrewsbury
Shropshire SY2 6ND

Attingham Park
Shrewsbury
Shropshire
SY4 4TW

T 01743 282000
F 01743 709303

Dear Mr West

Re: Shropshire LDF: Core Strategy: Habitat regulations assessment screening Report

Thank you for consulting Natural England on the document above. This letter represents our formal consultation response.

General comments

I understand that the Countryside Council for Wales (CCW) have made comments about sites in Wales, and wish to see some additional sites included, and screened, as part of the process. **Natural England's comments below relate to sites partly or wholly in England.** If it would be helpful to meet with you and CCW to confirm our views on cross boarder sites I am very happy to attend a meeting if required.

Given the stage at which the core strategy is at, Natural England welcomes the start of the habitat regulations assessment process at this time. The decisions in this assessment should feed back into the development of the core strategy and as preferred options and details of preferred options in the core strategy become clear, further assessments of impacts under the appropriate assessment can be undertaken where necessary.

In general Natural England agrees with the summary outcome of the screening report at this time, as detailed in section 3 “Summary of Findings”. In particular the decision that two European sites can be screen out at this stage. (Page 10 paragraphs 3.1 – 3.3).

I suggest that an additional table be included to give reasons why some sites are to be carries through to stage 2 of the appropriate assessment. The review of the regional spatial strategy does this. I would be happy to meet and discuss the “reasons” section of this table should you decide to include it. I believe it would help the assessment by allowing a focus on those vulnerabilities for each site, particularly for the more widely dispersed sites.

Specific comments

The use of the most up to date favourable condition tables for Sites of Special Scientific Interest, which also detail European and Ramsar interests, can be used in place of conservation objectives written for sites of international importance but when agreed in advance with Natural England. (ref your comments in paragraphs 2.15 and 2.18).

The possible effects on sites by plans and project proposals, usually termed “effect pathways”, are outlined in 2.20 and cover most of the pathways in Shropshire.

The relationship of the Core strategy and other plans, including the revision of the Regional spatial strategy, is important. Paragraph 2.24 is correct that whilst some broad targets are handed down to Shropshire Council, the habitat regulations assessment tests need to be applied to the broad targets, for example housing, and the decision on specific allocation and total numbers that can be accommodated without adverse effects on sites rests with Shropshire Council. (refer to the habitat regulations assessment of the RSS).

Appendix 1

No comments

Appendix 2 and 4

No comment

Appendix 4

General comments.

The tables all reflect the data on the JNCC web site concerning SAC and Ramsar sites. The details for all the sites in tables 1 to 12 appear correct and the advice on the tables below is mainly to help identify vulnerabilities.

<u>Table 1 Brown Moss.</u>

Vulnerabilities should include trampling which can increase water turbidity.

<u>Table 2 Downton George</u>

Vulnerabilities should include deer grazing. Water borne pollution is not considered a threat at this time.

Table 3 Fenn's and Whixall, Bettisfield, Wem and Cadney Mosses.

The section on vulnerabilities appears to be more a description of the history of the site and I suggest a different listing of vulnerabilities. "The site is vulnerable to air and water pollution. This leads to eutrophication and acidification of the habitats affecting plants and animals. There is also a risk of toxic contamination via air pollution. Changes in water levels and the flow of water can also lead to adverse effects. There is some evidence of siltation being an adverse effect on the site. Invasive species, native and non native, can have adverse effects."

Table 4 Fens pools

I suggest that the "reasons for designation" starts with "Annex II species that are the primary reason for select are Great crested Newts *Triturus cristatus*." Site vulnerability should include invasive species.

Table 5 Mottey Meadows

No comments

Table 6 River Clun

The vulnerability to sedimentation is a real issue; however the contribution to the rivers sediment load is not clearly attributable to any one source. I suggest removing the "ie" sentence up to the ";" , and including a statement like "sedimentation from various sources including intensive agriculture, bank erosion, storm water discharges and bank trampling by live stock".

Table 7 River Dee and Bala Lake

No comments

Table 8 River Wye

Please replace reference to English Nature with Natural England in the Vulnerabilities section. Diffuse pollution from sheep dip is considered a risk. Vulnerabilities should also include otter vulnerability to road traffic; changes to the water temperature; water acidification and eutrophication from air pollution; water turbidity caused by recreation, agricultural runoff, sewage disposal and industrial discharges; invasive species and recreation which can lead to trampling of the banks, siltation and also disturbance to otters.

Table 9 The Stiperstones and the Hollies

I would again suggest rewording the Vulnerabilities section " The site is vulnerable to air pollution which can lead to eutrophication and acidification. Physical damage from recreation could lead to damage."

Table 10 West Midland Mosses

I would suggest rewording the Vulnerabilities section. This SAC is a composite of a number of sites. I suggest the favourable condition tables are used to re draft the vulnerabilities for each part of the site.

Table 11 Midland meres and mosses (Ramsar phase 1)

I would suggest rewording the Vulnerabilities section. This Ramsar site is a composite of a number of sites. I suggest the favourable condition tables are used to re draft the vulnerabilities for each part of the site.

Table 12 Midland meres and mosses (Ramsar phase 2)

I would suggest rewording the Vulnerabilities section. This Ramsar site is a composite of a number of sites. I suggest the favourable condition tables are used to re draft the vulnerabilities for each part of the site.

As we have not yet provided you with the conservation objectives /favourable condition tables for some sites I will need to write to you further on some of the table amendments for tables 10 to12. I am sorry for this delay.

If you have any queries relating to the content of this letter, please contact me.

Yours sincerely

Eric Steer

Policy and Land management adviser

0300 060 0660 eric.steer@naturalengland.org.uk

Government and Planning Team West Midlands region

Cyngor Cefn Gwlad Cymru
Countryside Council for Wales

CADEIRYDD/CHAIRMAN: JOHN LLOYD JONES OBE
PRIF WEITHREDWR/CHIEF EXECUTIVE: ROGER THOMAS

Anfonwch eich ateb at/Please reply to:
Carol Fielding
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Rhanbarth De a Dwyrain / South & East Region
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Eddie West
Shropshire Planning Policy Team
Shropshire Council
Shirehall
Abbey Foregate
Shrewsbury
SY2 6ND.

9 April 2009

Dear Mr West

Shropshire Local Development Framework Core Strategy Development Plan
Habitats Regulations Assessment Screening Report

Thank you for giving the Countryside Council for Wales the opportunity to comment on the HRA Screening report for the Shropshire LDF Core Strategy. Our comments are made in the context of our responsibilities under the Conservation (Natural Habitats & c.) Regulations (as amended) and as advisers to the Welsh Assembly Government on the natural heritage of Wales and its coastal waters. It is not the responsibility of CCW to comment on aspects of Shropshire's LDF except where there are implications for Wales. Our specific comments are contained within Annex 1 to this letter.

CCW would suggest this HRA process needs to refer to and consider any cSACs and pSPAs, as well as Ramsar sites.

CCW has no record of being consulted over the Core Strategy. Clarification is required as to whether CCW have been consulted over both the Core Strategy and any stages of the SEA for this LDF. It is also noted that CCW have not been contacted in respect of the Conservation Objectives for European sites in Wales.

CCW has concerns regarding the use of an arbitrary spatial buffer zone. The potential for significant effects on European sites is not necessarily determined by proximity. Many European sites in Powys lie within the given 15km 'buffer' but have been left out of this assessment. These sites include the Montgomery Canal SAC, Granllyn SAC, Tanat and Vyrnwy Bat Sites SAC, Berwyn and South Clwyd Mountains SAC and Berwyn SPA. The Habitats Regulations require the identification of the potential to impact European sites, whatever the distance. This being the case, a number of additional sites, including Elenydd SAC and Rhos Goch SAC, are probably relevant in terms of air pollution.

Should you have any further queries regarding these comments, please do not hesitate to contact Carol Fielding at our Newtown office and/or Alison Brown at our Bangor Headquarters.

Yours sincerely

Dr M I Hill
Regional Manager
South and East Region

Annex 1
Shropshire Local Development Framework Core Strategy Development Plan Habitats Regulations Assessment Screening Report.

1.2: This section and the Habitats Regulations Assessment process should also consider cSACs and pSPAs.

2.5: CCW has no record of being consulted over Shropshire's Core Strategy. Clarification is required as to whether CCW have been consulted over both the Core Strategy and any stages of the SEA for this LDF. It is also noted that CCW have not been contacted in respect of the Conservation Objectives for European sites in Wales.

2.9: CCW should be consulted in all stages of the SEA process for this plan.

2.12: See comments on 1.2 above.

2.15: CCW notes that only Natural England have been consulted in respect of conservation objectives. All conservation objectives for Wales' European Sites are available on our website or on the JNCC website.

2.16: CCW has concerns regarding the use of an arbitrary spatial buffer zone. The potential for significant effects on European sites is not necessarily determined by proximity. Many European sites in Powys lie within the given 15km 'buffer but have been left out of this assessment. These sites include the Montgomery Canal SAC, Granllyn SAC, Tanat and Vyrnwy Bat Sites SAC, Berwyn and South Clwyd Mountains SAC and Berwyn SPA. The Habitats Regulations require the identification of the potential to impact European sites, whatever the distance. This being the case, a number of additional sites, including Elenydd SAC and Rhos Goch SAC, are probably relevant in terms of air pollution.

2.20: Reference should be made to ground level ozone.

2.23: Reference should be made to both the WMRSS and revisions e.g. Phase 2 Housing. A final version of the WMRSS Phase 2 HRA was issued in late March 2009 and should be considered in this assessment.

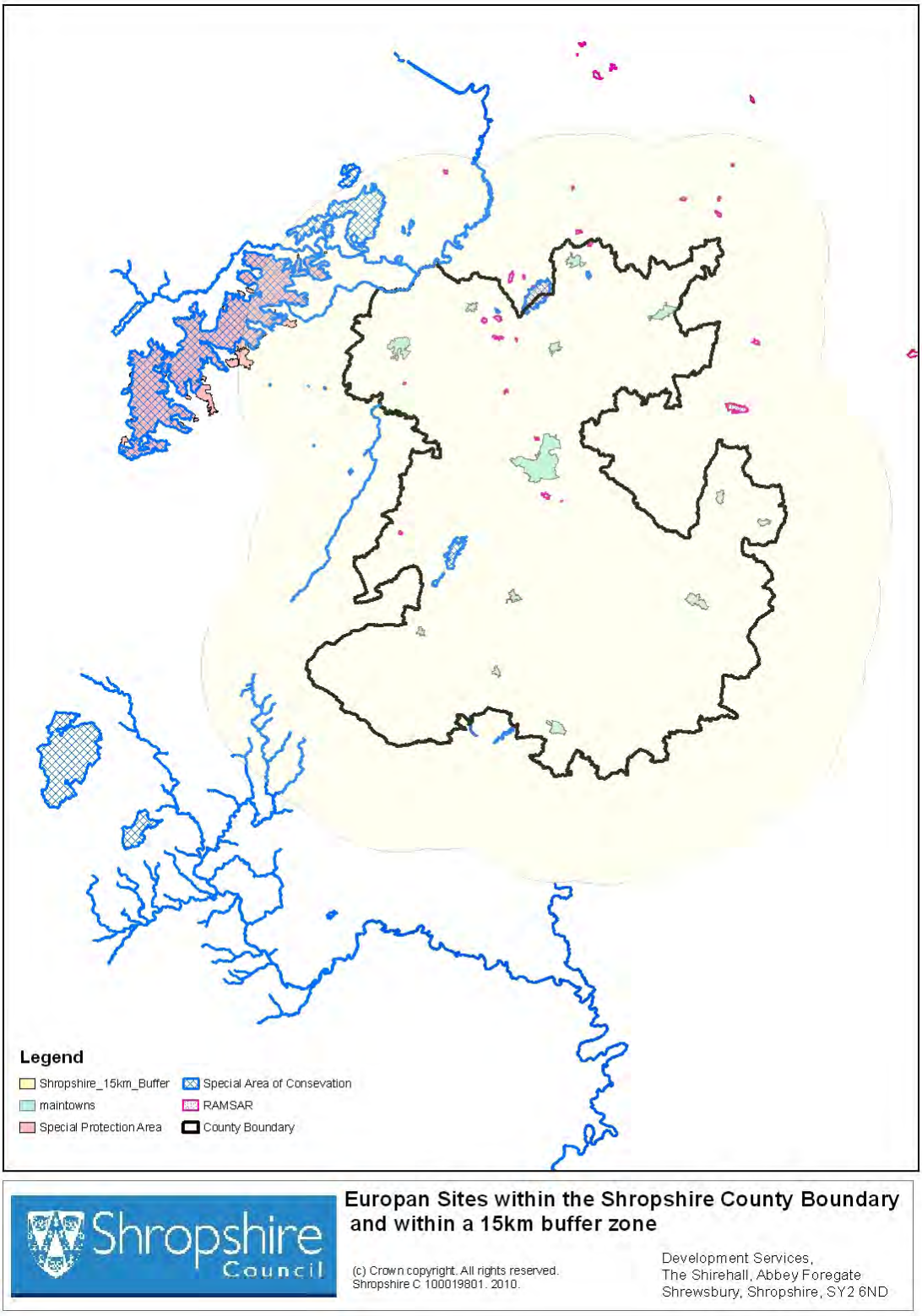
3.11: CCW would suggest that consideration be given to the Berwyn and South Clwyd Mountains SPA, the Elenydd SAC, Rhos Goch SAC within this HRA process. It is further noted that although the Dee and Wye SACs have been identified as being relevant, only the English sections of these sites have been included on maps within this document. In addition, only Natural England's conservation objectives have been included. The CCW conservation objectives for both these sites must be included and considered within this HRA process. See also our comments on 2.16.

Appendix 1;
Plans and projects with potential 'in combination' effects.
Consideration should be given to relevant Water Resource Management Plans (inlcuding their HRAs), the Wales Spatial Plan 2008, other relevant UDPs/LDPs and LDFs and waste plans. Consideration must be given to any policies, plans and/or

projects with relation to inland waterways and which might place additional development pressure on the Montgomery Canal SAC.
No reference has been made to potential 'in combination 'effects with any projects.

Appendix 2, Table 7 and 8
Although the Dee and Wye SACs have been identified as being relevant, only the English sections of these sites have been included on maps within this document. In addition, only Natural England's conservation objectives have been included. The CCW conservation objectives for both these sites must be included and considered within this HRA process.

Appendix 2: Map showing European Sites in Shropshire and those outside Shropshire with potential to be impacted by the Shropshire Core Strategy



Appendix 3: European Sites by County

Site Name	County
Berwyn SPA	Gwynedd / Powys / Wrexham / Denbighshire
Berwyn and South Clwyd Mountains SAC	Denbighshire / Gwynedd / Powys / Flintshire / Wrexham
Brown Moss SAC	Shropshire
Downton Gorge SAC	Herefordshire
Elenydd SAC	Ceredigion / Powys
Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SAC	Shropshire / Wrexham
Granllyn SAC	Powys
Johnstown Newt Sites SAC	Wrexham
Midland Meres & Mosses Ramsar – Phase 1	Shropshire / Clwyd / Cheshire / Staffordshire
Midland Meres & Mosses Ramsar – Phase 2	Shropshire / Clwyd / Cheshire / Staffordshire
Montomery Canal SAC	Powys
Rhos Goch SAC	Powys
River Clun SAC	Herefordshire
River Dee & Bala Lake SAC	Shropshire / Cheshire / Denbighshire / Gwynedd / Flintshire / Wrexham
River Wye SAC	Monmouthshire / Gloucestershire / Herefordshire / Powys
Tanat & Vrynwy Bat Sites SAC	Denbighshire / Powys
The Stiperstones & the Hollies SAC	Shropshire
West Midlands Mosses SAC	Shropshire / Cheshire / Staffordshire

Appendix 4: Site Tables for European Sites

The HRA Screening process for the Shropshire Core Strategy: Issues and Options identified the following European Sites as being relevant to the plan. The following tables provide detailed information on each European Site including: site name, location, conservation objectives (where known), site vulnerabilities and reasons for designation.

Please note that in some cases in England conservation objectives for the European Site could not be supplied by Natural England and the Definition of Favourable Condition for the SSSI has been provided for information following advice from Natural England. Where this is the case it is made clear in the tables below. It is hoped that Conservation Objectives for all European Sites will be available from Natural England prior to the full Appropriate Assessment stage.

The information has been sourced from the Joint Nature Conservation Committee (JNCC) website, Natural England (NE) and Countryside Council for Wales (CCW) both the CCW and NE websites and through direct enquiries.

This document lists European Sites within Shropshire and those within a 15km buffer of Shropshire. This buffer is indicative only and it must be understood that the HRA's of specific plans, projects and some documents within the LDF may occasionally need to consider sites not listed here.

Table 1: Berwyn SPA

Site Name: Berwyn SPA, SH 917280, Gwynedd / Powys / Wrexham / Denbighshire, Wales
Site Description: Berwyn is an extensive area of acidic North Wales upland, reaching an altitude of 827 m, straddling the Glyndwr, Montgomery and Meirionnydd districts of Clwyd, Powys and Gwynedd respectively. It comprises blanket mire and heather-dominated heath, with some acidic grassland and Bracken *Pteridium aquilinum* dominated areas. It is one of the largest and most important upland massifs of this type in Wales. It supports large and diverse assemblages of breeding upland birds, including raptors such as Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius* and Peregrine *Falco peregrinus*.

Conservation Objectives for SPA:

Hen Harrier The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

1. The size of the population must be being maintained at eleven breeding pairs or increased beyond this.
2. There will be sufficient appropriate habitat to support the population in the long-term including patches of tall heather available for nesting and roosting, areas grasslands, bracken of low trees/scrub for feeding with an adequate supply of prey species in the form of small birds and small mammals to maintain successful breeding.
3. Distribution of species within site is maintained.
4. Distribution and extent of habitats supporting the species is maintained.
5. Developments should not be permitted where they can be shown to have likely adverse impacts upon hen harrier.
6. Populations of legally controllable predator species, such as foxes and carrion crows, will not pose a threat to ground nesting birds.
7. Hunting territories will be managed by controlled grazing to improve structural diversity within the grasslands. This will increase seed production and maximise prey availability e.g. small passerines.
8. There will be no disturbance of any nest location.
9. Illegal human persecution of protected bird species should not occur.
10. All factors affecting the achievement of these conditions are under control

Merlin The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

1. The size of the population must be being maintained at 13 breeding pairs or increased beyond this.
2. There will be sufficient appropriate habitat to support the population in the long-term including patches of tall heather available for nesting and roosting, areas grasslands, bracken of low trees/scrub for feeding with an adequate supply of prey species in the form of small birds and small mammals to maintain successful breeding.
3. Distribution of species within site is maintained.
4. Distribution and extent of habitats supporting the species is maintained.
5. Developments should not be permitted where they can be shown to have likely adverse impacts upon merlin.
6. Populations of legally controllable predator species, such as foxes and carrion crows, should not pose a threat to ground nesting birds.
7. Adjoining hunting territories will be managed by controlled grazing to improve structural diversity within the grasslands.

This will increase seed production and maximise prey availability e.g. small passerines.
8. There will be no disturbance of any nest location.
9. Illegal human persecution of protected bird species should not occur.
10. All factors affecting the achievement of theses conditions are under control

Peregine The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The size of the population must be being maintained at 13 breeding pairs or increased beyond this.
2. Mountainous and moorland terrain with cliffs, crags and quarries for nesting and roosting plus grasslands, bracken of low trees/scrub for feeding with an adequate supply of prey species in the form of small birds and small mammals to maintain successful breeding.
3. The range of the population must not be contracting.
4. Distribution and extent of habitats supporting the species is maintained.
5. Developments should not be permitted where they can be shown to have likely adverse impacts upon peregrine.
6. Populations of legally controllable predator species, such as foxes and carrion crows, should not pose a threat to ground nesting birds.
7. Adjoining hunting territories will be managed by controlled grazing to improve structural diversity within the grasslands. This will increase seed production and maximise prey availability e.g. small passerines.
8. There will be no disturbance of any nest location.
9. Illegal human persecution of protected bird species should not occur.
10. All factors affecting the achievement of theses conditions are under control

Red Kite The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The size of the population must be being maintained at 2 breeding pairs or increased beyond this.
2. Sufficient Broadleaf woodland required for nesting and roosting plus heath and rough grassland for feeding with an adequate supply of prey species in the form of carrion, small birds and small mammals to maintain successful breeding. (NOTE: Red kite do not nest within the SPA.)
3. Developments should not be permitted where they can be shown to have likely adverse impacts upon red kite.
4. Adjoining hunting territories will be managed by controlled grazing to improve structural diversity within the grasslands. This will increase seed production and maximise prey availability e.g. small passerines.

5. There will be no disturbance of any nest location. 6. Illegal human persecution of protected bird species should not occur. 7. All factors affecting the achievement of theses conditions are under control	
Site Vulnerability: Persecution, habitat destruction, accidental nest destruction, poorly planned habitat management works, inappropriate grazing, lack of nest sites.	
Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Hen harrier *Circus cyaneus* Merlin *Falco columbarius* Peregrine *Falco peregrinus* Red kite *Milvus milvus*	Manage recreational access. Ensure habitat management works are appropriate. Keep grazing at appropriate levels.

Table 2: Berwyn and South Clwyd Mountains SAC

Site Name: Berwyn and South Clwyd Mountains SAC, SH 917280, Denbighshire / Gwynedd / Powys / Flintshire / Wrexham, Wales
Site Description: Berwyn is an extensive area of acidic North Wales upland, reaching an altitude of 827 m, straddling the Glyndwr, Montgomery and Meirionnydd districts of Clwyd, Powys and Gwynedd respectively. It comprises blanket mire and heather-dominated heath, with some acidic grassland and Bracken *Pteridium aquilinum* dominated areas. It is one of the largest and most important upland massifs of this type in Wales. It supports large and diverse assemblages of breeding upland birds, including raptors such as Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius* and Peregrine *Falco peregrinus*.
Conservation Objectives for SAC: **Blanket Bogs** The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: 1. There will be no measurable decline in blanket bog; the area of the habitat must be stable or increasing. 2. Dry blanket bog on moisture shedding ridges and slopes will be defined as ericoid (typically *Calluna*) dominated, with

clearly subordinate *Erica tetralix*. *Empetrum nigrum*, *Vaccinium vitis-idaea* and/or *V. myrtilus* will be present at high frequency. *Eriophorum vaginatum* typically constant but sometimes only at low cover – other graminoids are typically scarce. *Vaccinium oxycoccus* may sprawl over the thick bryophyte mat but other elements of "wet" bog such as *Narthecium* and *Drosera* are characteristically sparse. Hypnoid mosses (typically *Hypnum jutlandicum* and *Pleurozium schreberi*) often the dominant bryophyte component, and *Sphagna* where present most often represented by *Sphagnum capillifolium*.
3. Wet blanket bog on plateaux and col areas is characterised by a more even balance between *ericoids* and *graminoids*. *Eriophorum vaginatum* generally achieves a higher cover than in drier situations and *E. angustifolium* is constant. Representation of *Molinia caerulea* and *Trichophorum cespitosum* is variable according to past management and hydrology. Smaller elements such as *Vaccinium oxycoccus*, *Narthecium* and *Drosera* are typically present. Hypnoids and *Sphagnum capillifolium* may still comprise the main bryophyte element, but often joined by species of Sphagnum sect. Sphagnum.
4. All areas of blanket bog should exhibit a high water table just below the surface of the ground for the majority of the year and this consistent with continued peat formation.
5. In areas of wet bog in particular, the vegetation should develop or retain an irregular pattern with drier hummocks and wetter hollows.
6. The quality of blanket bog (including in terms of ecological structure and function) must be maintained.
7. Areas with habitats classed as degraded or modified blanket bog and bare peat should be restored to a more sustainable state by encouraging the growth of typical blanket bog vegetation and the blocking of drainage ditches.
8. Burning blanket bog will be discouraged as it retards the development of hummock & hollows as well as the development of more sensitive Sphagna.
9. There should be no moor drains or grips draining the peat body.
10. There should be no evidence of damage caused, for example, by active drainage or burning.
11. Any typical species must also be at FCS, as defined below.
12. Non-native plant species should be absent.
13. There should be no decline in the range or abundance of characteristic plant species and vegetation communities.
14. All factors affecting the achievement of these conditions are under control.

European Dry Heaths The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. There will be no measurable decline of dry heath area; the area of the habitat must be stable or increasing.

2. The European dry heath consists principally of NVC type H12 *Calluna vulgaris–Vaccinium myrtillus* heath, with frequent *Empetrum nigrum* and occasional *Vaccinium vitis-idaea*. Other heath vegetation present includes areas of H18 *Vaccinium myrtillus–Deschampsia flexuosa* heath and in some areas stands of damp H21 *Calluna vulgaris–Vaccinium myrtillus–Sphagnum capillifolium* heath. These latter heaths occur in an intermediate position between the drier heaths and blanket mire and support occasional plants of *Listera cordat.a*
3. Its quality (including in terms of ecological structure and function) must be being maintained.
4. The areas of heath vegetation should be retained and where possible permitted to re-establish on areas modified or degraded as a result of agricultural improvement, or through inappropriate management.
5. The dry heathland should have a diverse age structure in the heather and other shrubby plants.
6. Management will ensure the development of a mosaic of age structures through pioneer, building, mature to degenerate heather with at least 10% identified for no-management and allowed to develop through to maturity.
7. Management will not be undertaken within sensitive habitat areas.

8. Some native scrub development will be acceptable up to 10% cover with higher densities, up to 20% within e.g. identified black grouse management zones.
9. Heather and other plants should not exhibit signs of suppressed growth forms due to grazing.
10. There should be areas of long heather providing nesting habitat for ground nesting birds such as grouse, merlin and hen harriers; and areas of lower young heather, and wet flushes where birds can feed on heather shoots and invertebrates.
11. Non-native plant species should be absent.
12. Any typical species must also be at FCS, as defined below.
13. All factors affecting the achievement of these conditions are under control.

Semi-natural dry grasslands and scrubland facies: on calcareous substrates The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The extent of the calcareous and neutral grasslands should be maintained or increase in size at the expense of bracken, scrub and other more improved grasslands. No loss in extent is acceptable.
2. The calcareous grassland varies floristically. At low altitudes the sward of the calcareous grassland should be rich in calcicolous species such as *Carlina vulgare*, *Briza media* and *Sanguisorba minor*. Locally scarce species such as *Gymnadenia conopsea* and *Blackstonia perfoliata* should also be present. At higher elevations the calcareous sward has more acid species present. Along with the typical indicator species of calcareous grassland, acid loving species such as

Agrostis tenuis and *Potentilla erecta* are regular. Within the sward, fine leaved grasses and herb species like *Briza media*, *Carlina vulgaris* and *Thymus polytrichus* will be regular, although due to the upland nature of the site other more typically acid-loving herbs like heath *Galium saxatile* and *Campanula rotundifolia* may commonly occur. Though described as grasslands, more than half of the ground cover will consist of herbaceous species.
3. The limestone grassland areas will have a wide variety of plant communities with the limestone grasslands having those typical of thin, lime rich soils.
4. Grazing will be at levels that allow plants to flower and set seed whilst preventing the spread of trees and scrub.
5. Bracken will only be found in a few isolated patches at the perimeters.
6. Within the sward tree and scrub seedlings, and robust or tussock forming grasses such as *Dactylis glomerata*, and *Deschampsia cespitosa* are uncommon or at low cover. While weeds and other agriculturally favoured species such as *Lolium perenne*, *Urtica dioica*, *Cirsium arvensis* and *C. vulgare* are rare or absent.
7. Introduced species should be absent and control measures should be taken if any such species becomes established.
8. High levels of grazing results in localised soil erosion on steeper parts of the escarpment, which degrades some areas. However, grazing pressure should be sufficient to open small transient patches of bare ground within the sward providing a seed bed for the vascular plant species and suitable habitat for the diminutive bryophytes, macro-lichens and short-lived vascular plant species which are particularly characteristic of limestone grassland on the steeper, more exposed slopes.
9. On deeper soils south of the quarry acid grassland develops and in places forms a mosaic of habitats with the calcareous grassland. On these soils the spread of gorse and bracken should be controlled.
10. All factors affecting the achievement of these conditions are under control.

Transition mires and quaking bogs The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. There will be no measurable decline in Transition mires and quaking bogs; the area of the habitat must be stable or increasing.
2. Typically characterised by a range of low-growing sedges over an extensive carpet of *Sphagnum* bog mosses, accompanied by other mosses, rushes and some scattered herbs.
3. The water table is above the surface of the substrate, giving rise to characteristic floating mats of vegetation.
4. The vegetation normally has intimate mixtures of species considered to be acid-lovers and others thought of as lime-lovers.
5. There should be no moor drains or grips draining the mire.
6. There will be no threats to the transition mire habitat from burning or grazing.

7. There is no significant input of nutrient-rich water from ditches and surrounding land.
8. All factors affecting the achievement of theses conditions are under control.

Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii)* The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. There will be no measurable decline of habitat, the area of the habitat must be stable but due to its nature an increase in extent is unlikely.
2. The feature is typically characterised by sensitive pioneer species including maidenhair spleenwort, and bryophytes that are able to colonise the scree, as the crags and ledges provide shelter from grazing and frost action.
3. The flora representative of this feature reflects the base rich nature of the rocks including limestone, calcareous-schists and the more basic igneous rocks such as serpentine and basalt.
4. The scree community is important for the rich fern flora and acts as refugia for a number of rare species.
5. Light grazing will prevent the succession to scrub and minimise colonisation by species such as ash and hazel whilst not damaging the feature through overgrazing.
6. The scree will remain largely undisturbed by human activity and the depositional slopes will continue to accumulate small amounts of scree. The vegetation is only likely to be truly representative of this feature where it occurs on stable scree on less steep slopes where the vegetation can accumulate.
7. The existing diversity of species in each of the above communities should be maintained.
8. There will be no reduction in extent as a result of undesirable human activity such as afforestation, quarrying, climbing or civil engineering works.
9. The use of herbicides, such as Asulox to control the spread of bracken, should be restricted to areas where they will not adversely impact the feature.
10. Only native species should be present.
11. All factors affecting the achievement of theses conditions are under control.

Calcareous rocky slopes with chasmophytic vegetation The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. There will be no measurable loss of habitat, the area of the habitat must be stable but due to its nature an increase in extent is unlikely.
2. The chasmophytic vegetation will consist of plant communities colonising cracks and fissures of rock faces. The type of plant communities developing will be largely determined by the base-status of the rock face.

3. The chasmophytic vegetation is usually dominated by ferns such as *Asplenium ruta-muraria* and small herbs such as *Thymus praecox* and *Hieracium spp*. The inaccessibility of rock habitats to grazing animals, specially rock ledges provides a refuge for many vascular plants that are sensitive to grazing, including numerous local and rare species. 4. Bryophytes and crustose lichens should form a dominant component in crevices but are also found on open rock surfaces where there is a lack of competition form vascular plants. Ledge communities are recognised as part of the feature on the site due to the spectacular stepped topography. 5. Grass benches should be floristically diverse supporting species characteristic of the feature such as *Campanula rotundifolia, Centaurea nigra and Dryopteris spp*. 6. The existing diversity of species in each of the above communities should be maintained. 7. Only native species should be present. 8. Chasmophytic vegetation and grass benches vegetation will not exhibit signs of overgrazing. 9. There will be no reduction in extent as a result of undesirable activities such as quarrying. 10. Small scale excavations may enhance the interest of the site by providing additional exposures but would be deleterious to the highly vulnerable scree and clitter slopes. 11. The use of herbicides, such as Asulox, to control the spread of bracken should be restricted to areas where they will not adversely impact the feature. 12. All factors affecting the achievement of these conditions are under control.
Site Vulnerability: The blanket bog, heaths, fens, and grasslands have been threatened by inappropriate agricultural development including drainage, reseeding, application of fertilisers, burning, track construction and the adoption of damaging grazing regimes. Some areas of grassland and heath are also threatened by the encroachment of bracken. These problems are being addressed successfully by means of management agreements with owners and occupiers and through joint agreements with the Tir Gofal scheme. Local tourist pressure and damage by recreational vehicles can cause erosion problems. This is being addressed by visitor management and wardening as well as positive management works of vegetation reinstatement on eroded areas.

Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I habitats that are a primary reason for selection of this site: Blanket bogs and European dry heaths	Control of tourist pressure and access Appropriate management/grazing Limitation of erosion
Annex I habitats present as a qualifying feature but not a primary reason for the selection of this site: Semi-natural dry grasslands and scrubland facies: on calcareous substrates, Transition mires and quaking bogs, Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolii),* Calcareous rocky slopes with chasmophytic vegetation	

Table 3: Brown Moss

Site Name: Brown Moss SAC, SJ561394, Shropshire, England.
Site Description: Brown Moss (32.02ha) is a series of pools set in heathland and woodland. The site is of special importance for the marsh, swamp and fen communities associated with the pools which occupy hollows in the sand and gravel substrate.
Conservation Objectives for SAC: NE to supply.
Definition of Favourable Condition for Brown Moss SSSI: Subject to natural change, to maintain, in favourable condition, the habitat for the internationally important population of Floating Water Plantain (*Luronium natans*), with particular reference to the standing open water. (Maintenance implies restoration if the feature is not currently in favourable condition).
Site Vulnerability: Colonisation by trees is being addressed but continues to be of concern due to the shading, nutrient and hydrological effects on the open water and heathland.

The presence of *Crassula helmsii* is a threat to *Luronium natans* and various control mechanisms are being explored.	
Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex II Species that are a primary reason for selection of site: Floating Water Plantain *Luronium natans.*	Sensitive to tree colonisation. Shading, nutrient and hydrological impacts on open water & heathland. Threat from changes in grazing regime.

Table 4: Downton Gorge

Site Name: Downton Gorge SAC, SO443743, Herefordshire, England.	
Site Description: Downton Gorge (69.3ha) lies on a stretch of the River Teme, it is an example of ancient semi-natural woodland with steep ravines and dingles occurring in side valleys. The site includes several nationally scarce types of woodland and is important for a range of species including ferns.	
Conservation Objectives for SAC: NE to supply.	
Definition of Favourable Condition for Downton Gorge SSSI: To maintain, in favourable condition, the *Tilio-Acerion* ravine forest. (Maintenance implies restoration if the feature is not currently in favourable condition).	
Site Vulnerability: The site is potentially vulnerable to the effects of air- and water-borne pollution, particularly in respect of its significant lichenological interest. However these effects are not related to the management of the site.	
Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I Habitats that are a primary reason for selection of site: *Tilio-Acerion* forests of slopes, screes and ravines.	Monitoring and control of air and water borne pollution.

Table 5: Elenydd

Site Name: Elenydd SAC, SN824704, Ceredigion / Powys, Wales.
Site Description: The Elenydd – Mallaen area occupies the southern section of the Cambrian Mountains in central Wales, stretching from the upper Cothi and Tywi valleys north-west of Llandovery to the Ystwyth, Elan and Wye valleys in the north. These hills are built of rocks of Silurian and Ordovician age and the landforms are typical of the 'slate uplands' of south-central Wales, with plateaux separated by steep-sided valleys. Elenydd is located in the centre of this area. It is one of the most important areas of hill land in Wales for nature conservation and is of outstanding interest for its range of breeding birds. Much of the hill vegetation is also of special interest. Elenydd is important in Mid Wales for its nutrient-poor upland lakes. The area supports a wide variety of uncommon plants and animals.
Conservation Objectives for SAC: **Blanket Bogs** The extent, quality and diversity of blanket bog vegetation within the constituent sites is maintained and, where possible, degraded bog is restored to good condition. 1. Populations of uncommon bog plants, such as tall bog-sedge, slender sedge, magellanic bog-moss and round-fruited collar-moss, are stable or increasing. 2. The bogs continue to provide suitable habitat for breeding birds, including golden plover, dunlin and red grouse, and invertebrates, such as large heath butterfly. 3. Peat profiles containing important pollen records are maintained. 4. All factors affecting the achievement of these conditions are under control. **European Dry Heaths** The extent, quality and diversity of heath vegetation within the constituent sites is maintained and, where possible, degraded heath is restored to good condition. 1. The main heathland areas have a varied age structure with a mosaic of young heath, mature heath and degenerate heath. 2. Sunny slopes in certain areas support vegetation that includes bell heather and western gorse and steep north and east facing slopes have a rich variety of mosses and liverworts beneath the dwarf shrub canopy, including bog mosses in some areas.

3. Populations of uncommon plants, such as lesser twayblade, are stable or increasing.
4. The larger heathland areas provide suitable habitat for breeding birds, including red grouse and merlin.
5. All factors affecting the achievement of these conditions are under control.

Calaminarian grasslands of the *Violetalia calaminariae* The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The habitat covers at least its current measured area.
2. Lichens dominate large blocks of metal rich spoil from mine workings, tips, walls and other built structures.
3. Lichens, mosses, ferns and a few higher plants such as sea campion are present on rock outcrops in cliffs, open cuts and about the entrances to shafts and adits.
4. On open, usually level ground, plant communities are found represented by the moss genus *Weissia* and a range of crustose metallophyte lichens. The moss *Ditrichum plumbicola* and sea campion occur in the most base-rich areas, usually associated with scattered lime mortar from adjacent buildings.
5. Heath, shrub, trees or other woody species are scarce or absent
6. Light grazing prevents the growth of tall herbs, scrub and woodland. Grazing levels are carefully managed to avoid undesirable levels of ground disturbance.
7. Areas of disturbed bare ground occupy less than 10% of potential areas that could be occupied by this habitat.
8. There is less than 1% cover of non-native plants.
9. There is no newly dumped material.
10. The habitat is spreading gradually across this extensive site wherever suitable conditions exist.
11. All factors affecting the achievement of these conditions are under control.

Oligotrophic to mesotrophic standing waters of the *Isoeto-Nanojuncetea* The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The plan area contains several upland lakes with mildly acidic, nutrient-poor (oligotrophic) water and fairly stoney beds. Water plants found here include shoreweed, water lobelia, alternate watermilfoil, quillwort, spring quillwort, bulbous rush, floating bur-reed, broad-leaved pondweed, intermediate water-starwort and water moss.
2. Fully developed oligotrophic lake vegetation is present in each of the lakes, including all of the component species typical of the SAC feature, as represented in the Elenydd SAC.
3. For each of the lakes where it occurs, the extent and species composition of the oligotrophic lake vegetation is stable or

increasing in range and/or diversity.
4. The rare stonewort *Nitella gracillis*, scarce six-stamened waterwort and awlwort are found in Llyn Gynon. Six-stamened waterwort is also found growing in shallow water on the stony bed of Dolymynach Reservoir.
5. Populations of these water plants are all stable or increasing and the water quality of the lakes remains suitable for their survival in the long term.
6. Plants indicating unfavourable condition for this feature e.g. filamentous algae associated with eutrophication and invasive non-native species will absent or maintained or restored below an acceptable threshold level.
7. With the exception of Dolymynach Reservoir, near-natural hydrological and geomorphological processes and forms will be operating in the lakes e.g. water levels, water depth, stability of bed substrate, with no artificial regulation of water levels or altered sediment regimes.
8. Low nutrient and shade levels are maintained.
9. All factors affecting the achievement of these conditions are under control.

Floating Water Plantain The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The floating water-plantain populations are viable throughout their current distribution in the plan area (maintaining themselves on a long-term basis), namely in Llyn Cerrigllwydion Uchaf, Llyn Cerrigllwydion Isaf, Gwynllyn and Llyn Gynon.
2. Each floating water-plantain population will be able to complete sexual and/or vegetative reproduction successfully.
3. Potential for genetic exchange between floating water-plantain populations, in and/or outside the plan area, will be evident in the long-term.
4. Near-natural hydrological and geomorphological processes and forms will be operating in the 4 lakes e.g. water levels, water depth, stability of bed substrate, with no artificial regulation of water levels or altered sediment regimes.
5. Low nutrient and shade levels will be maintained, with no species present indicative of unfavourable conditions e.g. filamentous algae.
6. The dispersal of floating water plantain will be unhindered.
7. There will be no non-native invasive species present.
8. All factors affecting the achievement of the above conditions are under control.

Site Vulnerability: Erosion, burning, water abstraction, nitrogen & acid deposition, scrub encroachment, afforestation, water pollution, invasive plant species.

Reason for Designation	Environmental Conditions Needed to Support Site Integrity
Annex I Habitats that are a primary reason for selection of site: Calaminarian grasslands of the *Violetalia calaminariae*, Blanket bogs	Maintain water quality and level. Manage scrub encroachment.
Annex I Habitats present as a qualifying feature but not a primary reason for selection of site: Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoeto-Nanojuncetea*, European dry heaths.	Control pollution. Control and manage recreational access.
Annex II species that are a primary reason for selection of this site: Floating Water Plantain *Luronium natans*	Control introduced species.

Table 6: Fenn`s, Whixall, Bettisfield, Wem and Cadney Mosses

Site Name: Fenn`s, Whixall, Bettisfield, Wem and Cadney Mosses SAC, SJ487364, Shropshire / Wrexham, England / Wales.
Site Description: Fenn`s, Whixall, Bettisfield, Wem and Cadney Mosses (949.2ha) together form an outstanding example of lowland raised mire. The site as a whole supports a wide range of characteristic acid peat bog vegetation including thirteen species of *Sphagnum* moss, which represent successional stages in the development of a raised mire.
Conservation Objectives for SAC: NE to supply.
Definition of Favourable Condition for Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SSSI: To maintain, in favourable condition, the active raised bogs and degraded raised bogs still capable of natural regeneration on the site.
Site Vulnerability: The lowland raised mire is dependent upon high water levels and a continuation of active peat-forming processes.

Much of the site is subject to mineral planning consents for peat extractions which are currently being reviewed. The site has a history of peat-cutting and until recently, part of the site has been subject to large-scale commercial extraction, involving drainage over much of the peat body. Afforestation and agricultural improvement on marginal areas of the peat body have accelerated the lowering of water levels, resulting in encroachment by scrub and a decline in the extent of peat-forming communities.

A greater part of the site is now owned, leased or managed under agreement by conservation organisations. Within these areas, mire rehabilitation management is taking place under the guidance of a management plan.
It is intended to seek to increase the areas under positive conservation management by implementation of the joint Countryside Council for Wales/English Nature acquisition strategy.

Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I Habitats that are a primary reason for selection of site: Active raised bog.	Maintenance of high water levels.
Annex I Habitats present as a qualifying feature but not a primary reason for selection of site: Degraded raised bogs still capable of natural regeneration.	Sensitive to afforestation and changing agricultural practices.

Table 7: Granllyn

Site Name: Granllyn SAC, SJ 224115, Powys, Wales
Site Description: Breeding population of Great Crested Newts (Triturus cristatus) for which this was, at the time of notification, the largest population in mid-Wales and one of the most important areas in Europe for this species. The site is situated in the village of Guilsfield just outside of Welshpool on the Mid Wales border. The site is made up of two water bodies Granllyn Pool and The Moat that act as breeding sites for the great crested newts. The Granllyn Pool is a kettle formation with a peat soil and pond bottom. Surrounding these water bodies the rest of the site in composed of generally

improved and well-grazed pasture. The exception to this being the grassland surrounding the Granllyn Pool (the main breeding site) which was planted up in 2004 to form a community woodland site. There is a wet juncus area in the northern most pasture of the Moat & Field (unit 2). Small blocks of woodland, hedgerows, minor roads, a cemetery and orchard are also included within the site boundary.

Conservation Objectives for SAC:

Great Crested Newts The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

1. No less than 100 great crested newts are present on the site.
2. At least 2 display/breeding ponds are to be found throughout the entire site.
3. Great crested newt larvae are found in Granllyn Pool breeding ponds in at least one out of every two years.
4. The newt display/breeding ponds have a water depth of 10cm of more during the summer months.
5. Native macrophytes cover no more than 75% of pond/water body surfaces. Aquatic marginal vegetation is present around the pond edges.
6. Breeding/display ponds are not be heavily shaded by surrounding bank-side vegetation.
7. Algal blooms and surface sheens are absent from display/breeding ponds.
8. Fish are not present in breeding/display ponds supporting great crested newts.
9. Only small numbers of water and wildfowl can be seen on the ponds.
10. The terrestrial habitat surrounding breeding ponds comprise of refuge areas, foraging areas, hibernacula and corridors that aid the dispersal of great crested newts. If these features are not present the conservation management aim will be to provide them.
11. Off site habitats that function as stepping stone or corridors located between SAC compartments are maintained for migration, dispersal; foraging and genetic exchange purposes.
12. All factors affecting the achievement of the above conditions are under control.

Site Vulnerability: Invasive plants, dominant emergent species and trees, introduction of predators (fish), waterborne pollution, lack of terrestrial habitats, development and recreational use.

Reason for Designation	Environmental Conditions Needed to Support Site Integrity
Annex II species that is a primary reason for selection of this site: Great crested newt *(Triturus cristatus)*	Appropriate pond management. Maintenance of water quality. Scrub/tree management.

Table 8: Johnstown Newt Sites

Site Name: Johnstown Newt Sites SAC, SJ 310466, Wrexham, Wales
Site Description: The site is located in the environs of the village of Johnstown, south west of Wrexham, at an altitude of 130m above mean sea level. It is of special interest for its population of the great crested newt *Triturus cristatus*. This species has suffered a marked decline throughout Great Britain and Continental Europe as a result of habitat loss. Great Britain is considered to support one of the strongholds for this species in Western Europe. The Bettisfield Formation feldspathic sandstone and coal measures underlie the site and a number of capped mine shafts are present within the boundaries of the site. Where present, natural soils are of over-consolidated till (boulder clay) origin. The majority of the water bodies originated following the cessation of mineral extractive industries including coal mining and quarrying for clay and associated industrial developments. Certain ponds, particularly at Hafod, were specifically created for amphibian conservation purposes. Surrounding areas of land support a mosaic of scrub and planted trees, grassland, and tall ruderal vegetation. These form important foraging and over wintering areas for adult and juvenile amphibians.
Conservation Objectives for SAC: The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: 1. No less than 300 great crested newts will be present on the site 2. At least 30 display/breeding ponds will be found throughout the entire site 3. Great crested newt larvae will be found in 7 or more of the breeding ponds

4. Half of the display/breeding ponds on the site will have a water depth of 10cm of more during the summer months. 5. Native macrophytes will cover at least half of the pond surface yet some of the water surface will still remain open. 6. Aquatic marginal vegetation will be present around the ponds 7. Breeding/display ponds will not be heavily shaded by surrounding vegetation 8. Algal blooms and surface sheens will be absent from display/breeding ponds 9. Fish will not be present in breeding/display ponds which support great crested newts 10. Only small numbers of water and wildfowl will be seen on the ponds 11. The terrestrial habitat surrounding breeding ponds will comprise of refuge areas for newts, foraging areas, areas of hibernacula and corridors which will aid the dispersal of great crested newts 12. Off site habitats that function as stepping stone or corridors located between SAC compartments will be maintained for migration, dispersal, foraging and genetic exchange purposes 13. Off-site features that impact on successful dispersal, such as roadside gully-pots, will not be subject to future construction 14. Non-native aquatic species will not be present 15. Amphibian chytridiomycosis will not be present 16. All factors affecting the achievement of the foregoing conditions are under control.
Site Vulnerability: The important great crested newt populations are dependent on the preservation of suitable aquatic and terrestrial habitat. These are vulnerable to destruction and inappropriate management. Situated in the urban fringe, these post-industrial sites are subject to threat from unregulated public access, fly-tipping and pollution. They are also subject to pressures for development. Management agreements and acquisition by public bodies has secured appropriate management of some areas. Close liaison with planning authorities and the provision of site wardening are controlling many of the pressures. Habitat management is underway on areas owned by the local authority to secure optimum habitat conditions.

Reason for Designation	Environmental Conditions Needed to Support Site Integrity
Annex II species that are a primary reason for selection of this site: Great crested newt *Triturus cristatus*	Management of pollution and fly-tipping. Management of development. Management of recreational pressure.

Table 9: Montgomery Canal

Site Name: Montgomery Canal SAC, SJ220058, Powys, Wales
Site Description: The Montgomery Canal is a partially restored but largely unused waterway. It runs for approximately 36 kilometres from near berbechan (three kilometres north-east of Newtown) to the English border at Llanymynech. It also has a small number of linked off-line reserves (kept as small individual management units); these were created to protect examples of the habitats and species found in the canal when restoration of the canal was started in the 1970s. It supports the largest, most extensive population of floating water-plantain *Luronium natans* in lowland Britain. This is a semi-natural population, having colonised from drift material or seed but needing periodic human disturbance for continued growth; in this respect the canal is a substitute for the species' former slow-moving, mesotrophic river niche, which has been largely destroyed in lowland Britain. The floating water-plantain is just one of a number of species of submerged, floating and marginal plant species that make up the canal habitat SSSI feature. This habitat is distributed along the entire length of the canal within the SSSI; the interest and quality varies from species-poor to species rich, depending a number of factors, including water depth and management frequency.
Conservation Objectives for SAC: The vision for this feature is to maintain the extent and distribution of *L. natans* within the Montgomery Canal at favourable conservation status, where all of the following conditions are satisfied: 1. The *L. natans* population in favourable condition will reflect the natural carrying capacity of the canal habitat and will be

limited principally by species ability to spread or be relocated (vegetative or otherwise), the suitability of the rooting medium and competition between species as part of habitat succession.
2. Recreation pressure, principally through boat movements and fisheries management, will not significantly affect the maintenance of the species, or its ability to disperse throughout the canal network and any associated off-line reserves.
3. The ecological status of the water environment, including elements of water quality and physical habitat quality, will be sufficient to support the population of *L. natans* in favourable condition.
4. All factors affecting the achievement of the above conditions are under control.

Site Vulnerability: Enrichment through agricultural or domestic nutrient inputs is a likely threat as this could affect the populations of floating water-plantain. Several sections of canal currently suffer from lack of management. CCW will liase with owners and occupiers to achieve an appropriately scaled and timed management. To ensure that bank protection and other engineering works are undertaken in a sensitive manner, CCW will liase with competent and relevant authorities to agree on appropriate methods and practices. For example, the mowing of terrestrial and marginal vegetation would not harm aquatic plants but herbicide run-off from the towpath could be a problem.

The effects of boat traffic on populations of floating water-plantain are uncertain and are being investigated by British Waterways. It is certain that the species will be detrimentally affected above a certain point as the actions of propeller/wash will detach floating leaves and create turbidity which will reduce light transfer to submerged leaves.

The population of floating water-plantain is vulnerable to colonisation by aggressive species which can have an impact on the canal's ecology, through blanket coverage of the canal channel and increased nutrient input because of a large leaf biomass. The introduction of certain fish species could also damage aquatic plant populations.

Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex II species that are a primary reason for selection of this site: Floating Water Plantain *Luronium natans.*	Dredging to prevent siltation. Maintenance of water quality.

Table 10: Rhos Goch

Site Name: Rhos Goch SAC, SO197483, Powys, Wales.
Site Description: The central core of the site comprises Rhos Goch National Nature Reserve (NNR), a peat bog that has developed in a small glacial lake basin to the north of Hay-on-Wye in Powys. The site also includes surrounding wet meadows and patches of woodland forming part of the "lagg zone" of the bog. The site is the source of two streams, the Cwm-illa Brook (which flows north-east towards the River Arrow) and the Bach Howey (which flows south-west towards the River Wye).
Conservation Objectives for SAC: Active raised bogs The vision for this feature is for it to be in a favourable conservation status within the site, where all of the following conditions are satisfied: 1. Raised bog habitat with only a few scattered trees covers at around 20 % of the site. 2. The bog surface consists of a series of pools and hummocks. 3. The drier hummocks support heather, hare's-tail cottongrass, cross-leaved heath and purple moor-grass, while the pools are dominated by common cottongrass and bog-mosses. 4. Purple moor-grass is not overwhelmingly dominant on the raised bog. 5. Scattered birch trees and willow scrub, where present, do not form a closed canopy. 6. There is no significant bracken encroachment around the bog edges or on the bog dome. 7. Water levels on the bog remain high throughout the year. 8. The vegetation is not affected by atmospheric pollution. 9. All other factors affecting the achievement of the foregoing conditions are under control. **Transition mires and quaking bogs** The vision for this feature is for it to be in a favourable conservation status within the site, where all of the following conditions are satisfied: 1. "Transition mire", comprising basin bog and swamp vegetation, with some scattered trees and scrub, covers at around 10% of the site. 2. There is a broad zone of "transition mire" extending to at least 6 ha on the southwest side of the raised bog dome (unit 1), with smaller patches of similar vegetation close to the main ditches in Portway meadows (unit 2). 3. Areas closest to the raised bog have vegetation that is characteristic of more acidic conditions, with plants such as sedges, common cottongrass, marsh cinquefoil, soft rush, water horsetail and marsh pennywort over carpets of bog-

mosses.
4. In the central zone of this transition mire, bog-mosses are gradually replaced by others, such as bog groove-moss and spear-mosses, with a greater range of other typical “poor-fen” plants, including bogbean, water mint, bog pondweed, marsh marigold, lesser spearwort, common marsh-bedstraw and forget-me-nots.
5. The areas furthest from the raised bog support additional plants that are found in more nutrient rich swamps, including common spike-rush, bulrush, lesser pond-sedge, greater tussock-sedge, gipsywort and the locally rare greater spearwort. Here the taller swamp plants form a dense canopy during the summer months but the water beneath supports floating plants such as floating club-rush, ivy-leaved duckweed and bladderwort.
6. There are large patches of rusty willow scrub but they occupy less than 10% of the south western bog transition zone in total and the willow and birch trees are not encroaching into the open bog and swamp areas.
7. Plants indicating high nutrient levels and disturbance, such as floating sweet-grass and creeping buttercup, may be prominent at the edges of the common but these plants are uncommon in the central wetland areas.
8. There are poached areas with sparse vegetation, where grazing animals roam, but these cover less than 5% of the swamp zone in total.
9. Water levels are maintained so that surface water is present throughout the year.
10. There is no significant input of nutrient-rich water from ditches and surrounding land.
11. All other factors affecting the achievement of the foregoing conditions are under control.
12. There are good populations of wetland breeding birds, including water rail, snipe, sedge warbler and reed bunting.

Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* The vision for this feature is for it to be in a favourable conservation status within the site, where all of the following conditions are satisfied:
1. Around 20% of the site supports alluvial forest.
2. The majority of this woodland is found in the “lagg zone” of the raised bog around the northeastern edge of the common (unit 1). With small patches within the meadows at Portway (unit 2), Dol-y-cannau (unit 3) and Cefn-y-blean (unit 5).
3. The tree canopy consists of mixtures of downy birch, alder and rusty willow, with some ash and aspen in places.
4. The ground flora consists of a variety of wetland plants, including common reed, greater tussock sedge, purple moor-grass, meadowsweet, hemp-agrimony, bittersweet, soft rush, opposite-leaved golden-saxifrage and marsh marigold.
5. The woodland is maintained as far as possible by natural processes.
6. The canopy is fairly even but there occasional gaps where trees have died.
7. The location of open glades varies over time.

8. Standing and fallen dead wood is plentiful.
9. Non native trees and shrubs, such as Scots pine and sycamore, are rare.
10. Plants indicating high nutrient levels, such as common nettle, bramble, cleavers and creeping buttercup, occur locally but are nowhere overwhelmingly dominant.
11. Plants indicating surface drying, such as purple moor-grass, bracken and bramble, do not dominate the woodland ground flora.
12. Grazing is light enough to allow regeneration of trees and shrubs.
13. Water levels are maintained so that surface water is present throughout the year.
14. There is no significant input of nutrient-rich water from ditches and surrounding land.
15. All other factors affecting the achievement of the foregoing conditions are under control.
16. The woodland supports populations of typical breeding birds.

Bog Woodland The vision for this feature is for it to be in a favourable conservation status within the site, where all of the following conditions are satisfied:
1. Around 10 - 15 % of the site supports bog woodland.

2. All of this woodland occurs in patches around the edges of the raised bog or in the adjacent “lagg zone” around the north-eastern edge of the common.
3. The tree canopy consists of mainly downy birch on the bog surface and mixtures of downy birch, rusty willow and alder in the lagg zone.
4. The ground flora generally consists of purple moor-grass and common reed over carpets of bogmosses. Other typical plants found here include marsh cinquefoil, water horsetail, lady fern, bilberry and velvet bent grass. Royal fern is abundant in some areas.
5. The woodland is maintained as far as possible by natural processes.
6. The canopy may be fairly open, particularly on the raised bog dome, with large glades.
7. The location of open glades may vary over time.
8. Standing and fallen dead wood are common in places.
9. Non native trees and shrubs, such as Scots pine, are rare.
10. Plants indicating high nutrient levels, such as common nettle, bramble, cleavers and creeping buttercup are absent.
11. Plants indicating surface drying, such as bracken, do not dominate the ground flora.
12. Grazing is light enough to allow some regeneration of trees and shrubs.

13. Water levels are maintained so that water table is at or close to the surface throughout the year.
14. All other factors affecting the achievement of the foregoing conditions are under control.

Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caereleae) The vision for this feature is for it to be in a favourable conservation status within the site, where all of the following conditions are satisfied:
1. Species-rich "fen-meadow" vegetation occupies between 6 and 10% of the site in total.
2. A large part of Portway meadows (unit 2) support this vegetation and there are other patches on the drier ground at the south-west end of the common (unit 1), Llanshiver (unit 4) and Cefn-yblaen (unit 5).
3. The vegetation consists of mixtures of purple moor-grass and sharp-flowered rush, with a wide variety of other plants, including devil's-bit scabious, meadow thistle, fen bedstraw, marsh valerian, flea sedge, quaking grass, cross-leaved heath, tawny sedge and marsh orchids.
4. Purple moor-grass and rushes are not completely dominant and there is no significant accumulation of dead vegetation from year to year.
5. Plants indicating disturbance and nutrient enrichment, such as Yorkshire fog, floating sweetgrass, rough-meadow grass, marsh thistle, creeping buttercup and cleavers are not prominent in these areas.
6. The fen meadow areas may have scattered trees or bushes but are generally free from dense or invading scrub.
7. Some bare ground is present but cattle poached areas are not extensive.

8. Water levels are maintained so that the water table is close to the surface throughout the year but these areas are not subject to regular flooding.
9. There is no significant input of nutrient-rich water from ditches and surrounding land.
10. All other factors affecting the achievement of the foregoing conditions are under control.
11. There are good populations of wetland breeding birds, such as snipe and lapwing.

Site Vulnerability: Scrub encroachment, afforestation, water abstraction, atmospheric pollution, over grazing.

Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I Habitats that are a primary reason for selection of site: Active raised bogs, Transition mires and quaking bog	Control of atmospheric pollution and deposition.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caereleae),* Bog woodland, Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae).*	Scrub management. Maintenance of appropriate grazing regime.

Table 11: River Clun

Site Name: River Clun SAC, SO393754, Herefordshire, England.
Site Description: River Clun (14.93ha) supports a significant population of Freshwater Pearl Mussel *Margaritifera margaritifera.*
Conservation Objectives for SAC: NE to supply.
Definition of Favourable Condition for River Teme SSSI which contains the River Clun SAC: To maintain, in favourable condition, the habitats for the population of Pearl Mussel (*Margaritifera margaritifera)*. (Maintenance implies restoration if the feature is not currently in favourable condition).
Site Vulnerability: *Margaritifera margaritifera* is dependent on low sediment and nitrate levels, fast flows of cool water and clean gravels. It is also relies on the presence of trout for part of its breeding cycle. Intensification of agriculture across the catchment is a significant threat to the long-term survival of the isolated population at this site i.e. enhanced sedimentation through poor agricultural practice leading to smothering of adult and juvenile mussels; eutrophication of waters through fertiliser run-off from adjacent land. In addition upstream domestic sewage treatment works are believed to give a significant nutrient loading. Recent increase in the occurrence of alder disease also poses a risk through loss of shading bankside tree cover. Some of these issues will be addressed by revised authorisation, Review of Consents /AMP 4 processes. Sustainable agricultural management is being promoted via production of Whole Farm Plans, Environmentally Sensitive Area

Agreements and Countryside Stewardship Agreements for landowners within the catchment.	
Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex II Species that are a primary reason for selection of site: Freshwater pearl mussel *Margaritifera margaritifera*	Maintain good water quality (limit pollution and sedimentation, particularly from agricultural run off). Maintain salmonid populations. Maintain riparian vegetation.

Table 12: River Dee and Bala Lake (England)

Site Name: River Dee and Bala Lake SAC, SJ423503, Cheshire / Denbighshire / Gwynedd / Shropshire / Flintshire / Wrexham, England / Wales.
Site Description: River Dee and Bala Lake (1308.92) is an important example in England of water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. It supports populations of Sea Lamprey and Floating Water Plantain which are important in England and significant populations of several fish species and otter *Lutra lutra*.
Conservation Objectives for SAC: NE to supply for English side.
Definition of Favourable Condition for River Dee and Bala Lake SSSI: Maintain in a favourable condition the water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho- Batrachion* vegetation. Maintain, in favourable condition, habitats for the populations of Atlantic salmon, bullhead, brook lamprey, river lamprey, sea lamprey, otter and floating water-plantain.
Site Vulnerability: The habitats and species for which the site is designated are dependent on the maintenance of good water quality and suitable flow conditions. Fish species require suitable in-stream habitat and an unobstructed migration route. Otters also require suitable terrestrial habitat to provide cover and adequate populations of prey species.

The site and its features are threatened by practices which have an adverse effect on the quality, quantity and pattern of water flows. In particular the following may threaten riverine ecosystems: inappropriate flow regulation; excessive abstraction (for industry, agriculture and domestic purposes); threats to water quality from direct and diffuse pollution; eutrophication and siltation. Degradation of riparian habitats due to engineering works, agricultural practices and invasive plant species may also have an adverse effect. The Atlantic salmon population is threatened by excessive exploitation by high sea, estuarine and recreational fisheries. Introduction of non-indigenous species could also threaten both fish and plant species.

These issues are being addressed by a variety of statutory bodies that are in a position to overcome these threats through regulatory powers and partnerships with landowners, industry and other interested parties.

Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I Habitats that are a primary reason for selection of site: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation.	Maintenance of water quality. Maintenance of flow. Resist degradation of riparian habitats.
Annex II Species that are a primary reason for selection of site: Atlantic salmon *Salmo salar,* Floating Water Plantain *Luronium natans.*	Control salmon exploitation at sea. Resist invasive species.
Annex II Species present as a qualifying feature but not a primary reason for selection of site: Sea lamprey *Petromyzon marinus,* Brook lamprey *Lampetra planeri,* River lamprey *Lampetra fluviatilis,* Bullhead *Cottus gobio,* Otter *Lutra lutra.*	Avoid excessive water extraction (industry, domestic, agriculture).

Table 13: River Dee and Bala Lake (Wales)

Site Name: River Dee and Bala Lake SAC, SH887311 to SJ287710, Cheshire / Denbighshire/ Gwynedd/ Shropshire/ Flintshire/ Wrexham, England/ Wales.
Site Description: The source of the River Dee lies within the Snowdonia National Park and its catchment contains a wide spectrum of landscapes from high mountains around Bala, steep-sided wooded valleys, near Llangollen, to the rich agricultural plains of Cheshire and north Shropshire and the vast mudflats of the estuary. The course and topography of the River Dee and its tributaries were strongly influenced and modified during the last Ice Age. The underlying geology of the Dee ranges from impermeable Cambrian and Ordovician shales in the west, through Silurian to Carboniferous Limestone outcrop at Llangollen to Coal Measures and thick boulder clay overlying the Triassic sandstones of the Lower Dee valley. The site extends from the western extremity of Llyn Tegid taking in the entire lake and its banks to its outfall into the River Dee. It then takes in the river and its banks downstream to where it joins the Dee Estuary SSSI. A number of the Dee's tributaries are also included, these being the Ceiriog, Meloch, Tryweryn, and Mynach. In its swifter upper reaches, the Dee flows through the broad valley near Corwen, and the spectacular Vale of Llangollen before entering the Cheshire plain at Erbistock where it meanders northwards through the Cheshire plain to Chester. Below Chester Weir, the river is largely Estuarine in character. However there is a tidal influence as far upstream as Farndon, as high tides regularly exceed the weir's height. In its slower, more mature reaches the river is characteristic of a floodplain river with meanders, oxbows and other river-formed landscape features. Llyn Tegid, the Tryweryn and the Dee form part of the River Dee Regulation System. The flow of water is controlled by Environment Agency Wales (EAW), primarily in order to minimise flooding and for the transportation of water to abstraction points down stream. The level of control is such that the Dee itself is said to be the most regulated river in Europe. However, of the water that reaches Chester, only about a third is regulated by EAW (This is based on an average.,the proportion varies depending on conditions and operational requirements). Of the tributaries within the SAC and SSSI, the only regulated tributary is the Afon Tryweryn.

Parts of the Rivers Dee and Ceiriog lie within both Wales and England. They have therefore been notified as two separate SSSIs – the Afon Dyfrdwy (River Dee) SSSI in Wales and the River Dee (England) SSSI in England. However, the features for which the SSSIs are notified, in particular migratory fish, depend upon the whole river ecosystem.

Conservation Objectives for SAC:

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

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

1. The extent of this feature within its potential range in this SAC should be stable or increasing
2. The extent of the sub-communities that are represented within this feature should be stable or increasing.
3. The conservation status of the feature's typical species should be favourable.
4. All known, controllable factors, affecting the achievement of these conditions are under control (many factors may be unknown or beyond human control).

Atlantic Salmon The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

1. The SAC feature populations will be stable or increasing over the long term.
2. The natural range of the features in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future.
3. There will be no reduction in the area or quality of habitat for the feature populations in the SAC on a long-term basis
4. All known, controllable factors, affecting the achievement of these conditions are under control (many factors may be unknown or beyond human control).

Floating Water Plantain The vision for this feature is for it be in favourable conservation status, where all of the following conditions are satisfied:

1. There will be no contraction of the current *L. natans* extent and distribution, and the populations will be viable throughout their current distribution & will be able to maintain themselves on a long-term basis. Each *L. natans* population must be able to complete sexual and/or vegetative reproduction successfully.
2. The lake will have sufficient habitat to support existing *L. natans* populations within their current distribution and for future expansion.

3. All factors affecting the achievement of these conditions are under control.

Sea Lamprey, River Lamprey, Brook Lamprey The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The SAC feature populations will be stable or increasing over the long term.
2. The natural range of the features in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future.
3. There will be no reduction in the area or quality of habitat for the feature populations in the SAC on a long-term basis
4. All factors affecting the achievement of these conditions are under control.

Bullhead The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The SAC feature populations will be stable or increasing over the long term.
2. The natural range of the features in the SAC is neither being reduced nor is likely to be reduced for the foreseeable future.
3. There will be no reduction in the area or quality of habitat for the feature populations in the SAC on a long-term basis
4. All factors affecting the achievement of these conditions are under control

European Otter The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The SAC otter population is stable or increasing over the long term, both within the SAC and within its catchment.
2. There will be no loss of otter breeding or resting sites other than by natural means (such as naturally occurring river processes) within the SAC or its catchment.
3. There number of potential resting sites within the SAC will not be a factor limiting that limits the otter population's size or extent
4. There should be no reduction of fish biomass within the SAC or its tributaries except for that attributable to natural fluctuations
5. There should be no loss of amphibian habitat likely to provide a source of prey for members of the SAC otter population.
6. The potential range of otters in the within the SAC or its catchment is neither being reduced nor is likely to be reduced for the foreseeable future.

7. All known or potential access or dispersal routes within the catchement for otters that might be considered part of the SAC population should be maintained such that their function is not impaired including the incorporation of measures or features required to avoid disturbance.
8. Off site habitats likely to function as 'stepping stones' within the catchment for members of the SAC otter population will be maintained for migration, dispersal, foraging and genetic exchange purposes.
9. All man-made structures within or likely to be used by otters from the SAC population must incorporate effective measures to facilitate the safe movement and dispersal of otters.
10. All known, controllable factors, affecting the achievement of these conditions are under control (many factors may be unknown or beyond human control).

The lake and aquatic /emergent vegetation and Lake fen/swamp inc. wet woodland
1. The total extent of the lake area, including lake fen and swamp shall be maintained as indicated on map in Annex 1**,** this includes some 10 ha of swamp/fen in total; of which at least 6 ha is attributable to NVC S11 *Carex vesicaria* swamp community.
2. The abundance and distribution of rare aquatic and emergent species will be maintained or increased and continue to be self-sustaining.
3. The abundance and distribution of typical species of aquatic /emergent species will be common and continue to be self-sustaining.
4. The distribution fen / swamp and wet woodland shall be as indicated on map in Annex 1, or more extensive.
5. The fen and swamp layers comprises locally native species, see Tables 2 for the relevant species for each vegetation community. The abundance of typical species of each fen and swamp type will be common.
6. The abundance and distribution of uncommon / rare plants occurring within each fen and swamp vegetation community will be maintained or increased and continue to be self-sustaining.
7. Invasive non-native species such as rhododendron, Japanese knotweed, Canadian pondweed and Himalayan balsam will not be present. This condition is considered under "factors".
8. Water quality in the lake should be of a standard that will ensure it reaches at Good Ecological Status or better as defined by the Water Framework Directive, and that the River Dee at Llandderfel Bridge? reaches its targets of Biological GQA class A and chemical quality standard of RE1. Eutrophication of the lake from diffuse and point source pollution will be under control and incidences of blue/green algal blooms will have stopped. The nutrient levels in the lake will be much lower and similar to the levels inferred from the diatom assemblages for the lake prior to 1925.
9. All factors affecting the achievement of these conditions are under control.

Site Vulnerability: The habitats and species for which the site is designated are dependent on the maintenance of good water quality and suitable flow conditions. Fish species require suitable in-stream habitat and an unobstructed migration route. Otters also require suitable terrestrial habitat to provide cover and adequate populations of prey species.

The site and its features are threatened by practices which have an adverse effect on the quality, quantity and pattern of water flows. In particular the following may threaten riverine ecosystems: inappropriate flow regulation; excessive abstraction (for industry, agriculture and domestic purposes); threats to water quality from direct and diffuse pollution; eutrophication and siltation. Degradation of riparian habitats due to engineering works, agricultural practices and invasive plant species may also have an adverse effect. The Atlantic salmon population is threatened by excessive exploitation by high sea, estuarine and recreational fisheries. Introduction of non-indigenous species could also threaten both fish and plant species.

These issues are being addressed by a variety of statutory bodies that are in a position to overcome these threats through regulatory powers and partnerships with landowners, industry and other interested parties.

Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I Habitats that are a primary reason for selection of site: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation	Maintenance of water quality. Maintenance of flow. Resist degradation of riparian habitats.
Annex II Species that are a primary reason for selection of site: Atlantic salmon *Salmo salar,* Floating Water Plantain *Luronium natans.*	Control salmon exploitation at sea. Resist invasive species.
Annex II Species present as a qualifying feature but not a primary reason for selection of site: Sea lamprey *Petromyzon marinus,* Brook lamprey *Lampetra planeri,* River lamprey *Lampetra fluviatilis,* Bullhead *Cottus gobio,* Otter *Lutra lutra.*	Avoid excessive water extraction (industry, domestic, agriculture).

Table 14: River Wye (England)

Site Name: River Wye SAC, SO109369, Monmouthshire / Gloucestershire / Herefordshire / Powys, England / Wales.
Site Description: River Wye (2234.89ha) represents a high quality example of water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation and is also significant for Transition mire and quaking bog. The riverine habitat supports important and significant populations of many fish species and Otter *Lutra lutra*.
Conservation Objectives for SAC: NE to supply.
Definition of Favourable Condition for River Wye SSSI: Maintain the river as a habitat for floating formations of water crowfoot (*Ranunculus*) of plain and submountainous rivers, populations of Atlantic salmon, allis shad, twaite shad, bullhead, lampreys, and whiteclawed crayfish, and the river and adjoining land as habitat for populations of otter.
Site Vulnerability: Water quality impacts arising from changing agricultural land-use within the catchment are having direct and indirect effects on the SAC interests through effects of diffuse pollution such as nutrient run-off and increased siltation. English Nature and the Countryside Council for Wales are seeking to address such issues through improved targeting of existing and new agri-environment schemes and through improvements in compliance with agricultural Codes of Practice. Water quality is also affected by synthetic pyrethroid sheep-dips and by point-source discharges within the catchment. The impact of sewage treatment works on the SAC is being addressed through the Asset Management Plan process and review under the Habitats Regulations. Loss of riparian habitat is occurring as a result of changes in agricultural land-use practices and other factors, including riverside development and the loss of alder tree-cover through disease. These impacts and concerns over water quality will be identified and actions recommended within the joint English Nature/ Environment Agency/ Countryside Council for Wales conservation strategy for the river. Fishing activities are implicated in the decline of the salmon; initiatives such as the Wye Salmon Action Plan will help to address this issue. There is increasing demand for abstraction from the river for agriculture and potable water. The impact of this is still being investigated by the Environment Agency, but maintenance of water levels and flow will be addressed under the review of

consents under the Habitats Regulations.

Demand for increased recreational activities is a source of potential concern for the future. Regularisation of the functions of the competent authorities, currently being sought, should reduce the risk of damage to the SAC as a result of developments for such activities.

Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I Habitats that are a primary reason for selection of site: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation.	Maintain water quality & flow. Control recreational activities. Control water abstractions. Maintain water table level.
Annex I Habitats present as a qualifying feature but not a primary reason for selection of site: Transition mires and quaking bogs.	Removal & prevention of barriers to fish migration.
Annex II Species that are a primary reason for selection of site: 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.*	Control human activities and disturbance. Control of fishing level.
Annex II Species present as a qualifying feature but not a primary reason for selection of site: Allis Shad *Alosa alosa.*	

Table 15: River Wye (Wales)

Site Name: River Wye SAC, SO109369, Monmouthshire / Gloucestershire / Herefordshire / Powys, England / Wales.

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

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.

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.

Conservation Objectives for SAC:
The watercourse 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.
1. 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.
2. 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.

3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. Potential sources of pollution not addressed in the Review of Consents, such as contaminated land, will be considered in assessing plans and projects.
14. 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.

Sea lamprey, Brook lamprey, River lamprey, Twaite shad, Allis shad, Atlantic salmon, Bullhead The vision for these features is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The population of the feature in the SAC is stable or increasing over the long term.
2. 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 (as described in sections 2.2 and 5). 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.
3. 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.

European Otter The vision for these features is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. 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.
2. 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.
3. 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.

Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. 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 nearnatural 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 (as described in section 2.2). 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.
2. The area covered by the feature within its natural range in the SAC should be stable or increasing.
3. 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.

White Clawed Crayfish The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:
1. The population of the feature in the SAC is stable or increasing over the long term.
2. 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. substrate type, water hardness and temperature, and ecosystem structure and functions eg. food supply, absence of invasive nonnative competitors (as described in sections 2.2 and 5). 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 4.2.4
3. 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.

Quaking bogs and transition mires The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

1. 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 nearnatural 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. 2. The area covered by the feature within its natural range in the SAC should be stable or increasing. 3. 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.
Site Vulnerability: Water quality impacts arising from changing agricultural land-use within the catchment are having direct and indirect effects on the SAC interests through effects of diffuse pollution such as nutrient run-off and increased siltation. English Nature and the Countryside Council for Wales are seeking to address such issues through improved targeting of existing and new agri-environment schemes and through improvements in compliance with agricultural Codes of Practice. Water quality is also affected by synthetic pyrethroid sheep-dips and by point-source discharges within the catchment. The impact of sewage treatment works on the SAC is being addressed through the Asset Management Plan process and review under the Habitats Regulations. Loss of riparian habitat is occurring as a result of changes in agricultural land-use practices and other factors, including riverside development and the loss of alder tree-cover through disease. These impacts and concerns over water quality will be identified and actions recommended within the joint English Nature/ Environment Agency/Countryside Council for Wales conservation strategy for the river. Fishing activities are implicated in the decline of the salmon; initiatives such as the Wye Salmon Action Plan will help to address this issue. There is increasing demand for abstraction from the river for agriculture and potable water. The impact of this is still being investigated by the Environment Agency, but maintenance of water levels and flow will be addressed under the review of consents under the Habitats Regulations. Demand for increased recreational activities is a source of potential concern for the future. Regularisation of the functions of the competent authorities, currently being sought, should reduce the risk of damage to the SAC as a result of developments for such activities.

Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I Habitats that are a primary reason for selection of site: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation.	Maintain water quality & flow. Control recreational activities. Control water abstractions. Maintain water table level.
Annex I Habitats present as a qualifying feature but not a primary reason for selection of site: Transition mires and quaking bogs.	Removal & prevention of barriers to fish migration.
Annex II Species that are a primary reason for selection of site: 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.*	Control human activities and disturbance. Control of fishing level.
Annex II Species present as a qualifying feature but not a primary reason for selection of site: Allis Shad *Alosa alosa.*	

Table 16: Tanat & Vrynwy Bat Sites

Site Name: Tanat & Vrynwy Bat Sites SAC, SJ171152, SJ177181, SJ164236, SJ187234, SJ109237, SJ048258, Powys, Wales.
Site Description: The site consists of six separate SSSI divided into ten management units, all situated within the northeastern part of ontgomeryshire. The greatest distance between any two sites is less than 20 kilometres. Two of the

SSSI contain buildings that house maternity roosts (Bryngwyn and Hendre), whilst the other four are disused mines containing hibernation roosts. Five of the sites (the exception being Bryngwyn) also contain a small amount of associated habitat, in the form of broadleaved woodland or hedgerows. Other roosts of both types are known both within this locality and further south within Montgomeryshire. It is not known how the different sites relate to one another in terms of the seasonal movements of the bats, and so no judgement can be made as to whether they support one meta-population or several smaller populations.

The numbers of bats at all the sites varies significantly from year to year, but at the time of writing Hendre contained the largest number of breeding bats (2nd largest in Montgomeryshire, in top ten in Wales) and Allt-y-Main Mine the largest hibernating group (2nd largest in Montgomeryshire, probably in top twelve in Wales). The overall population, as judged by annual counts, has shown an increase in recent years, consistent with the national trend, and the SAC is thought to support at least 4% of the UK population of this species. Numbers have not been increasing at all of the individual sites however. Bryngwyn suffered a major reduction for unknown reasons in between 1999 and 2003, from which it appears to be slowly recovering. Garth-eryr suddenly lost virtually all its bats between 1997 and 2002 (reasons again unknown), and yet the nearest maternity roost (Hendre) has increased its numbers. It
appears that either the Hendre bats are now hibernating elsewhere, or the Garth-eryr bats were from an unknown maternity roost that may since been lost.

Conservation Objectives for SAC: There is only one feature for the site, and so the vision for this feature is the same as that for the site (please refer to section 1). It is required that the feature be in a favourable conservation status, where all of the conditions set out in the Performance Indicators table (below) are satisfied, and all factors affecting the achievement of these conditions are under control.

The two maternity roosts contain a minimum of 300 adult Lesser Horseshoe Bats in total every year, with at least 200 at Hendre Cottage and at least 100 at Bryngwyn Hall Stables and Coach House. The buildings are maintained in a suitable condition for use by the bats, to ensure that the roofs are in good repair, not heavily shaded by surrounding trees, and the roof space is undisturbed (except in emergencies).

Access for the bats to and from the buildings and roof spaces is unhindered and flight paths along surrounding hedgerows and woodland edges are protected. All other factors that affect the species are under control.

The four hibernation roosts contain a minimum of 200 Lesser Horseshoe Bats in total every year, with at least 50 in each of Allt-y-main Mine and Penygarnedd Mine; and evidence of continued use of West Llangynog Slate Mine and Garth-eryr. All four sites are maintained in a suitable condition for use by the bats, by ensuring that they remain undisturbed (except for monitoring purposes), and that the entrance is free from obstruction. The extent, quality and connectivity of broadleaved woodland habitat is also maintained and may be enhanced if possible. All other factors that affect the species are under control.	
Site Vulnerability: Full protection of bat species depends upon no disturbance to both summer (breeding) and winter (hibernating) roosts and continuity of invertebrate food supply by appropriate traditional land management, for example, maintenance of continuous hedgerows. The winter roosts (hibernacula) are not vulnerable as all mine entrances are now securely grilled and the underground workings are considered to be stable. The bats which use two of the four mines may be vulnerable because the associated breeding roosts are not known. The two known breeding roosts are potentially vulnerable to accidental fire, and casual or deliberate human disturbance, for example blocking of entrances. All roost sites are the subject of a programme of monitoring visits to check site integrity and count the numbers of bats. The quality of surrounding feeding habitats is maintained through land management agreements with owners/occupiers.	
Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I species that are a primary reason for selection of this site: Lesser Horseshoe Bat *Rhinolophus hipposideros.*	Identification of unknown summer roost sites Ongoing protection of know summer roost sites

Table 17: The Stiperstones and the Hollies

Site Name: The Stiperstones and the Hollies SAC, SJ375006, Shropshire, England.
Site Description: The Stiperstones and the Hollies (601.46ha) represents a Nationally important area of dry heath and also hosts a significant presence of sessile oak woodlands with *Ilex* and *Blechnum.*

Conservation Objectives for SAC: Subject to natural change, to maintain in favourable condition the dry heath communities with particular reference to the internationally important heathland communities (H8: *Calluna vulgaris-ulex hallii* heath, H10: *Calluna vulgaris – Eric cinerea* heath, H12: *Calluna vulgaris – Vaccinium myrtillus* heath, H18: *Vaccinium myrtillus – Deschampsia flexuosa* heath).	
Site Vulnerability: The heathland is dependent on the continuation of traditional heather moorland management with rotational burning or cutting supplemented by light grazing. In the recent past, lack of management on parts of the site has resulted in scrub encroachment, and on other parts high stocking levels has caused overgrazing and a deterioration of the heathland interest. These issues are being addressed by an effective management programme on that part of the site which is managed as a National Nature Reserve and, on land in private ownership, by management agreements and ESA payments. The sessile oak woods have been traditionally managed either as high forest or as oak coppice. Neglect and grazing of coppiced woods in the past has led to deterioration in the woodland interest. Traditional management of these woods has been reinstated by effective management of the National Nature Reserve and by agreement of a site management statement with woodlands in private ownership.	
Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I Habitats that are a primary reason for selection of site: European dry heaths.	Control of afforestation. Control of grazing pressure.
Annex I Habitats present as a qualifying feature but not a primary reason for selection of site: Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles.	Maintain appropriate woodland management.

Table 18: West Midland Mosses

Site Name: West Midland Mosses SAC, SK026282, Cheshire / Shropshire / Staffordshire, England.
Site Description: West Midland Mosses (184.18ha) is a collection of sites which between them represent nationally

important dystrophic water bodies, transition mires and quaking bogs.
Conservation Objectives for SAC: NE to supply.
Site Vulnerability: Colonisation of open schwingmoors or *Sphagnum* lawns and rafts in the West Midland Mosses by birch and pine is controlled by works under Management Agreement or by National Nature Reserve management, and in liaison with the local wildlife trust at Abbots Moss. Several sources of nutrient enrichment, including atmospheric deposition of nutrients, pose a potential threat at these sites. A Management Agreement controls agricultural run-off at Chartley Moss. Trees at this site trap airborne nutrients and provide roost areas for birds, but the enrichment effect of both is only localised. At Abbots Moss the threat of enrichment from atmospheric sources has been reduced by clear-felling of basin slopes adjacent to the mires. All parts of that site are vulnerable to recreational disturbance, particularly the northern portion which is a scout camp.

Reason for Designation	**Environmental Conditions Needed to Support Site Integrity**
Annex I Habitats that are a primary reason for selection of site: Natural dystrophic lakes and ponds, Transition mires and quaking bogs	Control of afforestation. Control of nutrient input. Control of recreational disturbance.

Table 19: Midland Meres and Mosses (Ramsar Phase 1) – Also see Appendix 5

Site Name: Midland Meres and Mosses (Ramsar phase 1), Shropshire/ Clwyd/ Cheshire/ Staffordshire, England.
Site Description: Phase 1 of the Ramsar designation covers 513.25ha and is entirely co-incident with the following 16 Sites of Special Scientific Interest (SSSI). These are Bagmere, Berrington Pool, Betley Mere, Bomere, Shomere & Betton Pools, Brown Moss, Chartley Moss, Clarepool Moss, Fenemere, Flaxmere, Hatchmere, Marton Pool (Chirbury), Quoisley Mere, Tatton Mere, The Mere (Mere), White Mere and Wynbunbury Moss SSSI's.
Conservation Objectives: NE to supply.
Site Vulnerability: Invasive species: considered a major impact on this site. Water quality: eutrophication is considered a major impact on this site.

Recreational pressure and disturbance: in line with other bog and mire habitats, trampling and erosion are likely to be a significant issue where public access occurs. Water quality: declines in water quality through nutrient enrichment and sediment. Land use in surrounding areas: agricultural practices and urban runoff are likely to affect the scattered sites through nutrient enrichment and sedimentation.	
Reasons for Designation:	**Environmental Conditions Needed to Support Site Integrity**
Criterion 1a. A particularly good example of a natural or near natural wetland, characteristic of this biogeographical region, The site comprises the full range of habitats from open water to raised bog.	Environmental Conditions needed to support site integrity will need to be considered at the full Appropriate Assessment stage since this range of sites is varied and needs consideration in relation to specific plans and policies.
Criterion 2a. Supports a number of rare species of plans associated with wetlands. The site contains the nationally scarce six-stamened waterwort *Elatine hexandra,* needle spike-rush *Eleocharis acicularis*, cowbane *Cicuta virosa*, marsh fern *Thelypteris palustris* and elongated sedge *Carex elongate.*	
Criterion 2a. Contains an assemblage of invertebrates, including the following rare wetland species. 3 species considered to be endangered in Britain, the caddis fly *Hagenella clathrata*, the fly *Limnophila fasciata* and the spider *Cararita limnaea*. Other wetland Red Data Book species are; the beetles *Lathrobium rufipenne* and *Donacia aquatica*, the flies *Prionocera pubescens* and *Gonomyia abbreviata* and the spider *Sitticus floricola*.	

NB. Of the SSSI in the Ramsar phase 1 designation the following considered in this screening document: Berrington Pool, Brown Moss, Bomere, Shomere & Betton Pools, Clarepool Moss, Fenemere, Marton Pool (Chirbury), White Mere, Quoisley Mere, Wynbunbury Moss.

Table 20: Midland Meres and Mosses (Ramsar Phase 2) – Also see Appendix 5.

Site Name: Midland Meres and Mosses (Ramsar phase 2), Shropshire/ Clwyd/ Cheshire/ Staffordshire, England.	
Site Description: Phase 2 of the Ramsar sites covers 1740.3ha and is entirely co-incident with the following 19 Sites of Special Scientific Interest (SSSI). These are: Abbots Moss, Aqualate Mere, Black Firs & Cranberry Bog, Brownheath Moss, Chapel Mere, Cole Mere, Cop Mere, Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses, Hanmer Mere, Hencott Pool, Linmer Moss, Llyn Bedydd, Morton Pool & Pasture, Oak Mere, Oakhanger Moss, Oss Mere, Rostherne Mere, Sweat Mere & Crose Mere and Vicarage Moss.	
Conservation Objectives: NE to supply.	
Site Vulnerability: Invasive species: considered a major impact on this site. Water quality: eutrophication is considered a major impact on this site. Land take for development · Recreational pressure and disturbance: in line with other bog and mire habitats, trampling and erosion are likely to be a significant issue where public access occurs. Water quality: declines in water quality through nutrient enrichment and sediment. Land use in surrounding areas: agricultural practices and urban runoff are likely to affect the scattered sites through nutrient enrichment and sedimentation.	
Reason for Designation:	**Environmental Conditions Needed to Support Site Integrity**
Criterion 1a. A particularly good example of a natural or near natural wetland, characteristic of this biogeographical region, The site comprises the full range of habitats from open water to raised bog.	Environmental Conditions needed to support site integrity will need to be considered at the full Appropriate Assessment stage since this range of sites is varied and needs consideration in relation to specific plans and policies.
Criterion 2a. Supports a number of rare plants associated with wetlands, including the nationally scarce cowbane *Cicuta virosa,* elongated sedge *Carex elongate* and bog rosemary *Andromeda polifolia.* Also present are the nationally scarce bryophytes *Dicranum undulatum, Dircranum affine* and *Sphagnum pulchrum.*	

Criterion 2a. Containing an assemblage of invertebrates, including several rare wetland species. There are 16 species of Red Data Book insect listed for the site including the following endangered species: the moth *Glyphipteryx lathamella*, the caddisfly *Hagenella clathrata* and the sawfly *Trichiosoma vitellinae.*	

NB. Of the SSSI in the Ramsar Phase 2 designation the following are considered in this screening document: Aqualate Mere, Brownheath Moss, Black Firs & Cranberry Bog. Chapel Mere, Cole Mere, Cop Mere, Fenn's, Whixhall, Bettisfield, Wem & Cadney Mosses. Hanmer Mere, Hencott Pool, Llyn Bedydd, Morton Pool & Pasture, Oss Mere, Sweat Mere & Crose Mere and Vicarage Moss.

Appendix 5: Ramsar Midland Meres & Mosses Phase 1 and Phase 2 Site Tables

Ramsar phases split into Ramsar features/SSSI unit from Information on Natura 2000 Sites in the West Midlands, Prepared for Natural England by Treweek Environmental Consultants, 2009.

Phase 1 Sites/Ramsar feature	Open water	Swamp	Fen	Basin Mire	Raised bog	Wet pasture	Carr	Invertebrates	Plants
Clarepool Moss	+			+				dotted footman	
Wybunbury Moss				+		+	+	assemblage *Carorita limnaea*	*Andromeda polifolia Thelypteris palustris*
Brown Moss	+	+	+	+					*Luronium natans*
Berrington Pool	+	+	+						
Betley Mere	+	+	+			+	+		
Bomere, & Shomere Pools	+	+		+			+		*Elatine hexandra* *Thelypteris palustris*
Fenemere	+	+	+			+	+		*Cicuta virosa* *Thelypteris palustris*
Marton Pool	+	+					+		
Quoisley Meres	+	+	+			+	+		*Cicuta virosa* *Thelypteris palustris*
White Mere	+						+		*Carex elongata* *Eleocharis acicularis*

Phase 2 Sites/Ramsar feature	Open water	Swamp	Fen	Basin Mire	Raised bog	Wet pasture	Carr	Invertebrates	Plants
Fenns and Whixall Moss					+		+	assemblage *Hagenella* small pearl-	*Andromeda polifolia* *Dicranum undulatum* *Sphagnum pulchrum*
Aqualate Mere	+	+	+			+	+	assemblage	
Black Firs & Cranberry Bog	+			+			+		*Cicuta virosa*
Brownheath Moss			+				+		*Carex elongata*
Chapel Mere	+	+					+		
Cole Mere	+					+	+		*Carex elongata*
Cop Mere	+	+	+				+		
Hencott Pool							+		*Carex elongata* *Cicuta virosa*
Linmer Moss				+					*Thelypteris palustris*
Morton Pool & Pasture	+	+				+	+		*Thelypteris palustris*
Oss Mere	+	+				+	+		*Cicuta virosa* *Thelypteris palustris*
Sweat Mere & Crose Mere	+	+	+			+	+		*Carex elongata* *Thelypteris palustris*

Natural England is in the process of revising conservation objectives for SSSI units in Shropshire in order to take secondary European Features such as species into account. The tables below include Conservation Objectives where they have been provided by Natural England. The most up to date Conservation objectives for the SSSI units will be sought from Natural England prior to carrying out a full Appropriate Assessment on any lower tier document.

Ramsar Midland Meres & Mosses Phase 1

Site Name: Berrington Pool SSSI, SJ525072, Shropshire, England
Site Description: Berrington Pool (4.69ha) is a small but deep mere in a steep-sided hollow, with water of comparatively low fertility. There is a rich flora of emergent species, including some which are uncommon, notably slender sedge *Carex lasiocarpa* at one of its most southerly localities in Britain. There are extensive beds of white water lily *Nymphaea alba*. Vegetation dominated by water horsetail *Equisetum fluviatile* and bottle sedge *Carex rostrata* is better represented here than at any other Shropshire mere. Other emergent plants include greater reedmace *Typha latifolia*. The aquatic fauna is of interest, especially for dragonflies, of which ten species are known to breed here. The site includes an area of fen at the western end of the pool, with a flora which includes bladder sedge *Carex vesicaria* and, in a ditch, water violet *Hottonia palustris*.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Betley Mere SSSI, SJ 747482, Staffordshire, England
Site Description: Betley Mere is one of the few natural standing waters in Staffordshire. It occupies a shallow valley in glacial deposits overlying Triassic strata and is bounded on three sides by extensive peat deposits on which a wide range of vegetation types have developed. The zonation from open water with floating-leaved aquatic plants through emergent reedswamp, fen and carr to mature fen woodland is as complete an example of a wetland hydrosere as occurs in the county. Betley is highly rated among the meres for the diversity of plant communities, the variety of higher plant species and the large areas of reedswamp, alderwillow woodland and species-rich tall fen. The last community and an acidic marshy grassland type found in the wettest parts of the adjoining pastures, are now of very restricted distribution in Staffordshire.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Bomere, Shomere & Betton Pools SSSI, SJ504078, Shropshire, England
Site Description: Bomere, Shomere & Betton Pools (59.08ha), as a group, are particularly important for the variety of water chemistry, and hence flora and fauna, which they display. The site also includes a small basin mire, a more extensive area of peat around Shomere and an area of woodland.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Brown Moss SSSI, SJ562395, Shropshire, England
Site Description: Brown Moss (31.32ha) differs from the other North Shropshire Mosses in consisting of a series of pools set in an area of heathland and woodland, rather than an expanse of peat. It has been suggested that the site may once have been peat covered, and that peat removal in the past has led to the present condition of the site.
Definition of Favourable Condition for SSSI: Subject to natural change, to maintain, in favourable condition, the habitat for the internationally important population of Floating Water Plantain (*Luronium natans*), with particular reference to the standing open water. (Maintenance implies restoration if the feature is not currently in favourable condition).
Site Vulnerability: Colonisation by trees is being addressed but continues to be of concern due to the shading, nutrient and hydrological effects on the open water and heathland. The presence of *Crassula helmsii* is a threat to *Luronium natans* and various control mechanisms are being explored.

Site Name: Clarepool Moss SSSI, SJ433342, Shropshire, England
Site Description: Clarepool Moss (15.62ha) is a basin mire which has developed, in part at least, as a quaking bog (Schwingmoor). In this respect it is similar to Chartley Moss (Staffordshire) and Wybunbury Moss (Cheshire), but different from the other major sites in North Shropshire.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Fenemere SSSI, SJ445228, Shropshire, England
Site Description: Fenemere (16.34ha) is a particularly rich and interesting mere with eutrophic water. Fenemere is also important for its rich aquatic invertebrate fauna. There are extensive beds of white and yellow water-lilies *Nymphaea alba* and *Nuphar lutea*,but otherwise the aquatic vegetation is sparse, consisting of horned pondweed *Zannichellia palustris*, fennel-leaved pondweed *Potamogeton pectinatus* and Canadian pondweed *Elodea canadensis*. Reed beds are well developed round the edge and dominated by common reed *Phragmites australis*. Other species present include lesser reedmace *Typha angustifolia*, bulrush *Schoenoplectus lacustris* and bur-reed *Sparganium erectum*. Great duckweed *Lemna polyrhiza*, a scarce plant, occurs in the reed

beds. On the western side of the mere there is a broad belt of alder carr, in which tussock sedge *Carex paniculata*, cyperus sedge *C. pseudocyperus* and cowbane *Cicuta virosa* occur. The site includes, to the north and west of the mere, a series of damp pastures which are exceptionally rich botanically. The flora includes marsh orchid *Dactylorhiza incarnata*, bogbean *Menyanthes trifoliata*, marsh arrow-grass *Triglochin palustris* and water dropwort *Oenanthe fistulosa*.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Marton Pool, Chirbury SSSI, SJ296027, Shropshire, England
Site Description: Marton Pool (17.21ha) is a natural lake of moderate fertility, somewhat detached from the main series of Shropshire meres. There are extensive areas of reedswamp and carr. It is among the most valuable of the Shropshire meres for aquatic plants, and the flora includes fan-leaved water crowfoot *Ranunculus circinatus*, blunt-leaved pondweed *Potamogeton obtusifolius* and small pondweed *P. berchtoldii*. Water-lilies, both white, *Nymphaea alba* and yellow, *Nuphar lutea* are present, but not abundant.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Quoisley Mere SSSI, SJ549456, Cheshire, England
Site Description: Quoisley Meres (28.25ha) has been selected to represent a type of mere with nutrient rich open water and well developed fringing habitats. The site also includes areas of damp grassland.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: White Mere SSSI, SJ414330, Shropshire, England
Site Description: White Mere (31.97ha) is one of the richest of the North Shropshire meres for aquatic plants, with a flora which includes needle spike-rush *Eleocharis acicularis*, shoreweed *Littorella uniflora*, small pondweed *Potamogeton berchtoldii* and grey club-rush *Schoenoplectus tabernaemontani*.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Wynbunbury Moss SSSI, SJ697502, Cheshire, England
Site Description: Wybunbury Moss (23.3ha) is a nationally important site as it is

one of the finest examples in the country of a 'schwingmoor' and supports an outstanding assemblage of invertebrates including many nationally and locally rare species. Current evidence suggests that the origin of the lake basin containing the 'schwingmoor' was a secondary process associated with the solution and subsidence of the underlying salt bearing strata. This is a very rare occurrence and can be seen at only one other British site. The central floating raft is surrounded by fen and mixed woodland.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Ramsar Midland Meres & Mosses Phase 2

Site Name: Aqualate Mere SSSI, SJ770205, Staffordshire, England
Site Description: Aqualate Mere (241.00ha) is the largest of the meres with the most extensive reedswamp community. The mere and its surrounds form a complex of open water, fen, grassland and woodland unrivalled in Staffordshire for the variety of natural features of special scientific interest. The esker formation on the north side of the mere is of national geomorphological importance in its own right. The large area and juxtaposition of seminatural habitats supports an outstanding assemblage of beetles, moths and sawflies. The site has nationally important numbers of breeding herons *Ardea cinerea* and passage shoveler *Anas clypeata* and is regionally significant for breeding waders.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Black Firs & Cranberry Bog, SJ748503, Staffordshire, England
Site Description: Cranberry Bog is an outstanding example of schwingmoor basin mire, a nationally rare habitat and one of only two such sites in Staffordshire. It exhibits a near-natural structure and floristic composition and is notably rich in bog and fen plants in relation to its small size. Black Mere, the open water part of the site, is the surviving part of a former kettle hole lake and forms the largest *dystrophic open water in the county. The mere and the mire represent lowland habitats which are nationally threatened and declining due largely to drainage and ground-water enrichment. Black Firs is a modified valley alderwood on a peat-filled depression. Such woodlands are now much reduced in extent. The site contains many locally rare plants and invertebrates and some nationally uncommon plants.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Brownheath Moss SSSI, SJ562395, Shropshire, England
Site Description: Brownheath Moss (31.32ha) differs from the other North Shropshire Mosses in consisting of a series of pools set in an area of heathland and woodland, rather than an expanse of peat. It has been suggested that the site may once have been peat covered, and that peat removal in the past has led to the present condition of the site.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Chapel Mere SSSI, SJ540519, Cheshire, England
Site Description: Chapel Mere (11.6ha) is situated in the southern part of the county and is one of the 'Whitchurch' group of meres. It is eutrophic and has a variety of vegetation types ranging from submerged and floating leaved plant communities to species rich fen and fen carr. It is similar to Quoisley Mere and Bar Mere but differs in that it has much broader stands of emergent vegetation and larger areas of species rich fen. The well developed fringing vegetation with its many species and different communities makes this largely undisturbed mere particularly important.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Cole Mere SSSI, SJ433332, Shropshire, England
Site Description: Cole Mere is one of the largest of the Shropshire meres, with an almost complete fringe of woodland. There is a comparatively rich flora of aquatic macrophytes, including small pondweed *Potamogeton berchtoldii*, fan-leaved water crowfoot *Ranunculus circinatus* and autumnal water-starwort *Callitriche hermaphroditica*. Lesser yellow water-lily *Nuphar pumila* occurs here at what is probably its only English locality – the main centre of distribution of this species is the Scottish Highlands. Most of the surrounding woodland is of artificial origin but is included in the site since it is of value as a habitat for birds and adds to the diversity of the site. However, near the eastern end there is an area of semi-natural alder carr in which greater spearwort *Ranunculus lingua* and the rare elongated sedge *Carex elongata* occur. At the south-eastern end of the site there is an area of damp, rush-dominated pasture, with characteristic species such as lesser spearwort *Ranunculus flammula* and carnation sedge *Carex panicea*. The aquatic invertebrate fauna of Cole Mere is particularly diverse.

Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Cop Mere SSSI, SJ802297, Staffordshire, England
Site Description: Cop Mere (37.8ha) is a shallow lake lying in a hollow in Keuper Marl. In many respects it is an outlier of the series of meres concentrated in North Shropshire and Cheshire. However, it differs from many of the meres in having a distinct inflow and outflow, the River Sow, which enters the mere at the western end and leaves at the eastern end.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SSSI, SJ490365, Shropshire/Clwyd, England/Wales
Site Description: Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses (948.4ha) together form an outstanding example of a lowland raised mire. The moss complex, which straddles the border between Shropshire, England and Clwyd, Wales, is one of the largest and most southerly raised mires in Britain. The site is highly valued ecologically as an example of mire development occurring under relatively warm and dry conditions and lying at the edge of the British range for this type of habitat.
Definition of Favourable Condition for SSSI: To maintain, in favourable condition, the active raised bogs and degraded raised bogs still capable of natural regeneration on the site.
Site Vulnerability: The lowland raised mire is dependent upon high water levels and a continuation of active peat-forming processes. Much of the site is subject to mineral planning consents for peat extractions which are currently being reviewed. The site has a history of peat-cutting and until recently, part of the site has been subject to large-scale commercial extraction, involving drainage over much of the peat body. Afforestation and agricultural improvement on marginal areas of the peat body have accelerated the lowering of water levels, resulting in encroachment by scrub and a decline in the extent of peat-forming communities. A greater part of the site is now owned, leased or managed under agreement by conservation organisations. Within these areas, mire rehabilitation management is taking place under the guidance of a management plan. It is intended to seek to increase the areas under positive conservation management by implementation of the joint Countryside Council for Wales/English Nature acquisition strategy.

Site Name: Hanmer Mere (non SSSI)
Site Description:
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Hencott Pool SSSI, SJ490160, Shropshire, England
Site Description: Most of Hencott Pool (11.5ha) is swamp carr on very wet peat dominated by alder *Alnus glutinosa* and common sallow *Salix cinerea* with frequent crack willow *Salix fragilis*. Although there are considerable areas of bare peat beneath the trees, there is a rich flora of fen plants. The site is notable for the size of its population of elongated sedge *Carex elongata*. Other uncommon species include purple smallreed *Calamagrostis canescens*, cyperus sedge *Carex pseudocyperus*, cowbane *Cicuta virosa*, great spearwort *Ranunculus lingua* and fine-leaved water dropwort *Oenanthe aquatica*. There are locally extensive moss carpets of *Calliergon cordifolium*, *C. cuspidatum* and *Sphagnum squarrosum*.
Definition of Favourable Condition for SSSI: Stand loss due to natural processes e.g. in minimum intervention stands is acceptable eg due to wind blow or Phytopthera disease. Stand destruction may occur if the understorey and ground flora are irretrievably damaged even if the canopy remains intact, eg by pollution. As a guideline, loss can be defined as at least 0.5 ha or 0.5% of the stand area, whichever is the smaller. Targets for extent may be modified where a target has been set to increase the extent of other habitat features on the site at the expense of woodland. This site is a former pool and is now entirely scrubbed over with willow and alder carr (Lockton and Whild, 2003). It was in this late stage of succession at notification (Walker, 1984) and the whole site has to be considered as woodland at the moment. Standing water is usually present under the woodland and fen vegetation survives in certain places under the trees and scrub. The site is important as an example of the succession from open water to basin bog to alder car (Walker, 1984), and therefore it would be beneficial to retain and restore some of the other features of interest that demonstrate the transition from open water to alder carr. Therefore some loss in extent of the successional woodland, providing it was restored to open water or open fen vegetation would be acceptable. Although it is too early give estimates of extent for restored vegetation it should be no more

than 5.7ha which was the total of fen and open water on the 1881 Edition OS Map. There should be no loss in extent of the area covered by semi natural vegetation.

Site Name: Linmer Moss SSSI, SJ 547707, Cheshire, England
Site Description: Linmer Moss lies in a steep-sided asymmetrical basin within the extensive glacial sands of Delamere Forest. Although small, it is particularly important for the fen community at its centre which is unlike the typically *Sphagnum* dominated communities of other basins throughout the Delamere cluster of peatlands.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Lynn Bedydd (non SSSI)
Site Description:
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Morton Pool & Pasture SSSI, SJ301239, Shropshire, England
Site Description: The chief interest of Morton Pool (3.72ha) is the fen and carr vegetation around it. The dominant species are alder *Alnus glutinosa* and sallow *Salix cinerea* with yellow flag *Iris pseudacorus*, reed canary grass *Phalaris arundinacea* and sedges, including lesser pond sedge *Carex acutiformis* and tussock sedge *Carex paniculata*, in the field layer. Uncommon plant species in this habitat include bird cherry *Prunus padus*, alder buckthorn *Frangula alnus* and marsh fern *Thelypteris thelypteroides*.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

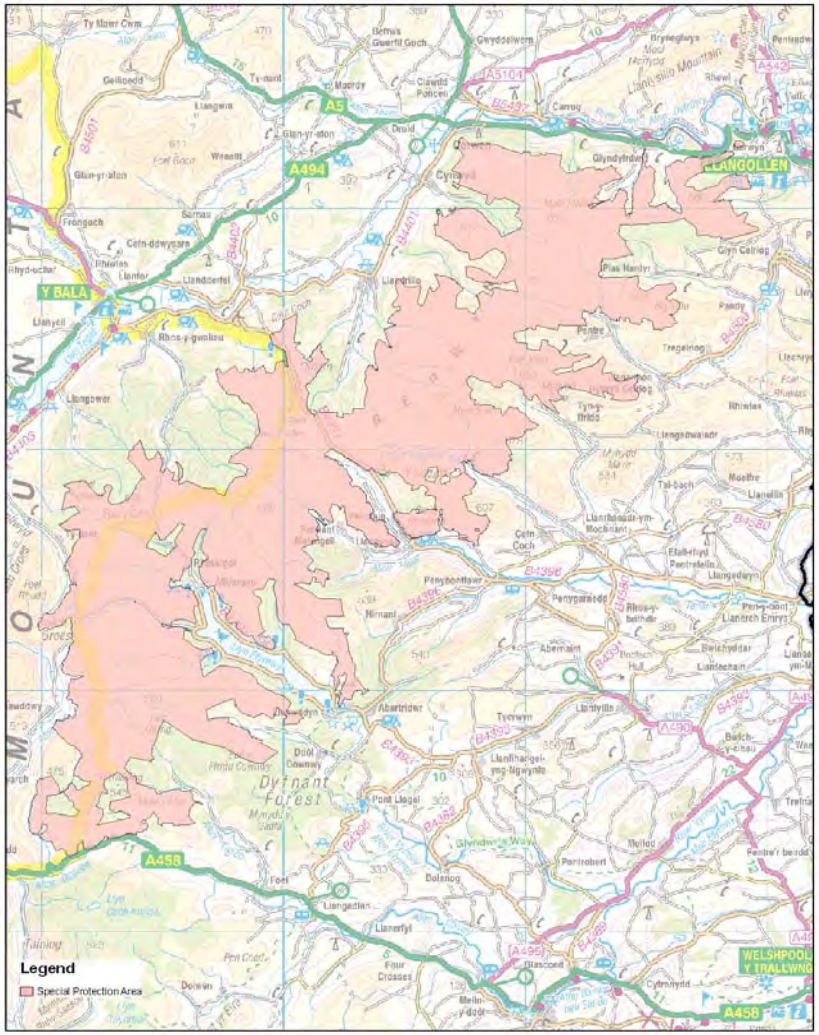
Site Name: Oss Mere SSSI, SJ565438, Shropshire, England
Site Description: Oss Mere (28.32ha) is a shallow mere of moderate fertility, bordered on two sides by reedswamp and alder carr. The site also includes woodland on dry peat and on fringe of damp grassland. Within the mere both white and yellow water lilies *Nymphaea alba* and *Nuphar lutea* occur, but are scarce. Horned pondweed *Zannichellia palustris* is the dominant submerged aquatic plant. The alder carr is particularly rich, and has a flora which includes cyperus sedge *Carex pseudocyperus*, cowbane *Cicuta virosa*, bog violet *Viola palustris*, marsh fern *Thelypteris thelypteroides* and royal fern *Osmunda regalis*,

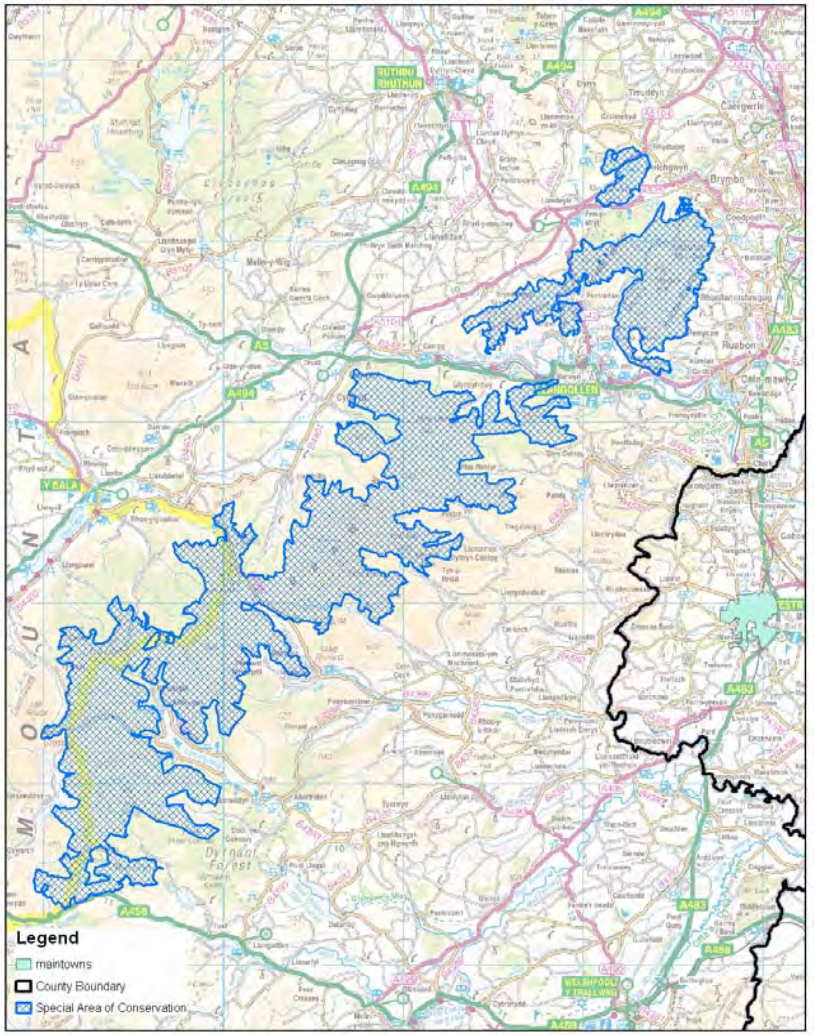
all of which are uncommon in Shropshire.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

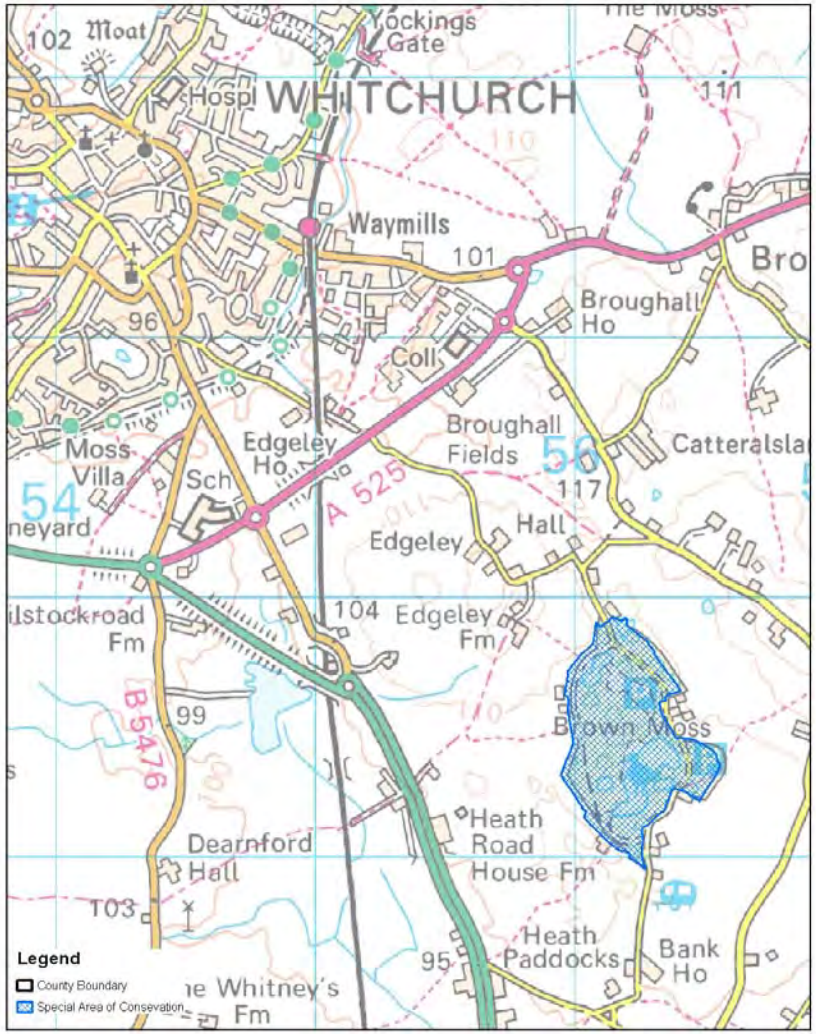
Site Name: Sweat Mere & Crose Mere SSSI, SJ434304, Shropshire, England
Site Description: Sweat Mere and Crose Mere (38.58ha) are two dissimilar meres constituting a site of exceptional importance. They are the remnants of a once considerably larger wetland complex which included Whattall Moss, which in historic times was an acid peat bog but now is almost entirely affected. The meres and their surrounds form a complex of open water, reedswamp, fen and woodland habitats unrivalled in Shropshire for the variety of natural features of special scientific interest. Both meres have been subject to detailed research and intensive study. In particular the phytoplankton and the pollen stratigraphy of Crose Mere are very well documented.
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Site Name: Vicarage Moss (non SSSI)
Site Description:
Definition of Favourable Condition for SSSI:
Site Vulnerability:

Appendix 6: Site Maps for European Sites





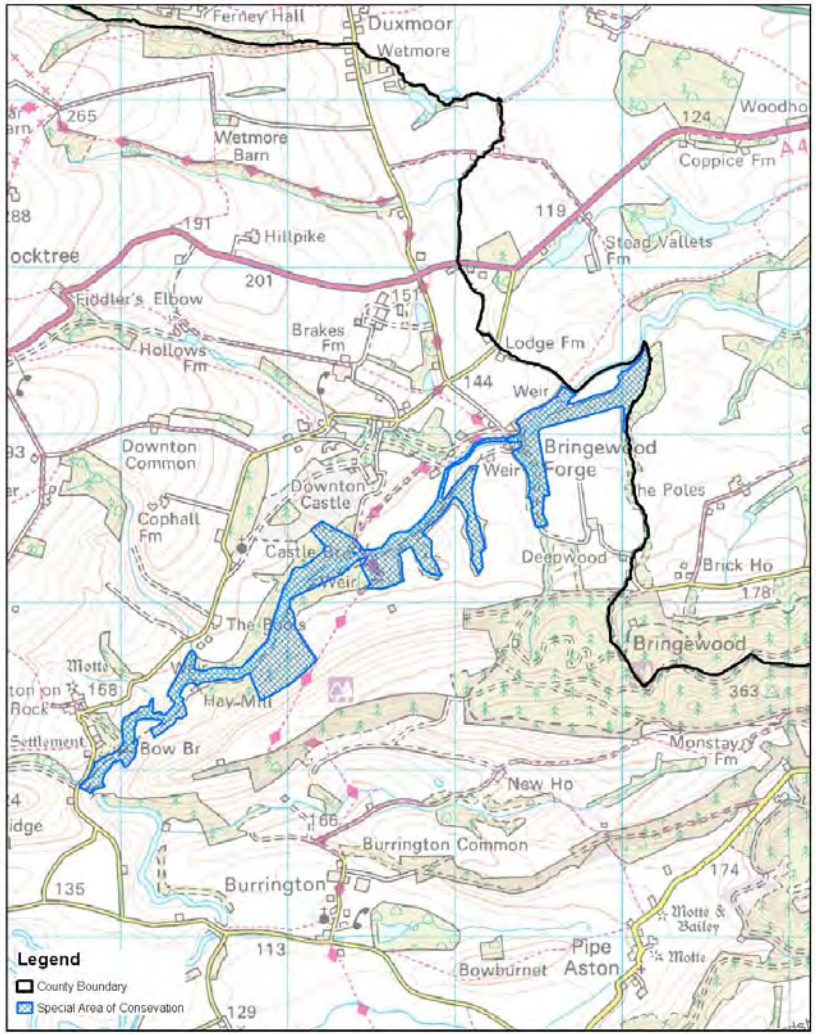


Shropshire Council

Brown Moss Special Area of Conservation (SAC)

Scale 1:10,784

Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND

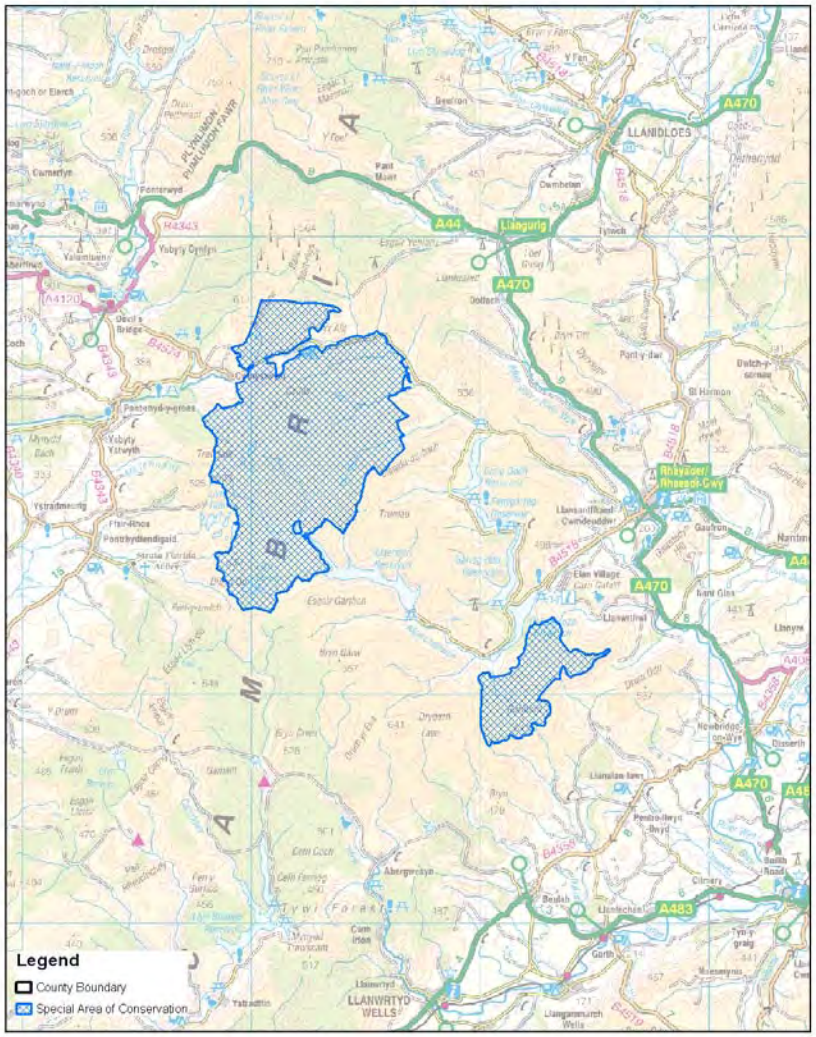


Shropshire Council

Downton Gorge Special Area of Conservation (SAC)

Scale 1:16,728

Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND



Shropshire Council

Elenydd Special Area of Conservation (SAC)

Scale 1:122,437

Development Services,
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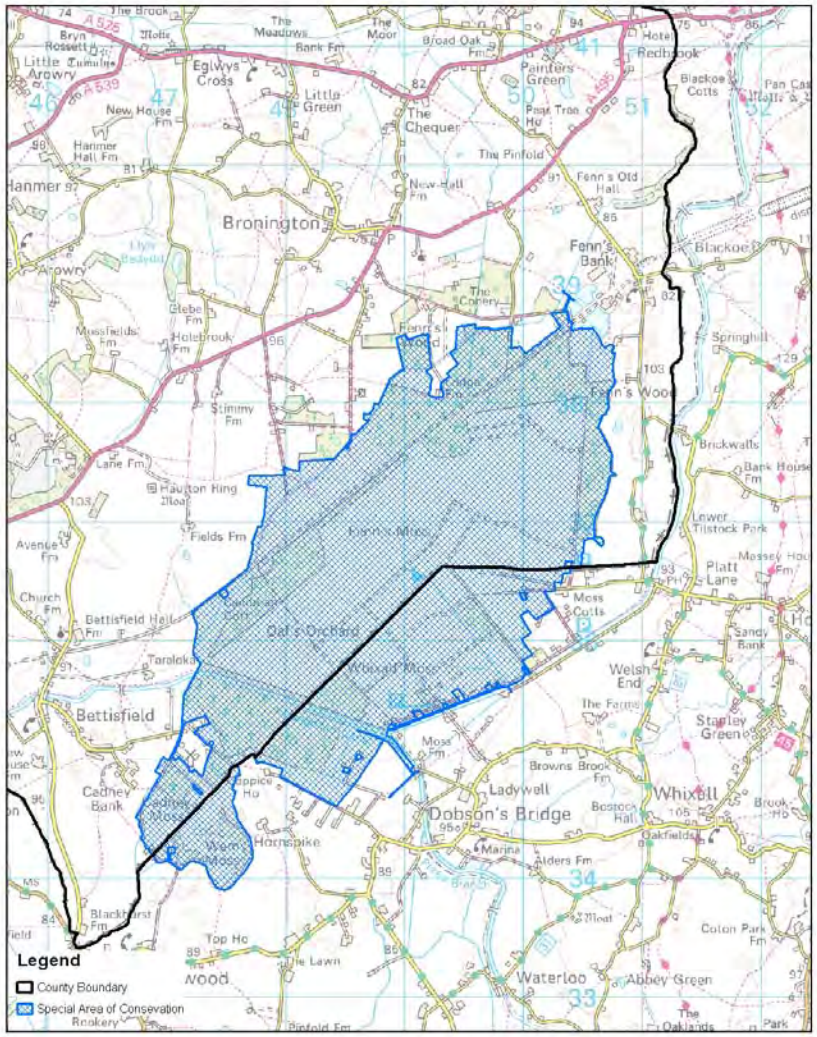
Shrewsbury, Shropshire, SY2 6ND

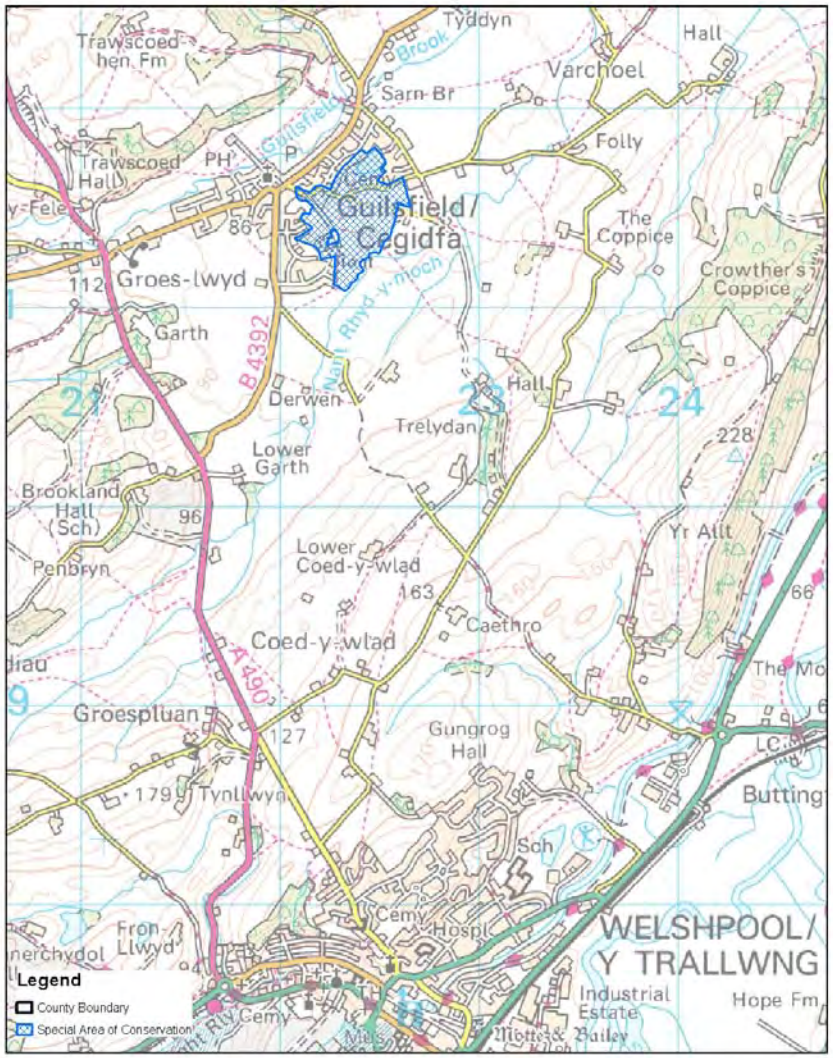


Shropshire Council

Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses Special Area of Conservation (SAC)

Scale 1:23,554

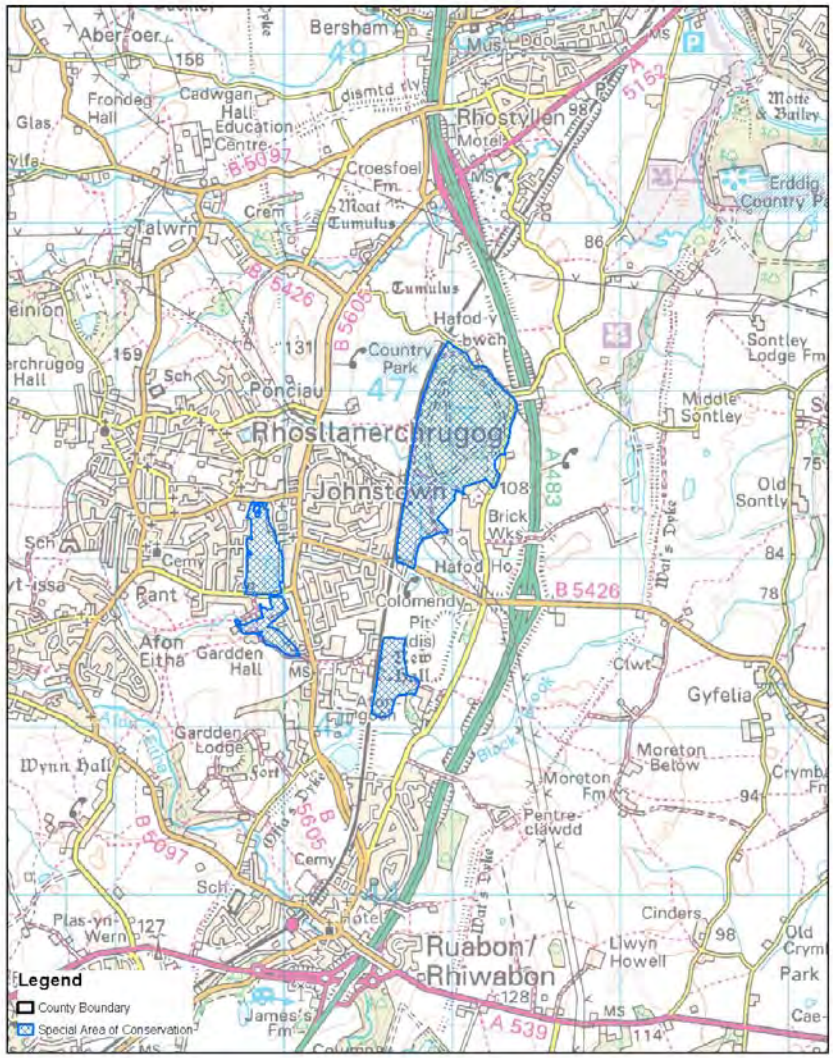
Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND



Granllyn Special Area of Conservation (SAC)

Scale 1:14,372

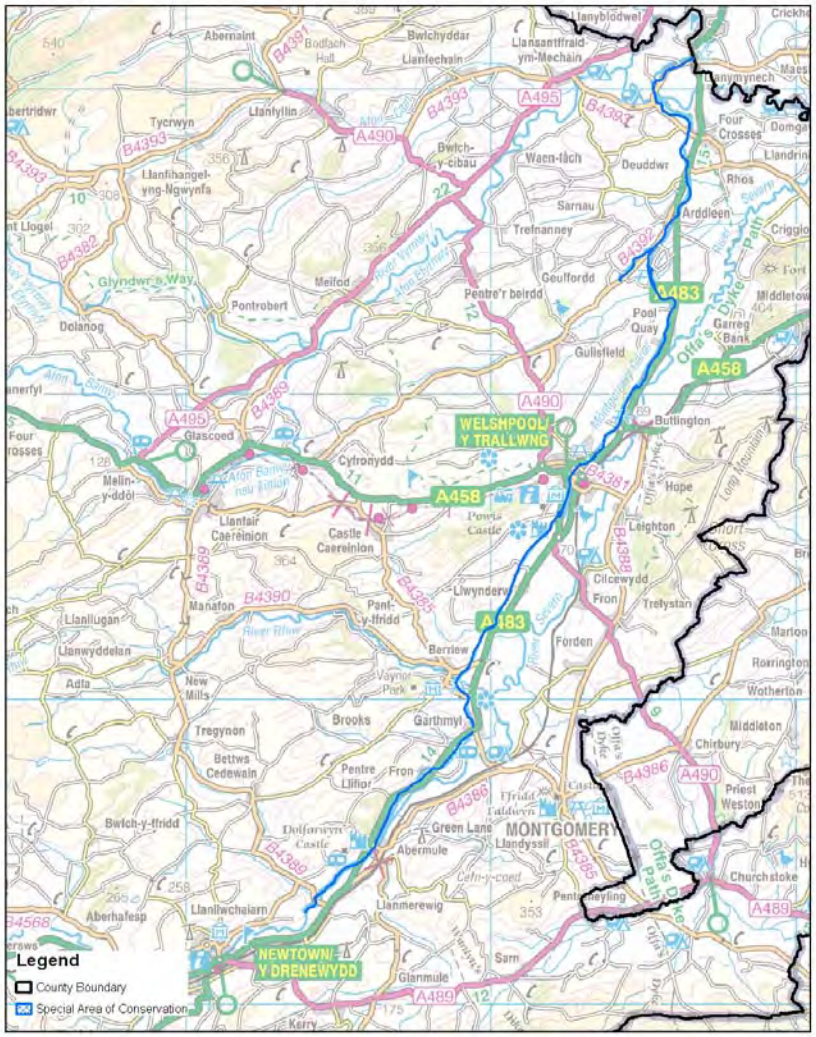
Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND

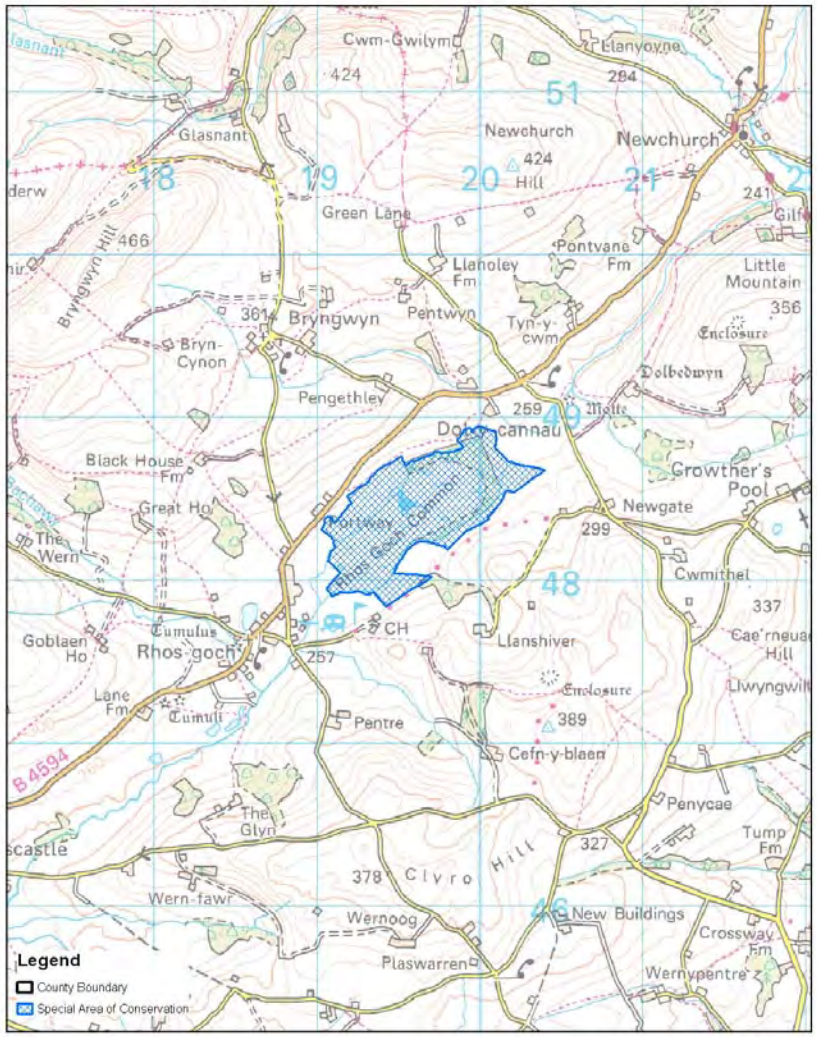


Johnstown Newt Sites Special Area of Conservation (SAC)

Scale 1:17,014

Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND


Legend
County Boundary
Special Area of Conservation
WELSHPOOL / Y TRALLWNG
MONTGOMERY
NEWTOWN / Y DRENEWYDD
A458
A483
A490
A495
A489
B4381
B4388
B4386
B4385
B4389
B4390
B4393
B4382
Shropshire Council
Montgomery Canal Special Area of Conservation (SAC)
Scale 1:91,887
(c) Crown copyright. All rights reserved. Shropshire C 100019801. 2010.
Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND


Legend
County Boundary
Special Area of Conservation
Rhos Goch Common
Glasnant
Newchurch
Green Lane
Pontvane Fm
Llanoley Fm
Bryngwyn
Pentwyn
Tyn-y-cwm
Bryn-Cynon
Pengethley
Black House Fm
Great Ho
Newgate
Growther's Pool
Cwmithel
Llanshiver
Goblaen Ho
Rhos goch
Pentre
Cefn-y-blaen
Penycae
Wern-fawr
Wernoog
New Buildings
Plaswarren
Crossway Fm
Wernypentre
Shropshire Council
Rhos Goch Special Area of Conservation (SAC)
Scale 1:17,210
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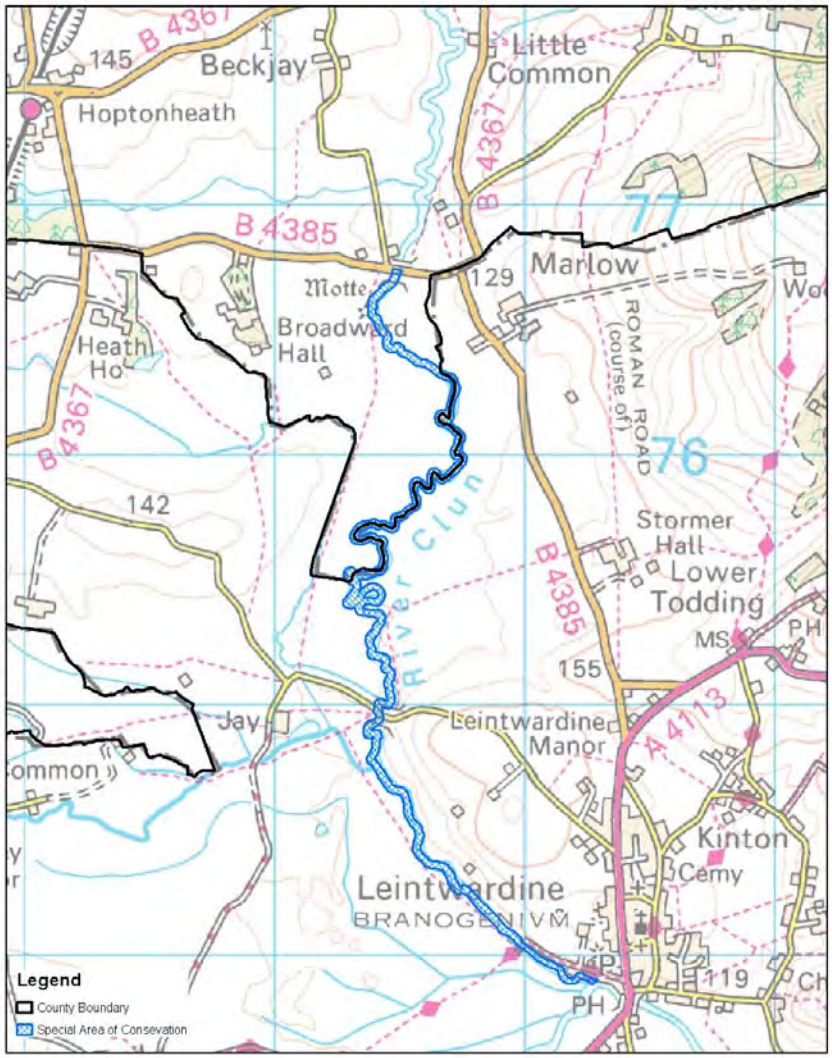
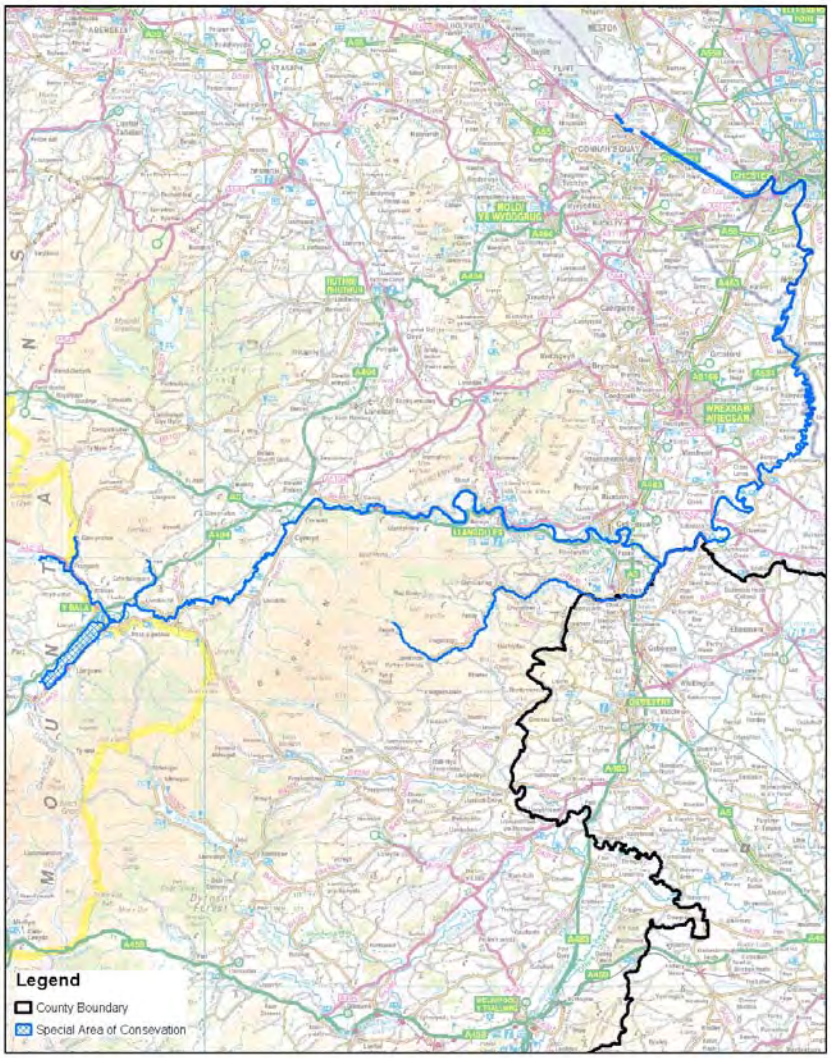
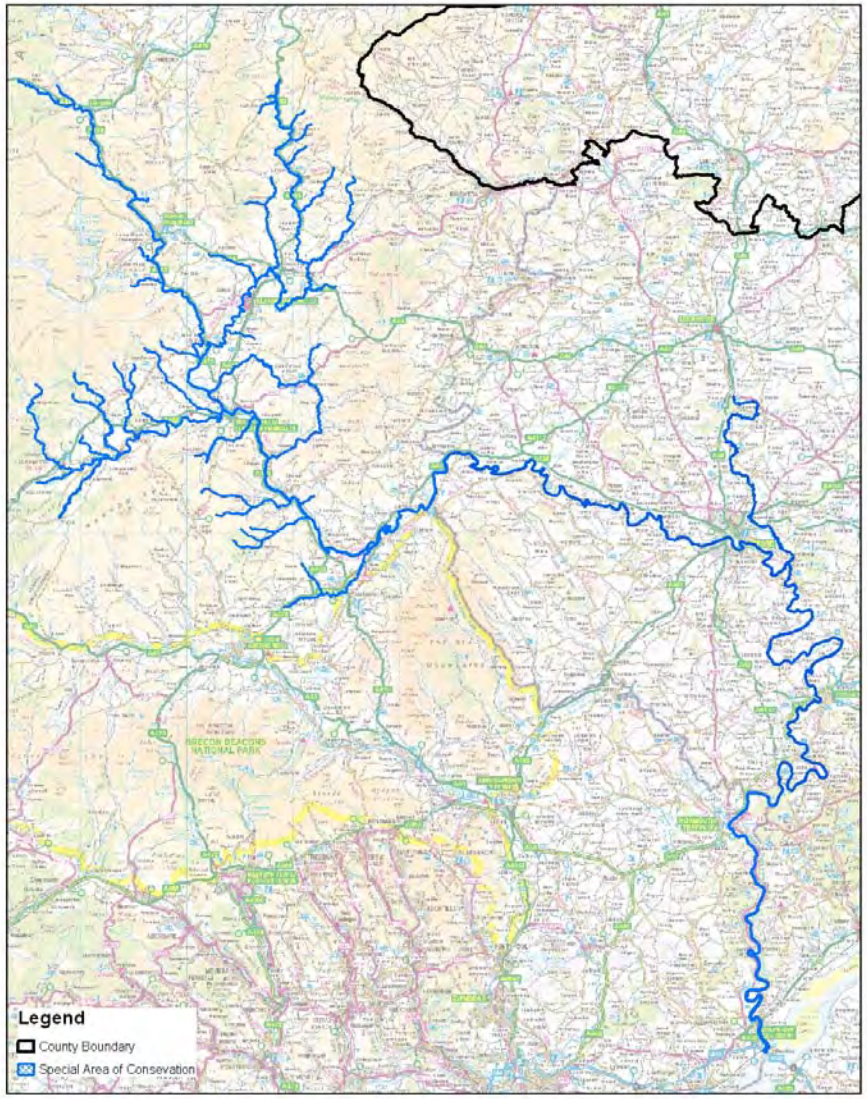
Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND


B 4367
145
Beckjay
Hoptonheath
Little Common
B 4367
B 4385
77
Marlow
129
Motte
Broadward Hall
Heath Ho
ROMAN ROAD (course of)
B 4367
76
142
River Clun
Stormer Hall
Lower Todding
B 4385
PH
155
Jay
Leintwardine Manor
A 4113
ommon
Kinton
Cemy
Leintwardine
BRANOGENIVM
119
PH
Legend
County Boundary
Special Area of Conservation
Shropshire Council
River Clun Special Area of Conservation (SAC)
Scale 1:11,420
(c) Crown copyright. All rights reserved. Shropshire C 100019801. 2010.
Development Services, The Shirehall, Abbey Foregate Shrewsbury, Shropshire, SY2 6ND


Legend
County Boundary
Special Area of Conservation
Shropshire Council
River Dee & Bala Lake Special Area of Conservation (SAC) - English & Welsh Sections
Scale 1:200,000
(c) Crown copyright. All rights reserved. Shropshire C 100019801. 2010.
Development Services, The Shirehall, Abbey Foregate Shrewsbury, Shropshire, SY2 6ND

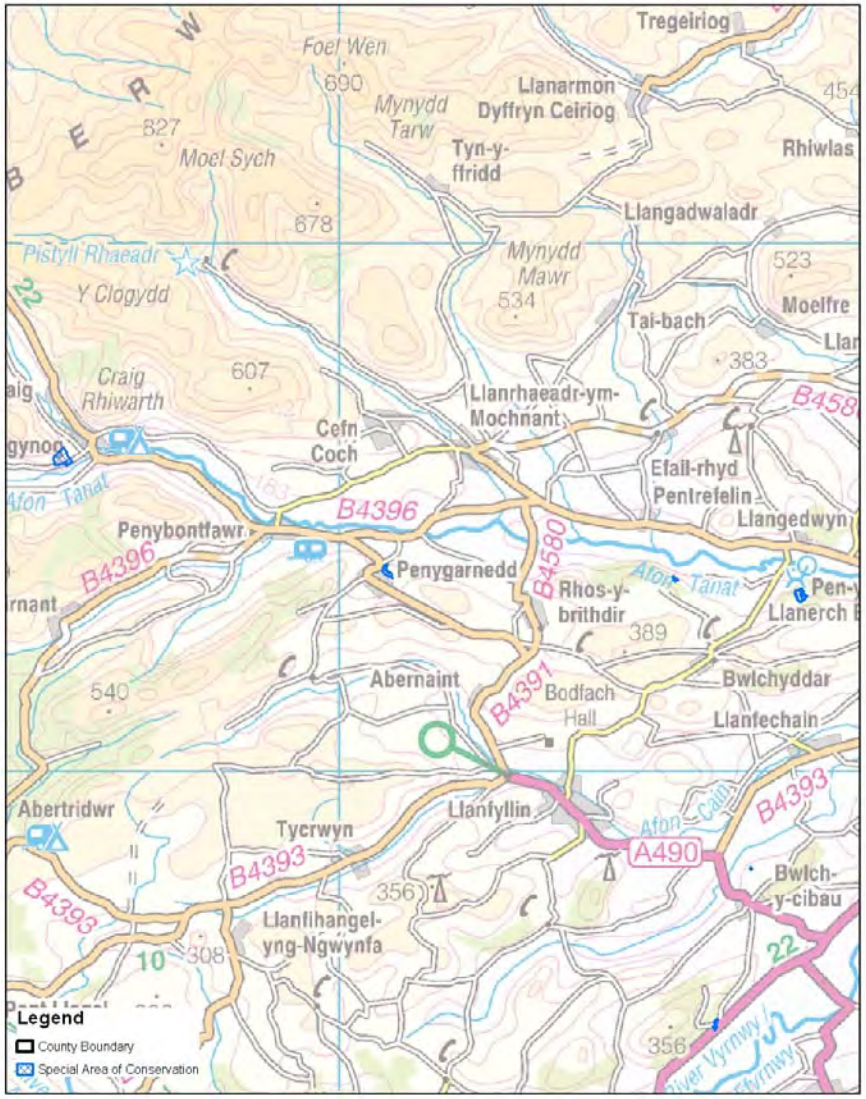


Shropshire Council

River Wye Special Area of Conservation (SAC) - English & Welsh Sections

Scale 1:280,000

Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND

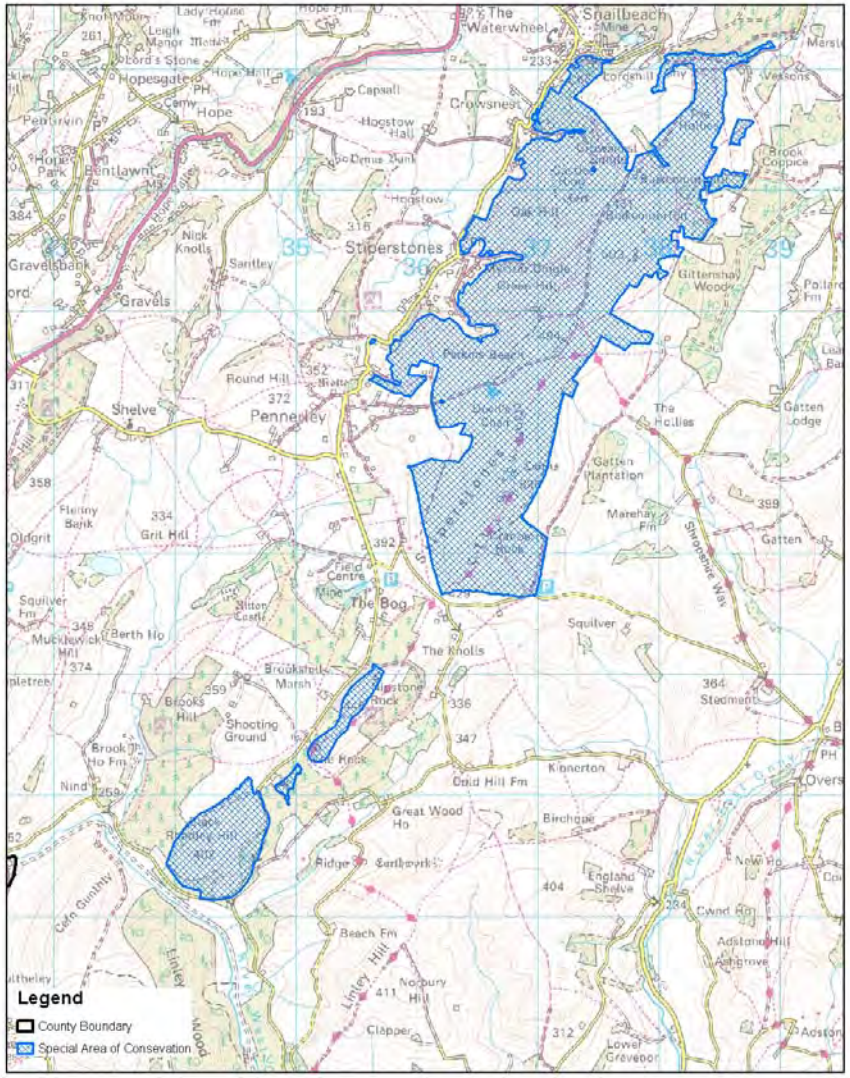


Shropshire Council

Tanat & Vyrnwy Bat Sites Special Area of Conservation (SAC)

Scale 1:56,305

Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND

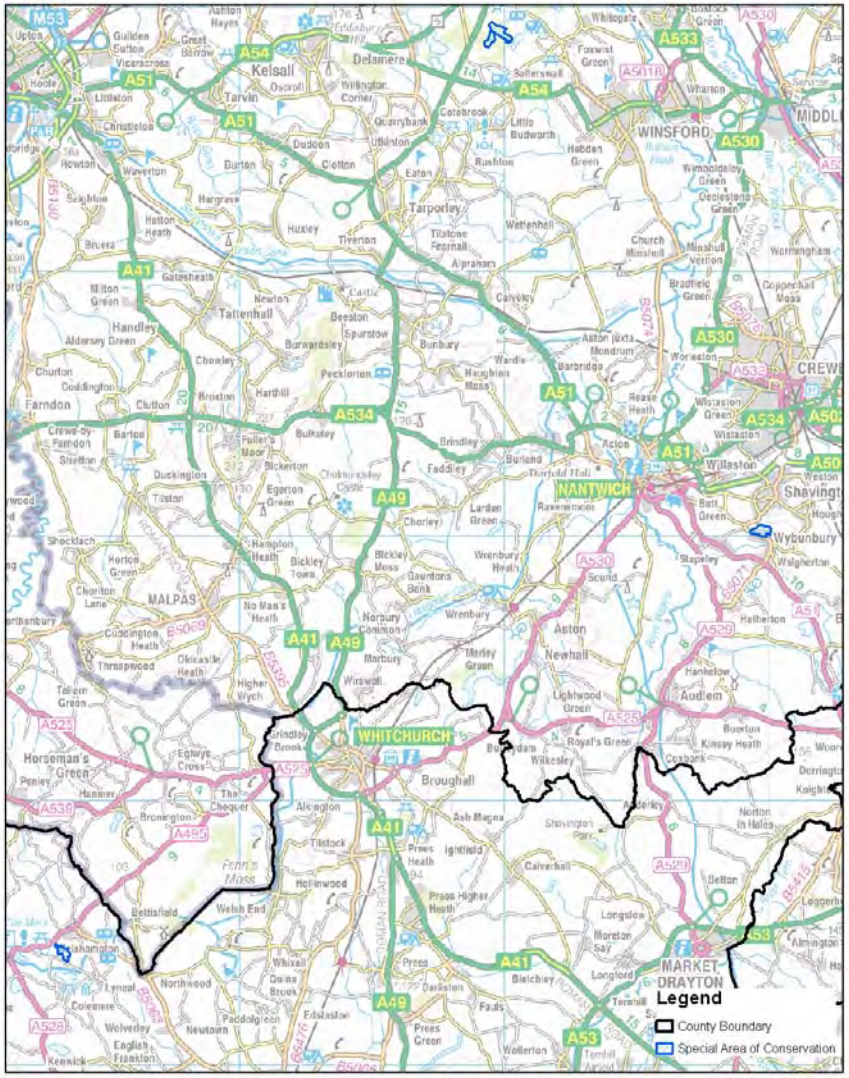


Shropshire Council

The Stiperstones & The Hollies Special Area of Conservation (SAC)

Scale 1:24,104

Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND

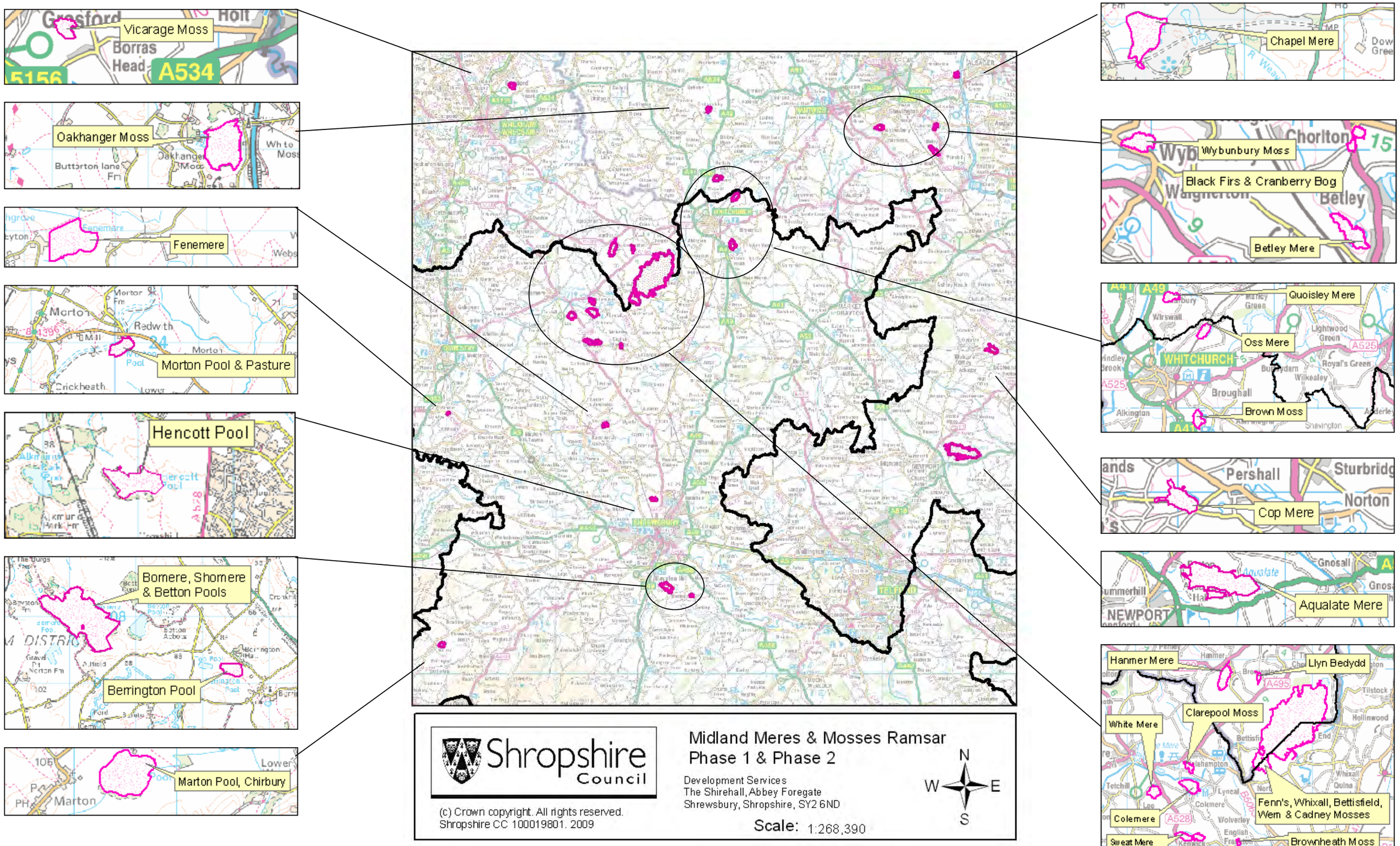


Shropshire Council

West Midland Mosses Special Area of Conservation (SAC)

Scale 1:110,269

Development Services,
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND


Vicarage Moss
Oakhanger Moss
Fenemere
Morton Pool & Pasture
Hencott Pool
Bomere, Shomere & Betton Pools
Berrington Pool
Marton Pool, Chirbury
Chapel Mere
Wybunbury Moss
Black Firs & Cranberry Bog
Betley Mere
Quoisley Mere
Oss Mere
Brown Moss
Cop Mere
Aqualate Mere
Hanmer Mere
Llyn Bedydd
Clarepool Moss
White Mere
Colemere
Sweat Mere & Crose Mere
Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses
Brownheath Moss
Shropshire Council
(c) Crown copyright. All rights reserved. Shropshire CC 100019801. 2009
Midland Meres & Mosses Ramsar
Phase 1 & Phase 2
Development Services
The Shirehall, Abbey Foregate
Shrewsbury, Shropshire, SY2 6ND
Scale: 1:268,390
N
W
E
S

Appendix 7: Consideration of In-combination effects with other plans and policies

Connecting to Success (Review of the Regional Economic Strategy 2004)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
Connecting to Success was published as part of the review of the Regional Economic Strategy (2004 -2010). The Strategy aims to provide a shared vision and direction for the economic development and regeneration of the region. This will be achieved by focusing resources and activities to improve economic performance and competitiveness	The Regional Economic Strategy will influence plans and projects at a regional and local level. It aims to encourage appropriate economic development for different parts of the West Midlands region which could have an impact on the type and location of development.

Rural Renaissance – Advantage West Midlands Rural Framework (Advantage West Midlands, 2005)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Rural Framework sets out Advantage West Midlands' integrated approach to rural development. It demonstrates their role and strategy for implementing the West Midlands Economic Strategy in the rural West Midlands.	Three of the five key pillars may influence the type and location of development in the rural parts of Shropshire. These are: *i)Developing a diverse and dynamic business base:* *ii)Creating the conditions for growth* *iii) Regenerating communities*

The West Midlands Regional Forestry Framework – Growing Our Future (October 2004)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Regional Forestry Framework sets out a long term strategy for the planting and management of forests in the West Midlands	The location, type, size and purpose of woodlands can constrain development. Conversely, development can enable new planting and woodland management. The Core Strategy needs to take both these aspects into account. The HRA will assess the potential implications of woodland planting and management.

West Midlands Regional Spatial Strategy (Revised: Incorporating Phase 1 review) (West Midlands Local Government Association, 2008) **Phase 2 Revision – Preferred Option December 2007**	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The purpose of the West Midlands Regional Spatial Strategy is to provide a strategy to guide the preparation of local authority Local Development Frameworks and Local Transport Plans so that they can deliver to a coherent framework for Regional development. The RSS identifies 4 major challenges for the region: - Urban Renaissance – developing major urban areas so to counter the unsustainable outward movement of people and jobs; - Rural Renaissance – addressing more effectively major changes which are challenging the traditional roles of rural areas and the countryside; - Diversifying and modernising the Region's economy – ensuring that opportunities for growth are linked to meeting needs and that they help reduce social exclusion; and - Modernising the transport infrastructure of the West Midlands – supporting the sustainable development of the Region. The RSS is undergoing three phased reviews although the 4 key priorities of the RSS remain the same. Phase 1 on the Black Country has been completed. Phase 2 is currently ongoing and will set new targets up to 2026 for housing numbers and employment land supply.	The current RSS Phase 2 review provides specific targets for a range of issues, including: - Overall housing targets (district based); - Employment land provision (district based); - Retail provision (named settlements, which includes Shrewsbury); - Office development (named settlements, which includes Shrewsbury); - Waste development (diversion rates based on county / metropolitan boundaries) These targets will be transposed at the local level through individual Local Development Frameworks. The Examination in Public for the Phase 2 Revision was held during May and June 2009 and the Panel has submitted its report to the Secretary of State. As yet there is no timetable for publication of the Secretary of State's Proposed Changes. The Options consultation for Phase 3 of the RSS Revision took place between June and August 2009. Interim guidance is being developed concerning sub-regional apportionments for targets for mineral provision. Options for revised apportionment targets are accompanied by HRA and SA. The Core Strategy identifies broad locations to meet these emerging RSS targets.

Water for People and the Environment: Water Resource Strategy Regional Action Plan for Midlands Region (Environment Agency: December 2009)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Water Resources Strategy for the West Midlands sets out a framework for the management of water resources throughout the region. The Strategy requires an integrated approach by organisations and individuals to achieve its objectives and should inform the production of plans and policies.	The Strategy states that water abstraction cut-backs are necessary in some areas to improve the environment and that water resource options that are flexible to the possible impacts of climate change are preferred. The Strategy requires savings of up to 140 Ml/d compared to the highest growth scenario.

Water for Life and Livelihoods: River Basin Management Plan, Severn River Basin District (Environment Agency: December 2009)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
RBMPs are statutory management plans for the water environment, required by the EU Water Framework Directive. The key aim is to for all waters to achieve 'good' status by 2015. There are two RBMPs relevant to Shropshire: the River Dee (Upper Dee Catchment Division) and the River Severn (Severn Uplands, Shropshire Middle Severn and Teme catchment divisions) The objectives of the RBMP are for urban and rural waters to be more natural and to provide a range of services for people, the environment and the economy.	All public bodies must have regard to the RBMP when exercising their function, including spatial planning. The Core Strategy will include broad locations for future development. The HRA will consider a number of factors which could potentially have an impact on European Sites, including: - alteration to water quality; - increased water abstraction; - increased run-off from new roads and development

River Severn Catchment Flood Management Plan (CFMP): Final Plan (September 2008)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Severn CFMP covers a number of urban areas in both England and Wales including Shrewsbury and Bridgnorth within the Shropshire administrative area. The key purpose of the Severn CFMP is to assess the current and future risks to fluvial flooding within the Severn catchment. Catchment Objectives include contributing towards BAP targets for wet grassland and wet woodland habitats.	The Core Strategy will need to reflect local catchment objectives for reducing and managing flood risk to people, wildlife and habitats, particularly in defining broad locations for growth. The HRA will assess the potential implications of water abstraction and surface run-off on defined European habitats.

River Dee Catchment Flood Management Plan (CFMP): Consultation Draft Plan (September 2008)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Dee CFMP covers part of north Shropshire, including Whitchurch. The key purpose of the Dee CFMP is to assess the current and future risks to fluvial flooding within the Dee catchment. Catchment objectives include improving land drainage practices to provide opportunities to increase the areas of wetlands and create new habitats.	The Core Strategy will need to reflect the Dee catchment objectives for reducing and managing flood risk to people, wildlife and habitats, particularly in defining broad locations for growth. The HRA will assess the potential implications of water abstraction and surface run-off on defined European habitats.

Draft Water Resource Management Plan (Severn Trent Water: May 2008).	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Severn Trent Water Resources Management Plan sets out how the company intend to provide supplies of water over the next 25 years. The Plan explains the challenges and the uncertainties in planning for the future and sets out the range of options open to ensure that the future demand for water can be met.	Publication of the final plan is imminent. The proposed strategy for water supply includes demand management and leakage reduction, as well as new water resource development in the longer term. The HRA will need to assess the implications of new water resource development.

Severn Corridor Catchment Abstraction Management Plan Strategy (CAMS) (Environment Agency: June 2003)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
There are a number of Catchment Abstraction Management Plan Strategies affecting Shropshire. These cover the following areas: ▪ Severn Corridor ▪ Shropshire Middle Severn ▪ Severn Uplands ▪ Teme Catchement The CAMS aim to; inform the public on water resources and licensing practice; provide a consistent approach to local water resources management and to help to balance the needs of water-users and the environment	Some of the main issues covered by CAMS are: • What are the most suitable options for managing the water resources? • How much water is needed to protect the river environment, including the fish and rare species? • How much water do abstractors (e.g. water companies) and other legal water users (e.g. angling clubs) need? • Assessing the availability of water in the area covered by the Plan The HRA will need to assess the effects of water abstraction on sensitive sites.

Shropshire Water Cycle Study (Shropshire Council, to be published March/April2010)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Shropshire Water Cycle Study assesses the impact development will have on the water environment and identifies whether the necessary water infrastructure will be provided in a timely manner to support growth. The Study includes a detailed assessment of the strategic locations for development in Shrewsbury and Oswestry, as well as a high level assessment of the market towns and other centres within Shropshire. The assessment focuses on water demand and supply, water quality and waste water collection and treatment as well as flood risk and drainage. The Study is expected to be completed in Spring 2010.	The Study recognises that there is a finite capacity within the environment to provide new water for development and to deal with waste water, so that it is returned safely to rivers and the sea without having a detrimental impact. Climate change is also bringing fresh challenges as patterns of rainfall change, increasing the risk of flooding as drains become overwhelmed. The Study identifies what impact development will have on the water environment and identifies the most appropriate locations and timing of development, so that adequate water infrastructure is in place and the quality and quantity of Shropshire's water environment is maintained.

Shropshire Local Transport Plan 2006-2011 (Shropshire County Council, 2006)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Local Transport Plan (LTP) sets out the objectives for transport in Shropshire. It's vision is: '*An economically vibrant, healthy, inclusive and sustainable society where people meet many of their needs locally, served by an integrated transport system which allows people to have good and reliable access to jobs, services, learning and leisure opportunities, and which protects and enhances environmental quality and human health*.'	The Core Strategy will need to reflect priorities and objectives set out in the LTP. This has potential to influence the type and location of development, and the need for associated infrastructure.

Shropshire Futures: An Economic Development Strategy for Shropshire (Shropshire Economic Development Forum, December 2004)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
Shropshire Futures is the economic development strategy for Shropshire. The Strategy aims to summarise the strengths, weaknesses, opportunities and threats facing the county's economy by using the framework provided by the four "pillars" identified within the Regional Economic Strategy.	The Core Strategy will need to facilitate appropriate and sustainable economic growth in Shropshire. It will consider provisions currently made for business growth and the expansion there of, as well as considering the potential for new business start-ups. The HRA will need to assess any implications of these emerging proposals for economic development on European Sites.

Adjoining Authorities LDF / Local Plans	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
Adjoining Authorities cover: - **Telford and Wrekin Council** (Adopted Core Strategy, Site Allocations to follow); - **South Staffordshire District Council** (Core Strategy Preferred Options consultation in early 2009); - **Malvern Hills District Council**; - **Wyre Forest District Council;** - **Wrexham Borough Council;** - **Newcastle-under-Lyme** (The Borough has two designated Ramsar sites at Betley Mere and Black Firs and Cranberry Bog); - **Worcestershire County Council;** - **Staffordshire County Council;** - **Powys County Council;** - **Cheshire West and Chester Council (new Unitary);** - **Cheshire East Council (new Unitary);**	The plans and proposals from Shropshire's adjoining authorities could have an impact on European Sites within Shropshire. These in-combination effects could result from allocations or planning policies from existing Local Plans, or from emerging proposals coming forward as part of each authority's Local Development Frameworks. Each of Shropshire's adjoining authorities are at various stages of preparation for their LDF. As part of the preparation for Shropshire's Core Strategy 'Issues and Options' report, face-to-face meetings were held with a number of adjoining authorities. These meetings discussed a number of pertinent planning issues, including any potential in-combination impacts on European sites from cross boundary planning. As both the Shropshire Core Strategy and adjoining authority LDFs get further towards adoption issues identified will be kept under review and will be taken account of in the full Appropriate Assessment stage. The use of a 15 km buffer zone around Shropshire takes these potential cross boundary issues into account.

Wales Spatial Plan Update (July 2008)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Wales Spatial Plan provides the context and direction of travel for local development plans and the work of local service boards. It aims to ensure that what is done in the public, private and third sectors in Wales is integrated and sustainable, and that actions within one area support all the others. Welsh Local Development Plans must have regard to the Wales Spatial Plan but the Plan does not form part of the statutory development plan framework.	The Core Strategy needs to have regard to the context for development in Wales. The HRA will need to assess any implications for European Sites arising from development in Wales.

Wales Transport Strategy (2008) (One Wales, Connecting the Nation)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
This is the Welsh Assembly Government's transport strategy. It takes its lead from the Wales Spatial Plan and aims to promote sustainable transport networks that safeguard the environment whilst strengthening economic and social life.	The Core Strategy will need to assess the priorities and objectives set out in the Wales Transport Strategy. The Strategy influences transport infrastructure some of which may need to connect to transport networks in Shropshire. The HRA may need to assess the impact of transport infrastructure on European sites.

Regional Transport Plan/ Trafnidiaeth Canolbarth Cymru (Mid Wales) September 2009	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Regional Transport Plan provides the policy basis for transport planning in mid-Wales over the next 30 years.	The Plan aims to improve the efficiency, reliability and connectivity of movement within and between Mid Wales and the other regions of Wales and England. It also seeks to deliver a co-ordinated and integrated travel and transport network through effective partnership working.

Regional Waste Plan: North Wales and Regional Waste Plan South East Wales (2004) (Both currently under 1st review)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Regional Waste Plans assist in the allocation, planning and assessment of new waste management facilities and encourage a more sustainable approach to development whilst raising general awareness on a broad range of waste related issues	The Plans provide a land use planning framework to enable individual authorities in the relevant Region to allocate sites in their Unitary Development Plans for new waste management facilities.

Powys Unitary Development Plan (Deposit Draft) 2004	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
The Plan provides a policy framework for positive forward planning, proposals and allocations for future developments and the basis on which consistent development control decisions can be made.	Several modifications have been made to the original deposit draft plan and a public inquiry into further proposed modifications was held in October 2009. The Inspector's report was published in November 2009. The HRA for the Powys UDP should indicate whether any European Sites in Shropshire are likely to be adversely affected by policies in the Plan.

Powys Interim Development Control Guidance: Onshore Wind. Second Draft (May (2008)	
Main elements	**Key objectives relevant to the Core Strategy and HRA**
This IDCG is intended to offer guidance which will assist developers, members of the public, councillors and officers to understand the Council's planning policies relating to wind farms.	The Guidance refines the Strategic Search Areas (SSA's) set out in TAN 8. The Newtown South SSA is within 3km of the Shropshire boundary in places. This SSA has a target of 70 MW of installed wind energy capacity by 2010. There is a general presumption in favour of large scale wind farm development in this area. The HRA will need to assess the implications of large scale wind energy developments close the Shropshire boundary.

Appendix 8: Critical loads and deposition rate for nitrogen, acid, nitrogen oxides, ozone and sulphur dioxide by European Site

European Site	APIS Habitat	Grid Reference	Acid critical load (keq/ha/yr)	Acid deposition (key/ha/yr)	Ammonia critical load (µg/m3)	Ammonia deposition (µg/m^3)	Nitrogen critical load (kg/ha/yr)	Nitrogen Deposition (Kg/ha/yr	Nitrogen Oxides Critical Load (µg/m^3)	Nitrogen Oxides Deposition (µg/m^3)	Ozone critical load (ppb hours)	Ozone (ppb hours	Sulphur dioxide critical load (µg/m^3)	Sulphur dioxide deposition (µg/m^3)
Berwyn SPA	No habitats on SPA citation	SH 917280												
Berwyn and South Clwyd Mountains SAC	Raised bog & blanket bog	SH917280	0.35	2.39	1 - 3	0.5	5 -10	26.3	30	5.8	3000	3596	20	0.7
	Heathland (Upland and lowland heath have the same values at this location)	SH917280	0.35	2.39	1 - 3	0.5	10-20	26.3	30	5.8	3000	3596	20	0.7
	Calcareous grasslands	SH917280	0.35	2.39	1 - 3	0.5	15-25	26.3	30	5.8	3000	3596	20	0.7
Brown Moss SAC	No habitats on SAC citation	SJ562395												
Downton Gorge SAC	Ash Woodland	SO443743	1.42	2.98	1 - 3	1.7	10-15	38.1	30	8.6	5000	4795	20	1.4

European Site	APIS Habitat	Grid Reference	Acid critical load (keq/ha/yr)	Acid deposition (key/ha/yr)	Ammonia critical load (µg/m3)	Ammonia deposition (µg/m^3)	Nitrogen critical load (kg/ha/yr)	Nitrogen Deposition (Kg/ha/yr	Nitrogen Oxides Critical Load (µg/m^3)	Nitrogen Oxides Deposition (µg/m^3)	Ozone critical load (ppb hours)	Ozone (ppb hours	Sulphur dioxide critical load (µg/m^3)	Sulphur dioxide deposition (µg/m^3)
Elenydd SAC	Raised bog & blanket bog	SN824704	0.62	1.49	1-3	0.5	5-10	16.5	30	5.4	3000	3226	20	0.5
	Heathland (Upland and lowland heath same values at this location)	SN824704	0.62	1.49	1-3	0.5	10-20	16.5	30	5.4	3000	3226	20	0.5
Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses SAC	Raised bog & blanket bog	SJ487364	0.10	2.00	1 - 3	2.90	5 -10	25.20	30	8.7	3000	2632	20	1.1
Granllyn SAC	No habitats on SAC citation	SJ 224115												
Johnstown Newt Sites SAC	No habitats on SAC citation	SJ 310466												
Montgomery Canal SAC	No habitats on SAC citation	SJ220058												
Rhos Goch SAC	Raised bog & blanket bog	SO197483	0.25	1.67	1 - 3	1.3	5 -10	20.2	30	7.4	3000	3008	20	0.7
River Clun SAC	No habitats on SAC citation	SO393754												

European Site	APIS Habitat	Grid Reference	Acid critical load (keq/ha/yr)	Acid deposition (key/ha/yr)	Ammonia critical load (µg/m3)	Ammonia deposition (µg/m^3)	Nitrogen critical load (kg/ha/yr)	Nitrogen Deposition (Kg/ha/yr	Nitrogen Oxides Critical Load (ug/m^3)	Nitrogen Oxides Deposition (µg/m^3)	Ozone critical load (ppb hours)	Ozone (ppb hours	Sulphur dioxide critical load (ug/m^3)	Sulphur dioxide deposition (ug/m^3)
River Dee & Bala Lake SAC	Riverine habitats not listed on APIS	SJ423503												
River Wye SAC	Riverine habitats not listed on APIS	SO109369												
	Raised bog & blanket bog (including transition mires & quaking bogs)	SO109369	0.75	1.54	1 - 3	1.3	5 -10	18.5	30	7.7	3000	2998	20	0.8
Tanat & Vrynwy Bat Sites SAC	No habitats on SAC citation	SJ171152												
The Stiperstones & the Hollies SAC	Lowland Heathland	SJ375006	0.35	2	1 - 3	2.3	10-20	24.9	30	7.9	3000	3077	20	0.8
	Oak Woodland	SJ375006	0.82	3.65	1 - 3	2.3	10-15	47	30	7.9	5000	5477	20	0.8
West Midlands Mosses SAC	Dystrophic lakes habitats not listed on APIS	SK026282												
	Raised bog & blanket bog (including transition mires & quaking bogs)	SK026282	0.11	0.22	1 - 3	3	5 -10	27.9	30	13.4	5000	2824	20	2

Critical loads and deposition rate for nitrogen, acid, nitrogen oxides, ozone and sulphur dioxide by Ramsar feature/ SSSI continent site

Ramsar feature/ SSSI Constituent Site	APIS Habitat	Grid Reference	Acid critical load (keq/ha/yr)	Acid deposition (key/ha/yr)	Ammonia critical load (µg/m3)	Ammonia deposition (µg/m^3)	Nitrogen critical load (kg/ha/yr)	Nitrogen Deposition (Kg/ha/yr)	Nitrogen Oxides Critical Load (µg/m^3)	Nitrogen Oxides Deposition (µg/m^3)	Ozone critical load (ppb hours)	Ozone (ppb hours)	Sulphur dioxide critical load (µg/m^3)	Sulphur dioxide deposition (µg/m^3)
Berrington Pool SSSI (Ramsar Phase 1)	Alkaline Fens & Reedbed	SJ525072	0.75	1.91	1 - 3	2.4	10-20 (poor) 15-35 (rich)	23.4	30	9.9	3000	2612	20	1.5
Betley Mere SSSI (Phase 1)	Alkaline Fens & Reedbed	SJ747482	0.75	2.54	1-3	4	10-20 (poor) 15-35 (rich)	32.1	30	14.9	3000	2504	20	2
Bomere, Shomere & Betton Pools SSSI (Phase 1)	Swamp/basin mire habitats not listed on APIS	SJ504078												
Brown Moss SSSI (Phase 1)	Alkaline Fens & Reedbed	SJ562395	0.75	2.71	1-3	4.6	10-20 (poor) 15-35 (rich)	34.9	30	10.9	3000	2625	20	1.5
Clarepool Moss SSSI (Phase 1)	Basin mire habitat not listed on APIS	SJ433342												

Ramsar feature/ SSSI Constituent Site	APIS Habitat	Grid Reference	Acid critical load (keq/ha/yr)	Acid deposition (key/ha/yr)	Ammonia critical load (µg/m3)	Ammonia deposition (µg/m^3)	Nitrogen critical load (kg/ha/yr)	Nitrogen Deposition (Kg/ha/yr)	Nitrogen Oxides Critical Load (µg/m^3)	Nitrogen Oxides Deposition (µg/m^3)	Ozone critical load (ppb hours)	Ozone (ppb hours)	Sulphur dioxide critical load (µg/m^3)	Sulphur dioxide deposition (µg/m^3)
Fenemere SSSI (Phase 1)	Alkaline Fens & Reedbed	SJ445228	0.35	1.98	1-3	3	10-20 (poor) 15-35 (rich)	24.9	30	9	3000	2626	20	1.1
Marton Pool (Chirbury) SSSI (Phase 1)	Swamp/carr habitats not listed on APIS	SJ296027												
Quoisley Mere SSSI (Phase 1)	Alkaline Fens & Reedbed	SJ549456	0.75	2.43	1-3	4.1	10-20 (poor) 15-35 (rich)	31.2	30	9.8	3000	2586	20	1.2
White Mere SSSI (Phase 1)	Open water / carr habitats not listed on APIS	SJ414330												
Wynbunbury Moss SSSI (Phase 1)	Basin Mire/ wet pasture / carr habitats not listed on APIS	SJ697502												
Aqualate Mere SSSI (Phase 2)	Alkaline Fens & Reedbed - data not available for this grid square.	SJ770205												

Ramsar feature/ SSSI Constituent Site	APIS Habitat	Grid Reference	Acid critical load (keq/ha/yr)	Acid deposition (key/ha/yr)	Ammonia critical load (µg/m3)	Ammonia deposition (µg/m^3)	Nitrogen critical load (kg/ha/yr)	Nitrogen Deposition (Kg/ha/yr)	Nitrogen Oxides Critical Load (µg/m^3)	Nitrogen Oxides Deposition (µg/m^3)	Ozone critical load (ppb hours)	Ozone (ppb hours)	Sulphur dioxide critical load (µg/m^3)	Sulphur dioxide deposition (µg/m^3)
Black Firs and Cranberry Bog SSSI (Phase 2)	Basin Mire / carr habitats not listed on APIS	SJ748503												
Brownheath Moss SSSI (Phase 2)	Alkaline Fens & Reedbed	SJ460300	0.75	2.57	1-3	4.4	10-20 (poor) 15-35 (rich)	33	30	8.8	3000	2639	20	1.4
Chapel Mere SSSI (Phase 2)	open water/ swamp /carr habitats not listed on APIS	SJ540519												
Cole Mere SSSI (Phase 2)	Open Water/ wet pasture/carr habitats not listed on APIS	SJ433332												
Cop Mere SSSI (Phase 2)	Alkaline Fens & Reedbed	SJ802297	0.75	2.39	1-3	3.5	10-20 (poor) 15-35 (rich)	30	30	11.7	3000	2659	20	2.1

European Site	APIS Habitat	Grid Reference	Acid critical load (keq/ha/yr)	Acid deposition (key/ha/yr)	Ammonia critical load (ug/m3)	Ammonia deposition (µg/m^3)	Nitrogen critical load (kg/ha/yr)	Nitrogen Deposition (Kg/ha/yr	Nitrogen Oxides Critical Load (ug/m^3)	Nitrogen Oxides Deposition (µg/m^3)	Ozone critical load (ppb hours)	Ozone (ppb hours	Sulphur dioxide critical load (µg/m^3)	Sulphur dioxide deposition (µg/m^3)
Fenn's, Whixall, Bettisfield, Wem & Cadney Mosses (Phase 2)	Raised bog & blanket bog	SJ490365	0.10	2.00	1-3	2.90	5 - 10	25.20	30	8.70	3000	2632	20	1.1
Hanmer Mere (Phase 2)	Not a SSSI so no breakdown of features given in Treweek (2009)													
Hencott Pool SSSI (Phase 2)	Carr habitats not listed on APIS	SJ490160												
Linmer Moss SSSI (Phase 2)	Basin mire habitat not listed on APIS	SJ547707												
Llyn Bedydd (Phase 2)	Not a SSSI so no breakdown of features given in Treweek (2009)													
Morton Pool & Pasture SSSI (Phase 2)	Swamp/ wet pasture / carr habitats not listed on APIS	SJ301239												

European Site	APIS Habitat	Grid Reference	Acid critical load (keq/ha/yr)	Acid deposition (key/ha/yr)	Ammonia critical load (ug/m3)	Ammonia deposition (µg/m^3)	Nitrogen critical load (kg/ha/yr)	Nitrogen Deposition (Kg/ha/yr	Nitrogen Oxides Critical Load (ug/m^3)	Nitrogen Oxides Deposition (µg/m^3)	Ozone critical load (ppb hours)	Ozone (ppb hours	Sulphur dioxide critical load (µg/m^3)	Sulphur dioxide deposition (µg/m^3)
Oss Mere SSSI (Phase 2)	Swamp/ wet pasture / carr habitats not listed on APIS	SJ565438												
Sweat Mere & Crose Mere SSSI (Phase 2)	Alkaline Fens & Reedbed	SJ434304	0.09	2.1	1-3	3.1	10-20 (poor) 15-35 (rich)	26.5	30	8.8	3000	2649	20	1.2
Vicarage Moss (Phase 2)	Not a SSSI so no breakdown of features given in Treweek (2009)													