

2.0 **European Sites Subject to Likely Significant Effects as a Result of Phase Two Revisions and the housing growth scenarios**

- 2.1 The Screening Stage confirmed the need for Appropriate Assessment (Stage 2) with respect to a number of European sites within the Region and in other Regions due to possible adverse effects (referred to in this report as 'Likely Significant Effects' (LSE's)). The results of screening are summarised in Table 1 and the Screening Report provides more detail

European site	Reason for progression to Stage 2 Appropriate Assessment
Brown Moss SAC	The site is currently not affected by abstractions but the RSS allocation (25, 700 houses) may push the Staffordshire and Shropshire water resource zone into deficit by the end of the plan period through additional abstractions. Possible impacts on water quality, if development occurs in the vicinity of the site and levels of polluted surface water run-off increase, however water quality issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios.
Cannock Chase SAC	Those parts of Cannock Chase SAC within 200 m of the A34, 513 or 460 may be exposed to increased levels of deposition of atmospheric pollutants, causing changes in the plant species, composition of the vegetation communities for which the site is designated. There are also possible direct effects from traffic due to increased recreational use of the site associated with an expanding local population. A future consequence of this could be the need for additional supporting infrastructure or facilities which could potentially require land-take within or near Cannock Chase SAC. Another effect of increased housing could be impacts on water quality and localised eutrophication. These effects could be further exacerbated by the in-combination effects of the Visitor Economy Strategy, however water quality issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios. Water abstraction is an issue currently under investigation by the Environment Agency and water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios.
Cannock Extension Canal SAC	Levels of recreational use of the Cannock Extension Canal are expected to increase as a result of policies in the RSS, the Regional Housing Strategy and the Visitor Economy Strategy. Significant effects are possible if this translates into increases in boat traffic and associated physical disturbance. Run-off from the A5 may also increase if traffic levels go up, exacerbating an existing water quality problem. However water quality issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios Increased levels of deposition of atmospheric pollutants are also likely, but these are not expected to translate into significant changes in water chemistry.
Downton Gorge SAC	This site also receives nitrogen and acid deposition above its critical load. RSS growth proposals and additional housing options may exacerbate this problem if it contributes to increase in levels of NOx emissions in future.
Fenn's, Wixhall, Bettisfield, Wem and Cadney Mosses SAC	Possible effects associated with increased recreational use, in combination with Shropshire Economic Development Strategy and Visitor Economy Strategy. Increased recreational use and the need for supporting facilities could exacerbate existing water quality issues. However water quality issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios This site also receives nitrogen and acid deposition above its critical load. RSS growth proposals may exacerbate this problem if it contributes to increase in levels of NOx emissions in future.
Fens Pool SAC	The integrity of the site relies on supporting habitat around the site which lies currently outside the designated site boundaries. The site currently has little buffer from surrounding development and is therefore vulnerable to any further land take of the supporting habitat, changes in the use of this land or other impacts on the qualifying species outside the site boundaries. Consistent with a precautionary approach, the supporting habitat surrounding the site needs to be protected to avoid adverse impacts on the integrity of the Fens Pool SAC.

European site	Reason for progression to Stage 2 Appropriate Assessment
Pasturefields Salt Marsh SAC	<p>This site is periodically affected by flood water from River Trent which has high sewage loadings and additional loadings from surface water runoff. This problem could be exacerbated by housing development upstream. There could be possible impacts associated with water abstraction in future if further water is sourced from the River Trent. However water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios</p>
Peak District Dales SAC	<p>Possible significant effects on the site's integrity could occur with increased recreational use and generally increasing levels of air pollution as a result of increased development. The site currently receives nitrogen and acid deposition above critical load. RSS growth proposals may exacerbate this problem if they contribute to an increase in levels of NOx emissions from transport, business and domestic sector in future.</p> <p>It is also possible that development may affect land use in the vicinity of rivers and so increase polluted surface water run-off could occur unless SUDS are used. However water quality issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios</p> <p>Increased abstractions arising from development under the RSS are likely within the local water resource zones (WRZ) but the site is largely rainwater-fed, therefore increased abstraction under the RSS is unlikely to affect the site provided that there are no Water Transfer schemes operating from infrastructure fed from this area. However water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios.</p>
River Clun SAC	<p>Water quality/supply risks. Pearl mussels rely on salmonid migration; therefore adequate flow is crucial in the Severn and Clun. It is possible that future abstraction of surface and groundwater may affect water levels at the site. However review of consents demonstrated no impact from current abstraction and if there was an increase applied for and an effect recorded, the permission would not be granted. Review of consents clearly demonstrated that the River Clun does have high levels of phosphate, but these are largely due to diffuse sources. The relatively limited number of point sources will be dealt with via Review of Consents (RoC) and the Asset Management Programme (AMP) process. Water quality in the River Clun is generally improving and will continue to improve via the AMP process. Also there are some issues with phosphate loadings due to inadequate water treatment. However both water quality and water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios.</p>
River Dee and Bala Lake SAC	<p>Possible that future abstraction of surface and groundwater may affect water levels at the site. However water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios. Possible increased mortality to otters from increased road traffic.</p>

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River Mease SAC	<p>There is considerable pressure on water resources in the Region and the additional proposed housing could exacerbate this. Confirmed by Environment Agency during consultation. Extending water supply networks would have implications for the site's conservation objectives.</p> <p>Existing problems with competition for water supply. There is potential for the RSS to exacerbate this.</p> <p>High levels of household growth could have a significant effect if abstraction is needed from the river. Risk to site integrity is possible. However, any new abstraction would only be allowed if water were available after the RoC process is completed.</p> <p>Water availability for any additional development needs to be explored in detail. However water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios</p> <p>Diffuse pollution and excessive sedimentation related to agricultural land use as well as housing and economic growth are a current problem: there are problems with phosphate levels based on current consented limits. It is therefore also necessary to explore water quality issues further. May need to review RSS in terms of Sustainable Drainage System (SuDS), waste water treatment generally and levels of surface water run-off. However water quality issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios</p> <p>Possible increased mortality to otters from increased road traffic.</p>
River Usk SAC	<p>Any increase in housing in Herefordshire could increase the demand on Welsh Water for additional water supplies. Depending on how Welsh Water meets the demand for additional water will determine whether there would be any requirement for abstraction from the Usk catchment.</p> <p>Risk to site integrity is possible. However, any new abstraction would only be allowed if water were available after the RoC process is completed. However water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios</p>
River Wye SAC	<p>Possible that future abstraction of surface and groundwater may affect water levels at the site. Land use changes associated with the RSS and other plans could affect water quality and supply and there is an issue with water quality on this site based on current consented limits. Water abstraction is a significant issue as well as water quality problems associated with sewage discharges. However water quality issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios.</p> <p>There may also be impacts arising from increased levels of recreational use and disturbance. Increased road traffic could impact on the local otter population leading to increased mortality.</p>
Severn Estuary cSAC	<p>The Severn system is under considerable pressure for water supply and is under investigation by the EA as part of the Habitats Directive Review of Consents. Increased abstraction, including that arising from the RSS, has the potential to affect the qualifying features of the Severn Estuary SAC due the current and future tension between providing water supply for new housing and maintaining minimum flows. Water quality impacts are also possible due to increasing surface water run-off, the adequacy of water treatment infrastructure and the possibility of reduced flow concentrating pollutants in the watercourse. However water quality and water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios.</p>
South Pennine Moors SAC	<p>The site currently receives nitrogen and acid deposition above critical load. The growth proposals may exacerbate this problem if they contribute to an increase in levels of NOx emissions from transport, business and domestic sectors. The additional housing options may also contribute to increased recreational pressure alone and in combination with other plans.</p>

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The Stiperstones and Hollies	Site receives nitrogen and acid deposition above critical load. RSS growth proposals may exacerbate problem if it contributes to an increase in levels of NOx emissions from transport, business and domestic sector in future.
West Midlands Mosses SAC	Increased housing development is likely to create water deficit problems, though not currently known to what extent this would affect sites. However water quality and water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios. Site also over its critical load for nitrogen and acid deposition.
Wye Valley and Forest of Dean Bat Sites SAC	Site should be assessed in Stage 2 due to possible implications of land use change within foraging areas, particularly for greater horseshoe bats.
Wye Valley Woodlands SAC	Site currently receives nitrogen deposition above critical load. The RSS growth proposals may exacerbate problem if they contribute to an increase in levels of NOx emissions from transport, business and domestic sector. There are possible in-combination effects on land use within foraging areas for bats, though the areas prioritised for development are some distance away.
Peak District Moors (South Pennine Moors Phase I) SPA	Acid and nitrogen deposition currently exceed the critical limits for the site. Further background increases in the levels of nitrogen oxides emitted from motor vehicles, industrial and domestic combustion processes may have a likely significant effect. There is also the potential for effects arising from increased recreational pressure. The Environment Agency concluded no impact from the existing abstraction licences. Likely effects of new abstractions would depend on the location and depth of boreholes and the rates of abstraction: full impact and appropriate assessment would be required for any new application. However water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios.
Severn Estuary SPA	Household and economic growth has the potential to affect the qualifying features of the Severn Estuary SPA due the current and future tension between providing water supply for new housing and maintaining minimum flows. Water supply/qualities issues need to be investigated further. Also potential issue with water quality and with effects on water quality caused by increasing demand for water supply (concentration of pollutants due to lower flows). This site is currently under investigation by the EA as part of the Habitats Directive Review of Consents. However water quality and water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios. There are also possible in-combination effects driven by increased tourism and recreational use.
South Pennine Moors Phase 2 SPA	Acid and nitrogen deposition currently exceed the critical limits for the site. Further background increases in the levels of nitrogen oxides emitted from motor vehicles, industrial and domestic combustion processes may have a likely significant effect. There is the potential for increased disturbance driven by increased tourism and recreational use arising from the RSS alone and in combination with other plans and strategies.
Humber Flats, Marshes and Coast (Phase 2) SPA	Severn Trent's Water Resource Management Plan (WRMP) predicts a deficit in water for the East Midlands WRZ and therefore new schemes will be suggested. Therefore increased housing would put further demands to further increase abstraction, which depending on where this would be undertaken, could have the potential to effect the River Trent and therefore the Humber. However water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios

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Humber Estuary SAC and Ramsar	Severn Trent's WRMP predicts a deficit in water for the East Midlands WRZ and therefore new schemes will be suggested. Therefore increased housing would result in further demands to further increase abstraction, which depending on where this would be undertaken could have the potential to affect the River Trent and therefore the Humber. However water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios
Midlands Meres and Mosses Phase 1 Ramsar	Sites likely to be affected by different pressures depending on their location. Some may be liable to significant effects. Risks are possible from water quality and supply issues (however water quality and water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios), recreational pressures, local and diffuse air quality issues, land take and invasive species.
Midlands Meres and Mosses Phase 2 Ramsar	Sites likely to be affected by different pressures depending on their location. Some may be liable to significant effects. Risks are possible from water quality and supply issues (however water quality and water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios), recreational pressures, local and diffuse air quality issues, land take and invasive species.
Severn Estuary Ramsar	Severn system under considerable pressure for water supply. Increasing levels of development could affect water quality in the Severn and the estuary and has the potential to adversely affect the Ramsar site due the current and future tension between providing water supply for new housing and maintaining minimum flows. There are also possible in-combination effects driven by increased tourism and recreational use. This site is currently under investigation by the EA as part of the Habitats Directive Review of Consents. However water quality and water supply issues are currently be reassessed under a separate piece of work that will consider the new housing scenarios.

Table 1 European Sites identified at the Screening Stage which could be affected by the RSS 'alone or in combination'. Source of site base data and the reason for progression to Stage 2 in relation to RSS Phase 2: Ursus Consulting Ltd & Treweek Environmental Consultants (2007) Habitats Regulations Assessment of the Phase II Revision of the Regional Spatial Strategy for the West Midlands