Oxford City Council

Habitat Regulations Assessment: Screening Update and Appropriate Assessment

Regulation 19 Report | November 2025

Contents

1. Introduction

1.1 This report includes Stage 1 (Screening) and Stage 2 (Appropriate Assessment) of the Habitat Regulations Assessment (HRA) for the Oxford Local Plan 2045.

1.2 The Oxford Local Plan proposed submission document:

- Sets a capacity-based/ constraint-based housing target aimed at meeting as much housing need (using the Government's Standard Method) as possible with appropriate consideration of other policy aims.
- Make provision for more than 9,200homes under Policy H1: Housing Requirement
- Meet the city's employment land needs on existing sites and in accessible locations i.e., city and district centres.
- Modernise, intensify and regenerate existing employment sites while supporting their diversification (particularly those in accessible locations), including by allowing an element of housing delivery subject to specific objectives being met.
- Continue to work with neighbouring authorities to help delivery opportunities for housing or employment needs that cannot be met within the city.
- Allow non-designated employment sites to be redeveloped for other uses (e.g., housing).

Requirements of the Habitat Regulations

1.3 Local Authority Development Plans must consider whether their effects, either alone or in combination with other plans or projects, are likely to be significant on the conservation objectives of designated sites (i.e., "European sites" that are protected by the Habitat Regulations).

1.4 According to Government Guidance on How to carry out an HRA (February 2021), the HRA process can have up to three stages. The stages are:

1. Screening – to check if the proposal is likely to have a significant effect of the site's conservation objectives. If not, you do not need to go through the appropriate assessment or derogation stages.
2. Appropriate Assessment - to assess the likely significant effects of the proposal in more detail and identify ways to avoid or minimise any effects.
3. Derogation - to consider if proposals that would have an adverse effect on a European site qualify for an exemption.

1.5 This guidance provides advice and recommendations about how to understand and comply with the Conservation of Habitats and Species Regulations 2017 SI No 1012 and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 SI No 579.

1.6 This part of the report covers Stage 2 (Appropriate Assessment). Oxford City Council has undertaken this HRA 'in- house'.

Key HRA Stages explained

Screening for Likely Significant Effects

1.7 Screening is the process which identifies whether a plan or project is likely to result in significant effects to European sites, either alone or in combination with other plans or projects. A significant effect is any effect that would undermine the conservation objectives for a European site. There needs to be a causal connection or link between the plan or project and the qualifying features of the site which could result in significant effects - this may be direct or indirect.

1.8 All draft policies and potential sites being proposed for inclusion in the Oxford Local Plan 2045 were the subject of an HRA screening for likely significant effects on European sites.

Appropriate Assessment

1.9 The purpose of the Appropriate Assessment stage is to further analyse likely significant effects identified during the screening stage, as well as those effects which were uncertain or not well understood and taken forward for assessment in accordance with the precautionary principle. If required, an Appropriate Assessment evaluating the implications of the plan, either alone or in combination with other plans or projects, in light of the conservation objectives of affected European sites will accompany the Regulation 19 stage of plan preparation.

1.10 If mitigation measures are needed to overcome any likely significant effects identified through the HRA process, the People Over Wind Judgement clarified that when making screening decisions for the purposes of deciding whether an appropriate assessment is required, competent authorities cannot take into account any mitigation measures.

1.11 As a result, a competent authority may only take account of mitigation measures intended to avoid or reduce the harmful effects of a plan or project as part of an appropriate assessment itself.

Derogation

1.12 If the Appropriate Assessment stage identifies a significant adverse effect (or effects) on the integrity of a European site, that cannot be suitably mitigated, the plan or project cannot go ahead unless it can pass three legal tests known as 'derogation'.

In-combination effects

1.13 Other plans and projects being prepared or implemented in the area may have the potential to cause adverse effects on European sites. These effects may act in-combination with the effects of the Local Plan, possibly leading to an insignificant effect becoming significant. It is therefore important to consider which other plans and projects could generate similar effects as development within Oxford city, at the same European sites, and which may act in-combination.

1.14 The following list sets out the plans and projects with the greatest potential for in-combination effects with the Oxford Local Plan 2045:

Oxford City Council:

- Oxford Local Plan 2036 (Adopted June 2020)

Cherwell District Council:

- Cherwell Local Plan (adopted November 1996) – saved policies
- Cherwell Local Plan 2011-2031 Part 1 (adopted July 2015)
- Cherwell Local Plan 2011-2031 Part 1 Partial Review – Oxford's Unmet Housing Need (adopted September 2020)
- Cherwell Local Plan 2042 (emerging)

West Oxfordshire District Council

- West Oxfordshire Local Plan 2011-2031 (adopted September 2018)
- Salt Cross Garden Village Area Action Plan (emerging)
- West Oxfordshire Local Plan 2043 (emerging)

South and Vale District Council

- South Oxfordshire Local Plan 2035 (adopted December 2020)

- Vale of White Horse Local Plan 2031 Part 1 (adopted December 2016)
- Vale of White Horse Local Plan 2036 Part 2 (adopted October 2019)
- South and Vale Joint Local Plan 2041 (emerging)

Oxfordshire County Council

- Oxfordshire Minerals and Waste Local Plan (adopted July 1996) - saved policies
- Oxfordshire Minerals and Waste Local Plan Part 1: Core Strategy (adopted September 2017)
- Oxfordshire Minerals and Waste Local Plan (emerging)
- Oxfordshire Local Transport and Connectivity Plan (LTCP) (adopted July 2022)
- Oxfordshire Traffic Filters (trial due to commence following the re-opening of the Botley Road Bridge in 2026)

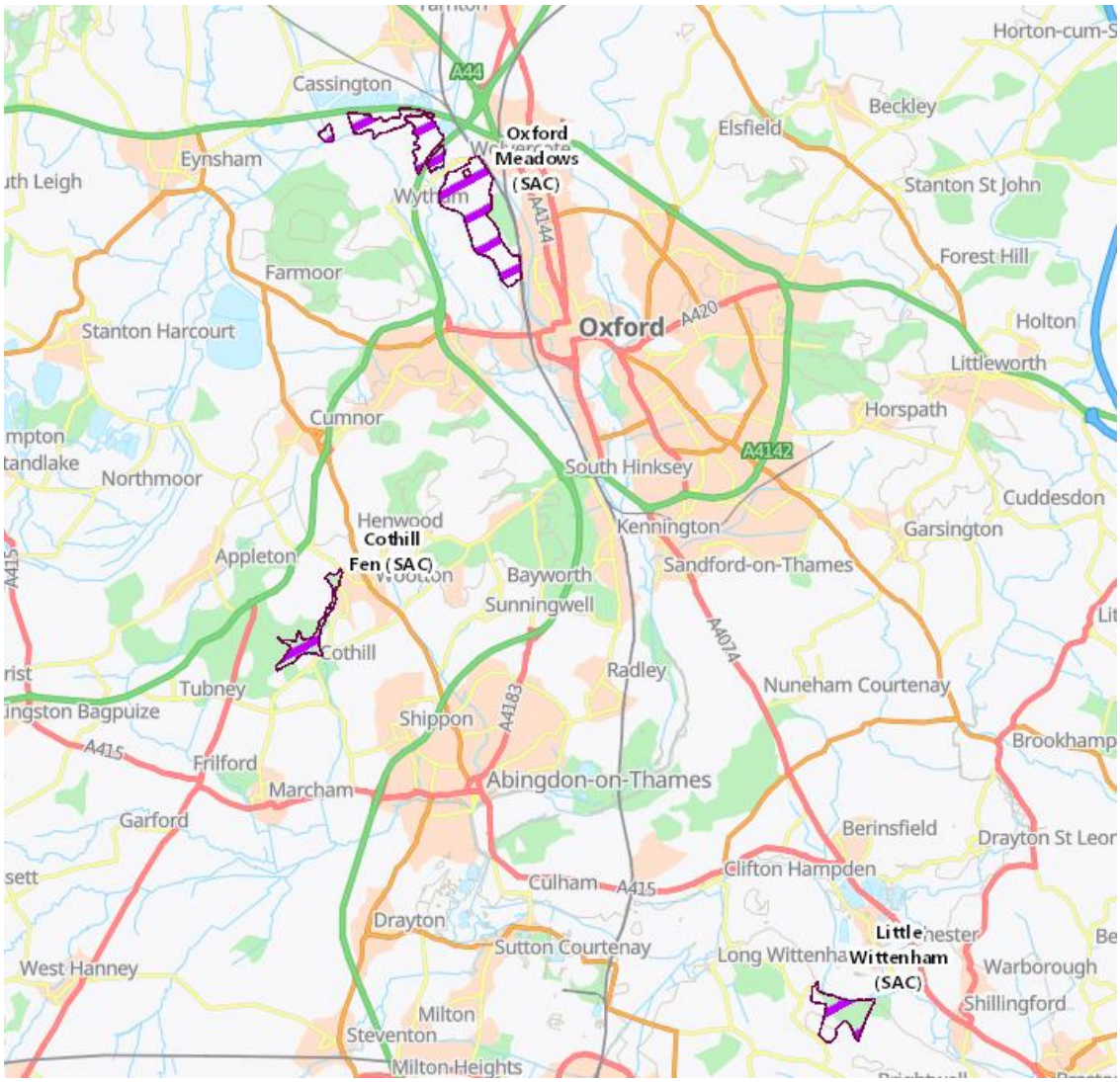
European Sites

1.15 Oxford City Council prepared a Stage 1 Screening Report in June 2025, which set out that there are the three European sites within 10km of the Oxford City Council administrative boundary. Figure 1.1 shows the locations of the three European sites within 10km of the Oxford City Council Boundary.

1.16 The three sites within 10km of the Oxford City Council Boundary are as follows:

- Oxford Meadows SAC (within and adjacent to Oxford city)
- Cothill Fen SAC (over 5km from city boundary)
- Little Wittenham SAC (over 8km from city boundary)

Figure 1.1 Locations of European sites within 10km of Oxford



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Source: Magic Maps

Qualifying Features

1.17 European sites are designated to conserver a wide variety of habitats of international importance as well as species populations of high conservation significance.

1.18 Each SAC contains protected species (excluding birds), habitats or both. These protected habitats and species are the “qualifying features” as to why each site has been designated. Table 1.1 sets out the qualifying features for each of the "European sites” within 10km of the city.

Table 1.1 European sites within 10km of Oxford City Council Boundary

Name of Site	Description	Qualifying Features
Oxford Meadows SAC	Together with North Meadow and Clattinger Farm, also in southern England, Oxford Meadows represents lowland hay meadows in the Thames Valley centre of distribution. The site includes vegetation communities that are perhaps unique in the world in reflecting the influence of longterm grazing and hay-cutting on lowland hay meadows. The site has benefited from the survival of traditional management, which has been undertaken for several centuries, and so exhibits good conservation of structure and function. Oxford Meadows is selected because Port Meadow is the larger of only two known sites in the UK for creeping marshwort Apium repens.	Qualifying Habitats: 6510 **Lowland Hay Meadows** (Alopecurus pratensis, Sanguisorba officinalis) Qualifying Species: 1614 **Creeping marshwort** Apium repens
Cothill Fen SAC	This lowland valley mire contains one of the largest surviving examples of alkaline fen vegetation in central England, a region where fen vegetation is rare. The M13 Schoenus nigricans – Juncus subnodulosus vegetation found here occurs under a wide range of hydrological conditions, with frequent bottle sedge Carex rostrata, grassof-Parnassus Parnassia palustris, common butterwort Pinguicula vulgaris and marsh helleborine Epipactis palustris. The alkaline fen vegetation forms transitions to other vegetation types that are similar to M24 Molinia caerulea – Cirsium dissectum fenmeadow and S25 Phragmites australis – Eupatorium cannabinum tall-herb fen and wet alder Alnus spp. wood.	Qualifying Habitats: 7230 **Alkaline Fens**
Little Wittenham SAC	One of the best-studied great crested newt sites in the UK, Little Wittenham comprises two main ponds set in a predominantly woodland context (broad-leaved and conifer woodland is present). There are also areas of grassland, with sheep grazing and arable bordering the woodland to the south and west. The River Thames is just to the north of the site, and a hill fort to the south. Large numbers of great crested newts Triturus cristatus have been recorded in the two main ponds, and research has revealed that they range several hundred metres into the woodland blocks.	Qualifying Species: 1166 **Great crested newt** Triturus cristatus

Source: Joint Nature Conservancy Council www.jncc.org.uk

1.19 Natural England's SSSI condition assessment shows that the majority of SSSI units that make up the three SACs within 10km of Oxford are in a favourable condition. Appendix 1 of the HRA Stage 1 Screening Report provides further details.

Conservation Objectives

1.20 The Habitat Regulations require the appropriate authority to maintain, or where appropriate, restore habitats and species populations of European importance to favourable conservation status. European site conservation objectives are referred to in the Habitat Regulations. They are used where there is a need to undertake an "appropriate assessment" under the relevant parts of the respective legislation. The conservation objectives are set for each qualifying feature (habitat or species) of each European site (SAC or SPA). Where the conservation objectives are met, the site can be said to demonstrate a high degree of integrity and makes a full contribution to meeting the legislative aims.

1.21 The Stage 1 HRA Screening Report provides more details about the conservation objectives for each of the SAC in Section 2.

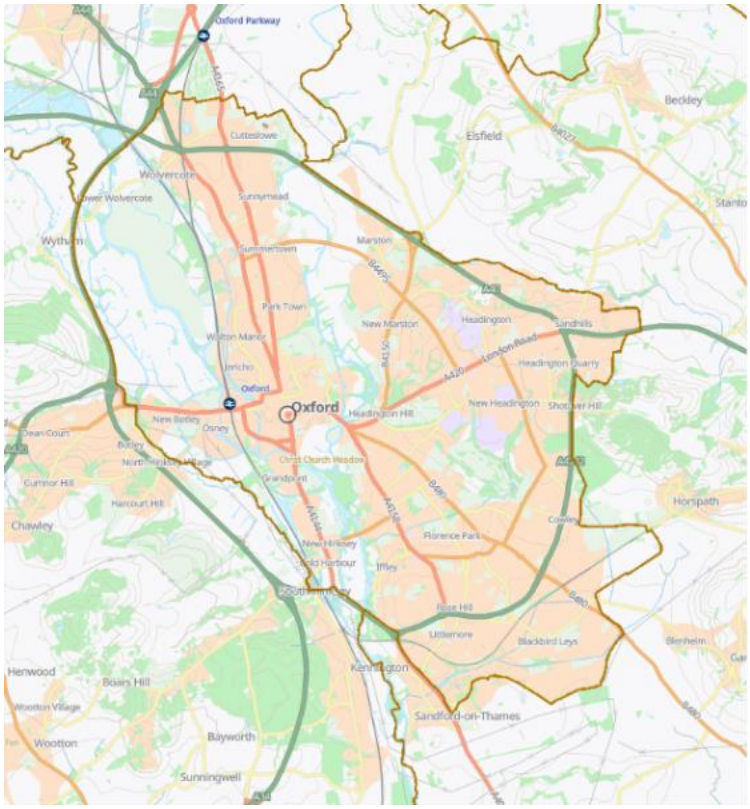
2. Oxford Local Plan 2045 Regulation 19 Document

Context

2.1 Oxford is a small and compact city with a population of 165,200 (according to ONS mid-year population estimates for 2023, released in July 2024). Oxford's total area is only 46 sq km (17.6 sq miles). While some parts of the urban area are densely developed, more than half of the city is open space and more than a quarter lies in the Oxford Green Belt.

2.2 Oxford benefits from a wide range of historic city parks, a unique built heritage which is intrinsically linked to the surrounding hills, and important sites for nature conservation. The city's river corridors (River Thames and Cherwell) are sometimes referred to the as the city's "green lungs" as they make a valuable contribution to the Oxford's green and blue infrastructure by providing space for wildlife to thrive away close to the city's dense urban area. Figure 2.1 shows a map of the Oxford. The salmon pink colour area represents the urban area while the administrative boundary is shown in brown.

Figure 2.1 - Map of Oxford



Oxford Local Plan 2045

2.3 Oxford City Council has produced a Local Plan 2045 Regulation 19 Document. This "Proposed Submission" consultation document sets out the proposed strategy for development in the city until 2045. It includes site allocation policies and a suite of development management policies.

2.4 The Local Plan 2045 Regulation 19 Document:

- Sets a capacity-based housing target which aims to meet as much of the city's identified housing need (using the Government's Standard Method), as possible within the city, with the appropriate consideration of other policy aims.
- Makes provision for more than 9,200 homes under Policy H1: Housing Requirement.
- Seeks to meet identified employment land needs using existing employment sites and through supporting employment at highly accessible locations, namely the city and district centres.
- Enables the modernisation, intensification and regeneration of existing Key Employment Sites, while supporting their diversification (particularly those in accessible locations), by allowing an element of housing delivery subject to specific criteria being met.
- Allows poorly performing existing employment sites to be redeveloped for other uses including housing.

3. Stage 1 Screening

3.1 The Stage 1 HRA Screening Report set out that, of the three European sites within 10km of the Oxford's administrative boundary, Cothill Fen SAC and Little Wittenham SAC, were screened out from further assessment.

3.2 Section 4 of the Stage 1 HRA Screening Report provides more details setting out the reasoning and rationale to support the decision.

Oxford Meadows SAC

3.3 Table 1.1 in this report, sets out the reasons for which the Oxford Meadows has been designated an SAC while Figure 3.1 shows a map of the Oxford Meadows SAC.

Figure 3.1 showing the location of the Oxford Meadows SAC

3.4 As set out in Section 4 of the Stage 1 HRA Screening Report, in HRA terms, 'impact pathways' are the potential routes or mechanisms by which a plan or project could affect a European site.

3.5 Impact pathways provide a structed approach for assessing whether a plan or project is likely to give rise to significant effects on a European site. If the potential significant effects are identified (or cannot be ruled out through the HRA Screening process), then a more Appropriate Assessment will be required.

3.6 Each designated site has its own unique set of impact pathways which need to be considered. The impact pathways that relate to the Oxford Meadows SAC are as follows:

- Atmospheric/ Air Pollution
- Recreational pressure/ disturbance
- Water quality and quantity

Natural England's formal Reg. 18 Response to Stage 1 Screening

3.7 Natural England responded to the Local Plan Regulation 18 consultation on several issues, including the Habitat Regulations Assessment (HRA) Stage 1 Screening Report (June 2025). Natural England stated:

> *We have reviewed the Habitats Regulations Assessment Screening report June 2025 submitted with the consultation and look forward to receiving the Appropriate Assessment in due course.*
>
> *We cannot currently agree with the conclusion of the Air Quality Screening which concludes that the Oxford Local Plan 2042 is unlikely to have a significant effect on air quality at the Oxford Meadows Special Area of Conservation either alone or in-combination with other relevant plans and projects.*
>
> *We recognise that the Oxford City Local Plan Screening report models a small impact alone. However when considered in combination with other Local Plans and planning applications in Oxfordshire out to consultation, Natural England consider that the cumulative impact from these live plans and applications may highlight a more significant issue and therefore we will require further information at the Appropriate Assessment stage regarding the approach to the 'in-combination' assessment of air quality impacts.*

3.8 Following receipt of this response, Oxford City Council met with Natural England in September 2025 to discuss the issues outlined above and to try to find a way forward that would be satisfactory to both parties.

3.9 At the meeting, which took place on 16 September 2025, Natural England agreed the following, which were subsequently communicated via email on 24 September 2025:

- *We agree to the use of the 2023 traffic modelling data, undertaken as part of the draft 2040 Oxford Local Plan submission as the overall housing numbers are lower for the 2042 in comparison to the previous plan, so this is precautionary.*
- *We agree with the Appropriate Assessment screening conclusion in relation to the Oxford City alone figures which show that they are below the AADT screening threshold.*

3.10 Natural England also provided the following advice in their email dated 24 September 2025 in relation to the 'in-combination' assessment:

- *We advise that further work be undertaken in relation to the in-combination assessment, with inclusion of the latest figures modelled by South and Vale. We suggest Oxford City contact the South and Vale directly to discuss.*
- *We advise that Oxford City use the figures submitted by Cherwell at Regulation 19 stage as part of their 2042 submission when undertaking the in-combination assessment.*
- *There may be other plans and projects to consider in-combination which have arisen in between submissions… so you may need to consider the findings… in-combination*

3.11 It was also agreed at the meeting that the City Council and Natural England would continue to work together to progress a Statement of Common Ground.

3.12 In response to the advice outlined above, the City Council contacted South and Vale to request the latest traffic modelling figures expressed as AADT. South & Vale replied on 19 September 2025 setting out that the latest figures from their modelling were not in the public domain and had not (at that time) been formally accepted by Natural England. In a subsequent email on 24 September 2025, South and Vale confirmed that the figures presented in the "Explanatory Note" (See Appendix 6 of the Oxford City HRA Stage 1 Screening Report, which can be accessed via Appendix 1 of this HRA) are still "current".

3.13 Following a series of letters between the Planning Inspectorate and South and Vale Councils, published on the South and Vale Joint Local Plan Examination webpages, the most recent dated 1 December 2025, the South and Vale Joint Local Plan 2041 examination remains ongoing.

3.14 At the time of writing, the most up-to-date, current and publicly available traffic modelling data for South & Vale remains that, which was presented in the 'Explanatory

Note', and which was presented in the Oxford City HRA Stage 1 Screening Report. A weblink to that report is provided at Appendix 1.

3.15 Natural England also advised Oxford City to use the "figures submitted by Cherwell at Regulation 19 Stage as part of their 2042 submission". Cherwell's approach to air quality is not compatible with the City's as the methodology presented in their published HRA (November 2024) does not present traffic data, instead it relies on air quality modelling. As such, the two approaches are not compatible.

3.16 The most recent compatible publicly available assessment of traffic modelling data from Cherwell was therefore the data contained within the explanatory note.

3.17 Natural England's final piece of advice was involved ensuring that there were no additional plans or projects (i.e., planning applications) that had been submitted which potentially may require a project level HRA. At the time of writing, there are no additional plans or projects to consider.

Oxford City Screening update

3.18 This section of the report should be read in conjunction with the Oxford City Council Stage 1 HRA Screening Report ("Oxford HRA Screening Report") published in June 2025. This update is meant to supplement that report, and it seeks to address issues that have arisen subsequently.

3.19 The Oxford HRA Screening Report was produced to support the Regulation 18 stage consultation process. As such, the housing numbers and jobs/ employment floorspace figures contained within it were subject to change. This next section sets out the nature of any changes to that data that may have occurred. It also considers the extent of any changes within the scope of the traffic modelling (that Natural England agreed was appropriate to support the Local Plan).

3.20 Table 3.1 (below) shows the total number of dwellings and commercial floorspace (from which the residential and commercial land use assumptions in the traffic modelling were derived) and compares these figures with the levels of growth proposed through the Oxford Local Plan Reg. 18 Document. This table replicates Table 5.7 of the Oxford HRA Screening Report.

3.21 Table 3.1 shows that a higher number of dwellings and more commercial floorspace were assessed using the agreed the traffic modelling, than were proposed in the Regulation 18 Document. As such, the City Council considered that the traffic modelling took a precautionary approach as it assessed more homes and commercial floorspace than was likely to come forward in the Local Plan Regulation 18 Document.

Table 3.1 – Total dwellings and floorspace (Reg 18 Plan)

	Oxford Local Plan Regulation 18 Document	**Traffic Modelling (DM+DS Scenario)**
Dwellings	9,851	11,491
Commercial Floorspace	500,000sqm	1,172,372sqm

Source: 2023 Atkins Report and Oxford Local Plan Reg. 18 Document

3.22 The next step is therefore to compare the housing numbers or commercial floorspace contained within the Regulation 19 Document with those assessed in the traffic modelling. This is shown in Table 3.2

Table 3.2 – Total Homes and commercial floorspace (Reg. 19)

	Oxford Local Plan Reg. 19 Document	**Traffic Modelling (DM+DS Scenario)**
Dwellings	9,627	11,491
Commercial Floorspace	550,000sqm	1,172,372sqm

Source: 2023 Atkins Report and Oxford Local Plan Reg. 19 Document

3.23 As can be seen in Table 3.2, the number of homes and the amount of floorspace proposed in the Oxford Local Plan Reg 19 document have both changed from those contained within the Reg. 18 Plan, however both are comfortably within the amounts tested through the traffic modelling.

3.24 The City Council therefore considers that the traffic modelling used within the Oxford HRA Screening Report (June 2025) maintains a precautionary approach in its assessment of the housing numbers and commercial floorspace proposed through the Regulation 19 Plan.

Amendment to the plan period

3.25 For a number of technical reasons, we have amended the plan period to 2025-2045, rather than 2022-2042. This next section considers whether there are any implications of this change on the traffic modelling evidence, which underpins the HRA.

3.26 The City Council does not consider that there are any implications for continuing to rely on the existing traffic modelling. This is because, as set out above, the number of homes and floorspace proposed within the traffic modelling is greater than the that proposed in the Plan.

3.27 The traffic modelling also takes a precautionary approach to technical aspects of its design. For instance (as discussed in paragraphs 5.25-26 of the Oxford HRA Screening Report) the traffic modelling uses a base year of 2018, which shows a higher concentration of NOx levels at the Oxford Meadows SAC than the most recent Air Pollution Information Systems (APIS) dataset (modelled data from 2021).

3.28 It is worth noting that APIS data is presented as a 3-year average, as such the modelled data from 2021 (i.e., between 2020-2022) could have been impacted by movement restrictions resulting from national lockdowns imposed during the Covid-19 pandemic. Using 2018 as the base year for the transport model means that the base year traffic flows used in the transport model were not affected by lower emissions associated with the pandemic. As such, the continued reliance on the traffic modelling used to support the remains appropriate as the base year information associated with it remains suitably precautionary and the amount of growth proposed is within the limits of previously assessed levels.

Conclusions of the Screening Update

3.29 As the level of growth proposed in the Oxford Local Plan 2045 is within the level of growth assessed within the traffic modelling, and the base year information contained within it remains suitably precautionary, the conclusions drawn in relation to the 'alone' assessment of air quality impacts (as set out in chapter6 of the Oxford HRA Screening Report) remain valid.

3.30 For completeness, this next section sets out the modelled outputs for the Local Plan 2045. Please refer to Chapter 6 of the Oxford HRA Screening Report for further details).

'Alone' Assessment

3.31 Tables 3.2 and 3.3 below show the changes in AADT on the 'affected roads' (i.e., the A34 and A40) resulting from the Oxford Local Plan 2045 'alone'.

3.32 As can be seen from the Tables 3.2 and 3.3 (below) which show the results of the traffic modelling presented within the 2023 Atkins Report, the Oxford Local Plan 2042 'alone' is below the screening thresholds for general traffic flow (i.e., cars and light goods vehicles (LGVs)) and below the screening threshold for Heavy Duty Vehicle (HDVs) on both the A34 and the A40. As such, the City Council considers that the effects of the Oxford Local Plan 2042 'alone' can be screened out from further assessment.

Table 3.2 Change in AADT on the A34 resulting from the Oxford Local Plan 2045 'alone'

	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
A34 (northbound)	-48	-7
A34 (southbound)	+322	-42
Total (Two-way change)	**+274**	**-49**

Source: 2023 Atkins Report

Table 3.3 Change in AADT on the A40 resulting from the Oxford Local Plan 2045 'alone'

	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
A40 (westbound)	-25	+2
A34 (eastbound)	+39	-15
Total (Two-way change)	+14	-13

Source: 2023 Atkins Report

'In combination' Assessment

3.33 In order to calculate the likely effects of Oxford City's Local Plan 2045, 'in combination' with the other emerging local plans, the 'alone' traffic modelling results (as shown above) have been considered cumulatively with the two 'alone' assessments for South and Vale and for Cherwell's Local Plans (as discussed in more detail in Chapter 6 of the Oxford HRA Screening Report).

Table 3.4 Two-way change (AADT) on A34 resulting from the Oxford Local Plan 2045 'in combination' with the South and Vale Local Plan 2041 and the Cherwell Local Plan 2042

	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
Oxford Local Plan 2045	+274	-22
South and Vale Local Plan 2041	-73	-22
Cherwell Local Plan 2042	-330	-165
Total	**-129**	**-235**

Source: Atkins 2023 Report and Oxford HRA Screening Report

Table 3.5 Two-way change (AADT) on A40 resulting from the Oxford Local Plan 2045 'in combination' with the South and Vale Local Plan 2041 and the Cherwell Local Plan 2042

	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
Oxford Local Plan 2045	+14	-8
South and Vale Joint Local Plan 2041	-22	-13
Cherwell Local Plan 2042	-448	+26
Total	**-456**	**+5**

Source: Atkins 2023 Report and Oxford HRA Screening Report

3.34 Tables 3.4 and 3.5 show the cumulative two-way change in AADT flows on the A34 and A40 respectively for Oxford City's Local Plan 2045 'in combination' with the South and Vale Local Plan 2041 and the Cherwell Local Plan 2042.

Conclusions of the Air Quality Screening Update

3.35 The City Council therefore concludes that the Oxford Local Plan 2045 is unlikely to have a significant effect on air quality at the Oxford Meadows SAC, either 'alone' or 'in combination' with other relevant plans and projects.

4. Recreational Impacts

4.1 Creeping marshwort (Apium repens) is a low-growing plant which is only found in two naturally occurring locations in the UK – Oxford Meadows SAC being one - and which relies on trampling by cattle to enlarge its territory. Natural England has previously confirmed that A. Repens is not particularly sensitive to trampling but is sensitive to dog-fouling. The increased population that would be housed in Oxford resulting from the Local Plan 2045 could own dogs, and those dogs could potentially have a significant effect on the integrity of the Oxford Meadows SAC. As such, significant effects could arise relating to the increase in Oxford's population, as projected by policy H1, and some proposed housing sites. Significant effects could also arise due to the potential increase in residential dwellings on the city's employment sites, as set out in policy E1, and some proposed development sites.

4.2 Public Consultation undertaken in 2005 by Scott Wilson as part of their 'Oxford City Green Space Study' revealed that residents of Oxford were generally willing to walk approximately 1,900m to large green spaces. As such, where a proposed development site is over 1900m away, the site has been screened out for recreational impacts. Other sites within the 1,900m have been screened out (i.e., sites specifically allocated for student accommodation) as it is only residential development that is likely to lead to an increase in dog-walkers at the Oxford Meadows SAC.

4.3 Figure 4.1 and Table 4.1 show those sites proposed in the Oxford Local Plan 2045 where residential development could occur (either those allocated for that purpose in the plan, or employment sites that have the potential to deliver an element of residential development).

4.4 It is worth noting that Table 4.1 does not include the remaining 161 homes which are being delivered as part of Policy SPN3 Oxford North Remaining Phases. This is because these homes are being delivered in accordance with the agreed outline planning permission (18/02065/OUTFUL). This application was granted in accordance with the mitigation measures established through the HRA for the adopted Northern Gateway Area Action Plan. Policy SPN3 therefore includes that previously agreed wording under the "Open Space, Nature and Flood Risk" heading. Policy SPN3 there states:

> *Planning permission will only be granted for developments that provide usable, well designed and good-quality publicly accessible green open space. At least 15% of the total site area must be provided as green public open space; this must be*

distributed so that at least 15% of any parcel proposed for residential development is green public open space.

4.5 As such, although Policy SPN3 is included in Figure 4.1, the number of homes (161), is not assessed in Table 4.1. That is because those homes already benefit from previously agreed HRA mitigation measures.

Figure 4.1 – Map showing site allocations (Oxford Local Plan 20 located within 1900m of the Oxford Meadows SAC

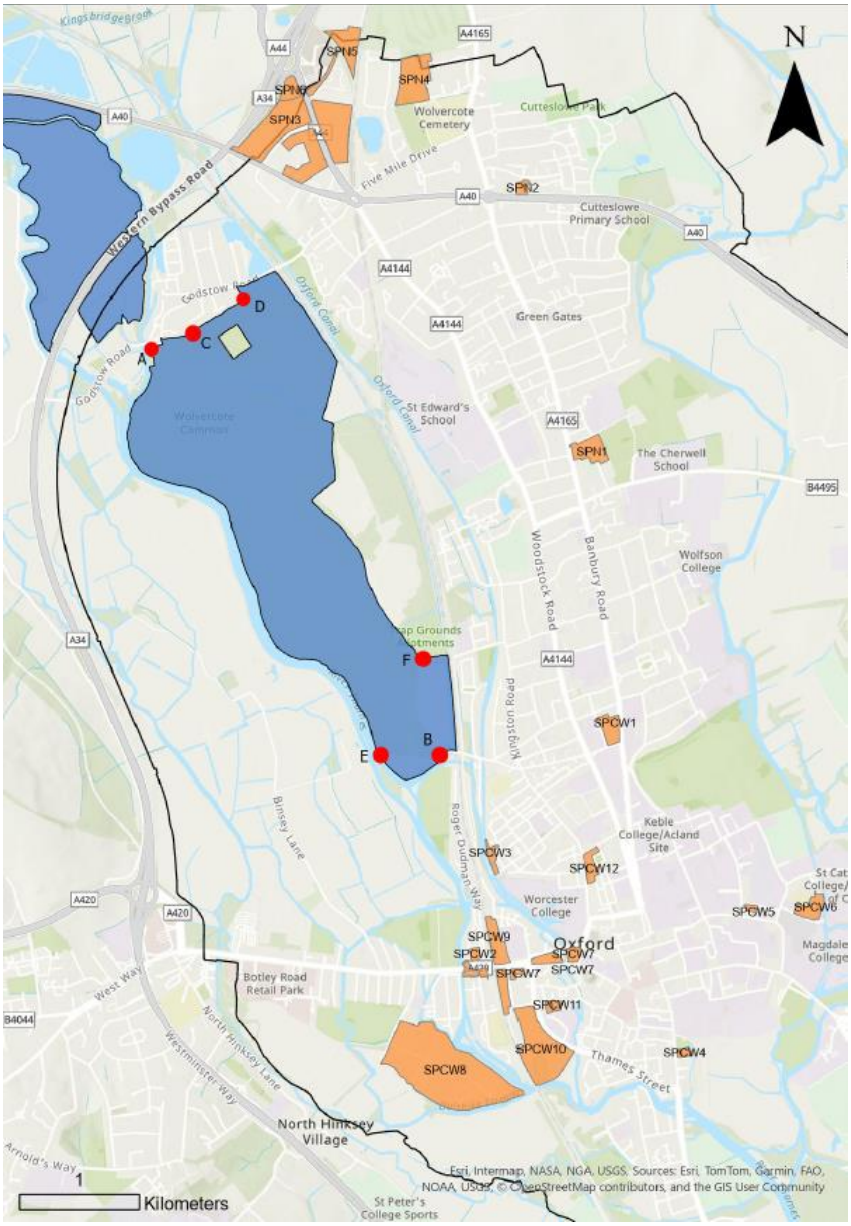


Table 4.1 Sites Allocations proposed within 1,900m of Oxford Meadows SAC

Site Name	Distance from nearest access point to SAC (m)	No. of Dwellings	Type of development proposed (residential inc. student acc./ mixed use/ employment etc.
North Infrastructure Area			
Policy SPN1 Diamond Place and Ewert House	1,280	135	Mixed use inc. Residential or Student Acc.
Policy SPN2 Elsfield Hall, Elsfield Way	1,490	20	Residential
Policy SPN3, Oxford North Remaining Phases*	715	*n/a*	Mixed use inc. Residential
Policy SPN4 OUP Sports Ground, Jordan Hill	1,060	90	Residential
Policy SPN5 Pear Tree Farm	1,285	111	Residential
Policy SPN6 Red Barn Farm	1,125	*n/a*	Employment
Central and West Infrastructure Area			
Policy SPCW1 Banbury Road University Sites – Parcel B	890	54	Mixed use including Residential or Student acc.
Policy SPCW2 Botley Road Sites around Cripley Road including River Hotel and Westgate Hotel	1,070	20	Residential
Policy SPCW3 Canalside Land, Jericho	497	18**	Mixed used inc. Residential
Policy SPCW5 Jowett Walk (South)	1,800	14	Residential or Student Acc.
Policy SPCW8 Osney Mead	1,360	247***	Mixed use inc. Residential (including employer linked affordable housing) or Student acc.
Policy SPCW12 West Wellington Square	900	13	Mixed use inc. Residential (including employer linked affordable housing) or Student acc.
TOTAL Residential		**722**	

** homes not included in this HRA assessment as previously agreed HRA mitigation already included in policy SPN3*

*** Precautionary approach to site capacity - figure taken from approved planning application*

**** subject to further flood risk work*

4.6 It is worth noting that Manor Place (Policy SPCW6) has now been screened out from the assessment as that site is more than 1900m away from the SAC as the crow flies. The site is in fact 2000m away.

4.7 Several sites that were considered as part of the HRA Screening Report were not taken forward to the next stage of the plan-making process. These sites are set out below:

- 579 ROQ Site
- 657 Clarendon Centre

4.8 A number of sites were within the 1900m buffer zone but have been screened out from further assessment. These sites are those that are located within the West End of the city centre. These sites often propose a mix of uses that include residential development including student accommodation, given their location within the city centre. These sites were "screened out" because it is considered that there are numerous alternative locations that are more accessible to dog-walkers, such as Oxpens Meadow, Christchurch Meadow, University Parks, Oatlands Road Recreation Ground, Botley Park, Grandpont Nature Park, Grandpont Recreation Ground and Hinksey Park. The following sites were therefore "screened out" due to their location with Oxford's West End:

- Policy SPCW7 – Nuffield Sites
- Policy SPCW9 – Oxford Railway Station and Becket St Car Park
- Policy SPCW10 – Oxpens
- Policy SPCW11 – St Thomas School and Osney Warehouse

4.9 As recommended by Natural England, a visitor survey to inform this HRA was carried out on six days in May 2025, resulting in 486 interviews. The aim of the survey was to understand how the Oxford Meadows SAC was used by residents of Oxford and by visitors from outside of the city. Appendix 2 shows the results of the visitor survey in full, and they are summarised at Table 4.2. The survey replicates similar surveys carried out in 2011 and 2017, which resulted in 332 and 575 interviews respectively. This survey had broadly similar findings to previously undertaken surveys.

Table 4.2 – Summary of visitor survey

Total number of visitors recorded during the survey	908
Number of surveyed access points	2
Mean number of visitors per access point	454

Number of hours surveying per access point	48
Total number of access points to the SAC	6

4.10 To interpret the survey data and project the total number of visitors to the site, the calculation shown in Table 4.3 was carried out. The methodology broadly follows that used by Bracknell Forest DC in the Thames Basin Heaths SPA analysis, as recommended by Natural England as best practice.

4.11 Table 4.3 suggests that, as a result of the Oxford Local Plan 2045, the Oxford Meadows SAC could see an increase of 4,517 – 6,022 visits, representing a 1.47-1.96% increase over current numbers. The survey was taken in the only two car parks of the six access points to the SAC, potentially skewing the numbers too high.

4.12 The two car parks (marked A and B on Figure 4.1) were used as survey points. This means that the survey results will likely be skewed towards arrivals by car, and overestimate visitor numbers, as larger numbers are likely to arrive via the car parks than via other means.

4.13 There are 6 access points to Oxford Meadows, shown at Figure 4.1:

- A Wolvercote car park;
- B car park off Walton Well Road,
- C Godstow Road,
- D right of way at the entrance to Wolvercote off Godstow Road,
- E bridge across the river from Binsey, and
- F bridge at Aristotle Lane.

Table 4.3 Projected visitor numbers based on visitor survey

	Calculation/ reference		Result
Total number of visits over survey period	From survey data	A	908
Percentage of visits over survey period from within postcode sectors OX1 and OX2[1]	From survey data	B	70.4%
Projected total number of visits per annum	See note 2	C	306,600
Projected total number of visits from within postcode sectors OX1 and OX2 per annum	(C ÷ 100) x B	D	215,846
Population of postcode sectors OX1 and OX2	Taken from 2021 Census (see Note 3)	E	68,549

Projected visits per head of OX1 and OX2	D ÷ E	F	Max 3.1
Projected future population arising from new potential development.	See Table 4.1 and Note 4	G	Max: 1805 Potential to own dogs: 1354
Projected visits per annum arising from projected future population	G x F	H	4,263 – 5,645
% of projected future visits, as it relates to current projected total visits	(H ÷ C) x 100	I	**1.39 – 1.85%**

Notes:

1. These postcodes broadly represent a 1,900m radius around the Oxford Meadows SAC
2. Mean number of visitors per surveyed access point, per hour = 454/48 = 10
   Total active hours in a day (06:00-20:00) = 14
   Projected mean number of visitors per access point per day = 10 x 14 = 140
   Projected mean number of visitors per access point per year = 140 x 365 = 51,100
   If all six access points had similar numbers of visitors, then projected total number of visits, per year = 6 x 51,100 = 306,600
   This maximum includes small children, elderly people, etc. Most likely the number is less than this figure.
3. Population of Postcode sector OX1 – 27,136 (Census 2021)
   Population of Postcode sector OX2 – 41,413 (Census 2021)
4. Average household size at the time of the 2021 Census was 2.5. The maximum number of homes proposed (765 from Table XX.1) multiplied by 2.5 people per household = 1805. Removing students and employer-linked affordable accommodation (assuming these comprise 25% of new residents), would result in a future population of 1354 that could own dogs.

4.14 It is not visitor numbers however that are the potential problem, but the impact of dog fouling on the Apium repens. A 2007 Report estimated that dog ownership in Oxford was a maximum of 24%. The survey results showed that 32% of groups visiting the SAC came with a dog, and 30% of respondents came with the main purpose of dog-walking. Although dog-walkers are more likely to visit the SAC, and probably more likely to visit on a daily basis than other visitors. This would re-balance the numbers in the opposite direction.

4.15 Dog-walkers visiting the Oxford Meadows SAC are either likely to visit by car or on foot. Car journeys to the Oxford Meadows SAC are limited by the number of parking spaces available. There are two public car parks linked to the Oxford Meadows SAC. One at the southern end of Port Meadow (close to Jericho), and the other provides parking and visitor access to Port Meadow via Wolvercote. As there are no plans to increase parking at either car park during the plan period, visitors by car will be

limited by the number of parking spaces available. In addition to the two public car parks, a very limited amount of on-street parking is available on Godstow Road with direct access to Port Meadow. Lower Wolvercote is not currently the subject of a Controlled Parking Zone (CPZ) and the latest programme for the rollout of new CPZs is currently being worked on by the County Council. However, as no additional on-street parking is planned in this location, visitors to the site are restricted by spaces available.

4.16 Student accommodation does not allow pets, so this accommodation can be screened out of the assessment process. It can also be expected that at least some of the employer-linked accommodation provided by the universities would be for visiting academics coming for short periods, and who are also unlikely to have dogs. Roughly 40% of the proposed accommodation is proposed for students or academic employer-linked housing. Additionally, most of the proposed sites are further than 500m from the SAC, reducing the likelihood of their residents regularly using the SAC; other recreational facilities will be available to most of the sites; and the Local Plan 2045 establishes site specific mitigation measures especially to reduce recreational impacts on the SAC.

4.17 The subsequent paragraphs consider each of the sites listed in Table 4.1 with respect to the issues highlighted above:

North Infrastructure Area

4.18 Policy SPN1: Diamond Place and Ewert House (018) proposes at least 135 dwellings and is more than 1,200m away from the SAC. The site allocation policy includes a requirement for at least 10% public open space to be provided on-site. This site is nearly 2km from the SAC on foot (via Aristole Lane footbridge) or 2.5km by car (Port Meadow Car Park South, Walton Well Road). Public open space provided on-site would be usable by residents of the new development and dog walkers who currently use the SAC. Although there is not a prolific amount of public open space in Summertown itself, alternative existing public open space in the locality includes Sunnymeade Meadow (and the adjacent Sunnymeade Park) which is around 1,300m away (on foot) or 950m as the crow flies. The footpath along the River Cherwell to the west also provides an alternative to the SAC. These alternative areas are likely to be more attractive to dog-walkers than the SAC, as the route to the SAC involves crossing the (often busy) Banbury and Woodstock Roads.

4.19 Policy SPN2: Elsfield Hall, Elsfield Way proposes at least 20 dwellings and is approximately 1.5km away from the SAC as the crow flies. The site allocation is 1.8km (approx.) on foot from the Oxford Meadows SAC principally via sections of the car-dominated A40 North Way. As such, trips to the SAC would most likely need to be undertaken by private car. Alternative public open space exists at Cuttlesowe Park, which is a short walk away (approximately 500m on foot), which represents a much more attractive alternative for dog-walkers. Sunnymead Park is another alternative public open space that is also more accessible from this site than the SAC.

4.20 Policy SPN4: OUP Sports Ground, Jordan Hill (049) proposes at least 90 dwellings and is more than 1km away from the SAC, as the crow flies. This residential capacity figure assumes that the cricket pitch is retained on site. This site is expected to deliver at least 10% public open space on-site, which would be usable by not only the residents of the new development but also dog-walkers who currently use the SAC. Alternative exiting public open space provision in the area includes Cuttleslowe Park, which is a more accessible recreation area than the Oxford Meadows SAC. Access from this site to Cutteslowe Park is via quiet side-roads, whereas accessing the Oxford Meadows SAC would involve crossing the busy Wolvercote roundabout.

4.21 Policy SPN5: Pear Tree Farm proposes a minimum of 111 dwellings and is 1,300m away from the nearest access point at the Oxford Meadows SAC (as the crow flies). Other alternative opportunities for dog walking exist nearby at equally or more accessible locations to the site allocation (e.g. Cuttleslowe Park, Five Mile Drive Recreation Ground). Also, an increased provision of public open space for dog walking has been secured through Oxford North/ Northern Gateway development. Given the distance of the site from the SAC (1,300m straight line), trips to the SAC would most likely need to be undertaken by private car. As there are no proposals to increase the number of parking spaces at the Oxford Meadows SAC, there would not be an increase in visitors to the SAC by car. Thus, policy compliant open space provision should be made onsite.

<u>Central and West Infrastructure Area</u>

4.22 Policy SPCW1: Banbury Road University Sites proposes at least 54 dwellings and is 800m away from the SAC as the crow flies. The proposed allocation is for a mix of uses including academic institutional uses, student accommodation, and/or residential development. It is likely that the site will come forward for student

accommodation which is unlikely to generate any dog-walking activity. University Parks is more accessible from this site than the Oxford Meadows SAC.

4.23 Policy SPCW2: Botley Road sites around Cripley Road including River Hotel and Westgate Hotel proposes at least 20 dwellings and is over 1km away from the SAC as the crow flies. Alternative public open space exists at Botley Park, which is a short walk away (approximately 550m on foot), which represents a much more attractive alternative for dog-walkers.

4.24 Policy SPCW3 Jericho Canalside. While this site allocation policy does not include a minimum housing requirement, it does include residential uses as one of a set of acceptable land uses. At the time of writing an extant planning permission for 18 dwellings exists for this site. Given existence of this extant permission, a precautionary approach has been taken for this site. As such, Table 4.1 assumes that the site has the potential to deliver 18 dwellings. This site is just under 500m away from the Oxford Meadows SAC (as the crow flies).

4.25 The allocation policy for this site should include the following provisions to ensure that should residential development be brought forward at this site, it is able to mitigate any significant effects at the Oxford Meadows SAC.

> *"Development proposals involving residential development should be accompanied by an assessment of potential recreational pressure on the immediate setting including the canal towpath and the Oxford Meadows SAC that may arise from increased numbers of visitors, along with plans to mitigate this impact as necessary."*

4.26 Policy SPCW5 Jowett Walk (South) proposes at least 14 dwellings and is more than 1.7k away from the SAC as the crow flies. The proposed allocation is for residential or student accommodation. As the housing at the site would likely be for students it is likely to generate limited (if any) dog walking activity. University Parks represents a more accessible public open space should any dog-walking activity be generated from the site.

4.27 Policy SPCW8: Osney Mead proposes a minimum 247 dwellings (unless further flood risk work undertaken cannot find a solution to ensure the safety of residents). A precautionary approach has been taken (for this site) and an assumption has been made that the residential development is possible (for HRA purposes only).

4.28 Osney Mead is more than 1.2km away from the SAC as the crow flies and is proposed for a mix of employment-generating uses, academic institutional uses and residential (including employer-linked affordable housing) and student accommodation. The delivery of student accommodation or employer-linked affordable housing is likely to generate limited (if any) dog-walking activity. The site is close to range of different types of publicly accessible open space, including an extensive network of publicly accessible fields heading towards South Hinksey. While access to the SAC is possible, either via a 2km walk along the bank of the River Thames and across Bailey Bridge, or via a 2km drive along Binsey Lane followed by an 800m walk to access Port Meadow via Fiddler's Island. It is considered that any future residents would be unlikely to do this on a regular basis.

4.29 Policy SPCW12: West Wellington Square proposes at least 13 dwellings and is more than 800m away from the SAC as the crow flies. The site is proposed for academic institutional, student accommodation, and residential including employer-linked affordable housing. As the housing at the site would likely be for students and academics, it is likely to generate limited (if any) dog walking activity. University Parks is also more accessible from this site than the Oxford Meadows SAC.

4.30 In addition to Oxford North, which already includes a policy requirement to deliver increased open space in association with residential development proposed at that site (see paragraph 4.4 above for details) several Key Employment Sites and Site Allocations for located within 1,900m of the Oxford Meadows SAC. These are set out in Table 4.4 below:

Table 4.4 Key Employment sites within 1,900m of the Oxford Meadows SAC

Key Employment Sites/ Employment Site Allocations	**Distance from Oxford Meadows SAC (m)**
ROQ Site (Key Employment Site)	650
Oxford University Press (Key Employment Site)	750
Oxford University Science Area & Keble Road Triangle (Key Employment Site)	1,010
SPN6 Red Barn Farm	1,125
SPCW8 Osney Mead (Key Employment Site)	1,240
Jordan Hill Business Park (Key Employment Site)	1,260
Botley Road Retail Park (Key Employment Site)	1,310

4.31 Of the above sites, Osney Mead (Policy SPCW8) has a site allocation policy, which already makes provision for a mix of uses that include residential (including

employer-linked affordable housing) and student accommodation. Osney Mead has been assessed in the preceding paragraphs (see paragraph 4.24-25).

4.32 Policy SPN6 Red Barn Farm is allocated or employment. The site forms part of the wider area associated with the Northern Gateway Area Action Plan. This site does not benefit from Key Employment Site status as it is not currently in use for one of the "employment-generating uses" (as defined in the Local Plan 2045 Glossary as the 'traditional' employment uses (i.e., Use Class E(g) and B Class Uses). Should any residential development come forward on this site, other alternative opportunities for dog-walkers exists at equally or more accessible locations on foot including Cuttleslowe Park and Five Mile Drive Recreation Ground. Also, an increased provision of public open space for dog walking has been secured through Oxford North development. Given the distance of the site from the SAC (more than 1.1km straight line), trips to the SAC would most likely need to be undertaken by private car. As there are no proposals to increase the number of parking spaces at the Oxford Meadows SAC, there would not be an increase in visitors to the SAC by car. As such no site-specific mitigation measures are proposed.

4.33 The two Key Employment Sites nearest to the SAC are the Radcliffe Observatory Quarter (ROQ) on Walton St/ Woodstock Road, and the Oxford University Press (OUP), on Walton St. OUP is a long-standing publishing company with its offices located in the heart of the city. Given the constrained nature of OUP, it is unlikely that residential development could be accommodated at the site. Whereas the ROQ is in the final stages of its transformation from its former use – the Old Radcliffe Hospital – to a modern teaching and research campus for the University of Oxford. As a teaching campus, any residential development delivered at the site is likely to either be student accommodation or employer-linked affordable housing as such, any potential increases in dog-walking are likely to be limited. Also, there is minimal remaining available land at the site following the completion of the Schwarzman Centre for the Humanities.

4.34 The other sites listed are all more than 1km away from the SAC as the crow flies and are all close to existing alternative public spaces that are more accessible that the SAC or would deliver forms of residential that would result in limited (if any) increase in dog-walking (i.e., student accommodation/ employer-linked affordable housing). As such, any impact of supporting housing delivery on the city's employment sites would be minimal.

‘In-combination impacts’

4.35 The Proposed Submission Draft of the Cherwell Local Plan 2042 Policy KID1 Kidlington Area Strategy provides the policy framework for the site allocations within Cherwell District Council’s administrative area that nearest the Oxford Meadows SAC. Policy KID1 sets out that policies PR6a-PR9 from the extant Cherwell Local Plan 2011-2031 are to be retained.

4.36 Policy PR6a – Land East of Oxford Road; and PR6b – Land West of Oxford Road are the only sites within the Cherwell Local Plan that are within 1,900m of the Oxford Meadows SAC. The site allocation policies for these sites are contained within the Cherwell Local Plan 2011 2031 Part 1 Partial Review.

4.37 Policy PR6a – Land East of Oxford Road allocates this 48ha site as a residential-led “urban extension to Oxford city”. The policy provides for a net increase of 690 dwellings, a primary school, local centre and the delivery of 11ha public open space as an extension to Cutteslowe Park. In addition, Policy PR6a requires the creation of a green infrastructure corridor on 8ha of land (in addition to the extension of public open space at Cutteslowe Park). PR6b – Land East of Oxford Road is allocated for a residential-led development for 670 dwellings on 32ha of land.

4.38 These are the only sites contained in Cherwell’s Local Pan that are within 1,900m of the Oxford Meadows SAC. The number of residential dwellings allocated across the two sites is 1,360 homes. Given average household size is 2.5 (Census 2021), it is likely that this would lead to an additional 3,400 residents (all of whom have the potential to own dogs).

4.39 Table 4.5 shows the ‘in-combination impacts’ resulting from the population growth resulting from the two residential-led developments proposed through the Cherwell Local Plan 2042.

Table 4.5 Projected ‘in-combination impacts’

	Calculation/ reference		Result
Projected future population arising from ‘in-combination’ impacts	See para. 1.33	J	3,400
Projected visits per annum from projected future ‘in-combination impacts’ population	F* x J	K	10,706

% of projected 'in-combination impacts' visits, as it relates to current projected total visits	(K ÷ C**) x 100	L	3.49%

** F = 3.1 (see Table XX.3 for further details)*

*** C =306,6600 (see Table XX.3 for further details)*

4.40 The cumulative impact of the additional visits resulting from the Oxford Local Plan 2045 (4,263-5,684 or 1.39-1.85%) and the Cherwell Local Plan 2042 (10,706 or 3.49%) equates to between 14,969-16,389 visits or 4.88-5.35%).

4.41 As set out above, the site allocations within Cherwell propose the creation of additional recreation provision. Policy PR6a includes a requirement for the provision of public open space as an extension to Cutteslowe Park on 11 hectares of land. It is likely that this extension would serve as a more accessible alternative recreation space for dog-walkers than the Oxford Meadows SAC for both the Cherwell site allocations. Given the size and proximity of this recreation provision to the two Cherwell sites, it is considered that this would be suitable recreation provision likely to encourage new residents (in particular, dog-walkers) to use it as an alternative to the Oxford Meadows SAC.

4.42 There is no indication that current visitor numbers are having a detrimental effect on the condition of Apium repens at the Oxford Meadows SAC. As such recreational impacts (dog fouling) at the Oxford Meadows SAC will be minimal and as such are not likely to result in significant effects, either alone, or 'in-combination' on the integrity of the Oxford Meadows SAC.

5. Balanced Hydrological Regime

5.1 It is generally recognised that there are three main sources of water that support the plant communities on the Oxford Meadows SAC. These are direct rainfall, surface water, and groundwater that flows in from outside the area. Any of these sources, or a combination, may contribute to the soil water, which supports the plant communities found at the Oxford Meadows SAC.

5.2 HRA work undertaken to support previous Local Plans in Oxford ruled out the likelihood of significant effects on the SAC from surface water and direct rainfall. For instance, the current abstraction licence for Farmoor Reservoir does not impact the Oxford Meadows SAC and no increases to this abstraction licence are proposed.

5.3 The HRA Screening Report undertaken to support for Thames Waters Drought Plan (2022)The HRA Screening Report undertaken to support Thames the Water Drought Plan (2022) confirms that no likely significant effects are anticipated from any of the proposed drought schemes (in particular at Farmoor Reservoir) on the Oxford Meadows SAC, either alone, or in combination with other licenses and consents.

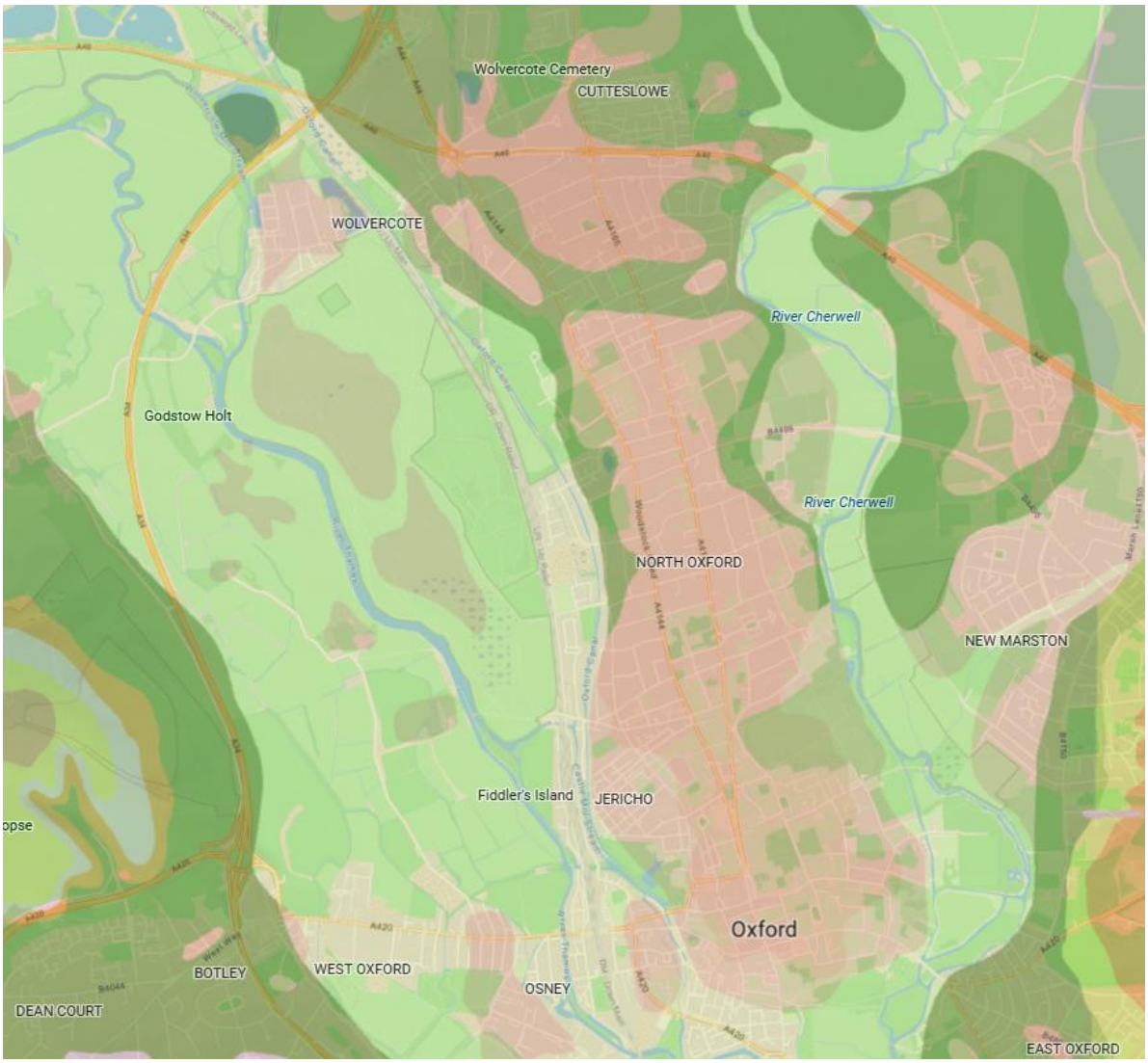
5.4 The Environment Agency's flood alleviation scheme for Oxford, which is likely to consist of enlargement of existing watercourse and/ or creating flood relief channels, may affect the flooding regime of the River Thames. Natural England has stipulated that a key requirement of the Oxford flood alleviation scheme is that it does not have an adverse impact on the Oxford Meadows hydrological regime. This is considered further in the section on 'in-combination' impacts below.

5.5 Figure 5.1 shows the location of the North Oxford gravel terrace in relation to the Oxford Meadows SAC. It should be read in conjunction with Figure 5.2 to provide the locational context of the direction of groundwater movement on the North Oxford Gravel Terrace.

5.6 Figure 5.1 shows the geology of Oxford, including the Oxford Meadows SAC. The salmon pink colouring reaching from the city centre right up through Summertown and beyond to the north represents the North Oxford Gravel Terrace. These deposits are a source of groundwater recharge to the Oxford Meadows. It is recognised that this is not the only source of groundwater recharge, as it is likely that there is a much larger groundwater catchment area that serves the Oxford Meadows.

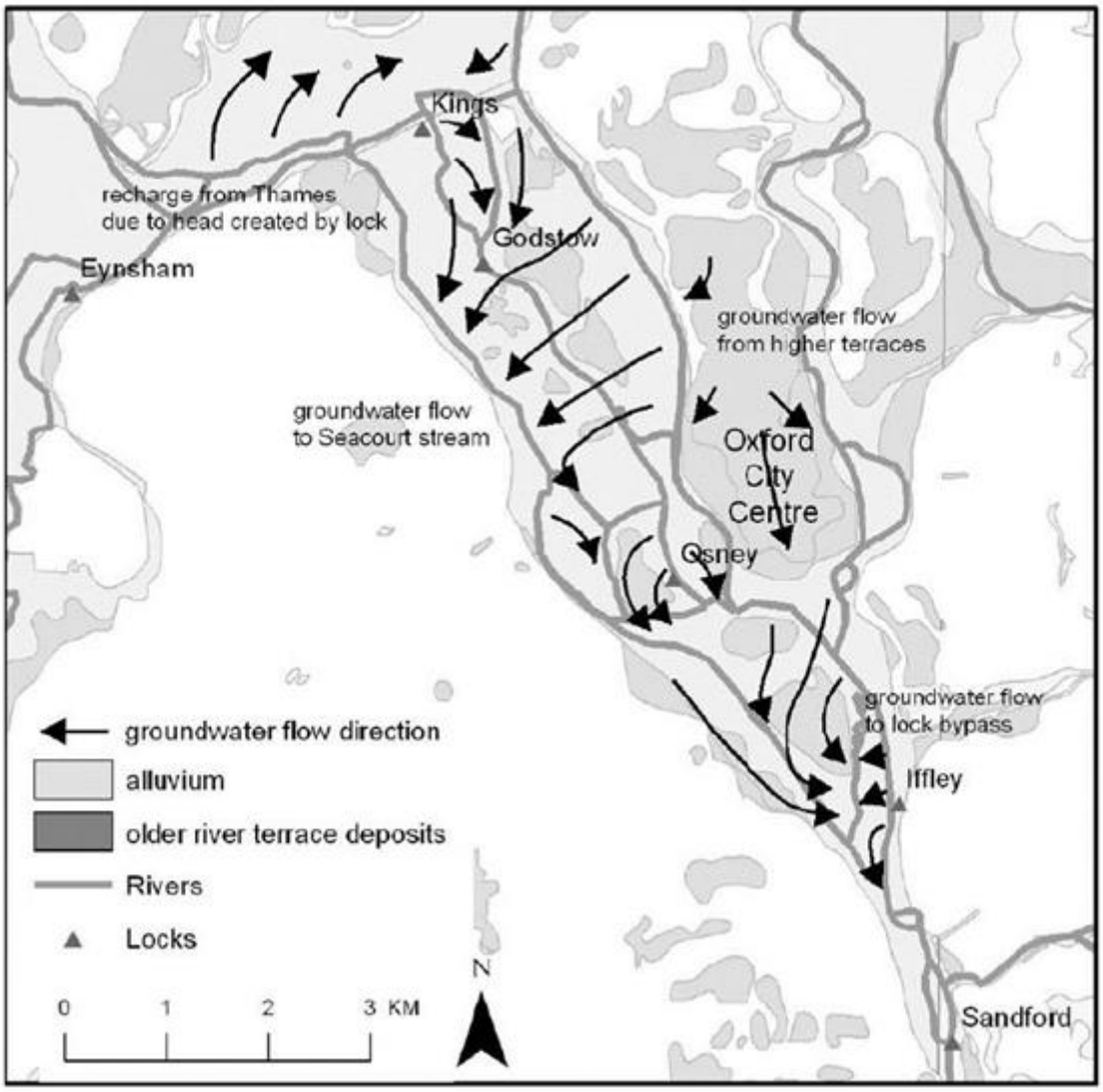
5.7 Figure 5.2 shows a conceptual model of groundwater flow for Oxford including the area surrounding the Oxford Meadows SAC. Previous HRAs have taken a precautionary approach which assumes that the direction of groundwater flow follows the direction of travel shown here. The model in Figure 5.2 shows that groundwater flows from the city centre away from the SAC. This means that proposed development at sites in this area will not affect the hydrology of the SAC since the direction of travel of the groundwater is away from the SAC.

Figure 5.1 Map showing the North Oxford Gravel Terrace and Port Meadow within the context of Oxford



(Source: British Geological Survey – BGS Map Viewer Contains British Geological Survey materials © UKRI [2025])

Figure 5.2 - Conceptual model of groundwater flow in Oxford (2007)



Source: Oxford DEFRA Paper (2007)

5.8 Previous HRA work to support the Northern Gateway Area Action Plan (AAP) investigated the issue of connectivity between the North Oxford Gravel Terrace and the Oxford Meadows SAC and confirmed that there is a large catchment area for groundwater recharge supporting the Oxford Meadows.

5.9 Previous HRA work advocated both a generic and a site-specific approach to providing mitigation for this conservation objective. A more holistic approach has been taken in the Local Plan 2045. This is because a wider range of circumstances need to be covered by the approach. For instance, certain employment sites, including numerous

Key Employment Sites do not benefit from bespoke site allocations. As such, a more generic approach was considered appropriate.

5.10 Policy G6 therefore includes the following supporting text relating to the Oxford Meadows:

Policy context

- Oxford has a range of habitats and ecological sites, many benefit from levels of designation including:
    - International designations - the Oxford Meadows Special Area of Conservation (SAC), part of which is within Oxford's boundary, contains certain habitats and species recognised for their importance across Europe…

- A number of sites in the city are particularly reliant upon specific hydrological conditions, which means that they are potentially vulnerable to changes in hydrology that could arise from development. For example:
    - Oxford Meadows SAC is potentially sensitive to changes in flows and quality of groundwater stemming from development on the North Oxford gravel terrace…

- A Habitat Regulations Assessment (HRA) has been produced to support the Local Plan 2045. This provides an assessment of the level of development proposed through the policies in the plan, both 'alone' and 'in-combination' with other relevant plans and projects. The HRA assesses the 'alone' and 'in-combination' impacts of the plan against the relevant conservation objectives for the Oxford Meadows SAC. The HRA includes a Stage 1 Screening, and a Stage 2 Appropriate Assessment which proposes mitigation measures, the purpose of which is to ensure there are no likely significant effects, either alone or in-combination on the integrity of Oxford Meadows SAC.

Policy implementation

- New development immediately adjacent to Oxford's SSSIs, will be expected to incorporate appropriate buffers that protect these sensitive areas during the construction and operational phases and ultimately deliver additional supporting habitat. Buffers may also be appropriate for other types of sites.

- *The policy outlines particular considerations around impacts on surface and/or groundwater in relation to Oxford Meadows SAC…*

5.11 The following support text has also been included within Policy G6 itself:

Internationally and nationally designated sites

- *Development proposals which would have an adverse effect on the integrity of the Oxford Meadows Special Area of Conservation (SAC) or an adverse effect on any Site of Special Scientific Interest (SSSI) will not be permitted.*
- *In addition, development will not be permitted within the SAC or a SSSI except where it is related to and required for the management, maintenance or enhancement of the qualifying features of the site.*
- *Development proposed on land immediately adjacent to any SSSI must be designed with a buffer to that site that both helps to prevent adverse effects during the construction and operational phases of the development and delivers habitat supporting the interest features of that site.*
- *Development on the North Oxford gravel terrace that could influence groundwater flow to the Oxford Meadows Special Area of Conservation (SAC) will only be permitted if it includes SuDS and if a hydro-geological assessment can demonstrate that there will be no likely significant effects on the integrity of the SAC.*
- *Within the groundwater catchment areas for the ~~Oxford Meadows SAC,~~ Lye Valley and New Marston Meadows SSSI's, development which could have negative hydrological impacts in relation to surface and/or groundwater will need to demonstrate that these have been avoided, or mitigated where relevant, through use of appropriate measures such as infiltration methods (where geological conditions allow) and careful design of below ground works.*

Determining adverse effects

- *In determining the potential for adverse effects on ecology from a development, including where this relates to designated sites, applicants will need to demonstrate that they have considered information from various sources where relevant, including the site context and surrounding area; expert ecological advice, applicable Council Technical Advice Notes, as well as a review of relevant existing information where available, such as Natural England's Impact Risk Zones (IRZs). A range of potential impacts will need to be considered and will depend on the context of the application and proximity to any protected site(s), particularly, but not limited to:*

    - *Loss of protected land;*
    - *Recreational impacts;*
    - *Impacts on air quality;*
    - *Impacts on water quality;*
    - *Impacts from artificial lighting;*
    - *Changes to the hydrological regime (particularly surface and/or groundwater).*

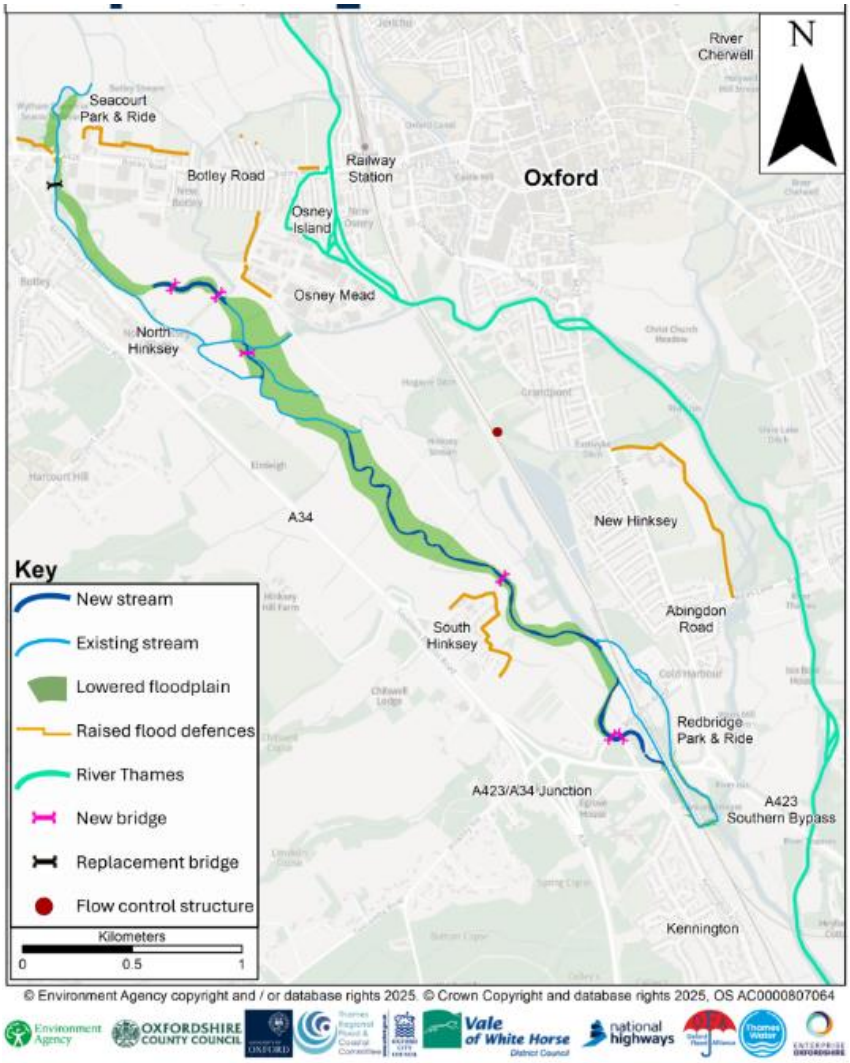
'In-combination impacts'

5.12 Thames Water has produced a Habitat Regulations Assessment to support its Water Resources Management Plan 2024. This HRA assessed the likely impact of a variety of infrastructure project options on the numerous "European Sites" across the Thames Water area. As likely significant effects could not be ruled out for several project options at the HRA Screening stage, further HRA work was carried out in the form of a Stage 2 Appropriate Assessment. The Stage 2 Appropriate Assessment

proposed various mitigation measures for each of the selected options and concluded that with the implementation of these mitigation measures, likely significant effects on the Oxford Meadows could be ruled out.

5.13 The Environment Agency's flood alleviation scheme for Oxford (OFAS), which will create a flood relief channel downstream of the SAC, has the potential to affect the flooding regime of the River Thames.

Figure 5.3 – Map of the scheme design for the Oxford Flood Alleviation Scheme



(Source: Environment Agency website)

5.14 Figure 5.3 shows the scheme in relation to the SAC. However, the scheme is downstream of the SAC, and Natural England has stipulated that a key requirement of

the Oxford flood alleviation scheme is that it does not have an adverse impact on the Oxford Meadows hydrological regime. As such, 'in combination' with the Oxford Local Plan, there will not be an impact on the hydrology of the Oxford Meadows SAC.

6. Water Quality

6.1 Oxford is located within the River Basin District covered by the Thames River Basin Management Plan15 (TRBMP). This was last updated by the Environment Agency in 2022. The aim of the River Basin Management Plans is to enhance nature and the natural water assets that are the foundation of everyone's wealth, health and wellbeing, and the things people value including culture and wildlife. The TRBMP describes the challenges that threaten the local water environment in the Thames River Basin District and how these challenges can be managed. It includes data on the condition of the waterbodies within the river basin, with surface waters being assessed for ecological status or potential and chemical status, and groundwaters assessed for quantitative status and chemical status.

6.2 The most recent assessment data available for the waterbodies within Oxford's administrative boundary is presented in Oxford City Council's Water Cycle Scoping Study. That data is represented here for completeness. Table 6.1 below provides a summary of the waterbody status for the main watercourses in Oxford.

Table 6.1 summary of the waterbody status for the main watercourses in Oxford

Waterbody name	Ecological	Chemical
Cherwell (Ray to Thames) and Woodeaton Brook	Poor	Fail
Bayswater Brook	Poor	Fail
Northfield Brook (Source to Thames) at Sandford	Moderate	Fail
Thames (Evenlode to Thame)	Poor	Fail

Source: Oxford City Council Water Cycle Study Stage 1 Report

6.3 Water body ecological status is either poor or moderate within the city. This is due to a range of factors including agricultural land practices, invasive species and drought. However, sewage discharge is a major contributing factor to the failure to reach good status in three of the four waterbodies. Sewage discharges by Thames Water into waterbodies are regulated by the Environment Agency (EA) through a series of permits and licences.

6.4 The Oxford City Council Water Cycle Study Stage 1 Report includes a detailed discussion about the reasons for the scores attributed to each main watercourse and provides suggestions about how and when issues can and should be addressed through the planning system. The overarching message is that any impacts on the quality of water flowing through watercourses in Oxford resulting from development

proposals can be satisfactorily addressed through the appropriate use of Sustainable Drainage Systems (SuDS).

6.5 The HRA Screening Document considered that further consideration was needed for the following policies and sites allocations with regard to their potential impacts on the Oxford Meadows SAC:

- Policy S1 – Spatial Strategy
- Policy H1 – Housing Requirement
- Diamond Place and Ewert House
- Elsfield Hall, Elsfield Way
- OUP Sports Ground, Jordan Hill
- Oxford North
- Pear Tree Farm
- Key Employment Sites (including Oxford University Press, ROQ site and Jordan Hill Business Park, Banbury Road)

6.6 Policies S1 and H1are overarching policies from which other policies are put forward to deliver. These policies are not likely to have an impact on the SAC. Instead, it is through the development of site allocation policies and windfalls (for instance, that make up a source of the housing supply set out in Policy H1) that have a potential to impact the Oxford Meadows.

6.7 As the HRA Screening Report sets out a range of policies that could impact water quality at the Oxford Meadows, a more general approach was considered appropriate. As set out in Chapter 5 above, Policy G6 provides an overarching mitigation approach to ensure that development proposals will not have an adverse impact on the integrity of the Oxford Meadows SAC.

6.8 As set out above in Chapter 5 of this report, it is the groundwater flowing from the North Oxford Gravel Terrace (a potential source of groundwater recharge) which has the most potential to be impacted upon by developments associated with the Oxford Local Plan 2045. It is therefore important that the quality of any groundwater recharged is maintained. As such, an over-arching policy on Sustainable Drainage Systems has been included in the plan. Policy G8 requires that all development proposals manage surface water through Sustainable Drainage Systems where feasible.

6.9 The full text of Policy G8 is included below:

Policy G8: Sustainable Urban Drainage Systems: SUDS

All development proposals will be required where feasible to manage surface water through Sustainable Drainage Systems (SuDS). Details of the SuDS must be submitted as part of a drainage strategy or FRA where required as part of a planning application submission, and must be submitted prior to determination unless agreed otherwise by the LPA.

SuDS should be designed in a way that incorporates reuse, infiltration, retention or conveyance methods which utilise natural, green and blue infrastructure rather than unnatural, artificial components. Below ground features such as pipe systems or underground attenuation tanks will not be permitted, unless exceptional site conditions justify an alternative approach which has been agreed with the Council. Multi-functionality of SuDS should be maximised in their design, such as where they are incorporated into public open space.

Where a site has potential for contamination, SuDS that rely on infiltration will be discouraged and other suitable methods should be adopted to protect the water environment unless it can be demonstrated that there will be no pathway of contamination. Infiltration SuDS measures would not be encouraged in areas that have shallow groundwater as these measures would not be suitable.

Surface water runoff should be managed to greenfield run-off rates as close to its source as possible, in line with the following drainage hierarchy:

a) store rainwater for later use; then:
b) discharge into the ground (infiltration); then:
c) discharge to a surface water body; then:
d) discharge to a surface water sewer, highway drain or other drainage system; and finally:
e) discharge to a combined sewer (only in exceptional circumstances).

For minor developments, SuDS should be designed in accordance with the City Council's latest SuDS design standards, or any equivalent replacement document. For major developments, SuDS should be designed in accordance with the national standards for sustainable drainage systems (or any national or county-level standards that supersede them). Details of the SuDS must be submitted as part of a drainage strategy or FRA where required as part of a planning application submission, and must be submitted prior to determination unless agreed otherwise by the LPA.

A SuDS maintenance plan should be submitted alongside any planning application for minor or major development, demonstrating how SuDS will be managed and remain effective for the lifetime of the development. The plan must clearly explain what maintenance measures will take place, maintenance responsibilities for all relevant parties, how frequently they will occur and for how long and will be secured by condition.

6.10 The inclusion of Policy G6 alongside Policy G8 – Sustaianble Drainage Systems (SuDS), which requires that SuDS are implemented for all development proposals, means that it is unlikely that that the policies in the Oxford Local Plan 2045 will have a significant adverse effect on the integrity of the Oxford Meadows SAC with regard to this ensuring the water quality of groundwater that is recharged within Oxford is maintained.

6.11 It is worth noting that Oxford has one Wastewater Treatment Works at Sandford (downstream of the Oxford Meadows SAC). Thames Water has confirmed that upgrades to the Sandford Sewage Treatment Works are confirmed and are likely to take place in the first half of the plan period. Thames Water confirmed that these works are fully funded and costed and are not impacted by any external factors as they are scheduled to take place with the most recent Asset Management Plan cycle of projects.

'In-combination' Impacts

6.12 The other authorities' Water Cycle Studies for this current local plan cycle are at various stages of production. As such, Water Cycle Studies to complement the most recent plan stages are not always available.

6.13 Table 6.2 sets out the most recent Water Cycle Studies for each local authority. Each Water Cycle Study presents where there are potential flow capacity or treatment issues for Wastewater Treatment Works (WWTW) in the respective districts. Of the other Oxfordshire authorities, only Cherwell has produced a Water Cycle Study for their most recent Local Plan. The other Oxfordshire authorities Water Cycle Studies are related to their current adopted plans (rather than their emerging plans).

Table 6.2 – Oxfordshire local authorities water cycle studies

Local authority	Date of WCS	Weblink for WCS
Cherwell	January 2023	https://www.cherwell.gov.uk/download/downloads/id/11025/water-cycle-study-stage-1-january-2023.pdf
South & Vale	September 2024	https://www.southandvale.gov.uk/app/uploads/2024/12/CEQ18-Water-Cycle-Study-WCS-Scoping-Report.pdf

West Oxfordshire	July 2025	https://www.westoxon.gov.uk/media/oxuf3hnd/whs10174-wodc-scoping-water-cycle-study_v2-0.pdf

6.14 Each Water Cycle study highlights where there are potential issues at WWTW in the respective districts. For instance, in Cherwell District Council there are potential capacity issues at four out of the twenty-five assessed WWTW, which will require intervention during the plan period. The South and Vale Water Cycle Study highlights capacity issues at six WWTWs which will require attention in the plan period. The West Oxfordshire Water Cycle study highlights that a number of WWTWs have been operating outside their permits in recent years. It also highlights that there are a number of schemes ongoing to address compliance issues.

6.15 As the above constraints are being taken into account by the local authorities, in discussions with Thames Water, they are not expected to act 'in-combination' with the Oxford Local Plan 2045.

7. Conclusions

7.1 This HRA re-affirms the conclusions presented with regard to air impacts in the Oxford HRA Screening Report – that the Local Plan 2045 will not affect the integrity of the Oxford Meadows SAC through air quality impacts (either 'alone' or 'in-combination').

7.2 It also concludes that the Oxford Local Plan 2045 with the suite of mitigation measures proposed through the Stage 2 Appropriate Assessment, will not affect the integrity of the Oxford Meadows SAC through recreational (dog fouling) impacts, impacts on water levels or quality (either 'alone' or 'in-combination')

Appendix 1 – Stage 1 HRA Screening Report (June 2025)

Available through the following weblink:

https://www.oxford.gov.uk/downloads/file/3794/habitat-regulations-assessment-screening-final-report-june-2025

Appendix 2: Oxford Meadows Visitor Survey Report

Oxford Meadows Visitor Survey Report

Introduction

A visitor survey of Oxford Meadows was commissioned to understand how the site is currently used by the population of Oxford and by visitors from outside of the city.

Method

Through discussions with Natural England and investigations of best practice examples, an onsite visitor survey questionnaire was designed.

The survey was carried out:

- on 6 days including a range of weekend and weekday dates (18 May 2025, 19 May 2025, 20 May 2025, 25 May 2025, 26 May 2025, 27 May 2025)
- both within and outside the school "summer" half term
- during four 2-hour periods each day (07:00-09:00, 10:00-12:00, 13:00-15:00, 16:00-18:00)
- at two locations (one to the north at the Wolvercote car park off Godstow Road, and one to the south at the car park off Walton Well Road)

The survey questionnaire asked a series of 11 questions:

<u>About you:</u>

- Question 1: How many adults, children and dogs make up your group?
- Question 2: Which postcode have you travelled from to visit this site?
- Question 3: Which best describes you?

<u>About today's visit:</u>

- Question 4: How did you get here today?
- Question 5: How long have you spent / will you be spending here today?
- Question 6: What is the main purpose of your visit today?

<u>About other visits:</u>

- Question 7: How often do you visit this site?
- Question 8: Do you tend to visit this site at a certain time of day?
- Question 9: What time of year do you visit this site?

- Question 10: Aside from this location do you visit any other places for similar purposes?
- Question 11: What facilities do you think are important to your enjoyment of open spaces in the Oxford area?

Results

486 interviews were conducted, comprising a total of 908 visitors.

Question 1: Size of group as percentage of all interviews (486); and percentage of all interviews (486) with 1 or more dogs

Group size	1 person	2 people	3 people	4 people	5+ people
Total	48%	37%	7%	4%	4%

With dog
32%

Age of visitors, as percentage of responses given (905 visitors)

Age	Under 18	18-40	41-65	65+
Total	9%	36.4%	40.2%	14.5%

Question 2: Postcode of visitor origin, as percentage of responses given (486)

Oxfordshire	%	Outside Oxfordshire	%	Outside UK	%	Combinations	%
OX1	14.6	BS7	0.4	Canada	0.2	OX1/BS9	0.2
OX2	55.8	CB24	0.2	France	0.2	OX3/Manchester	0.2
OX3	6.6	Canterbury	0.2	Germany	0.4		
OX4	7.6	HP17	0.4	Luxembourg	0.2		
OX5	1.6	HP19	0.2	Russia	0.2		
OX7	0.4	HP22	0.2	Slovakia	0.2		
OX10	0.2	LE1	0.2	South Africa	0.2		
OX11	1	LE6	0.2				
OX12	0.4	Leamington	0.2				
OX13	0.8	London	0.2				
OX14	0.6	NN7	0.2				
OX16	0.4	NN11	0.2				
OX17	0.4	NN13	0.2				
OX20	0.2	RG6	0.2				
OX26	0.8	SL6	0.2				
OX29	0.2	SN1	0.2				

OX33	0.4	SO52	0.2				
OX44	0.2	SW3	0.2				
OX1/OX2	0.6						
OX1/OX4	0.2						
OX2/OX4	0.4						
OX2/OX3/OX5	0.2						
OX2/OX10	0.2						
OX5/OX29	0.2						
Total	**94**		**4**		**1.6**		**0.4**

Question 3: Resident or visitor, as percentage of responses given (908)

	Permanent resident of Oxford	Temporary resident of Oxford	Resident elsewhere in Oxfordshire	Visitor/holiday maker
Total	75.6%	9.2%	6%	9.1%

Question 4: Mode of travel to arrive at site, as percentage of responses given (819)

	Walk	Cycle	Bus	Car	Other
Total	49.5%	6.2%	3.7%	37.2%	3.4%

Question 5: Length of visit, as percentage of responses given (483)

	Less than 1 hour	1-2 hours	2-3 hours
Total	50.1%	38.9%	11%

Question 6: Purpose of visit, as percentage of responses given (504)

	Dog walking	Walking	Jogging/ running	Cycling	Family outing	Nature	Other
Total	30.4%	49.8%	5.4%	2%	3.8%	1%	7.7%

Question 7: Frequency of visit(s), as percentage of responses given (635)

	Daily	Weekly	Monthly	Occasionally	Don't know
Total	26%	45.7%	10.9%	11.7%	5.8%

Question 8: Time(s) of visit(s), as percentage of responses given (845)

	Before 09:00	09:00-12:00	12:00-14:00	14:00-16:00	After 16:00	Don't know/ First visit
Total	20.4%	15.6%	13.7%	19.1%	21.4%	9.8%

Question 9: Season(s) of visit(s), as percentage of responses given (520)

	Year-round	Spring	Summer	Autumn	Winter
Total	74.4%	9.4%	11%	4.8%	0.4%

Question 10: Other site(s)/area(s) visited for similar purpose(s), and number of independent mentions (279)

Site/Area	# of mentions	Site/Area	# of mentions
Uni Parks	148	Sunnymead	2
Cutteslowe	26	Acorn Field	1
Shotover	18	Bagley Woods	1
Christchurch	17	Bernwood	1
Florence Park	13	Godstow Nunnery	1
Wytham Woods	11	Iffley Lock	1
South Parks	7	Marston	1
Hinksey Park	5	New College	1
Botanical Gardens	4	Osney	1
Boars Hill	3	Otmoor	1
Cumnor Hurst	3	Radley	1
Abbey Meadows	2	River	1
Burgess Field	2	Thrupp	1
Marston Meadow	2	Trap Grounds	1
Oxford Canal	2	Warneford Meadow	1

Question 11: Rating of importance of individual factors in enjoyment of open spaces in Oxford area, as percentage of responses given (485)
(Key: V: very important / Q: quite important / N: not important)

	Benches			**Litter bins**			**Dog bins**		
	V	Q	N	V	Q	N	V	Q	N
Total	35.7%	14%	50.3%	75.3%	8%	16.7%	57.1%	7.6%	35.3%
	Information boards			**Parking**			**Cycle parking**		
	V	Q	N	V	Q	N	V	Q	N
Total	35.3%	16.9%	47.8%	39.8%	5.4%	54.8%	32%	12.2%	55.9%

	Toilets			**Signed trails**			**Well-maintained paths**		
	V	Q	N	V	Q	N	V	Q	N
Total	54.2%	10.9%	34.8%	34.2%	10.1%	55.7%	50.9%	13.6%	35.5%
	Length/variety of paths			**Wheelchair/pushchair access**			**Views**		
	V	Q	N	V	Q	N	V	Q	N
Total	52.6%	9.1%	38.4%	23.9%	8.2%	67.8%	90.1%	5.2%	4.7%

	Wildlife			**Habitats**			**Water**		
	V	Q	N	V	Q	N	V	Q	N
Total	90.1%	5.4%	4.5%	89.1%	5.4%	5.6%	74.2%	10%	16.1%
	Feeling safe			**Quietness**			**Dog off lead**		
	V	Q	N	V	Q	N	V	Q	N
Total	89.1%	6.4%	4.5%	66%	16.1%	17.9%	46.4%	8.2%	4.5%

Analysis

In order to interpret the survey data and project the total number of visitors to the site the following calculation was carried out. The methodology broadly follows that used by Bracknell Forest DC in the Thames Basin Heaths SPA analysis as recommended by Natural England as best practice.

	Calculation and/ or reference		Result
Total number of visits over survey period	Taken from survey data	A	908
Percentage of visits over survey period from within postcode sectors OX1 and OX2	Taken from survey data	B	70.4%
Projected total number of visits, per annum	See "Table 1" below	C	306,600
Projected total number of visits from within postcode sectors OX1 and OX2, per annum	(C/100) x B	D	215,846
Population of postcode sectors OX1 and OX2	Taken from 2021 Census	E	68,549
Projected visits per head of OX1 and OX2 population, per annum	D/E	F	3.1
Projected future population arising from new potential development	See Table 2 below	G	1,913
Projected visits per annum arising from projected future population	G x F	H	6,022
% of projected future visits, as it relates to current projected total visits	(H/C) x 100	I	**1.96%**
Projected future population arising from 'in-combination impacts'	See Table 3 below	J	3,400
Projected visits per annum arising from projected future 'in-combination impacts' population	F x J	K	10,706
% of projected 'in-combination impacts' visits, as it relates to current projected total visits	(K/C) x 100	L	**3.49%**
% of projected 'alone' and 'in-combination impacts' visits as it relates to current total projected visits	I + L		**5.46%**

Table 1

Total number of visitors recorded during this survey	908
Number of surveyed access points	2
Mean number of visitors per surveyed access point	454
Number of hours of surveying per access point	48
Mean number of visitors per surveyed access point, per hour	10
Total active hours per day (06:00-20:00)	14
Projected mean number of visitors per surveyed access point, per day	140
Projected mean number of visitors per surveyed access point, per year	51,100
Total number of access points to the SAC	6
Projected total number of visitors per year to the SAC	306,600

Table 2 – Local Plan 2045 'alone' impacts

'Site'	Number of units	Number of residents
Oxford Local Plan 2045 (sites within 1,900m of SAC	765	1,913

Table 3 – Local Plan 2045 'in-combination' impacts

'Site'	Number of units	Number of residents
Cherwell DC (sites within 1,900m of SAC	1,360	3,400

Points to be Noted:

The interviews were conducted in early summer and visitor access patterns may be different when compared to the rest of the year. The surveys included the school half term period in order to reflect the difference between school holidays and term-time.

The data shows that people going for a walk visit the site the most frequently (dog-walking was the second most frequent purpose of visit). As dogs need exercising on a daily basis, the dog walkers interviewed are therefore likely to represent a relatively constant sample of visitors, and usage would be likely to be similar throughout the year. During the winter, the proportion of dog walkers to other users may be higher as the numbers of people cycling, picnicking, etc., would likely be less.

There are 6 access points to Oxford Meadows (via the Wolvercote car park; via the right of way at the entrance to Wolvercote off Godstow Road; via Godstow Road; via the bridge at Aristotle Lane; via the bridge across the river from Binsey; and via the car park off Walton Well Road). The two survey points that were selected are both car parks and so it is possible that the survey results are slightly skewed towards arrivals by car – although this does not seem to be particularly evident for the southern access point that was surveyed.