

**South Oxfordshire Local Plan
Publication Version**

**Natural Environment
Topic Paper**

October 2017

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1. Introduction

- 1.1. This paper supports the publication version of the proposed South Oxfordshire Local Plan. It provides information about the natural environment and landscape of South Oxfordshire, information on the studies and evidence base supporting the plan, and information on the proposed planning policies relating to the natural environment and landscape contained within the proposed plan.

2. Natural Environment and Landscape of South Oxfordshire

- 2.1. South Oxfordshire has a beautiful natural and built environment, which makes the district an attractive place to live and work. The landscape of the district includes rolling downland, wooded hills, ancient woodlands, historic parkland, low-lying farmland, riverside meadows and strategic environmental assets including the north Wessex Downs and the Chilterns AONB, the Green Belt and the River Thames and its tributaries. We encourage effective management of the AONBs and the Green Belt.
- 2.2. The whole district is rich in biodiversity, including international, national and locally protected sites and habitats. Maintaining sustainable agricultural land and practices is important in preserving the district's rural character and landscape.
- 2.3. The valley and tributaries of the River Thames are highly attractive features of the landscape and its special visual and environmental qualities are for the most part unspoilt. The Thames Valley is noted for its peace, tranquillity, biodiversity and cultural heritage, which is essential to preserve. The long-distance Thames Path and the river itself provide a focus for recreation and leisure activities.

3. National Planning Policy

- 3.1. The National Planning Policy Framework (NPPF) 2012 promotes sustainable development, advises that our natural environment is essential to our wellbeing and seeks to combine economic, environmental and social progress for this generation and future generations. The NPPF highlights that the planning system has an environmental role contributing to protecting and enhancing our natural environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.
- 3.2. In order to achieve this the NPPF requires good design, the protection of the Green Belt other than in exceptional circumstances, and meeting the challenge of climate change. Chapter 11 of the NPPF details how the planning system should contribute to and enhance the natural and local environment.
- 3.3. In addition to environmental enhancement the NPPF supports a prosperous rural economy.
- 3.4. The NPPF requires that a sustainability appraisal which meets the requirements of the European Directive on strategic environmental assessment should be an integral part of the plan preparation process, and should consider all the likely significant effects on the environment, economic and social factors.
- 3.5. The NPPF also advises that Local Plans may require a variety of other environmental assessments, including under the Habitats Regulations where there is a likely significant effect on a European wildlife site (which may not necessarily be within the same local authority area), Strategic Flood Risk Assessment and assessments of the physical constraints on land use.

4. Sustainability Appraisal

- 4.1. The Planning and Compulsory Purchase Act (2004) introduced a requirement to carry out Sustainability Appraisal (SA) as an integral part of preparing the Local Plan. We are also required to carry out a Strategic Environmental Assessment (SEA) of the Local Plan in accordance with the requirements of European Directive 2001/42/EC (SEA Directive). Government advice is that both SA and SEA can be carried out in a single appraisal process and this has been followed in the production of our SA.
- 4.2. The Local Plan is accompanied by a Sustainability Appraisal (prepared by consultants 'Amec Foster Wheeler'), carried out in accordance with the published guidance.
- 4.3. A Sustainability Appraisal is a means of ensuring that the likely social, economic and environmental effects of the Local Plan are identified, described and appraised. The SA incorporates a process set out under European Directive and related UK regulations within SEA. Where negative effects are identified, measures are proposed to avoid, minimise or mitigate such effects. Where any positive effects are identified, measures are considered that could enhance such effects.
- 4.4. Sustainability Appraisal has been an integral part of the preparation of the Local Plan and has been at all stages of the plan. During the period of the Local Plan, the council will monitor its implementation and any significant social, economic and environmental effects.

5. Habitats Regulations Assessment

- 5.1. Habitats Regulation Assessment (HRA) is a requirement of development plans as confirmed by the amendments to the Habitats Regulations published for England and Wales in July 2007 and updated in 2010 and again in 2012. The council is required by law to ensure a HRA is undertaken. The requirement for authorities to comply with the Habitats Regulations when preparing a Local Plan is explained in National Planning Practice Guidance.
- 5.2. The proposed Local Plan is accompanied by a HRA prepared by consultants 'Land Use Consultants Ltd' carried out in accordance with the published guidance.
- 5.3. HRA provides an assessment of the potential effects of the development proposed in the Local Plan on one or more European Sites, including Special Protection Areas (SPAs) and Special Areas of Conservation (SACs).
- 5.4. The following European sites fall within 17 km of South Oxfordshire District and have been included in the HRA:
 - Aston Rowant SAC;
 - Burnham Beeches SAC;
 - Chilterns Beechwoods SAC;
 - Cothill Fen SAC;
 - Hackpen Hills SAC;
 - Hartslock Wood SAC;
 - Kennet and Lambourn Floodplain SAC;
 - Little Wittenham SAC;
 - Oxford Meadows SAC;
 - River Lambourn SAC;
 - Thames Basin Heaths SPA; and
 - Windsor Forest and Great Park SAC.

The 17 km buffer distance, which was subject to consultation with Natural England, reflects the average travel to work distance in the district and recognises the fact that the effects of development within South Oxfordshire may be transmitted to sites beyond its boundary.

- 5.5. HRA has been an integral part of the preparation of the Local Plan which has been assessed by HRAs at all stages of the plan. During the period the Local Plan covers, the council will monitor its implementation and any significant social, economic and environmental effects.
- 5.6. The HRA concludes that at this stage in the Local Plan preparation that adverse effects on the integrity of European sites around South Oxfordshire from policies and site allocations in the Local Plan will not occur in relation to:
 - Physical loss or damage to on- or off-site habitat;

- Noise/vibration and light pollution; or
 - Changes to water quality or quantity.
- 5.7. Impacts on Little Wittenham SAC due to increases in visitor numbers were able to be screened out. An 'Appropriate Assessment' was carried out to determine whether increases in visitor number due to the Local Plan in combination with other plans or projects would have an adverse effect on the integrity of Little Wittenham SAC. The assessment has concluded that there will be no adverse effects on the site's integrity, due to the low sensitivity of the great crested newt population to recreation disturbance, and the responsible management of the site and its habitats.
- 5.8. Although the HRA has concluded that the Local Plan alone will not have a significant air pollution impact, at this stage it has not been possible to conclude the Appropriate Assessment of air pollution impacts arising from the Local Plan in combination with other plans or projects. These impacts relate to potential increases in traffic on the following roads within 200 metres of sensitive European sites:
- M40: Aston Rowant SAC;
 - A355: Burnham Beeches SAC;
 - A404 & A4010: Chilterns Beechwoods SAC; and
 - A332 & A329: Windsor Forest & Great Park SAC.
- 5.9. Further work on the HRA is required following the production of other supporting evidence.
- 5.10. Conclusion of the assessment requires guidance from Natural England, which is currently being updated following the recent Wealden Judgement. It is expected that Natural England's advice will be received during the Local Plan pre-submission consultation period. LUC will therefore aim to make use of the consultation period by liaising with Natural England in order to reach an agreement on the assessment before the Local Plan is submitted to the Planning Inspectorate.

6. Other Evidence Studies

Landscape Capacity Assessments

- 6.1. The council commissioned consultants Kirkham Landscape Planning Ltd working with Terra Firma Consultancy to prepare Landscape Capacity Assessments (LCAs) for the potential sites around the twelve 'Larger Villages*' of South Oxfordshire (*as defined in the proposed plan) and for the four towns of South Oxfordshire. The sites assessed have been highlighted to the council through the 'Strategic Housing Land Availability Assessment' (SHLAA) and through the 'Housing and Employment Land Availability Assessment' (HELAA).
- 6.2. Development of a site will generally result in a change to the landscape and character of that site. For example, increasing amounts of housing development on a site will ultimately change the landscape's character from a rural to a built one.
- 6.3. Landscape capacity is the extent to which a particular landscape type is able to accept a particular kind of change without significant effects on its character. The assessment can help identify how a site can make an important contribution to finding solutions that allow essential development to take place while at the same time helping to maintain the diverse character and valued qualities of the countryside.
- 6.4. The assessment only looks at the particular site and not the wider area or the wider visual impact of development on the site. The capacity of a landscape for change will depend upon the nature and magnitude of the change and the landscape's sensitivity. Capacity is usually expressed in relative terms, showing how greater levels of a particular change increasingly and cumulatively affect landscape character, ultimately changing it into a different character.
- 6.5. It is important to note that the studies do not recommend the development of all the potential sites and the final development potential will depend on the details of any proposal. It is also important to note that these assessments are one part of the evidence base of the Local Plan and other factors such as the site's location, sustainability and the need to meet housing need are also important factors.
- 6.6. The LCA for the twelve Larger Villages (2015) assessed 133 potential sites within or adjacent to these settlements. The report assesses the landscape capacity of each site and provides indicative figures of the number of dwellings that could be accommodated on the site and a possible development area. The assessment is indicative and subject to a variety of constraints.

- 6.7. The LCA for the four towns (2017) assessed potential 71 sites within or adjacent to the towns and follows the same methodological approach as per the 12 Larger Villages LCA.

Landscape Character Assessment September 2017

- 6.8. The council commissioned consultants Lepus Consulting Ltd to prepare a Landscape Character Assessment for South Oxfordshire. It is a revision of the previous landscape assessment for South Oxfordshire (1998).
- 6.9. A Landscape Character Assessment is the process of identifying and describing variation in the character of the landscape. It seeks to identify and explain the unique combination of elements and features (characteristics) that make landscapes distinctive.
- 6.10. The previous Landscape Character Assessment for South Oxfordshire (1998) has helped guide development across the district. This update of the 1998 study is written considering the latest and best guidance for conducting a landscape character assessment.
- 6.11. The role of the Landscape Character Assessment is used to understand the landscape make up of an area to give context to scheme proposals. The prevailing character of the landscape will help to shape the design and layout of development.

Local Green Belt Study 2015

- 6.12. The council commissioned consultants Kirkham Landscape Planning Ltd working with Terra Firma Consultancy to prepare a Local Green Belt Study.
- 6.13. The principal purpose of this Local Green Belt Study was to assess the extent to which the land within the Green Belt still meets the five purposes of the Green Belt as stated in paragraph 80 of the NPPF in the context of the current need to identify additional land for housing in the district to meet local and Oxford based demand.
- 6.14. The findings of the study are not to be considered in isolation. As a technical piece of work, it is used in conjunction with other evidence to inform planning policy in South Oxfordshire. The study also benefits from consultation with the Neighbourhood Planning Groups (NPGs) for six of the villages in the Green Belt.

South & Vale Green Infrastructure Strategy September 2017

- 6.15. The council, working with the Vale of White Horse District Council commissioned consultants Chris Blandford Associates to prepare a Green Infrastructure Strategy for the two districts.
- 6.16. Green Infrastructure (GI) is the multi-functional network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect villages, towns and cities. When appropriately planned, designed and managed, Green Infrastructure has the potential to deliver a wide range of benefits for people and wildlife.
- 6.17. The strategy presents the councils' vision and objectives for the future provision and management of Green Infrastructure in South and Vale up to 2031. It supports policies in the Councils' Local Plans by setting out a strategic approach to the future provision and management of Green Infrastructure within South and Vale.
- 6.18. In addition to providing informal guidance for developers, the Strategy is intended to also be of interest to communities who wish to prepare a Neighbourhood Plan for their towns and villages.

Strategic Flood Risk Assessment September 2017

- 6.19. The council commissioned consultants JBA Consulting Ltd to prepare a Strategic Flood Risk Assessment (SFRA) 2017 document to update the existing Level 1 SFRA originally published by South Oxfordshire District Council (SODC) in 2013. It forms part of the evidence base for the new Local Plan.
- 6.20. The SFRA is a planning tool that has assisted the Council in its selection and development of sustainable development sites away from vulnerable flood risk areas in accordance with the NPPF and its associated Planning Practice Guidance on Flood Risk and Coastal Change. The report has been prepared to provide appropriate supporting evidence for the Local Plan which sets out a vision and framework for development in the district to 2033 and will be used to inform decisions on the location of future development and the preparation of sustainable policies for the long-term management of flood risk.
- 6.21. The SFRA provides a 'Level 1' assessment for the whole of the district. It also provides guidance for planners and developers. The SFRA provides a 'Level 2' assessment for the potential site allocations.
- 6.22. The report:
 - takes into account the latest flood risk policy and available flood risk data.

- provides a comprehensive analysis of flood risk in South Oxfordshire
- enables the application of the 'Sequential Test'

6.23. The SFRA has considered all sources of flooding including fluvial, surface water, groundwater, sewers and reservoirs within the study area. The SFRA concludes that the risk of flooding for the stated sources varies across the district. The effect of climate change has been assessed. In most catchments, the extent of Flood Zone 3 is not likely to increase significantly with climate change.

Water Cycle Study October 2017

- 6.24. The council commissioned consultants JBA Consulting Ltd to prepare a Water Cycle Study (WCS) (phase 1 and 2). The Water Cycle Study is required in order to assess the constraints and requirements that will arise from the potential growth on water infrastructure in the district.
- 6.25. New homes require the provision of clean water, safe disposal of wastewater and protection from flooding. It is important to ensure that allocating large numbers of new homes does not result in the capacity of the existing available infrastructure being exceeded. This is to avoid service failures to water and wastewater customers, adverse impacts to the environment or high costs for the upgrade of water and wastewater assets being passed on to bill payers. Climate change presents further challenges such as increased intensive rainfall and a higher frequency of drought events that can be expected to put greater pressure on the existing infrastructure. Sustainable planning for water must take this into account. The water cycle is how the natural and man-made processes and systems interact to collect, store or transport water in the environment.
- 6.26. The Water Cycle Study has been carried out in co-operation with the Environment Agency (EA) and Thames Water (TWUL).
- 6.27. The overall objective of the Water Cycle Study is to understand the environmental and physical demands of the development, and identify opportunities for more sustainable planning and improvements that may be required so that proposals don't exceed the existing water cycle capacity.
- 6.28. The report focuses upon the proposed settlements provided by the council. The report outlines the current status of the environment and infrastructure, identifies possible constraints to the development, the impacts and demands of the development, and gives recommendations as to any improvements or mitigation required including approximate costings. The results of Phase 1 will be used by the council to draft their potential development sites that will be assessed in Phase 2.

- 6.29. The report summarises the actions required in terms of water resources, water supply, sewerage infrastructure, wastewater treatment works flow and quality permit assessment, water quality, wastewater treatment odour risk, and an assessment of flood risk from increased Waste Water Treatment Works discharge.
- 6.30. The adopted Water Resource Management Plan 2019 (WRMP), along with the annual reviews, has planned for the increase in demand, although this conclusion comes with caveats in Thames Water's Swindon and Oxfordshire zone.
- 6.31. The levels of growth in South Oxfordshire are expected to require significant sewerage upgrades to manage foul water and maintain water quality. This is identified in the Water Cycle Study (October 2017) and the necessary infrastructure is included in the Infrastructure Delivery Plan (IDP) (October 2017).

7. Natural Environment and Landscape Policies within the Proposed Local Plan

STRAT1 – The Overall Strategy

- 7.1. STRAT1 sets out how proposals for development within the district will be assessed. Proposals should be consistent with the overall strategy of Protecting and enhancing the countryside and particularly those areas within the two AONB and Oxford Green belt by ensuring that outside of the towns and villages any change relates to very specific needs such as those of the agricultural industry or enhancement of the environment.

STRAT5 – Strategic Development

- 7.2. STRAT5 sets out that proposals to deliver strategic development need to be supported by a variety of criteria including a Landscape and Visual Impact Assessment and an ecological Impact Assessment. In addition, the following are required:
- a Landscape Management Plan to provide appropriate landscaping and an integrated network of green infrastructure
 - an ecological and Landscape Management Plan to be provided to manage habitats onsite
 - an integrated water management plan

STRAT6 – Culham Science centre

- 7.3. STRAT6 requires that proposals for the redevelopment and intensification of the Culham Science centre will be supported where this does not have an unacceptable visual impact, particularly on the openness of the surrounding Green belt

STRAT7, 8 and 9

- 7.4. STRAT7 developable area adjacent to Culham Science Centre, STRAT8 Berinsfield and STRAT9 Chalgrove, require an integrated network of green infrastructure that links locally important wildlife sites and the enhancement of ecologically important habitats including areas of woodland and species rich grassland; and appropriate landscaping throughout the site and in particular along the boundaries of the strategic allocation which allow limited through views, that preserve and enhance the surrounding Green belt and the Oxford Green belt Way and River Thames long distance footpaths.

STRAT11 – Green Belt

- 7.5. STRAT11 seeks to protect the Green Belt from harmful development in line with the NPPF. The policy sets out where the Green Belt will be altered due to exceptional circumstances.

- 7.6. Where land is proposed to be removed from the Green Belt, new development should be carefully designed to minimise visual impact.

ENV1 – Landscape and Countryside

- 7.7. Policy ENV1 requires that the district's landscape, countryside and rural areas will be protected against inappropriate development and where possible enhanced.

ENV2 and 3 – Biodiversity - Sites, Priority Habitats and Species (Designated and Non-Designated)

- 7.8. Policy ENV2 requires that protection is given to SACs, Sites of Special Scientific Interest and other sites. Development that will conserve, restore and enhance biodiversity in the district will be permitted. All development should provide a net gain in biodiversity where possible and should result as a minimum of a no net loss of biodiversity

ENV4 – Watercourses

- 7.9. Policy ENV4 sets out the requirements for the protection of the district's watercourses. Watercourses are vital to biodiversity, provide a unique range of habitats, act as wildlife corridors, and form an important element of South Oxfordshire's ecological network.

ENV5 – Green Infrastructure in new developments

- 7.10. Policy ENV5 requires development to contribute towards the provision of additional Green Infrastructure and protect and enhance existing Green Infrastructure.

ENV11 and 12 - Pollution

- 7.11. Policy ENV11 seeks to ensure that new development is not located in areas that would present the new occupants to the individual and/or cumulative adverse effect(s) of pollution.
- 7.12. Policy ENV12 seeks to ensure that new development will not result in significant adverse impacts on human health, the natural environment and/or the amenity of neighbouring uses.

EP1 and EP2 – Air Quality and Hazardous Substances

- 7.13. Policy EP1 seeks to protect public health from the impacts of poor air quality whilst EP2 manages the risk from hazardous substances.

EP4 – Flood Risk

- 7.14. Policy EP4 seeks to minimise the risk and impact of flooding. It sets out where development should be located, where a 'sequential test' is

required, and when a SFRA is required. The NPPF also sets out additional information on flood risk, especially in chapter 10

DES4 – Masterplans for allocated sites and major development.

- 7.15. Policy DES4 advises that such developments must be accompanied by a masterplan which illustrates how the proposal integrates with the surrounding built, historic and natural environments.

DES8, 9 and 10

- 7.16. Policy DES8 – Efficient use of resources, requires new development to make provision for to make provision for the effective use of natural resources.
- 7.17. Policy DES9 – Promoting sustainable design, requires development to minimise carbon and energy impacts and improve resilience to the anticipated effects of climate change.
- 7.18. Policy DES10 – Renewable Energy, encourages schemes for renewable and low carbon energy generation subject to the protection of landscape, both designated AONB and locally valued biodiversity, including protected habitats and species and Conservation Target Areas and the visual amenity and openness of the Green belt.
- 7.19. Other policies in the plan also contain criteria to protect and enhance the natural environment and landscape.