Planning Policy

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OXFORD CITY COUNCIL

Oxford Local Plan 2036

Habitats Regulations Assessment:

Appropriate Assessment

September 2018

Contents

1. Introduction

1.1 This report discusses Stage 2 (appropriate assessment) of the Habitat Regulations Assessment (HRA) for the Oxford Local Plan 2036.

1.2 The Oxford Local Plan sets out policies relating to development, site allocations and development management. It:

- Sets a capacity based target aimed at meeting as much of the objectively assessed housing need (OAN) as possible by boosting housing supply balanced with appropriate consideration of other policy aims. The Local Plan proposes 8,620 (431 per year) homes, which is likely to generate a population increase of around 20,000 people. Adjacent authorities will be providing the balance of the OAN.
- Promotes more than 2,000 car-free homes: student accommodation, employer-linked housing, and other housing in easily-accessible areas.
- Proposes to release 8 sites totalling 17.45 hectares in total from the Oxford's Green Belt.
- Protects key employment sites (category 1 and 2) from the loss to other non-employment uses.
- Allows employment sites that are not considered key to the Oxford's economy to be redeveloped eg for housing.
- Requires air quality assessments for all major proposals.
- Encourages the provision of electric charging points.
- Protects existing green and blue infrastructure features, and supports the development of new green infrastructure features.

Requirements of the Habitats Directive

1.3 Appropriate Assessment of plans that could affect Special Conservation Areas (SACs), Special Protection Areas (SPAs), and Ramsar sites (jointly called 'European sites) is required by Article 6(3) of the European Habitats Directive[1], which states:

> *'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of this assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.'*

[1] Directive 92/42/EEC on the Conservation of Natural Habitats and Wild Fauna

1.4 Article 6(4) of the Habitats Directive discusses alternative solutions, the test of 'imperative reasons of overriding public interest' (IROPI) and compensatory measures:

> *'If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natural 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*

1.5 The Habitats Directive applies the precautionary principle to European sites. Plans and projects can only be permitted if it can be shown that they will have no significant adverse effect on the integrity of any European site, or if there are no alternatives to them and there are imperative reasons of overriding public interest as to why they should go ahead. In such cases, compensation will be necessary to ensure the overall integrity of the site network.

1.6 The Habitats Directive was implemented into UK legislation through the Conservation (Natural Habitats, & c) Regulations 1994. The currently relevant piece of legislation is the 'Conservation of Habitats and Species Regulations 2010 (as amended) and is generally known as the Habitats Regulations.

Stage 1 screening

1.7 A Habitat Regulations Assessment can involve up to a four stage process.

1. **Screening**. Determining whether or not a plan 'alone or in-combination' is likely to have a significant effect on a European site.
2. **Appropriate Assessment**. Determining whether, in view of the site's conservation objectives, the plan 'alone or in-combination' would have an adverse effect (or risk of this) on the integrity of the site. If not, the plan can proceed.
3. **Assessment of alternative solutions**. Where the plan is assessed as having an adverse effect (or risk of this) on the integrity of a site, there should be an examination of alternatives.
4. **Assessment where no alternative solutions remain and where adverse impacts remain**.

1.8 Oxford City Council prepared a stage 1 screening report – shown at **Appendix A** - in October 2017. It considered the three European sites within 20km of the Oxford City Council administrative boundary (Table 1.1 and Figure 1.1). For the Cothill Fen SAC and the Little Wittenham SAC, it found that the Oxford Local Plan 2036 does not propose any policies or new allocations that would have a likely significant effect on those SACs, and it screened those two designated sites out of any further assessment.

Table 1.1 – European Sites within 20km of Oxford City Council boundary		
Name of site	Distance from boundary	Reason for designation[2]
Oxford Meadows SAC	Within City Boundary, extending into administrative area for Cherwell District Council and into the administrative boundary of West Oxfordshire District Council.	**Annex I habitats that are a primary reason for selection of this site** **6510 Lowland hay meadows** (Alopecurus pratensis, Sanguisorba officinalis) 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 long-term 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. **Annex II species that are a primary reason for selection of this site** 1614 **Creeping marshwort** Apium repens Oxford Meadows is selected because Port Meadow is the larger of only two known sites in the UK for **creeping marshwort *Apium repens***.
Cothill Fen SAC	Located 7km from the city boundary	**Annex I habitats that are a primary reason for selection of this site** **7230 Alkaline fens** 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*, grass-of-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* fen-meadow and S25 *Phragmites australis – Eupatorium cannabinum* tall-herb fen and wet alder *Alnus* spp. wood.
Little Wittenham SAC	Located 19km from the city boundary	**Annex II species that are a primary reason for selection of this site** 1166 **Great crested newt** Triturus cristatus

[2] Source www.jncc.gov.uk

		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.

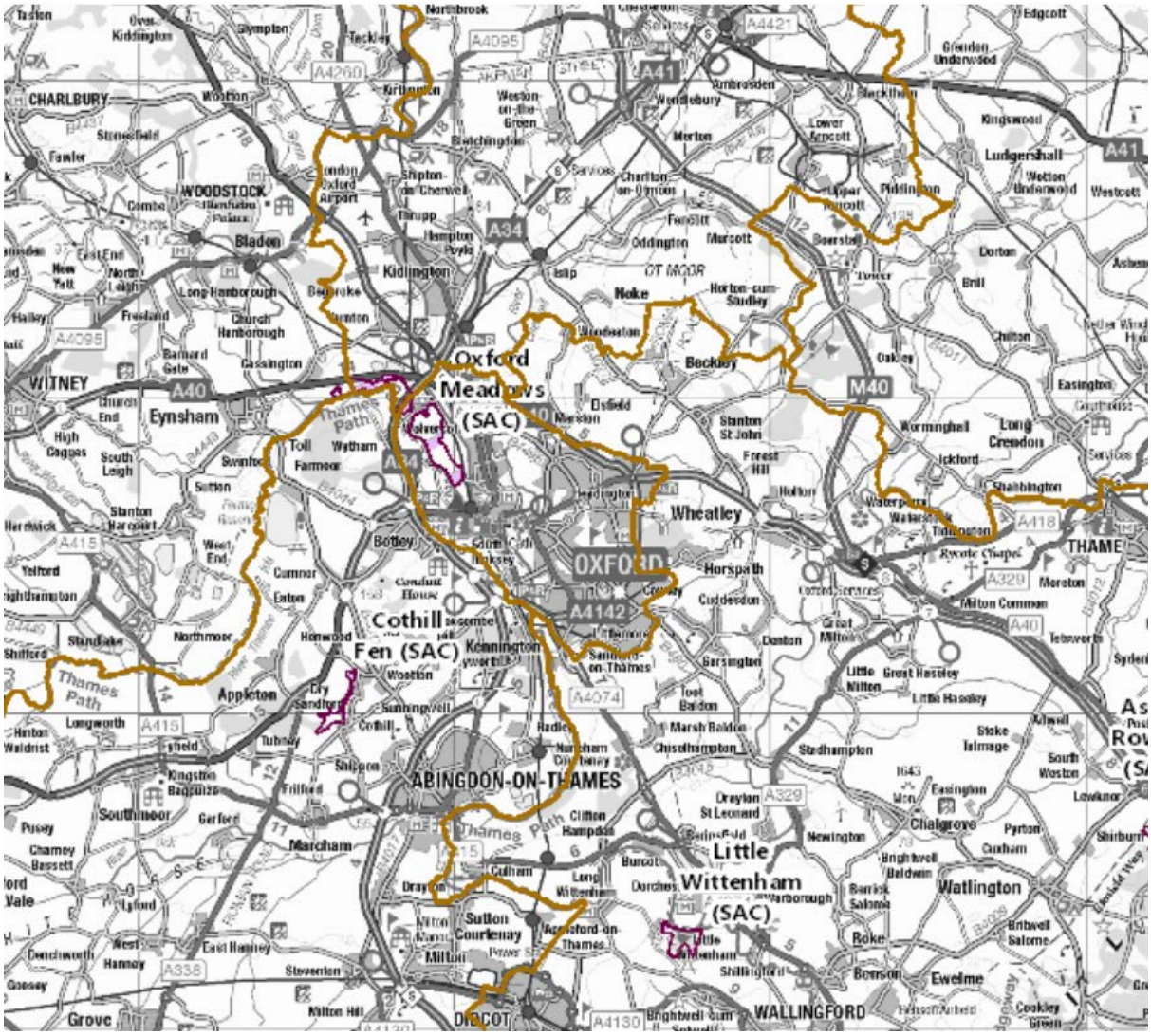

Figure 1.1 Location of SACs within 20km of Oxford City Council boundary

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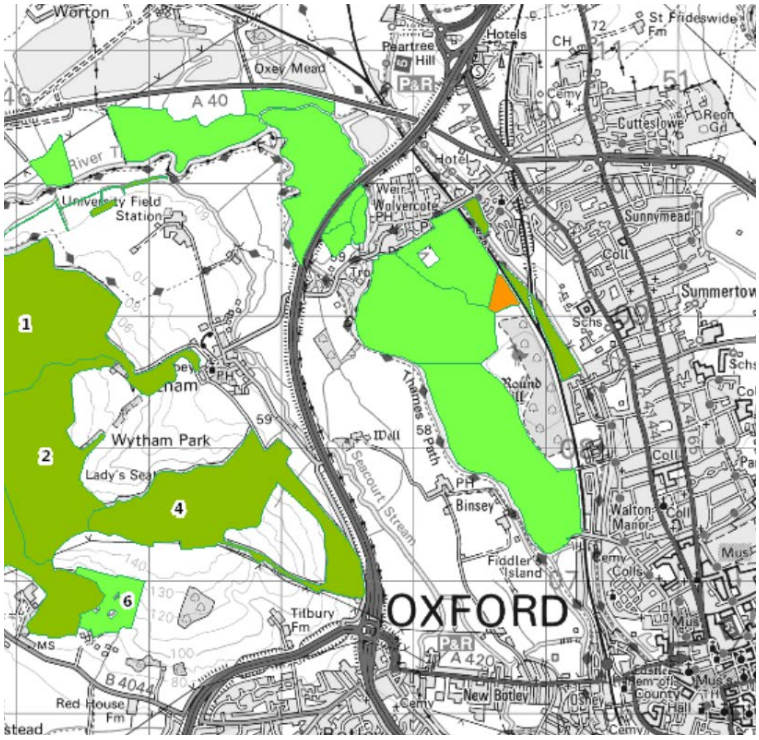
1.9 However the screening report found that the integrity of Oxford Meadows SAC could potentially be affected by the Local Plan, and this should be considered further in an appropriate assessment. In a letter of 24 November 2017, Natural England agreed with the overall findings and offered advice on how this should be done. This is covered further in Chapter 4.

1.10 This report consequently covers stage 2 (appropriate assessment) of the HRA for the Oxford Local Plan 2036. The screening report is shown at Appendix 1.

Oxford Meadows SAC

1.11 Table 1.1 explains the reasons for which the Oxford Meadows have been designated as an SAC. As can be seen at Figure 12, the SSSI units that make up Oxford Meadows SAC are in favourable condition, except for a small area in unfavourable recovering condition. This assessment was from July 2010 and may well have changed in the intervening time.[3]



1.12 The following are the key requirements to support the integrity of the Oxford Meadows SAC[4]:

- Minimal air pollution;
- Absence of nutrient enrichment of waters/ good water quality;
- Balanced hydrological regime – alteration to adjacent rivers may alter flooding regime and botanical diversity;
- Maintenance of traditional hay cut and aftermath grazing;
- Absence of direct fertilisation;

[3] Web-link to condition of SSSI units https://designatedsites.naturalengland.org.uk/
[4] Originally agreed at a screening workshop for the South East Plan

- Ensuring recreational impacts are maintained at a reasonable level[5];

1.13 In addition to the above requirements, this HRA considers the vulnerabilities listed in the Natura 2000 – Standard Data Form for the Oxford Meadows SAC submitted by DEFRA to the European Commission in December 2015[6]. This form states that the Oxford Meadows SAC is vulnerable to impacts from the following sources:

- Pollution to surface waters (limnic & terrestrial, marine & brackish);
- Invasive non-native species; and,
- Human induced changes in hydraulic conditions.

1.14 Requirements for the maintenance of traditional hay cut and light aftermath grazing; and the absence of direct fertilisation are related only to the management of the SAC. They are not affected by the location of, for example, housing or employment development.

1.15 Also, the control of invasive species cannot be easily influenced by the planning regime. A Site Improvement Plan for the Oxford Meadows SAC[7] issued by Natural England in December 2014 highlights that the rare *Apium repens* could be affected by *Crassula* and other invasive species. However, the Plan does not indicate that the concern of C*rassula* spreading to the lower areas of Port Meadow could be dealt by control mechanisms directly linked to, or facilitated by new development. Instead, the Plan suggests that these mechanisms need to be identified at the national level. The other requirements are the subject of this report.

1.16 As such, the screening report concluded that maintenance of traditional hay cut and light aftermath grazing, and absence of direct fertilisation could be screened out, as they are related to activities directly at the site, which the Oxford Local Plan 2036 will not affect. However it concluded that the Local Plan had the potential to impact on:

- Recreational pressure;
- Water levels and water quality; and
- Air pollution

at the Oxford Meadows SAC. These will be discussed further at, respectively, Sections 2, 3 and 4.

The Oxford Local Plan

1.17 For the HRA of the Core Strategy, Natural England recommended that the effects of the plan be categorised in the form of a schedule. This approach has been adopted for the Oxford Local Plan 2036. This allows policies with no negative effect on European sites to be eliminated (screen out) from further appraisal, so that the appraisal can concentrate on those policies with possible effects.

1.18 The schedule previously applied by the City Council is as follows:

[5] Raised at a an HRA workshop for the Oxford Core Strategy
[6] Available at: http://jncc.defra.gov.uk/protectedsites/sacselection/n2kforms/UK0012845.pdf
[7] Available at: http://publications.naturalengland.org.uk/publication/4942743310696448

A – Policies or proposals cannot have any negative impact
B – Effects will be addressed in assessments "down the line", including project assessment under Regulation 48
C – Could have an effect, but would not be likely to have a significant (negative) effect (alone or in combination with other plans or projects)
D – Likely to have a significant effect alone and would require an Appropriate Assessment
E – Likely to have a significant effect in combination with other plans or projects and which require Appropriate Assessment of those combinations
F – Likely to have a significant effect, alone or in combination with other plans or projects, but which would not adversely affect the integrity of a European site
G – Likely to have a significant effect, alone or in combination with other plans or projects, and for which it cannot be ascertained that they would not adversely affect the integrity of a European site

1.19 Table 2.2a of the screening report (Appendix A) shows the results of applying the schedule to the Local Plan preferred options, with detailed explanations of the results. Table 1.2 is based on the findings of the screening report, and does not repeat the detailed findings. However it adds a category:

M – Policy that acts as an avoidance or mitigation measure for impacts on the integrity of the SAC

Table 1.3 does the same, but related to development sites allocated in the Local Plan.

Table 1.2 - Key environmental considerations that could affect the integrity of the Oxford Meadows SAC as a result of a policy in the Oxford Local Plan

	Recreational	Hydro. regime	Water quality	Air quality
2. ECONOMY				
E1 Employment sites	A	A	A	A
E2 Teaching and research	A	A	A	A
E3 New academic floorspace	A	A	A	A
E4 Opportunities for local	A	A	A	A
3. HOUSING				
H1 Scale of housing prov.	D	D	D	D
H2 Affordable housing	A	A	A	A
H3 Employer-linked	A	A	A	M
H4 Mix of dwelling sizes	A	A	A	A
H5 Loss of dwellings	A	A	A	A
H6 HMOs	A	A	A	A
H7 Community-led and self	A	A	A	A
H8 New student accommodat	A	A	A	M
H9 Linking delivery of new	A	A	A	A
H10 Accessible & adaptable	A	A	A	A
H11 Older person	A	A	A	A
H12 Travelling community	A	A	A	A
H13 Boat dwellers	D	A	A	A
H14 Privacy, daylight	A	A	A	A
H15 Internal space standards	A	A	A	A
H16 Outdoor amenity space	A	A	A	A
4. RESOURCES AND ENVIRONMENT				
RE1 Sust design & construc	A	A	A	A

Table 1.2 - Key environmental considerations that could affect the integrity of the Oxford Meadows SAC as a result of a policy in the Oxford Local Plan				
	Recreational	**Hydro. regime**	**Water quality**	**Air quality**
RE2 Efficient use of land	A	A	A	A
RE3 Flood risk management	A	M	A	A
RE4 Sustainable urban drainage	A	M	M	A
RE5 Health, wellbeing, HIA	A	A	A	A
RE6 Air quality	A	A	A	M
RE7 Managing impact	A	A	A	A
RE8 Noise and vibration	A	A	A	A
RE9 Contaminated land	A	A	A	A
5. GREEN SETTING				
G1 Protect of blue, green	A	A	A	A
G2 Protect of biodiversity	A	A	A	A
G3 Green Belt	A	A	A	A
G4 Allotments, food grow	A	A	A	A
G5 Outdoor sports	A	A	A	A
G6 Residential garden land	A	A	A	A
G7 Other green/open space	A	A	A	A
G8 Protect existing GI	A	A	A	A
G9 New and enhanced GI	M	A	A	A
6. HERITAGE				
DH1 High quality design	A	A	A	A
DH2 Views & building heights	A	A	A	A
DH3 Desig heritage assets	A	A	A	A
DH4 Archaeologic. remains	A	A	A	A
DH5 Local Heritage Assets	A	A	A	A
DH6 Shopfronts and signs	A	A	A	A
DH7 External servicing feat	A	A	A	A
7. EFFICIENT MOVEMENT				
M1 Prioritising walking, cycling	D	A	A	M
M2 Assess & manage devel	A	A	A	A
M3 Motor vehicle parking	A	A	A	M
M4 Electric charging points	A	A	A	M
M5 Cycle parking	A	A	A	A
8. RETAIL, COMMUNITY AND INFRASTRUCTURE				
V1 Vitality of centres	A	A	A	A
V2 Shop frontages City Centre	A	A	A	A
V3 Covered Market	A	A	A	A
V4 Shop frontages district local cent	A	A	A	A
V5 Sustainable tourism	A	A	A	A
V6 Cultural/social activities	A	A	A	A
V7 Infrastructure & communit	A	A	A	A
V8 Utilities	A	A	A	A

Table 1.3 - Key environmental considerations that could affect the integrity of Oxford Meadow SAC as a result of a site allocation in the Oxford Local Plan*				
	Recreational	**Hydro. regime**	**Water quality**	**Air quality**
SP1 Sites in West End	A	A	A	All contributing jointly as part of increase in housing numbers, and associated increased traffic on the A34 and
SP2 Osney Mead	D	A	A	
SP3 Cowley Centre	A	A	A	
SP4 Blackbird Leys Central	A	A	A	
SP5 Summer Fields School	A	D	D	
SP6 Diamond Place & Ewert Hous	D	D	D	
SP7 276 Banbury Road	D	D	D	
SP8 Unipart	A	A	A	

Table 1.3 - Key environmental considerations that could affect the integrity of Oxford Meadow SAC as a result of a site allocation in the Oxford Local Plan*				
SP9 Oxford BMW Mini plant	A	A	A	A40
SP10 Oxford Science Park	A	A	A	
SP11 Oxford Business Park	A	A	A	
SP12 Sandy Lane Recreat. Ground	A	A	A	
SP13 Northfield Hostel	A	A	A	
SP14 Edge of … Oxford Academy	A	A	A	
SP15 Kassam Stadium	A	A	A	
SP16 Knights Road	A	A	A	
SP17 Gov't bldgs & Harcourt Hou	A	A	A	
SP18 Headington Hill Hall	A	A	A	
SP19 Land su St Clements Church	A	A	A	
SP20 Churchill Hospital site	A	A	A	
SP21 Nuffield Orthopaedic Centre	A	A	A	
SP22 Old Road campus	A	A	A	
SP23 Warneford Hospital	A	A	A	
SP24 Marston paddock	A	A	A	
SP25 St. Frideswide Farm	D	D	D	
SP26 Hill View Farm	A	A	A	
SP27 Land west of Mill Lane	A	A	A	
SP28 Park Farm	A	A	A	
SP29 Pear Tree Farm	D	D	D	
SP30 Land east of Redbridge P&R	A	A	A	
SP31 St Catherine's College land	A	A	A	
SP32 Banbury Rd university sites	A	D	D	
SP33 Bertie Place recreat ground	A	A	A	
SP34 Canalside land	D	A	A	
SP35 Court Place gardens	A	A	A	
SP36 Cowley Marsh depot	A	A	A	
SP37 Faculty of Music, St Aldate's	A	A	A	
SP38 Former Barns Rd E allotmen	A	A	A	
SP39 Former Iffley Mead playing f	A	A	A	
SP40 Grandpont car park	A	A	A	
SP41 Jesus College sports ground	A	A	A	
SP42 John Radcliffe Hospital site	A	A	A	
SP43 Land at Meadow Lane	A	A	A	
SP44 Lincoln College sports groun	A	A	A	
SP45 Littlemore Park	A	A	A	
SP46 Manor Place	A	A	A	
SP47 Manzil Way	A	A	A	
SP48 Nielsen, London Road	A	A	A	
SP49 Old power station	D	A	A	
SP50 Oriel College land	A	A	A	
SP51 Oxford Brookes Marston Rd.	A	A	A	
SP52 Oxford Stadium	A	A	A	
SP53 Oxford Univ Press sports gr	A	D	D	
SP54 Pullens Lane	A	A	A	
SP55 Radcliffe Observatory Quart	A	D	D	
SP56 Ruskin College campus	A	A	A	
SP57 Ruskin Field	A	A	A	
SP58 Slade House	A	A	A	
SP59 Summertown House, Apsley	A	D	D	
SP60 Union Street car park	A	A	A	
SP61 Univ of Oxford science area	A	A	A	
SP62 Valentia Rd	A	A	A	
SP63 West Wellington Sq	A	A	A	
SP64 Wolvercote paper mill	D	D	D	
SP65 Bayards Hill primary school	A	A	A	
SP66 William Morris Close sports	A	A	A	

* Based on HRA screening report for Oxford Local Plan 2036

2. Recreational impacts

2.1 Creeping marshworth (*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 as a result of the Local Plan 2036 could own dogs, and those dogs could potentially have a significant impact on the integrity of the Oxford Meadows SAC. As such, it could be negatively affected by an increase in Oxford's population, as projected by policy H1; the policy on boat dwellers H13; and some proposed housing sites.

2.2 Public consultation carried out by Scott Wilson as part of their 'Oxford City Green Space Study' revealed that residents of Oxford are generally willing to walk approximately 1900m to large green spaces[8]. As such, where a proposed development site is over 1900m away, the site has been screened out for recreational impacts. Non-residential sites within the 1900m buffer have also been screened out, as only residential development is likely to lead to an increase in dog-walkers at the SAC.

2.3 Figure 2.1 and Table 2.1 show those residential sites proposed in the Oxford Local Plan that are within 1900m of the Oxford Meadows SAC. The table also shows the type of accommodation proposed for each site.

[8] At the Thames Basin Heaths SPA – which hosts three species of birds that are sensitive to recreational impacts, notably dogs - visitors arriving on foot were found to tail off rapidly after 1.5km. A correlation of urban development and nightjar (one of the birds) populations was found up to 800m. The assessor at the Examination in Public for the South East Plan suggested that a pragmatic zone for visitors arriving by foot would be 1km, and visitors arriving by car would be 5km. As such, this analysis is quite precautionary compared to a more actively studied SPA affected by recreational visits. Burley P. (2007) *Assessor's Report on Thames Basin Heaths SPA and the Draft Delivery Plan*.

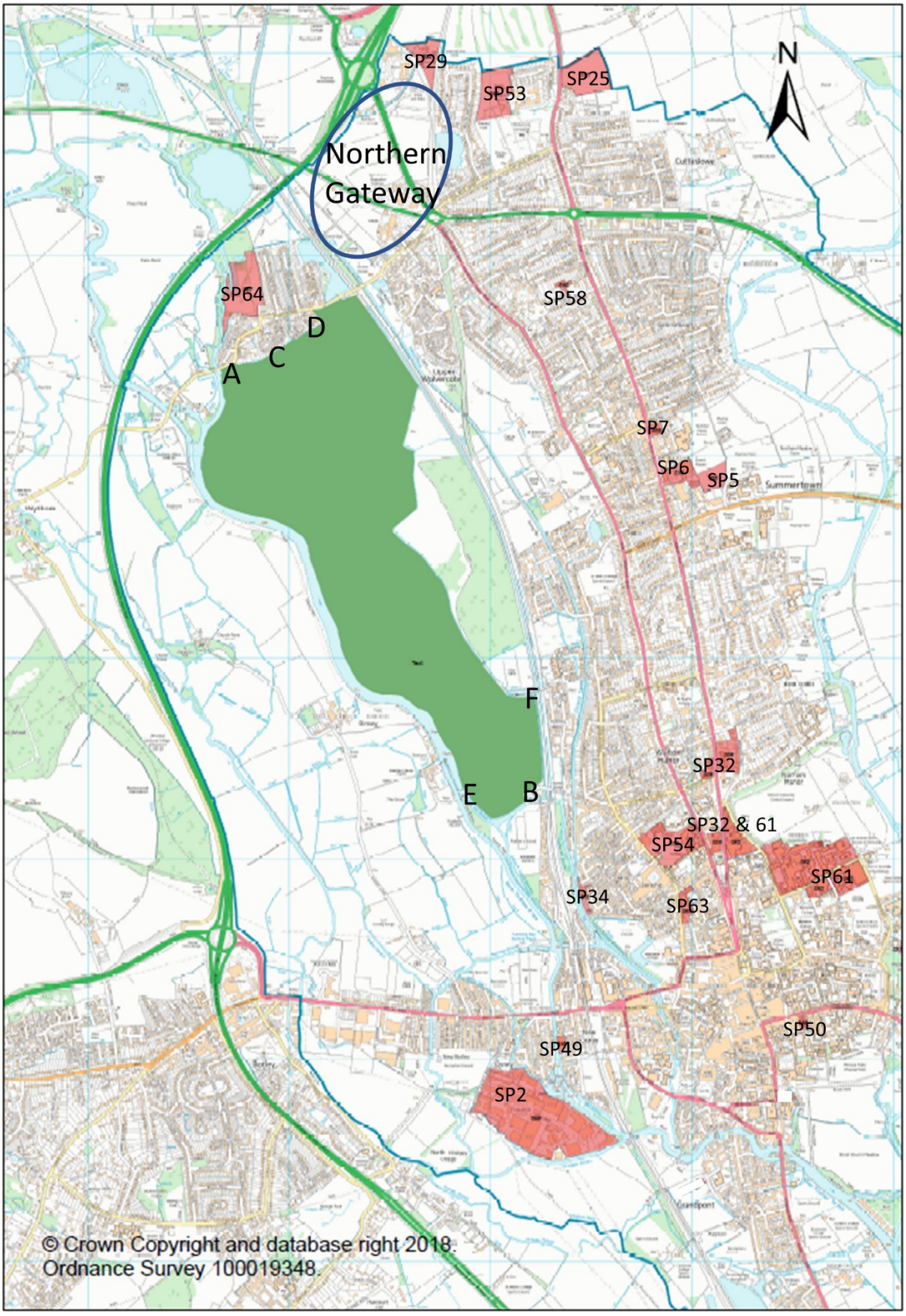


Figure 2.1 Access points to the Oxford Meadows SAC (A-F) and residential sites proposed within 1900m of the SAC (SPxx)

Table 2.1 Residential sites proposed within 1900m of Oxford Meadows SAC			
Site Name	**Distance from SAC (m)**	**No. dwellings**	**Type of accommodation**
SP64 Wolvercote Paper Mill	120	190	'Residential'
SP34 Canalside Land, Jericho	510	22	'Residential'
SP55 Radcliffe Observatory Quarter	560	68	Student, employer-linked
SP32 Banbury Road University Sites	794	80	Student, employer-linked
SP59 Summertown House, Apsley Rd	844	10	Student, employer-linked
SP61 Univ of Oxford Science Area etc.	927	10	Student
SP63 West Wellington Square	890	28	Student, employer-linked
SP53 OUP Sports Ground, Jordan Hill	1,062	55	'Residential'
SP29 Pear Tree Farm	1,069	122	'Residential'
SP49 Old Power Station	1,129	0*	Student, residential
SP7 276 Banbury Road	1,212	35	Housing, student
SP6 Diamond Place & Ewert House	1,238	130	'Residential'
SP2 Osney Mead (Whole Site)	1,240	280	Student, empl-link, market
SP5 Summerfields School athletics site	1,371	120	'Residential'
SP25 St Frideswide Farm	1,477	178	'Residential'
SP50 Oriel College land at King Edward	1,740	7	Student, residential
		1335	

* This number is correct. The landowner has only expressed an interest for short stay residential.

2.4 As recommended by Natural England, a visitor survey to inform this HRA was carried out on six days in October 2017, resulting in 575 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 B** shows the results of the visitor survey in full, and they are summarised at Table 2.2. The survey replicates a similar survey carried out in 2011, which resulted in 332 interviews and had broadly similar findings[9].

Table 2.2 Summary of visitor survey	
Total number of visitors recorded during this survey	1,343
Number of surveyed access points	2
Mean number of visitors per surveyed access point	671
Number of hours of surveying per access point	48
Total number of access points to the SAC	6

2.5 In order to interpret the survey data and project the total number of visitors to the site, the calculation shown in Table 2.3 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.

[9] The October 2011 survey, taken at the same two car parks, showed a higher percentage – 74% as opposed to 67% in 2017 - of visitors coming from OX1 and OX2 postcodes; a similar percentage (38.5 v. 40%) of dog walkers; and more average visits per year (5.8 v. 4.4).

Table 2.3 Projected visitor numbers based on visitor survey			
	Calculation/reference	**Result**	
Total number of visits over survey period	From survey data	A	1,343
Percentage of visits over survey period from within postcode sectors OX1 and OX2[1]	From survey data	B	66.7%
Projected total number of visits, per annum	See Note 2	C	Max 429,240
Projected total number of visits from within postcode sectors OX1 and OX2, per annum	(C÷100) x B	D	286,423
Population of postcode sectors OX1 and OX2	2011 Census	E	65,318
Projected visits per head of OX1 and OX2 population, per annum	D ÷ E	F	Max 4.4[3]
Projected future population arising from new potential development	See Note 4	G	Max 3,204 Potential to own dogs 2,403
Projected visits per annum arising from projected future population	G x F	H	10,573 – 14,098
% of projected future visits, as it relates to current projected total visits	(H÷C) x 100	I	**2.5 – 3.3%**
Projected future population arising from *'in-combination impacts'*	Add to G Northern Gateway 500 homes = 1200 population	J	4,404
Projected visits per annum arising from projected future *'in-combination impacts'* population	F x J	K	Max 19378
% of projected *'in-combination impacts'* visits, as it relates to current projected total visits	(K÷C) x 100	L	**Max 4.5%**

1. This broadly represents a 1900m radius around the Oxford Meadows SAC
2. Mean number of visitors per surveyed access point per hour = 671/48 = 14
Total active hours in day (06:00-20:00) = 14
Projected mean number of visitors per surveyed access point, per day = 14 x 14 = 196
Projected mean number of visitors per surveyed access point, per year = 196 x 365 = 71,540
If all 6 access points had similar number of visitors, then projected total number of visits, per year = 429,240
3. This maximum includes small children, elderly people etc.; the most likely number is less than this.
4. Average household size in Oxford at the time of the 2011 Census was 2.4. Maximum number of homes proposed (1,335 – from Table 2.1) x 2.4 people per home = 3,204 people. Removing students and academic employer-linked accommodation, assuming these comprise 25% of new residents, would result in 2,403 future population that could own dogs.

2.6 Table 2.3 suggests that, as a result of the Local Plan, the Oxford Meadows SAC could see an increase of 10,573 - 14,098 visits, representing a 2.5 - 3.3% 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[10]. If visits by residents of Northern Gateway are added, 'in combination', then the increase would be a maximum of 4.5%.

[10] There are 6 access points to Oxford Meadows, shown at Figure 2.1: 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. The two car parks (A and B) were used as survey

2.7 It is, however, not visitor numbers that are the potential problem, but the impact of dog fouling on the *Apium repens*. A report of 2007 estimated that dog ownership in Oxford was a maximum of 24%[11]. The survey results showed that 47% of groups visiting the SAC came with a dog, and 40% of respondents came with the main purpose of dog walking. Clearly, dog walkers are more likely to visit the SAC, and probably more likely to visit on a daily basis, than other visitors. This would rebalance the numbers above in the opposite direction.

2.8 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 20-30% 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 2036 establishes some mitigation measures especially to reduce recreational impacts on the SAC. The subsequent paragraphs consider each of the sites listed in Table 2.1 with respect to these points.

2.9 **SP64 Wolvercote Paper Mill** is for about 190 dwelling units and open space, and is located about 120m north of the SAC. Access to the SAC is easy with three access points within 400m of the site. Policy SP64 notes that

> *"Proposals will be expected to create extensive new public space for the site and the local community on Plot B. This will reduce recreational pressure on the SAC… Development proposals should be accompanied by an assessment of potential recreational pressure on the SSSI that may arise from increased numbers of visitors, along with plans to mitigate this impact as necessary."*

The new public space would be usable by not only the residents of the new development but also existing dog walkers who currently use the SAC.

2.10 **SP34 Canalside Land** is for a mixed use development incorporating approximately 22 dwellings, located 510m from the SAC on an attractive and direct route along the canal. Policy SP34 notes that

> *"Development proposals should be accompanied by an assessment of potential recreational pressure on the Oxford Meadows SAC that may arise from increased numbers of dog walkers, along with plans to mitigate this impact as necessary."*

The proposed development would be small, with a preponderance of flats which are likely to discourage dog ownership.

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points. This means that the survey results will, if anything, 1. be skewed towards arrivals by car, and 2. overestimate visitor numbers, as larger numbers are likely to arrive via the car parks than via other means.

[11] BMC Veterinary Research Vol. 3 (2007) Article entitled 'Factors associated with dog ownership and contact with dogs in a UK community' www.biomedcentral.com/1746-6148/3/5.

2.11 **SP55 Radcliffe Observatory Quarter Site, SP32 Banbury Road University Sites, and SP59 Summertown House** are all located between 500m and 850m from the SAC, and are proposed for a combination of academic institutional, student accommodation and employer-linked housing. Together, they are likely to lead to roughly 158 new dwellings. However students and academic employer-linked housing is unlikely to generate any significant amount of dog-walking activity. Policy SP55 also notes that

> *"Development should be designed to ensure that there is no adverse impact on the Oxford Meadows SAC. Proposals should be accompanied by an assessment of potential recreational pressure on the Oxford Meadows SAC that may arise from increased numbers of dog walkers, along with plans to mitigate this impact as necessary."*

2.12 **SP61 University of Oxford Science Area and Keble Road Triangle** is for a large site that would be primarily academic institutional and research. The site may include a small number of dwellings – the plan assumes 10 – but these would be for students or academics, and are unlikely to generate any dog walking activity. The site also adjoins University Park, which is much more likely to attract recreational activity from this site than Oxford Meadows SAC.

2.13 **SP63 West Wellington Square** is proposed for academic institutional, student accommodation and employer-linked housing: the plan assumes 28 dwellings for the site. Again, the housing would be for students and academics, and so would generate limited, if any, dog walking activity. University Park is also more accessible to West Wellington Square than is Oxford Meadows SAC.

2.14 **SP53 OUP Sports Ground, SP29 Pear Tree Farm and SP25 St Frideswide Farm** are all more than 1km from the SAC to the north-east. Together they would provide roughly 350 dwellings. All three sites are expected to provide at least 10% of their land as new public open space, which would be usable by not only the residents of the new development but also dog walkers who currently use the SAC. For SP25 and SP53, Cutteslowe Park provides a much more accessible larger recreational area than does the Oxford Meadows SAC: Cutteslowe Park can be accessed by quiet side-roads, whereas accessing the SAC would entail crossing the very busy Wolvercote roundabout. SP29 is currently surrounded by A roads and the railway line. Residents of SP29 would exercise their dogs on the 10% of the site that is public open space, or would drive to Cutteslowe Park or the SAC: they are the only residents in this cluster of sites who are likely to regularly use the SAC to exercise their dogs.

2.15 **SP49 Old Power Station** would at most provide a few dwellings, and dog walkers are much more likely to head south along Mill Stream than to the SAC.

2.16 **SP7 276 Banbury Road, SP6 Diamond Place and Ewert House and SP5 Summerfields School athletics site** are clustered 1,200-1,250m east of the SAC as the crow flies. Together they would provide roughly 285 dwellings. They would not be expected to provide any new open space, and they would not be primarily for students or employment-linked. However they are nearly 2km from the SAC by

foot (via the Aristotle Road bridge) or 3km by car (Walton Well Road car park), including the need to cross the often-busy Banbury and Woodstock roads. Sunnymead Recration Ground to the north and the footpath along the River Cherwell to the west are more likely to attract dog walkers from these sites than the SAC.

2.17 **SP2 Osney Mead** would provide about 280 dwellings – a mixture of student accommodation, employer-linked accommodation and market housing – about 1,240m south of the SAC. The student housing is unlikely to generate dog walking visits, but the other accommodation might. However Osney Mead is adjacent to an extensive set of publicly-accessible fields heading towards South Hinksey, and access to those fields will be further enhanced as part of the Oxford flood alleviation scheme. Access to the SAC is possible via a 2km drive up Binsey Lane and then an 800m walk via the Rainbow Bridge, but residents are unlikely to do this on a regular basis.

2.18 **SP50 Oriel College land** would provide only about 7 dwellings, for students, with Christ Church Meadow very close by and an obvious place for dog walking.

2.19 **Policy H13 Homes for boat dwellers** would grant planning permission for new residential moorings on Oxford's waterways where these fulfil certain criteria. One of these is that the biodiversity of nearby nature conservation sites will be maintained or enhanced. Oxford Meadows SAC lies close to the Oxford Canal, and there is the potential that dog owners could acquire some of the new residential moorings. However, the number of new moorings is likely to be very limited; and the owners are more likely to exercise their dogs along the canal than at the SAC.

2.20 In summary, the nearest proposed development sites would provide new publicly accessible open space that would provide new dog walking areas for existing as well as new residents, and which could thus draw some existing dog walkers away from the SAC. Development sites further away are either primarily for students and academic employment-linked dwellings, or are in areas where dog walkers are better served by other, nearer parks. The new residents most likely to use the SAC for dog walking in any numbers are from SP64 Wolvercote Paper Mill because of the nearness of the SAC, and SP29 Pear Tree Farm because of the dearth of other options available.

In combination effects

2.21 The HRA for the Northern Gateway Area Action Plan calculated that an additional 1.36% of new visits would be made to the SAC as a result of the proposed 500 new homes in the AAP. The AAP also requires that 15% of that site should be green public open space, which is likely to further reduce the number of visits.

2.22 There is no indication that current visitor numbers have a detrimental effect on the condition of *Apium repens* at Oxford Meadows SAC. Indeed, the JNCC listing for

the SAC[12] shows the *Apium repens* to have excellent population, conservation status, and global grade. As such, **recreational (dog fouling) impacts on the SAC will be minimal, and will not affect the integrity of the SAC**.

3. Balanced hydrological regime

3.1 "Three main sources of water to the meads have been identified to support the plant communities on the Oxford Meadows SAC. These are direct rainfall, surface water, and groundwater flowing in from outside the area. Any of these sources, or a combination, may contribute to the soil water, which supports the plant communities on the meads" [13].

3.2 The HRAs for the previous Development Plan Documents in Oxford ruled out the likelihood of impacts on the SAC from surface water and direct rainfall. The HRA for the Core Strategy explained that the abstraction licence for Farmoor Reservoir at present does not impact on the SAC, and no increases to this abstraction licence are proposed. As such the amount of surface water is likely to remain the same throughout the Local Plan period.

3.3 The HRA Screening Report for the Draft Drought Plan (2016)[14] for Thames Water confirms that no likely significant effects are anticipated from the construction or operation of the Farmoor drought option on the Oxford Meadows SAC, either alone, or in combination with other licences and consents.

3.4 Figure 3.1 shows the location of the North Oxford Gravel Terrace in relation to the Oxford Meadows SAC. It should be read in conjunction with Figure 3.2 to provide the locational context of the direction of groundwater movement on the North Oxford Gravel Terrace.

3.5 Figure 3.2, taken from the Core Strategy HRA, shows the geology of Oxford, including the Oxford Meadows SAC. It also shows a conceptual model of groundwater flow for Oxford including the area surrounding the Oxford Meadows SAC. The model in Figure 3.2 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.

[12] http://jncc.defra.gov.uk/protectedsites/sacselection/n2kforms/UK0012845.pdf
[13] A. Dixon (2005) The Hydrology of Oxford Meadows
[14] Available at: https://corporate.thameswater.co.uk/About-us/Our-strategies-and-plans/Our-drought-plan/Drought-plan-update-2017

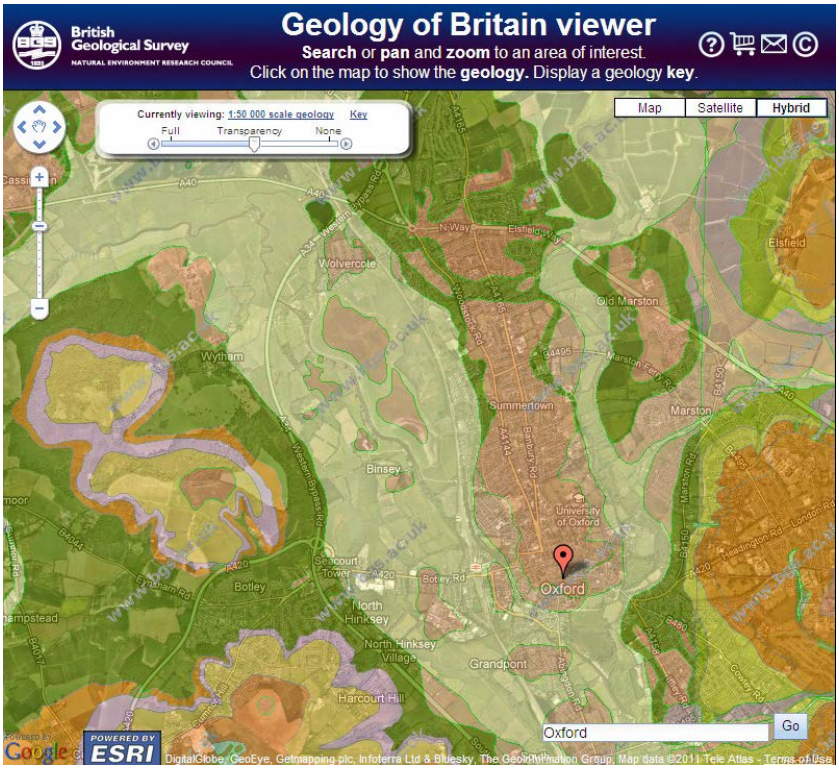

Figure 3.1 North Oxford Gravel Terrace and Port Meadow within the context of Oxford.
(Reproduced with the permission of the British Geological Survey © NERC. All rights Reserved')

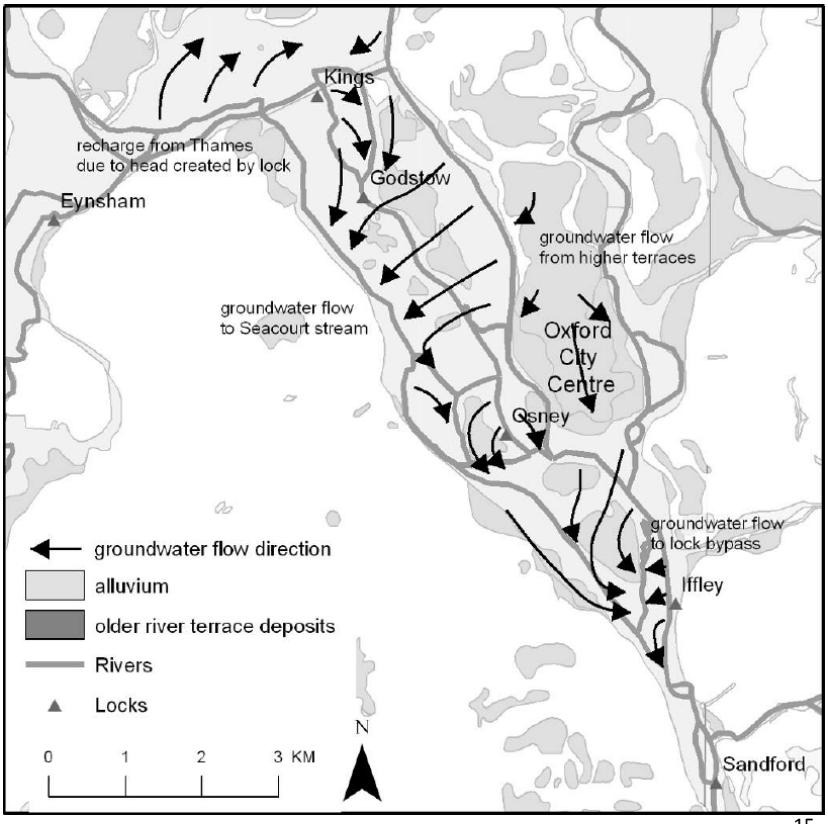

Figure 3.2 - Conceptual groundwater flow model for Oxford[15]

[15] D MacDonald *et al*. (2007) Investigating the Interdependencies between surface and groundwater in the Oxford area to help predict to timing and location of groundwater flooding and to optimise flood mitigation measures. Presented at the 42nd Flood and Coastal Management Conference, York, 2007.

3.6 As an additional protection, Policy RE4 of the Oxford Local Plan 2036 states (the most important section is highlighted in blue):

> **Policy RE4: Sustainable urban drainage, surface and groundwater Flow**
>
> … Surface and groundwater flow and groundwater recharge:
>
> Planning permission will not be granted or development that would have an adverse impact on groundwater flow. The City Council will, where necessary, require effective preventative measures to be taken to ensure that the flow of groundwater will not be obstructed.
>
> Within the surface and groundwater catchment area for the Lye Valley SSSI development will only be permitted if it includes SuDS and where an assessment can demonstrate that there will be no adverse impact on the surface and groundwater flow to the Lye Valley SSSI.
>
> **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 hydrological survey can demonstrate that there will be no significant adverse impact upon the integrity of the SAC.**

Policy RE3 on flood risk management also aims to minimise new development in the flood zone, helping to maintain water levels at the SAC.

3.7 The three development sites that are closest to the SAC – see Figure 2.1 and Table 2.1 – also have specific requirements regarding hydrology and water quality. Policy SP64 Wolvercote Paper Mill includes a requirement that:

> *"The City Council's Appropriate Assessment has shown that development on this site must incorporate sustainable drainage to avoid an impact on groundwater flows to the SAC. A hydrological survey must accompany a planning application to show that the development has been designed to avoid adverse impacts on groundwater flows."*

3.8 Policy SP34 Canalside Land includes a requirement that:

> *"A planning application must be accompanied by a site-specific assessments for flood risks, groundwater and surface water impacts. Proposals must also incorporate any necessary mitigation measures."*

3.9 Policy SP55 Radcliffe Observatory Quarter includes a requirement that:

> *"Applicants will be required to demonstrate that there is adequate waste water capacity both on and off the site to serve the development and that it would not lead to problems for existing or new users."*

In combination effects

3.10 The Habitat Regulations Assessment for the Northern Gateway AAP[16] (see Figure 2.1) was based on a full hydrological statement. The statement noted that an area along the southernmost portion of the AAP land is likely to contribute to the groundwater regime affecting the SAC.

> "*However, the recharge area of the Alluvial Ribbon on the site compared to groundwater catchment of the river valley is miniscule and the overall contribution of the Alluvial Ribbon to the groundwater regime of the river valley as a whole is considered to be insignificant*."

The HRA concluded that the Northern Gateway AAP would have no impact on the SAC.

3.11 The Environment Agency's flood alleviation scheme for Oxford, which will create a flood relief channel downstream of the SAC, may affect the flooding regime of the River Thames. Figure 3.3 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**.

Figure 3.3 Oxford flood alleviation scheme in relation to the Oxford Meadows SAC ('Port Meadow')

[16] https://www.oxford.gov.uk/download/downloads/id/1443/northern_gateway_aap_habitat_regulations_assessment.pdf.

4. Water quality

4.1. Thames Water Utilities Limited provides water and wastewater services to the 'Swindon and Oxfordshire' (SWOX) area – see Figure 4.1. No water quality figures for Oxford exist. However the ecological status of rivers in the Thames River Basin as a whole in 2016 was:

Good or better 6%
Moderate 66%
Poor 25%
Bad 5%
Fail 2%

By 2027, this is expected to have improved significantly, with most of the surface water bodies in the catchment being of good or better ecological status[17].

4.2. Thames Water has produced a catchment management plan[18] which discusses how the sewage network in the Oxford catchment will be improved so that it can cope with current and future demands. In the short term, this will involve implementing solutions at critical locations across the catchment. In the medium term, this will include the refurbishment of the local sewerage network to reduce pollution and foul sewer flooding.

4.3. In July 2018, consultants Wallingford HydroSolutions completed a Water Cycle Study[19] for Oxford City Council to support the Oxford Local Plan 2036. The study aimed to identify in a holistic sense, and if possible to quantify, the capacity of all water-related infrastructure and the wider environment within the city to support new housing and commercial developments. The study covered:

- Environmentally, economically and licenced availability of water resources for abstraction and use
- Flood risk arising from further development
- Sewerage treatment and disposal (subdivided into environmental and infrastructural capacity
- Other environmental considerations and constraints to development.

4.4. The Water Cycle Study assessed two scenarios for growth in Oxford: a lower growth scenario of 8,000 dwellings and a higher growth scenario of 12,000 dwellings throughout the plan period. It also assessed the impacts of 37 specific housing sites.

4.5. The study concluded that the 2014 upgrading of the sludge stream at the Oxford sewage treatment works (STW)[20] provides the additional sludge treatment capacity required for the growth in population envisaged by the Local Plan 2036. However it

[17] https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/6/Summary.
[18] https://www.thameswater.co.uk/-/media/Site-Content/Thames-Water/Corporate/AboutUs/Investing-in-our-network/Sewerage-catchment-studies/2018-catchment-plans/Oxford-catchment-plan.pdf
[19] Wallingford HydroSolutions Limited (2018) Phase 1 Oxford City Water Cycle Scoping Study.
[20] The STW is located downstream of the SAC, at Littlemore

also noted that the storm overflow component of the STW is close to capacity, and that, in addition to action by Thames Water, the Local Plan should promote the use of Sustainable Drainage Systems (SuDS) to ensure that development does not affect or has minimal impact on water quality or flow regimes.

4.6. Policy RE4 of the Oxford Local Plan 2036 states:

> **Policy RE4: Sustainable urban drainage, surface and groundwater flow**
>
> All development proposals will be required to manage surface water through Sustainable Drainage Systems (SuDS) or techniques to limit run-off and reduce the existing rate of run-off on previously developed sites[21]. Surface water runoff should be managed 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.
>
> Details of the SuDS shall be submitted as part of a drainage strategy or FRA where required. Applicants must demonstrate compliance with the SuDS Design and Evaluation Guide SPD/ TAN for minor applications and Oxfordshire County Council guidance for major development…

4.7. No infrastructure concerns are envisaged in terms of waste water for the majority of sites, and the existing network has sufficient capacity to support the new developments. However, of the 37 housing sites that were considered in the July 2018 water cycle study, eight are of a scale that is likely to require upgrades to the wastewater network. Of these eight, five are still in the Local Plan: SP4 Blackbird Leys central area, SP23 Warneford Hospital, SP44 Lincoln College Sports Ground, SP45 Littlemore Park, and SP53 Oxford University Press Sports Ground.

4.8. In August 2018, Hydrosolutions were asked to consider the other sites that are coming forward in the Local Plan. The consultants plotted the new sites relative to those which had previously been assessed, based on their professional judgement. Figures 4.1 and 4.2 show both the originally assessed sites and the additional housing sites, using a traffic light (red, amber, green) approach. Although Thames Water's assessment suggests that most areas of Oxford have capacity to accept more housing in terms of wastewater infrastructure, some areas may require upgrades.

4.9. The consultants also noted that, given that most of their original assessment was based on higher dwelling projections than are expected in practice – 12,000 rather than the 8,620 proposed in the Local Plan – "the newer sites would only have an impact on the conclusions [of the original study] if they result in dwelling numbers far in excess of 12000".

[21] Oxford City Council – reference to follow once published on website

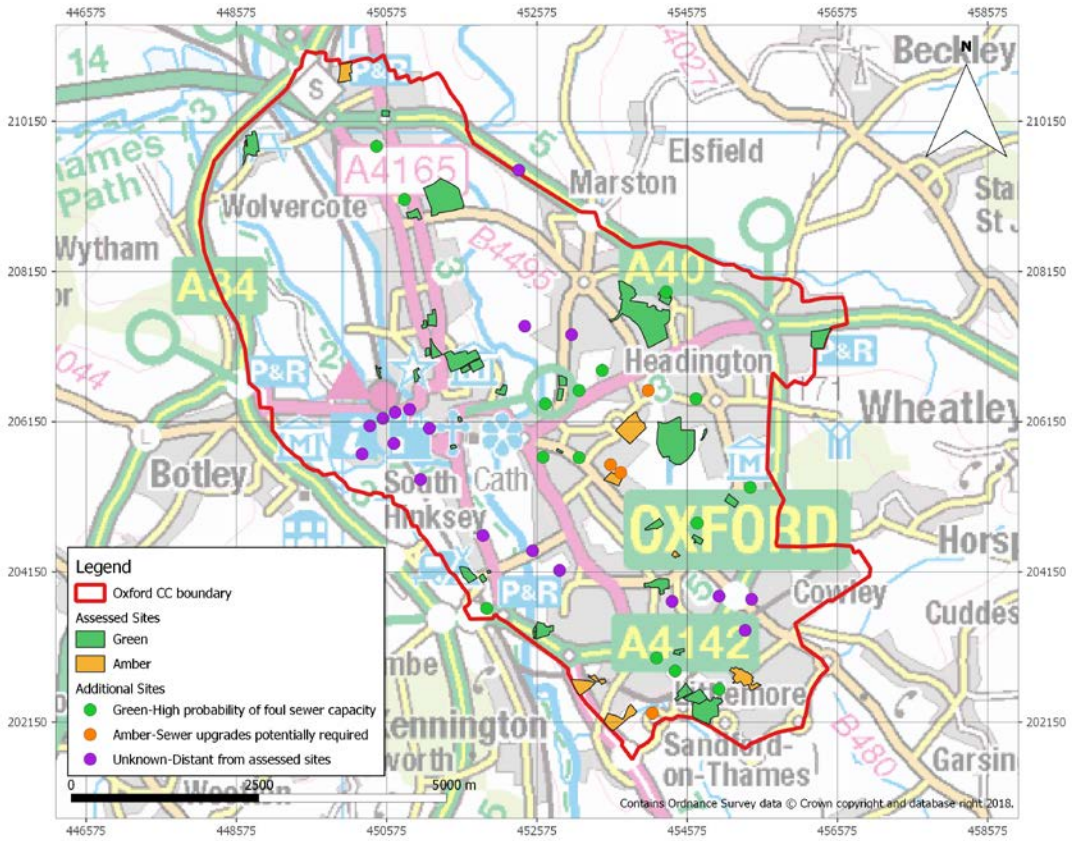

Figure 4.1 Implications of sites in Oxford on the Foul Water Network

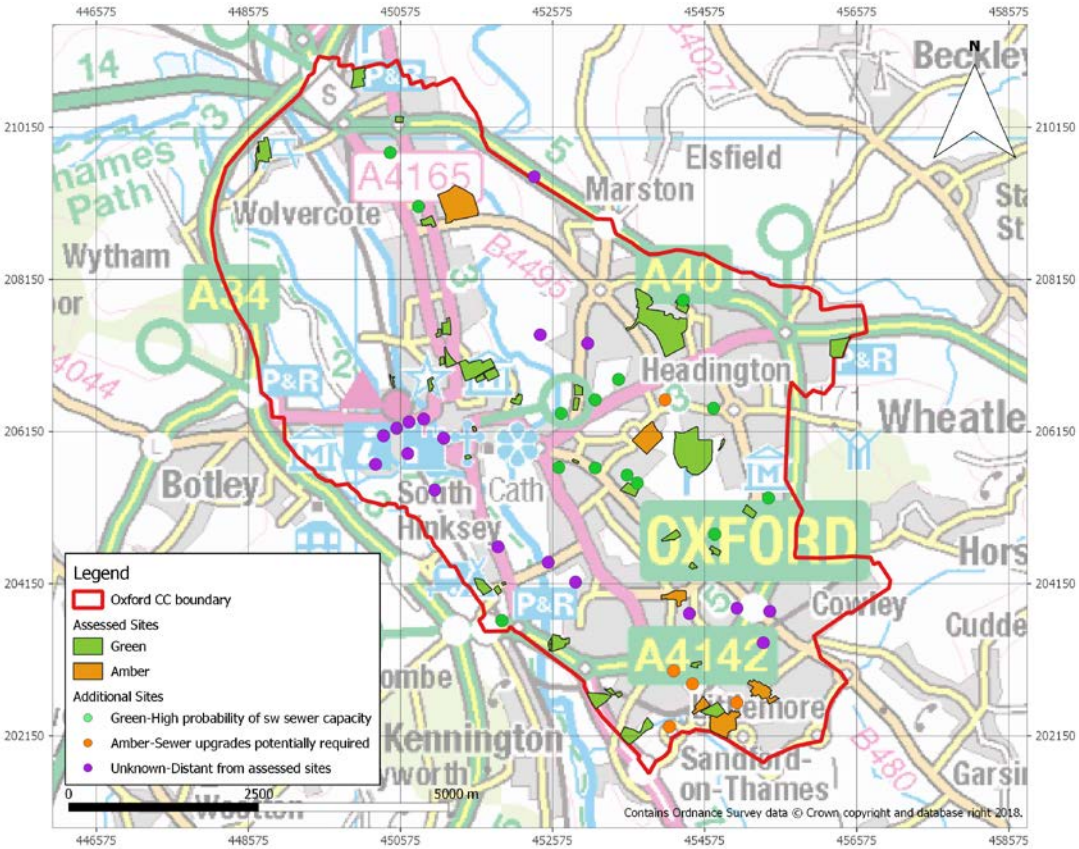

Figure 4.2 Implications of sites in Oxford on the Surface Water Network

4.10. The consultants do note that "this isn't 100% accurate and for some areas such as Botley we don't have enough information to make even a rough assessment", accounting for the purple dots on the west side of Figure 4.1. However, Figure 4.1 clearly shows that those proposed development sites that are upstream of the Oxford Meadow SAC, and that could potentially affect water quality at the SAC through foul water, are – with the exception of SP29 Pear Tree Farm – unproblematic with respect to foul water that could affect the SAC. Policy SP29 includes a requirement that the developer will gain agreement with Thames Water about foul water before development is permitted.

4.11. The only site upstream of the Oxford Meadows SAC that could potentially affect water quality at the SAC through surface water is SP5 Summer Fields School playing field. However that site is more than 1km from the SPA, and any surface water is likely to go to the River Cherwell, which discharges into the River Thames downstream of the SAC. The three sites that are closes to the SAC

4.12. Together, the water cycle study and subsequent analysis by Hydrosolutions confirms that **the Oxford Local Plan 2036 will not affect the integrity of the Oxford Meadows SAC in terms of water quality**.

In combination effects

4.13. The other Oxfordshire authorities' water cycle studies – listed at Table 4.1 - conclude that there are some constraints for development planned to 2030 in terms of wastewater treatment works (WWTW). For instance in Cherwell District Council seven of the 12 WWTWs do not have sufficient flow capacity or treatment processes to accept all future development proposed to 2030 without upgrades; in South Oxfordshire there are concerns about 15 of the 16 WWTWs; in Vale of White Horse 10 of the 13 works are insufficient for the works proposed to 2030; and in West Oxfordshire the Cassington WWTW is insufficient.

4.14. However these constraints are being taken into account by the local authorities, in discussions with Thames Water, and are not expected to act 'in combination' with the Oxford Local Plan 2036.

Table 4.1. Oxfordshire local authority water cycle studies

Local auth	Date of WCS	Website for WCS
Cherwell	Nov 2017	https://www.cherwell.gov.uk/download/downloads/id/4802/pr81-cherwell-water-cycle-study---november-2017.pdf
South Oxfordshire	Nov 2014	http://www.southoxon.gov.uk/sites/default/files/Water%20Cycle%20Study%20Phase%20I%20-%20S%20Oxfordshire%20District%20Council.pdf.
Vale of White Horse	March – Sep 2017	http://www.whitehorsedc.gov.uk/java/support/dynamic_serve.jsp?ID=923019311&CODE=923CCD62AAE90D5E9096D81C78BCF194 + addendum http://www.whitehorsedc.gov.uk/java/support/dynamic_serve.jsp?ID=923019312&CODE=923CCD62AAE90D5EF95E0A4D92A16B54 + update http://www.whitehorsedc.gov.uk/java/support/dynamic_serve.jsp?ID=923019312&CODE=923CCD62AAE90D5EF95E0A4D92A16B54
West Oxfordshire	Nov 2016	https://www.westoxon.gov.uk/media/1572197/ENV11-West-Oxfordshire-Water-Cycle-Study-Phase-1-Scoping-Study-November-2016-.pdf.

5. Air quality

Introduction

5.1. The Oxford Meadows SAC is susceptible to poor air quality, notably NO_x from the A34 and A40. Air pollution from vehicles drops off rapidly with distance from a road, and Natural England guidance suggests that it does not need to be assessed beyond 200m from the road[22]. A small portion of the A34 between Botley Interchange and Peartree Interchange bisects the Oxford Meadows SAC, and a small portion of the A40 between Oxford and Eynsham acts as the northern boundary to the hay meadows – see Figure 5.1. Those parts of the SAC that are further than 200m from the roads, including all of the southern part of the SAC, are not at risk.

5.2. The Air Pollution Information Service[23] (APIS) provides a searchable database and information on pollutants and their impacts on habitats and species. This database recognises that the Oxford Meadows SAC is sensitive to Nitrogen Deposition (N dep). APIS provides information relating to what is known as Critical Loads. Critical loads and levels are a tool for assessing the risk of air pollution impacts to ecosystems. The critical load for N dep at the Oxford Meadows is 20-30 kg N/ha/yr.

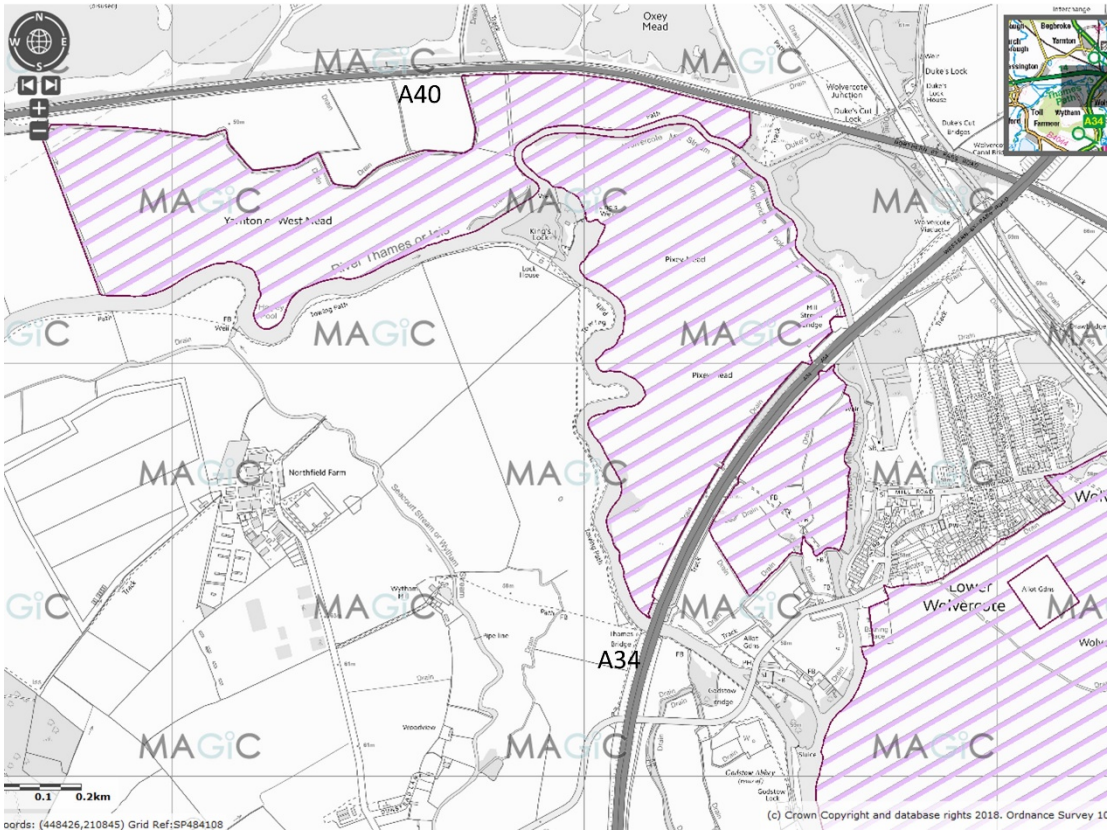

Figure 5.1 The A34 and A40 at the Oxford Meadows SAC

[22] Natural England (2018) *Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations.*

[23] http://www.apis.ac.uk/

5.3. NO_2 levels are reducing nationally as a result of tightening vehicle emission standards and other measures[24], and are expected to keep reducing. Natural England published a guidance note in June 2018 entitled "Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitat Regulations (NEA001)"[25]. This guidance sets a threshold for requiring appropriate assessment for a plan, instead of just being able to screen it out from further HRA work. The threshold is set at 1,000 annual average daily traffic (AADT), or greater than 1% of the critical load/level for the European site.

5.4. Natural England's guidance note also states, at p.10:

> *"Staff should be aware that, in accordance with Government's guidance on competent authority co-ordination when applying the Habitats Regulations, it is generally permissible for a competent authority to adopt, if it can, the assessment, reasoning and conclusions of another competent authority relating to the same plan or project, thus avoiding unnecessary duplication of effort. Staff, are therefore encouraged to advise competent authorities to first check, at an early stage, the extent to which this might apply in relation to assessing road traffic emissions from an individual proposal. For example, the likely effects of a development proposal might have already been considered by a HRA of a Local Plan made by the same or another competent authority."*

Previous HRA work

5.5. The Oxford Local Plan 2036 is one of several plans in Oxfordshire that propose development in locations that have the potential to increase vehicular traffic on the A34 and A40, and therefore air pollution that could affect the integrity of the SAC. Table 5.1 lists the HRAs carried out for these plans.

5.6. As part of the preparation of the most recent of these plans, Cherwell's Local Plan, Atkins produced a Memo[26] in August 2018. The Memo combines work undertaken by the Vale of White Horse (VoWH) and Cherwell district councils, and considers the likely 'in-combination' effects of traffic growth from all the Oxfordshire authorities on the Oxford Meadows SAC. The Memo uses a set of previously-agreed growth assumptions for all the Oxfordshire councils: for Oxford, it assumes that 6,695 dwellings will come forward in the period 2011-2031. Based on these assumptions, it generated traffic flow estimates using Oxfordshire County Council's Strategic Traffic Model. Based on the traffic flow estimates and dispersion modelling undertaken to support Cherwell District Council's Local Plan Part 1 Partial Review, it predicts the likely changes in both Oxides of Nitrogen (NO_x) and Nitrogen deposition (N dep) on the Oxford Meadows SAC. These outputs were then used to examine the forecast change in NO_x concentrations associated with a certain change in traffic flow. It is thus possible to determine how much additional traffic would need to be

[24] DEFRA (September 2017) *Air Pollution in the UK 2016*.
[25] http://publications.naturalengland.org.uk/publication/4720542048845824
[26] Appendix D, Memo from Atkins to Natural England regarding air quality effects at Oxford Meadows SAC from growth at Cherwell and Vale of White Horse in combination, as part of the HRA Stage 1 Screening Report and Stage 2 Appropriate Assessment, August 2018. https://www.cherwell.gov.uk/info/83/local-plans/515/local-plan-part-1-partial-review---examination/4

added to the A40 and A34 through the Oxford Meadows SAC to result in a change of N dep of more than 1% of the critical load.

Table 5.1 HRAs carried out for other Oxfordshire plans		
Plan	Date of HRA	Website for HRA
Cherwell Local Plan	August 2018	https://www.cherwell.gov.uk/download/downloads/id/8163/hra-stage-1-screening-report-and-stage-2-appropriate-assessment---august-2018.pdf HRA explanatory note https://www.cherwell.gov.uk/download/downloads/id/8180/revised-hra-august-2018--explanatory-note.pdf
South Oxfordshire Local Plan	Jan. 2018	http://www.southoxon.gov.uk/sites/default/files/South%20Oxfordshire%20HRA%20Report%20FINAL_0.pdf
Vale of White Horse Local Plan	June 2018	http://www.whitehorsedc.gov.uk/java/support/dynamic_serve.jsp?ID=923019048&CODE=170238546D230566000A999C130C7570
West Oxfordshire Local Plan	June 2018	https://www.westoxon.gov.uk/media/1867474/West-Oxfordshire-Local-Plan-2018-HRA-June-2018.pdf
Oxfordshire LTP4	June 2015	https://www2.oxfordshire.gov.uk/cms/sites/default/files/folders/documents/roadsandtransport/transportpoliciesandplans/localtransportplan/ltp4/AppendixDHRAScreeningReport.pdf
Oxfordshire minerals and waste plan	Aug. 2015	https://www2.oxfordshire.gov.uk/cms/sites/default/files/folders/documents/environmentandplanning/planning/mineralsandwaste/mw2016/5SupportingDocs/5.1-5.2/5.1_HRA_M%26W_CoreStrategy_ScreeningReport_August2015.pdf
Oxfordshire Growth Board	Dec. 2017	Not publicly available

5.7. In considering the impact of additional vehicle movements associated with planned housing growth, the Memo states that:

> *"The additional traffic resulting from 4,400 additional housing units detailed in Cherwell's [Local Plan Part 1 Partial Review] is shown in Table 4 to be 1,129 AADT on the A40 and 1,008 AADT on the A34. The additional traffic associated with VoWH additional 3,420 housing units would therefore need to exceed 9,000 AADT [annual average daily traffic] on the A40 and 10,000 AADT on the A34 to result in an increase of N dep rate of 1%, which might require further assessment to identify any potential adverse effect on site integrity.*
>
> *On the above basis, the changes in traffic in Cherwell and Vale of White Horse with proposed Local Plan development are unlikely to result in increases of N deposition of 1% or more."*

5.8. Appendix E of Cherwell District Council's HRA Report includes a response from Natural England:

> *"Thank you for providing the in-combination assessment of NOx levels… Having reviewed the data… we are satisfied with the conclusion that the changes in NOx levels arising from Vale and Cherwell Local Plans will not have an adverse effect on the integrity of Oxford Meadows SAC."*

5.9. The HRA for the Cherwell Local Plan uses the same figures as the Memo. The Memo and Cherwell's HRA can thus be used as a basis – and a baseline - agreed by Natural England, for assessing the 'in combination' air pollution impacts caused by the Oxford Local Plan 2036.

Car-free developments as HRA avoidance measure

5.10. Policy H1 of the Oxford Local Plan 2036 allocates 8,620 homes, i.e. 1,925 homes more than the assumptions in the Cherwell HRA which concludes that there will be no signification 'in combination' impact on the SAC. Due to a range of factors outside of the scope of planning, there is an expectation that additional growth from 2031 to 2036 will anyway be unlikely to result in significant air quality impacts at the Oxford Meadows SAC: this is because any growth at the end of the plan period will benefit from external factors, including an increase in electric vehicles and the diesel scrappage scheme. The Oxford Local Plan 2036 also encourages the take-up and use of electric vehicles by providing appropriate charging infrastructure.

5.11. The Oxford Local Plan 2036 is, by its nature, unlikely to generate the per capita traffic movements that would be generated by more rural authorities with a different economic profile. University of Oxford academic developments have historically generated very little additional traffic and this approach is likely to continue. The plan directs retail to the district and city centres which have very good non-car accessibility. Employment sites such as the Business and Science Parks are on the other side of the city and are unlikely to attract much additional traffic along the A34; in the longer run, it is hoped that they will be served by the Cowley (rail) Line. Furthermore, the plan requires several employment sites to reduce their parking, for instance:

Policy SP9: Oxford BMW Mini Plant
A reduction in car parking provision on site will be required and opportunities sought to enhance and promote more sustainable travel modes to the BMW Oxford Mini Plant.

Policy SP10: Oxford Science Park (Littlemore & Minchery Farm)
A reduction in car parking provision on site will be required and opportunities sought to enhance and promote more sustainable travel to and from the park.

Policy SP11: Oxford Business Park
A reduction in car parking provision on site will be required and opportunities sought to enhance and promote more sustainable travel modes to the business park.

5.12. By providing for 8,620 dwellings without a commensurate increase in employment land, the plan also helps to reduce commuting: at present, more than 40% of the city's workforce lives outside Oxford, contributing to pollution on the A34 and A40.

5.13. The main measure in the Local Plan which avoids an increase in AADT/ NOx/ N deposition at the Oxford Meadows SAC is the active promotion of car-free housing, providing certain criteria are met. Car-free housing typically provides no parking or only very limited parking on site: disabled parking and some parking for delivery vehicles. Car-free developments are typically supported/ surrounded by Controlled Parking Zones (CPZ), and the residents of the car-free development are typically precluded from obtaining a parking permit, for instance through a contract. The three main categories of car-free development promoted by the plan are:

a. Student accommodation
b. Employer-linked accommodation
c. Housing in very accessible areas with controlled parking zones.

5.14. For ***student accommodation***, the assumption is that students will not need cars for work, and their housing will be provided in areas that are easily accessible by walking, cycling and public transport. Policy H8 relates to student accommodation:

Policy H8: Provision of new student accommodation

Planning permission will only be granted for student accommodation in the following locations:

- on or adjacent to an existing university or college campus or academic site, or hospital and research site, and only if the use during university terms or semesters is to accommodate students being taught or conducting research at that site; or
- In the city centre or a district centre; or
- On a site which is allocated in the development plan to potentially include student accommodation.

…Planning permission will only be granted for student accommodation if:

e) the development complies with parking standards that allow only operational and disabled parking, and the developer undertakes to prevent residents from parking their cars anywhere on the site, and anywhere in Oxford (unless a disabled vehicle is required), which the developer shall monitor and enforce; …

5.15. For ***employer-linked housing***, the assumption is that residents will live and work within walking distance, so minimising the need to drive. The employment sites are also expected to provide the same amount of employment-generating development in addition to the housing development, which means that there will be less room for parking. For ***housing in very accessible areas***, the assumption is that residents will be able to walk, cycle or take public transport rather than needing a car. Car clubs are also encouraged, to deal with the residents' need for specific car-based trips. Policy M3 deals with these cases:

Policy M3: Motor vehicle parking

In Controlled Parking Zones (CPZs) or employer-linked housing areas (where occupants do not have an operational need for a car) where development is located within a 400m walk to frequent (15minute) public transport services and within 800m walk to a local supermarket or equivalent facilities (measured from the mid-point of the proposed development) planning permission will only be granted for residential development* that is car-free….

Planning permission for additional parking provision within new developments will only be granted for spaces that are designated for disabled people, car clubs or where it can be demonstrated that there are essential operational or servicing needs (identified in the supporting TA and TP).

5.16. Some of the site-specific policies also specify that there will be a reduction in car parking, for instance:

Policy SP2: Osney Mead

New high-quality public open space should be created on the site with a reduction in car parking spaces.

Policy SP55: Radcliffe Observatory Quarter
A reduction in car parking provision on site will be required. Pedestrian and cycle links through and to the site, including to the University Science Area, should be maintained and enhanced.

Policy SP56: Ruskin College Campus
A reduction in car parking provision on site will be required and pedestrian and cycle links through and to the site should be enhanced.

Controlled Parking Zones in Oxford City

5.17. Car-free developments are unlikely to work effectively unless they are in a Controlled Parking Zone (CPZ) which restricts parking places to residents who have permits. Residents of car-free housing would not be allowed to get a permit.

5.18. Oxford already has an existing suit of CPZs, shown at Figure 5.2. However the roll-out of CPZs is not solely in Oxford City Council's control. As such, it cannot ensure full coverage of the city with CPZs, which is what would be needed to fully support its car-free plan policies.

5.19. However Oxford City Council is actively working in partnership with Oxfordshire County Council to expand the coverage of CPZs. Funding was announced in June 2018 to bring forward new CPZs. The County Council is providing £661,000: £250,000 from its own capital programme and £411,000 from held or secured planning (S106) or highways (S278) agreements linked to new developments. Additionally the City Council has secured £200,000 from Community Infrastructure Levy Funds to contribute to this programme. Table 5.2 shows the timetable for implementation of new CPZs across Oxford.

5.20. The Oxford Local Plan 2036 notes, in the supporting text to Policy M3:

Supporting text to Policy M3: Motor vehicle parking

The City and County Councils are actively working towards covering the whole city with Controlled Parking Zones by 2036, if not earlier. The reduction of parking and car use within and around the city is essential if air quality is to be improved. In addition, to ensure that the fullest protection of the integrity of the Oxford Meadows SAC and to comply with the requirements of the Habitats Regulations Assessment, new residential development sites will need to be car-fee as set out in M3 and Appendix 7.3.

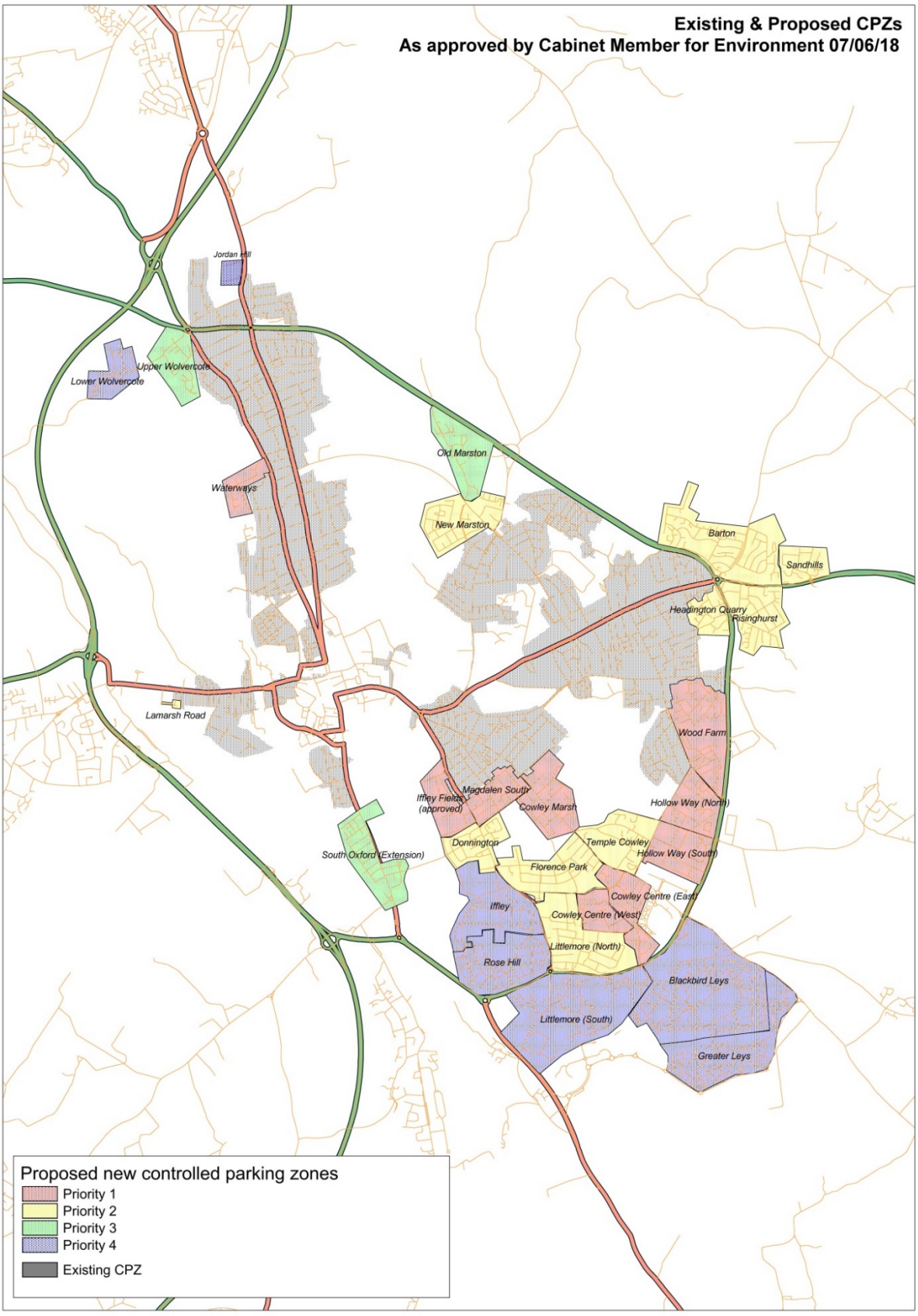

Figure 5.2 Proposed new controlled parking zones in Oxford

Table 5.2 Timetable for new controlled parking zones in Oxford	
Zone	Timetable
Iffley Fields	• Construction – September 2018 • Start of Operation – October 2018
Wood Farm	• Consultation – Autumn 2018 • Construction – Winter 2019 • Start of Operation (if approved) – Winter 2019
Madgalen South	• Consultation – Autumn 2019 • Construction – Winter 2019 • Start of Operation (if approved) – Spring 2019
Other "Priority 1 & 2 Zones' (coloured red and yellow on CPZ map – see above)	• Parking surveys – Autumn 2018 • First consultation – Autumn 2018 • Second consultation – Spring 2019 • Construction (staggered) – Autumn 2019-Spring 2020 • Start of operation (if approved) (staggered) Autumn 2019-Spring 2020
Other "Priority 3 & 4 Zones (coloured green and blue on CPZ map – see above)	• No dates or funding confirmed yet

5.21. Figure 5.2 shows that at present, about half of the city's roads[27] are covered by CPZs. With the additional funded areas included (to 2020) this is likely to rise to about 75%. Policy M3 relies on CPZs being fully operational: clearly as more are CPZs are implemented, there will be more scope for an increasing amount of car-free development in the city.

Number of car-free dwellings, and their transport impacts

5.22. The housing that will come forward under the Local Plan comprises

- housing proposed in the site-specific policies;
- other sites emerging from the Strategic Housing Market Assessment (SHMA) and Housing and Economic Land Availability Assessment (HELAA) process;
- windfall sites; and
- sites that were already being built out in 2016-2018.

5.23. For ***housing proposed under the site-specific policies*** of Chapter 9 of the Local Plan, **Appendix C** shows that are expected to generate, in the most likely case, about 1,437 car-free dwellings.

5.24. ***Other sites emerging from the SMA/HELAA process*** (e.g. student castle at Osney Lane, Elsfield Hall, Travis Perkins, Speedwell House, Blanchford's building merchants, Magdalen Road and Newtec Place, Powell's Timber Yard, Green Templeton College, Rewley Abbey Court, Northgate House, former Murco garage) are expected to generate about 430 car-free dwellings.

[27] Much of the city area is green space, including the Oxford Meadows SAC, accounting for many of the blank spaces on the map

5.25. ***Windfalls*** are expected to generate about 1020 dwellings, typically on small sites in existing residential areas well-served by nearby shops, and by walking, cycling and bus infrastructure/services. Policy M3 ensures that, if these homes are in a controlled parking zone, they will be car-free. If, conservatively, one-third of these new dwellings will be car-free, that would account for 340 car-free dwellings. If half of them are car-free, that would account for 510 car-free dwellings.

5.26. ***Sites that were already being built out in 2016-2018*** are counted under the current baseline of traffic, and so those houses are included in the baseline covered by Cherwell and do not count towards this calculation.

5.27. Based on the above, between 2,200 and 2,380 car-free dwellings ('low' and 'high' scenarios) will emerge from the plan, and will help to avoid air pollution impacts at the SAC. The remaining 6,240 – 6,420 dwellings would be standard dwellings albeit with, over time, an increasing proportion of electric cars.

5.28. The car-free dwellings will not be completely traffic-free. Traffic will be generated by visitors, tradesmen, disabled drivers, delivery vehicles and residents moving in and out. **Appendix D** shows that car-free development generates roughly 10-12.5% of the vehicular traffic that would be generated by a standard development. As such, 2,200 car-free dwellings would generate the same amount of traffic as 220-275 standard dwellings; and 2,380 car-free dwellings would generate the same amount of traffic as 238-298 standard dwellings.

5.29. Table 5.3 brings together information from the car-free dwellings and standard dwellings under the two scenarios discussed above. Together, the standard dwellings plus the car-free dwellings (totalling up to the plan's 8,620 dwellings) would generate the equivalent amount of traffic as 6,478 – 6,695 standard homes.

Table 5.3 Standard dwelling equivalent vehicle movements under low and high car-free dwelling scenarios

	No. car-free dwellings	Car-free dwelling equivalent of vehicle movements	No. standard dwellings (total 8620 – no. car-free dwellings)	Standard dwelling equivalent vehicle movements
Low car-free dwelling scenario	2,200	220 - 275	6,420	6,640 – 6,695*
High car-free dwelling scenario	2,380	238 - 298	6,240	6,478 – 6,538

5.30. The Cherwell HRA, which considered 'in combination' effects and was approved by Natural England, assumed 6,695 (standard) dwellings for Oxford. Table 5.3 shows that the Oxford Local Plan will not generate more traffic movements than 6,695

standard buildings. Oxford's approach avoids (rather than mitigates) the air pollution impacts, which is the preferred approach to HRA. It is also consistent with Natural England's guidance (para. 5.4 above) that local authorities can adopt the reasoning and conclusions of another competent authority relating to the same plan, so as to avoid duplication of effort. As such, consistent with the HRAs of the other Oxfordshire local authorities, **the Oxford Local Plan 2036 is not expected to have an impact on the integrity of the Oxford Meadows SAC with respect to air pollution.**

In combination effects

5.31. The above calculations are already based on 'in combination' effects with the Local Plans of the local authorities adjacent to Oxford City Council.

5.32. A Joint Statutory Spatial Plan (JSSP) is being developed by all the Oxfordshire authorities, which will provide a strategic policy framework for Oxfordshire to 2050. It will also take forward the Oxfordshire Housing and Growth Deal's commitment to deliver 100,000 homes by 2031. The JSSP is expected to be completed in Spring 2019, but has not yet actively begun, so it is not possible to consider this 'in combination'. The JSSP will anyway be accompanied by its own HRA, which will be based on Natural England's 2018 guidance.

5.33. In its 2017 report 'Partnering for Prosperity'[28], the National Infrastructure Commission proposed an expressway between Oxford and Cambridge. In September 2018, a preferred corridor for the expressway was published, shown at Figure 5.3. Depending on whether the ultimate route goes to the north or the south of Oxford – or both ways – this could lead to significant more vehicle movements at the SAC. This will need to be considered by the National Infrastructure Commission.

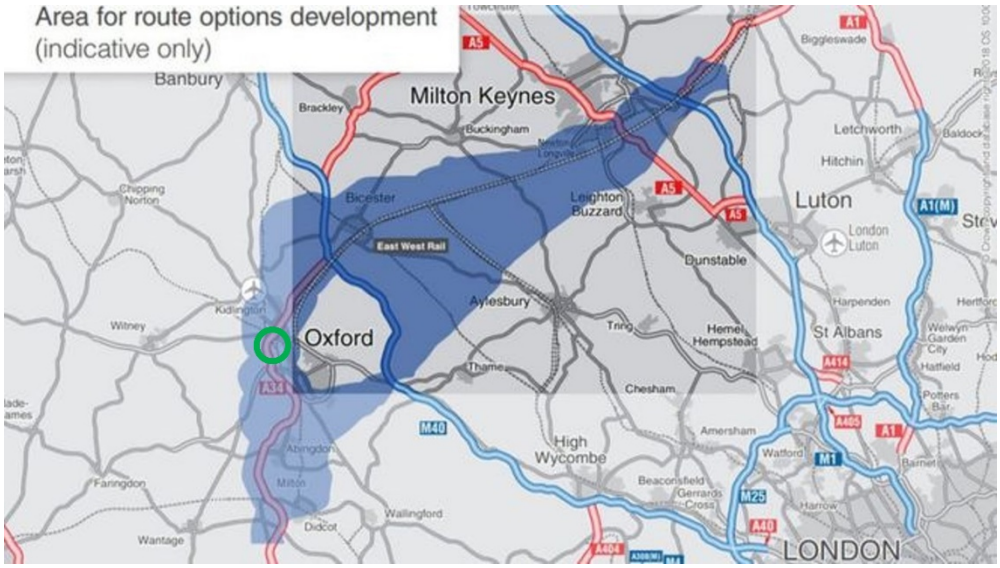

Figure 5.3 Preferred corridor of the Oxford-Cambridge expressway
Location of Oxford Meadows SAC in green

[28] National Infrastructure Commission 2017. Partnering for Prosperity: a new deal for the Cambridge – Milton Keynes – Oxford Arc.

Approach to air quality of this HRA

5.34. Clearly this is not an easy subject. During the course of the Oxford plan-making process, there have been:

- The 'Wealden judgement'[29] of March 2017 which clarified that, where several local authorities' plans may affect air quality at an SAC, their impacts need to be considered together with respect to the consideration of annual average daily traffic flows;
- A European Court of Justice ruling[30] of April 2018, 'People Over Wind', that mitigation measures cannot be taken into account at the HRA screening stage;
- Natural England's publication in July 2018 of guidance on 'in combination' air pollution impacts on SACs[31], which responds to the Wealden judgement; and
- A European Court of Justice ruling[32] of July 2018, 'Coöperatie Mobilisation for the Environment', which addresses how overall measures to manage N deposition at sites should be handled, and which distinguishes between avoidance and mitigation measures (permissible in appropriate assessment) and compensatory measures (permissible only in subsequent assessments of no alternatives etc.)

5.35. Throughout the Local Plan process, Oxford City Council's planning team have informed Natural England of their concerns and thoughts about how to deal with this issue, given the rapidly-changing policy environment and the other local authorities' emerging HRAs. **Appendix E** provides a copy of the correspondence between Oxford City Council and Natural England. Despite this, it has not yet been possible to agree this HRA with Natural England.

6. Conclusions

6.1. This HRA concludes that the Oxford Local Plan 2036 will not affect the integrity of the Oxford Meadows SAC through recreational (dog fouling) impacts, impacts on water levels or quality, or air pollution. In terms of air pollution, it proposes an innovative approach to avoiding impacts through car-free development, which could act as a model for other urban authorities.

[29] http://www.bailii.org/ew/cases/EWHC/Admin/2017/351.html

[30] http://curia.europa.eu/juris/document/document.jsf?text=&docid=200970&pageIndex=0&doclang=en&mode=req&dir=&occ=first&part=1&cid=619449

[31] Natural England (2018) *Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations.* http://publications.naturalengland.org.uk/file/5431868963160064.

[32] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:62017CC0293&from=EN.

Appendix A. HRA screening report

Planning Policy

www.oxford.gov.uk

OXFORD CITY COUNCIL

Oxford Local Plan 2036

Habitats Regulations Assessment:

Screening

October 2017

Contents

7. Introduction

7.1 This report discusses Stage 1 (screening) of the Habitat Regulations Assessment (HRA) for the Oxford Local Plan 2036.

7.2 The Oxford Local Plan Preferred Options Document

- Sets a capacity based target aimed at meeting as much of the OAN as possible by boosting housing supply balanced with appropriate consideration of other policy aims. As a result of this policy option the level of housing development proposed by the Local Plan is likely to generate a population increase of around 20,000 people.
- Continues to work with adjoining authorities to deliver sustainable urban extensions to meet housing need that cannot be met within Oxford's administrative boundary
- Proposes to release 8 sites of about 18 hectares in total from the Oxford's Green Belt
- Protects key employment sites (category 1 and 2) from the loss to other non-employment uses
- allows employment sites that are not considered key to the Oxford's economy to be redeveloped eg for housing
- Continues to use the existing Area Action Plans eg West End AAP or Northern Gateway AAP as the basis for decisions on appropriate uses in those areas, rather than including detailed new site allocation policies

Requirements of the Habitats Directive

7.3 Appropriate Assessment of plans that could affect Special Conservation Areas (SACs), Special Protection Areas (SPAs), and Ramsar sites (jointly called 'European sites) is required by Article 6(3) of the European Habitats Directive[33], which states:

> *'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of this assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.'*

7.4 Article 6(4) of the Habitats Directive discusses alternative solutions, the test of 'imperative reasons of overriding public interest' (IROPI) and compensatory measures:

> *'If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out*

[33] Directive 92/42/EEC on the Conservation of Natural Habitats and Wild Fauna

for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natural 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

7.5 The Habitats Directive applies the precautionary principle to European sites. Plans and projects can only be permitted if it can be shown that they will have no significant adverse effect on the integrity of any European site, or if there are no alternatives to them and there are imperative reasons of overriding public interest as to why they should go ahead. In such cases, compensation will be necessary to ensure the overall integrity of the site network.

7.6 The Habitats Directive was implemented into UK legislation through the Conservation (Natural Habitats, & c) Regulations 1994. The currently relevant piece of legislation is the 'Conservation of Habitats and Species Regulations 2010 (as amended) and is generally known as the Habitats Regulations.

Methodology used for this Habitat Regulations Assessment

7.7 A Habitat Regulations Assessment can involve up to a four stage process.

5. **Screening**. Determining whether or not a plan 'alone or in-combination' is likely to have a significant effect on a European site.
6. **Appropriate Assessment**. Determining whether, in view of the site's conservation objectives, the plan 'alone or in-combination' would have an adverse effect (or risk of this) on the integrity of the site. If not, the plan can proceed.
7. **Assessment of alternative solutions**. Where the plan is assessed as having an adverse effect (or risk of this) on the integrity of a site, there should be an examination of alternatives.
8. **Assessment where no alternative solutions remain and where adverse impacts remain**.

7.8 This HRA covers stage 1 (screening). Oxford City Council has undertaken this HRA "in house" and it was audited by Levett-Therivel Sustainability Consultants.

8. Screening

European Sites

8.1 This section begins by describing the European sites that could possibly be affected by the Oxford Local Plan 2036. For this Habitat Regulations Assessment a 20km area of search outside of the Oxford City Council Administrative Area was used. The following European Sites are within 20km of the Oxford City Council administrative boundary.

Table 2.1 – European Sites within 20km of Oxford City boundary Oxford Local Plan 2036 Preferred Options Document

Name of site	Distance from boundary	Reason for designation[34]
Oxford Meadows SAC	Within City Boundary, extending into administrative area for Cherwell District Council and into the administrative boundary of West Oxfordshire District Council.	**Annex I habitats that are a primary reason for selection of this site** **6510 Lowland hay meadows** (Alopecurus pratensis, Sanguisorba officinalis) 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 long-term 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. **Annex II species that are a primary reason for selection of this site** 1614 **Creeping marshwort** Apium repens Oxford Meadows is selected because Port Meadow is the larger of only two known sites in the UK for **creeping marshwort *Apium repens***.
Cothill Fen SAC	Located 7km from the city boundary	**Annex I habitats that are a primary reason for selection of this site** **7230 Alkaline fens** 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*, grass-of-Parnassus

[34] Source www.jncc.gov.uk

		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* fen-meadow and S25 *Phragmites australis – Eupatorium cannabinum* tall-herb fen and wet alder *Alnus* spp. wood.
Little Wittenham SAC	Located 19km from the city boundary	**Annex II species that are a primary reason for selection of this site** 1166 **Great crested newt** Triturus cristatus 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.

Local Plan 2036 Preferred Options Document

8.2 Oxford City Council has produced a Local Plan 2036 Preferred Options document which sets out preferred and alternative options relating to strategic options for development, site allocations and development management policies.

8.3 The Oxford Local Plan Preferred Options Document

- Sets a capacity based target aimed at meeting as much of the OAN as possible by boosting housing supply balanced with appropriate consideration of other policy aims. As a result of this policy option the level of housing development proposed by the Local Plan is likely to generate a population increase of around 20,000 people.
- Continues to work with adjoining authorities to deliver sustainable urban extensions to meet housing need that cannot be met within Oxford's administrative boundary
- Proposes to release 8 sites of about 18 hectares in total from the Oxford's Green Belt
- Protects key employment sites (category 1 and 2) from the loss to other non-employment uses
- allows employment sites that are not considered key to the Oxford's economy to be redeveloped eg for housing

- Continues to use the existing Area Action Plans eg West End AAP or Northern Gateway AAP as the basis for decisions on appropriate uses in those areas, rather than including detailed new site allocation policies

Screening Methodology

8.4 The HRA for the Core Strategy examined whether the policies within the Core Strategy would adversely affect the integrity of any European Sites within 20km of the City. Of the three sites that were within 20km of the Oxford, two (Cothill Fen SAC and Little Wittenham SAC) were screened out, and an Appropriate Assessment was undertaken on the Oxford Meadows SAC.

8.5 With regards to the Cothill Fen SAC and the Little Wittenham SAC it is considered that the Oxford Local Plan 2036 does not propose any policies or new allocations that would have a likely significant effect on those SACs. Therefore, it is proposed to screen those two designated sites out of the Assessment.

8.6 Table 2.1 explains the reasons for which the Oxford Meadows have been designated as an SAC. Natural England's report on the condition of the SSSI units that make up Oxford Meadows SAC from 6 July 2010 indicates that the Oxford Meadows SAC is in a favourable condition.[35]

8.7 The following are the key requirements to support the integrity of the Oxford Meadows SAC[36]:

- Minimal air pollution;
- Absence of nutrient enrichment of waters/ good water quality;
- Balanced hydrological regime – alteration to adjacent rivers may alter flooding regime and botanical diversity;
- Maintenance of traditional hay cut and aftermath grazing;
- Absence of direct fertilisation;
- Ensuring recreational impacts are maintained at a reasonable level[37];

8.8 In addition to the above requirements, this HRA considers the vulnerabilities listed in the Natura 2000 – Standard Data Form for the Oxford Meadows SAC submitted by DEFRA to the European Commission in December 2015[38]. This form states that the Oxford Meadows SAC is vulnerable to impacts from the following sources:

- Pollution to surface waters (limnic & terrestrial, marine & brackish);
- Invasive non-native species; and,
- Human induced changes in hydraulic conditions.

[35] Web-link to condition of SSSI units https://designatedsites.naturalengland.org.uk/
[36] Originally agreed at a screening workshop for the South East Plan
[37] Raised at a an HRA workshop for the Oxford Core Strategy
[38] Available at: http://jncc.defra.gov.uk/protectedsites/sacselection/n2kforms/UK0012845.pdf

8.9 Requirements for the maintenance of traditional hay cut and light aftermath grazing; and the absence of direct fertilisation are related only to the management of the SAC. They are not affected by the location of, for example, housing or employment development.

8.10 Also, the control of invasive species cannot be easily influenced by the planning regime. A Site Improvement Plan for the Oxford Meadows SAC[39] issued by Natural England in December 2014 highlights that the rare *Apium repens* could be affected by *Crassula* and other invasive species. However, the Plan does not indicate that the concern of C*rassula* spreading to the lower areas of Port Meadow could be dealt by control mechanisms directly linked to, or facilitated by new development. Instead, the Plan suggests that these mechanisms need to be identified at the national level. The other requirements are the subject of this report.

8.11 For the HRA of the Core Strategy, Natural England recommended that the effects of the plan be categorised in the form of a schedule. This approach has been adopted for the Oxford Local Plan 2036. This allows policies with no negative effect on European sites to be eliminated (screen out) from further appraisal, so that the appraisal can concentrate on those policies with possible effects.

8.12 The schedule previously applied by the City Council is as follows:

A – Policies or proposals cannot have any negative impact
B – Effects will be addressed in assessments "down the line", including project assessment under Regulation 48
C – Could have an effect, but would not be likely to have a significant (negative) effect (alone or in combination with other plans or projects)
D – Likely to have a significant effect alone and would require an Appropriate Assessment
E – Likely to have a significant effect in combination with other plans or projects and which require Appropriate Assessment of those combinations
F – Likely to have a significant effect, alone or in combination with other plans or projects, but which would not adversely affect the integrity of a European site
G – Likely to have a significant effect, alone or in combination with other plans or projects, and for which it cannot be ascertained that they would not adversely affect the integrity of a European site

How the preferred options were screened out of the assessment

8.13 This section sets out the considerations that have been given as to why certain options have been screened out in relation to each of the conservation objectives of the site.

[39] Available at: http://publications.naturalengland.org.uk/publication/4942743310696448

Air Quality

8.14 Increases in road transport are one of the most common causes of reduced air quality. Since Oxford has more jobs than economically active residents, it can be argued that any residential development within Oxford is more likely to reduce commuting into the city along the A34 and other strategic routes, rather than increase it, thus lessening impacts on the Oxford Meadows SAC. Uses such as student accommodation and extra care housing will attract very few trips because of the nature of the occupants. There is also a lack of parking associated with these types of developments. Many of the site allocations that have been screened out are for redevelopment or infill within existing sites. The hospital sites are an example of this. Any additional parking as a result of these developments is likely to be limited.

8.15 The University of Oxford academic developments have historically generated very little additional traffic and this approach is likely to continue.

8.16 The Oxford Local Plan 2036 directs retail to the district and city centres which have very good non-car accessibility. Finally employment sites such as the Business and Science Parks are on the other side of the city and are unlikely to attract much additional traffic along the A34.

8.17 With regards to traffic-related pollution from individual sites, Natural England has previously recommended looking at Interim Advice Note 61/05 (Guidance for Undertaking Environmental for Sensitive Ecosystems in Internationally Designated (Nature Conservation Sites and SSSIs)) which provides information about nitrogen deposition as well as Nitrogen Oxides (NO_x) emissions at the local scale. Interim Advice Note 61/05 states:

> *'If there are no Designated Sites within 200m of an affected road, there is no need to proceed further with this air quality assessment. If there is a Designated Site within 2km of a scheme so that an Appropriate Assessment is required, but there is no significant change in emissions from roads within 200m of the site, the site scheme will not result in a significant change in air quality and the effects of a change in air quality can be assumed to be negligible.'*

8.18 Individual sites were thus screened out from the assessment where there was no road link from the site within 200m of the Oxford Meadows SAC.

8.19 Recent case law, known as the Wealden judgement[40] has its implications on the method by which Natural England expects to see in-combination air pollution effects caused by a change in annual average daily traffic (AADT) flows assessed. Natural England have met with the Council to discuss screening under Regulation 102 of the Conservation of Habitats and Species Regulations 2010 (as amended) and provided the following advice on traffic-related pollution:

[40] A copy of the judgement is available at http://www.bailii.org/ew/cases/EWHC/Admin/2017/351.html

'Once allocations and policies have been selected, traffic modelling will be needed to determine whether traffic flows on roads within 200m of Oxford Meadows SAC will be increased by more than 1000AADT by the Local Plan, the level at which we advise that there are likely significant effects on the SAC, if this were the case appropriate assessment would be needed to understand whether there would be an adverse effect on the integrity of the SAC.
(…) an in-combination assessment of impacts on air quality at the SAC from traffic arising from surrounding authorities will be needed to look at whether the combined effect of development across the authorities would increase traffic on roads within 200m of Oxford Meadows SAC by 1000AADT or more, if this is the case appropriate assessment will be needed.'

8.20 Within the Plan period, development of new housing and employment sites in Oxford and neighbouring districts will generate a significant population increase. Cumulatively this may lead to increased road transport on the A34 and A40 that pass through, or within 200m of, Oxford Meadows SAC. Collaborative working on a county-wide strategic study is required to investigate impacts of the planned growth on air quality within the SAC adjacent to the A34 and A40. This strategic study will help to identify specific mitigation measures needed to ensure that there are no in-combination effects on Oxford Meadow SAC.

8.21 All the neighbouring Districts have now published HRAs as part of the preparation of their Local Plans. Table 2.4 on p55 of this report summarises key findings of the relevant HRAs. In terms of air quality within Oxford Meadows SAC an update of the 2014 Air Quality Assessment completed for the HRA of the emerging Cherwell Local Plan Part 1 Partial Review (2017)[41] is of particular relevance. The assessment concluded that the Plan in combination with the planned development in the rest of Oxfordshire by 2031, will not lead to any significant effects on the qualifying features of Oxford Meadows SAC. The air quality assessment found that the predicted marginal increases in NOx concentrations are inconsequential given existing baseline conditions and the limited extent of the area subject to the change, relative to the total SAC area. The assessment also highlighted that the condition of the Oxford Meadows SAC is currently favourable, despite existing NOx concentrations well above the critical level, and that small changes in NOx are therefore not considered to be significant.

Balanced Hydrological Regime

8.22 "Three main sources of water to the meads have been identified to support the plant communities on the Oxford Meadows SAC. These are direct rainfall, surface water, and groundwater flowing in from outside the area. Any of these sources, or a combination, may contribute to the soil water, which supports the plant communities on the meads[42]".

[41] Partial Review of the Cherwell LPP1 HRA is available at https://www.cherwell.gov.uk/info/83/local-plans/215/partial-review-of-cherwell-local-plan-2011-2031-part-1-oxfords-unmet-housing-need

[42] A. Dixon (2005), The Hydrology of Oxford Meadows

8.23 HRAs for the previous Development Plan Documents in Oxford ruled out the likelihood of impacts on the SAC from surface water and direct rainfall. The HRA for the Core Strategy explained that the abstraction licence for Farmoor Reservoir at present does not impact on the SAC, and no increases to this abstraction licence are proposed. As such the amount of surface water is likely to remain the same throughout the Local Plan period. Rainfall is a matter that planning cannot influence

8.24 The HRA Screening Report of the Draft Drought Plan (2016)[43] for Thames Water confirms that no likely significant effects are anticipated from the construction or operation of the Farmoor drought option on the Oxford Meadows SAC, either alone, or in combination with other licences and consents.

8.25 The Environment Agency's flood alleviation scheme for Oxford, which is likely to consist of enlargement of existing watercourses and/or creating flood relief channels, may affect the flooding regime of the River Thames. However, 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.

8.26 Figure 2.1 shows the location of the North Oxford Gravel Terrace in relation to the Oxford Meadows SAC. It should be read in conjunction with Figure 2.2 to provide the locational context of the direction of groundwater movement on the North Oxford Gravel Terrace.

[43] Available at: https://corporate.thameswater.co.uk/About-us/Our-strategies-and-plans/Our-drought-plan/Drought-plan-update-2017

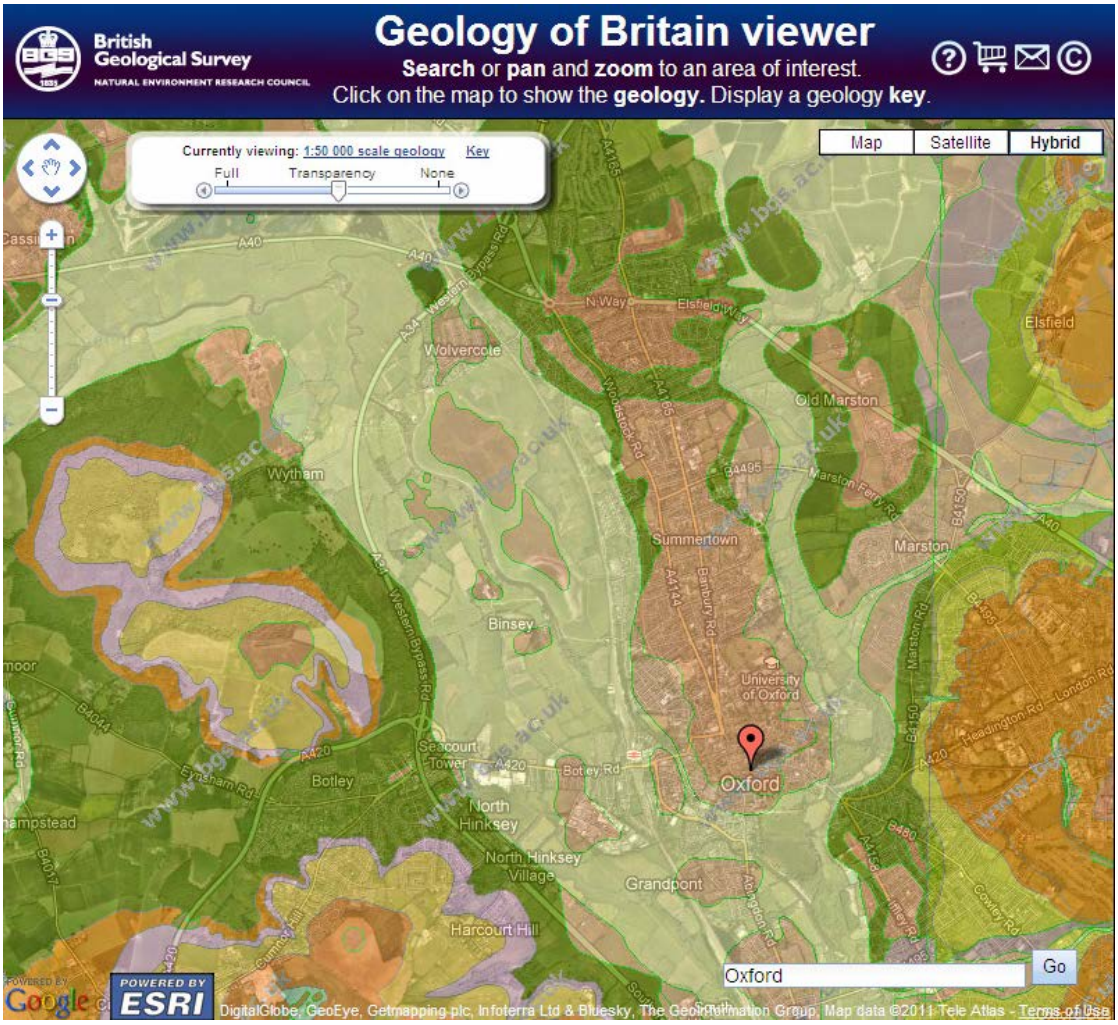

Figure 2.1 Map showing the North Oxford Gravel Terrace and Port Meadow within the context of Oxford. *(Reproduced with the permission of the British Geological Survey © NERC. All rights Reserved')*

8.27 Figure 2.2 (taken from the Core Strategy HRA) shows the geology of Oxford, including the Oxford Meadows SAC. It also shows a conceptual model of groundwater flow for Oxford including the area surrounding the Oxford Meadows SAC.

8.28 The model in Figure 2.2 shows that groundwater flows from the 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.

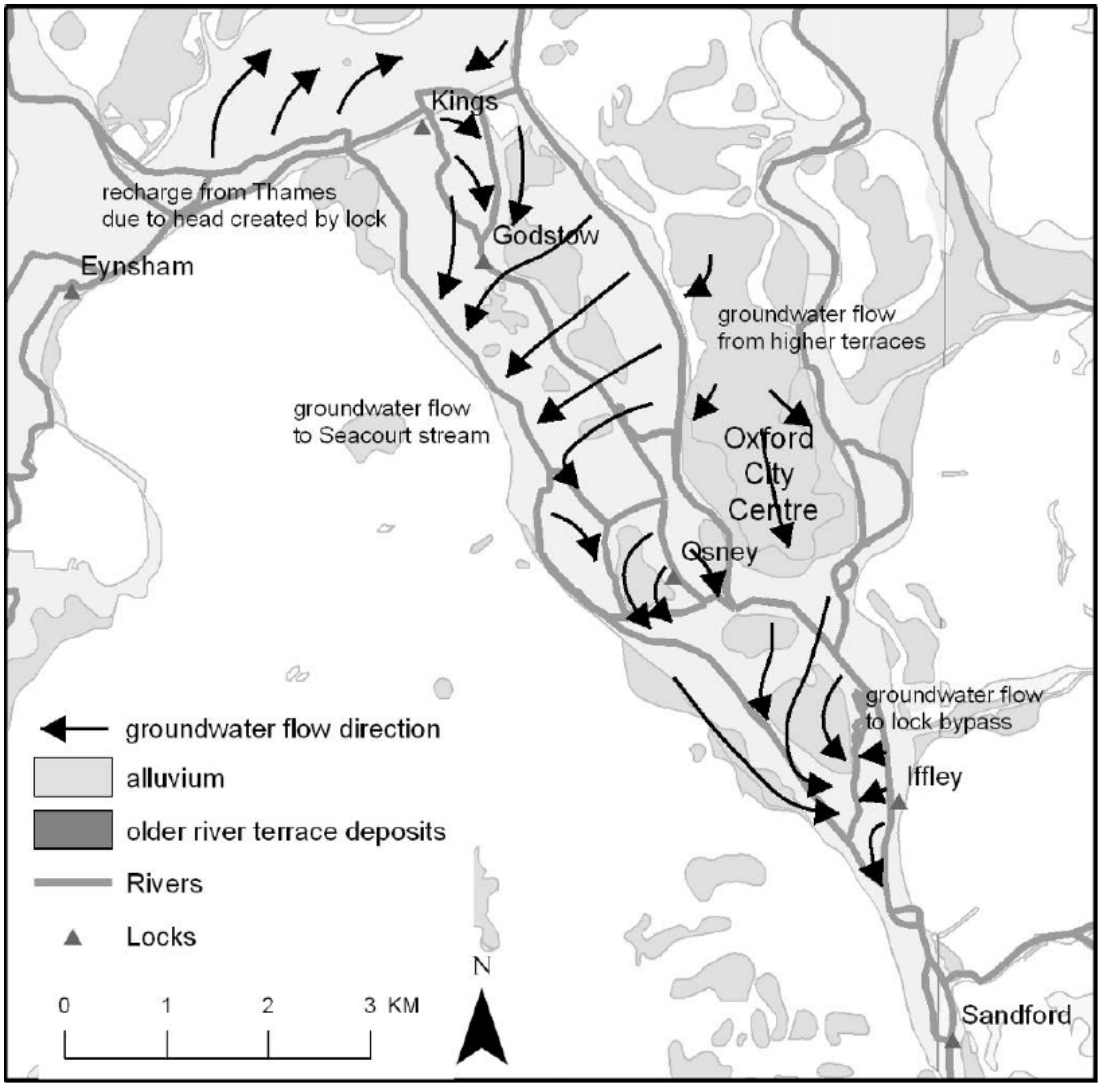

Figure 2.2: Conceptual groundwater flow model for Oxford (2007)[44]

Water Quality

8.29 Water quality issues were considered by the HRA for the Core Strategy, which resolved the issues of potential pollution through effluents from wastewater treatment works and potential groundwater pollution. The Sites and Housing Plan proposed some new sites on the North Oxford gravel terrace. The HRA for the Sites and Housing Plan noted that pollution of groundwater at these sites could impact on the water quality of the SAC. However, through additions to policy wording in the plan it was possible to ensure that these sites would not have an adverse impact on the water quality which supplies the SAC. It was also concluded that

[44] D MacDonald, A Dixon, *et al*, (2007) Investigating the Interdependencies between surface and groundwater in the Oxford area to help predict to timing and location of groundwater flooding and to optimise flood mitigation measures. Presented at the 42nd Flood and Coastal Management Conference,
York, 2007.

Sustainable Drainage should be used to ensure that the quality of groundwater would not be adversely affected.

8.30 This precautionary approach should continue and the site specific policies should require developers to ensure that surface water and groundwater quality are not affected by development. This approach should apply to any sites on the North Oxford gravel terrace that are proposed for allocation in the Oxford Local Plan 2036.

Recreational Impact

8.31 Previous Studies have shown that residents of Oxford are generally willing to walk approximately 1900m to large green spaces. As such, where a site is over 1900m away, the site has been screened out for recreational impacts. Non-residential sites within the 1900m buffer have also been screened out. Where a residential use is proposed within 1900m of the SAC, the location and the proximity of other green spaces sites have also been considered. Consideration has also been given to whether the site is proposed for student accommodation or houses/ flats.

8.32 It was previously confirmed by Natural England that *A. Repens* (creeping marshwort) is not particularly sensitive to trampling. However it is sensitive to dog-fouling. Student accommodation does not allow pets and as such this type of development has been screened out of the assessment process. Similarly all other non-residential uses which are proposed have been screened out of the assessment process since only residential development is likely to lead to an increase in dog-walkers at the SAC.

8.33 As recommended by Natural England a visitor survey was conducted for the HRA the Sites and Housing Plan in 2011. The aim of this survey was to understand how the Oxford Meadows SAC was used by the population of Oxford and by visitors from outside of the city. The results of the visitor survey are shown in Appendix 1. A new visitor survey based on the same methodology will be conducted to inform the current HRA and to assess how any additional recreational pressure from site specific development would impact on the SAC.

Screening Assessment

8.34 Table 2.2a looks at the preferred policy options (also see the schedule of the effects of the plan in para 2.12), and Table 2.2b looks at the site allocations. Preferred policy options have been screened out where it was considered that they were not likely to have a likely significant impact on the SAC. Individual site allocations have been screened out where it is considered that they are unlikely to have a significant impact on the SAC.

Table 2.2a Key environmental considerations that are likely to give rise to significant effects as a result of preferred policy options in Local Plan Preferred Options Document.

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
1. Protecting Category 1 employment sites	A	Policy approach seeking to protect Category 1 employment sites (key employment sites) from losses to other forms of development.	
2. Protecting Category 2 employment sites	A	Policy approach seeking to protect Category 2 employment sites from losses to other forms of development.	
3. Making best use of Category 3 employment sites	D	Policy approach would allow those sites not in Category 1 or 2 to come forward for redevelopment for alternative uses. This approach would allow additional sites to come forward for housing and other priority uses. Many of these sites will be relatively small and will be located in areas where residential redeveloped would, in principle, be compatible with the surrounding uses.	While this policy approach does not have a spatial focus, it is possible for some Category 3 employment sites to be located in the northern part of the city, where new housing developments (cumulatively) could increase environmental pressure on the designated site. It is important that any Category 3 employment sites that are located on the North Oxford Gravel Terrace and are lost to other uses (e.g., housing) do not have a negative impact on groundwater recharge at the Oxford Meadows SAC. The Oxford Local Plan 2036 should include policy mitigation measures to ensure that, as in previous HRAs, that basement developments are limited in areas on the

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
			North Oxford gravel terrace, unless it can be demonstrated that there will be no adverse impact on groundwater recharge. Although there are minimal risks to the SAC, this policy option should be taken forward for assessment as part of the Appropriate Assessment to ensure that that suitable mitigation in the form of appropriate policy wording can be developed.
4. Controlling low density B8 uses	A	This policy approach would encourage more efficient use of land and higher worker densities e.g. through change of use into other employment uses (B1, B2). Any such development is likely to be on previously developed land in existing built up areas. By seeking to make efficient use of previously developed land, the policy helps to reduce pressures on greenfield land and to steer development away from the Oxford Meadows SAC.	
5. Teaching and Research	A	Policy approach supporting the sustainable growth of the two universities and seeking to protect the established hospital sites. As a result new sites for further academic	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		activities such as teaching research, administration and ancillary activities are likely to be allocated. However, this policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC. Additionally, policy mitigation measures for any development with a potential adverse impact on SAC (e.g. on hydrology & water recharge) are considered to be sufficient to minimise any adverse impacts on the designated site.	
6. Sites for small businesses and start-up spaces for other employment uses (e.g., creative industries, virtual offices)	A	This policy approach would allow diversification of Category 2 sites to continue to provide for local services and employment in preference to them being lost to other uses. Also this policy would support the enhanced role of city and district centres.	
7. New academic floor space for Private Colleges/ language schools	A	Policy approach restricting the expansion of existing language schools, summer schools and independent colleges for over 16s. This approach does not outline any	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		development proposals that could have an adverse effect on the Oxford Meadows SAC.	
8. Opportunities for local employment, training and business	A	This policy approach would require larger construction projects to ensure that opportunities are given to local firms to realistically bid for work. It also seeks to ensure greater training and employment opportunities are provided to local people. This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
9. Overall Housing Target for the Plan Period	D	Policy stipulating a capacity based housing target aimed at meeting as much of the OAN as possible by boosting housing supply balanced with appropriate consideration of other policy aims. Current evidence indicates a capacity of just under 8,000 homes in the 20 year period to 2036 (HELAA).	The policy for the overall housing target for the plan period does not allocate specific sites for development but the amount of housing dictates the number of development sites that are allocated in the plan. Specific development sites will address the likely impacts on the SAC in more detail however as an overall approach this policy is taken forward in terms of recreational impacts, air quality and water (balanced hydrological regime and quality).

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
			This policy approach is considered to have no likely significant effects on the designated site but the allocations arising from it will need to be considered so this option has been taken forward for further assessment as part of the appropriate assessment.
10. Determining the priority types of Affordable Housing	A	Policy option for determining the type of affordable housing to be accepted as part of qualifying developments. Policy does not itself lead to development.	
11. Determining the approach to setting the level of the Affordable Housing Requirement	A	Policy option for determining the proportion of affordable housing to be accepted as part of qualifying developments. Policy does not itself lead to development.	
12. Meeting intermediate housing or employment sector specific needs based on local affordability approaches (combines and adapted from the	A	Policy option for determining the type of affordable housing to be accepted as part of qualifying developments. Policy does not itself lead to development.	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
options assessments for "New Housing for Key Workers" (12a) and "Types of Key Worker Housing" (12b))			
13. Providing Affordable Housing from larger sites	A	Policy option for determining which proposals and sites will be required to provide on-site affordable housing as part of any scheme. Policy does not itself lead to development.	
14. Affordable Housing financial contributions from small sites	A	Policy option for determining which residential developments will be required to make an off-site financial contribution towards affordable housing. Policy does not itself lead to development.	
15. Contributions towards affordable housing from other development	A	Policy option for determining which non-residential (C3) developments will be required to make an off-site financial contribution towards affordable housing. Policy does not itself lead to development.	
16. Mix of dwelling sizes to	A	Policy option ensuring an appropriate and balanced mix of housing is provided as part	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
maintain and deliver balanced communities ('balance of dwellings')		of new developments. Policy does not itself lead to development	
17. Thresholds for mix of dwelling sizes ('balance of dwellings')	A	Policy option for determining the threshold at which the policy on mix of dwelling sizes would apply. Policy does not itself lead to development.	
18. Change of use from existing homes/ loss of dwellings	A	Policy option for determining whether development proposals that result in the net loss of existing homes would be acceptable. Policy does not itself lead to development	
20. Linking the delivery of new University academic facilities to the delivery of University provided residential accommodation	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC. Additionally, policy mitigation measures for any development with a potential adverse impact on SAC (e.g. on hydrology & water recharge) are considered to be sufficient to minimise any adverse impacts on the designated site.	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
21. New Student Accommodation	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC. Additionally, policy mitigation measures for any development with a potential adverse impact on SAC (e.g. on hydrology & water recharge) are considered to be sufficient to minimise any adverse impacts on the designated site.	
22. Older persons' accommodation	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC. Additionally, policy mitigation measures for any development with a potential adverse impact on SAC (e.g. on hydrology & water recharge) are considered to be sufficient to minimise any adverse impacts on the designated site.	
23. Accommodation for Travelling Communities	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC. Additionally, policy mitigation measures for any development with a potential adverse impact on SAC (e.g. on hydrology & water recharge) are	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		considered to be sufficient to minimise any adverse impacts on the designated site.	
24. Homes for Boat Dwellers	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC. Additionally, policy mitigation measures for any development with a potential adverse impact on SAC (e.g. on hydrology & water recharge) are considered to be sufficient to minimise any adverse impacts on the designated site.	
25. Privacy and Daylight	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
26. Housing Internal Standards	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
27. Outdoor standards	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
28. Accessible and Adaptable	A	This policy approach does not outline any development proposals that could have an	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
Homes		adverse effect on the Oxford Meadows SAC.	
29. Making use of Previously Developed Land	A	Policy approach focusing development primarily on previously developed land and specific greenfield sites that have been identified as suitable for allocation. By seeking to make efficient use of previously developed land, the policy helps to reduce pressures on greenfield land and to steer development away from the Oxford Meadows SAC.	Summertown is identified as a District Centre and as such it is likely that some additional residential and non-residential development would be delivered on brownfield sites in this location. Any sites allocated for development within Summertown will be captured in the site allocations and bespoke policy wording to mitigate likely impacts will be captured through this process. As such this policy is screened out from the assessment.
30. Density and Efficient Use of Land	A		This policy option requires that development proposals make the best use of site capacity. This policy is likely to result in higher density schemes coming forward in suitable locations such as district centres. Some additional development on brownfield sites in the Summertown area is likely to come forward, Any sites allocated for development within Summertown will be captured in the site allocations and bespoke policy wording to mitigate likely impacts will be captured through this process. As such this policy is screened out from the assessment.
31. Green Belt	A	This policy approach does not outline any	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		development proposals that could have an adverse effect on the Oxford Meadows SAC.	
32. Efficient Energy Design & Construction	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
33. Carbon Reduction in non-residential development (BREEAM)	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
34. Carbon Reduction in residential development (combines options assessment tables on "Renewable Energy from residential development" and "Percentage	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
of renewable energy from residential development")			
35. Sustainable retrofitting of Existing Buildings	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
36. Water Efficiency (residential)	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
37. Community Energy Schemes, heat networks and Combined Heat and Power	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
38. Flood Risk Zones	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC. Also, this policy option would allow development on brownfield sites in floodplains where evidence shows this development would have a neutral or positive effect on water retention and	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		storage.	
39. Flood Risk Assessment	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
40. Sustainable Drainage	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC. SuDS can offer a wide range of ancillary benefits including improved water quality, increased tolerance of droughts and enhanced amenity and habitat features. Therefore, this option can have a positive effect on the designated site.	
41. Surface and groundwater flow and groundwater recharge	A	This policy approach would seek to ensure that development involving underground structures does not adversely affect groundwater flow to springs and rivers. This policy approach acts as mitigation that will help to maintain the current hydrological regime of Oxford Meadows SAC, in terms of water quantity or quality.	
42. Health Impact Assessment	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		SAC.	
43. Air Quality Assessments	A	This policy approach would require Air Quality Assessment for all major developments, or any other development considered to have a potentially significant impact on air quality. This is likely to have a positive effect on the Oxford Meadows SAC.	
44. Air Quality Management Area	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
45. Protection of future occupants against nuisances such as noise and light	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
46. Lighting and Light pollution	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
47. Noise and Noise Pollution	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
48. Contaminated Land	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
49. Managing the overall amount of Public Open Space in Oxford	A	Policy approach seeking to protect green spaces that are important Green Infrastructure and improve the quality of green spaces. This approach should help reduce recreational pressures on the Oxford Meadows SAC.	
50. Creating a green infrastructure policy designation	A	Policy approach seeking to create a new 'Green Infrastructure Network' designation for the green spaces that are worthy of protection for their social, environmental and economic functions. This policy approach prioritises the protection of designated GI sites, including the SAC.	
51. Securing net gain in green infrastructure provision	A	Policy approach that aims to deliver new public open spaces. This approach should help reduce recreational pressures on the Oxford Meadows SAC.	
52. Ensuring that new developments	A	Policy approach seeking to protect green infrastructure features such as hedgerows, small clusters of trees etc. This policy	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
improve the quality of Green Infrastructure		approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
53. Biodiversity sites, wildlife corridors. Species protection independent ecological assessment (accounting)	A	This policy approach prioritises the protection of sites of biodiversity interest and designated sites, including the SAC.	
54. Playing pitches	A	Policy approach outlining strong protection for playing pitches whilst also providing flexibility to respond to changes in playing pitch supply and demand over time where specific criteria are met in line with national policy requirements. This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
55. Allotments	A	Policy approach seeking to protect allotments. This policy approach does not	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
56. Protecting and promoting watercourses – making more of blue infrastructure	A	Policy approach seeking to enhance watercourses and improve access to blue infrastructure. This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC	
57. Species enhancement in new developments	A	Policy approach seeking ecological enhancements in the built development. This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC	
58. Trees affected by new development	A	Policy approach seeking the retention of existing trees and the planting of new trees. This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC	
59. Green/ brown roofs and walls	A	Policy approach seeking the creation of green features within new developments.	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
60. Enhanced walking and cycling connections	D	Policy approach seeking improvement to walking and cycling connections.	It will be important to ensure that enhanced access to the GI network does not conflict with the management of the Oxford Meadows SAC and does not increase recreational pressures on the designated site.
61. Creating successful places	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
62. Responding to Oxford's character and context	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
63. Creating an integrated high quality public realm and setting of buildings	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
64. Secure by design	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
65. High quality design of new buildings (see	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
"detailed design" assessment table)		SAC.	
66. Building heights	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
67. Altering existing buildings	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
68. Shop-fronts and signage	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
69. Stores for bikes, waste and recycling	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
70. High Buildings, view cones and high building area	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
71. Listed buildings and	A	This policy approach does not outline any development proposals that could have an	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
their setting		adverse effect on the Oxford Meadows SAC.	
72. Assets of Local Heritage Value	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
73. Conservation areas	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
74. Important parks and gardens	A	Policy approach seeking to protect important parks and gardens. This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
75. Scheduled Monuments	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
76. Defining areas likely to have archaeological deposits	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
77. Provisions for site that include archaeological remains	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
78. Archaeological remains within Listed Buildings	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
79. Transport Assessments and Travel Plans (include servicing and delivery plans)	A	This policy approach will encourage measures which reduce the need to travel and manage congestion. This approach should help improve air quality in Oxford and therefore have a positive effect on the Oxford Meadows SAC.	
80. Supporting city-wide pedestrian and cycle movement	A	This policy approach will encourage walking and cycling and reduce the need to travel by car. This approach should help improve air quality in Oxford and therefore have a positive effect on the Oxford Meadows SAC.	
81. Supporting walking, cycling and public transport access to new	A	This policy approach will encourage walking and cycling and reduce the need to travel by car. This approach should help improve air quality in Oxford and therefore have a positive effect on the Oxford	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
developments		Meadows SAC.	
82. Tourist coaches	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
83. Scheduled coaches (i.e. long distance coaches to London and the airports)	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
84. Safeguarding Cowley Branchline	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
85. Car Parking standards- residential	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
86. Car Parking standards- non-residential	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
87. Controlled parking zones (CPZ)	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		SAC.	
88. Cycle parking standards – Residential	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
89. Cycle parking standards – Non – Residential	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
90. Off-street public car parking	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
91. Hierarchy of centres for town centre uses	A	Policy promoting development that attracts large numbers of people in the City centre (in line with the sequential test). Policy promoting development of an appropriate size and scale for the district centres and neighbourhood centres.	Summertown is still allocated as a District Centre, as such development of an appropriate scale will be encouraged here. Any sites allocated for development within Summertown will be captured in the site allocations and bespoke policy wording to mitigate likely impacts will be captured through this process. As such this policy is screened out from the assessment.
92. Widening the role of district centres	A	Policy promoting development that attracts large numbers of people in the City centre (in line with the sequential test). Policy promoting development of an	Summertown is still allocated as a District Centre, as such development of an appropriate scale will be encouraged here. Any sites allocated for development within Summertown will be captured

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		appropriate size and scale for the district centres and neighbourhood centres.	in the site allocations and bespoke policy wording to mitigate likely impacts will be captured through this process. As such this policy is screened out from the assessment.
93. The "sequential approach" and "sequential test": location of town centre uses	A	Policy setting out the sequential test (spatially), Summertown is still allocated as a District Centre, as such development of an appropriate scale will be encouraged here. Policy seeking to ensure positive measures are taken to promote economic growth through a greater mix of uses, both commercial and residential at District Centres, including Summertown.	Summertown is already well developed, so any development (other than the strategic site - dealt with separately) is likely to be on Brownfield land. Any sites allocated for development within Summertown will be captured in the site allocations and bespoke policy wording to mitigate likely impacts will be captured through this process. As such this policy is screened out from the assessment.
94. "Impact Assessment": threshold for requiring an impact assessment for applications for town centre uses that are not located in	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
existing centres			
95. Primary and Secondary Shopping Frontages of the City Centre	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
96. Primary and Secondary Shopping Frontages of District and Local Centres	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
97. Evening economy: cultural and social activities	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
98. Tourist/Visitor Attractions	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
99. Short-stay accommodation (hotels and guest houses)	A	This policy provides more detail in terms of supporting hotels and guest houses which, in principle are covered by option 93	
100.	A	This policy approach does not outline any	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
Infrastructure and developer contributions		development proposals that could have an adverse effect on the Oxford Meadows SAC.	
101. Delivering High Quality Ubiquitous Digital Infrastructure	A	This policy approach does not outline any development proposals that could have an adverse effect on the Oxford Meadows SAC.	
102. Waste water and sewerage infrastructure	A	This policy approach does not outline any proposals that could have an adverse effect on the Oxford Meadows SAC.	
103. Access to education (state primary and secondary schools)	A	Currently, this policy approach does not outline any proposals that could have an adverse effect on the Oxford Meadows SAC.	
104. Primary healthcare services	A	Currently, this approach does not outline any proposals that could have an adverse effect on the Oxford Meadows SAC	
105. Community facilities	A	This policy approach does not outline any proposals that could have an adverse effect on the Oxford Meadows SAC.	
106. Pubs	A	This policy approach does not outline any proposals that could have an adverse	

Preferred Options	Categorisation of the effects of elements of the policy option	If the option has no effect, then reasons why	Key environmental considerations likely to give rise to significant effects
		effect on the Oxford Meadows SAC.	
107. Area Action Plans	A	This policy approach does not include any new proposals that could have an adverse effect on the Oxford Meadows SAC.	

Table 2.2b Key environmental considerations that are likely to give rise to significant effects as a result of development of the sites proposed for further consideration in Local Plan Preferred Options Document.

Site ID	NAME	If the policy has no effect, then reasons why	
SITES AND HOUSING PLAN			
003	Summertown Strategic Site Summertown	Site located more than 1.9km away from SAC. It has been screened out of the assessment for: **Air Quality and Recreational Impacts**	Possible impacts on SAC – balanced hydrological regime and water quality. This site could be in an area where basement development could have an impact on groundwater flow.
006	Banbury Road University Sites North	This site is proposed for academic institutional uses, student accommodation and faculty housing. It has been screened out of the assessment for: **Air Quality and Recreational Impacts**	Possible impacts on SAC – balanced hydrological regime and water quality. The Environment Agency has previously suggested that this site could be in an area where basement development could have an impact on groundwater flow.
011	Canalside Land, Jericho	This site is proposed for a mixed use development including residential and a replacement operating boatyard. It has been screened out of the assessment for: **Air Quality and Water quality/ Balanced Hydrological Regime.**	Possible Impacts on SAC – residential – recreation)
018	Diamond Place and Ewert House	Site located more than 200m away from SAC. This site is proposed for a retail-led mixed use scheme which could also include residential, employment and student accommodation. It has been	Possible impacts on SAC – recreational impacts, balanced hydrological regime and water quality The Environment Agency has previously suggested that this site could be in an

		screened out of the assessment for: **Air Quality**	area where basement development could have an impact on groundwater flow.
020	Elsfield Hall Wolvercote	Site located more than 200m away from SAC. It has been screened out of the assessment for: **Air Quality**	Possible impacts on SAC – balanced hydrological regime and water quality. This site could be in an area where basement development could have an impact on groundwater flow.
049	Oxford University Press Sports Ground, Jordan Hill	Site located more than 200m away from SAC. This site is proposed for residential development and student accommodation. It has been screened out of the assessment for: **Air Quality**	Possible impacts on SAC – balanced hydrological regime and water quality. This site could be in an area where basement development could have an impact on groundwater flow.
062	University of Oxford Science Area & Keble Road Triangle	Site located more than 200 away from SAC and not on the North Oxford Gravel Terrace. This site is proposed for academic institutional uses. It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced Hydrological Regime and Recreational impacts.**	
065	West Wellington Square	This site is proposed for academic institutional uses and student accommodation. It has been screened out of the assessment for: **Air Quality and Water quality/ Balanced Hydrological Regime.**	Although the Environment Agency previously considered that basement development at this site could impact on groundwater flows, the groundwater flow map (figure 2.1) does not indicate that flows are likely to be towards the Oxford Meadows SAC.
067	Wolvercote Paper Mill Wolvercote		Possible Impacts on SAC – residential led

			development with some employment units. Possible impacts on SAC from air pollution, recreational pressure and water quality/ water flow regime issues. The Environment Agency do not consider that basement development at this site would have an impact on groundwater flow however, given its proximity to the Oxford Meadows (and thus application of the precautionary principle) it has not been screened out for impacts associated with the balanced hydrological regime of the Oxford Meadows SAC and water quality. It is possible that hydrocarbon contamination may be present. In any remediation work that may be necessary, it is important that the quality of water provided to the Oxford Meadows SAC is not contaminated.
PDL			
349	Old Power Station	This site is proposed for housing and student accommodation It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced Hydrological Regime**	Possible impacts on SAC – recreational impacts
356	276 Banbury Road Summertown	This site is proposed for a retail-led mixed use scheme which could also include residential, employment and	Possible impacts on SAC – recreational impacts, balanced hydrological regime and water quality

		student accommodation. It has been screened out of the assessment for: **Air Quality**	The Environment Agency has previously suggested that this site could be in an area where basement development could have an impact on groundwater flow.
570	Rewley Abbey Court	This site is proposed for student accommodation It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced Hydrological Regime and Recreational impacts.**	
580	Summertown House	This site is proposed for student accommodation. It has been screened out of the assessment for: **Air Quality**	Possible impact on SAC – balanced Hydrological regime and water quality impacts. The Environment Agency has previously suggested that this site could be in an area where basement development could have an impact on groundwater flow.
GREEN BELT SITES			
107	Green Belt land St Frideswide Farm Wolvercote	This site is proposed for residential development. It has been screened out of the assessment for: **Air Quality**	Possible impacts on SAC – recreational impacts, balanced hydrological regime and water quality
112a1	Green Belt land at Cherwell Valley/Old Marston	This site is proposed for residential development. It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced**	

		Hydrological Regime and Recreational impacts.	
112b1	Green Belt land at Cherwell Valley/Old Marston	This site is proposed for residential development. It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced Hydrological Regime and Recreational impacts.**	
114d	Marston Paddock Marston	This site is proposed for residential development. It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced Hydrological Regime and Recreational impacts.**	
590	Pear Tree Farm Wolvercote	This site is proposed for residential development. It has been screened out of the assessment for: **Air Quality**	Possible impacts on SAC – recreational impacts, balanced hydrological regime and water quality
RESTRICTED ACCESS GREEN SPACES			
125	Summer Field School athletics site	This site is proposed for residential development. It has been screened out of the assessment for: **Air Quality, Recreational Impacts**	Possible impact on SAC – balanced hydrological regime and water quality The Environment Agency has previously suggested that this site could be in an area where basement development could have an impact on groundwater flow.
309	Summer Fields School Playing Field	This site is proposed for residential development. It has been screened out of the assessment for: **Air Quality, Recreational Impacts**	Possible impact on SAC – balanced hydrological regime and water quality The Environment Agency has previously suggested that this site could be in an

			area where basement development could have an impact on groundwater flow.
569	Green Templeton College North	This site is proposed for student accommodation and sports use. It has been screened out of the assessment for: **Air Quality, Recreational Impacts**	Possible impacts on SAC – balanced hydrological regime and water quality.
Employment sites for protection/site-specific allocations			
122	New Barclay House	This site is in existing employment use It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced Hydrological Regime and Recreational impacts.**	
499	Builders Yard, Lamarsh Road	This site is identified as protected employment category. It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced Hydrological Regime and Recreational impacts.**	
523	University Press, Walton Street Jericho	This site is in existing employment use and is identified as protect employment (Category 1) land. It has been screened out of the assessment for: **Air Quality, Recreational Impacts**	Possible impacts on SAC – recreational impacts, balanced hydrological regime and water quality. The Environment Agency has previously suggested that this site could be in an area where basement development could have an impact on groundwater flow.
579	ROQ Site North	This site is being developed for academic	Possible impact on SAC – balanced

		institutional uses and student accommodation. It has been screened out of the assessment for: **Air Quality, Recreational Impacts**	hydrological regime and water quality The Environment Agency has previously suggested that this site could be in an area where basement development could have an impact on groundwater flow.
512	Jordon Hill Business Park, Banbury Road	This site is in existing employment use and is identified as protect employment (Category 1) land. It has been screened out of the assessment for: **Air Quality , Recreational Impacts**	Possible impact on SAC – balanced hydrological regime and water quality The Environment Agency has previously suggested that this site could be in an area where basement development could have an impact on groundwater flow.
513	King Charles House, Park End Street	This site is in existing employment use It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced Hydrological Regime and Recreational impacts.**	
586	Osney Mead (whole site)	This site is in existing employment use and is identified for mixed-use development that may include residential. It has been screened out of the assessment for: **Air Quality, Water quality/ Balanced Hydrological Regime**	Possible impacts on SAC – recreational impacts.

Table 2.3 Possible Impacts of the Local Plan Preferred Options document on the Oxford Meadows SAC

Nature	Policies or site allocations likely to have an impact on the SAC	Magnitude	Duration	Location	Conclusions
Air Pollution Impacts	<u>Policy Options</u> Opt 3 Making best use of Category 3 employment sites Opt 9 Overall housing target for the plan period <u>Sites</u> 67 – Wolvercote Paper Mill	A residential-led scheme for 190 dwellings is proposed with a resolution to grant outline planning permission (13/01861/OUT). The Paper Mill site has a link road within 200m of the SAC.	It is anticipated that all sites will be developed within the Local Plan period. Any impacts would therefore occur within this period (up to 2036).	Less than 500m from the SAC	The Wolvercote Paper Mill site is the only site that has a road that runs within 200m of the Oxford Meadows SAC on which there is likely to be an increase in vehicle movements. This site, along with the cumulative impacts of other plans and programmes, in relation to air quality impacts is to be looked at as part of Stage 2 – Appropriate Assessment. It is worth noting that previous air quality modelling undertaken

					as part of the HRA for the Northern Gateway AAP led to a conclusion that development at the Wolvercote Paper Mill site would not have an adverse impact on the Oxford Meadows SAC
Balanced Hydrological Regime (Groundwater)	<u>Policy Options</u> Opt 3 Making best use of Category 3 employment sites Opt 9 Overall housing target for the plan period <u>Sites</u> 3 - Summertown Strategic Site 6 - Banbury Road University Sites 18 - Diamond Place and Ewert House, Summertown	Where sites are located on the Gravel Terrace, it is important that the same amount of surface water is able to recharge the groundwater after development is completed.	It is anticipated that all sites will be developed within the Local Plan period. Any impacts would therefore occur within this period (up to 2036).	Sites are all on or near the North Oxford Gravel Terrace.	The following sites are taken forward to the "Stage 2 – Appropriate Assessment". These sites are all on, or near the North Oxford Gravel Terrace. Policy provision exists in the Local Plan 2016 to ensure groundwater quality, flow and recharge is not impeded by development. A similar policy is being developed for the Local Plan 2036. In each of the respective

	20 - Elsfield Hall, Elsfield Way 49 - Oxford University Press Sports Ground, Jordan Hill 67 – Wolvercote Paper Mill 107 - Green Belt land St Frideswide Farm Wolvercote 125 - Summer Fields School athletics site St Margaret's 309 - Summer Fields School Playing Field 356 - 276 Banbury Road Summertown 512 - Jordon Hill				allocation policies in the Sites and Housing Plan there is a requirement to resist basement development unless it can be demonstrated that there will be no adverse impacts on groundwater quality, flow or recharge. A similar policy approach is being investigated as part of the allocation process. The Stage 2 – Appropriate Assessment stage is likely to make recommendations as to the precise wording of these policies to ensure that there are no adverse impacts on the Oxford Meadows SAC.

	Business Park, Banbury Road Wolvercote 523 - University Press, Walton Street Jericho and Osney 569 - Green Templeton College North 579 - Radcliffe Observatory Quarter Site North 580 – Summertown House, Apsley Place 590 - Pear Tree Farm Wolvercote				
Water Quality	<u>Sites</u> 3 - Summertown Strategic Site 6 - Banbury Road University Sites	Where sites are located on the Gravel Terrace, it is important that the quality of surface water that is recharged to groundwater	It is anticipated that all sites will be developed within the Local Plan period. Any impacts would	Sites are all on or near the North Oxford Gravel Terrace.	See comments above for balanced hydrological regime.

	18 - Diamond Place and Ewert House, Summertown 20 - Elsfield Hall, Elsfield Way 49 - Oxford University Press Sports Ground, Jordan Hill 67 – Wolvercote Paper Mill 107 - Green Belt land St Frideswide Farm Wolvercote 125 - Summer Fields School athletics site St Margaret's 309 - Summer Fields School Playing Field 356 - 276 Banbury Road Summertown	is maintained after development is completed.	therefore occur within this period (up to 2036).		

	512 - Jordon Hill Business Park, Banbury Road Wolvercote 523 - University Press, Walton Street Jericho and Osney 569 - Green Templeton College North 579 - Radcliffe Observatory Quarter Site North 580 – Summertown House, Apsley Place 590 - Pear Tree Farm Wolvercote				
Recreational Impact	<u>Policy Options</u> Opt 3 Making best use of Category 3 employment sites Opt 9 Overall housing				

	target for the plan period Opt 60 Enhanced walking and cycling connections <u>Sites</u> 6 - Banbury Road University Sites 11 - Canalside Land, Jericho 18 - Diamond Place and Ewert House, Summertown 20 - Elsfield Hall, Elsfield Way 49 - Oxford University Press Sports Ground, Jordan Hill 62 - University of	Student Accommodation. Low/ no impact on SAC Residential. Possible impact on SAC Residential. Possible impact on SAC Residential/ Employment. Possible impact on SAC Residential. Possible impact on SAC Academic Institutional	It is anticipated that all sites will be developed within the Local Plan period. Any impacts would therefore occur within this period (up to 2036).	All sites within 1900m of the SAC	Sites were screened out of this part of the assessment where there was no residential uses proposed. There is likely to be a limited amount of recreational pressure as a result of this development for instance, as a result of people having their lunch on Port Meadow in the summer months. However, dog-fouling is considered to be more of an issue. This is discussed further in section 3 of the HRA.

	Oxford Science Area & Keble Road Triangle 65 - Wellington Square West 67 – Wolvercote Paper Mill 107 - Green Belt land St Frideswide Farm Wolvercote 349 - Old Power Station 356 - 276 Banbury Road Summertown 512 - Jordon Hill Business Park, Banbury Road Wolvercote	Uses No/Low impact on SAC Residential/student accommodation/academic institutional uses. Possible impact on SAC Residential. Possible impact on SAC Residential. Possible impact on SAC Residential/student accommodation/academic Possible impact on SAC Residential/ Retail/Employment. Possible impact on SAC Employment use. No/ low impact			Sites for student accommodation were also screened out of the assessment. It was agreed with Natural England that dog fouling was more of a threat to the Oxford Meadows SAC than trampling. Consultation with the Oxford Rare Plants Group confirmed that A. repens (creeping marshwort) is not particularly sensitive to tramping but is more sensitive to dog fouling. Since there are no pets allowed in purpose-built student accommodation, it was considered that this would not be likely to be an issue. Student

	523 - University Press, Walton Street	Employment/ Academic Institutional Uses. No/ Low Impact			
	569 - Green Templeton College North	Student accommodation. No/Low Impact			
	579 - Radcliffe Observatory Quarter Site North	Academic Institutional Uses/ student accommodation. No/Low Impact			
	580 – Summertown House, Apsley Place	Housing/student accommodation. Possible impact on SAC			
	586 - Osney Mead	Mixed use including housing, student accommodation, employment, retail, academic Possible impact on SAC			
	590 - Pear Tree Farm Wolvercote	Housing/student accommodation. Possible impact on SAC			

Other Plans and Programmes (in-combination impacts)

8.35 In line with the precautionary principle, Oxford City Council has considered impacts that could be caused in-combination with other plan areas. The plans and programmes shown at Table 2.4 have been considered in relation to the HRA of the Oxford Local Plan Preferred Options.

Table 2.4 Other plans and programmes with potential 'in combination' impacts

Policy, Plan, Strategy/ Initiative	Proposals	Potential 'in combination' impacts?
Oxfordshire Minerals and Waste Local Plan Part 1 Core Strategy Habitats Regulations Assessment Screening Report August 2015	It provides a policy framework for identifying sites for new minerals and waste development and for making decisions on planning applications.	The HRA concluded that the Core Strategy would not have a likely significant effect on air quality, water resources, recreation, hazardous and radioactive materials.
Oxford's Local Plan (includes Northern Gateway AAP/ Barton AAP/ West End AAP)	Include a number of residential, employment and mixed-use allocations and provides a policy framework for making decisions on planning applications.	HRAs ruled out impact on the Oxford Meadows SAC
LTP4 (2015-2030) June 2015	LTP4 sets out proposed transport solutions for the county up to 2031.	The HRA Screening found that no likely 'strategic' significant effects are predicted from the local transport plan (LTP) on any European sites, subject to appropriate design and mitigation.
Partial Review of the Cherwell Local Plan 2011-2031 (Part 1): Oxford's Unmet Housing Needs	The Plan sets out the policies for meeting Oxford's unmet housing need in the Cherwell district	The HRA Screening found that no likely significant effects are predicted from the Plan on any European sites, subject to appropriate design and mitigation
South Oxfordshire Local Plan (2011-2033)	The Draft South Oxfordshire Local Plan sets out the policies which will be used to assess planning proposals for development of 23,468, homes.	The HRA concluded that air pollution impacts relating to the Local Plan alone and in combination with other plans or projects can be screened out for Oxford Meadows SAC.
Vale of White Horse District Council: Local Plan Part 1	The Plans identify the number of new homes	The HRAs did not consider that any of the DM policies

and 2 (2031)	(22,760) to be provided in the area within the plan period up to 2031.	contained within the LPP 1 and 2 would lead to likely significant effects on European sites. The HRA for the LPP2 concluded that given the incorporation of policies to address air quality and subject to development of strategic air quality studies relating to Oxford Meadows SAC, the LPP2 will not lead to likely significant effects on European sites either alone, or in combination with other plans and projects.
West Oxfordshire Draft Local Plan 2031	The Plan sets out the policies which will be used to assess planning proposals for development of 10,500 new homes within the plan period.	The West Oxfordshire Pre-Submission Local Plan will not have a likely significant effect on the Oxford Meadows SAC. The additional housing in the Partial Review Proposed Submission Plan will not have a likely significant effect on the Oxford Meadows SAC and the policies within the adopted local plan will still apply. Therefore, there is no potential for in-combination effects.
Chiltern Railways Evergreen 3 project (now known as East West Rail Phase 1)	Rail project	Scheme results in the permanent loss of 13m2 from the margins of the Oxford Meadows SAC. This loss is not predicted to affect the integrity of the SAC. Air emissions may affect habitats including those with the Oxford Meadows. An approach involving the monitoring of vegetation has been agreed with Natural England, to identify any habitat changes, and to ensure that timely measures can be taken, if necessary to prevent adverse effects on the integrity of the Oxford Meadows SAC[45]

[45] Chiltern Railways (Bicester to Oxford Improvements) Order Environmental Statement NTS January 2010

Thames Water Utilities Ltd the Draft Drought Plan (2016)	Water Management Plan	The HRA Screening concluded that the Draft Drought Plan will not in any way result in any significant effect on the Oxford Meadows SAC and therefore there is no potential for in-combination effects.
Oxford Flood Risk Management Strategy	Flooding improvements across Oxford and surrounds	Report suggests that there may be impacts on Oxford Meadows SAC from flood risk management and water resource plans. There are some uncertainties regarding operation of a flood storage area and potential impacts on Oxford Meadows SAC. To address these uncertainties, the Environment Agency is recommending further research. If this work shows that there would be significant impacts to designated nature conservation sites which could not be mitigated or compensated for, then the flood storage area will not be implemented. However there are no likely significant impacts on the SAC from current water abstraction activities. [46]

[46] Page 39 of report and confirmed in Supporting Guidance: Habitats Directive:(Appendix 21) Proforma for Stage 3 Assessment of Adverse Effect on Site Integrity – Review of Consents (Environment Agency, 11/07/05)

Screening Conclusions

8.36 Table 2.3 suggests that three of the preferred policy options (Opt 3 Making best use of Category 3 employment sites; Opt 9 Overall housing target for the plan period and Opt 60 Enhanced walking and cycling connections) and a number of sites included for further consideration in the Local Plan Preferred Options Document are likely to give rise to significant effects as a result of their development. These proposed preferred policy options and allocations have potential impacts on following conservation objectives for the SAC with regards to the following:

- Air pollution;
- Water quality;
- Balanced hydrological regime; and
- Increased recreational pressure

8.37 These will be discussed further at Section 3 (Stage 2 Appropriate Assessment).

8.38 It has been possible to screen out some of the impacts on the Oxford Meadows SAC:

- Maintenance of traditional hay cut and light aftermath grazing
- Absence of direct fertilisation

8.39 These have been screened out as they are related to activities directly at the site, which the Oxford Local Plan 2036 will not affect.

Appendix B. Oxford Meadows SAC Visitors Survey Report

OXFORD MEADOWS SAC VISITORS 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 on-site visitor survey questionnaire was designed.

The survey was carried out:

- on 6 days including a range of weekend and weekday dates (20 Oct. 2017, 21 Oct. 2017, 23 Oct. 2017, 30 Oct. 2017, 31 Oct. 2017, 02 Nov. 2017)
- both within and outside of the school October 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:

About you:

- 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?*

About today's visit:

- 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?*

About other visits:

- 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

575 interviews were conducted, comprising a total of 933 visitors. The visitor log recorded a further 410 visitors who were not interviewed. As a total, 1343 people visited the site during the survey.

Question 1:

Size of group as percentage of all interviews (575); and percentage of all interviews (575) with 1 or more dogs

	1 person	2 people	3 people	4 people	5+ people
TOTAL	60%	29%	5%	4%	2%

with dog
47%

Age of visitors, as percentage of responses given (933 visitors)

	Under 18	18-40	41-65	65+
TOTAL	13.2%	38.2%	32.4%	16.3%

Question 2:

Postcode of visitor origin, as percentage of responses given (568)

Oxfordshire	%	Outside Oxfordshire	%	Outside U.K.	%
OX1	11.6	HA4	0.2	Germany	0.2
OX2	55.1	BH8	0.2	Indonesia	0.2
OX3	4.0	TN30	0.2	Italy	0.2
OX4	5.8	DY13	0.2	New Zealand	0.2
OX5	6.3	HP18	0.7	South America	0.2
OX7	0.2	BN16	0.2	Spain	0.2
OX9	0.2	NW3	0.2	Sweden	0.2
OX11	0.2	HG4	0.2	Switzerland	0.2
OX12	0.7	SN7	0.2	USA	0.9
OX13	1.2	W2	0.2	TOTAL	2.3
OX14	0.7	IP12	0.2		
OX15	0.2	NN13	0.2		
OX17	0.5	B90	0.2		
OX18	0.5	CB22	0.2		
OX20	0.4	SW19	0.2		
OX25	0.5	RH15	0.2		
OX26	1.1	NW9	0.2		
OX27	0.4	HA8	0.2		
OX28	0.4	PL6	0.2		
OX29	0.5	EH10	0.2		
OX33	0.4	SM8	0.2		
OX44	0.4	GL56	0.2		
TOTAL	91.2	CO4	0.2		
		W3	0.2		
		N13	0.2		
		SN6	0.4		
		PO18	0.2		
		NN4	0.2		
		SM6	0.2		
		N4	0.2		
		GL52	0.2		
		RG4	0.2		
		SE3	0.2		
		TOTAL	6.5		

Question 3:

Resident or visitor, as percentage of responses given (927)

	Permanent resident of Oxford	Temporary resident of Oxford	Resident elsewhere in Oxfordshire	Visitor / holiday maker
TOTAL	66.5%	8.5%	12.2%	12.8%

Question 4:

Mode of travel to arrive at site, as percentage of responses given (913)

	Walk	Cycle	Bus	Car	Other
TOTAL	43.3%	4.9%	1.4%	43%	7.3%

Question 5:

Length of visit, as percentage of responses given (919)

	Less than 1 hour	1-2 hours	2-3 hours
Total	61.8%	33.5%	4.7%

Question 6:

Purpose of visit, as percentage of responses given (1007)

	Dog walking	Walking	Jogging / running	Cycling	Family outing	Nature	Other
TOTAL	40.3%	35.3%	8.9%	2.6%	3.2%	2.9%	6.9%

Question 7:

Frequency of visit(s), as percentage of responses given (845)

	Daily	Weekly	Monthly	Occasionally	N/A
TOTAL	23.8%	55.7%	9.5%	6.5%	4.5%

Question 8:

Time(s) of visit(s), as percentage of responses given (1121)

	Before 09:00	09:00-12:00	12:00-14:00	14:00-16:00	After 16:00	Don't know / first visit
TOTAL	15.9%	23.3%	17.6%	22.0%	17.8%	3.4%

Question 9:

Season(s) of visit(s), as percentage of responses given

	Year-round	Spring	Summer	Autumn	Winter
TOTAL	79.7%	3.9%	5.6%	7.7%	3.1%

Question 10:

Other site(s)/area(s) visited for similar purpose(s), and number of independent mentions (570)

Site / Area	# of mentions	Site / Area	# of mentions
University Parks	179	Kidlington	2
Shotover	62	Other nature reserves	2
Canal Towpath	51	Otmoor	2
Cutteslowe Park	48	Sunnymead	2
Christchurch Meadow	38	Trap Grounds	2
Wytham Woods	27	Wolfson College	2
Thames Path	18	Bagley Woods	1
Blenheim Palace	16	Berinsfield	1
South Park	15	Bernwood Forest	1
Stratfield Brake	10	Bicester	1
Boars Hill	6	Botley Road Nature Reserve	1
Burgess Field	6	Brasenose Woods	1
Hinksey Park	6	Donnington Bridge	1
Wolvercote	6	Grandpont Nature Reserve	1
Florence Park	5	Godstow	1
Headington	5	Hog Acres Common	1
Marston Meadows	5	Islip	1
Aristotle Park	4	Monk's Way	1
Binsey	4	Nuneham Courtenay	1
Botanical Gardens	4	Oriel College Fields	1
Farmoor Reservoir	4	Osney	1
Iffley	4	Sandford Lock	1
Thrupp	4	South Oxfordshire	1
Eynsham	3	The Kidneys	1
Other parks in Oxford	3	Wantage	1
Abbey Meadows	2	Willow Walk	1
Cumnor	2	Wittenham Clumps	1

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

	Park furniture			Litter bins			Dog bins		
	V	Q	N	V	Q	N	V	Q	N
TOTAL	20.2%	26.4%	53.4%	67.4%	18.8%	13.8%	71.2%	7.4%	21.4%

	Information boards			Car parking			Cycle parking		
	V	Q	N	V	Q	N	V	Q	N
TOTAL	21.8%	42.0%	36.3%	45.4%	8.3%	46.3%	28.7%	21.6%	49.7%

	Toilets			Signposted paths			Well maintained paths		
	V	Q	N	V	Q	N	V	Q	N

TOTAL	39.9%	20.9%	39.2%	28.3%	31.6%	40.1%	43.9%	33.7%	22.5%

	Length / variety of paths			Accessibility			Views		
	V	Q	N	V	Q	N	V	Q	N
TOTAL	38.7%	35.9%	25.4%	27.8%	17.8%	54.4%	91.5%	6.2%	2.2%

	Wildlife / biodiversity			Habitat variety			Access to water		
	V	Q	N	V	Q	N	V	Q	N
TOTAL	92.6%	5.7%	1.7%	88.8%	9.2%	2.1%	77.0%	12.8%	10.2%

	Feeling of safety			Quietness			Dog freedom		
	V	Q	N	V	Q	N	V	Q	N
TOTAL	77.2%	17.3%	5.5%	69.6%	25.2%	5.2%	56.1%	4.8%	39.0%

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	1,343
Percentage of visits over survey period from within postcode sectors OX1 and OX2	Taken from survey data	B	66.7%
Projected total number of visits, per annum	See Table 1 below	C	429,420
Projected total number of visits from within postcode sectors OX1 and OX2, per annum	(C÷100)xB	D	286,423
Population of postcode sectors OX1 and OX2	Taken from 2011 Census	E	65,318
Projected visits per head of OX1 and OX2 population, per annum	D÷E	F	4.4
Projected future population arising from new potential development	See Table 2 below	G	3204
Projected visits per annum arising from projected future population	GxF	H	14098
% of projected future visits, as it relates to current projected total visits	(H÷C)x100	I	**3.3%**
Projected future population arising from *'in-combination impacts'*	See Table 3 below	J	4404
Projected visits per annum arising from projected future *'in-combination impacts'* population	FxJ	K	19378
% of projected *'in-combi14nation impacts'* visits, as it relates to current projected total visits	(K÷C)x100	L	**4.5%**

Table 1

Total number of visitors recorded during this survey	1343
Number of surveyed access points	2
Mean number of visitors per surveyed access point	671
Number of hours of surveying per access point	48
Mean number of visitors per surveyed access point, per hour	14
Total active hours in day (06:00-20:00)	14
Projected mean number of visitors per surveyed access point, per day	196
Projected mean number of visitors per surveyed access point, per year	71540
Total number of access points to the SAC	6
Projected total number of visitors per year to the SAC	**429420**

Table 2 – LP2036 'alone' impacts

Site	Number of units	Number of residents
Oxford Local Plan 2016-2036 (sites within 1900m of SAC)	1335	3204
Total	**1335**	**3204**

Table 3 – *'in-combination impacts'*

Site	Number of units	Number of residents
Oxford Local Plan 2016-2036	1335	3204
Northern Gateway*	500	1200
Total	**1835**	**4404**

***** The Northern Gateway Area Action Plan already includes bespoke measures within the plan to address recreational impacts

POINTS TO BE NOTED

The interviews were conducted in autumn and visitor access patterns may, as a consequence, 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 dog walkers visit more frequently than other users, many of them walking daily on the same site. 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 well 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.

Appendix C. Car-free dwellings in the Oxford Local Plan 2036

SP	Site Allocation	No of dwellings	Car-free dwellings	Wording of Local Plan	CPZ	400m bus stop	800m shop
SP1	West End Sites						
SP2	Osney Mead	280	280	student accommodation, employer-linked housing and market housing	c	y	y
SP3	Cowley Centre	225		residential			
SP4	Blackbird Leys Central Area	300		residential			
SP5	Summer Fld Sch Athletics Trk	120		residential dwellings			
SP6	Diamond Pl and Ewert Hse	130	130	residential, student accommodation	c	y	y
SP7	276 Banbury Road	35	35	housing, student accommodation	c	y	y
SP8	Unipart	Employment site					
SP9	Oxford Mini Plant	Employment site					
SP10	Oxfod Science Park	Employment site					
SP11	OXford Business Park	Employment site					
SP12	Sandy Lane Rec Grnd	120		residential dwellings			
SP13	Northfield Hostel	35		residential dwellings			
SP14	Edge of Playing Fields Oxford Academy	29	29	residential development for employer linked housing			
SP15	Kassam Stadium	150		residential-led development			
SP16	Knights Road	80		residential-led development			
SP17	Govt Bldngs and Harcourt Hse	70		residential, student accommodation			
SP18	Headington Hill Hall	100	100	student accommodation and employer-linked housing			
SP19	Land S of St Clements Church	50		residential dwellings			
SP20	Churchill Hospital Site	136	136	employer-linked housing student accommodation	e		
SP21	Nuffield Orthopaedic Centre	25	25	employer-linked housing	e		
SP22	Old Road Campus	Employment site					

SP	Site Allocation	No of dwellings	Car-free dwellings	Wording of Local Plan	CPZ	400m bus stop	800m shop
SP23	Warneford Hospital	75	75	residential, including employer-linked housing; student accommodation;	e		
SP24	Marston Paddock	39		residential dwellings			
SP25	St Frideswide Fm	178		residential dwellings			
SP26	Hill View Farm	110		residential dwellings			
SP27	Land W of Mill Lane	75		residential dwellings			
SP28	Park Farm	58		residential dwellings			
SP29	Pear Tree Farm	122		residential dwellings			
SP30	Land East of Redbridge P&R	162		residential dwellings			
SP31	St Catherine's College	16	16	student accommodation			
SP32	Banbury Rd University Sites	80	80	student accommodation and/or employer-linked housing			
SP33	Bertie Place Rec	30		residential development			
SP34	Canalside Land	22		residential	c	y	y
SP35	Court Place Gardens	100	100	graduate student accommodation or employer--linked housing			
SP36	Cowley Marsh Depot	80		residential dwellings			
SP37	Faculty of Music, St Aldates	8	8	residential including employer linked housing and student accommodation	c	y	y
SP38	Frmr Barns Rd East Allotments	25		residential dwellings			
SP39	Frmr Iffley Mead Playing Field	84		residential dwellings			
SP40	Grandpont Car Park	22		residential development could be in the form of employer-linked housing			
SP41	Jesus College Sports Grnd	28		residential development			
SP42	John Radcliffe Hospital Site	180	180	employer-linked housing student accommodation	e		
SP43	Land at Meadow Lane	49		residential dwellings			
SP44	Lincoln College Sports Grnd	90		residential development			

SP	Site Allocation	No of dwellings	Car-free dwellings	Wording of Local Plan	CPZ	400m bus stop	800m shop
SP45	Littlemore Park	270		Residential development			
SP46	Manor Place	40	40	student accommodation or car free residential development	CF		
SP47	Manzil Way	10	10	residential dwellings, including employer-linked housing	c	y	y
SP48	Nielsen, London Road	200		residential-led development			
SP49	Old Power Station	0		student accommodation and/or residential dwellings, including employer-linked housing	c	y	y
SP50	Oriel College Land	7		student accommodation and or residential dwellings			
SP51	Oxford Brookes, Marston Rd	59		employer-linked housing residential dwellings			
SP52	Oxford Stadium	100		residential dwellings			
SP53	OUP Sports Grnd, Jordan Hill	55		residential development			
SP54	Pullens Lane	11		residential dwellings			
SP55	Radcliffe Observatory Quarter	68	68	student accommodation and employer-linked housing			
SP56	Ruskin College campus	10	10	student accommodation and employer-linked housing			
SP57	Ruskin Field	40		residential use only, which may include employer-linked housing			
SP58	Slade House	80		residential dwellings, including employer-linked housing			
SP59	Summertown Hse, Apsley Rd	10	10	student accommodation and employer-linked housing			
SP60	Union Street Car Park	20	20	residential or student accommodation	c	y	y
SP61	Univ of Oxfd Science Area	10	10	academic institutional uses and associated research			

SP	Site Allocation	No of dwellings	Car-free dwellings	Wording of Local Plan	CPZ	400m bus stop	800m shop
SP62	Valentia Road	12	12	housing	c	y	y
SP63	West Wellington Sq	28	28	student accommodation and employer-linked housing		y	y
SP64	Wolvercote PaperMill	190		residential development			
SP65	Bayard Hill Primary School	35	35	employer-linked housing only			
SP66	William Morris Close Sports Gr	62		residential development			
Total		**4835**	**1437**				

Appendix D. Trip generation by car free development

Background

Previous modelling of air quality at Oxford Meadows SAC[47] has shown that Oxford City's Local Plan can include 6,695 homes, 'in combination' with other local authorities' plans, without affecting the integrity of the SAC in terms of air pollution. Oxford City Council is proposing to include additional car-free development in the plan, arguing that car-free development will not increase air pollution at the SAC.

What is car-free housing?

Car-free housing typically provide no parking or only very limited parking on site: perhaps disabled parking and some parking for delivery vehicles. Car-free developments are typically supported/ surrounded by Controlled Parking Zones (CPZ), and the residents of the car-free development are typically precluded from obtaining a parking permit, for instance through a contract (see Box 1) and/or a S106 obligation. It would be virtually impossible to prevent the resident of a car-free development from owning a vehicle, provided that it could be legally parked elsewhere: this could be the case where there is no CPZ, or the CPZ is not big enough.

The London boroughs, and particularly LB Camden, are front-runners in car-free housing. In some London boroughs (e.g. Camden, Tower Hamlets, Islington) most new planning permissions are for car-free development[48].

Box 1. Example of a car-free housing contract[49]

4. OBLIGATIONS OF THE OWNER AND THE LESSEE

4.1 The Owner and the Lessee hereby covenant with the Council to ensure that prior to occupying any residential unit forming part of the Development each new resident of the Development is informed by the Owner and the Lessee of the Council's policy that they shall not be entitled (unless they are the holder of a disabled persons badge issued pursuant to Section 21 of the Chronically Sick and Disabled Persons Act 1970) to be granted a Residents Parking Permit to park a vehicle in a Residents Parking Bay and will not be able to buy a contract to park within any car park owned, controlled or licensed by the Council.

4.2 The Owner and the Lessee for themselves and their successors in title to the Property hereby acknowledge that the provision in Clause 4.1 above will remain permanently.

In Oxford, this could take the form of a condition which runs with the land, e.g.:

[47] AECOM (June 2018) Vale of White Horse LPP2: Habitats Regulations Assessment incorporating appropriate assessment, http://www.whitehorsedc.gov.uk/java/support/dynamic_serve.jsp?ID=901511661&CODE=F7DA7FC4618427221EF01E414F33430D - see p.60.

[48] Steve Melia, email to Riki Therivel of 31 July 2018.

[49] Car Free Development, http://www.carfreehousing.org/whatis.html.

"The development hereby permitted shall not be occupied until the Order governing parking at X has been varied by the Oxfordshire County Council as highway authority to exclude the site, subject to this permission, from eligibility for resident's parking permits and residents' visitors' parking permits unless otherwise agreed in writing by the Local Planning Authority.

Reason: To ensure that the development does not generate a level of vehicular parking which would be prejudicial to highway safety, or cause parking stress in the immediate locality, in accordance with policies XYZ of the Adopted Oxford Local Plan 2036."

Trip generation by 'car free' development

Clearly 'car free' development generates some journeys. These include journeys made by:

- disabled drivers
- visitors
- tradesmen
- delivery vehicles
- moving in and out of residents
- residents who bypass the parking controls

These are now discussed in turn.

Disabled drivers. A government study of 2014[50] (the latest for which useful figures seem to exist) showed that, in 2011/12, 11.6 million people in Great Britain were disabled. Of these, 6.5 million had problems with mobility. Between 2002 and 2012, the proportion of people with mobility problems in Great Britain was between 10.5% and 11%[51]. The Scope website[52] suggests that 13.8 people in the UK were disabled in 2016/17, with mobility being the most common disability at 52%: at a UK population of 65.65 million in 2016, this suggests that 11.1% of the UK population had mobility problems two years ago. The prevalence of mobility problems rises with age[53], so this proportion can be expected to increase over time as a result of the ageing of the population. Oxford's population is generally healthier than the UK population[54], probably in part because of its high proportion of young people.

Visitors and tradesmen. The only information that is easily accessible is the experience of the London Borough of Tower Hamlets, which introduced a car-free policy in the late 1990s. It has since been fine-tuned to deal with various issues, including the difficulty of getting access for visitors and tradesmen. LB Tower Hamlets' current car-free development system[55] allows residents to:

- Purchase a temporary resident permit at £6.20/day, to allow contractors to work at the property. They must provide written proof of the work to be carried out and vehicle details.

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[50] Official Statistics (2014) Disability prevalence estimates 2011/12, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/321594/disability-prevalence.pdf.

[51] I struggled to find official GB population figures for 2002-2012. To get the figures, subtract the Northern Ireland population (https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/MYE17_POP_TOTALS.xlsx) from the UK population (https://www.ons.gov.uk/generator?uri=/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/july2017/4e7c6d81&format=csv).

[52] https://www.scope.org.uk/media/disability-facts-figures.

[53] https://www.gov.uk/government/publications/disability-facts-and-figures/disability-facts-and-figures

[54] https://fingertips.phe.org.uk/profile/health-profiles/data#page/1/gid/1938132696/pat/6/par/E12000008/ati/101/are/E07000178.

[55] https://www.towerhamlets.gov.uk/lgnl/transport_and_streets/Parking/parking_permits/car_free_developments.aspx.

- Purchase a maximum of three books of visitor scratchcards – 10 cards per book, £16 per book – in a rolling 12-month period.
- Retain one on-street permit if they move from an overcrowded home where they have had a parking permit for at least a year to a larger car-free home.

Delivery vehicles. There is no obvious data on this. Graham Parkhurst[56] writes about delivery vehicles at the University of the West of England:

> *"[Students] are more likely to be generating traffic through ordering Ubers or receiving deliveries from online food orders (supermarkets and fast food) and merchandise from the internet. Our campus has a 3,000-bed student village which is car free but we are about to start a scheme to manage the growing delivery traffic, so that deliveries will need to be made to a hub, with students then collecting from there, or the items being redistributed by electric cart… Given that van traffic has grown 40-50% in a decade, the delivery traffic is certainly worth considering in terms of impacts on air quality."*

Residents who bypass the parking controls. Again there does not seem to be any formal data on this. However it clearly happens to some extent. In LB Lambeth, for instance, some car-free development residents applied for parking permits and were incorrectly issued with one[57]. In Headington (east Oxford), the developer of a six-flat car-free development attempted – in the end unsuccessfully but only after a long-winded legal saga - to get the planning conditions that prohibit applying for parking permits to be revoked[58].

A 2009 study of a 120 dwelling car-free development at Slateford Green in Edinburgh had only 19 valid responses, but found that 10% of 'usual' mode of travel was by car. Slateford Green is mainly a social housing development, developed by a local housing association that had noticed that 83% of the people on its housing list did not own a car[59], and so may not be representative of conditions in Oxford.

Overall vehicle movements. The only data on the overall trip generation of 'car-free' developments seems to be tangential, i.e.:

- The TRICS traffic generation database does not have a filter for car-free housing, but does have a filter for student housing (both car-free and not). In late July 2018, based on five developments, it suggests that there are 0.25 vehicle movements per student room per day.
- The TRICS information used by Doric for the 2014 environmental statement for the West Way development, which will house 525 students on the west side of Oxford[60], shows 0.501 vehicle movements per day, out of a total of 4.49 movements per day by the students, i.e. 11% of journeys. However again the TRICS database does not differentiate between car-free development and development that permits cars. The developer (probably incorrectly) assumes no vehicle movements for the 525 rooms of student accommodation.

Conclusions about possible vehicle movements at 'car free' housing

As a conservative/precautionary measure, one could assume that:

- Disabled drivers: Given Oxford's age and health profile, up to 10% of residents of car-free non-student developments will be mobility impaired, and up to 5% of residents of car-free student accommodation will be mobility impaired. Arguably non-students with mobility impairment will make less than the average number of car journeys, as they are likely to be

[56] Professor of Sustainable Mobility and Director of the Centre for Transport & Society at UWE Bristol.
[57] https://www.lambeth.gov.uk/parking-transport-and-streets/parking/incorrectly-issued-parking-permits.
[58] https://mycouncil.oxfordshire.gov.uk/ieDecisionDetails.aspx?ID=7021.
[59] Melia, S. (2009) Potential for carfree development. PhD thesis, University of the West of England.
[60] Appendix 8.8 of RPS (2014) Botley District Centre environmental impact assessment. Botley is on the west side of Oxford, just outside the city boundary, in Vale of White Horse District Council.

older and more infirm: we assume that a non-student with mobility impairments will make 75% of the journeys taken by someone with mobility impairment, and that students with mobility impairments will make 100% of the journeys of students without mobility impairments.

- Visitors and tradesmen: Even if LB Tower Hamlet's full entitlement for visitors was taken up, this would add up to less than 0.1 journey per day, compared to 4-5 journeys in total. The impact of tradesmen would be minimal.
- Delivery vehicles: There is no information about delivery vehicles, but one could assume that 5% of a normal household's vehicle movements would be made by delivery vehicles, and this would be the same in car-free development.
- Residents who bypass parking controls: These would be one-off events, with systems improving as car-free developments become more ubiquitous and legal precedents are set.

In sum, conservatively,

	Student accommodation	Employer-linked accommodation	Other car-free accommodation
Proportion of 'non car-free' accommodation vehicle-movements generated by:			
• People with mobility impairments	5%	7.5%	7.5%
• Visitors and tradesmen	0.2%	0.2%	0.2%
• Delivery vehicles	5%	5%	5%
• Bypassing controls	0	0	0
Total proportion of non car-free accommodation vehicle-movements generated by 'car free' development - assumption	10.02%	12.52%	12.52%

Under the above assumptions, the **2000 car-free dwellings would generate very broadly the equivalent traffic as 200-250 'non car free' dwellings.**

Appendix E. Correspondence with Natural England about air quality at Oxford Meadows SAC

Date: 29 September 2017
Our ref: 219824
Your ref: Oxford City Council Oxford Local Plan 2036: Preferred Options

MMACKOWIAK@oxford.gov.uk
BY EMAIL ONLY

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

Dear Marek,
Planning consultation: Oxford City Council Oxford Local Plan 2036: Preferred Options

Thank you for your consultation on the above dated 01 June 2017 which was received by Natural England on the same day.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Sites of Least Environmental Value
In accordance with the NPPF, the plan's development strategy should seek to avoid areas of high environmental value. Natural England expects sufficient evidence to be provided, through the SA and HRA, to justify the site selection process and to ensure sites of least environmental value are selected, e.g. land allocations should avoid designated sites and landscapes and should consider the direct and indirect effects of development on land within the setting of designated landscapes.

HRA screening must be available to inform selection of areas, and to demonstrate alternatives have been considered. Natural England have already met with the Council to discuss HRA screening, and can offer further advice as policy options are progressed.

The Local Plan should be underpinned by up to date environmental evidence, this should include an assessment of existing and potential components of ecological networks working with Local Nature Partnerships, as recommended by paragraph 165 of the NPPF to inform the Sustainability Appraisal, the development constraints of particular sites, to ensure that land of least environment value is chosen for development, and to ensure the mitigation hierarchy is followed.

There are a number of sites within the preferred options which fall within the Impact Risk Zones (IRZs) for SSSIs, including Iffley Meadows, New Marston Meadows and Lye Valley (as well as the component SSSIs of the Oxford Meadows SAC). Information on any likely indirect impacts of site allocations on these sites (through hydrological changes, air pollution or recreational pressure) should inform site selection to ensure that land of least environmental value is chosen for development, and that the mitigation hierarchy is followed. It may be necessary to outline avoidance and/or mitigation measures at the plan level.

Protected species are those species protected under domestic or European law. Further information can be found here Standing advice for protected species. Sites containing watercourses, old buildings, significant hedgerows and substantial trees are possible habitats for protected species; this should be taken into account in informing site selection.

Designated sites
Natural England welcome the inclusion of policy 53 which sets criteria based policies to ensure the

protection of designated biodiversity and geological sites, distinguishing between international, national and local sites. Natural England advises that all relevant Sites of Special Scientific Interest (SSSIs),and European sites (such as Oxford Meadows Special Areas of Conservation)should be included on the proposals map for the area so they can be clearly identified in the context of proposed development allocations and policies for development. Designated sites should be protected and, where possible, enhanced.

Oxford Meadows SAC
Natural England have met with the Council to discuss screening under Regulation 102 of the Conservation of Habitats and Species Regulations 2010 (as amended). It may be necessary to outline avoidance and/or mitigation measures at the plan level, including a clear direction for project level HRA work to ensure no adverse effect arising from recreational pressure, hydrological changes or air pollution on the integrity of Oxford Meadows SAC.

We welcome preferred option 41 (C) which recognises the need to protect groundwater feeding the SAC. We recommend that the policy should be informed by the outcomes of the HRA, and consider it suitable that it should apply to all developments on or near the north Oxford gravel terrace.

Once allocations and policies have been selected, traffic modelling will be needed to determine whether traffic flows on roads within 200m of Oxford Meadows SAC will be increased by more than 1000AADT by the Local Plan, the level at which we advise that there are likely significa nt effects on the SAC, if this were the case appropriate assessment would be needed to understand whether there would be an adverse effect on the integrity of the SAC.

It is understood that visitor survey work is to be undertaken at the Oxford Meadows SAC to inform the HRA; following HRA work it may be necessary to outline avoidance or mitigation measures, such as provision of additional accessible natural greenspace, at the plan level.

It may also be necessary for the Plan to provide policies for strategic or cross boundary approaches in relation to Oxford Meadows SAC; an in-combination assessment of impacts on air quality at the SAC from traffic arising from surrounding authorities will be needed to look at whether the combined effect of development across the authorities would increase traffic on roads within 200m of Oxford Meadows SAC by 1000AADT or more, if this is the case appropriate assessment will be needed.

Lye Valley SSSI
Natural England welcome recognition of the need to protect the hydrology of the Lye Valley SSSI, both in terms of ground and surface water flows, in part B of Option 41. As well as avoiding adverse impacts, we advise that the policy seeks to improve groundwater recharge and management of surface water flows. This is particularly relevant in relation to development on brownfield sites in the area. Reference should also be made to ensuring good water quality.

Natural England advise that the policy should apply to a defined area, as opposed to nearby allocated sites alone. In order to define an area to which the policy should apply, further work will be needed to refine the boundaries of the hydrological catchment of the fen.

Additionally, we advise that there should be policy in place to ensure that any new development coming forward does not direct surface run-off into the drainage system which discharges into the Lye Valley, this currently causes problems with erosion of peat during fast flows.

Priority habitats, ecological networks and priority and/or legally protected species populations
Natural England welcome the inclusion of policy 53 which recognises the need to protect a network supporting biodiversity through the city. We would advise specifically referencing inclusion of priority habitats and species (those listed under Section 41 of the Natural Environment and Rural Communities Act, 2006 and UK Biodiversity Action Plan (UK BAP) as part of this network. Further information is available here: Habitats and species of principal importance in England).

Ancient woodland and veteran trees are found within the Oxford City boundary, these are irreplaceable habitats; there should be appropriate policies to ensure their protection. Natural England and the Forestry Commission have produced standing advice on ancient woodland and veteran trees.

We would advise that policy is included to deliver biodiversity enhancements to provide a net gain in biodiversity. We note reference to use of a biodiversity calculator to demonstrate net gain within the preferred option 53B and suggest clarification is provided as to when application of the calculator will be required. We would recommend consideration of a policy that requires all larger developments to demonstrate a net gain in biodiversity. In Oxfordshire the Conservation Target Area approach provides a useful blueprint for biodiversity enhancement, further information is available at https://www.wildoxfordshire.org.uk/biodiversity/conservation-target-areas/ctas-and-planning/

Green Infrastructure
Natural England generally welcome the approach to Green Infrastructure in the preferred policy options which seek to create a green infrastructure designation, provide a net gain in green infrastructure from larger developments and improve public access, require developers to demonstrate high quality green infrastructure provision and promote use of green/brown roofs. However, given that the preferred option 49 removes the previous target level of green space for the city, Natural England advise that it should be clear that there is a presumption against loss of green space, unless there are exceptional circumstances, and a net gain in green infrastructure can be achieved.

Soils
The Local Plan should give appropriate weight to the roles performed by the area's soils. These should be valued as a finite multi-functional resource which underpins our wellbeing and prosperity. Decisions about development should take full account of the impact on soils, their intrinsic character and the sustainability of the many ecosystem services they deliver.

The plan should safeguard the long term capability of best and most versatile agricultural land (Grades 1, 2 and 3a in the Agricultural Land Classification) as a resource for the future in line with National Planning Policy Framework paragraph 112 to safeguard 'best and most versatile' agricultural land.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us.

For any queries relating to the specific advice in this letter only please contact Rebecca Micklem on 020822 57686. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

Yours sincerely,

Rebecca Micklem
Sustainable Development
Thames Team

From: Micklem, Rebecca (NE) [mailto:Rebecca.Micklem@naturalengland.org.uk]
Sent: 04 May 2018 16:37
To: HARRISON Sarah B.
Cc: FORD Amanda; WYATT Richard
Subject: RE: Friends of Lye Valley response and sits in vicinity of Lye Valley

Dear All,

…Following our site visit to Oxford Meadows the other week, I have been in discussion with a couple of our national air quality advisors; it still seems that the monitoring data from the Oxford-Bicester TWA order would certainly be useful, so if it would be great if you are able to track this down. I will get back to you as soon as possible to confirm next steps in terms of the HRA.

Kind regards,

Beccy
Rebecca Micklem
Lead Adviser
Sustainable Development
Thames Team

From: WYATT Richard [mailto:RWYATT@oxford.gov.uk]
Sent: 16 May 2018 10:31
To: Micklem, Rebecca (NE) <Rebecca.Micklem@naturalengland.org.uk>; HARRISON Sarah B. <SHARRISON@oxford.gov.uk>
Cc: FORD Amanda <AFORD@oxford.gov.uk>
Subject: RE: Friends of Lye Valley response and sits in vicinity of Lye Valley

Dear Becky,
…

Finally, can you let us have your thoughts on air quality at the Oxford Meadow and how we should proceed.

Kind regards,
Richard
Richard Wyatt| Senior Planner | Planning Policy I Planning Sustainable Development and Regulatory Services | Oxford City Council

From: Micklem, Rebecca (NE) [mailto:Rebecca.Micklem@naturalengland.org.uk]
Sent: 25 May 2018 11:37
To: WYATT Richard
Subject: RE: Friends of Lye Valley response and sits in vicinity of Lye Valley

Dear Richard,

…In terms of Oxford Meadows, as we talked about on site, the fact that the 1000AADT threshold will be exceeded by traffic generated by the plan means that we advise that there could be Likely Significant Effects on the SAC from air pollution, and that further assessment is needed to demonstrate whether there would be an adverse effect on the integrity of the site, either alone or in-combination with other plans or projects. Therefore, we advise that air quality modelling is undertaken to determine what contribution the additional traffic would make in relation to critical levels of pollutants at the site and whether that is likely to result in an adverse effect.

As you are aware from our previous conversations, following the Wealden Judgement, clarification has been provided in terms of in-combination assessment of air pollution from road traffic. This means that, even where plans can conclude no Likely Significant Effect alone, they still need to include an in-combination assessment with other plans or projects. Cherwell DC and Vale of the White Horse have both been looking at how to address this at Oxford Meadows and you may find it useful to consider their most up-to-date Appropriate Assessments when they become available.

I also spoke to Ricki on site about the recent Sweetman II ECJ Judgement, which could be relevant should you need to consider mitigation in relation to Oxford Meadows (in very brief summary, the judgement was that avoidance or mitigation could not be considered at HRA screening stage in order to conclude no Likely Significant Effects, and that if such measures would be required then Appropriate Assessment is needed).

I hope that this is useful,

Kind regards,

Beccy
Rebecca Micklem
Lead Adviser
Sustainable Development
Thames Team

5 July 2018

Rebecca Micklem
Lead Adviser
Sustainable Development
Thames Team

Dear Riki and Richard,

I was wondering if you had been able to track down the results of the environmental monitoring being undertaken at Oxford Meadows for the Oxford-Bicester railway improvements? I think this could provide useful information to improve our understanding of the sensitivity of the meadows to air pollution. I've been able to track down from our records the consultation on the discharge of conditions for collection of the baseline monitoring information (15/02893/CND), and assume from the notices we saw on our site visit that further data is being collected. It would be most useful to know whether that information is now available.

Kind regards,

Beccy
Rebecca Micklem

Lead Adviser

Sustainable Development
Thames Team

From: WYATT Richard [mailto:RWYATT@oxford.gov.uk]
Sent: 20 July 2018 15:43
To: Micklem, Rebecca (NE) <Rebecca.Micklem@naturalengland.org.uk>
Cc: HARRISON Sarah B. <SHARRISON@oxford.gov.uk>; Riki Therivel <levett-therivel@phonecoop.coop>
Subject: Oxford City HRA: Proposed way forward

Dear Becky,

This email sets out a proposed way forward to ensure that housing growth in Oxford City will not have an adverse impact on the Oxford Meadows SAC. It builds on the 'in-combination' HRA work undertaken by Vale of White Horse and Cherwell District Councils and provides policy mitigation which will be addressed as part of the Appropriate Assessment Stage of the HRA.

The additional combined HRA work undertaken by Vale and Cherwell District Councils considers "in-combination" effects and their likely impact on the integrity of the Oxford Meadows SAC. The Vale/ Cherwell Memo sets out the volumes of additional traffic (measured in AADT) as a result of development in Oxfordshire that would lead to a 1% increase in N Deposition at the Oxford Meadows SAC – this is threshold which would trigger further technical assessment. This is found in Appendix B to the Habitat Regulations Assessment (June 2018) submitted to the Vale of White Horse Local Plan Part 2 Examination.

Earlier this year, the County Council produced a brief note showing likely increases in traffic along the A34 and A40 for Oxford City Council. This work looked at the possible effects on Oxford Meadows SAC (in terms of additional AADT) that was likely to be generated from Oxford's growth. This work was based on the assumption that Oxford would be accommodating 6,695 dwellings from the period 2011-2031.

The Vale/ Cherwell "in-combination" assessment assumes the same level of growth for Oxford City – 6,695 dwellings (Tables 1 and 2, Appendix B). The Vale/ Cherwell "in-combination" assessment used the same assumptions as the Oxford City work and used them to generate traffic flow estimates with the Oxfordshire Strategic Traffic Model in Spring 2017. The Vale/ Cherwell work also compared the most recent traffic estimates with data published in previous HRA assessments. Clearly the Vale/ Cherwell work uses the most appropriate, "up-to-date and available" evidence.

Included as Appendix C of the HRA (June 2018) was the response from Natural England, which states:

" Thank you for providing the in-combination assessment of NOx levels… Having reviewed the data… we are satisfied with the conclusion that the changes in NOx levels arising from Vale and Cherwell Local Plans will not have an adverse effect on the integrity of Oxford Meadows SAC"

The Vale/ Cherwell "in-combination" assessment included growth the assumptions for Oxford City (6,695 dwellings to 2031), and Natural England has agreed that this level of growth can be accommodated without having an adverse effect on the integrity of the SAC. We have done some additional work to assess what, if any additional growth (in addition to the already assessed level of growth to 2031, i.e., 6,695 dwellings) can be accommodated within its Oxford's boundary to 2036 and what policies (mitigation) would need to be in place to ensure that this growth does not significantly increase AADT/ NOx levels/ N Deposition.

Due to a range of external factors outside the scope of planning, we expect any additional growth from 2031 to 2036 to be unlikely to result in significant air quality impacts at the Oxford Meadows SAC. This is because any growth at the end of the plan period will be benefitting from these external factors, which include the likely rate of take-up of electric vehicles and the diesel-scrappage scheme. However, in addition to these factors, there are several ways that the Local Plan 2036 can ensure that any increase in Oxford's housing numbers over and above the agreed 6, will not adversely

impact air at the Oxford Meadows SAC. One is to encourage the take up and use of electric vehicles by providing appropriate charging infrastructure, another is to actively encourage or require car-free developments.

The Local Plan 2036 includes a policy requiring residential development to be car-free if certain criteria are met. These criteria are currently proposed as follows. Residential development will be required to be car-free when it is located:

- Within a Controlled Parking Zone (CPZ); and
- Within 400m of a Bus Stop (frequent 15min service); and
- Within 800m of a local supermarket or equivalent facilities

It is worth noting that the City Council is looking to expand the number of CPZs in Oxford throughout the plan period. The City Council has committed £200,000 to increase the coverage of CPZs in Oxford and will work closely with the County Council to ensure delivery.

All proposed site allocations for residential developments were assessed against whether or not they met the three criteria, and, using the capacity-based assessment undertaken as part of the Housing and Employment Land Availability Assessment (HELAA). This provided estimates of numbers of units which could be delivered on individual sites.

Employer-linked housing is housing that is provided by employers on sites that they own. A similar set of criteria was applied to employer-linked housing sites and where that criteria was met, the HELAA was used to provide an indication of the amount of car-free development that could be accommodated, i.e., those sites that met the policy criteria.

Finally Student Accommodation in Oxford provided for the two Universities has had a long history of being car-free. Those sites where student accommodation has been proposed has also been factored into the proposed car-free housing growth likely over the plan period.

Summing all of the allocations together that would be required to be car-free under the policy results in over 2,100 car-free dwellings in the city. When this figure is added to the already agreed growth for Oxford (6,695) the sum total is over 8,800 houses for Oxford that can be successfully be delivered without impacting air quality at the Oxford Meadows SAC.

The City Council is confident that this approach provides a sound, evidence-based methodology to demonstrate a clear capacity-based amount of housing growth which can be successfully accommodated within the City. The proposed mitigation suggested, which will be incorporated into the Appropriate Assessment Stage of our HRA provides the policy basis to deliver a level of growth so as not to have an unacceptable impact on the integrity of the Oxford Meadows SAC.

We very much hope that you agree with our methodology and rationale in coming to a level of housing growth.

We are happy to talk through our approach further if you have any questions.

Kind regards,
Richard

Richard Wyatt| Senior Planner | Planning Policy I Planning Sustainable Development and Regulatory Services | Oxford City Council

From: Turner, Marc (NE) [mailto:Marc.Turner@naturalengland.org.uk]
Sent: 30 July 2018 15:12
To: WYATT Richard
Cc: Micklem, Rebecca (NE); Petrovic, Milena (NE)
Subject: RE: Oxford City HRA: Proposed way forward

Dear Richard,

Thank you for your email, and apologies for the delay in replying. Beccy is now on annual leave until September so replying to you has fallen to me. I'm not really sure the best approach in replying to you, I think I will start with this email summary, and suggest if you want to follow up this with telephone conversation I am available the majority of next week, except Tuesday.

- The timing of the Wealden judgement was somewhat untimely for us all in Oxfordshire. Cherwell and West Oxon were already advanced in their submission process of their latest iterations of their plans. We made a judgement to allow them to progress without following a standard post Wealden approach.
- This approach has finally been agreed and published externally by NE as of July 2018 at http://publications.naturalengland.org.uk/publication/4720542048845824
- We would prefer that you follow the approach in the above document, but I take your point regarding the Cherwell and Vale analysis that we recently accepted.
- The above approach relies much more on the modelling of AADT and then the predicted increase in Critical Loads and Levels, rather than attempting to work out how many houses will need to be built before there is an effect.
- That said, I think you are on the correct lines, in terms of the quanta of development likely to come forward in Oxford, won't be enough to generate likely significant effect. Especially if we are only talking about an increase of cars from 2031 – 2036 in this assessment, that there won't be a significant increase in dwellings and AADT.
- I think the £200k contributions to cleaner air in Oxford are in important and should form part of the evidence base for considering this issue.
- Equally strong policy provision within the Plan can be considered within the evidence base.
- I'm afraid we cannot accept entirely the rhetoric behind car free developments and student accommodation. The precautionary principle within the Habitats Regulations is such a high bar to pass. We have to assume that they will still generate vehicles on the roads. The cars may not be parked near the development, but could be parked elsewhere in Oxford outside of restrictions, and thus still partake in journeys on either the A34 or A40. I am happy to accept some level of discount, as I do feel they will reduce vehicle movements, but there is no evidence to say they will unequivocally reduce to zero.
- We are committed, outside of the Local Plan forum, to coming forward with a future proofed mechanism for Oxford Meadows SAC for air pollution, hydrology, recreational disturbance. This ties in with the recent NPPF changes and the potential move towards mandatory net gain. This could form a mitigation solution going forward, however we won't be doing anything on this in Beccy's absence. I don't have a timescale for this project.

So I suggest you take a look at the link I have attached and speak to your consultant. I'm very much of the opinion we can reach common ground on there not being an effect, but we need to see a bit more consideration and consolidation of what you have in the email below. As I say above I am around next week if you would rather talk this through. We are also keen for Oxford City to stay in touch with our proposed Oxford Meadows project going forward.

Kind Regards

Marc
Marc Turner – Senior Planning Adviser
Thames Team
Natural England

From: WYATT Richard [mailto:RWYATT@oxford.gov.uk]
Sent: 03 August 2018 15:37
To: Turner, Marc (NE) <Marc.Turner@naturalengland.org.uk>
Cc: Micklem, Rebecca (NE) <Rebecca.Micklem@naturalengland.org.uk>; Petrovic, Milena (NE) <Milena.Petrovic@naturalengland.org.uk>; HARRISON Sarah B. <SHARRISON@oxford.gov.uk>; Riki Therivel <levett-therivel@phonecoop.coop>
Subject: RE: Oxford City HRA: Proposed way forward

Dear Marc,

Thanks for your email. We are pleased that you consider that a position of common ground can be reached. We have been working with our consultant – Riki Therivel – to find a way forward to address the issues that you outline around our previous car-free development rhetoric. This email seeks to find a way to quantify the amount of non-car housing that could reasonably be shown to generate the same amount of traffic as its car-free housing equivalent.

Before I get into the figures I wanted to provide a little more information about the City Council's ambition for city-wide controlled parking zones. The City and County Councils are working together to deliver controlled parking zones throughout Oxford. As previously mentioned the City Council has provisionally earmarked £200,000 of CIL funds for this programme. This is on top of £661,000 which has been identified by the County Council - £250,000 from its own capital programme and £411,000 from held or secured planning (S106) or highways (S278) agreements linked to new developments. The HRA will include more details on the city and county's vision for a city-wide CPZ but for now please be re-assured that by 2031 it is highly likely that the city-wide CPZ ambitions will have been completed. The funds already allocated to this project should give you some re-assurance that it is moving forward with further contributions likely during the plan period.

In terms of the more technical information, we have been working on how best to present the relationship between car-free housing and the equivalent number of non-car free housing that would generate the same amount of traffic.

The starting point was the number of car-free houses in the city. We wanted to find out an equivalent amount of non-car-free houses that we could be confident would generate the same amount of traffic as the car-free equivalent. In order to do this the following conservative/ precautionary assumptions were used.

- ☐ *Disabled drivers:* Given Oxford's age and health profile, up to 10% of residents of car-free non-student developments will be mobility impaired, and up to 5% of residents of car-free student accommodation will be mobility impaired. Arguably non-students with mobility impairment will make less than the average number of car journeys, as they are likely to be older and more infirm: we assume that a non-student with mobility impairments will make 75% of the journeys taken by someone with mobility impairment, and that students with mobility impairments will make 100% of the journeys of students without mobility impairments.
- ☐ *Visitors and tradesmen:* Even if LB Tower Hamlet's full entitlement for visitors was taken up, this would add up to less than 0.1 journey per day, compared to 4-5 journeys in total. The impact of tradesmen would be minimal.
- ☐ *Delivery vehicles:* There is no information about delivery vehicles, but one could assume that 5% of a normal household's vehicle movements would be made by delivery vehicles, and this would be the same in car-free development.

- ☐ *Residents who bypass parking controls:* These would be one-off events, with systems improving as car-free developments become more ubiquitous and legal precedents are set.

The following table sets out the relationship between of 'car-free' housing vehicle movements and those generated by an equivalent non-car-free amount of dwellings..

	Student accommodation	Employer-linked accommodation	Other car-free accommodation
Proportion of 'non car-free' accommodation vehicle-movements generated by:			
☐ People with mobility impairments	5%	7.5%	7.5%
☐ Visitors and tradesmen	0.2%	0.2%	0.2%
☐ Delivery vehicles	5%	5%	5%
☐ Bypassing controls	0	0	0
Total proportion of non car-free accommodation vehicle-movements generated by 'car free' development - assumption	10.02%	12.52%	12.52%
Amount of this accommodation expected	350	1221	522
Amount of 'non car-free' equivalent vehicle movements generated by 'car free' development under above assumptions	35	153	65

Under the above assumptions, **2093 car-free dwellings would generate very broadly the equivalent traffic as 253 'non car free' dwellings.**
The Local Plan proposes 8500 new homes. If 6407 of these are not car-free and 2093 are car-free, together **the 8500 homes in the plan would generate the equivalent traffic movements of 6660 non car-free homes.** Even if the proportion of e.g. delivery journeys was slightly higher, say 6.5%, this would still mean that the proposed level of housing generated no more than the 6695 home-equivalent assumed in the Vale of White Horse HRA.

If you need anything further, please let me know. We're very keen to resolve this and be able to move forward to a position of common ground.

Kind regards,
Richard
Richard Wyatt| Senior Planner | Planning Policy I Planning Sustainable Development and Regulatory Services | Oxford City Council

From: Turner, Marc (NE) [mailto:Marc.Turner@naturalengland.org.uk]
Sent: 08 August 2018 09:46
To: WYATT Richard
Cc: Micklem, Rebecca (NE); Petrovic, Milena (NE); HARRISON Sarah B.
Subject: RE: Oxford City HRA: Proposed way forward

Dear Richard,

Thank you for your reply. I will need to check this approach with our National Air Pollution Specialist, as it is not an approach we have accepted previously. She is unfortunately on leave this week, and then I am on leave the following two weeks.

I will copy Milena, and our Team Leader for Oxfordshire, Charlotte Frizzell in to my email to our Specialist. If she replies whilst I am away, you should still be able to get a more expedient response, than awaiting my return.

Kind Regards

Marc
Marc Turner – Senior Planning Adviser
Thames Team
Natural England

From: HARRISON Sarah B. [mailto:SHARRISON@oxford.gov.uk]
Sent: 08 August 2018 10:13
To: Turner, Marc (NE) <Marc.Turner@naturalengland.org.uk>; WYATT Richard <RWYATT@oxford.gov.uk>
Cc: Micklem, Rebecca (NE) <Rebecca.Micklem@naturalengland.org.uk>; Petrovic, Milena (NE) <Milena.Petrovic@naturalengland.org.uk>
Subject: RE: Oxford City HRA: Proposed way forward

Dear Marc,

Many thanks for your response and for checking this with your National Air Pollution Specialist. Is there any further commitment or information we could provide that might help you? Is it the car free approach that has not been accepted previously?

We have now provided data to show how many car trips car-free development might reasonably be expected to generate. We will have a strong policy requiring car free development. I think that we have actually significantly underestimated the amount of car-free development that will come forward, because a substantial part of the city is already CPZ and very accessible. Because of the precautionary principle we have been cautious in estimates of total car free, and have now factored in potential car trips generated from car free.

In terms for student accommodation (which will be a very small part of our housing delivery anyway, as that is very restricted) all students have for many years signed undertakings not to bring cars to Oxford, and the universities monitor and enforce this. There might be instances where they do manage to have a car (although it is not a necessary or attractive proposition for a student in Oxford anyway), but now we have made some allowance for car trips from car-free development anyway.

Many thanks for taking time to consider Oxford's approach. I would just like to emphasise again that Oxford is a particularly compact and accessible city, and we have a commitment and will have a strong policy that minimises parking (for all types of development).

Kind regards,

Sarah
Sarah Harrison
Team Leader| Planning Policy | Planning, Sustainable Development and Regulatory | Oxford City Council

From: Turner, Marc (NE) [mailto:Marc.Turner@naturalengland.org.uk]
Sent: 08 August 2018 10:35
To: HARRISON Sarah B.; WYATT Richard
Subject: RE: Oxford City HRA: Proposed way forward

Hi Sarah,

It is the car free implications that I am checking specifically. So I don't think there is much else you can provide at this juncture I am afraid. Thanks for the clarification.

Kind Regards

Marc
Marc Turner – Senior Planning Adviser
Thames Team
Natural England

From: WYATT Richard [mailto:RWYATT@oxford.gov.uk]
Sent: 05 September 2018 13:08
To: Turner, Marc (NE) <Marc.Turner@naturalengland.org.uk>; HARRISON Sarah B. <SHARRISON@oxford.gov.uk>
Subject: RE: Oxford City HRA: Proposed way forward

Hi Marc,

Any news from your air quality specialist. Our deadlines are approaching rather rapidly and we would very much value Natural England's comments on our proposed approach.

Kind regards,
Richard
Richard Wyatt| Senior Planner | Planning Policy I Planning Sustainable Development and Regulatory Services | Oxford City Council

From: Turner, Marc (NE) [mailto:Marc.Turner@naturalengland.org.uk]
Sent: 06 September 2018 11:17
To: WYATT Richard; HARRISON Sarah B.
Subject: RE: Oxford City HRA: Proposed way forward

Hi Richard,

No news as yet, but there has been a new recent ECJ opinion, which might be quite relevant to this question. We have only just received it and won't have any guidance on it for some while, but it does look at the question of long term trends in air pollution modelling and mitigation.

I suggest you take a look at this and how it fits with you approach.

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62017CC0293

Kind Regards

Marc

Marc Turner – Senior Planning Adviser
Thames Team
Natural England