

South Gloucestershire Core Strategy

Habitats Regulations Assessment

March 2011

SOUTH GLOUCESTERSHIRE CORE STRATEGY

HABITATS REGULATIONS ASSESSMENT (HRA)

1. Introduction

- 1.1 South Gloucestershire covers an area of 497 sq. km., combining a mixture of urban development – the northern and eastern fringes of Bristol and the commercial retail centre of Cribbs Causeway beside the M5 on its western edge – with an extensive rural landscape stretching from the Cotswold Hills to the flat coastal floodplain of the Severn Levels and the shoreline of the Severn Estuary containing the towns of Chipping Sodbury, Yate and Thornbury and some 30 or so villages. It has a population of 252,000, with 60% living within the urban conurbation and higher than the national average for employment. The area has a diverse heritage of historic buildings and industry and archaeology and a rich array of wildlife, ranging from the commonplace to the internationally rare and important.



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Need for Assessment

- 1.2 European Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (known as the 'Habitats Directive') provides legal protection for habitats and species identified as being of European importance.
- 1.3 Article 2 of the Directive requires the maintenance or restoration of these habitats and species, in a favourable condition, and is achieved through the establishment and maintenance of a pan-European network of protected areas referred to as Natura 2000 (N2K) sites, comprised of Special Areas of Conservation (SAC) and Special Protection Areas (SPA). It is Government policy that sites designated as wetlands of international importance under the Ramsar Convention (Ramsar sites) are subject to the same provisions as Natura 2000 sites.
- 1.4 Article 6(3) of the Directive requires any plan or project likely to have a significant effect on a Natura 2000 site be subject to 'appropriate assessment'. This effectively means an assessment of the impacts of any such plans/projects on the features of interest for which a European site has been designated to maintain their integrity. This requirement is implemented in the UK, under Regulations 61 of the Conservation of Habitats and Species Regulations 2010 (Habitats Regulations 2010).
- 1.5 The Conservation (Natural Habitats & c) Regulations 1994 (implementing EC Directive 92/43 - 'the Habitats Directive 1992') were also amended in 2007 to include Part IVA, Regulations 85A – 85E, *Appropriate Assessments for Land Use Plans in England and Wales*. The amendment was a result of the European Court of Justice determining that land-use plans (such as local development documents) qualify as 'a plan or project' and must therefore be subject to assessment where they are considered likely to have a significant effect on a Natura 2000 site. These 1994 Regulations have now been replaced by the 2010 Habitats Regulations.
- 1.6 As 'plans', the Regulations require competent authorities to carry out an appropriate assessment (Habitats Regulations Assessment) of local development documents before being adopted under the Planning and Compulsory Purchase Act 2004. In the case of local development documents, the competent authority is the local planning authority in question.
- 1.7 The purpose of a Habitats Regulations Assessment (HRA) is to assess the impacts of a land-use plan against the conservation objectives of Natura 2000 Sites. It must determine whether the plan would adversely affect the integrity of the site in terms of those objectives: where there is likely to be a negative impact, other options and/or mitigation should be explored to avoid any potentially damaging effects.
- 1.8 Plans which are likely to produce a negative effect may still be permitted under Article 6(4) of the Directive, provided there are no alternatives and imperative reasons of overriding public interest as to why they should go ahead - although such cases are rare and will still necessitate compensation to safeguard the overall integrity of the Natura 2000 network.

South Gloucestershire Core Strategy

- 1.9 The Core Strategy is a key component within the South Gloucestershire Local Development Framework planning portfolio, a series of documents which will eventually replace the South Gloucestershire Local Plan and the Minerals and Waste Local Plan which were adopted in 2006 and 2002 respectively.
- 1.10 A pre-submission draft dated March 2010 was published for public consultation, which ran from March – August 2010.
- 1.11 The Core Strategy sets out a vision for the area based on evidence and community objectives, together with a detailed spatial strategy for future development in South Gloucestershire up to 2026. It includes policies and programmes for the general location of new development, its type and scale, and the resources to deliver it. The Strategy also includes development principles to ensure new development addresses key issues, for example climate change, renewable energy and flood risk.
- 1.12 Over the next few years, further documents will be brought forward as part of the Local Development Framework, including the Sites and Policies Development Plan Document and a series of Supplementary Planning Documents (SPD). All will have to be in conformity with the policies contained in the Core Strategy.

The Habitats Regulations Assessment (HRA) Process

- 1.13 This Assessment of the Core Strategy follows the 3 stage process outlined in the DCLG 'Guidance on Planning for the Protection of European Sites: Appropriate Assessment (consultation document) of 2006'.
- 1.14 The 3 stages are referred to cumulatively as Habitats Regulations Assessment to clearly distinguish the whole process from the specific step within it referred to as the Appropriate Assessment.
- 1.15 Table 1 below sets out the 3 stages and their purposes.
- 1.16 Prior to publication of the pre-submission draft Core Strategy, an initial screening (stage 1) was carried out and attached as Appendix 3 of the Sustainability Appraisal (March 2010). However, Natural England indicated that the work was insufficient.
- 1.17 This Habitats Regulations Assessment has been carried out on the pre-submission draft Core Strategy and has been used to refine the Core Strategy and policy wording prior to Submission. The changes proposed are set out in this Assessment and in the Schedule of Proposed Changes published December 2010, which will form part of the submission documentation . As an integral part of the process, the Council has met and worked with Natural England to identify and assess all potential impacts and define appropriate changes to the Core Strategy.
- 1.18 The approach taken has been to identify issues and concerns in relation to compliance with the Habitats Regulations Assessment and put forward mitigation

responses, which have been incorporated into the Proposed Changes to the pre-submission draft Core Strategy. These Proposed Changes were published for comments in December 2010. The mitigation responses address the issues and concerns raised by the HRA but have also been drafted so as to be consistent with the general approach being taken in the Core Strategy, which is that the document should be read as a whole and, consequently, that it is unnecessary to caveat a policy or policies with matters addressed in another policy or policies. In respect of environmental protection and management, Policy CS9 is the relevant policy. Therefore the main reference to the N2K site should be here, together with references in the spatial section of the document in the Severnside chapter, making it unnecessary to have more than limited references elsewhere in the document. The Proposed Changes have been put forward on this basis.

- 1.19 **This document, therefore, comprises the Habitats Regulations Assessment (HRA) of the pre-submission draft of the South Gloucestershire Core Strategy, in accordance with Regulation 61 (see table below) of the Habitats Regulations 2010.**

Table 1 – HRA Process Guide

Habitats Regulation Assessment - Stage	Purpose
1. Initial Screening	Determining whether the plan 'either alone or in combination with other plans or projects' is likely to have a significant impact on a European site
2. Appropriate Assessment	Determining whether, in view of the site's conservation objectives, the plan 'either alone or in combination with other plans or projects' would have an adverse impact (or risk of this) on the integrity of the site. If not, the plan can proceed.
3. Mitigation and Alternatives	Where the plan is assessed as having an adverse impact, or uncertain impact (or risk of this) on the integrity of a site, there should be an examination of mitigation measures and alternative solutions. If it is not possible to identify mitigation and alternatives it will be necessary to establish the ' <i>imperative reasons of overriding public interest</i> ' (IROPI). This is not considered a standard part of the process and will only be carried out in exceptional circumstances.

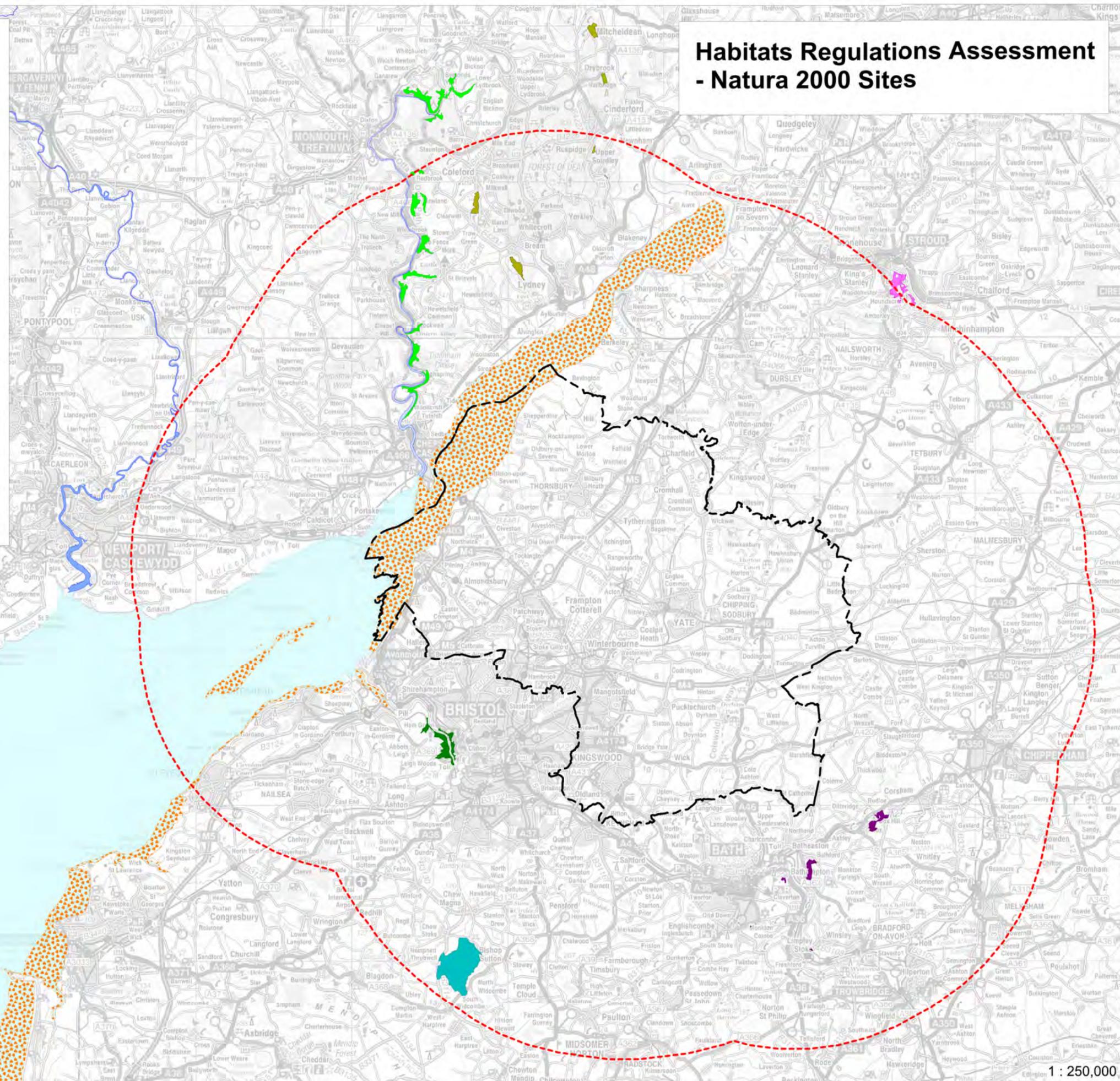
2. Stage 1 – Initial Screening of Natura 2000 Sites

- 2.1 The Council has undertaken an in-house identification (screening) of the Natura 2000 sites to be considered, based on the HRA of the West of England Joint Waste Core Strategy and the HRA of the Bristol City Council Core Strategy.
- 2.2 The result of the preliminary screening exercise was a list of Natura 2000 sites both within South Gloucestershire and up to 15km from the boundary. The radius of 15km was chosen to accord with the HRA screening processes carried out on the Joint Waste Core Strategy and Bristol City Council's Core Strategy. This created an initial list of sites which were considered as part of the screening process.
- 2.3 A part of Rodborough Common SAC technically lay within the 15km radius of search. Given this, the site's distance from South Gloucestershire and the nature of the Annex 1 habitat making up the reason for selection as a SAC (semi-natural dry grasslands and scrubland facies on calcareous substrates), it was considered that the likelihood of any impacts arising as a result of South Gloucestershire Core Strategy policies were so slight as to enable Rodborough Common SAC to be immediately scoped out of the HRA.
- 2.4 Eight sites were identified for further consideration:-
- Avon Gorge Woodlands SAC
 - Bath & Bradford on Avon Bats SAC
 - Chew Valley Lake SPA
 - River Usk/Afon Wysg SAC
 - River Wye/Afon Gwy SAC
 - Severn Estuary SPA and SAC
 - Wye Valley & Forest of Dean Bat Sites SAC
 - Wye Valley Woodlands/Coetrioedd Dyffryn Gwy SAC

The Figure on the following page shows the location of each N2K site within a catchment of 15km from South Gloucestershire.

Habitats Regulations Assessment - Natura 2000 Sites

-  South Gloucestershire Council Boundary
-  15Km from South Gloucestershire Boundary
-  Avon Gorge Woodlands SAC
-  Bath and Bradford on Avon Bats SAC
-  Chew Valley Lake SPA
-  River Usk / Afon Wysg SAC
-  River Wye / Afon Gwy SAC
-  Rodborough Common SAC
-  Severn Estuary SAC
-  Severn Estuary SPA
-  Wye Valley and Forest of Dean Bat Sites SAC
-  Wye Valley Woodlands / Coetrioedd Dyffryn Gwy SAC



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Natura 2000 Site Profiles

- 2.5 Regulation 61 of the Habitats Regulations stipulates that the ‘appropriate assessment’ process should consider ‘the implications for the site in view of that site’s conservation objectives’. As such, the HRA needs to understand the reasons for the N2K sites’ designation (i.e. the particular species and habitats present); the condition of each site *viz a viz* their conservation objectives; and the factors which might adversely impact upon the qualifying features for which the site is designated to determine whether these are likely to be significant.
- 2.6 Following the initial screening exercise, a profile of each of the eight N2K sites was drawn up by desk study, based on information provided by the Joint Nature Conservation Committee, Natural England and Countryside Council for Wales (CCW) websites. This information included the sites’ location, total area and the reasons for its designation as a N2K site (the qualifying features and species), as well as the factors likely to have the greatest harmful effects on each site, as follows:

Avon Gorge Woodlands SAC

Primary reasons for SAC designation – habitats:

Annex I habitats - *Tilio-Acerion* forests of slopes, screes and ravines (A priority feature). It is important because of the high concentration of small-leaved lime (*Tilia cordata*) compared with other sites in the region, presence of rare whitebeams (*Sorbus* spp.), including two unique to the Avon Gorge (*S. bristoliensis* and *S. wilmottiana*), and other uncommon plants, such as green hellebore (*Helleborus viridis*). Species-rich transitions to scrub and grasslands are associated with the woodland. Small groves of yew (*Taxus baccata*) also occur on some of the stonier situations.

SAC Qualifying features but not a primary reason for selection of this site:

Annex I habitats - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia)

Vulnerabilities and potential adverse effect:

Physical loss; non-physical disturbance from air or light pollution, physical disturbance from increased (and) human presence. Physical harm from climate change - could change species composition or survival. There are both potential alone and in combination impacts for all of the above.

Bath & Bradford on Avon Bats SAC

Reasons for designation – habitats and species

Annex II species - this site includes the hibernation sites associated with 15% of the UK greater horseshoe bat *Rhinolophus ferrumequinum* population and is selected on the basis of the importance of this exceptionally large overwintering population. Small numbers of Bechstein’s bats *Myotis bechsteinii* have been recorded hibernating in abandoned mines in this area, though maternity sites remain unknown.

Qualifying features but not a primary reason for selection of this site:

Annex II species - Lesser horseshoe bat *Rhinolophus hipposideros*.

Vulnerabilities and potential adverse effect:

Potential for loss of foraging areas due to development allocation pressure; increased disturbance from human presence, noise and visual presence, light pollution; development allocation pressure.

Bats need suitable feeding areas within 5km of roosts but will forage 9km+ from roosts at times. This requires permanent pasture grazed by stock, especially cattle, and a network of hedges and other linear features. In urban fringe areas lack of livestock farming could adversely affect habitat.

Chew Valley Lake SPA

Primary Reasons for designation – Species:

Over winter the area regularly supports: shoveler *Anas clypeata* (North western/ Central Europe), 1.3% of the population, 5 year peak mean 1991/92-1995/96

Vulnerabilities and potential adverse effects:

The lake supplies drinking water to the city of Bristol and surrounding area. Large numbers of people use the area for recreational activities including trout fishing, sailing and walking. A zoning scheme minimises any adverse impacts on the wildlife of the area. The site is owned and managed by Bristol Water Plc. They have successfully implemented a nature conservation strategy for the site. Potential for increase in visitor numbers to the site – pressure (from Sustrans for example) for increased visitor access to previously quiet, refuge areas of the lake. Increase in water use resulting from increase in dwellings – shoveler numbers, and those of the other ducks, tend to be higher in years when there is significant late summer drawdown of water at Chew Valley Lake.

River Usk/Afon Wysg SAC

Primary reasons for designation – habitats and species:

Annex II species – The River Usk is important for its population of sea lamprey *Petromyzon marinus*. It also supports a healthy population of brook lamprey *Lampetra planeri* and is considered to provide exceptionally good quality habitat to the extent that it is likely to ensure the continued survival of the species in this part of the UK. Supports a healthy population of river lamprey *Lampetra fluviatilis* and is considered to provide exceptionally good quality habitat likely to ensure the continued survival of the species in this part of the UK. Twaite shad *Alosa fallax*; the Usk one of the largest rivers in south Wales and twaite shad has long been known to spawn there. The Usk is one of only four sites in the UK where a known breeding population of twaite shad occurs (the Rivers Wye and Tywi are other SAC sites). The Usk is also famous for its salmon *Salmo Salar* with a high proportion (c. 30– 40%) of multi sea winter fish recorded in the rod catch; in 1999 the Usk had highest estimated egg deposition of any British river south of Cumbria, and was one of the few rivers in England and Wales to exceed its spawning target for salmon. The Usk represents bullhead *Cottus gobio* in the southern part of its range in Wales. Otter *Lutra lutra*; the River Usk is an important site for otters in Wales.

Qualifying features but not a primary reason for selection of this site:

Annex I habitats - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. Annex II species - Allis shad *Alosa alosa*.

Vulnerabilities and potential adverse effect:

Concerns over long-term aquatic and riparian habitat degradation. Increasing demand for abstraction from the river for potable water.

River Wye/Afon Gwy SAC

Primary reasons for designation – habitats and species:

Annex I habitats – Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. Annex II species - that are a primary reason for selection of this site include: white-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes* (best site known in Wales for the species); sea lamprey *Petromyzon marinus*; brook lamprey *Lampetra planeri*; river

lamprey *L. fluviatilis*. The Wye provides exceptionally good quality habitat for the above species and supports healthy populations. Twaite shad *Alosa fallax*; Atlantic salmon *Salmo salar* - the Wye salmon population is particularly notable for the very high proportion (around 75%) of multi sea winter (MSW) fish, a stock component which has declined sharply in recent years throughout the UK. Bullhead *Cottus gobio*; otter *Lutra lutra* - the Wye holds the densest and most well-established otter population in Wales, representative of otters occurring in lowland freshwater habitats in the borders of Wales.

Qualifying features but not a primary reason for selection of this site:

Annex I habitats - Transition mires and quaking bogs

Vulnerabilities and potential adverse effects:

Increasing demand for abstraction from the river for agriculture and potable water; demand for increased recreational activities.

Severn Estuary SAC/SPA

Reasons for designation – habitats and species:

Annex I habitat - estuaries, mudflats and sandflats not covered by seawater at low tide; Atlantic salt meadows *Glauco-Puccinellietalia maritimae*. Annex II species – sea lamprey *Petromyzon marinus*; river lamprey *Lampetra fluviatilis*; twaite shad *Alosa fallax*.

Qualifying features but not a primary reason for selection of this site for the SAC/SPA:

Annex 1 habitats – sandbanks which are slightly covered by sea water all of the time; reefs. Annex I birds – Bewick's swan *Cygnus columbianus bewickii*; migratory species – ringed plover *Charadrius hiaticula* very significant numbers along Avon Coast; curlew *Numenius arquata*; dunlin *Calidris alpina alpina*; pintail *Anas acuta*; redshank *Tringa tetanus*; shelduck *Tadorna tadorna*; gadwall *Anas strepera*; European white fronted goose *Anser albifrons albifrons*. Qualifies under Article 4.1 of Bird's Directive for internationally important wintering population of Bewick's Swan. Under Article 4.2 for internationally important numbers of 5 migratory species: Bewick's swan, European white fronted goose, shelduck, gadwall, dunlin, redshank. SPA Citation also lists 12 species of national importance including wigeon, teal, pintail, pochard, tufted duck, ringed plover, grey plover, dunlin, curlew, whimbrel, spotted redshank and redshank.

Vulnerabilities and potential adverse effects:

Potential for increase in disturbance to inter-tidal habitats and feeding and roosting wildfowl from planned increased in population in North Somerset, Bristol and South Gloucestershire. Port expansion could impact on qualifying features of Severn Estuary European Marine Site. Additional development behind sea walls could constrain sea wall re-alignment which would reduce the ability of designated sites to respond to sea level rise. Land claim leading to salt marsh loss; loss of intertidal habitat due to coastal squeeze; (plus/or sediment starvation caused by aggregate dredging) development pressure for wind farms leading to potential impacts on SPA bird populations from collision mortality, disturbance and habitat loss; aggregate extraction and dredging; construction of barrage or flood defences; loss of hinterland landwards of the SPA which is used for roosting and feeding birds during high-tide could cause disturbance or adversely affect bird numbers ; disturbance from increased recreational activities very likely to continue increasing; toxic contamination from industrial sources, e.g. oil, non-toxic contamination from nutrient enrichment; possible sources of pollution include discharges of sewage and chemicals from outfalls, run-off of agricultural chemicals and nutrients, thermal pollution, contaminated sediments, airborne pollution from power stations and industrial developments, pollution accidents and incidents and leachate from civic rubbish tips. Increased waste water treatment from new housing will compound current discharges. There are both potential alone and in-combination impacts for all of the above.

Wye Valley & Forest of Dean Bat Sites SAC

Primary reasons for designation – Species:

Annex II species - this complex of sites contains by far the greatest concentration of lesser horseshoe bat *Rhinolophus hipposideros* in the UK, totalling about 26% of the national population. It has been selected on the grounds of the exceptional breeding population, and the majority of sites within the complex are maternity roosts. The bats are believed to hibernate in the many disused mines in the area. This site also contains greater horseshoe bat *Rhinolophus ferrumequinum* in the northern part of its range, with about 6% of the UK population; it is the main maternity roost for bats in this area, which are believed to hibernate in the many disused mines in the Forest.

Qualifying features but not a primary reason for selection of this site - None

Vulnerabilities and potential adverse effects - Loss of foraging areas due to development allocation pressure; disturbance of bat roosts, bat maternity sites and bats in hibernation.

Wye Valley Woodlands/Coetrioedd Dyffryn Gwy SAC

Primary reasons for designation – habitats and species

Annex I habitats - beech forests *Asperulo-Fagetum*. Beech stands occur as part of a mosaic with a wide range of other woodland types, and represent the western range of *Asperulo-Fagetum* beech forests. Such a variety of woodland types is rare within the UK. In places lime *Tilia* sp., elm *Ulmus* sp. and oak *Quercus* sp. share dominance with the beech. *Tilio-Acerion* forests of slopes, screes and ravines. *Priority feature* - form one of the most important areas for woodland conservation in the UK and provide the most extensive examples of *Tilio-Acerion* forest in the west of its range. Wye Valley is also representative of yew *Taxus baccata* woods in the south-west of the habitat's range

Qualifying features but not a primary reason for selection of this site:

Annex II species - lesser horseshoe bat *Rhinolophus hipposideros*.

Vulnerabilities and potential adverse effects:

Principal pressures are from lack of management (particularly traditional management - e.g. coppice) and inappropriate management proposals which would alter the recognized woodland stand types.

2.7 The HRA screening stage led to the removal of the following five N2K sites from further consideration, as it was concluded that no adverse impacts on the sites would occur, based on their distance from any major development identified in the pre-submission draft Core Strategy:

- Wye Valley & Forest of Dean Bat Sites SAC
- Bath & Bradford on Avon Bats SAC
- Wye Valley Woodlands/Coetrioedd Dyffryn Gwy SAC
- River Usk/Afon Wysg SAC
- River Wye/Afon Gwy SAC

Table 2 Rationale for Screening Out of N2K Sites

European Site	Qualifying Features	Factors Affecting Conservation Objectives	Potential Impact From Core Strategy?	In combination Effects?	Risk of Significant Effect?	Avoidance or Mitigation Measures?
Wye Valley and Forest of Dean Bat Site SAC	Greater and lesser horseshoe bats	Need suitable feeding areas (mixture of cattle grazed pasture, hedges and deciduous woodland) within 5km of roost. Will forage 9km+ from roost at times.	Risk of impact negligible due to distance (across Bristol Channel) between SAC and foraging areas and South Glos.	None	None	N/A
Bath & Bradford on Avon Bats SAC	Greater and Lesser Horseshoe Bats Bechstein's Bats	Need suitable feeding areas (mixture of cattle grazed pasture, hedges and deciduous woodland) within 5km of roost. Will forage 9km+ from roost at times.	Risk of impact negligible as any development in South Glos is too far removed to affect the SAC or foraging areas (>20km).	None	None	N/A
Avon Gorge Woodlands SAC	<i>Tilio-Acerion</i> forests of slopes, screes and ravines; <i>Yew Taxus baccata</i> woodlands Beech (<i>Asperulo-Fagetum</i>) Forests	Woodland management; visitor pressure; habitat management.	Risk of impact negligible as growth point development in South Glos too far removed to affect the SAC (>20km).	None	None	N/A
River Usk SAC	Water courses, crayfish, lamprey, shad, salmon, bullhead, shad	Water level	Potential for impacts on the River Usk are Negligible. Only implications arise from Major Infrastructure – the barrage and Oldbury power station. However, the issues relating to these – the need, preferred sites, options and impacts – are dealt with by Gov at a national level. The CS merely identifies concerns and thus in itself does not have any impact.	None	None	N/A
River Wye SAC	Water courses, crayfish, lamprey, shad, salmon, bullhead, shad	Water level to be maintained including in Severn Estuary; Prevent any occlusion of river channel.	Proposals in Core Strategy unlikely to impact directly upon River Wye SAC. Any secondary effects arising from impacts on the Severn Estuary will be assessed as part of HRA for that site.	Potential for impacts in combination with projects affecting the Severn Estuary - e.g. the Barrage, Oldbury power station or expansion of Bristol Port. These will be assessed in more detail in relation to	See conclusions of HRA of Severn Estuary	N/A for Wye at this stage – see Severn Estuary

European Site	Qualifying Features	Factors Affecting Conservation Objectives	Potential Impact From Core Strategy?	In combination Effects?	Risk of Significant Effect?	Avoidance or Mitigation Measures?
	Transition mires and quaking bogs	Water quality Migration routes Land mgt; water levels	None expected None expected None expected	Severn Estuary impacts. None expected None expected None expected	None expected None expected None expected	

2.8 Conversely, the screening process determined that there was the potential for adverse impacts on three N2K sites:

- Chew Valley Lake SPA
- Avon Gorge Woodlands SAC
- Severn Estuary SPA/SAC/Ramsar

These three sites, and any impacts thereon arising from policies or supporting text within the pre-submission draft of the South Gloucestershire Core Strategy, constitute the main focus of the Habitats Regulations Assessment.

3. Stages 2 & 3 - Habitats Regulations Assessment

3.1 This section provides an analysis of the potential impacts of the South Gloucestershire Core Strategy on the N2K sites not screened out from further assessment. This included first identifying the broad types of impacts and pressures with the potential to have a significant effect on the conservation objectives for each N2K site.

- Chew Valley Lake SPA – changes in water levels, water quality and recreational pressure.
- Avon Gorge Woodlands SAC– changes in management regime, recreational pressure, air quality.
- Severn Estuary – impacts on water quality and fish species through changes to waste water and discharges; increased recreational use; impacts upon habitats through aerial discharges arising from industries; disturbance or loss of floodplain habitat used by qualifying migratory bird species.

4. Chew Valley Lake SPA

Possible Impacts of South Gloucestershire Core Strategy

- 4.1 As previously indicated within the site profile, Chew Valley Lake comprises an impounding reservoir and supplies drinking water to the city of Bristol and the surrounding area.

Water supply

- 4.2 There will be an increased need for water to serve the new population and dwellings identified within the north and east fringes of Bristol (totalling 14,200 houses), particularly in combination with the housing growth identified in the Bristol City Core Strategy for the Bristol City area. This is likely to precipitate an increased drawdown of the water levels at Chew Valley Lake which in turn could potentially have adverse effects on the species for which the site is designated as a SPA. This effect is likely to be compounded if the predicted summer droughts and decreased rainfall become more prevalent.

Recreation

- 4.3 Chew Valley Lake is owned by Bristol Water and used by considerable numbers of people for a variety of recreational activities, including trout fishing, sailing and walking.
- 4.4 The new population/dwellings could conceivably result in an increase in this recreational pressure on the lake, leading to greater disturbance of the Annex 1 bird species for which the lake is designated. Notwithstanding this, however, it is acknowledged that, because of the distances between the new housing sites and neighbourhoods identified in the South Gloucestershire Core Strategy (East of Harry Stoke, Cribbs/Patchway, Emerson's Green and the Harry Stoke/Stoke Gifford area) and Chew Valley Lake, as well as the inconvenience of traversing the city to access it, realistically, development in or to the south of Bristol is likely to be a greater issue re an increase in the numbers of visitors and recreational use.
- 4.5 The same issues have been recognised within the HRA of the Bristol Core Strategy.
- 4.6 In the absence of information on the likely impacts of water abstraction on the conservation objectives of the SPA, or precise implications of an increase in recreational pressure, it is not possible to conclude that no likely significant effects would arise from policies that may contribute, albeit indirectly, to the aforementioned impacts. Given this, it was considered that Chew Valley SAC should be subject to Appropriate Assessment.

Relevant Core Strategy Policies

- 4.7 The policies within the South Gloucestershire Core Strategy that have the potential to adversely affect the conservation objectives/qualifying species of Chew Valley

Lake SPA, either directly or indirectly, or cumulatively, alone or in conjunction with policies comprising the Bristol Core Strategy, are:-

- CS5 – Location of Development
- CS15 – Distribution of Housing
- CS16 – Housing Density
- CS25 – Communities of the North Fringe of Bristol Urban Area
- CS26 – Cribbs/Patchway New Neighbourhood
- CS27 – East of Harry Stoke New Neighbourhood
- CS29 – Communities of the East Fringe of Bristol

- 4.8 The above policies are considered relevant in that they all relate to the location, quantity and density of new housing in the urban fringes of Bristol within the South Gloucestershire area. Consequently, all have the potential to influence the amount of drawdown and use of water from the SPA; and the numbers of people visiting Chew Valley Lake for recreational use.

Habitats Regulations Assessment

Recreational Disturbance

- 4.9 A number of plans or processes are in place to deal with a potential future increase in recreational pressure at Chew Valley Lake SPA. There is a system of permits for access which restrict public access to the more sensitive parts of the N2K site. Furthermore, the monitoring of recreational activities and measures to mitigate any potential or actual impacts on the site (including particularly the SPA features of interest) form an essential part of Bristol Water's strategy for dealing with recreational visitors. Bristol Water staff oversee the management of nature conservation interests at Chew Valley Lake and they are aware of the potential for increased recreational pressure in future years. A number of visitors from the proposed new developments in the north and east fringes of Bristol may make the c.20 mile journey to the Lake for recreation, but it is considered likely to be very limited given the distance and indirect nature of the journey, and the fact that other similar recreational outlets will be available and more convenient for communities in the north of the city (e.g. sailing at Oldbury-on-Severn).
- 4.10 Therefore, while the CS policies listed above may contribute to a slight rise in visitor numbers, it is considered likely that most additional visitors will be from the developments within Bristol and be addressed by the contingency plans drawn up by Bristol Water.

Water Levels

- 4.11 Chew Valley Lake comprises a 'surface water impounding reservoir', collecting water from the Mendip Hills. Both the lake and the associated (Chew Valley) catchment area form part of Bristol's water supply and will supply water to any new domestic residences built in future years. The abstraction of further water is controlled under licence by the Environment Agency and the Catchment Abstraction Management Strategy covering the Chew Valley locus - water is available for new abstractions during higher flows but will be stopped or limited during low flows. Any increased

drawdown should not therefore radically alter the levels of fluctuations, with licenses only being granted when water levels and flows are high.

- 4.12 Bristol Water has other supply sources and any increase in demand would be stringently monitored and managed to avoid levels falling unacceptably low. As such, any impact on water levels within the Chew Valley Lake SPA as a result of increased drawdown derived from the new housing areas identified within the above Core Strategy policies is not considered to have significant negative effects on the favourable conditions at the SPA site.

Mitigation

- 4.13 The pre-submission draft of the Core Strategy includes Policy CS9 which espouses the utilisation of 'natural resources, including minerals, soils and water, in an efficient and sustainable way'.
- 4.14 The policy aims to ameliorate any increase in water demand by seeking a heightened efficiency of water usage in new building(s). Paragraph 8.12 of CS9 states that 'the conservation of water resources will become increasingly important as summer rainfall declines and droughts become more common. New development will be expected to demonstrate that it will not cause any deterioration in the quality or quantity of underground, surface or coastal water resources'. This therefore provides the precept and need for any new development within South Gloucestershire (including the city fringes) to demonstrate that it will not adversely affect the Chew Valley resource through an increased demand by including design features and strategies to conserve water within planning applications.
- 4.15 Policy CS2 of the Core Strategy requires the creation of new 'Green Infrastructure' – green spaces, corridors and other natural features offering a mixture of uses, including new recreational opportunities – as an integral part of creating sustainable new communities. This is considered likely to negate or reduce the need for households in new developments to access more distant locations such as Chew Valley Lake for recreation.
- 4.16 Finally, as a response to existing visitor numbers and pressure to access previously quiet refuge areas around the lake, Bristol Water has introduced a nature conservation strategy for the site utilising a 'zoning scheme' for the site to minimise any adverse impacts on wildlife, including the qualifying features of the SPA.

Conclusions

- 4.17 Given the above and the measures described to mitigate any adverse affects on the European (N2K site) and its qualifying features/species, it is concluded that it is unlikely that policies within the South Gloucestershire Core Strategy will have any significant impacts either alone or in combination on the Chew Valley lake SPA site.

5. Avon Gorge Woodlands SAC

Possible Impacts of South Gloucestershire Core Strategy

- 5.1 As previously described within the site profile on page 7, the Avon Gorge Woodlands SAC is primarily designated for its *Tilio-Acerion* forests of slopes, screes and ravines. It is important also for its small-leaved lime, rare whitebeams and uncommon plants, such as green hellebore: and contains the SAC qualifying features of semi-natural dry grasslands and scrubland facies on calcareous substrates.
- 5.2 The main threats to the integrity of the Avon Gorge Woodlands SAC has been identified as a lack of appropriate management (grazing or cutting), ultimately leading to scrub encroachment and a loss of species diversity: a reduction in air quality (aerial pollutants affecting habitats): and an increase in recreational pressure (humans and dogs) on the woodland and grassland habitats - specifically, due to increased physical disturbance to the ecology of the site (through the proximity of humans and dogs and their activities); and eutrophication (nutrient enrichment) from dog faeces.
- 5.3 The same issues have been recognised within the HRA of the Bristol Core Strategy.
- 5.4 The SAC lies outside the South Gloucestershire unitary authority boundary and is within the jurisdiction of both Bristol and North Somerset Councils. As such, the SGC Core Strategy will not include any policies influencing or pertaining directly to the management of the N2K site.
- 5.5 With regard to specific impacts arising as a result of SGC Core Strategy policies, there is potential for the new housing sites and neighbourhoods identified in the South Gloucestershire Core Strategy (East of Harry Stoke, Cribbs/Patchway, Emersons Green and the Harry Stoke/Stoke Gifford area, totalling 14,200 houses) to exert greater recreational pressures on the Avon Gorge Woodlands SAC, particularly in combination with the development proposed in the Bristol City Core Strategy and in the North Somerset Core Strategy.
- 5.6 Of the 14,200 new dwellings on the Bristol city fringes within South Gloucestershire it is recognised that some residents at least may utilise the SAC for dog-walking, mountain biking, walking or other activities, at least on an occasional or sporadic basis. Whilst it is acknowledged that only a relatively small percentage are likely to be attracted to the woodlands because of the distance of the SAC from the South Gloucestershire housing sites and the inconvenience of traversing the city - and because there are alternative, closer loci for recreational use in the environs of Bristol - it is reasonable to conclude that development closer to the Avon Gorge to the south of Bristol is likely to have greater implications on the integrity of the SAC, particularly if not monitored or managed sympathetically.
- 5.7 Pollutants in the air can damage vegetation directly and affect its health and productivity. Deposition of pollution in the ground can alter soils, affecting the pH and nitrogen availability, which again can affect plant health, productivity and species composition.

- 5.8 Several policies within the South Gloucestershire Core Strategy were identified at the screening stage as having potential to cause a rise in air pollutants and thus adversely impact on the conservation objectives of the Avon Gorge Woodlands SAC – these include policies associated with 14,200 new homes within the city fringes and associated increased traffic generated by the new communities which have the potential to increase pollutants. The A4 Portway – a major commuter link between the City Centre and the M5 and motorways - runs through the middle of the Natura 2000 site and any significant rise in pollution levels from increased traffic could potentially have a direct adverse impact on the conservation objectives of the Avon Gorge Woodlands SAC. However to accurately quantify this, details of current and future pollution levels need to be obtained.
- 5.9 The HRA of the Bristol Core Strategy used national datasets from APIS, a site-based assessment tool that indicates likely pollutant impact at a specific location, based on national maps of air pollutant exposure and critical loads or levels for particular habitats and sites (http://www.critloads.ceh.ac.uk/site_specific.htm).
- 5.10 Appendix 4 of the Bristol Core Strategy contains the critical load information obtained from APIS.
- 5.11 The data suggests that the critical load for nitrogen (N) deposition is already being exceeded for the woodland habitat within the SAC. Given the low levels of ammonia present on site, it was concluded that this was derived from oxides of nitrogen, contained in vehicle emissions. Deposition of oxide of nitrogen pollutants can contribute to acidification and eutrophication of sensitive habitats leading to loss of biodiversity, even at some distance from the source of the emissions (APIS 2008). The APIS information implies that nitrogen deposition (most likely) is a result of traffic emissions and that this could already be having an adverse affect on the SAC, with possible significance for the overall favourable condition of the site.
- 5.12 Less certain however was whether the growth in housing set out in the BCC Core Strategy would in itself lead to a further increase in pollution: and whether this would further impact on the N2K site and habitats close to the Portway.
- 5.13 Despite critical loads being exceeded in the Avon Gorge Woodlands, it is uncertain how the site's distinctive species such as the rare whitebeam – will respond to continued further nitrogen deposition. This in turn creates uncertainty about the potential impact of pollutants on the site's 'favourable condition' status and therefore its integrity.
- 5.14 It was not possible to adequately assess the potential impact of the growth areas and related policies within the South Gloucestershire Core Strategy on the SAC – through either recreational use or an increase in traffic – meaning a significant adverse impact cannot be ruled out. As such it was concluded that the N2K site should be subject to Appropriate Assessment.

Core Strategy Policies

- 5.15 The policies with the South Gloucestershire Core Strategy considered to have the potential to adversely affect the conservation objectives/qualifying species of Avon

Gorge Woodlands SAC, either directly, indirectly or cumulatively, both within itself or in combination with policies comprising the Bristol Core Strategy, are:-

CS5 – Location of Development
CS15 – Distribution of Housing
CS16 – Housing Density
CS25 – Communities of the North Fringe of Bristol Urban Area
CS26 – Cribbs/Patchway New Neighbourhood
CS27 – East of Harry Stoke New Neighbourhood
CS29 – Communities of the East Fringe of Bristol

- 5.16 All the above policies in some way pertain to the location, numbers and density of new housing on the urban fringes of Bristol within the South Gloucestershire area, which may result in increased recreational pressures and reduced air quality and thereby a likely significant effect on the SAC.

CS11 - Distribution of Economic Development Land
CS12 - Safeguarded Areas for Economic Development
CS13 - Non-Safeguarded Economic Development
CS7 - Strategic Transport Infrastructure
CS8 - Improving Accessibility

- 5.17 The above transport policies are also relevant as they may result in an increase in traffic and associated emissions arising from new or existing commercial, distribution or manufacturing industries, particularly those associated with the western and northern fringes of the city as these are closer/more convenient to the Gorge. However CS7 and CS8 provide some counterbalance in that they enshrine measures that seek to alleviate traffic congestion and vehicle emissions.

Habitats Regulations Assessment

Air Quality

- 5.18 The HRA of the Bristol Core Strategy includes a review of the sensitivity of the Avon Gorge SAC's qualifying features to pollutants and the likely impacts of these on site condition.
- 5.19 As part of the BCC CS HRA, the consultants, LUC, attempted to source any research or data which might usefully inform an understanding of the effect of pollutants on distinctive species within the SAC. However there is currently a lack of information, so Bristol City Council and Natural England agreed that there is insufficient data to determine, whether the qualifying habitats of the Avon Gorge Woodlands SAC have already been adversely affected by aerial pollutants; whether this is significant; and whether some of the distinctive species within the SAC are sensitive to pollution at all.
- 5.20 LUC undertook an assessment of the air quality implications of the urban extensions and housing numbers within the Bristol Core Strategy Preferred Options Review. The assessment considered the effects of increased traffic flows along the A4 Portway likely to arise from policies (BCS2 - Bristol City Centre and BCS4 – Urban Extension to

SW Bristol) and their potential to impact on air quality in the Avon Gorge Woodlands SAC.

- 5.21 Traffic data from Bristol City and North Somerset Councils was used to undertake an assessment of air pollution modelling from traffic growth, using methodology and guidance provided in the Highways Agency's Design Manual for Roads and Bridges (DMRB). The potential effect of emissions from increased traffic flows was assessed in terms of critical levels for nitrogen oxides (NO_x) and critical loads for nitrogen (N) deposition. Two scenarios were tested for both pollutants. One addressed increased traffic but assumed that both vehicle emissions and background pollutants of NO_x and N deposition would fall over time in line with national predictions. The second looked at increases in traffic over time, set against static (2010) figures for emissions and background concentrations of NO_x and NO₂ which represented a worse case scenario.
- 5.22 In both scenarios, the critical level of pollution (NO_x) in 2010 was found to have already been exceeded, although only on certain roads at a distance 20m from the centreline (as is thought to be the case for most roads throughout the UK). In scenario 1, beyond the 20m limit, the NO_x concentrations to the Avon Gorge Woodlands SAC decreased from 2010 to 2015 and 2020. In scenario 2, the predicted NO_x concentrations increased marginally- by 0.67 (ug/m³) from 2010 to 2020, a figure well below the 2 µg/m³ threshold stated within Highway Agency guidance. In this second scenario, it was found that the (modelled) nitrogen deposition rates from traffic in 2010 made up over 1% of the critical load, suggesting that traffic could be a significant contributory factor in nitrogen deposition in the Avon Gorge Woodlands SAC. The predicted growth in traffic and its contribution to nitrogen deposition rates was then modelled to assess the significance of any additional traffic growth brought about by Core Strategy policies, being mindful that the existing background deposition rate already exceeded the critical load, regardless of any additional contributing sources.
- 5.23 Under the worst case scenario (2), the traffic related nitrogen deposition was calculated to increase by less than 1 % of the critical level for NO_x and the critical load for N deposition. This was not considered significant over the time period in question. Furthermore the predicted increase in traffic flows was well below the threshold for roads requiring assessment (1000 additional vehicles per day) as per HA guidance on the assessment of local air quality) and it is therefore considered that these policies are unlikely to adversely affect the integrity of the qualifying features for the SAC.
- 5.24 Whilst the above calculations specifically relate to the future increase in traffic likely to be generated through the Bristol Core Strategy policies and growth, they are also relevant to the South Gloucestershire new neighbourhoods. Given that Bristol Core Strategy policies BCS2 and BCS4 were considered the most likely to result in an increase in traffic using the A4 Portway through the Avon Gorge, and that the 1% increase in critical levels/loads under the worst case scenario above in (2) and resulting from those policies was not considered significant, it is reasonable to conclude that any increase in traffic resulting from the South Gloucestershire Core Strategy new neighbourhoods policies is not likely to be significant, either alone or in combination with the Bristol Core Strategy.

- 5.25 Moreover, the new housing within the northern and eastern fringes are further away from the Avon Gorge Woodlands SAC than the BCS2/BCS4 loci; and it is likely that not all commuters within those new urban communities will work within Bristol (i.e. some are likely to stay at home, work locally or commute elsewhere). A substantial proportion are likely to commute into the city using routes other than the A4 Portway - e.g. via the M32, A38 or A4174.
- 5.26 This assumption also applies to traffic associated with safeguarded economic development land in policies CS 11 (Distribution of Economic Development Land), C12 (Safeguarded Areas for Economic Development) and CS13 (Non-Safeguarded Economic Development).

Recreation

- 5.27 The east side of the Avon Gorge, which is within Bristol City Council's unitary boundary, largely comprises scree and slopes with limited accessibility to members of the public, other than climbers, who are primarily confined to certain areas away from the more sensitive parts of Avon Gorge Woodlands SAC. The west side of the Gorge, which is within North Somerset, consists mainly of woodland used by mountain bikers on set trails. Whilst growth within Bristol might increase the use and pressure on these trails to some extent, the appropriate assessment undertaken for the SW Regional Spatial Strategy (RSS) concluded that the woodland is currently largely in favourable condition; is not particularly vulnerable to trampling (i.e. through recreational use); and that much of the site is inaccessible anyway due to the steep topography. Given this, it is considered unlikely that there would be undue pressure from additional recreational use of the SAC arising from the influx of new families/communities through the Core Strategy policies.

Mitigation

- 5.28 Natural England's formal comments on the initial pollution policy in the Bristol Core Strategy (BCS23) broadly agreed with its scope and content and noted that 'critical loads of certain pollutants were already being exceeded within the Avon Gorge international site'. As a direct consequence of the Appropriate Assessment work on the Bristol Core Strategy, policy BCS23 in the Submitted version of the Core Strategy was amended to state that 'Air Quality Monitoring will be undertaken in the Avon Gorge to assess the potential impact of development and change on the Avon Gorge Woodlands SAC'.
- 5.29 Additionally, mapping the distribution of distinctive species of flora and fauna within the Gorge, and positioning pollutant monitoring system nearby, will contribute towards tracking both changes in pollution levels and any effect on the distribution and health of species/habitats. Together, this work will contribute towards a better understanding of pollutant levels with the Avon Gorge and their effects and, if necessary inform mitigation measures.
- 5.30 SGC CS Policies CS7 (Strategic Transport Infrastructure) and CS8 (Improving Accessibility) set out the Council's strategy to reduce emissions from increased car trips. They seek to reduce private car usage for travel through improved provision of other transport options and infrastructure such as bus networks, rapid transport routes, rail improvements, new park and ride facilities and directing such

development to where sustainable travel can be achieved and is most needed. Sustainable transport modes and reduced reliance on private cars also contribute to meeting CO2 reduction targets thereby helping to address the key issue of mitigating and adapting to climate change.

- 5.31 The Joint Local Transport Plan for the West of England will provide the main delivery mechanism for most of the transport proposals and schemes listed in the policy, and any new schemes arising. The JLTP3 is subject to HRA and has determined that individual transport schemes will also be subject to project level HRA.

Conclusions

Air quality

- 5.32 The HRA of the Bristol Core Strategy, and the studies that informed it, found that nitrogen deposition in the Gorge already exceeds the critical load and that traffic - particularly along the A4 Portway - contributes to more than 1% of the critical level for NO_x and the critical load of nitrogen deposition. However, it also considered that, even in the worst case scenario, a rise in levels/deposition as a result of Core Strategy development policies themselves would contribute less than 1% of current critical levels and loads and therefore are not thought to be significant.
- 5.33 The HRA also identified that further monitoring is necessary to ascertain how the particular distinctive species and habitats within the Avon Gorge Woodlands SAC react to future levels of pollutants. Given that the Portway is one of the main commuter routes into and out of the city it would be unrealistic to deter people from using it altogether. However policies that promote sustainable transport are included within both the Bristol and South Gloucestershire Core Strategies which should help to minimise the potential effects of pollutants on the Avon gorge Woodland SAC.

Recreation

- 5.34 Given this and the fact that previous work within the RSS and Bristol Core Strategy has concluded that the SAC is not likely to be significantly adversely affected by an increase in recreational use by new householders within the then proposals for urban extensions on the western, northern and eastern fringes of the city, or in combination with the then south Bristol extension, it is also reasonable to conclude that the integrity of the Avon Gorge Woodland SAC is unlikely to be significantly affected by policies CS5, CS15, CS16, CS25, CS26, CS27 and CS29 of the South Gloucestershire Core Strategy for the reasons set out above.

6. Severn Estuary SAC/SPA/Ramsar

- 6.1 The Severn Estuary lies on the coast of south west Britain at the mouth of four major rivers (the Severn, the Wye, the Usk and the Avon) and its intertidal zone of mudflats, saltmarsh, sand banks and rocky platforms is amongst the largest and most important in Britain. Its tidal range is immense, being the second largest in the world; and this along with its classic ‘funnel’ shape makes it unique in Britain and extremely rare world wide.
- 6.2 The South Gloucestershire coast abuts the Estuary between the unitary boundary with Bristol (City Council) south of Severn Beach and the County boundary with Gloucestershire near the village of Hill to the north of Shepperdine and Oldbury Power Station.
- 6.3 The coastal floodplain (‘Levels’) alongside the Estuary is predominantly rural in character, largely comprising intensive agricultural land (arable and grazing) intersected by managed hedgerows. The two most significant settlements are at Severn Beach/Pilning and Oldbury-on-Severn with a series of villages and hamlets interspersed between. The floodplain also includes the M4 (Junction 21) and Severn Bridge at Aust; the M49 and Second Severn Crossing at Redwick (Severn Beach); Oldbury Nuclear Power Station; and the extensive industrial/commercial development zone at Severnside (an area of approx 100ha of agricultural farmland within the floodplain to the south of Severn Beach and proximate to Avonmouth within Bristol City).

Impacts of South Gloucestershire Core Strategy

- 6.4 As previously described within the site profile on page 9, the Severn Estuary SAC/SPA/Ramsar is primarily designated for its Annex I habitats, comprising estuaries, mudflats and sandflats and Atlantic salt meadows: and its Annex II species – specifically, sea lamprey, river lamprey and twaite shad. Whilst not a main reason, it also contains qualifying features of reefs and sandbanks which are slightly covered by sea water all of the time (Annex 1 habitats) and Annex I birds – Bewick’s swan; ringed plover; curlew; dunlin; pintail; redshank; shelduck; gadwall; and European white fronted goose. It also qualifies under Article 4.1 of Bird’s Directive for its internationally important wintering population of Bewick’s swan: and under Article 4.2 for internationally important numbers of 5 migratory species - Bewick’s swan, European white fronted goose, shelduck, gadwall, dunlin and redshank.
- 6.5 The SPA citation also lists 12 species of national importance including wigeon, teal, pintail, pochard, tufted duck, ringed plover, grey plover, dunlin, curlew, whimbrel, spotted redshank and redshank.
- 6.6 As indicated previously, the main threats to the integrity of the Severn Estuary SAC/SPA/Ramsar have been identified as arising from increased recreational use; changes in the quality of waste water and/or discharges (affecting the qualifying habitats and species); site run-off; impacts on habitats through aerial discharges arising from industries at Severnside; and disturbance or loss of habitat, including

wetland habitat outside the N2K site boundary but within the coastal floodplain and used by qualifying migratory bird species.

- 6.7 Waste water from the new neighbourhoods proposed within the South Gloucestershire Core Strategy could be discharged into the Severn Estuary, potentially adversely impacting upon the favourable conditions for qualifying species (and habitats).
- 6.8 A significant proportion of the water used within the urban area of Bristol is drawn from the River Severn. Whilst abstraction is from the river further upstream from Bristol/South Gloucestershire, the levels of growth, both within each unitary authority's Core Strategy and cumulatively, means that the exact magnitude of any potential impact is uncertain.
- 6.9 Natural England considers that, without the requisite controls through policy, there is potential for an adverse effect on the qualifying SPA species of migratory birds through in-combination effects arising from the siting of wind turbines alongside the estuary, both close to the foreshore as per those already in situ or with consent at or near Avonmouth; or further in-land within the coastal floodplain, which is known to be used by some SPA species, as with several planning applications/ potential schemes within South Gloucestershire.
- 6.10 The potential for adverse impacts arises from mortalities derived from birds colliding with the blades of turbines; disruption to the migratory routes of qualifying species; and disturbance to and loss of existing habitats, both within South Gloucestershire and the Avonmouth area of Bristol. The cumulative effect of renewable energy production derived through wind turbines is that the likelihood of any adverse impact on the Estuary's waterfowl will increase with an increase in the number of turbines, particularly when these turbines are grouped in close proximity to one another and/or in proximity to stretches of shoreline used by SPA/Ramsar birds.
- 6.11 A direct loss of habitat from continued, uncontrolled development, and disturbance during construction or operational phases of new industries (particularly when combined with the background level of noise of the Avonmouth and Severnside areas) could also directly impact upon the conservation objectives of the Severn Estuary through disturbance and/or displacement of qualifying species and assemblages of waterfowl, particularly species recorded along the Chittingen Warth foreshore within the SPA/Ramsar, between the Bristol Docks and Severn Beach: but also those species which characteristically use the wet fields of the coastal floodplain across the Avonmouth/Severnside area.
- 6.12 Development could also impact upon the qualifying species or habitats of the N2K site in other ways, such as increased traffic; site run-off or discharges finding their way to the Estuary via pipelines or the system of field rhynes (ditches) across the floodplain: or via changes in air quality through aerial discharges arising from new industries (again, particularly when taken cumulatively with other existing industries).
- 6.13 The pre-submission draft Core Strategy for South Gloucestershire includes policies supporting development and employment at Severnside and potentially governing waste management and energy production in the area. Therefore it was considered that without robust mechanisms for protection of the qualifying SPA species and

their supporting habitats, these employment policies have the potential to cause significant disturbance and displacement of birds from habitats in the Estuary.

- 6.14 The influx of new households/communities into Bristol, as well as new housing within the market towns and rural areas (particularly, given its proximity to the Severn Estuary N2K site, the policies governing the new housing proposed for Thornbury) may introduce recreational pressures to the Estuary with new householders exploring the area around them, using the Severn Way and network of footpaths associated with it, cycling or exercising dogs. The proximity of a growing number of people and/or dogs, particularly if uncontrolled and left to run free across the foreshore, could have a significant effect on the SPA/Ramsar waterfowl that use the saltmarsh along the coast of the Severn Estuary (N2K site).
- 6.15 Similar issues have been recognised within the HRA of the Bristol Core Strategy.
- 6.16 The policies relating to Severnside within the SG Core Strategy are to ensure that the international status and conservation objectives of the Natura 2000 site covering the Severn Estuary (and inter-linked SACs on the Rivers Usk and Wye) are secured. However, the impacts potentially affecting the site are multifarious and compounding, particularly when viewed cumulatively, and because of this the policies related to the issues and impacts identified above need to be subject to an Appropriate Assessment (AA) to ensure no likely significant effect.

Core Strategy Policies

- 6.17 The policies with the South Gloucestershire Core Strategy having the potential to adversely affect the conservation objectives/qualifying species of the Severn Estuary SAC/SPA/Ramsar, either directly or indirectly or cumulatively, both within itself or in conjunction with policies comprising the Bristol City Core Strategy, are:-

The Vision for 2026 and Beyond

CS3 – Renewable and Low Carbon Energy Generation

CS5 – Location of Development

CS11 – Distribution of Economic Land

CS12 – Safeguarded Areas for Economic Development

CS19 – Rural Housing Exception Sites

CS21 – Gypsy & Traveller Accommodation

CS35 – Severnside

Major Infrastructure Projects

- 6.18 Additionally, the following policies are pertinent in relation to potential increase in the use of water and recreational pressures on the SPA/SAC/Ramsar arising from the creation of new communities on the northern and eastern fringes of Bristol, further housing in Thornbury and, to a very limited extent, new housing in the rural areas:-

CS25 – Communities of the North Fringe of Bristol Urban Area

CS26 – Cribbs/Patchway New Neighbourhood

CS27 – East of Harry Stoke New Neighbourhood

CS33 – (Thornbury) Housing Opportunity

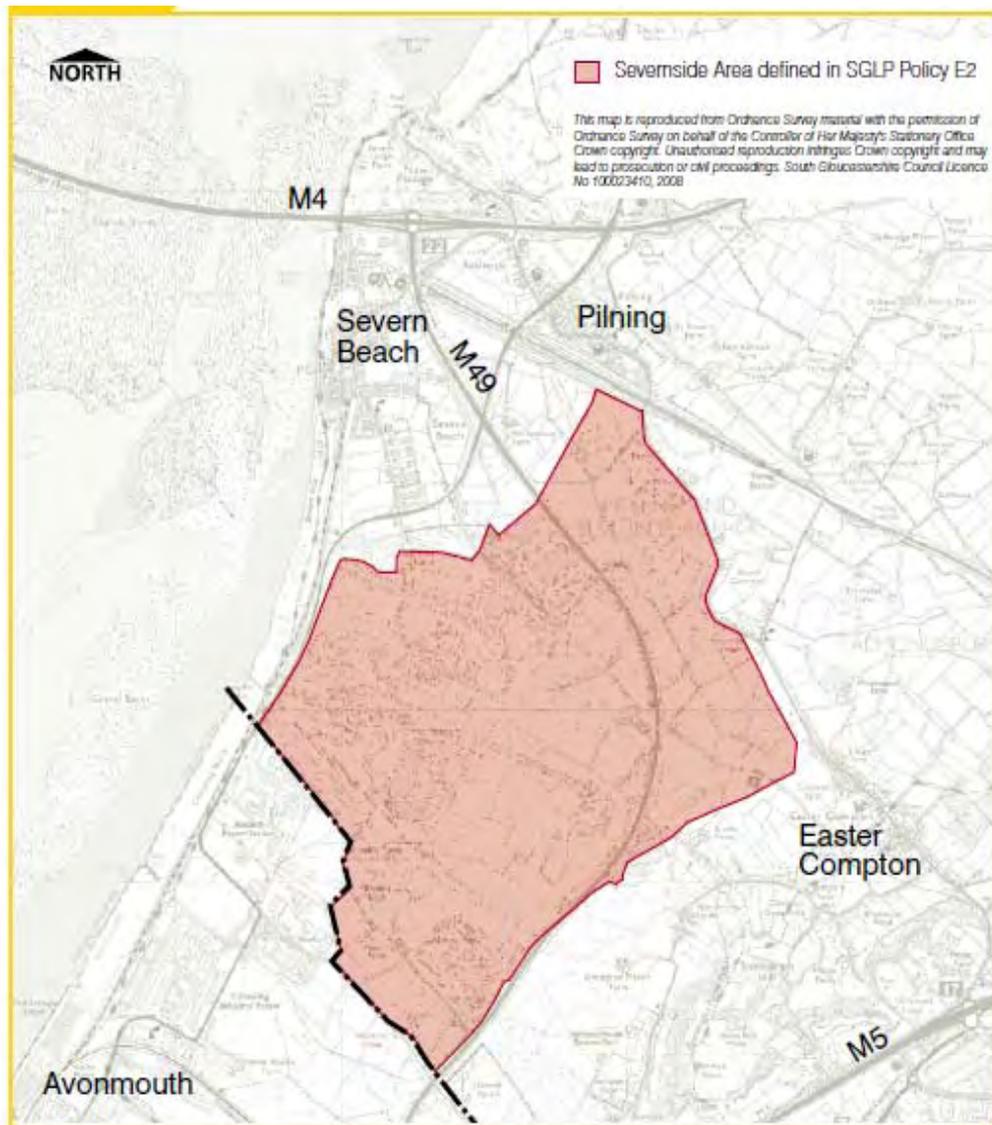
CS34 – Rural Areas

- 6.19 Policies CS1 (High Quality Design), CS9 (Environmental Resources & Built Heritage) and CS2 (Green Infrastructure) are also relevant in that they enshrine measures to alleviate development impacts and benefit biodiversity. Specifically, Policy CS9 is the key policy in the Core Strategy with regard to managing environmental resources and protecting environmental assets.

Habitats Regulations Assessment

Sevenside- Planning History

- 6.20 Outline consent was granted for industrial, office and warehouse and other ancillary uses on 2,545 acres of agricultural land to the south of Severn Beach ('Sevenside') in 1957 under planning permission SG4244 (extended in 1958 and known as 'the '57/'58 Consent'). This was partly implemented with the construction of ICI and other factories and distribution and commercial businesses in the area (Western Approach Business Park).
- 6.21 In 2003, the then Secretary of State confirmed that the 1957 permission remains extant and therefore implementable, although large parts of the consented area are as yet still unimplemented. Whereas reserved matters applications are required for the access points and within the 'buffer zone' fringing the '57 permitted land, outside of this no further permissions are required. This has resulted in a unique situation where development proposals can come forward without the need to address the environmental constraints in the area.
- 6.22 The potential impacts on the Severn Estuary N2K site arising from policies within the Core Strategy have been identified as relating to pressures from recreation; issues of water quality affecting the qualifying habitats and species (from an increase in waste water and/or introduction of other aquatic discharges from development/industries at Sevenside); site run-off resulting from development; impacts on habitats through aerial discharges from industries at Sevenside; and disturbance or a direct loss of habitat from development, including wetland habitat outside the N2K site boundary but within the coastal floodplain and used by qualifying migratory bird species.
- 6.23 All these potential policy impacts need to be assessed in conjunction with the on-going development of Avonmouth within Bristol City Council.



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Figure 1: Severnside Employment Zone

Recreation – Issues and concerns

- 6.24 With regard to specific impacts arising from the relevant Core Strategy policies, there is a potential for the new housing sites and neighbourhoods identified in the South Gloucestershire Core Strategy (East of Harry Stoke, Cribbs/Patchway, Emersons Green and the Harry Stoke/Stoke Gifford area, totalling 14,200 houses), as well as within the new housing opportunity area at Thornbury, to place greater recreational pressures on the Severn Estuary N2K site, particularly in combination with development within the Bristol Core Strategy.
- 6.25 Of the 14,200 new dwellings proposed for the South Gloucestershire city fringes, it is reasonable to assume that at least some are likely to use the Severn Way or coastal area for dog-walking, mountain biking, walking or other activities, albeit on an occasional or sporadic basis. However, whilst this scenario is considered possible for new householders in the Thornbury area and the Cribbs/Patchway new neighbourhood, being closer to the coast, it is still nonetheless considered more

likely that only a small percentage of the new communities will utilise the coastal areas and footpaths because of the distance involved – particularly for the Emersons Green and Yate growth areas; the inconvenience of traversing the city; and the wealth of other loci for recreational use in the environs of Bristol and South Gloucestershire.

- 6.26 Given this, and providing the on-going use of the coast and footpath network continues to be monitored for impacts on the Estuary, particularly qualifying species of waders and wildfowl, it is considered that the housing policies are unlikely to have any significant impact on the conservation objectives of the N2K site with regard to an increase in recreational use.

Water Quality & Abstraction – Issues and concerns

- 6.27 The qualifying features of the Severn Estuary N2K/Ramsar site that are most sensitive to changes in water quality such as via water pollution or changes in discharges or abstraction are sea lamprey, river lamprey and twaite shad (all Annex II Primary species): and salmon, sea trout, sea lamprey, river lamprey, shad, twaite and eel (all Ramsar criterion 8 species).

- 6.28 The HRA of proposed changes to the South West RSS ('Habitats Regulations Assessment for the Proposed Changes to the RSS for the South West, Final Report') and the Bristol Core Strategy Submission document both draw on the Environment Agency's study of the waste water implications of the Draft RSS Panel's recommended housing figures.

- 6.29 In response to Policy HMA1 in the SWRSS, covering Bristol and the West of England, the EA stated:

'... we are broadly confident that there is sufficient capacity available at the major sewage treatment works in the HMA to deal with the scale of growth proposed while protecting river water quality. However there will inevitably be practical issues to sort out in the sewerage system and at treatment works where capacity improvements are necessary as growth proceeds. These issues will need further study not only in relation to new areas of search but also in existing built up areas subject to redevelopment. We consider that the normal plan making, development control processes and water company investment planning regime will provide adequate opportunity for these issues to be identified and resolved'.

- 6.30 The HRA of the Bristol Core Strategy indicates that Wessex Water has a range of works and plans in place to deal with the combined projected growth in homes and populations within the Bristol and South Gloucestershire unitary authority areas up to 2016 the period for which they future plan. Moreover, the HRA also identifies that Bristol City Council has saved Policy ME7 from its 1997 Adopted Local Plan which protects land around the existing sewage works at Avonmouth for future expansion if needed.

- 6.31 The HRA of the Bristol Core Strategy also considered the EA response to the South West RSS proposed changes, in relation to Policy HMA1 and assessing future water abstraction to meet the RSS housing needs. The EA stated:

‘Water companies have recently published draft water resource management plans, covering the period to 2035. We encourage companies to include RSS growth levels in their demand forecasts but at the same time to develop plans that are flexible to risks and uncertainty in these and other predictions. Water company draft plans do not include the higher levels of growth in the Proposed Changes at the West of England but we expect the company final plans to be informed by these latest forecasts’.

- 6.32 As the RSS is due to be revoked by the Localism Bill, and South Gloucestershire Council is promoting a lower growth figure, it is reasonable to conclude that a reduction in the housing figures, when compared to the RSS growth figures, will reduce pressure on the natural environment.
- 6.33 Bristol Water’s Draft Water Resource Management Plan (<http://www.environment-agency.gov.uk/business/sectors/102263.aspx>) identifies that existing water resources are sufficient to meet the projected growth in water demand over the next six to ten years. The Plan did not, however, factor in the effects of climate change but instead tested a variety of strategic options.
- 6.34 The preferred option in the Plan is to address any future water shortages through an integrated package of initiatives to be launched at varying points in the future. It includes more efficient use of water domestically and by businesses; and redeveloping and increasing water output from a number of sources. However these do not include any tributaries of the Severn Estuary. It should also be noted that the Strategic Environmental Assessment (SEA) of the Plan concluded that the preferred option had no effect on biodiversity.
- 6.35 The pre-submission draft of the South Gloucestershire Core Strategy includes Policy CS9 which encourages the utilisation of ‘natural resources, including minerals, soils and water, in an efficient and sustainable way’.
- 6.36 The policy aims to ameliorate any increase in water demand by seeking greater efficiency of water usage in new building(s). Paragraph 8.12 of the supporting text states that *‘the conservation of water resources will become increasingly important as summer rainfall declines and droughts become more common. New development will be expected to demonstrate that it will not cause any deterioration in the quality or quantity of underground, surface or coastal water resources’*. This therefore provides a precept for designing schemes to conserve water; and for any new development within South Gloucestershire (including the city fringes) to show that it will not significantly adversely affect the Severn Estuary N2K site through an increased demand. A refinement to the wording of paragraph 8.12 to specifically refer to the Severn Estuary is recommended.

Development – issues and concerns

- 6.37 Potential indirect impacts of increased water abstraction and recreational pressure discussed above are also associated with new communities and relevant Core Strategy policies across the whole of South Gloucestershire - including development geographically removed from the Severn Estuary.

- 6.38 Direct impacts on the European site could arise as a result of development immediately adjacent to the N2K site such as disturbance (noise and lighting); and impacts on birds from wind turbines
- 6.39 The threats to the integrity of the Severn Estuary SAC/SPA/Ramsar arising from development along the coastline of South Gloucestershire are multifarious. They include waste discharges into the Estuary (affecting the qualifying habitats and species); site run-off; impacts on habitats through aerial discharges; and impacts of disturbance (lighting or noise) or a loss of habitat, including wetland habitat situated outside the N2K site boundary but within the coastal floodplain used by qualifying migratory bird species. Policies CS35 and CS12 in the Core Strategy relate to development at Severnside.
- 6.40 A new nuclear power station, coupled with associated infrastructure, is proposed on agricultural land in the floodplain alongside the Estuary to the north of the existing Magnox reactor near Oldbury (proposed for decommissioning). This is addressed in the 'Major Infrastructure Projects' chapter of the South Gloucestershire Core Strategy.
- 6.41 Wind turbines are an integral and essential element in enabling South Gloucestershire Council to increase renewable energy generation in line with the suite of energy production technologies and industries espoused in previous national policy statements on energy. Policy CS3 of the Core Strategy relates to Renewable and Low Carbon Energy Generation.
- 6.42 The continuing loss of coastal floodplain habitat from the on-going implementation of the 1957/58 planning permission could potentially have a significant effect on the Severn Estuary N2K site through loss of wet fields or wetland habitat used by SPA (and Ramsar) qualifying species of waders or wildfowl. Furthermore, the Habitats Regulations 2010 affords the same legislative protection to species for which an N2K site is designated even if outside the boundary of the European (Ramsar) site, and any application (authorisation/permission) within the floodplain of the Severn Estuary SAC/SPA/Ramsar would be subject to HRA under Regulation 61 should it be considered likely to have a significant effect on the conservation objectives of the European site.
- 6.43 The 1957/58 permission was deemed to be extant by the High Court in 2003, meaning it is theoretically possible that, provided the proposed development is of a type permitted by the 57/58 consent, and is carried out in accordance with it, no further authorisation from the Council is required in law – and accordingly, the permission is not subject to a 'test' of likely significance under Regulation 61.
- 6.44 However, excessive noise, either during the construction or operating phases of new development, particularly when combined with the wider background levels of noise across the wider Avonmouth and Severnside areas, has the potential to directly impact upon the conservation objectives of the Severn Estuary SPA/Ramsar through disturbance and/or displacement of qualifying species and assemblages of waterfowl.
- 6.45 The Severnside development (57/58 consent area) and the Severn Industrial Estate, comprising the Astra-Zeneca Works and former Enron site, front onto a stretch of estuary foreshore and associated inter-tidal zone to the south of Severn Beach,

known generally as Chittening Warth. It forms part of a continuous strip of coastal saltmarsh and mudflats lying within the SPA/Ramsar boundary between the Bristol Docks and Severn Beach.

- 6.46 Bird surveys of this stretch of foreshore (and the wider) area over the last 10 years have identified this and Northwick Warth to the north as particularly important stretches of shoreline and inter-tidal habitat for wildfowl/waders within South Gloucestershire.
- 6.47 Whilst separated from the foreshore by the A403 Severn Road, the noise and lighting associated with development along the frontage of the employment zone and adjacent to the Estuary i.e. within the 57/58 consented area has the potential to impact upon this stretch of the SPA/Ramsar. Waterfowl are sensitive to noise and human activity, particularly newly introduced, intrusive, loud or unfamiliar sounds.
- 6.48 It is not possible at this stage to confidently predict the nature or scale of all the businesses/industries that will eventually form the frontage of the Severnside employment zone adjacent to the foreshore. Nor does the Severnside policy (CS35) specify or encourage particular types of industry or commercial concerns that would be appropriate in economic and/or strategic terms for this area – instead the wording of the policy is a general acknowledgement that the land will be:
- ‘safeguarded and developed for distribution and other extensive employment uses broadly in line with the extant planning permission dating from 1957 and 1958’.*
- 6.49 As such, while policy CS35 does not appear to compromise the conservation objectives of the European site in itself, on the basis that it does not explicitly direct industry into the location thought to be important to waterfowl, it does not include any wording to ensure that the integrity of the site will not be compromised.
- 6.50 The Severnside frontage currently comprises the Astra-Zeneca (and possible extension); the former Enron complex (Churngold and the adjacent business plot along the A403); and the site of a proposed energy recovery centre (SITA) between Enron and the UA boundary with Bristol.
- 6.51 Any development not in accordance with the 57/58 consent would require a new application which would automatically be subject to assessment under Regulation 61. This would consider factors such as construction, operation and background noise levels at Severnside/Avonmouth; timing of construction and operation; impacts of vehicular movement; and the design layout for schemes, in order to ensure possible impacts on the estuary and designated features are minimised.
- 6.52 With respect to new planning applications, impacts could be satisfactorily controlled through appropriately worded planning conditions or legal obligations. However, development proposals that come forward in accordance with the 57/58 permission will need to be considered as part of the Review of the Consent being undertaken by the Council, as required under Regulation 63 of the Habitats Regulations 2010 (see below).
- 6.53 Policy CS5 relates to the location of development, and includes the following statement relating to Severnside:-

'The economic potential of Severnside will be realised as a strategic location for a range of employment uses, subject to the resolution of flood risk, environmental and infrastructure'.

- 6.54 Whilst this wording recognises the extant nature of the 57/58 consent it does not explicitly direct particular types of development or industries to Severnside unchecked. However, the phrase 'environmental' is vague and considered insufficient to ensure significant effects on the SPA/SAC/Ramsar are avoided or mitigated.
- 6.55 Employment development could also impact upon the qualifying species or habitats of the N2K site in other ways, such as site run-off or discharges finding their way to the Estuary via pipelines or the system of field rhynes (ditches) across the floodplain: or via changes in air quality through aerial discharges arising from new industries (again, particularly when taken cumulatively with other existing industries).
- 6.56 Policy CS35 (Severnside) cannot be said to compromise the conservation objectives of the European site in itself as it does not explicitly direct new development/commercial businesses into a location where run-off could carry pollutants or accidental chemical spillages into the Severn Estuary.
- 6.57 As previously stated, any development not in accordance with the 57/58 consent would require a new application which would be subject to assessment under Regulation 61, and include factors such as precautionary mechanisms to ensure no pollutant materials reached the Estuary.
- 6.58 Conversely, any development in keeping with the 57/58 permission, whilst not necessitating a new application, will need to be considered within the review of the consent required under Regulation 63 of the Habitats Regulations 2010 (see below).
- 6.59 One of the by-products of the production processes or technologies of some of the industries based at Severnside – such as pharmaceutical production at Astra-Zeneca; or the proposed energy recovery centre – is chemical waste, in the form of aerial (gaseous) discharges vented to air or aquatic discharges released by outfall pipeline into the Estuary. Similarly, large-scale employment brings its own (human) waste, which is treated (sewage treatment plant) before being discharged.
- 6.60 These waste releases are strictly controlled under licence by the Environment Agency (EA), and each licence will be subject to its own HRA with the EA as the competent authority under Regulation 61. This will involve analysis of the constituent chemical compounds and elements assessed against national guidelines for critical loads and levels and on existing levels of certain compounds and elements already present in the Estuary. Dispersal modelling and flow rates might also be considered.
- 6.61 Notwithstanding this, it is impossible for such an assessment to accurately predict the precise amount or nature of industrial or commercial waste discharges that might materialise in the future, as part of developing out the employment zone and 57/58 consent.

- 6.62 The types of industry allowed at Severnside are described within the permission. Any departure from this will necessitate a new application that would be subject to HRA by the Council. Furthermore, any new discharge would be assessed by the EA under Regulation 61. Importantly, regardless of what is allowed under the 57/58 permission, any new discharge would need to be assessed by the EA through the statutory waste licensing process.
- 6.63 Consequently, while it is considered that CS35 does not in itself compromise the conservation objectives of the N2K site in that it merely acknowledges the status and scope of the 57/58 permission, the policy would benefit from additional wording to reflect the legal protection afforded to the Severn Estuary European site.
- 6.64 The pre-submission (publication) draft of the South Gloucestershire Core Strategy contains Policy CS3 covering renewable or low carbon energy generation. Wind turbines (particularly of a substantial mast height) have been identified as having the potential to cause significant impacts on SPA/Ramsar sites. Impacts include bird collision mortalities (birds flying into rotating turbine blades); disturbance and displacement from areas beneath and adjacent to the turbines; and disruption to bird flight and migration routes, where turbines create a barrier to movement. Furthermore, the greater the number of turbines ('wind farms'), particularly where arranged close together, the greater the likelihood of fatalities and the degree of cumulative disruption and/or displacement.
- 6.65 Research in Europe has provided an indication of the degree of disturbance caused by wind farms. Wintering waterfowl (particularly species of geese) have been found to become less abundant at a distance of less than 800m from the wind farm (Pedersen and Poulsen, 1991) although 600m is more generally accepted as the maximum reliably recorded distance for bird disturbance (Drewitt and Langston, 2006). Monitoring of waterfowl at wind farms in Belgium noted that they kept between 150 and 300m from the turbines (Everaert, 2003). Hötket *et al* (2006) found that wind farms affected non-breeding birds more than breeding birds. Wind farms were shown to have a significant adverse effect on local populations of geese, wigeon, golden plover and lapwing: and geese and waders were shown to be particularly sensitive in the non-breeding season, maintaining distances up to 500m from turbines. Displacement around wind turbines is also relatively common amongst waders, and particularly wintering birds (Whitfield 2007).
- 6.66 It should be noted that much of this research relates to 'wind farms' rather than individual turbines. The issue of cumulative effect in ecological terms, i.e. determining when impacts arising from turbines become 'significant', is a taxing and difficult one. There are currently 3 large turbines at the Avonmouth (Bristol Port Company) Docks and permission has been granted by Bristol City Council for more turbines alongside Chittening Warth and at the Wessex Water sewage treatment works off Lawrence Weston Road adjacent to the M49 motorway.
- 6.67 Any new applications would have to pass the HRA 'test' of significance under Regulation 61 and it is reasonable to assume that 'in-combination' effects will be more likely and more severe the closer any subsequent schemes are to the existing ones. It is thought that applications for turbine schemes further up the coast will have less of a cumulative impact being some distance from those already *in situ* or with consent near Avonmouth.

6.68 Bird movements are not well understood along the coast, due to the difficulty and expense of tracking them, both during migratory flights or following local flights at high tide. The qualifying bird species for the Severn Estuary SPA includes Bewick's swan and the migratory species ringed plover, curlew, dunlin, pintail, redshank, shelduck. Qualifying species in the Ramsar designation comprise Bewick's swan, greater white-fronted goose, shelduck, gadwall, dunlin and redshank. While bird species and assemblages are relatively well known across Chittening and Northwick Warth and the floodplain at Severnside, elsewhere they are less well understood, with the British Trust for Ornithology (BTO) holding the most information about the distribution of these bird species across the SPA.

6.69 Policy CS3 of the Core Strategy pre-submission draft states that:-

'Proposals for the generation of energy from renewable or low carbon sources, provided that the installation would not cause significant demonstrable harm to residential amenity, individually or cumulatively, will be supported'.

6.70 Whilst policy CS3 is not site specific but instead espouses a general principle, in reality, because of the cost of development and the wind speeds necessary for financially viable generation, only particular locations are likely to attract wind energy proposals within South Gloucestershire. These include the coastal floodplain and shoreline alongside the Severn Estuary, in part because of viable wind speeds.

6.71 Whilst the policy wording is geographically general, it is reasonable to assume the Estuary as a locus is implicit within the policy. The policy wording does not include a caveat to ensure that renewable energy proposals do not have a significant effect on the Severn Estuary N2K site.

6.72 In addition to policies, the Core Strategy contains a Vision, Objectives and Strategy for Development. It is recommended that there is a clearer recognition of the legislative importance of the Severn Estuary N2K site and of the consequent potential constraints to development. Furthermore, the Vision for Severnside (page 28) states that:-

'The area's international importance as a home for a wide range of ecology and wildlife will be protected through the successful allocation and implementation of a network of new nature reserves, and its archaeological heritage will be preserved'.

6.73 As worded, this Vision might give the impression that the 'wetland reserves' identified within the review of consent/wetland habitat project run in partnership with Bristol City Council and Natural England is the only mechanism to protect qualifying species and habitats of the N2K site. As explained earlier, development proposals not in accordance with the 57/58 permission will require a new application and so will be subject to HRA under Regulation 61 of the Habitats Regulations 2010. The HRA will consider potential impacts on the N2K site as previously discussed – these include aquatic and gaseous discharges; site run off; wind turbine bird fatalities; disturbance; and land-take (habitat loss). The Vision should therefore be wider in scope and it is suggested that it is changed to the following:-

'The area's international importance for a wide range of ecology and wildlife will be safeguarded and maintained in optimal condition with the Council working in partnership with both statutory and non-statutory nature conservation bodies and local people. The significance of the archaeological heritage of the area will be assessed and the heritage safeguarded through appropriate mitigation strategies. A longer term....'

- 6.74 Section 8 of the SGC CS includes Policy CS9 and relates to Managing Environmental Resources and Built Heritage. Point 5 of Policy CS9 states that certain types of development within the coastal floodplain would be acceptable provided it can demonstrate need and that there is no suitable alternative available. As worded, this suggests that development might be considered acceptable without proper consideration of a subsequent loss of coastal floodplain or any associated impacts on the qualifying features of the Estuary. It is therefore recommended that point 5 be re-phrased to either:

'Avoid the undeveloped coastal zone unless a coastal location can be justified and there is no alternative and development complies with the requirements of the 2010 Habitats Regulations and meets the conservation objectives of the Severn Estuary SPA/SAC/Ramsar'.

Or that the clause *'unless a coastal location can be justified and there is no alternative'* is deleted.

- 6.75 Paragraph 8.10 of the supporting text to policy CS9 refers to the Severn Estuary as a 'significant environmental resource'. While this acknowledges the Severn Estuary is important it does not make clear its internationally important ecology or legislative status. It is therefore recommended that the wording is amended as follows:

'... a significant and internationally important environmental resource which is protected under national and European law', and that the 2nd sentence of paragraph 8.11 is re-phrased to '...international importance, many of which are protected under European legislation'.

- 6.76 The final sentence of 8.11 relates to development that requires a coastal location, and directs this towards existing settlements (Aust, Pilning etc) and developed areas, such as Severnside. It does not, however, acknowledge the Habitats Regulations and the requirement for development to demonstrate it would not have a likely significant effect on the qualifying species and habitats of the N2K site.

- 6.77 This policy might also be assumed to include wind turbines, as it could reasonably be argued that they require a coastal location for viable operating wind speeds. It is therefore recommended that the following wording is added to paragraph 8.11 to make clear that possible impacts on the N2K must be considered for any development proposed in this coastal location:

'Aust, subject to satisfying the legal provisions of the Habitats Regulation 2010'.

- 6.78 Section 17 and policy CS35 relates to Severnside. The first bullet point in paragraph 17.4 is too general and should be changed to:

‘Could have the potential to have a significant effect on the ecology and conservation objectives of the Severn Estuary European Site and cause significant and irreparable damage to estuarine and floodplain ecology’.

This re-phrasing is considered necessary to focus specifically on the conservation objectives for the N2K site and the test of ‘significance’ under the Habitats Regulations 2010 rather than general damage to the wider ecology of the Estuary.

6.79 The wording of CS35 in the pre-submission draft is also considered insufficiently specific. As phrased, it refers simply to reconciling development with biodiversity within the desired strategic framework. Whilst there are a range of ecological issues to be addressed by the developers at Severnside, the policy needs to better reflect the need to plan Severnside strategically as an integrated whole and in such a way that developing out the 57/58 permission does not significantly effect the qualifying species of SPA/Ramsar waterfowl through a loss of supporting floodplain wetland habitat.

6.80 Section 17 on Severnside includes several paragraphs specifically on ecology. The pre-submission draft omits a description of the national and international nature conservation designations covering the Estuary. It is important that it contains an explanation of the designations and legislation relating to the Estuary for anyone reading the document; and to highlight the need for HRA under Regulation 61 of the Habitats Regulations. It is therefore recommended that the policy wording is amended as follows:-

In recognition of its nationally and internationally important wildlife, the Severn Estuary is subject to a series of statutory and non-statutory nature conservation designations.

It is notified as a Site of Special Scientific Interest (SSSI) and is protected under the Wildlife & Countryside Act 1981 (as amended) and the Countryside & Rights of Way Act 2000.

The Estuary is also designated as a Special Protection Area (SPA) under EC Directive 79/409 on the Conservation of Wild Birds (‘the Birds Directive’) and is a Ramsar site under the Ramsar Convention on the Conservation of Wetlands of Importance. It is also a Special Area of Conservation (SAC) under European Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (‘the Habitats Directive 1992’), implemented in Britain by the Conservation (Natural Habitats & c) Regulations 2010 (‘the Habitats Regulations’).

SPAs and SACs together form a network of sites known as ‘Natura 2000’ (N2K) or European Sites.

6.81 It is also recommended that paragraph 17.9 is amended to clarify the role of the review of consent under Regulation 63 to ensure implementation of the 57/58 permission and developing Severnside under Policy CS35 does not have a significant and adverse impact on the N2K site:-

‘The Council has a duty to review all unimplemented or partially implemented planning permissions likely to have a significant effect on the international nature

conservation designations (European Site) covering the Severn Estuary (Ramsar/SPA/SAC) under Regulation 63 of the Habitats Regulations 2010. The protection afforded the SPA (& Ramsar) also extends to any land (and particularly land alongside the Estuary within the coastal floodplain) used by European waterfowl. If the review concludes that loss of any or all of this land is likely to have a significant effect on the conservation objectives of the SPA European Site, Regulation 63 allows for modification of part of the 1957/58 permissions’.

- 6.82 Paragraph 17.10 refers to the ‘continued use of the floodplain by wildfowl’ which could be interpreted as use by one bird rather than ‘significant numbers’. To satisfy the Regulation 63 ‘test’, development at Severnside must not compromise the conservation objectives of the Severn Estuary SPA. To maintain these objectives, the floodplain should continue to provide sufficient wetland habitat for its continued use by species and assemblages of waterfowl for which the Estuary is designated a SPA. It is important that this is reflected in the relevant policy and text within the Core Strategy to satisfy the HRA. Therefore it is recommended that 17.10 and 17.11 should be re-phrased as follows: -

(17.10) ‘The review will comprise a Habitats Regulations Assessment under Regulation 63 and address potential options for mitigation where a significant effect is considered likely. This presents a challenge in reconciling development at Severnside with continued use of the coastal floodplain by the species and assemblages of the Severn Estuary SPA in such a way that it satisfies the Habitats Regulations and meets the conservation objectives of the site. The preferred approach is to –

- *Retain habitat for waterfowl within the permission area (including land along the foreshore within the SPA/SAC) (on-site mitigation) if the Habitats Regulations Assessment concludes that implementing the consents would lead to a significant adverse effect on the European Site; and/or*
- *Create new wetland habitat for waders/wildfowl outside the permission area (off-site mitigation).*

(17.11) In the long term, this newly-created wetland habitat together with the existing retained habitat from within the areas of extant permission will form part of a network of habitat and nature reserves for the European waterfowl across the coastal floodplain and foreshore of the Severn Estuary SPA/Ramsar, interlinked by the Severn Way and public rights of way between Avonmouth and Oldbury on Severn. The review of consent (Habitats Regulations Assessment) under Regulation 63 at Severnside was commenced in January 2010 as part of a wider coastal floodplain wetland habitat project in partnership with Bristol City Council and Natural England.

- 6.83 Paragraph 17.21 addresses the partnership approach the Council intends to adopt to deliver the strategic aims described within Section 17 (Severnside). The current wording refers to ‘wildfowl’: however, this is considered too broad in its meaning and might include bird species rather than those for which the Severn Estuary is designated an SPA/Ramsar. It is therefore recommended that the first paragraph be re-phrased to clearly specify ‘used by the European waders/wildfowl’. The first bullet point should also be re-worded to ‘carry out a Habitats Regulations Assessment on

any new applications under Regulation 61 of the Habitats Regulation 2010' to distinguish between an HRA and the full and technical appropriate assessment which is unlikely to be necessary for every application.

- 6.84 Finally, paragraph 17.23 addresses the potential funding streams to deliver the wetland habitat proposed to mitigate against loss of the 57/58 consent land. The phrase *'creation of wetland habitat'* should be expanded to *'creation of wetland habitat and the establishing and managing of any local nature reserve(s) (for example, Pilning Rifle Range'* to avoid being limited to one method of delivering the mitigation identified within the review of consent/partnership project.

Review of Consent (Regulation 61 of Habitats Regulations 2010)/Coastal Floodplain Wetland Habitat Project

- 6.85 In addition to using the saltmarsh and mudflats along the shoreline (within the SPA boundary), a variety of qualifying species for the SPA/Ramsar are known to use supporting wetland habitat within the coastal floodplain alongside the Severn Estuary outside the N2K site itself. The legislation afforded these species under the Regulations/European Directive also extends to these birds even when outside the legally designated boundary of the SPA and/or Ramsar.
- 6.86 Development of land within the redline area of the 57/58 permission therefore has the potential to have a likely significant effect on the conservation objectives of the European site through land take and associated loss of habitat. Whilst deemed extant, as a partially implemented permission South Gloucestershire Council is legally required to review the 57/58 consent under Regulation 61 of the Habitats Regulations 2010.
- 6.87 The industrial and commercial development of Avonmouth, in conjunction with the partial implementation to date of the 57/58 permitted land at Severnside, has resulted in a degrading or reduction in the overall amount of wetland habitat that would have historically been available to European waterfowl in the coastal floodplain. This loss of wetland habitat will be further compounded as development of Severnside continues which risks directly compromising the conservation objectives of the Severn Estuary SPA/Ramsar. It is therefore critical that any further loss or degradation of waterfowl wetland habitat is prevented, or appropriately mitigated.
- 6.88 The supporting text to Policy BCS4 (Avonmouth) of the Bristol Core Strategy notes that the policy does not promote new allocations for employment on green field land, thereby providing a degree of protection to areas of habitat used by the Severn Estuary SPA qualifying bird species outside the N2K site boundary. The BCC Core Strategy wording commits the Council to working with Natural England and neighbouring authorities to explore potential habitat creation in Avonmouth to specifically address the impacts of development on the qualifying SPA/Ramsar species of the Severn Estuary. This is also embraced within Bristol Core Strategy policy BCS9 (GI) which aims to protect and enhance a network of sites and corridors within Bristol. This includes green field land within Avonmouth that links the BCC boundary with South Gloucestershire, and has potential to provide suitable habitat to help mitigate the loss of wetland habitat through development of brown field sites Avonmouth and Severnside.

- 6.89 In January 2010, a partnership of South Gloucestershire Council, Bristol City Council and Natural England commissioned a bespoke wetland habitat project undertaken by Creswell Associates. Using existing records, targeted habitat surveys and maps, the project's aim is to establish use of the proposed development zones within South Glos and Bristol by SPA/Ramsar species, and if so, to identify suitable areas of green field land, within Avonmouth and Severnside but outside the two development zones able to mitigate for land lost through development.
- 6.90 The project will also inform a review of the 57/58 planning permission, which South Gloucestershire are legally required to carry out under Regulation 61 of the Habitats Regulations, and therefore forms a key part of this project. Using the policy frameworks within the respective Core Strategies, it is intended that identified sites will eventually form a strategic network or infrastructure of new or restored wetland habitat across Avonmouth and Severnside, recognised for its important supporting role for the SPA and protected against future development in policies within the Councils' relevant Local Development Framework documents. A variety of funding streams (for example, Environmental Stewardship, Section 106 contributions) will be explored to improve and maintain the sites, thereby providing long term favourable conditions for SPA qualifying species, whilst maintaining the roles of both Avonmouth and Severnside as major economic drivers in the region.

Mitigation

- 6.91 Following public consultation in 2010, the pre-submission draft Core Strategy has been subject to a number of Proposed Changes. Two new policies (CS37 and CS38) have been inserted into the chapter on 'Major Infrastructure Projects'. Other refinements include changes to policy and supporting text that seek to avoid or mitigate against significant impacts on the Severn Estuary SPA. Because of the magnitude and singularity of the proposals, the policies relating to Oldbury and Major Infrastructure Projects will be reviewed separately.
- 6.92 As previously indicated, the policies and sections within the South Gloucestershire Core Strategy which have been identified as having the potential to adversely affect the conservation objectives/qualifying species of the Severn Estuary SAC/SPA/Ramsar, either directly or indirectly or cumulatively, both within itself or in conjunction with policies comprising the Bristol City Core Strategy, are:-

Introduction

The Vision for 2026 and Beyond

CS3 – Renewable and Low Carbon Energy Generation

CS5 – Location of Development

CS11 – Distribution of Economic Land

CS12 – Safeguarded Areas for Economic Development

CS19 – Rural Housing Exception Sites

CS35 – Severnside

Major Infrastructure Projects

- 6.93 The new neighbourhood policies are also relevant in that potential increases in the demand for water and recreational pressure could have significant implications for the integrity of the SPA/SAC/Ramsar:-

CS25 – Communities of the North Fringe of Bristol Urban Area
 CS26 – Cribbs/Patchway New Neighbourhood
 CS27 – East of Harry Stoke New Neighbourhood
 CS33 – (Thornbury) Housing Opportunity
 CS34 – Rural Areas

- 6.94 Policies CS1 (High Quality Design), CS9 (Environmental Resources & Built Heritage) and CS2 (Green Infrastructure) are also relevant in that they enshrine measures to alleviate development impacts and benefit biodiversity. Specifically, Policy CS9 is the key policy in the Core Strategy with regard to managing environmental resources and protecting environmental assets.

Water Resource – Response to issues and concerns raised by the HRA

	Recommendations
Para 8.12	A refinement to the wording of paragraph 8.12 to specifically refer to the Severn Estuary is recommended.

- 6.95 Policy CS9 is the key policy on environmental protection and asset management. This policy will apply to all development which comes forward. Inter alia, it aims to ameliorate any increase in water demand by seeking efficiency of water usage in new development. The Proposed Changes include the following amendment to para 8.12, which is the supporting text for Policy CS9.

‘The conservation of water resources will become increasingly important as summer rainfall declines and droughts become more common. New development should not compromise the ability of wildlife – particularly European waterfowl and other species of wildlife for which the Estuary is designated a European site – to adapt to climate change. New development will be expected to demonstrate that it will not cause any deterioration in the quality or quantity of underground, surface or coastal water resources’

- 6.96 Bristol Water’s Draft Water Resource Management Plan (<http://www.environment-agency.gov.uk/business/sectors/102263.aspx>) identifies that existing water resources are sufficient in themselves to meet the projected growth in water demand over the next six to ten years. The Strategic Environmental Assessment (SEA) of the Plan concluded that the preferred option for future management would have no effect on biodiversity generally, which would include the species and habitats associated with the Severn Estuary N2K site.
- 6.97 With the incorporation of the amendment to paragraph 8.12 in the Proposed Changes, it is considered reasonable to conclude that the policies with implications for the water resource of South Gloucestershire - policies CS19, CS25, CS26, CS27, CS33, CS34 and CS35 - will not have a significant effect or compromise the conservation objectives of the Severn Estuary N2K site.

Recreation - Response to issues and concerns raised by the HRA

- 6.98 The likelihood of the new housing sites and neighbourhoods identified in the South Gloucestershire Core Strategy (East of Harry Stoke, Cribbs/Patchway, Emerson’s

Green and the Harry Stoke/Stoke Gifford area, as well as within the new housing area at Thornbury and the rural area) having a significant impact upon the Severn Estuary N2K site through an increase in recreational use is considered extremely low. Whilst some new residents may use the Severn Way or coastal zone paths for dog-walking, mountain biking, walking or other activities, it is considered likely that only a small percentage of the proposed new communities will utilise the coastal areas and footpaths because of the distances involved; the inconvenience of traversing the city; and the wealth of other closer loci for recreational use in the environs of Bristol and South Gloucestershire.

- 6.99 Given this, it is considered that policies CS5, CS19, CS25, CS26, CS27, CS33 and CS34 are unlikely to have a significant impact on the conservation objectives of the N2K site with regard to recreational use.
- 6.100 Policies CS1 and CS2 relate to design and the provision of ‘green infrastructure’ – green space, links and features that provide a mix of uses, including new recreational opportunities - are seen as an integral part of the sustainability of the new communities proposed on the city fringes within South Gloucestershire. The requirement to deliver high quality green infrastructure within and around new neighbourhoods is considered likely to reduce the need for households to access more distant locations such as the Severn Way for recreation.
- 6.101 Accordingly, it is considered that policies CS19, CS25, CS26, CS27, CS33, CS34 and CS35, as drafted within the pre-submission version of the Core Strategy will not have a significant effect or compromise the conservation objectives of the Severn Estuary N2K site through an increase in recreational pressure. The Proposed Changes to these policies do not alter this conclusion.

Development - Response to issues and concerns raised by the HRA

	Recommendations
Policy CS9	Reword point 5 to <i>‘Avoid the undeveloped coastal zone unless a coastal location can be justified and there is no alternative add and development complies with the requirements of the 2010 Habitats Regulations and meets the conservation objectives of the Severn Estuary SPA/SAC/Ramsar’</i> . Or delete the clause <i>‘unless a coastal location can be justified and there is no alternative’</i> .
Para 8.10	Reword to <i>‘... a significant and internationally important environmental resource which is protected under national and European law’</i> .
Para 8.11	Re-phrase to <i>‘...international importance, many of which are protected under European legislation’</i> .
Para 8.11	Add at end <i>‘...subject to satisfying the legal provisions of the Habitats Regulations 2010’</i> .
Vision for Severnside	Change to the following:- <i>‘The area’s international importance for a wide range of ecology and wildlife will be safeguarded and maintained in optimal condition with the Council working in partnership with both</i>

	<p><i>statutory and non-statutory nature conservation bodies and local people. The significance of the archaeological heritage of the area will be assessed and the heritage safeguarded through appropriate mitigation strategies. A longer term....'</i></p>
Section 17	<p>Include <i>'In recognition of its nationally and internationally important wildlife, the Severn Estuary is subject to a series of statutory and non-statutory nature conservation designations.</i></p> <p><i>It is notified as a Site of Special Scientific Interest (SSSI) and is protected under the Wildlife & Countryside Act 1981 (as amended) and the Countryside & Rights of Way Act 2000.</i></p> <p><i>The Estuary is also designated as a Special Protection Area (SPA) under EC Directive 79/409 on the Conservation of Wild Birds ('the Birds Directive') and is a Ramsar site under the Ramsar Convention on the Conservation of Wetlands of Importance. It is also a Special Area of Conservation (SAC) under European Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('the Habitats Directive 1992'), implemented in Britain by the Conservation of Habitats and Species Regulations 2010 ('the Habitats Regulations').</i></p> <p><i>SPAs and SACs together form a network of sites known as 'Natura 2000' (N2K) or European Sites.'</i></p>
Policy CS35	<p>Policy does not include any wording to ensure that the integrity of the site will not be compromised.</p>
Policy CS35	<p>The policy needs to better reflect the need to plan Severnside strategically as an integrated whole and in such a way that developing out the 57/58 permission does not significantly affect the qualifying species of SPA/Ramsar waterfowl through a loss of supporting floodplain wetland habitat.</p>
Policy CS35	<p>The policy would benefit from additional wording to reflect the legal protection afforded to the Severn Estuary European site.</p>
Para 17.4	<p>The first bullet point should be changed to:</p> <p><i>'Could have the potential to have a significant effect on the ecology and conservation objectives of the Severn Estuary European Site and cause significant and irreparable damage to estuarine and floodplain ecology'.</i></p>
Para 17.9	<p>Amend to clarify the role of the review of consent under Regulation 63</p> <p><i>'The Council has a duty to review all unimplemented or partially implemented planning permissions likely to have a significant effect on the international nature conservation designations (European Site) covering the Severn Estuary (Ramsar/SPA/SAC) under Regulation 63 of the Habitats Regulations 2010. The protection afforded the SPA (& Ramsar) also extends to any land (and particularly land alongside the Estuary within the coastal floodplain) used by European waterfowl. If the review concludes that loss of any or all of this land is likely to have a significant effect on the conservation objectives of the SPA European Site,</i></p>

	<i>Regulation 63 allows for modification of part of the 1957/58 permissions’.</i>
Paras 17.10 & 17.11	<p>Re-phrase to (17.10) <i>‘The review will comprise a Habitats Regulations Assessment under Regulation 63 and address potential options for mitigation where a significant effect is considered likely. This presents a challenge in reconciling development at Severnside with continued use of the coastal floodplain by the species and assemblages of the Severn Estuary SPA in such a way that it satisfies the Habitats Regulations and meets the conservation objectives of the site. The preferred approach is to –</i></p> <ul style="list-style-type: none"> • <i>Retain habitat for waterfowl within the permission area (including land along the foreshore within the SPA/SAC) (on-site mitigation) if the Habitats Regulations Assessment concludes that implementing the consents would lead to a significant adverse effect on the European Site; and/or</i> • <i>Create new wetland habitat for waders/wildfowl outside the permission area (off-site mitigation).</i> <p>(17.11) <i>In the long term, this newly-created wetland habitat together with the existing retained habitat from within the areas of extant permission will form part of a network of habitat and nature reserves for the European waterfowl across the coastal floodplain and foreshore of the Severn Estuary SPA/Ramsar, interlinked by the Severn Way and public rights of way between Avonmouth and Oldbury on Severn. The review of consent (Habitats Regulations Assessment) under Regulation 63 at Severnside was commenced in January 2010 as part of a wider coastal floodplain wetland habitat project in partnership with Bristol City Council and Natural England.’</i></p>
Para 17.21	Rephrase to clearly specify <i>‘used by the European waders/wildfowl’.</i>
Para 17.21	The first bullet point should be re-worded to <i>‘carry out a Habitats Regulations Assessment on any new applications under Regulation 61 of the Habitats Regulation 2010’</i>
Para 17.23	The phrase <i>‘creation of wetland habitat’</i> should be expanded to <i>‘creation of wetland habitat and the establishing and managing of any local nature reserve(s) (for example, Pilning Rifle Range’</i>
Strategy for Development	It is recommended that there is a clearer recognition of the legislative importance of the Severn Estuary N2K site and of the consequent potential constraints to development
Policy CS3	The policy wording does not include a caveat to ensure that renewable energy proposals do not have a significant effect on the Severn Estuary N2K site.
Policy CS5	The phrase <i>‘environmental’</i> is vague and considered insufficient to ensure significant effects on the SPA/SAC/Ramsar are avoided or mitigated.

6.102 Various changes are proposed to the pre-submission draft Core Strategy to address the issues and concerns raised by the HRA. However, these changes need to be consistent with the general approach being taken in the Core Strategy, which is that the document should be read as a whole and, consequently, that it is unnecessary to caveat a policy or policies with matters addressed in another policy or policies. In respect of environmental protection and management, Policy CS9 is the relevant policy. Therefore the main reference to the N2K site should be here, together with references in the spatial section of the document in the Severnside chapter, making it unnecessary to have more than limited references elsewhere in the document. The Proposed Changes have been put forward on this basis.

6.103 In respect of Policy CS9 and the supporting text, therefore, the following changes are proposed:

Policy CS9 - delete the clause '*unless a coastal location can be justified and there is no alternative*';

Para 8.10 – Re-word to '*The Severn Estuary forms the western boundary of South Gloucestershire and is a significant and internationally important environmental resource which is protected under national and European law.*';

Para 8.11 - Re-phrase second sentence to '*...international importance, ~~some~~ many of which are protected under European legislation and are recognised...*'; and

Para 8.11 - Add at end '*...subject to satisfying... the legal provisions of the Habitats Regulations 2010 and meeting the conservation objectives of the Severn Estuary SPA/SAC/Ramsar.*'

6.104 In respect of section 17 the following changes are proposed:

Vision for Severnside – Replace 3rd sentence with '*The Severn Estuary and adjoining floodplain is internationally important for a wide range of ecology and will be safeguarded and maintained. Its archaeological heritage and interest will also be protected and conserved and a network of new nature reserves will be implemented.*'

Para 17.4 – Re-word the first bullet point as '*could have a significant effect on the ecology and conservation assets of the Severn Estuary and cause significant and irreparable damage to estuarine and floodplain ecology and associated international designations*';

Policy CS35 – Amend 3rd sentence to '*This should set out both a strategic framework plan for the ~~whole~~ area which takes into account the most recent government guidance and a mechanism...*'

Policy CS35 – Amend reference to Concept Statements to '*These should be prepared... design and service issues, and should take into account the most recent government guidance.*'

Add new para 17.8b - '*In recognition of its nationally and internationally important wildlife, the Severn Estuary is subject to a series of nature conservation designations.*'

It is a Site of Special Scientific Interest (SSSI), a Special Protection Area (SPA), and a Ramsar site (named after the Ramsar Convention on the Conservation of Wetlands of Importance). It is also a Special Area of Conservation (SAC) under the European Directive on the Conservation of Natural Habitats and Wild Fauna and Flora ('the Habitats Directive 1992'), implemented in Britain by the Conservation Regulations 2010 (known as the Habitats Regulations). This presents a challenge in reconciling development at Severnside with continued use of the coastal floodplain by the species and assemblages of the Severn Estuary in such a way that it satisfies the Habitats Regulations and meets the conservation objectives of the site.'

Para 17.9 – Re-word to 'Under Regulation 50- 63 of the Habitats Regulations the Council has a duty to review all unimplemented or partially implemented the extant planning permissions at Severnside as they are likely to have an impact on the a significant effect on the international and European nature conservation designations covering in the Severn Estuary (Ramsar, Special Protection Area and Special Area of Conservation). The SPA designation also applies the same legislative protection to the fields alongside the Estuary that are visited by the wildfowl. If deemed to have a significant adverse effect upon the bird populations, modification of all or part of these permissions may be required. This review of consent (Habitats Regulations Assessment) commenced in January 2010 as part of a wider coastal floodplain wetland habitat project in partnership with Bristol City Council and Natural England.'

Paras 17.10 and 17.11 are deleted from the pre-submission draft Core Strategy as these pre-empt the findings of the project to review the 57/58 planning permissions at Severnside. Consequently, the revised wording to paras 17.10 and 17.11 set out in the above table is not included in the Proposed Changes to the Core Strategy.

Para 17.21 - Re-word 1st bullet to 'carry out a Habitats Regulations Assessment on any new applications an Appropriate Assessment (under Regulation 48 60 of the Habitats Regulations)'

Para 17.23 – Amend 1st sentence to '... the ~~creation~~ establishing and managing of any wetland habitats and Local Nature Reserves.'

6.105 In terms of other changes, a brief reference is made in the Strategy for Development and in policy CS5 to recognise the importance of the Severn Estuary designations . For the reasons set out above, however, no changes are proposed to other policies. Therefore the more specific wording recommended in the table above to Policies CS3 and CS5 and the Strategy for Development is not included in the Proposed Changes to the Core Strategy. The brief references proposed are as follows:

Para 4.26 – Amend 2nd sentence to 'It lies within an ecologically important, fragile and visually prominent coastal area with special landscape characteristics which are recognised and protected for their international, national and local importance for biodiversity.'

Policy CS5 – Amend 4th point to 'The economic potential of Severnside ... environmental and infrastructure issues and taking into account the most recent government legislation sand guidance.'

Oldbury Power Station/Major Infrastructure Projects

6.106 The pre-submission draft of the SGC Core Strategy contained a section (18) on Major Infrastructure Projects, including the new nuclear power facility proposed at Oldbury.

6.107 This whole section has been revised and the Proposed Changes include two new policies, CS36 and CS37, relating to major infrastructure and the new reactor. Policy CS36 contains the following reference to HRA under Regulation 61:

'...Developers will be required to:

...6. Meet the requirements of the legislative provisions of the Habitats Regulations 2010'.

6.108 The new Policy CS37 relates to the proposed new nuclear reactor facilities at Oldbury. The policy itemises the range of issues that the Council considers any scheme should address. It includes provision of sufficient green infrastructure to mitigate against impacts arising from the scheme on the ecology and landscape of the area. In addition point 11 of the policy includes a requirement for the comprehensive assessment of the positive, negative and cumulative environmental impacts of any proposals and the delivery of measures to avoid, minimise, mitigate or compensate for harm caused.

Conclusions

6.109 From the HRA of the Severn Estuary SAC/SPA/Ramsar, it is considered that policies CS19, CS25, CS26, CS27, CS33, CS34 and CS35, as drafted within the pre-submission version of the South Gloucestershire Core Strategy will not have a significant effect or compromise the conservation objectives of the Severn Estuary N2K site through an increase in recreational pressure, either on their own or in combination with other plans.

6.110 Additionally, the HRA concluded that policies CS19, CS25, CS26, CS27, CS33, CS34 and CS35 as drafted within the pre-submission version of the Core Strategy will not have a significant effect or compromise the conservation objectives of the Severn Estuary N2K site through an increased use of water resources, either on their own or in combination with other plans.

6.111 However the HRA has found that a series of policies within the Core Strategy do have the potential to have a significant effect on the Severn Estuary N2K site.

6.112 It also concluded that, subject to the revision of policy wording and/or amendments to supporting text as set out in the Proposed Changes to the pre-submission draft Core Strategy, policies CS3, CS5, CS11, CS12, CS19 and CS34 will not have a significant effect or compromise the conservation objectives of the Severn Estuary N2K site through implementation.

6.113 Finally, it was also concluded that the two new policies contained within the revised section 18 of the Core Strategy – namely, CS36 relating to Major Infrastructure Projects; and CS37, on Oldbury Power Station – would not have a likely significant effect or compromise the conservation objectives of the Severn Estuary N2K site.

7. Conclusions to the HRA

7.1 The HRA of the pre-submission draft of the South Gloucestershire Core Strategy initially included eight N2K sites for consideration:-

- Avon Gorge Woodlands SAC
- Bath & Bradford on Avon Bats SAC
- Chew Valley Lake SPA
- River Usk/Afon Wysg SAC
- River Wye/Afon Gwy SAC
- Severn Estuary SPA and SAC
- Wye Valley & Forest of Dean Bat Sites SAC
- Wye Valley Woodlands/Coetrioedd Dyffryn Gwy SAC

7.2 Of these, five were scoped out, leaving three - Chew Valley Lake SPA, Avon Gorge Woodlands SAC and the Severn Estuary SPA and SAC – for further consideration.

7.3 The HRA identified the following policies within the pre-submission draft as having implications and the potential for significantly and adversely affecting the three N2K sites identified.

The Vision for 2026 and Beyond

CS3 – Renewable and Low Carbon Energy Generation

CS5 – Location of Development

CS11 – Distribution of Economic Land

CS12 – Safeguarded Areas for Economic Development

CS19 – Rural Housing Exception Sites

CS21 – Gypsy & Traveller Accommodation

CS25 – Communities of the North Fringe of Bristol Urban Area

CS26 – Cribbs/Patchway New Neighbourhood

CS27 – East of Harry Stoke New Neighbourhood

CS33 – (Thornbury) Housing Opportunity

CS34 – Rural Areas

CS35 – Severnside

Major Infrastructure Projects

7.4 Additionally, following the public consultation stage, section 18 was revised and two new policies introduced:

CS36 – Major Infrastructure Projects

CS37 – Oldbury Power Station

- 7.5 The Core Strategy also contained three policies which enshrine measures to alleviate development impacts and benefit biodiversity generally. As such, they have the potential to deliver beneficial affects on European sites and their conservation objectives:

CS1 - High Quality Design

CS2 - Green Infrastructure

CS9 - Environmental Resources & Built Heritage

- 7.6 Policy CS21 relating to gypsy and traveller accommodation was scoped out of the HRA on the basis that the sites were identified within the Gypsy & Traveller Preferred Options Development Plan Document (DPD) and this was subject to its own assessment under the Habitats Regulations.
- 7.7 The HRA examined the wording of each of the identified policies or sections in the Core Strategy with a view to assessing whether, as drafted within the pre-submission draft or the Proposed Change, any had the potential to have a significant effect on the three Natura 2000 sites included within the scope of the assessment, either directly or indirectly, alone or in combination with other plans such as the Bristol Core Strategy.
- 7.8 The HRA concluded that policies CS19, CS25, CS26, CS27, CS33, CS34 and CS35 within the pre-submission version of the South Gloucestershire Core Strategy will not have a significant effect or compromise the conservation objectives of the three Natura 2000 sites comprising the assessment, either through an increase in recreational pressure or an increased use of water resources.
- 7.9 Of the other policies and their supporting text, the HRA concluded that, subject to the wording of the policies and/or supporting text being amended as per the Proposed Changes, both the Core Strategy itself and policies CS3, CS5, CS11, CS12, CS19 and CS34 will not have a significant effect or compromise the conservation objectives of the Severn Estuary N2K site through development.
- 7.10 It was also concluded that the two new policies contained within the Proposed Changes revised section 18 of the Core Strategy – namely, CS36 relating to Major Infrastructure Projects; and CS37, on Oldbury Power Station – would also not have a significant effect or compromise the conservation objectives of the Severn Estuary N2K site,
- 7.11 In conclusion, it is considered that, on the basis of the series of amendments to the wording of the policies (and supporting text) in the Proposed Changes, as set out above, the South Gloucestershire Core Strategy will not have a significant effect or compromise the conservation objectives of the Severn Estuary N2K site through an increase in recreational pressure, either on their own or in combination with other plans.
- 7.12 The HRA is, however, subject to Natural England concurring with these conclusions.