

Thames Valley

Environmental Records Centre



Enabling data-driven decisions to better enhance and protect our natural environment

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WEST OXFORDSHIRE GARDEN VILLAGE OFFSETTING GUIDANCE

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QUALITY MANAGEMENT

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FEEDBACK

If you have any feedback on this project, please email tverc@oxfordshire.gov.uk

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1. INTRODUCTION

West Oxfordshire District Council are preparing an Area Action Plan for the proposed West Oxfordshire Garden Village, located near Eynsham. This will set out how the new development will be taken forward, what it will look like and how it will function.

Garden villages are new settlements of between 1,500 and 10,000 homes. These new settlements will be based on key principles established through the 'Garden City movement' in the late 19th Century. The key principle for the natural environment is 'development that enhances the natural environment, providing a comprehensive green infrastructure network and net biodiversity gains, and seeks to minimise carbon use and achieve energy-positive technology to ensure climate resilience'.

The change in the diversity and area of habitats on the Garden Village site were assessed using the 2nd draft of DEFRA's Biodiversity Impact Assessment Calculator to calculate the net amount of biodiversity that results from development. In order to deliver a net gain of biodiversity on the Garden Village site (in accordance with the NPPF) it is likely that some biodiversity units will have to be provided off-site.

In order to support the delivery of the garden village principles, West Oxfordshire District Council asked Thames Valley Environmental Records Centre (TVERC) to provide some guidance on the best locations for the provision of biodiversity units in the local area. This document identifies potential areas that may be best suited to receive management or funding in order to offset the biodiversity loss of this development.

2. METHOD

TVERC have identified the existing habitats both on the garden village site and in the wider landscape and shortlist those that are locally important. Using this list as a guide TVERC have identified locations where habitat could be restored (e.g. nature recovery networks, possible priority grassland) and new habitat created. New habitat should be located where it will improve connectivity between habitat patches and to extend of buffer existing priority habitats. TVERC also looked at the historic locations of orchards in the local area from old maps to suggest locations for the establishment of new orchards.



3. POTENTIAL AREAS FOR BIODIVERSITY OFFSETTING

There are three key areas that have been identified as having potential offsetting value for biodiversity, which we have labelled as areas A, B and C.

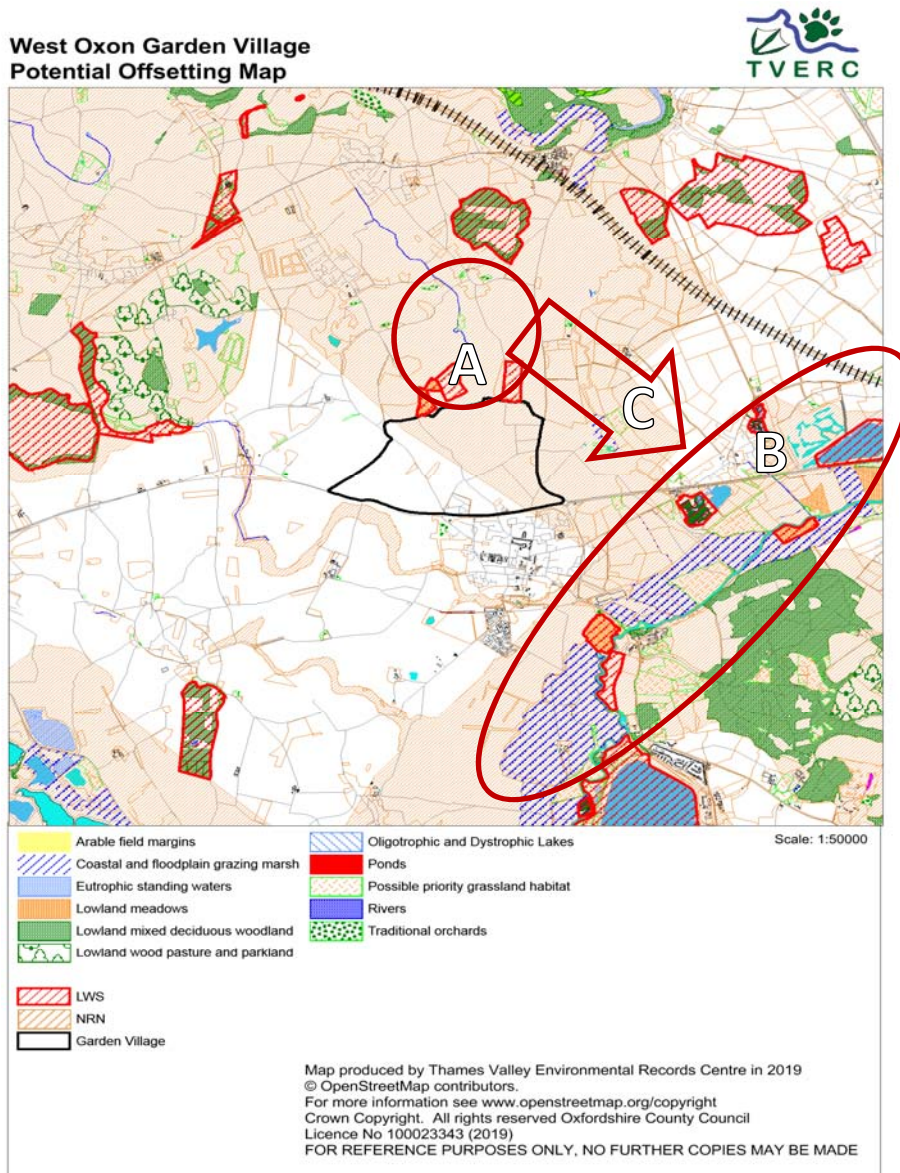


FIGURE 1. AREAS OF BIODIVERSITY POTENTIAL SURROUNDING THE WEST OXON GARDEN VILLAGE.



AREA A

Area A is immediately north of the site. There are two local wildlife sites, South Freeland Meadows (41F01) and City Farm (41F02), the citations for which can be found in the appendices. A report by PlantLife in 2016 outlined fields immediately adjacent to the two sites as having potential biodiversity value, and these may be worth investigating.

**West Oxon Garden Village
Area A**

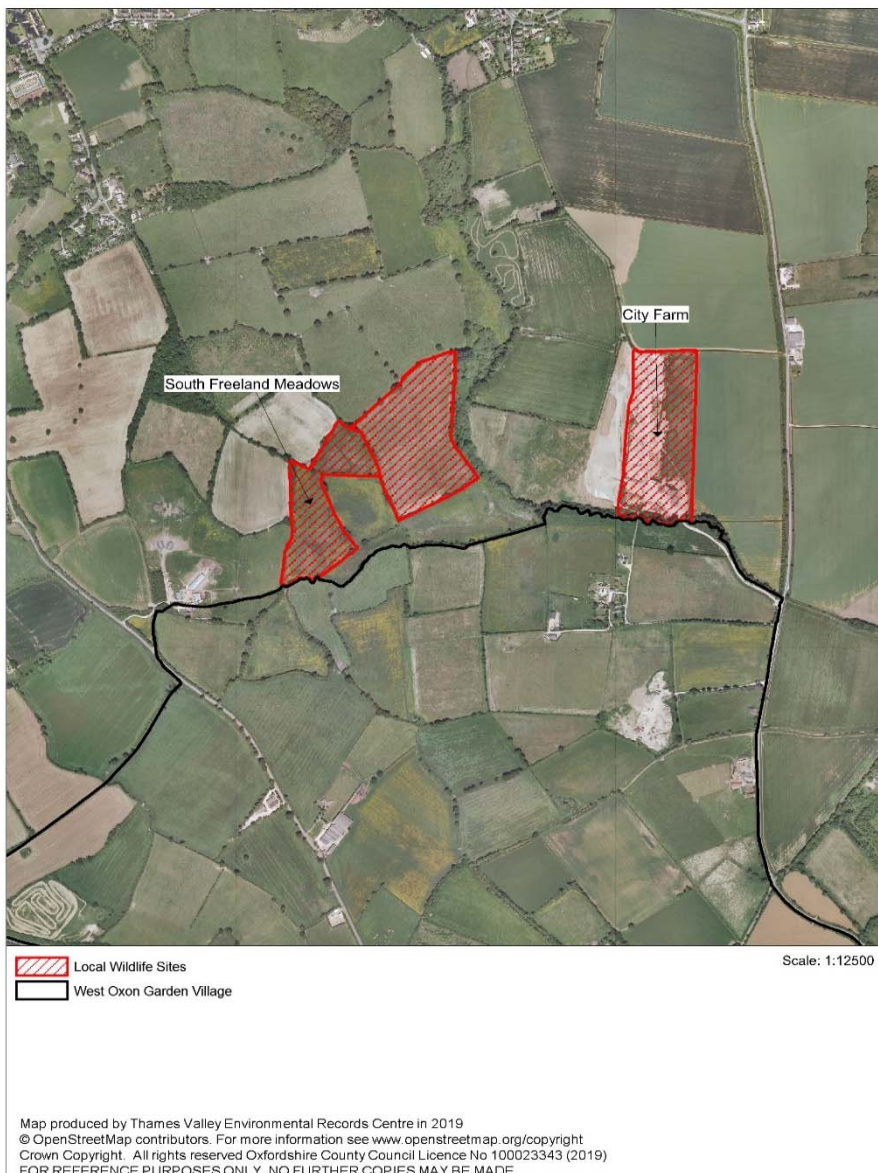


FIGURE 2: POTENTIAL AREAS FOR ENHANCEMENT NORTH OF THE GARDEN VILLAGE SITE.



AREA B

West Oxon Garden Village
Area B

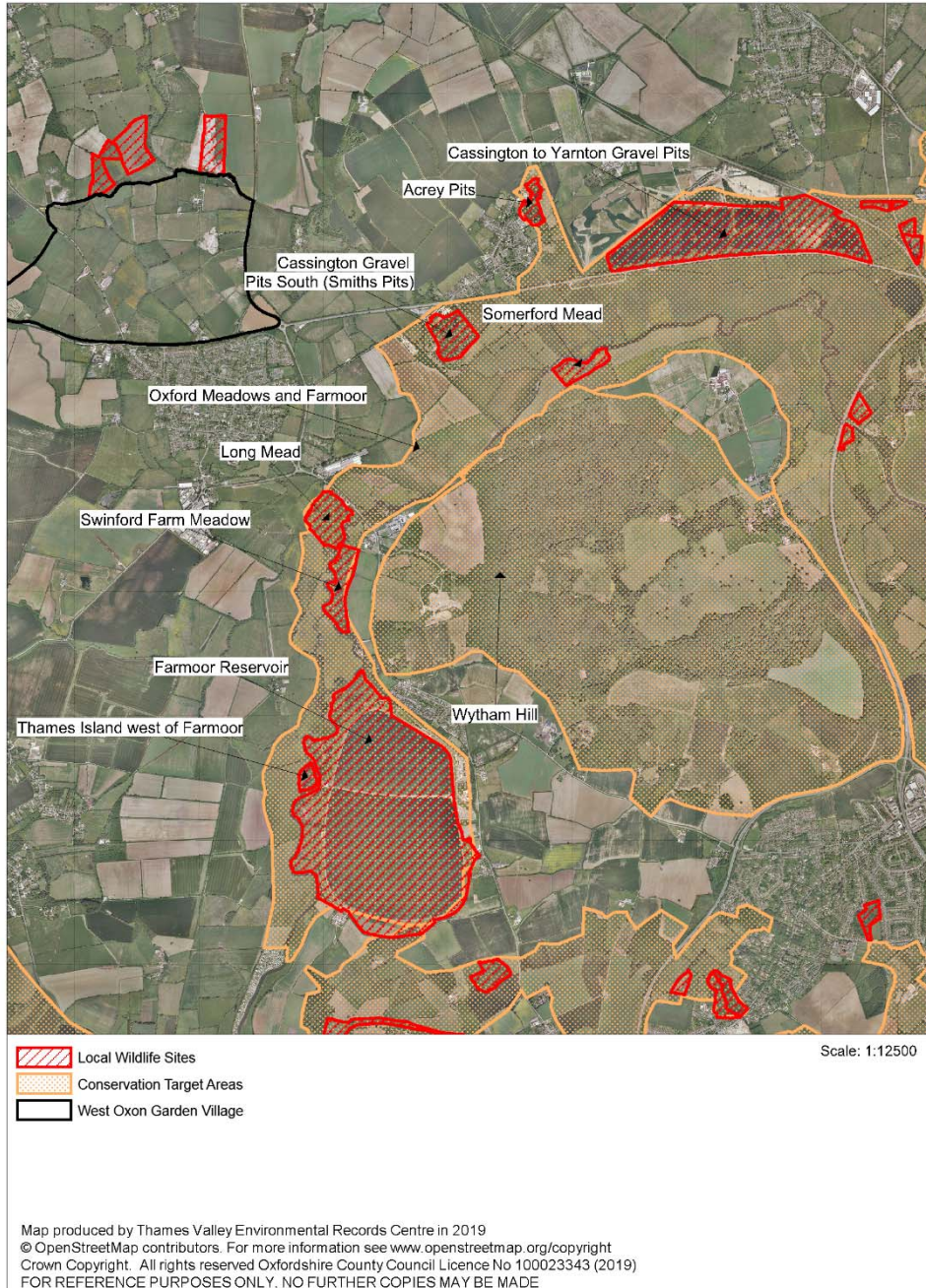


FIGURE 3. THE LOCAL WILDLIFE SITES AND CONSERVATION TARGET AREAS FOUND IN AREA B.

Robbie Still, Biodiversity Data Assistant
January 2020

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Area B is South East of the Garden Village is within [Oxford Meadows and Farmoor Conservation Target Area](#) and immediately adjacent to [Wytham Hill CTA](#) and is a corridor of high quality habitat (see Figure 4) and several local wildlife sites (see Figure 3). TVERC have worked with the landowner of Long Mead LWS in the past and we have been in contact with her over potential funding from the Garden Village. She is interested and is currently looking at projects to enhance floodplain meadows in the Oxford Meadows and Farmoor CTA in addition to her own site. Additionally, there are significant areas of Possible Priority Grassland within this band of habitat which may be worth surveying for management or restoration.

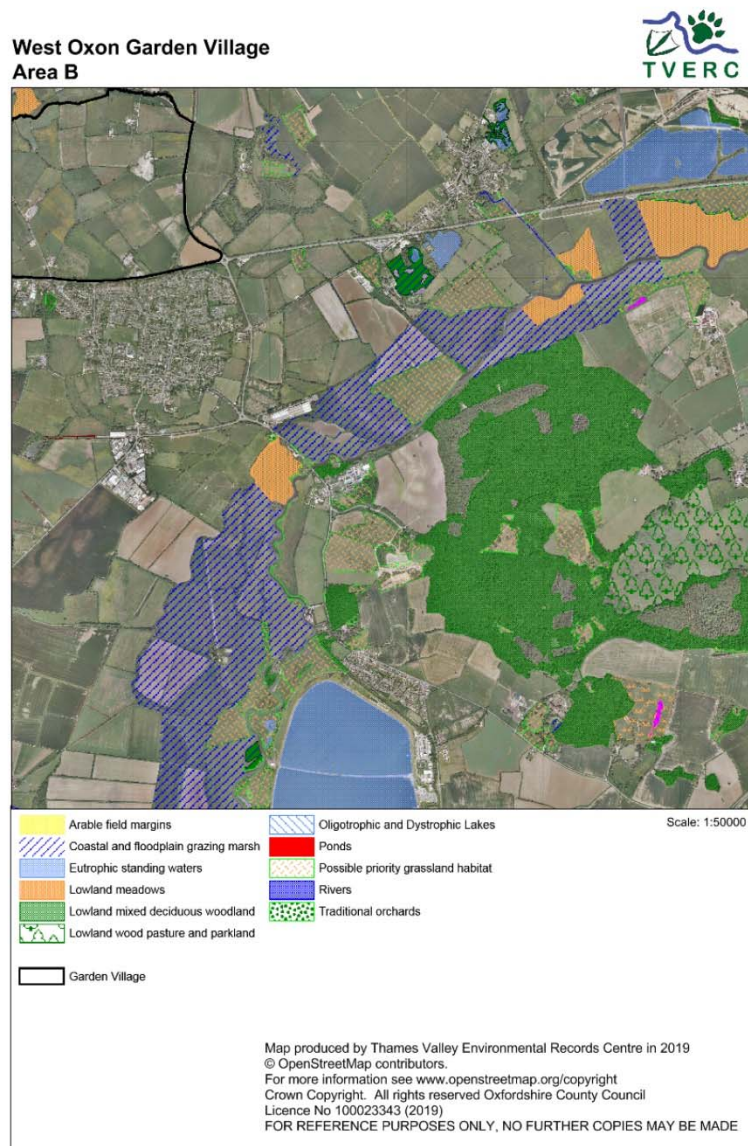


FIGURE 4. THE PRIORITY HABITAT FOUND IN AREA B.

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AREA C

Another potential area for management and improvement is the area between City Farm and the Conservation Target Area, labelled Area C on Figure 1, which is within the Nature Recovery Network, indicating the potential for improved connectivity between the two patches of biodiversity importance. There are two small patches of Possible Priority Grassland (circled in blue) which could be worth investigating as stepping stones between Area A and Area B. Alternatively, a green corridor may be a viable option, the footpath and bridleway (circled in green) may offer a promising initial corridor between the areas.

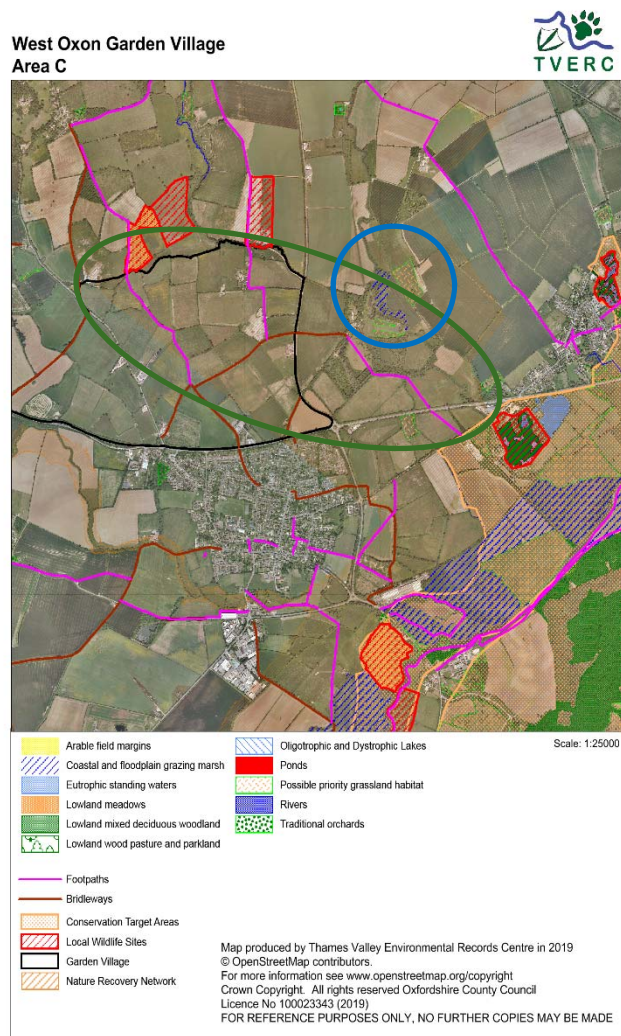


FIGURE 5. TWO POTENTIAL AREAS TO IMPROVE CONNECTIVITY BETWEEN AREA A AND AREA B.



TRADITIONAL ORCHARDS

As Traditional Orchards are a key element of the character of West Oxfordshire, they may be of particular interest for potential habitat restoration or management. There are a large number of Traditional Orchards in the area immediately surrounding the garden village, which are shown in Figure 6.

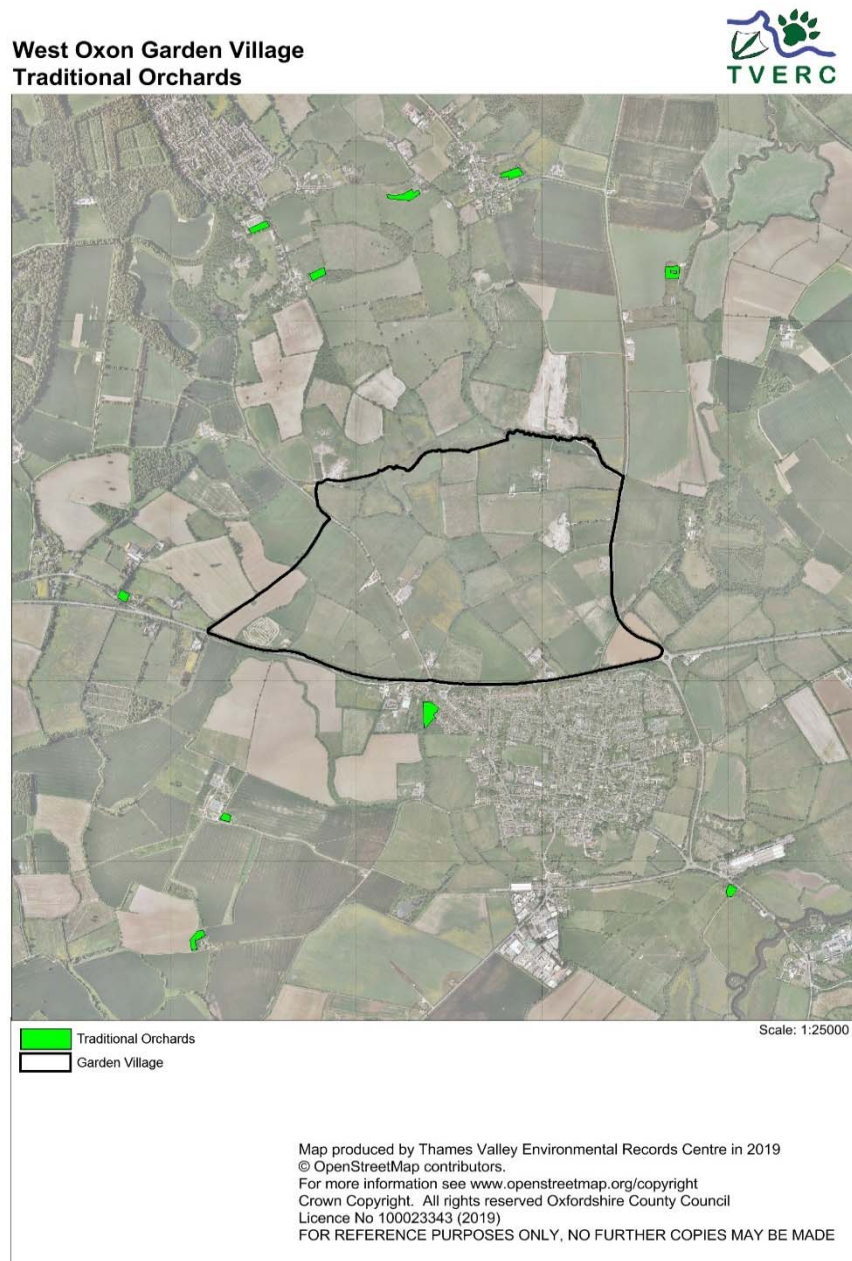


FIGURE 6. TRADITIONAL ORCHARD HABITAT IN THE AREA SURROUNDING THE WEST OXON GARDEN VILLAGE.



4. SUMMARY AND RECOMMENDATIONS

TVERC has identified four locations or broad areas where biodiversity offsetting could be delivered. These are based on existing and potential habitats present in the area and the location of Conservation Target Areas – key locations for the creation or restoration of priority habitat. The delivery of biodiversity units in these areas would contribute to the overall aims of the Conservation Target Areas, but also of the emerging Nature Recovery Network for Oxfordshire.

It is not possible at this stage to identify individual sites where conservation intervention would be appropriate as this depends on land ownership, current management and the potential for the delivery of biodiversity units from enhancement. Engagement with individual landowners would be required to do this.

West Oxfordshire District Council is already working with Trust for Oxfordshire’s Environment (TOE) on the delivery of biodiversity net gain and TVERC recommends early engagement with TOE to find suitable sites to offset the impacts of the development of the Garden Village.

Once potential sites have been identified, TVERC can carry out impact assessments of those sites to demonstrate the uplift a scheme could delivery in terms of biodiversity units.

Once designs for the Garden Village are more certain and the impact on biodiversity assessed, the total number of units required to be delivered off site will be clear. At this stage a more detailed analysis of which sites will deliver the best value for biodiversity can be undertaken, largely through landowner engagement.



5. ABOUT TVERC

Thames Valley Environmental Records Centre (TVERC) is a 'not for profit' organisation covering Berkshire and Oxfordshire. We are run by a partnership and are one of a national network of local records centres. We are a member of the Association of Local Records Centres (ALERC) and the National Biodiversity Network (NBN). Our funding partners include all the local authorities in Oxfordshire & Berkshire plus the Environment Agency. We also work closely with the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust.

WHAT WE DO

We provide our funding partners with annually updated species and sites information as GIS tables, and undertake surveys of local wildlife sites. We also carry out data analysis for the monitoring of local authority Local Plans. We provide information to parish councils, local people, conservation bodies, land-owners, students and commercial organisations such as ecological consultants and utilities companies via data searches, data licensing and data exchanges. We provide other services such as ecological surveys, data analysis & presentation and training.

OUR RECORDS

We hold over 2.7 million records of flora and fauna in Berkshire and Oxfordshire plus information about Local Wildlife and Geological Sites, NERC Act S41 Habitats of Principal Importance (previously called UK Biodiversity Action Plan (BAP) habitats) and Ecological Networks (Conservation Target Areas and Biodiversity Opportunity Areas). We collect this data from the general public, skilled volunteer /amateur recorders, professionals working for wildlife charities (BBOWT and RSPB), professionals working for government agencies (the Environment Agency & local authorities) and ecological consultants. This information is used:

- by planning authorities and developers to make informed decisions on the design and location of sustainable development
- to help farmers, land-owners and conservation organisations manage land in the best way to enhance biodiversity
- by nature partnerships to direct wildlife conservation work
- by teachers, students and scientists for education and scientific research.

For more information please visit our website: www.tverc.org



6. APPENDICES

LOCAL WILDLIFE SITE CITATIONS



SOUTH FREELAND MEADOWS

Site Code: 41F01

Grid Reference: SP423115 Area (ha): 5.6 ha

Local Authority: West Oxfordshire Last Survey Date(s): 2015

Designation Date: Accepted 2000, Retained 2011

Site Description

These two hay meadows are situated on old ridge and furrow on the Oxford Clay. The sward has a number of species are usually only found in meadows that have not been ploughed or re-seeded for many years and have not received artificial fertilisers. These include devil's bit scabious, pignut, sheep's sorrel and bugle. Wetter areas have cuckooflower, greater bird's-foot-trefoil and ragged robin. Sneezewort, pepper saxifrage and green-winged orchid were found in these meadows in 1987 but were not seen in 2001 or in 2011 when devil's-bit scabious, sneezewort and pignut were also not seen. In recent years the management regime has been improved and the abundance and diversity of these species has increased. Devil's-bit scabious, sneezewort and pignut are now present and betony, common spotted orchid and yellow rattle are now to be seen.

A seasonal pond in the northern field has a rare plant, ivy-leaved water crowfoot (*Ranunculus hederaceus*) - this appears to be only recent record for this species in Oxfordshire. The field boundaries include a ditch on the east and thick hedges with field maple, ash, oak, crack willow, crab-apple and hawthorn. Agriculturally unimproved lowland meadows are a priority habitat for conservation in the UK and the meadows at South Freeland are a good Oxfordshire example.

SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE: Lowland meadow

SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE: None recorded

RED DATA BOOK (RDB) SPECIES: None recorded

NATIONALLY SCARCE (NSC) SPECIES: None recorded

BIRDS OF CONSERVATION CONCERN (BoCC):

Red List Species: not surveyed: Amber List Species: not surveyed

TYPICAL LOWLAND MEADOW SPECIES: Sneezewort, pepper saxifrage (old record), green-winged orchid (old record), cuckooflower, devil's-bit scabious, pignut, greater bird's-foot trefoil, ragged robin, lesser spearwort, creeping jenny, betony, yellow rattle, common spotted orchid.



CITY FARM

Site Code: 41F02

Grid Reference: SP425116 and SP431116

Area (ha): 16.6 ha

Local Authority: West Oxfordshire

Last Survey Date(s): 2015

Designation Date: 2017

Site Description

This site consists of two arable fields. The eastern field is on an old landfill site. These fields support populations of arable wildflowers that are recognised as being of European importance based on the Plantlife important arable plant areas scoring system. Other fields close to City farm also support good populations of arable wildflowers. The most endangered species present at City are listed below:

		Status
Annual knawel*	<i>Scleranthus annuus</i>	Endangered
Nettle-leaved goosefoot	<i>Chenopodium murale</i>	Vulnerable
Corn marigold	<i>Glebionis segetum</i>	Vulnerable
Corn spurrey	<i>Spergula arvensis</i>	Vulnerable
Dwarf spurge	<i>Euphorbia exigua</i>	Near Threatened
Field woundwort	<i>Stachys arvensis</i>	Near Threatened
Blue pimpernel	<i>Anagallis arvensis ssp. foemina</i>	Nationally Scarce

22 other species of arable wildflower have been recorded here.

The western field has a lapwing plot, a wild birds seed plot and a pollen and nectar plot. The eastern field has especially large numbers of lapwings nesting with counts of over 30, making it second only to RSPB Otmoor in Oxfordshire, and over 20 pairs of skylark have been recorded nesting here.

SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE: Arable field margins

SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE: Annual knawel, lapwing, skylark

RED DATA BOOK (RDB) SPECIES: see above

NATIONALLY SCARCE (NSC) SPECIES: see above



BIRDS OF CONSERVATION CONCERN (BoCC):

Red List Species: The site has records for **19 Red list** - Bullfinch, Corn Bunting, Cuckoo, Fieldfare, Grey Partridge, Grey Wagtail, House Sparrow, Lapwing, Linnet, Marsh tit, Mistle Thrush, Redwing, Sklark, Song Thrush, Starling, Tree Sparrow, Woodcock, Yellow Wagtail and Yellowhammer.

Amber List Species: The site has records for **19 Amber list** bird species – Dunnock, Gadwall, Green Sandpiper, Greylag Goose, House Martin, Kestrel, Kingfisher, Lesser Black-backed Gull, Mallard, Meadow Pipit, Mute Swan, Reed Bunting, Shelduck, Snipe, Stock Dove, Swift, Tawny Owl, Treecreeper and Willow Warbler.

LONG MEAD

Site Code: 40P03

Grid Reference: SP440086

Area (ha): 15.2 ha

Local Authority: West Oxfordshire

Last Survey Date(s): 2017

Designation Date: 2001, extension added in 2005, retained 2018

Site Description

This site originally consisted of two fields, but they are no longer formally divided. The eastern field, which was designated in 2001, is a species-rich floodplain hay meadow adjacent to the River Thames. The field has meadow buttercup, yellow rattle, meadow vetchling, black knapweed, lady's bedstraw and meadowsweet, together with a wealth of interesting species which are usually found only in meadows which have been traditionally managed for many years without the use of artificial fertilisers. These include great burnet, sneezewort, quaking grass and pepper saxifrage. The western field is an extension to the original Local Wildlife Site and is also on the floodplain alluvium of the River Thames, but is slightly drier.

The old meandering stream channel has damp-loving plants including marsh marigold, ragged robin, water forget-me-not, cuckooflower, common spike rush and several species of sedge including slender tufted sedge. The riverside has hemlock water-dropwort and records for the interesting stingless nettle.

SECTION 41 HABITATS OF PRINCIPAL IMPORTANCE: Lowland meadow

PROTECTED AND NOTABLE SPECIES:

Taxon Group	Taxon Name	Common Name	Status
Birds	<i>Alauda arvensis</i>	Skylark	NERC-S41
Birds	<i>Anas crecca</i>	Teal	Bird-Amber
Birds	<i>Anas platyrhynchos</i>	Mallard	Bird-Amber
Birds	<i>Anser anser</i>	Greylag Goose	Bird-Amber
Birds	<i>Anthus pratensis</i>	Meadow Pipit	Bird-Amber
Birds	<i>Apus apus</i>	Swift	Bird-Amber
Birds	<i>Aythya ferina</i>	Pochard	Bird-Red

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Taxon Group	Taxon Name	Common Name	Status
Birds	<i>Chroicocephalus ridibundus</i>	Black-headed Gull	Bird-Amber
Birds	<i>Columba oenas</i>	Stock Dove	Bird-Amber
Birds	<i>Cuculus canorus</i>	Cuckoo	NERC-S41 Bird-Red
Birds	<i>Delichon urbicum</i>	House Martin	Bird-Amber
Birds	<i>Emberiza citrinella</i>	Yellowhammer	NERC-S41
Birds	<i>Emberiza schoeniclus</i>	Reed Bunting	NERC-S41
Birds	<i>Larus fuscus</i>	Lesser Black-backed Gull	Bird-Amber
Birds	<i>Linaria cannabina</i>	Linnet	NERC-S41
Birds	<i>Motacilla cinerea</i>	Grey Wagtail	Bird-Red
Birds	<i>Numenius arquata</i>	Curlew	NERC-S41 RL-Global-post2001-NT
Birds	<i>Passer domesticus</i>	House Sparrow	NERC-S41 Bird-Red
Birds	<i>Prunella modularis</i>	Duncock	NERC-S41 Bird-Amber
Birds	<i>Pyrrhula pyrrhula</i>	Bullfinch	NERC-S41
Birds	<i>Sterna hirundo</i>	Common Tern	BirdsDir-A1 Bird-Amber
Birds	<i>Sturnus vulgaris</i>	Starling	NERC-S41
Birds	<i>Turdus iliacus</i>	Redwing	WACA-Sch1-p1 Bird-Red
Birds	<i>Turdus philomelos</i>	Song Thrush	NERC-S41
Birds	<i>Turdus pilaris</i>	Fieldfare	WACA-Sch1-p1 Bird-Red
Birds	<i>Turdus viscivorus</i>	Mistle Thrush	Bird-Red
Birds	<i>Vanellus vanellus</i>	Lapwing	NERC-S41
Higher Plants - Flowering Plants	<i>Brassica oleracea</i>	Wild Cabbage	Status-NS
Higher Plants - Flowering Plants	<i>Briza media</i>	Quaking-grass	RL-GB-post2001-NT
Higher Plants - Flowering Plants	<i>Plantago media</i>	Hoary Plantain	RL-GB-post2001-NT
Higher Plants - Flowering Plants	<i>Succisa pratensis</i>	Devil's-bit Scabious	RL-GB-post2001-NT
Higher Plants - Flowering Plants	<i>Triglochin palustre</i>	Marsh Arrowgrass	RL-GB-post2001-NT



TYPICAL SPECIES OF LOWLAND MEADOW:

Taxon Group	Taxon Name	Common Name
Higher Plants	<i>Ophioglossum vulgatum</i>	Adder's-tongue
Higher Plants	<i>Leontodon autumnalis</i>	Autumn hawkbit
Higher Plants	<i>Carex disticha</i>	Brown sedge
Higher Plants	<i>Carex panicea</i>	Carnation sedge
Higher Plants	<i>Lotus corniculatus</i>	Common bird's-foot trefoil
Higher Plants	<i>Centaurea nigra</i>	Common knapweed
Higher Plants	<i>Galium palustre</i>	Common marsh bedstraw
Higher Plants	<i>Carex nigra</i>	Common sedge
Higher Plants	<i>Cardamine pratensis</i>	Cuckoo flower
Higher Plants	<i>Succisa pratensis</i>	Devil's-bit scabious
Higher Plants	<i>Carex flacca</i>	Glaucous sedge
Higher Plants	<i>Sanguisorba officinalis</i>	Great burnet
Higher Plants	<i>Galium verum</i>	Lady's bedstraw
Higher Plants	<i>Triglochin palustre</i>	Marsh arrowgrass
Higher Plants	<i>Caltha palustris</i>	Marsh marigold
Higher Plants	<i>Bromus commutatus</i>	Meadow brome
Higher Plants	<i>Thalictrum flavum</i>	Meadow rue
Higher Plants	<i>Lathyrus pratensis</i>	Meadow vetchling
Higher Plants	<i>Filipendula ulmaria</i>	Meadowsweet
Higher Plants	<i>Leucanthemum vulgare</i>	Oxeye daisy
Higher Plants	<i>Silaum silaus</i>	Pepper saxifrage
Higher Plants	<i>Briza media</i>	Quaking grass
Higher Plants	<i>Lychnis flos-cuculi</i>	Ragged robin
Higher Plants	<i>Leontodon hispidus</i>	Rough hawkbit
Higher Plants	<i>Bromus racemosus</i>	Smooth brome
Higher Plants	<i>Achillea ptarmica</i>	Sneezewort
Higher Plants	<i>Rhinanthus minor</i>	Yellow-rattle