

# The Cassington Green Infrastructure Plan



A Report Prepared for Cassington Parish Council and the Residents of Cassington Village by AD Rogers

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## Introduction

Cassington Village has a history stretching back more than 3,000 years. It is located in West Oxfordshire in a rural area now subject to considerable pressure for housing development. In response to increasing concerns that development may be imposed upon the Cassington with insufficient consideration of sustainability and the well-being of its residents a Neighbourhood Plan was proposed by the Parish Council. As a result, a Neighbourhood Planning Committee was drawn from the residents of Cassington Village with representation of the Parish Council. O'Neill Homer were taken on to act as consultants for the Cassington Village Neighbourhood Plan with funding being obtained from XX by the Parish Council. This Green Infrastructure Plan forms part of the consultation process for the Neighbourhood Plan.

Parish and Town Green Infrastructure Plans are a valuable tool for planners, committees, developers and communities themselves. They can help inform important decisions and assist local people to identify what is important to them, and what they would like to happen in the future. For example, they can inform Neighbourhood Plan policies and designations, and shape the aspirations of a non-statutory Parish Plan. Parish and Town Green Infrastructure Plans have been used to support funding bids, helping people make important improvements to their local environment, and they also provide a snapshot of the local environment.

It should be acknowledged that not all of the aspirations identified in this plan will be delivered, because there are many other influencing factors, such as the views of landowners, existing planning permissions and allocations, potential future land use allocations and the cost of implementation.

The value of this Green Infrastructure plan lies in the fact that it has been produced by Cassington residents for their own community. As such it includes a lot of local knowledge not available to those in local government (e.g. District and County-level planners), regional and national agencies, utility companies and other commercial interests. It can help inform planning decisions and be used as a mechanism to identify where financial benefits from development should be directed. It cannot be used as a tool to prevent development but may influence considerations in the planning process. All aspirations which gained community support have been included; however, it remains a community owned document which, whilst supported by Cassington Parish Council, has not been formally adopted. The plan as a whole is based on a robust approach to mapping and implementing a high-quality Green Infrastructure network for the existing, and future, residents of Cassington Village.

## Endorsements

TBA

## Green Infrastructure

### Definition of Green Infrastructure

Green Infrastructure is the network of green spaces, access routes, wildlife habitats, landscapes and historic features which provide:

- a healthy and diverse environment
- attractive places to live and visit
- a good quality of life
- a sustainable future

Green Infrastructure assets include:

- Accessible green space
- Country parks
- Green corridors
- Urban parks and gardens
- Habitats for wildlife including nature reserves, Sites of Special Scientific Interest and County Wildlife Sites.
- Historic parks and gardens and historic landscapes
- Scheduled Ancient Monuments
- Waterways and water bodies, including flooded quarries
- Public rights of way and cycleways
- Allotments
- Children's play space
- Formal sports facilities
- Cemeteries

It is important to plan the GI network in the same way that we plan other networks and facilities, so that we can safeguard and enhance the environment and meet the needs of a wide range of people, both now and in the future. Green infrastructure also provides social and economic benefits, including:

- Places that can be used as a focus for community and cultural activities as well as events
- Opportunities to keep fit and healthy
- Helps support the local economy, including village shops, pubs and B&Bs
- Links between town and country helping people in rural areas to access facilities
- Helps reduce the use of cars through connectivity of sustainable transport options
- Creation of safe and accessible (for those with disabilities and prams / young children) pedestrian and cycles routes

### Green Infrastructure Themes

Green Infrastructure is composed of 5 themes; landscape, history, biodiversity, access and open space. These themes are presented separately to enable the different elements of GI to be considered both individually in detail and as part of the integrated GI network.

## Aims of the Plan

To identify the key existing natural, historic, cultural and landscape assets, accessible greenspace and rights of way and to plan new features that will provide a connected network of green infrastructure for the benefit of present and future generations.

Objectives:

- To create a comprehensive document that will assist the local community to:
- Protect and where possible enhance the landscape, biodiversity and the historic environment
- Improve access and links for people and wildlife
- Provide a multi-functional green infrastructure network
- Provide a source of information and guidance for planners, landowners and developers in formulating land use plans
- Consider the next generation in planning for the future
- Promote community involvement
- Improve safety and protection of people
- To improve the well-being of the people of Cassington
- Identify projects and produce an action plan to implement projects.

## Links to other Plans

The Cassington Green Infrastructure links to policies outlined in the National Planning Policy Framework (2019) and the West Oxfordshire District Council Local Plan 2031 (WODC, 2018). It specifically provides background and informs policies in the Cassington Village Neighbourhood Plan.

## Methodology & Community Involvement

The Cassington Green Infrastructure Plan was assembled largely through research using planning documentation and other sources from West Oxfordshire District Council (grey literature) as well as academic literature (peer-reviewed papers) on specific topics. As well as these sources local knowledge was used on topics such as foot paths, biodiversity and amenities. In addition to these sources maps were prepared using a combination of ESRI Map Viewer Classic (e.g. Environment Agency Flood Risk maps) and ESRI Map Viewer Classic for a base map and MS Powerpoint for labelling (e.g. Footpaths). Maps for biodiversity planning were downloaded from Magic Maps (<https://magic.defra.gov.uk/>). Most of this research was undertaken by Prof. Alex David Rogers, a resident of Cassington Village in consultation with the Neighbourhood Plan Committee (Members: Piers Beeton, Ian Finlay, Parish Councillor Barbara King, Anne Luttmann-Johnson) and with Leani Haim from O'Neill Homer.

Subsequent to this initial work, the Green Infrastructure Plan was presented to the public, mainly villagers on the 26<sup>th</sup> June, 2021 at the Cassington Village Hall. This meeting was aimed at informing the village on the contents of the Green Infrastructure Plan and Neighbourhood Plan which was being put together by O'Neill Homer for the Parish Council. Feedback was gathered from the meeting for further input to both the Green Infrastructure and Neighbourhood plans.

## Cassington: Current Environment and Considerations for Future Planning

### Flood Risk

As can be seen in Figure 1 Cassington is at low risk of flooding from the River Thames to the South and the River Evenlode to the west. However, the village is at risk from surface flooding events even at a 1 in 30 year event. Elm's Road appears to be particularly vulnerable from these events which

result from surface water draining off the fields to the north of Cassington. This is consistent with flooding of properties on Elm's Road in 2007 (WODC, 2008). Foxwell Court, St Peter's Close, Horsemere Lane, Foxwell End and Reynold's Farm are also at risk of flooding from extreme surface water events (WODC, 2008). Outside the village Jericho Farm and Worton are also vulnerable to flooding and the road junction to Worton Farm was flooded over the winter of 2020/2021. Following the 2007 flood events action was taken to mitigate future surface-water flooding including the clearing of previously blocked drains and the building of a drainage pond behind the south west corner of the playing fields. Since this time there have been no further property flooding events in Cassington village although the threat remains.

A further flood risk to the village is the existence of an ageing high-pressure water line which runs from Farmoor Reservoir to Banbury which lies to the north of the village. This buried water main crosses the Track where there are several concrete manhole covers. The main has failed previously in other locations and has caused considerable flooding issues and may represent a significant risk to village households and even possibly a threat to life.

Mitigation measures to prevent future flooding should include:

- Maintenance of the network of drainage ditches, especially those around Elm's Road and culverts to the south of the Eynsham / Yarnton Road.
- Road improvements to ensure sufficient means of drainage are in place and maintained.
- Ensure that any new builds do not impede surface water run-off.
- Developments that potentially affect surface water runoff in the vicinity of Elm's Road should be avoided.
- Any future development of housing in Cassington should be accompanied by an upgrading of drainage in the village (including sewage) to keep pace with population.
- Discussions should be initiated with Thames Water to ascertain the level of flood risk from the Farmoor to Banbury high pressure water main. An emergency plan should be developed in collaboration with Thames Water and West Oxfordshire District Council for the eventuality of a flood originating from this water line.
- Discussions should be held with landowners to the north of the village in relation to measures to prevent surface water flooding resulting from intense rain events and rapid movement of water from fields towards the Thames. Measures might include improvement of ditches, planting more trees or shrubs along hedgerows and even consideration of inserting more hedgerows across current large fields. Agroecological methods that increase soil organic matter content may also help to soak up water and release it over longer time periods.



Figure 1. UK Environment Agency Flood Risk Map. Flood Alert Areas shown in mid blue. These are mainly associated with rivers in the area. Surface flooding event risk is shown in pale blue (1 in 100 year event) and dark blue (one in 30 year event). These are consistent with recent flooding history.

## Traffic Pollution

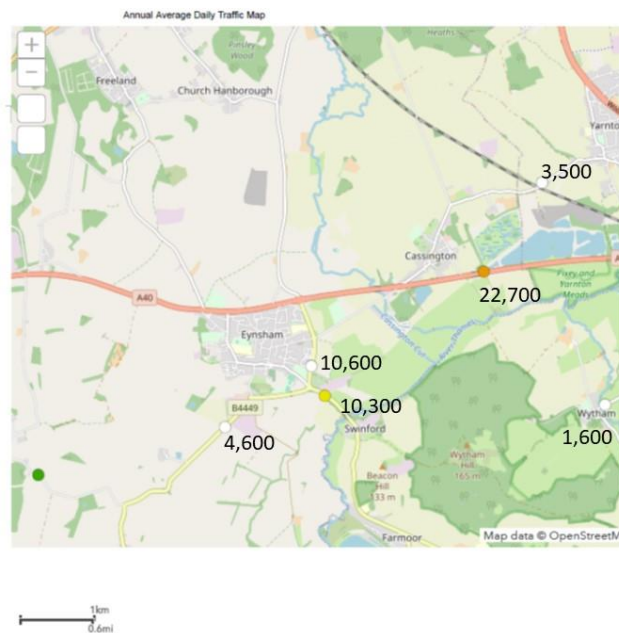


Figure 2. Local traffic surveys (latest dates 2017-2019) around Cassington. As can be seen the traffic loading on the A40 is 22,700 vehicles a day with a further 3,500 journeys recorded on the Yarnton Road. No data has been collected for the Bladon Road or for Cassington itself.

Road traffic is a significant cause of air pollution in the United Kingdom. As with other parts of the country, Oxfordshire is seeing a significant level of respiratory diseases such as asthma (OCC, 2015) which may be caused or aggravated by air pollution. Estimated mortality rates caused by air pollution in the county are at around 5% but this figure is subject to considerable uncertainty (OCC, 2015). Ascertaining the impacts of increasing traffic on air quality in Cassington is not possible at present because no studies have been undertaken. The nearest measurements of air quality are at Eynsham Surgery where a level of  $9.11 \mu\text{g m}^{-3}$  for PM 2.5 is recorded. This is just below the World Health Organisation annual limit of  $10 \mu\text{g m}^{-3}$ . Note that these measurements are annual averages so levels by the roadside or daily levels may exceed the average figure. Within Oxford itself recommended levels of airborne pollutants such as PM 2.5 periodically exceed WHO recommendations. It is also notable that Bladon, through which A4095 runs (13,000 - 14,000 car journeys per day), has nitrous oxide levels that exceed recommended levels on some months of the year (WODC, 2020). There is therefore a risk that the heavy traffic on the A40 and increasing traffic within Cassington itself may lead to levels of pollution exceeding WHO recommended limits on occasions. This risk will increase substantially with major housing developments at Eynsham and Salt Cross (3,100 houses) and at Yarnton/Begbroke as well as development taking place in Long Hanborough and other surrounding villages which will all lead to an increase in traffic. Over the long-term (20-30 years) adoption of electric vehicles or electrofuels may reduce hazards from traffic pollution. In the meantime, it would be sensible to take the following measures:

- (i) Request from WODC that air quality monitoring is put in place for Cassington to assess the threat from increasing traffic levels through the village and along the A40
- (ii) Adopt policies both locally and at district level that reduce vehicle journeys within and to/from and through the village
- (iii) Undertake measures to mitigate pollution from the A40



- (iv) Survey traffic density through Cassington now and monitor in the future in case measures to mitigate traffic flow are required.
- (v) Request modelling of traffic flows for Cassington over a 10-year horizon with inputs including the increased housing, car ownership and traffic from surrounding developments in West Oxfordshire and Cherwell

### Noise

Noise from the A40 is a significant problem for the village and is now noticeable across 24 hours. Heavy Goods Vehicles are a particular issue as they accelerate down the hill from Cassington Traffic Lights. Further sources of environmental noise include air traffic from London Oxford (Kidlington) Airport and RAF Brize Norton. Traffic through the village is light at night times. Some noise from local farms can also be heard at certain times of the year (e.g. gas guns to scare birds) but this is at acceptable levels and reflects the rural location of the village. The following measures should be undertaken:

- (i) Consultation with WODC is undertaken to ascertain what mitigation measures for traffic noise from the A40 might be put in place especially with the planned widening of the carriageway to incorporate bus lanes (e.g. planting of trees / shrubs to reduce traffic noise and pollution; adding other forms of acoustic barriers; road surfacing to reduce noise). This is especially important as planned works may result in loss of current vegetation along the A40.
- (ii) Ensure that the Parish Council has effective representation on the consultative committee for London Oxford Airport to try and prevent air traffic from significantly increasing over the village.

### Light

The benefits of a dark night sky are wide ranging and include (adapted from Cornwall Country Council, 2019):

- Enjoyment and appreciation – improving quality of life and providing creative inspiration
- Health – promoting better sleep patterns and reducing stress
- Wildlife – supporting a more natural environment for both nocturnal and diurnal animals
- Educational outreach – potentially including formal education and more informal activities
- Leisure advantages – enhancing conditions for amateur astronomy
- Energy efficiency – reducing wastage from unnecessary or excessive lighting

The National Planning Policy Framework (2019) states that planning policies and conditions should “limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation” (Cornwall Country Council, 2019). This is supported by National Planning Policy Guidance on Light Pollution (2014; Cornwall County Council, 2019)

Cassington village has never had street lighting installed which means there is a low level of disturbance to both people living in the village from streetlights and also to nature. This also makes the village a good location for star gazing with telescopes. At present the majority of residents are against installation of street lighting so new housing developments, modifications to the roads, such

as traffic calming and other developments in the future should either maintain the “no street lights” policy or use lighting that is designed not to cause light pollution.

Potential policies could include:

Proposals for development should demonstrate that, if external lighting is required, it protects the night sky from light pollution through:

- The number, design, specification and position of lamps;
- Full shielding (at the horizontal and above) of any lighting fixture exceeding 500 initial lumens and evidence of limited impact of unshielded lighting through use of adaptive controls; and
- Limiting the correlated colour temperature of lamps to 3000 Kelvins or less.

Proposals for development should demonstrate that, light spill from within buildings will be reduced by:

- avoiding or recessing large areas of vertical fenestration;
- avoiding glazing which is facing upwards (whether horizontal or angled) including conservatory roofs; and
- within a site, locating and orientating development as sensitively as possible.

### Footpaths

Access to a network of high-quality open spaces and opportunities for sport and physical activity is important for the health and well-being of communities (National Planning Policy Framework, 2019). Planning policies should be based on robust and up-to-date assessments of the need for open space, sport and recreation facilities (including quantitative or qualitative deficits or surpluses) and opportunities for new provision (National Planning Policy Framework, 2019). Cassington is located in an area mainly of agricultural land although to the south lie ancient flood meadows including Special Sites of Scientific Interest (SSSI). There are 5 main footpath routes out of the village (Figure 13):

- Path 1. Known locally as “The Track” (Figure 3,4) this is a commonly used route for walking, jogging and exercising dogs. The track comes to a dead end beyond Purwell Farm although it is possible to make a circuit by walking / jogging along the private road to the farm and then down the Burleigh Road and back to Cassington directly or via Worton (5.4km).
- Path 2. Known locally as the “Worton Path” (Figure 5a,b, 6a,b, 7, 8) this is also a route commonly used for walking, jogging and exercising dogs. The path runs through Worton Farm and then connects to footpaths to Yarnton or across the A40 to Yarnton Meadows and the Thames. From Yarnton it is possible to connect to a wider network of footpaths to the east including the Oxford Canal (Shakespeare’s Way). An alternative route crosses the Yarnton Road up past the Cassington Sewage Works connecting to Begbroke, Bladon and Bladon Heath.
- Path 3 This footpath connects to Lynton Lane and runs across meadows to a mix of native trees and conifer plantation then along the A40 in the trees just north of the cycleway (Figure 9a,b 10a,b). The footpath along the A40 is often overgrown and poorly maintained making it difficult to pass (Figure 10b). It connects to the Yarnton Meadows but this entails crossing the A40 and is hazardous (Figure 11,12). Beyond Yarnton Meadows the footpath connects to Wolvercote and Oxford or alternatively to Shakespeare’s Way and the Oxford Canal heading north through Yarnton and beyond.

- Path 4 Eynsham Mill. The footpath can be accessed via the old Cassington – Eynsham Road (involves crossing the A40 at the traffic lights then crossing a field then crossing the A40 again so hazardous). Alternatively, pedestrians can walk from Cassington down the north side of the A40 until the footpath is reached. From here it crosses a field, follows the River Evenlode for a short distance before crossing the grounds of Eynsham Mill. Beyond here the footpath follows field boundaries, crossing Lower Road (hazardous) and then traversing field boundaries to Eynsham Wood. From here the A40 can be crossed into Eynsham. Footpaths connect this footpath west of Lower Road to footpaths heading north to Church Hanborough and Freeland. Note that the building of Salt Cross will largely obliterate the countryside to the west of Lower Road through which Path 4 traverses.
- Path 5 Eynsham. This walking route is along the old Cassington – Eynsham Road ending at Eynsham. This route forms an important pedestrian / cycling link to Eynsham and its amenities including shops, cafes, schools and public houses. It is particularly important for families (e.g. for those walking with prams and / or young children) and also for cyclists, (especially for teaching children to cycle safely on a road with light traffic). Footpaths at the southern end strike south to connect with Eynsham Lock and the Thames Path. The Thames path also connects to the east with the Oxford Green Belt Way with access to Wytham Wood (permission required). The Thames Path connects to the south with Farmoor Reservoir, Stanton Harcourt, Northmoor and Newbridge (historic location). Chimney Meadows, a Wildlife Trusts Site.



Figure 3. Entrance to Foot Path 1 “The Track”. This is the only footpath accessible to less mobile members of the community. Note that even here the gate is quite narrow.



Figure 4. Footpath 1 “The Track” Cassington, adjacent to the allotments. Note that although the track is wide it is quite uneven rendering it difficult to use for wheelchair users. The borders of the track are rich in wildflowers.



Figure 5a,b. Foot Path 2, the “Worton Path” (a) Style at start of foot path and (b) field showing band of mixed trees that runs from the Yarnton Road to the A40.



Figure 6a,b. Foot Path 2 (a) Footpath to the east of Worton Farm (b) Dense growth along the foot path where it runs parallel to the railway tracks.



Figure 7. Meadows south of Yarnton accessible as part of a walk from Foot Path 2 or Foot Path 3.



Figure 8. Yarnton Church viewed from meadows in Yarnton accessible as part of a walk from Foot Path 2 or Foot Path 3.



Figure 9 (a) Start of Footpath 3, view from Lynton Lane style; (b) Crossing the fields through lowland meadow towards A40.



Figure 10 (a) Footpath 3 track along mixed forest to the east of Cassington (b) Overgrown footpath along A40.



Figure 11. The hazard of crossing the A40 on Footpath 3 from east of Cassington to the lowland meadows to the south of the A40. Sunday 30<sup>th</sup> May ~ 10.30am. The cycle path along the A40 is visible on the right (southern side of A40).



Figure 12. Cassington Meadows SSSI, an example of rare lowland meadow.

Most of these footpaths or pedestrian walkways offer walking and jogging routes from 3km to 20km plus. Common jogging routes tend to be circular or partly circular routes closer to the village. Several of these paths or walkways involve crossing dangerous roads, especially those that head south from the village (A40). Rivers also constrain some routes. The development of Salt Cross will lead to a loss of amenity to villagers who use Path 4.

Few of the paths are suitable for those who require the use of mobility aids, such as wheelchairs or scooters; or for parents with babies in prams or buggies. Path 1 is accessible in good weather, although the surface can be very rough and pitted, and the gate at the start of the track beside Williams court is very narrow. Path 2 is inaccessible because of a stile at the start of it. Path 3 and 4 are inaccessible as they run across fields. Path 5 is accessible as far as the roundabout on the Eynsham bypass, but then it is necessary to go along the grass verge, which is not easy or safe.

The following measures should be investigated:

- The loss or degradation of Footpath 4 as a result of the development of Saltcross village is contrary to the National Planning Policy Framework (2019) and Cassington Parish Council should make enquiries as to whether a replacement footpath or route is planned which will provide a similar experience of walking in the countryside.
- The connection of Footpath 1 to Long Hanborough by extending the path to connect with the existing bridge over the River Evenlode or construction of a new bridge and from there to connect with the northern end of Lower Road or cross it to an existing footpath. This footpath could be converted to a Greenway, allowing both walkers and cyclists to use it and to open a new, mostly off-road cycle path to Long Hanborough for purposes of both commuting to work and for leisure. It provides an opportunity to



extend the local open space for recreation and adds to the footpath network, consistent with the National Planning Policy Framework and provides a safer commuting route for workers travelling between Cassington and Long Hanborough.

- Better maintenance of Footpath 3 along the A40.
- As part of the A40 improvements scheme a pedestrian crossing should be placed to allow walkers on Footpath 3 to safely cross from the north side of the A40 to the meadows on the southern side. This would improve Footpath 3 and access to the meadows to the south of the A40, consistent with the National planning policy Framework (2019). Concerns about the crossing interfering with traffic flow could be allayed by only operating the crossing at weekends and during public and school holidays outside of peak traffic flow times.
- Improvements to the accessibility of the footpaths should be considered to enable greater use of them by all residents including those with mobility issues and parents and grandparents pushing prams and buggies. These improvements could include the changing of Stiles to gates more friendly to people with mobility issues or on wheelchairs / scooters. This is a clear opportunity to provide better facilities for users and is consistent with the National Planning Policy Framework (2019).

### Cycle Paths

There is only one cycle path close to Cassington, the A40 cycle paths which are located at present both on the north and south side of the carriageway (Figure 11, 13). This is an important cycle route as it connects to Oxford City Centre to the east and to Witney in the west. It is therefore important for those that wish to use a bike to commute to work at these locations. There are, however, several issues with this cycle track:

- It is fully exposed to noise and pollution from traffic on the A40 and therefore the wearing of an anti-pollution mask is probably a wise precaution.
- The cycle path is unmarked and unlit so bright lights are required in conditions of poor light or at night.
- It crosses the exits from several roundabouts which are dangerous to negotiate.
- During the summer the cycle path can be encroached by vegetation including sting nettles.
- During winter months pooling of water on the cycle path can lead to frozen sheets of ice which are hazardous to cyclists (the author has witnessed one cyclist injured this way).

There are plans to improve the cycle path as part of the A40 improvements by widening between Cassington and Oxford. This may include the placement of a new cycle connection to the cycle path along the canal into Oxford. As a result, this will allow cyclists on the north side of the A40 to avoid the dangerous crossing of the A40 at the Pear Tree roundabout. Such a connection, however, will be expensive so whether it is approved or not remains to be seen.

The cycle route to Eynsham is via the Cassington – Eynsham Road which is a no-through road for vehicular traffic and therefore reasonably safe for cyclists. This is up to the point of the roundabout on the B4449 which is hazardous to cross into Eynsham by foot or cycle as demonstrated by a teenager being knocked off their bike by a driver and injured in July 2021. Cycling routes to Yarnton, Bladon / Woodstock and Long Hanborough are along country roads. These routes are hazardous for cyclists for various reasons including fast-moving traffic, blind bends, hump-backed bridges, difficult junctions (especially on the A4095 travelling east and trying to turn into Lower Road or the Burleigh

Road) and badly maintained road edges which are partially collapsed, cracked or pot-holed. Recommended improvements include:

- Maintenance of existing cycleways so they are cycle friendly all year around.
- Development of a new Greenway connecting Cassington and Long Hanborough (see Footpaths). This would be consistent with policies on Open Space and Recreation in the National Planning Policy Framework (2019).
- Maintenance of main road cycle routes to keep the roads safe for cyclists as well as vehicles. This is particularly with respect to crumbling verges.
- Improvement of junctions with the A4095 to improve safety for cyclists, for example by provision of an island at the junctions to protect cyclists travelling east turning right onto the Eynsham and Burleigh Roads).
- Placement of a pedestrian crossing at the roundabout on the B4449 connecting Eynsham to the Cassington – Eynsham Road.
- Decrease the speed limit on the Burleigh Road to 50mph from its currently unrestricted limit.
- Provision of cycle racks in strategic locations in Cassington and surrounding villages / work locations to improve accessibility for cyclists.
- There should be consideration of infrastructure improvements that would increase the connectivity of Cassington with the wider cycle route network. As such the new connection of the cycle route along the A40 with cycle paths into Oxford along the canal is to be encouraged. It would also be consistent with the National planning Policy Guidance (2019).

#### Village Safety

There are major concerns which are repeatedly discussed at Parish Council meetings in relation to the safety of the village particularly with respect to speeding traffic on the main road through Cassington. Existing highways and footways are not adequately designed for the volume of traffic through the village (narrow highway, blind bend at the end of the straight from the A40 to the Chequers Pub, narrow and uneven footpaths). Future plans for the village require mitigation of dangers arising from traffic which may increase as a result of development from within the village or as a result of large-scale development surrounding the village. In the former case, developers will need to deliver such mitigation measures as part of developments. In the latter case, West Oxfordshire District Council or Oxfordshire County Council should foot the bill for mitigation measures, not the residents of Cassington.

- Dangers arising from traffic increases related to developments within the village should be mitigated through measures designed and paid for by the developers.
- Increasing hazards from elevated traffic levels resulting from development in West Oxfordshire and Cherwell Districts should be mitigated through traffic calming measures paid for by Oxfordshire County Council or West Oxfordshire District Council.
- Opportunities to increase the safety of the residents of Cassington from traffic or other sources of hazard should be examined by the Parish Council and reviewed regularly.

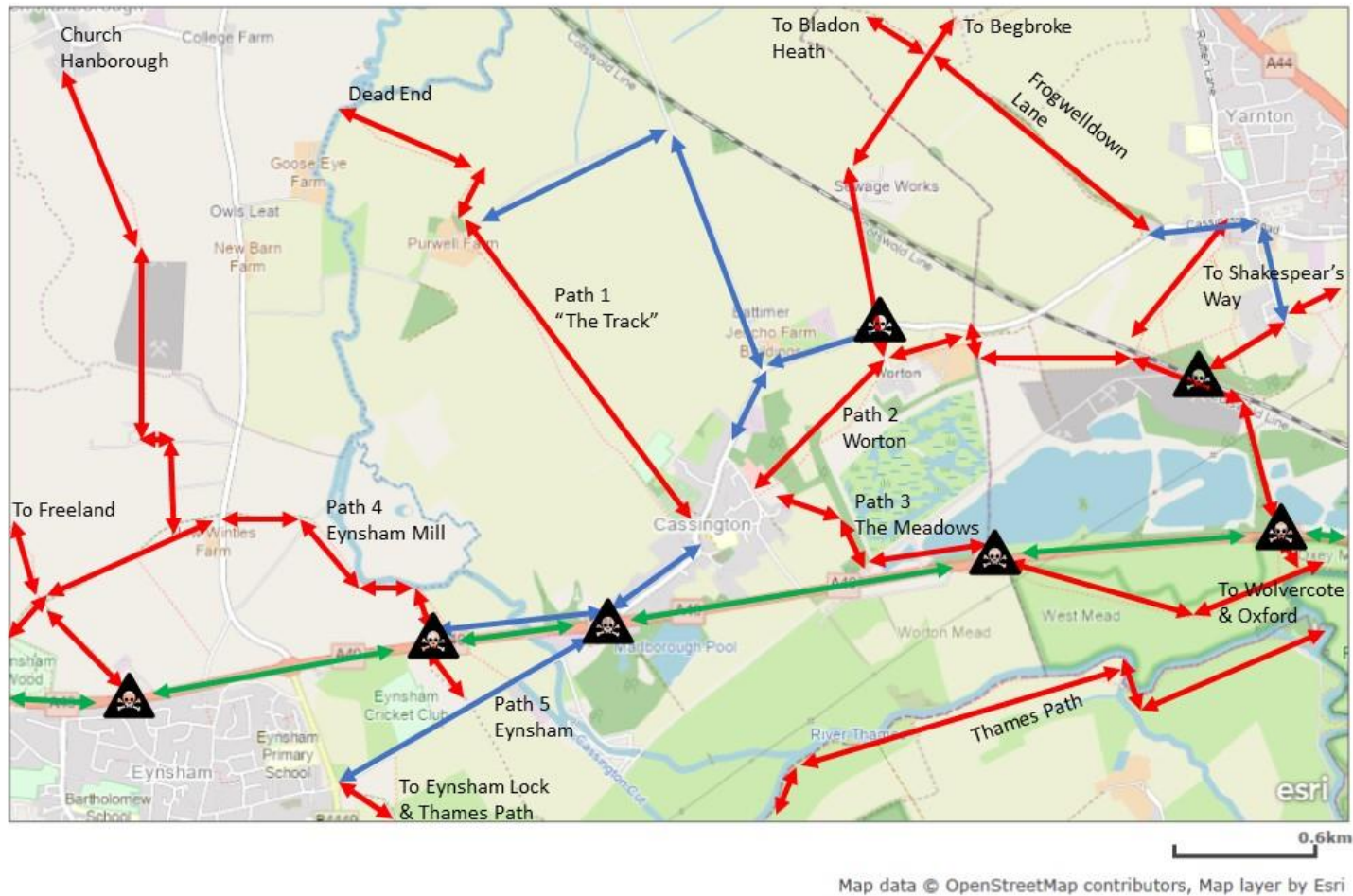


Figure 13. Cassington Village. Footpaths (red arrows), pedestrian routes along roads (blue arrows), cycle paths (green arrows). Hazardous cross points of fast roads or railways are indicated (skull and cross bones).

## Cassington, History and Heritage

Cassington and the surrounding area has been occupied for at least 3000 years with evidence of Neolithic, Bronze Age, Saxon and Roman activities uncovered in archaeological investigations at Purwell Farm, Worton Farm, and even at the recent construction site of houses built by Blenheim Estates along the Cassington-Yarnton Road (Barrow Court). The village was a part of a network of peasant farm villages in the area. Within its boundaries there is a Saxon Cemetery and much evidence of previous occupation. Despite the impacts of the building of the A40 and the extraction of gravel to the north and south east of the village as well as new build, the centre of the village still retains much of its original character and old settlement pattern. This is why the centre of the village is designated as a Conservation Area (Figure 14) with a high concentration of Grade 2 listed buildings as well as a 12<sup>th</sup> Century Church and significant boundary walls (WODC, 2007; Figure 15, 25,27). Essentially the village developed piecemeal along the high street and attached lanes. Existing new builds essentially follow this development pattern (e.g. along the Cassington – Yarnton Road) or are infill or brown-field sites.

As part of the history of Cassington Village it was subject to land enclosures over a period of several hundred years. The Inclosure Act of 1801 was particularly significant for Cassington where nearly 2000 acres of land were enclosed between 1801-1804, the great bulk of which went to the Duke of Marlborough, more than 1,300 acres, covering most of the land to the north and west of the village (Baggs et al. 1990). Blenheim set about a reorganisation of the roads, waterways and land surrounding the village leading to its current configuration. It was at this stage that the outlying farms surrounding the village were established.

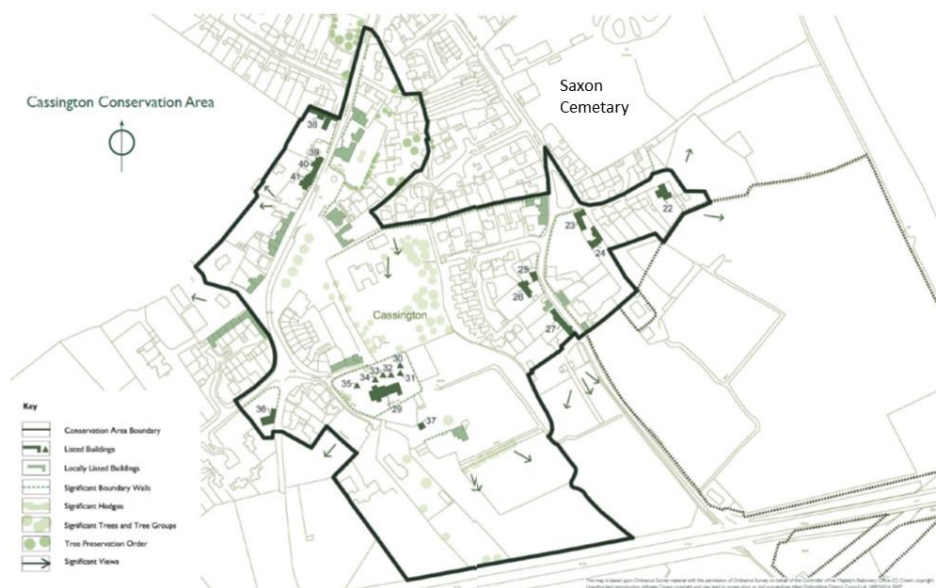


Figure 14. Cassington Conservation area showing boundary (dark green), listed buildings, significant boundary walls and views (WODC, 2007).

The buildings in Cassington that make up the core area of the centre of the village are described as vernacular in character and are small in scale and of simple construction. Cottages are typically two stories high, some with dormers, with plain timber lintels and gable-end chimneys. The building material is typically the local pale limestone in coursed rubble form. Roofing materials are generally replacement materials with some remnants of Stonesfield slate and one thatched roof remaining. St

Peter's Church is the most significant building and is Grade 1 listed (Figure 15). It dates from the 12<sup>th</sup> Century and includes a "wealth of fine details" both outside and inside the building. Many of the old cottages around the Upper Village Green and some in the vicinity of the Lower Village Green and Horsemere Lane are Grade 2 listed buildings, as is the Cassington War Memorial. Drystone walls are a notable feature of some areas of the village and also lie along the footpath connecting the Upper Green and Lower Green (Figure 25). The Conservation Area reports that much of the 20<sup>th</sup> Century development of the village was out of character with its historic buildings with the exception of the development to the southwest of the Upper Green (includes the Chequers Pub; Figure 16). Much of the Upper Green has been lost over time to building, such as for the village school (St Peter's). The wider area around the village is rural in nature and essential to protecting its rural character. Green space dividing Cassington from the small settlement of Worton and larger settlements of Eynsham, Yarnton, Long Hanborough and Bladon must be maintained for this purpose. It is also noted that these spaces include important archaeological sites, for example the field to the east of Bell Lane is the site of a Saxon Cemetery (Bell & Hey, 1999) but lies outside of the Conservation Area. These spaces are also crucial for wildlife and for outdoor activities such as walking. It is important that the following are considered for the future preservation of the character of Cassington Village:

- Restrict development within the current conservation area, including where important viewpoints are indicated.
- Where development is permitted in the village it should be restricted where feasible to brown field sites or sites which have a low-level of impact on the visual character and amenity value for current residents.
- If development is permitted, it should be of keeping with the historical character of the village buildings. An example of this is given in the Conservation Area report (WODC, 2007; Fig. 16). This would seem to relate to use of local building materials and small scale of buildings as well as sympathetic to the general rural character of the village and the curtilage of Listed buildings.
- There should be further consideration and survey of features of the village that may be worthy of conservation, such as drystone / boundary walls and historic or archaeological sites. An example of a recently designated site is the village War Memorial.
- The village is made up largely of properties for residential use. This should be maintained and the opportunity for any industrial / commercial development is not demanded or appropriate. An exception to this may be rural-based commercial activities (e.g. development of fisheries ponds).
- Cassington is a "small" village and this character is a rare survivor in Oxfordshire and particularly in such proximity to the city. This character must be protected through limited development and growth.



Figure 15. Cassington Church viewed along the path from the Upper Green.



Figure 16. Modern development in the village Conservation Area stated as being in keeping with the vernacular style of the village. Note the use of similar materials to traditional cottages in the village centre including stonework and roofing material.



Figure 17. Recent development off the Upper Green at Williams Court. Note that although the stonework is similar to the “ideal” development in Figure 16 the roofing material is modern and not in keeping with older buildings.

## Biodiversity

### *Wider Area*

Much of the countryside surrounding Cassington Village has been given over to intensive modern agriculture, predominantly arable farming (e.g. Figure 21). This has led to gradual amalgamation of fields and a steady degradation of hedgerows. Rapid run-off of rainwater contains a significant amount of soil and probably residues of fertilisers and other agrochemicals such as pesticides and herbicides. The result is that many of the minor waterways and ditches are of low grade for freshwater animals and plants although they may be relevant to biodiversity as wildlife corridors. Likewise, much of the ancient forest of the area, particularly associated with the Wychwood, has also been lost and what remains has been degraded, and in many cases replaced with plantations, mainly of conifers (e.g. large areas of Pinsey Wood, Church Hanborough). Green space is often not respected as evidenced by littering in the countryside, a result of a poor connection of Oxfordshire’s citizens with the natural environment, despite living in a largely rural county.

Whilst this picture is a bleak one there are biodiversity hotspots surrounding the village of Cassington. Some of these are natural, others are examples of human restoration or natural reclamation of land by native vegetation and fauna. Many of these areas are connected to Cassington by footpaths or walking routes, whilst some are out of bounds as they lie on private land. Figures 18, 19 and 20 shows some of the large-scale habitats and areas designated for conservation present in the vicinity of the village.

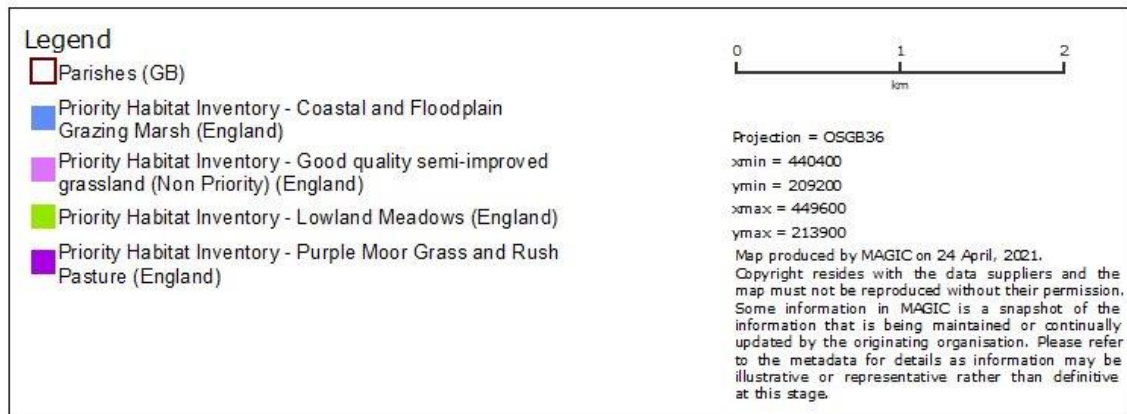
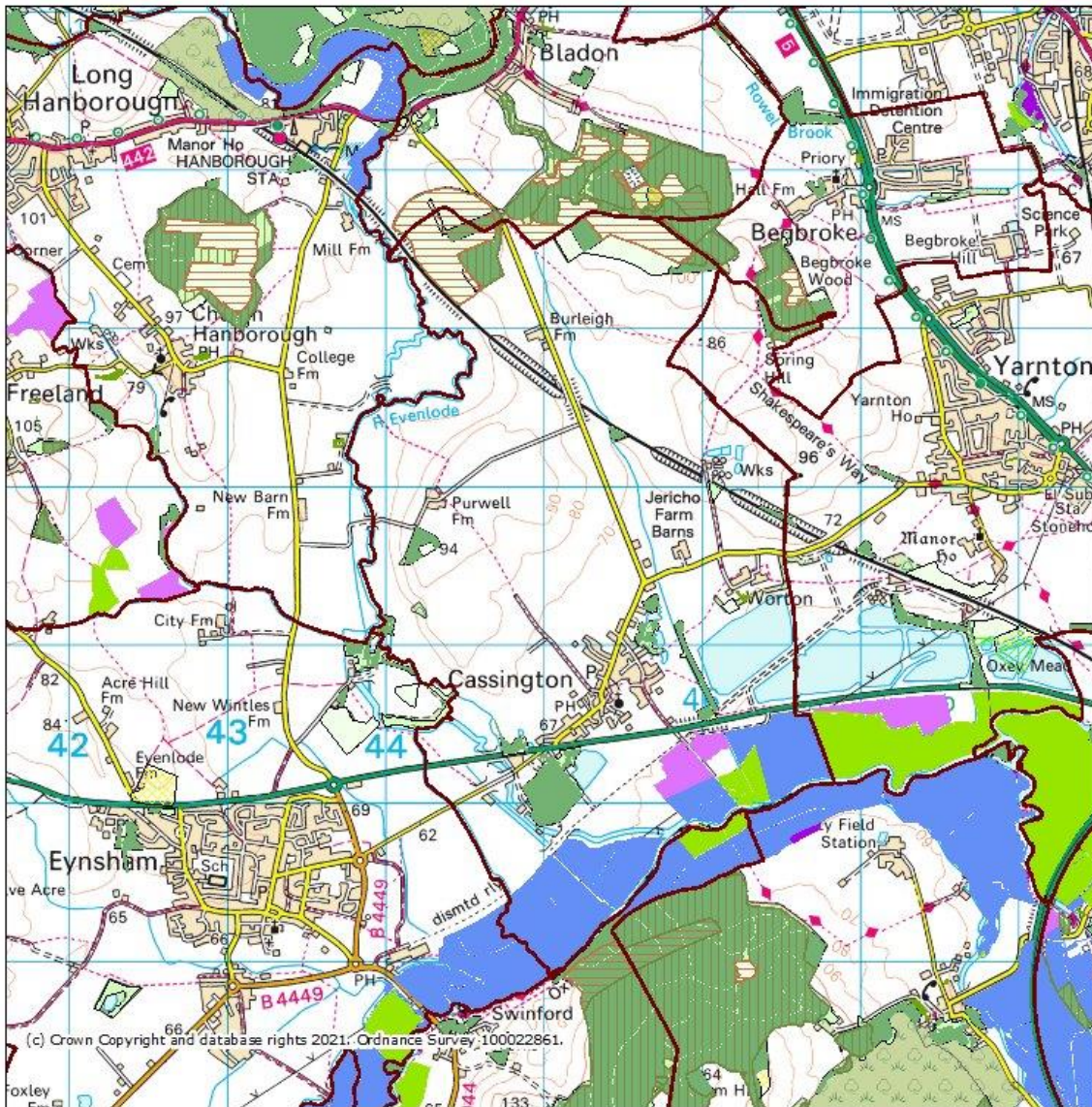


Figure 18. Cassington and surrounding area, priority habitats.



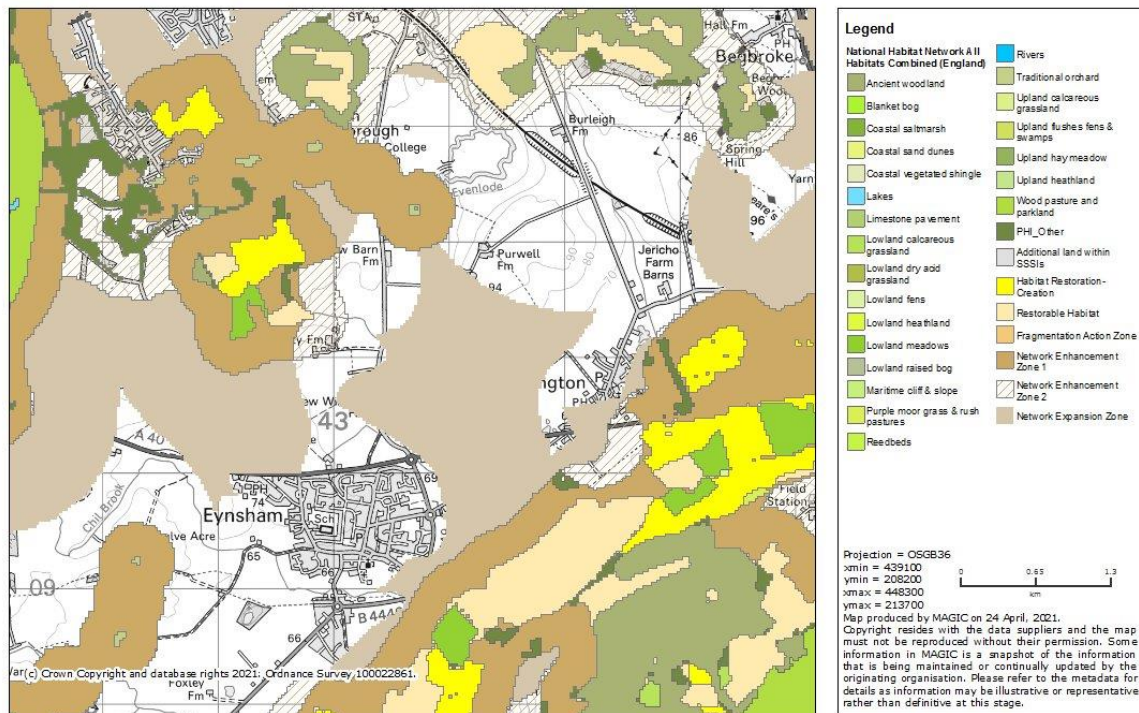


Figure 19. Cassington and surrounding areas National Habitat Network.

The most significant areas for biodiversity close to Cassington are the Lowland Meadows and Floodplain Grazing Marsh located to the south of the village along the northern side of the Thames. These meadows date back to medieval times and include Oxey Mead, Pixey and Yarnton Meads, Cassington Meadows and Oxford Meadows. These sites are either Special Sites of Scientific Interest (SSSIs) or Special Areas of Conservation (SACs). They host a spectacular diversity of meadow plants, including the snake's head fritillary, insects and some species of wetland birds such as curlews and lapwings as well as wildfowl from the river. 97% of this type of habitat was lost between 1930 and 1984 (Wildlife Trusts, 2012) so it is nationally scarce community of plants and animals. To the south of the River Thames there are more flood meadows as well as Wytham Woods (SSSI), an area which is notable as being a site where the University of Oxford has run long-term experiments and observations on many aspects of ecology. It is a semi-ancient woodland with parts dating back to the ice age and hosts 500 species of plants, a wealth of woodland habitats, and 800 species of butterflies and moths amongst other animals.

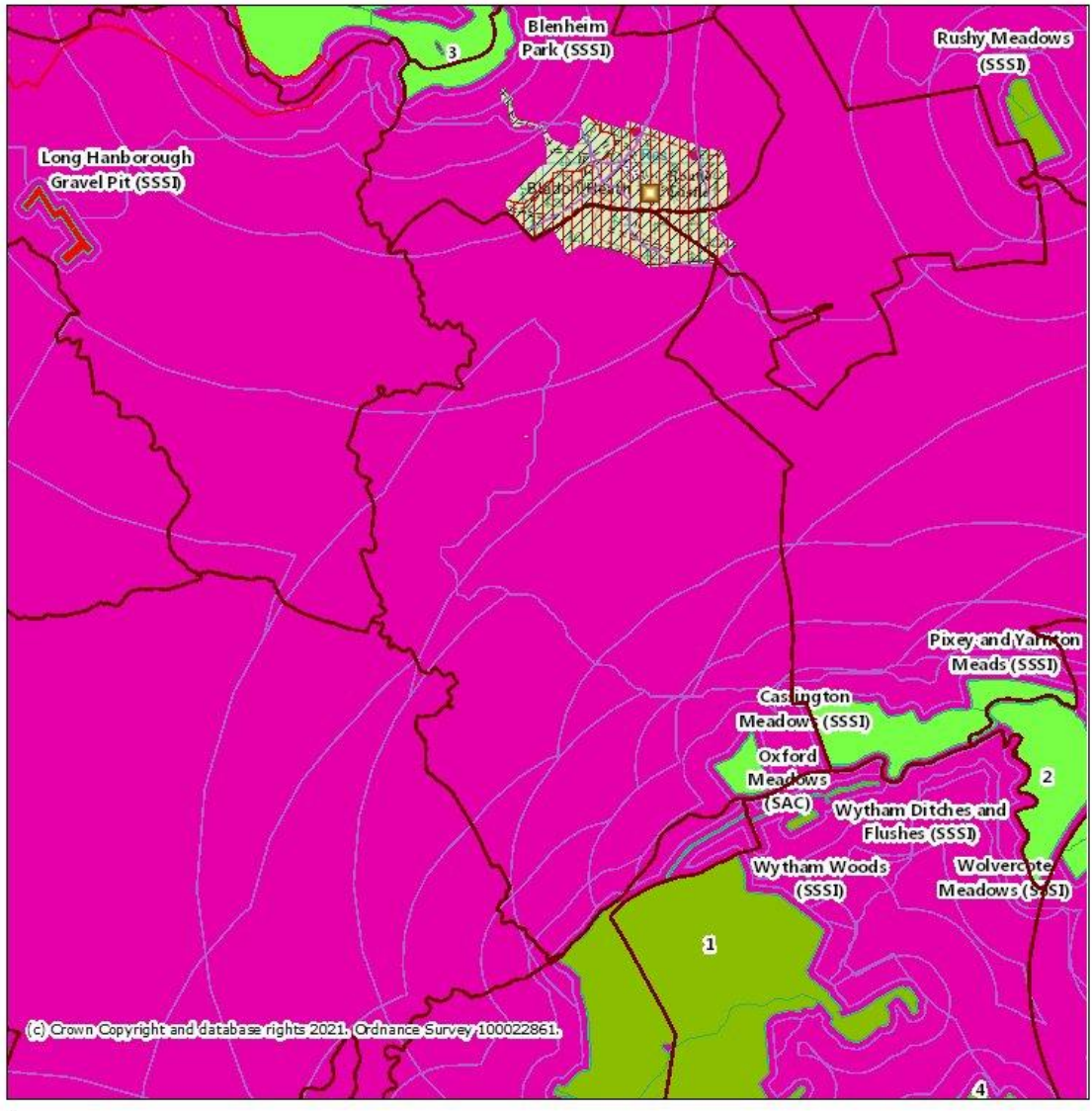
To the north of Cassington there are several semi-natural woodlands. Pinsey Woods is a good example, which has a combination of natural woods with a considerable diversity of plants as well as conifer plantations which are of little value for nature. There are also small patches of lowland meadow and semi-improved grassland.

Both within and surrounding Cassington are several zones within the Natural England Habitat Network. These include areas of habitat restoration (Worton gravel pits; Figure 28), Network Enhancement Zone 1 (fields to the east of Cassington; Figure 9) Network Enhancement Zone 2

(south of A40) and Network Expansion Zone (areas surrounding the village especially to the north west and south).

MAGiC

Magic Map



<p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Parishes (GB)</li> <li><span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Areas of Outstanding Natural Beauty (England)</li> <li><span style="border: 1px dashed black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Limestone Pavement Orders (England)</li> <li><span style="background-color: #e0ffe0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Local Nature Reserves (England)</li> <li><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Moorland Line (England)</li> <li><span style="background-color: #e0ffe0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> National Nature Reserves (England)</li> <li><span style="background-color: #e0ffe0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> National Nature Reserves (Scotland)</li> <li><span style="background-color: #e0ffe0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> National Nature Reserves (Wales)</li> <li><span style="background-color: #e0ffe0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> National Parks (England)</li> <li><span style="background-color: #e0ffe0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Ramsar Sites (England)</li> <li><span style="background-color: #e0ffe0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Proposed Ramsar Sites (England)</li> </ul>	<p>0 1 2 km</p> <p>Projection = OSGB36  x: min = 440400  y: min = 209100  x: max = 449600  y: max = 213900</p> <p>Map produced by MAGIC on 24 April, 2021.  Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.</p>
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Figure 20. Designated nature conservation sites near to Cassington.

These Habitat Network Zones can be defined as follows (Natural England 2020):

- Network Enhancement Zone 1 - Land connecting existing patches of primary and associated habitats which is likely to be suitable for creation of the primary habitat. Factors affecting suitability include proximity to primary habitat, land use (urban/rural), soil type and slope. **Action in this zone to expand and join up existing habitat patches and improve the connections between them can be targeted here.**
- Network Enhancement Zone 2 - Land connecting existing patches of primary and associated habitats which is less likely to be suitable for creation of the primary habitat. **Action in this zone that improves the biodiversity value through land management changes and/or green infrastructure provision can be targeted here.**
- Network Expansion Zone - Land beyond the Network Enhancement Zones with potential for expanding, linking/joining networks across the landscape i.e. conditions such as soils are potentially suitable for habitat creation for the specific habitat in addition to Enhancement Zone 1. **Action in this zone to improve connections between existing habitat networks can be targeted here.**

#### *Biodiversity Within Cassington Village*

Much of the village of Cassington and the surrounding intensively farmed land and road infrastructure could be considered as anthromes, land which is intensively used by humans. Maintaining a 20% coverage of land by native habitat has been recommended to sustain local nature's contributions to people (e.g. Garibaldi et al., 2021) with higher areas of coverage of 30% of representative habitats recommended to conserve biodiversity. Such action at a local level is significant because if applied systematically across a region such as West Oxfordshire it can add up to significant action to conserve biodiversity, as well as mitigating climate disruption and providing contributions to people's well-being. Even in the most built up city scapes introducing opportunities for nature, such as parks, gardens and green roofs can help to improve biodiversity and to improve human lives through direct effects such as reducing urban temperature as well as increasing a sense of well-being through provision of green space.



Figure 21. Large arable field at the start of Foot Path 1. This illustrates modern intensive agriculture with very large monoculture fields.

Despite the fact that Cassington is a settlement, its organic growth since the 17<sup>th</sup> Century has left space for nature. The village Upper Green (Figure 22) comprises a grassed area with six mature lime trees and the surrounding buildings, mainly built in the 17<sup>th</sup> Century, but also more recent ones, provide opportunities for nesting and sheltering by birds such as jackdaws, house sparrows (RSPB Red Category; see below for explanation of RSPB Categories), swallows and house martins (RSPB Amber Category).

The village provides an important breeding site and feeding ground for a nationally declining bird species - the swift, which has seen more than a 50% decline in the last 20 years. As a consequence, it is Amber listed and is denoted as being in long-term breeding decline. Part of the reason for that decline has been the removal of appropriate nest sites (old buildings being removed or refurbished) in tandem with loss of foraging habitat adjacent to nest colonies. Colony size is important in terms of swift survival and steps to conserve and enhance colony size should be taken wherever appropriate.

In tandem with the swift, the house sparrow, *Passer domesticus*, is experiencing similar levels of decline, albeit over a slightly longer time frame (40 years). Agricultural intensification and elevated levels of urbanisation are the primary cited causes for the declines. Rather surprisingly to many, the house sparrow is red listed and denoted as being in rapid long-term breeding decline. Despite this, good numbers of the species can be found in several locations around the village, likely to be a consequence of good quality habitat and nest site availability. As such, steps to preserve and enhance their status within the village should be a primary biodiversity conservation target. We note that the tree sparrow, *Passer montanus*, has also been sighted in gardens in the centre of Cassington village and this species is also red listed.

From this central location St Peter's School provides an adjacent sheltered green space including a pond and a nature garden for outdoor education of the pupils (Figure 23, 24). This location is a haven for wildlife, including rodents, slow worms and viviparous lizards, grey squirrels and a variety of birds including robins, jackdaws, green and lesser spotted woodpeckers, black cap, tree creepers, pied and grey wagtails, dunnocks, black birds and song thrushes. At certain times of the year tawny owls can be heard at night making territorial calls right in the centre of the village presumably from the trees in these areas. A footpath from the village green to the church offers broad grassed verges with habitat for wildflowers (Figure 15). The grounds of St Peter's Church provide meadow colonised by a variety of common wildflowers such as daisies, oxeye daisies, buttercups and forget-me-not. A large variety of lichens grow on the gravestones and mature yew trees are also found in the graveyard. The church grounds are surrounded by dry-stone walls and mature hedges including broadleaved trees and ivy.



Figure 22. The Upper Green Cassington Village.



Figure 23. St Peter's School grounds showing part of the Forest School area used for outdoor education and play.



Figure 24. St. Peter's School showing part of the grounds with the pond (behind the hedges).

A footpath leads from the Upper Green to Lower Green in Cassington and is mainly flanked by drystone walls with a mixture of cultivated and wildflowers growing from the edges (Figure 25). As with the Upper Green, the Lower Green provides open space for the residential area of the village centred around Bell Lane. Dry stone walls are an important feature of the village for wildlife and plants providing hiding and nesting places for insects such as bees and also habitat for reptiles, especially slow worms and viviparous lizard (Figure 25, 27). They are also a favoured habitat for Kenilworth or Oxford ivy (*Cymbalaria muralis*) which can be seen growing out of old drystone walls all around the village (Figure 26). Gardens in the village are also an important habitat for wildlife especially where they are bordered with hedges, trees and/or drystone walls. Gardens provide habitat for a range of insects, birds, mammals (e.g. hedgehogs, mice and bats), amphibians (e.g. common toad, frogs) and also reptiles (slow worms, viviparous lizards, grass snakes). Some residents in Cassington also provide bird feeders providing a source of food through the winter and in some cases all year around. Bees and other pollinators also find nectar producing flowers in gardens as well.



Figure 25. Footpath from the Upper Green to Lower Green. Note the growth of shrubs and plants along the edges of the footpath and the dry stone walls.



Figure 26. Kenilworth ivy growing on a much-repaired drystone wall on the Upper Green – Lower Green foot path. Note also the various species of lichens growing on the stone.



Figure 27. The strong contrast in construction and wildlife friendliness of old dry stone walls compared to modern built stone walls in Cassington. Both photos from the vicinity of the foot path from the Upper Green to the Lower Green. The old walls have many living spaces for insects, slow worms and other organisms and a strong growth of lichens.

To the south of Cassington there are a number of fields between the village and the A40 which host meadowland which is grazed but not significantly disturbed through ploughing or use of agrochemicals (Figure 9a,b). These meadows provide habitat for wildflowers and wildlife including deer, foxes and birds such as barn owls, tawny owls, kingfisher, red kite and buzzards. Insect life is rich and includes the rugged oil beetle (*Meloe rugosus*), a nationally rare species which is on the S41 list of the Natural Environment and Rural Communities (NERC) Act 2006. Outcome 3 of the UK Government's Biodiversity 2020 Strategy (DEFRA, 2011) contains the ambition that: "By 2020, we will see an overall improvement in the status of our wildlife and will have prevented further human-induced extinctions of known threatened species." Natural England have stated that "Protecting and enhancing England's S41 species is key to delivering this outcome"<sup>1</sup>. The rugged oil beetle favours flower-rich meadows (especially dandelion and buttercups) on limestone or sandy soils which are found in the area around Cassington village. These meadows are included in Network Enhancement Zone 1. To the east these meadows are bordered by a band of broad-leafed trees and then coniferous plantation stretching from the Yarnton Road to the A40 before giving way to water-filled gravel pits which are located on private land but which host a range of wildfowl, at certain times of the year large numbers of starlings, and also herons and egrets (Figure 28). These gravel pits are also a known breeding location for the Mediterranean gull, *Larus melanocephalus*, which is rare in the U.K. (RSPB Amber Category). Given the location it is also likely they are visited by otters. Within Cassington village itself there is also a series of old water-filled gravel pits adjacent to Foot Path 2. This area is fenced off and overgrown but certainly intermittently hosts water birds including swans, mallard ducks, coots and herons. Grass snakes are common in the area and likely to use this series of gravel pits as habitat as are amphibians such as frogs and toads which are prey. Assuming there are fish in these waters they may also be visited by otters.

Also, to the south west of the village on the south side of the A40 is Marlborough Pool an old, water-filled quarry belonging to Blenheim Estates but leased to the Abingdon and Oxford Angling Alliance Fishing Club (see village amenities). The lake is a hotspot for wildlife and is regularly visited by birds including kingfishers, bitterns, egrets, herons, cormorants, reed warblers and others. It is surrounded by wildflowers and trees including silver birch, hazel, ash apple and blackthorn trees and is also rich in insects and other animals. Given its immediate connections to the rich lowland

<sup>1</sup> <http://publications.naturalengland.org.uk/publication/4958719460769792>



meadows bordering the Thames this is a significant sight for flora and fauna within Cassington Village.



Figure 28. Water filled old gravel pits lying to the south of Foot Path 2 “the Worton Path”. Although they can be viewed at a distance these water bodies are on private land and not accessible for bird watching.



Figure 29. Marlborough Pool showing a rich cover of broad-leaved trees and vegetation. A dragonfly resting on the twig at the lake. Photos © Matt Britton.



Figure 30. Grey heron comes into land at Marlborough Pool. Photo © Matt Britton.



Figure 31. Great crested grebe carrying chicks at Marlborough Pool © Matt Britton.

The allotments in Cassington are probably one of the most important habitats for wildlife within the confines of the village (Figure 32, 33). Large numbers of reptiles are encountered in this habitat including mainly slow worms, viviparous lizard and grass snakes (Figure 30a). All these species are protected in the UK under the Wildlife and Countryside Act, 1981 and Priority Species under the UK Post-2010 Biodiversity Framework. Amphibians include the common toad (protected in the UK under the Wildlife and Countryside Act, 1981 and Priority Species under the UK Post-2010 Biodiversity Framework), the common frog and smooth newt (protected under the UK Wildlife and Countryside Act, 1981). The bird species found on the allotments include:

**RSPB Green List species (least conservation concern)**

Blackbird, Blackcap, Blue tit, Canada goose (flying over), Chaffinch, Collared dove, Crow, Garden warbler, Goldfinch, Great tit, Greenfinch, Jackdaw, Magpie, Mallard duck, Pheasant, Pied wagtail, Red kite, Red legged partridge, Reed bunting, Robin, Rook, Snow goose (flying over), Swallow, Whitethroat, Willow warbler, Woodpigeon, Wren

**RSPB Amber List species (at least one factor negatively affecting populations)**

Black headed gull (flying over), Dunnock, Kestrel, Mute swan (flying over), Swift

**RSPB Red List species (highest conservation priority species needing urgent action)**

House sparrow, Fieldfare, Linnet, Song thrush, Starling

As can be seen 8 of the species which have been observed on the allotments are classified as Amber List or Red List species meaning they are in decline and require conservation action (Red most urgently). The allotment also represents an area of low-intensity land use and is therefore likely provide foraging for agricultural and migrant birds species. It is noted that the red kite has benefited from a multi-million-pound restoration scheme and is now well established in the village and often forages in the allotment. In addition to these species, rugged oil beetle have been observed several times in the allotment breeding during the autumn (Figure 33a). As stated above, this is on the S41 List of rare species for the U.K. The allotments comprise a diverse range of habitats including artificial habitats (allotments and associated sheds and other equipment), semi-natural meadowland including tussock grass favoured by rugged oil beetle and hosting abundant wildflowers, as well as thickets of hawthorn, blackthorn and briar bushes. These are rich in insects and other wildlife including various species of rodents, hares, foxes and deer. Bats also forage in the allotments at night.



Figure 32. Cassington allotments (a) Wilderness area with abundant hawthorn and blackthorn in blossom (b) Cowslips (*Primula veris*) are found growing in the meadow within the wilderness area, a species which has declined nationally as a result of loss of ancient meadowland habitat.



Figure 33 Examples of wildlife from Cassington Allotments (a) The rugged oil beetle (*Meloe rugosus*) and (b) grass snake. The rugged oil beetle is nationally rare and listed as an S41 species.

### Bats

Three bat species - Common pipistrelle, Soprano pipistrelle and Brown long-eared bat are commonly encountered throughout the village environs and there is a likelihood that other species will be encountered from time to time. The conservation of bats within the village is reliant on the delivery of several factors, namely the provision of roosting opportunities, the availability of foraging and commuting habitat and the appropriate management / protection of existing roosts and areas. It is important to note that all UK bat species and their roosts are protected under national and European law and that this legislation has been incorporated into planning policies, meaning that planning authorities have a legal obligation to consider whether bats are likely to be affected by any proposed development. Bats may roost in a wide range of structures and the legislation makes no distinction between the size or type of development. Legislation dictates that any structures or place which bats use for shelter or protection are protected from damage or destruction, whether occupied or not.

Bats in and around the village will use a variety of landscapes or habitats throughout the year as they feed, roost and travel. They use hunting grounds or foraging habitats to find food and commuting habitats to travel between roosts and foraging habitats. Bats are known to roost in village buildings, but they also forage in the variety of green spaces on offer, namely gardens, the allotments, meadows, sports field and water bodies. In reference to this it is important to note that bats use linear features to commute from one area of the village to another. These features act as navigational landmarks and can also provide some protection from predators. As bats fly through the night, their echolocation calls bounce off these linear landscape features, helping the bats find their way to and from their roosts and foraging habitats. If bats' commuting routes are severed (for example, by roads or housing developments) they can be cut off from their foraging habitats, making it difficult for them to hunt and survive.

### Great crested newts

The great crested newt (*Triturus cristatus*) is a protected species in the UK under schedule 5 of the Wildlife and Countryside Act, 1981, and in Europe under the European Union Directive on Natural Habitats and Wild Fauna and Flora (Ratcliffe, 2021). Section 9 regulations of the Wildlife and Countryside Act, 1981 protect the great crested newt at all life stages, from eggs to mature adults, stating it is illegal to kill, harm, capture or be in possession of parts of individuals; disturb, damage or obstruct access to breeding sites, areas of shelter or habitats; and/or partake in any form of trading in this species (Ratcliffe, 2021).

The suitability of Cassington for great crested newts was assessed by the NatureSpace Partnership, who have concluded that large parts of Cassington are highly suitable habitat for this species shown by the red polygon (Figure 34; Ratcliffe, 2021). The polygon bordering the red core area is defined as a suitable habitat where GCN's are known to be present, thus emphasising the importance of creating a key area of habitat so that nearby newts can be conserved (Ratcliffe, 2021).

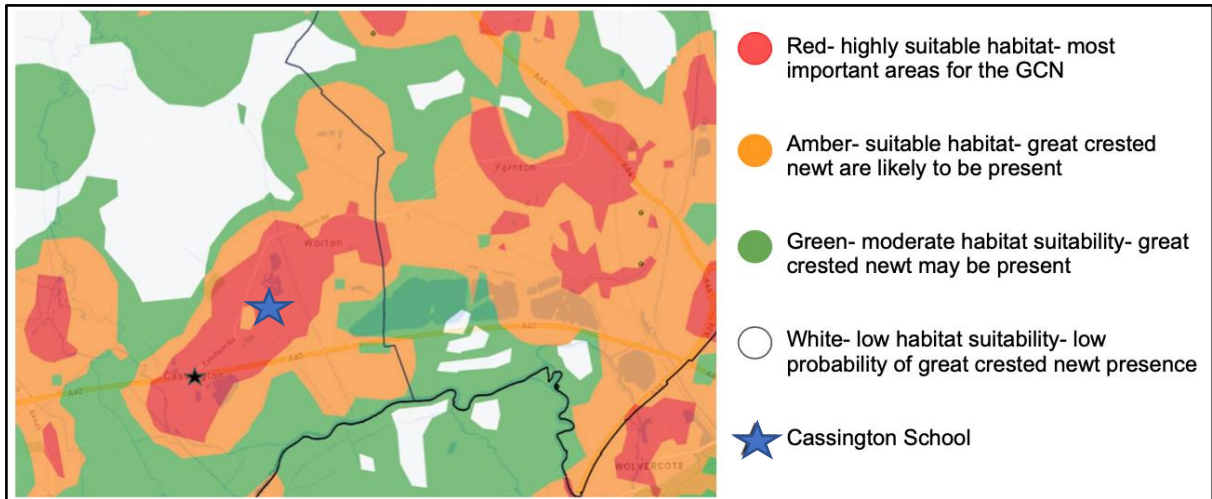


Figure 34. Suitability of habitat for the great crested newt in Cassington Village (Ratcliffe, 2021).

In particular, it is noted that the school pond is a suitable habitat for great crested newts although at present it has become overgrown and there is some litter at the site (Ratcliffe, 2021). The finding of a healthy adult great crested newt on the school grounds by pupils in July, 2021, is evidence supporting the modelled high habitat suitability for the species in the centre of Cassington (Figure 35). Restoration has been recommended by NatureSpace Partnership and they have provided an outline of how this can be done to residents of the village (Ratcliffe, 2021). It is also notable that the red polygon for great crested newts includes part of the allotments and also the water-filled gravel pits adjacent to Foot Path 2 within the confines of the village. The presence of great crested newts should be assumed at these other sites unless surveys indicate otherwise.



Figure 35. Great crested newt (*Triturus cristatus*) found by pupils of St Peter's school on the school grounds, 5<sup>th</sup> July, 2021.

### *Biodiversity Offsets and Translocation*

National policy now sets a target of net biodiversity gain for any new developments. How this is achieved, however, is important. For example, biodiversity offsetting has been shown to work for only approximately 30% of schemes and for some ecosystems it doesn't work at all (e.g. Ermgassen et al., 2019). Likewise, whether translocation of wildlife from development sites to resettlement sites works is also open to question (e.g. for slow worms, viviparous lizard and adder; Platenburg & Griffiths, 1999; Nash & Griffiths, 2018; Nash et al., 2020). On the basis of this evidence it is reasonable to assume that offsetting of biodiversity or translocation of animals as part of a development scheme is as likely to not work as it is to work in terms of conserving biodiversity or populations of wild animals.

### *Agro-Ecological Approaches*

Conventional intensive agriculture is the prevailing food production approach used across much of the world, including in the U.K. and in Oxfordshire. It is characterised by the industrial management of livestock or large-scale monocultures with high external inputs and mechanisation that circumvent ecological limits to production (Van Bergen et al., 2020). However, such approaches transform the landscape and have become the predominant pressure on biodiversity across much of the world leading to degradation of natural ecosystems and the erosion of nature's contribution to people (Van Bergen et al., 2020; Dasgupta, 2021). A societal consensus is emerging that to mitigate climate change and losses to biodiversity while continuing to feed people a transformation is required to more sustainable agricultural practices (Van Bergen et al., 2020). Agriculture essentially simplifies and homogenises ecosystems by directly altering habitat and the use of agrichemicals (Van Bergen et al., 2020). Increasing land cover heterogeneity at field, farm or landscape levels can increase populations of pollinators as well as natural predators of pests (Van Bergen et al., Dasgupta, 2021). This can be achieved through developing complex landscapes with smaller and/or irregularly shaped fields (Van Bergen et al., 2020). In the context of the surrounding farmland of Cassington this might be achieved by restoration of intact hedgerow networks using native species of trees and shrubs, breaking up large fields into smaller units (including restoration of historical field boundaries) and the introduction of additional habitats such as copses of trees or ponds. Leaving the margins of fields uncultivated is another practice that can enhance biodiversity of vegetation and provide wildflowers for pollinators and habitat for natural predators (Van Bergen et al., 2020).

Such approaches, However, do not address issues such as soil biodiversity or organic content of soils. There are now a variety of approaches to more sustainable agriculture. These include (after Van Bergen et al., 2020):

- Sustainable intensification: essentially the adoption of precision methods in application of fertilisers, pesticides and herbicides with crop rotation. Criticised as essentially reducing waste but without working within natural ecosystem limits or processes.
- Organic agriculture: farming of a variety of intensity but substituting most synthetic fertilisers and pesticides with organic ones.
- Ecological intensification: agricultural practices that confer greater resilience on the farm system by working with co-existing biota and ecological processes to optimise soil fertility, plant performance, crop pollination and natural defences. Practices in this type of agriculture include reestablishment of ecological infrastructures (e.g. hedgerows, floral or grass strips), preserving or creating natural or semi-natural habitats within and adjacent to farms and modifying management to include intercropping, reduced or no tillage operations or leaving a proportion of land fallow.

- Conservation agriculture: focuses on the management of soil and water resources to support crop production. This emphasises maintaining soil biodiversity, water holding capacity and nutrient levels by minimising physical disturbance of soils and input of agrichemicals. Practices include zero tillage and maintaining a permanent soil cover by covering with crop residues or living mulches to increase soil carbon and fertility and diversifying cropped plants through rotation, use of cover crops or intercropping.
- Agroecological farming: aims to integrate environmental, sustainability and production goals by regenerating long-term agroecosystem properties by incorporating functional biodiversity alongside technological or management innovations. A central focus of agroecological approaches is to move away from monoculture approaches to more diversified agricultural systems including intercropping, permaculture, diverse crop rotations, conservation agriculture methods, agroforestry and integrated crop-livestock management.

It is notable that several of the practices associated with more sustainable agriculture systems, including woodland planting, conservation tillage, buffer strips and buffer zones (e.g. contour grass strips, hedges, shelter belts), establishment of ponds, ditches and wetlands all potentially contribute to retaining water following heavy rainfall and preventing surface water flooding (Dadson et al., 2017).

The UK Government has recently laid out their roadmap to help farmers to adapt to life outside the EU. The roadmap will focus future agri-policy provision in a way that rewards land managers and farmers for sustainable farming practices. In their report "Path to Sustainable Farming" (DEFRA, 2020) the UK Government provides details related to how this will be achieved with key changes surrounding the introduction of the Environmental Land Management Scheme, which will incentivise sustainable farming approaches, create opportunities for nature recovery and establish schemes which will help tackle climate change. Given the (demonstrated) high biodiversity value of much of the village environs, the forthcoming changes provide for further nature conservation value elevation in those locations which are adjacent/contiguous with the current farmed landscape. This timely change in strategy with respect to management of agricultural land provides an opportunity for the village and Parish Council to work with the local farming community to maximise the biodiversity and wellbeing benefits these changes can bring about.

Despite the alteration of the natural environment within the confines of Cassington village and the surrounding land as a result of agriculture and transport development, significant biodiversity remains within the village and in some areas of surrounding land. Some of this biodiversity is under threat from growing human influence in the village and surrounding areas. A good example is hedgehogs which were a common sight 10 years ago in the village but have been decreasing in numbers most visibly because of animals being crushed by cars. Future development of the village has the potential to further decrease biodiversity if it is undertaken in a way that harms biodiversity rich locations or significantly increases human pressures. The following recommended policies are therefore proposed:

- That development is excluded from biodiversity rich locations in the village particularly if they impact on nationally rare or declining species.
- Biodiversity offset or species translocations are not acceptable for developments within Cassington Village or its immediate surrounding area. Scientific studies have demonstrated that these strategies for biodiversity conservation are unlikely to work.
- Where development is permitted to take place 30% of the overall land area allocated for development should be allocated to nature. This should be in a form which is likely to best



match the location or adjacent land or which adds to the connectivity of the existing network of habitats as indicated in Network Expansion Zone land which is much of the land surrounding Cassington to the west and the north. Land should be managed by local environmental groups or the Wildlife Trusts in a way that maximises the benefit to biodiversity and to the people of the village. This would meet the requirements for a Local Nature Recovery Network (O'Neill Homer, 2021) as well as enhancing open space and conserving and enhancing the natural environment as is consistent with the National Planning Policy Framework (2019).

- Within the village of Cassington it is important that existing structures important for biodiversity are retained. These include: lowland meadows, mature trees, natural scrub, drystone walls, hedges, drainage channels and ditches. A survey should be undertaken of trees and drystone walls and preservation orders initiated to preserve them for the future.
- New developments should include features which enhance biodiversity. These include:
  - Compulsory placement of swift bricks and house martin nest boxes on all properties; placement of bat box bricks and insect bricks is also encouraged
  - Placement of “hedgehog holes” in all fences between gardens and between gardens and external natural environments (i.e. not onto the street)
  - Boundary walls should be drystone walls or have a layer of drystone wall on their external faces.
  - The overall design of a development should be wildlife friendly with green space to increase the wellbeing of residents
- Discussions should be initiated with surrounding landowners to explore the scope for land management measures that improve biodiversity and reduce the risk of surface flooding to the village. Land management practices which carry out both functions include:
  - woodland planting
  - conservation tillage
  - buffer strips and buffer zones (e.g. contour grass strips, hedges, shelter belts)
  - establishment of ponds, ditches and wetlands
  - Restoration or planting of hedgerows
- If feasible transformations in agricultural practice around Cassington should be encouraged towards ecological intensification, conservation agriculture or agroecological approaches.
- Where land becomes available through sale the Parish Council should consult with the village to look into the possibilities for purchase through charitable fund raising or through grants to increase space for nature and to enhance the Local Nature Recovery Network.

## Village Amenities

### *School*

St Peter's is a Church of England primary school (<https://www.st-petersoxon.co.uk/>) and part of the Eynsham Partnership Academy (<https://www.epa-mat.org/> ; Figure 36). As of the last school inspection St Peters was rated as Good overall with a rating of Outstanding for Personal Development, Behaviour and Welfare (OFSTED, 2017). At the time 102 pupils were enrolled in the school making it smaller than average size for a primary school in the U.K. (OFSTED, 2017; note that numbers of 106-109 pupils have been recorded on various websites since this date). The school has in recent years had a change in Head Teacher (Jon Jeffries) and has also expanded with a new classroom for reception year pupils. There has been a notable increase in the use of the outdoor space in the school for environmental education in recent years (e.g. Forest School).

St Peter's is an important element within the village for families with primary-school aged children and therefore makes the village attractive as a place to live. As well as carrying out its educational function the school also provides a focus for social activities for children and their families through various social and fund-raising functions. These either take place on the school grounds or take advantage of the Village Hall. As a Church of England School there are also strong links to St Peter's Church.

St Peter's school is currently at capacity as are many other village primary schools in the area. Any planned expansion of Cassington Village through development would therefore need to assess whether the school has the capacity to take an increase in primary-aged children associated with such housing. Expansion of the school may be feasible in the future but such expansion would need to be funded and might be at the expense of a portion of the school grounds which are currently a valuable asset for teaching and play. It is also notable that the approval of the Salt Cross development to the north of Eynsham will exceed the capacity of the current secondary school for the area, St Bartholemews. This will require the building of a satellite school in Salt Cross itself which is proposed to be run by the Eynsham Partnership.

#### *The Forest School*

A small patch of forest on the meadows to the south east of Cassington is the location of the Forest School (<https://www.forestschoolfun.co.uk/>). This educational activity is run by two qualified Forest School Teachers and provides for an outdoor experience with educational activities while children have fun. Many local children and those from surrounding villages have benefitted from the Forest School over a period of years. Given the lack of opportunities for outdoor exploration of nature this is a valuable amenity within the village.



Figure 36. St Peter's School, Cassington.

### *Village Greens*

The village greens offer a natural green space located at the centre of the village (Upper Green) and in the residential area of Bell Lane (Lower Green). These spaces add to the rural character of the village and provides green space for the well-being of residents, especially those living around the greens. The Upper Green has also been used for social events such as Cassington's Annual Bike Night in June. Benches are provided on the Upper Green for use by the residents and visitors. The Village War Memorial, now Grade 2 listed, is located on the eastern part of the Upper Green.

### *Village Hall*

Cassington Village Hall is located adjacent to the Upper Green and provides a venue for the village for up to 100 people seated or 150 standing. It is equipped with a stage, a screen, a kitchen, toilets and also WiFi. The Village Hall is fully wheelchair accessible and also has a small car park for visitors (used by parents for dropping off and picking up children at St Peter's School). The Village Hall is one of the main centres for social events in Cassington and hosts: music, dance, games and theatre events; receptions, anniversaries and parties; children's parties; fund raising events; business meetings, conferences, training sessions; sales and promotion events; exercise and dramatics classes. It is a very popular venue within the village for birthday parties and regular events such as Cassington Cinema. The building is structurally sound but in future years could be reviewed in terms of its energy sourcing for heating and other purposes to bring it in line with green / renewable energy use and minimisation of energy waste. At present the building has sufficient capacity for the social needs of the village.

### *St Peter's Church*

Cassington's church is a Grade 1 listed building and dates back to the 11<sup>th</sup> century. The church is used during the week for worship and also for important family events such as Weddings and Funerals. Celebrations at Easter and Christmas Time are significant village events with a wider community of people attending the church. The grounds of the church are part of the green infrastructure of the village (see Biodiversity).

### *Allotments*

Cassington allotments have been in use for more than 100 years and covers an area of about 7.4 acres (Figure 32, 33, 37), including the wilderness area on the northern boundary. Currently there are 30 plots on the site which are fully subscribed. These plots are of a considerable size and ownership varies from a single plot-holder to shared plots. Allotment gardeners come from Cassington Village, but some come from the wider area including Eynsham and Kidlington. This is because of a shortage of allotment spaces in West Oxfordshire at present, which reflects a national trend of loss of allotments and increasing interest in growing healthy food by the public. The allotments provide a communal meeting place, a place of recreation and a haven for relaxation and well-being. The main use is therefore recreational but given the long history in the village it is also of cultural value.



Figure 37. Cassington Allotments, an amenity for the entire community for growing healthy and nutritious food. It has been a life-line for many during lock down.

The Cassington Allotment gardeners include people of a range of ages from young to old. For the many senior allotment holders, working on their plots and talking to fellow gardeners provides them with essential social interaction and exercise that might not otherwise be available to them. For families the allotments provide an important opportunity to teach children about gardening, the environment and healthy food. Working the allotments has an undeniable positive impact on the social and physical well-being of Cassington Allotment holders and many people from the village who use the site to walk in or as a safe route to the Sports Fields. This was recently acknowledged by West Oxfordshire District Council in response to an application to make the allotments an Asset of Community Value. They stated: *“The location of the allotments connects it to sports pitches and field and the social centre which make it an important part of the green and community infrastructure of Cassington.”* Other benefits of the allotments include the growing of healthy, nutritious and cheap food for local families. When it occurs over production is distributed within the village.

The land on which Cassington Allotments are located belongs to Vanbrugh Trustees LTD (Blenheim Estates) who have recently attempted to gain support to develop a large portion of the site. The proposal was controversial and has been largely rejected by the residents of the village who view the develop as too large, impacting on an important village amenity, residents on Elms Road as well as on village traffic and other issues such as flooding and drainage. An application was made to have Cassington Allotments made an Asset of Community Value in late 2020 and this was accepted in January 2021 (Cassington Allotments Association 2020; WODC, 2021).

One long-standing issue on the allotments which reduces its value to the allotment holders is a lack of provision of water. With increasingly erratic weather patterns, especially prolonged dry spells in spring losses of plants and poor growth of some crops can be an issue. Discussions have been held with Blenheim Estates and they are amenable to the digging of a borehole on the allotments. This needs to be further investigated and funding found to move the project forward. Blenheim Estates have also stated that further allotment provision (regardless of the outcome of planning applications) may be possible on their land in the future.

#### *Sports Field and Sports and Social Club*

Another important element of the green and community infrastructure of Cassington is the village Sports Field and the Sports and Social Club. The Sports Field is used for football and cricket and also includes a children’s playground and a range of outdoor exercise machines as well as a zip wire. There is also a MUGA pitch which is used for both tennis and occasionally hockey. The Sports and Social Club itself includes changing rooms as well as a hall and a kitchen. It is used for sporting events but also social events such as parties or fund raisers. It is also an important venue during Cassington

Bike Night. The building has recently had a refurbishment. At present the Sports and Social Centre has sufficient capacity for the village's needs.

#### *Public Houses*

Cassington has two public houses, the Red Lion and the Chequers. Both are used by members of the community for socialising throughout the week as well as special events. The Red Lion is a 17<sup>th</sup> Century building and includes a large garden, including seating and children's play equipment. The Chequers includes Bed & Breakfast and also provides food throughout the week. This is the only eatery within Cassington Village.

#### *Newspaper shop*

There is a small newspaper shop in the front porch of one of the houses in Elms Road where daily newspapers can be purchased. No other shops are located within the village.

#### *Marlborough Pool*

Marlborough Pool (Figure 38) lies on the southwestern edge of the village across the A34 and bordering the biodiverse meadows on the north side of the Thames. The pool is a water-filled quarry and has been a club fishing lake for over 70 years. The lake is owned by Blenheim Estates and has been leased by Abingdon and Oxford Angling Alliance Fishing Club for 71 years. The club offers a low-cost fishing opportunity to all people young and old (Figure 39). Aside from being an important site for biodiversity in the village (see above) the lake is considered the hidden gem of Oxford in fishing history books and some of the country's most famous fishermen have had the pleasure of angling there. The lake used to be open to all and free to walk around until there was an uncontrolled release of mink which combined with the increasing otter population in the area. Predation from these piscivores saw the loss of hundreds of thousands of pounds worth of 40-50 year-old carp losing the club many members. This led to the building of a £20,000 anti-predator fence so unfortunately the lake is now fully fenced to keep the otters out. Restocking of the lake over the last 5 years has shown a healthy return to the fish stocks. Recent tree management has opened up some gaps around the perimeter so the lake can be enjoyed by people walking around the surrounding fields. Cassington residents can arrange a tour of the lake via the club if they are interested in fishing.



Figure 38. Marlborough Pool fishing lake (© Matt Britton).



Figure 39. A fisherman holds his prize, an enormous carp from Marlborough Pool (© Matt Britton).

### *Worton Farm*

Worton Farm includes a range of small business premises as well as horse stabling, paddocks and a covered exercise area for horses. A large venue was recently constructed for events such as weddings. This is also the location of Worton Farm Café which provides a local venue for lunches, coffee and cakes. For walkers this is accessible via foot path 2 but it also has parking. Alongside the café there is also an organic produce farm shop. Worton Farm is also the location of a number of habitat restoration projects (old gravel pits now filled with water). These are inaccessible at present and too distant for the public to view. The placement of a bird hide close to foot path 3 could be achieved with minimal disturbance to wildlife but would require permission from the land owner as well as permission to cross a distance of about 10-15 m from foot path 3 to the hide. This could be achieved through a permissive foot path (i.e. not a right of way but specific permission given by the landowner to allow access).

### *Public Transport*

Currently Cassington Village is served by a bus stops on the northern and southern sides of the A40. These bus stops are a considerable distance from the centre of the village and so not friendly to passengers who have a low level of mobility. Buses travel to / from Oxford to the East and Witney to the west. The service current stops in the early evening from Oxford. The planned upgrades for the A40 will include bus lanes so decreasing journey times on the bus from Cassington to Oxford in the mornings. However, in the outlined plans there was some suggestion of moving the bus stop on the northern side of the A40 (i.e. east bound) possibly further from the village. Buses currently include:

853 Cheltenham Royal Well Bus Station – Oxford via Witney

H2 Carterton – John Radcliffe Hospital via Witney

S2 Carterton – Oxford via Witney

S2X Carterton – Oxford via Witney

Taxi provision for Cassington is also quite poor with several local companies charging a surcharge for pick-ups from Cassington to go to destinations such as Oxford.

### *Village amenities summary*

Cassington Village has a range of amenities focused on education, social activities, religious worship, leisure, sports and other outdoor pursuits. Many of these amenities have the capacity to take more users including the Village Hall, the Sports and Social Club, the Church, and the public houses. St Peter's School is currently at capacity and so further development within the village and surrounding area will require monitoring. Secondary school provision will certainly be exceeded in the area as a result of development at Eynsham and the building of Salt Cross village, should it go ahead. The village currently lacks a shop/convenience store and it is likely that many villagers would favour such a store as part of future development. Whether such a store would be financially viable on its own in a village the size of Cassington is uncertain so a combination with another business (e.g. one of the public houses) might be a more economically sustainable prospect. Public transport is also lacking in Cassington and the only bus stops are located on the A40.

In terms of Green Infrastructure Cassington has a very notable rural aspect in the centre of the village. There is connectivity from the Church and its grounds, via the Upper Green, through the allotments to the Sports and Social Club and Sports Fields. The main road through Cassington intersects this green infrastructure outside the Red Lion public house on the northern edge of the Upper Green. This is one point of hazard when moving from the church or centre of the village to the

Sports Field. From the Upper Green foot paths connect with all parts of the village with the path from the Upper Green to Lower Green being particularly important connecting residential areas on the eastern side of the village. Other green corridors which bring green space close into the residential areas of the village include the land at the start of Foot Path 2 (saxon cemetery and fields accessed from Bell Lane) and Foot Path 3 (southern meadows at the end of Lynton Lane). All of these green corridors and natural green spaces within the confines of the village should be regarded as Local Green Space (Figure 40) as outlined in the National Planning Policy Framework (2019) and should be preserved because of their importance to the well-being of villagers and to wildlife.

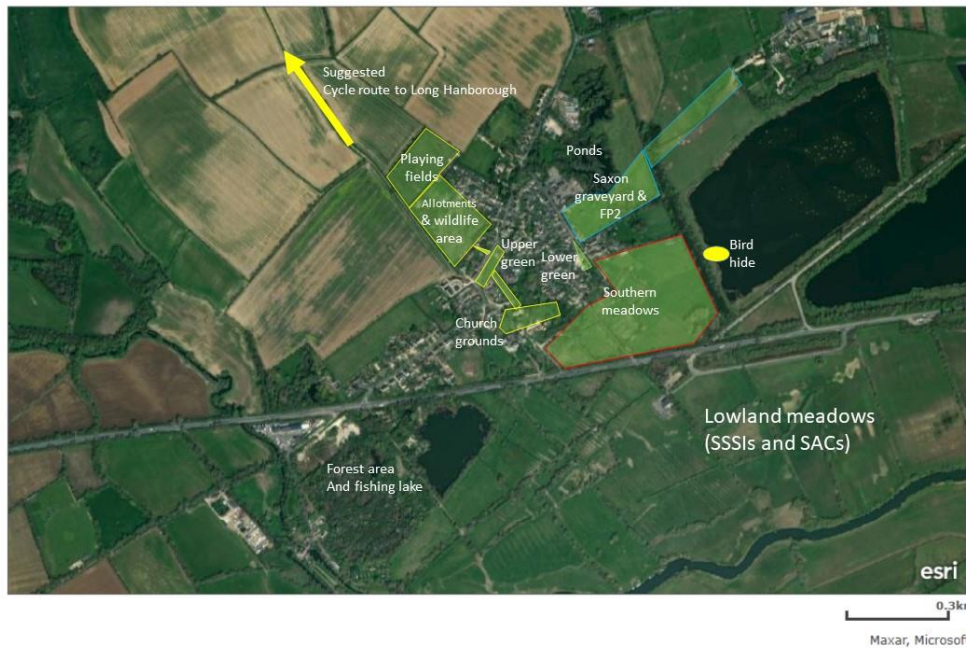


Figure 40. Map showing Local Green Space, proposed route of Greenway to Long Hanborough and proposed bird hide location in Worton Farm.

We recommend the following policies with respect to amenities in Cassington:

- All existing amenities are essential to the well-being of residents in Cassington Village and as such should not be lost to development (e.g. Church grounds, Upper and Lower Greens, Village Hall, allotment, public houses, Sports Field, Sports and Social Club and green corridors).
- Cassington Allotments have been recently accepted as an Asset of Community Value to the village. Consideration of whether further applications for Asset of Community Value status should be made for other village amenities (e.g. public houses; Sports Field).
- The boring of a water hole for provision of water on the allotments should also be moved forward by the Allotment Association and the Parish Council.
- For some amenities current use or future development may exceed provision. These include the allotments and St Peter’s School. Review of pressures on these amenities should be undertaken with any development proposals in the village. We note that further allotment provision has been verbally offered by Blenheim Estates (regardless of outcomes of current development proposals).
- There is currently no safe crossing point of the main road through Cassington for St Peter’s School or for pupils from St Bartholomew’s School being dropped in the evenings from the school bus which creates significant risk for parents and children; consideration should be



given to introducing either a safe crossing or traffic calming to reduce the speed of vehicular traffic through the centre of the village.

- Growth of St Peter's school may become an issue for parking for parents as parking spaces are very limited in the centre of the village. This may represent a constraint on further growth of the school.
- There may be support for a local shop if it could be run as a sustainable business. This might be more likely if it was combined with another business in the village.
- Public transport links to Cassington Village are poor and particularly so for people with low mobility. It is essential that the village is consulted and puts forward its points of view on any decisions regarding public transport links in the future. An example is the proposal to move the bus stop on the eastbound side of the A40 for Cassington. West Oxfordshire District Council should be encouraged to increase public transport links to the village (e.g. a bus route that goes through the village; a light railway stopping at Cassington as part of a Witney – Oxford rail scheme).
- A limited Saturday service and no Sunday service on existing bus routes along the A40 make it unsuitable for weekend users seeking to use sustainable transport from the village to Oxford / Witney. The Parish Council should discuss this with the bus operators and West Oxfordshire District Council.
- Although there are three railway stations around Cassington (Long Hanborough, Oxford Parkway, Oxford Central) there are no bus links to any of them from the village. This makes joined-up sustainable transport very challenging and results in essential car ownership for business and leisure journeys. The whole issue of sustainable transport is an important consideration for Cassington Village.
- The Parish Council should investigate the possibility of building a small bird hide to view birds on the western gravel pit at Worton Farm for both leisure and educational purposes. The village and Parish Council should provide the funding for building this structure and also pay for maintenance each year. Minimal investment could provide the village with a valuable asset for nature education as well as the well-being of residents interested in wildlife.
- The creation of a safe and accessible walking and cycle route would enable Worton Farm to become a more significant amenity to the village. The construction of such a route would require careful design to prevent loss to biodiversity.
- The Parish Council might consider commissioning of signage around the village to provide residents and visitors with information on points of historical interest, biodiversity and other features. This may improve the experience of people when moving about the village for leisure.
- The Parish Council should put out calls for further ideas for amenities, amenity improvement and improvement of green space for people and nature in the village. Ideas could include the provision of a community well-being area, further allotments, a village orchard, provision of small areas of forest, restoration of hedgerows or other village projects.

## Green Development

### National to Local Building Policies and Recommendations from the Green Infrastructure Report

All of Cassington is located in Green Belt land and as such should be considered in this context for proposed developments to meet local needs for housing as outlined in the National Planning Policy Framework (2019) Section 13. It is summarised here:

- Inappropriate development should be avoided in green belt land.
- When considering planning applications substantial weight should be given to any harm to the green belt land.
- Exceptions to inappropriate development include:
  - Buildings for agriculture and forestry
  - Provision of appropriate facilities for outdoor sport, recreation, cemeteries and burial grounds and allotments as long as they preserve the openness of the Green Belt and do not conflict with the purposes for which it was designated
  - The extension or alteration of a building as long as it is not a disproportionate addition
  - The replacement of a building with another of the same use and size
  - Limited infilling in villages
  - Limited affordable housing for local community needs under policies set out in the development plan (including policies for rural exception sites)
  - Limited infilling or redevelopment of land which has been previously developed whether in use or not in use (not including temporary buildings) which would:
    - Not have a greater impact on the Green Belt than the existing development
    - Not cause substantial harm to the Green Belt where the existing developed land was used for affordable housing.
- Certain other forms of development are not inappropriate to Green Belt land if they maintain its openness and does not conflict with the purpose for which the land was designated. These include:
  - Mineral extraction
  - Engineering works
  - Local transport infrastructure which can demonstrate a need for Green Belt location
  - The reuse of buildings providing they are of a permanent and substantial construction
  - Material changes in the use of land (e.g. for sports and recreation or for cemeteries and burial grounds)
  - Development brought forward under a Community Right to Build Order or
  - Neighbourhood Development Order
- Inappropriate development will include many renewable energy projects.

In addition, Cassington is classed as a Village in the West Oxfordshire Local Plan 2031 (WODC, 2018) and as such *“some development will be supported ..... but this will be limited to that which respects the village character and local distinctiveness and would help maintain the vitality of the local community”* (WODC, 2018 Para 4.22). The Local Plan also outlines principles of sustainable development as that which includes:

- Reduces reliance on the private car for journeys
- Reduces out-commuting and encourages self-containment
- Reduces the risk of flooding (WODC, 2018, Para 4.6)
- Achieves mixed use developments that create vibrant active places
- Maximises the use of previously developed land

- Tackles traffic congestion on key routes such as the A40 and A44
- Improves air quality
- Tackles climate change
- Protects the Green Belt (see also WODC, 2018 Para 4.2, 4.6)
- Ensures that the leisure and recreational needs of residents and visitors are met both in terms of the quality and quantity of facilities available
- Ensures that new development is supported by appropriate investment in new and/or enhanced infrastructure including education, water supply and disposal, transport, affordable housing and open space
- Improves the health of local communities
- Protection and enhancement of the District's rich historic and natural environment (see also WODC, 2018 Para 4.5, 4.6)

Outlined in this document are other guidelines for where development should and should not take place that may be adopted as policies in the Neighbourhood Plan or as guidance to help planners propose sustainable developments or assist with planning decisions. Many of these guidelines are in line with the National planning Policy Framework (2019) and the West Oxfordshire Local Plan 2031. Others go beyond these policy documents but put forward recommendations for more sustainable development for the village of Cassington that takes into consideration the needs of its residents, local and regional biodiversity networks and climate change. These include:

- Avoidance of building in areas subject to flooding or which are important in terms of drainage
- Avoidance of building where there will be substantive impact or the possibility of increased risks in terms of traffic volume and safety
- Avoidance of building on areas which represent important amenities to the residents of Cassington
- Avoidance of building where there is a likelihood of substantive harm to biodiversity
- Avoidance of building on Local Green Space
- Adoption of building design that is in keeping with the vernacular style of the village (see Figure 16) as outlined in the Conservation Area Character Appraisal (WODC, 2007)
- Incorporation of features which enhance biodiversity into buildings, walls and gardens
- Encourage the set aside of land for nature and/or for recreational purposes
- Encourage the provision of or contribution to further land, amenities, improvement of sustainable transport routes (e.g. the Greenway from Cassington to Long Hanborough) and/or routes for walking during leisure time as well as improvement of such routes for accessibility

#### Building for Climate Mitigation and Adaptation

The design of a housing development, including the use of land, planting, connections to sustainable transport networks, building orientation and the buildings themselves can contribute to climate mitigation and adaptation. In terms of mitigation the UK Government has laid out its vision and a 10-point plan in its Energy White Paper (2020) to reach net zero carbon emissions by 2050. This plan includes a commitment to improve building energy performance to meet this target and as such all

new builds by 2030 must operate at net zero. An important aspect of the Government's Policy with respect to housing development and climate mitigation is the adoption of Passivhaus Building Standard. In line with this the following policies are recommended:

- All development must be 'zero carbon ready by design' to minimise the amount of energy needed to heat and cool buildings through landform, layout, building orientation, massing and landscaping.
- Wherever feasible, all buildings should be certified to a Passivhaus or equivalent standard with a space heating demand of less than 15KWh/m<sup>2</sup>/year. Where schemes that maximise their potential to meet this standard by proposing the use of terraced and/or apartment building forms of plot size, plot coverage and layout that are different to those of the character area within which the proposal is located, this will be supported, provided it can be demonstrated that the scheme will not have a significant harmful effect on the character of the village.
- All planning permissions granted for new and refurbished buildings should demonstrate that they have been tested to ensure the buildings will perform as predicted and will include a planning condition to require the provision of a Post Occupancy Evaluation Report to the Local Planning Authority within a specified period. Where the Report identifies poor energy performance and makes recommendations for reasonable corrective action, the applicant must demonstrate that those actions have been implemented before the condition will be discharged.
- All planning applications for major development are also required to be accompanied by a Whole Life-Cycle Carbon Emission Assessment , using a recognised methodology, to demonstrate actions taken to reduce embodied carbon resulting from the construction and use of the building over its entire life.
- An Energy Statement will be submitted to demonstrate compliance with the policies outlined above (except for householder applications). The statement will include a passive design capacity assessment to demonstrate how opportunities to reduce the energy use intensity (EUI) of buildings over the plan period have been maximised in accordance with the energy hierarchy. Designers shall evaluate the operational energy use using realistic information on the intended use, occupancy, and operation of the building to minimise any performance gap.

In addition, the following recommendations are made to further improve climate mitigation, adaptation and resilience in new building developments in Cassington:

- The planting of trees and shrubs that store carbon as part of a development. This could be undertaken as part of land set aside recommended as part of the Cassington Nature Recovery Network to improve biodiversity. Such areas of land should be uncultivated or include uncultivated areas (e.g. restoration of wild forest, scrubland, hedgerows or meadows) to maximise soil carbon uptake and storage (also helps to store water). It should be noted that such areas can have local effects of lowering temperatures (e.g. through the albedo effect of the vegetation; Pörtner et al., 2021) as well as reducing the occurrence of surface-water flooding. They would also improve the spiritual well being of the residents of the village through provision of more green space. These are triple win solutions (e.g. benefiting climate mitigation and adaptation, biodiversity and people; Pörtner et al., 2021)

- Use of green roofs or green walls where appropriate as these also have the potential to lower temperatures during summer and insulate during the winter. They are also beneficial to nature.
- Include sustainable transport infrastructure with new developments such as charging points for electric vehicles or bicycles with each household.
- Adoption of renewable power sources and new technologies to reduce power consumption (e.g. non-fossil fuel gases such as hydrogen; ground-source heat pumps etc.).
- Developments to contribute to sustainable transport infrastructure where feasible (e.g. new cycle routes, improvements to existing foot paths etc).



Figure 41. Green roof on building in Cassington village. Not only does this provide advantages in terms of cooling of the building but it also provides flowering plants for pollinators such as bees.

#### At What Rate Should Cassington Grow?

Over the last 10 years 20 dwellings have been built in Cassington in the Barrow Court and William's Court Developments. This represents a growth of about 10% in the size of the village. A survey of local housing needs by the Parish Council has identified the requirements for approximately 10 1-2 bedroom-dwellings and 2-3 starter homes for families. It is acknowledged that there is a considerable demand for housing in the West Oxfordshire and Cherwell Districts but it should be considered that there are large developments of hundreds to thousands of homes occurring to meet this demand in Eynsham, Salt Cross (assuming it is approved), Woodstock and Yarnton/Begbroke as well as in North Oxford. As such it is justified that the Neighbourhood Plan focuses on local needs. Given the data from the housing needs survey there is a current need for up to 15 homes in the

village with a mix of affordable homes and smaller dwellings for purchase or rent. This is relevant when considering the National Planning Policy Framework with respect to acceptable development on Green Belt land (development to meet local needs). This would suggest a growth rate for the village of 5% per decade but this should be kept under constant review with changing trends in population of Oxfordshire. The Parish Council can review housing needs through consultation with West Oxfordshire District Council and through follow-up local housing needs surveys.

#### New Housing Should be Built with Current Demographic Trends in Mind

When considering the development of new housing it is important to plan not just for young buyers seeking an entry point onto the housing ladder or young families seeking affordable homes. The Joint Strategic Needs Assessment for Oxfordshire (OCC, 2018) identifies that by 2031, there are expected to be 174,400 people aged 65+ living in Oxfordshire, up from 121,000 in mid-2016 (+53,500, 44%). The number of people in the oldest age group (85+) in Oxfordshire is expected to increase from 17,000 in 2016 to 26,500 in 2031 (+9,400, 55%). In 2011, there were 29,900 people aged 65+ living alone in households Oxfordshire, below the regional and national averages (OCC, 2018). As the questionnaire for the Cassington neighbourhood plan has indicated this is a problem which also effects the village. Existing housing which is not designed with adaptability and flexibility in mind can present enormous barriers to older and disabled people. For example, many millions of homes have steps to the front door and very few have toilets at entrance level, essential for so many people who find it hard to get around. Poorly designed homes can present a daily struggle that impacts on every aspect of life, from the ability to simply get up and dressed, to maintaining social contacts or holding down a job.

A solution to this problem for new housing is to ensure that buildings are designed to be accessible and adaptable. At present there is no strict policy on the building of houses that are accessible and adaptable. However, the U.K. Government has laid out optional guidelines for the building of a Lifetime Homes Standard which can only be applied if a local authority has assessed needs and proved a requirement for such housing and it is viable (Age UK, 2019). The Government has also laid out design specifications for accessible and adaptable homes (see HM Government, 2015). Given the figures in the Joint Strategic Needs Assessment there does seem to be such a need in Oxfordshire.

Other options to care for elderly residents in Cassington do exist. Obviously, adaptation of an existing home is one way of addressing the needs of a person with mobility issues. Residents attempting to do this face a number of challenges, including the costs and also finding trustworthy trades people for building work and other technical adaptations to households. Disabled Facilities Grants are available to assist with such home modifications but they are limited in what they can be used for, are means tested and are extremely slow, sometimes taking years to come through following an application. What is currently lacking at village level is clear local advice (or direction to advice at district and county level) for elderly or disabled people seeking advice on adaptation of homes and other matters with respect to maintaining a healthy and independent lifestyle.

Another option, if an elderly person wishes to remain in their home is to become involved in a Homeshare Scheme. Homeshare is when an older person with a spare room is matched with a person who is in need of low-cost accommodation, in return for up to ten hours of household tasks or company per week. The tasks that the homesharer carries out in return

for reduced rent are agreed during the initial matching process. These tasks will depend on the want and ability of both parties and will be unique to their match, for example, shopping, cooking and gardening. Homeshare is not a personal care service but obviously can be a way of avoiding a lonely existence for a single aged person and also providing assistance with sustaining an independent lifestyle. All aspects of matching, vetting, supporting, monitoring and ending the Homeshare are managed by expert staff from one of the local delivery schemes, in the case of Oxfordshire this is located here: <https://www.ageuk.org.uk/oxfordshire/our-services/homeshare-oxfordshire/#> . However, the same sustainable transport issues that affect the elderly in Cassington may also impact on Homesharers. This is because they are likely to be people who are dependent on low-cost accommodation and so may not own a car and have to rely on public transport. This facility may therefore be of limited availability for the village.

Another possibility which has not been explored is that the Churchfields Care Home (or an alternative provider) may be interested in developing a model that would enable carers from the Home to look after and support some people in their own homes in the village. Such a model is not common at present but if it could be made to work might prove a scalable solution to providing support for elderly members of the village that wish to remain in their own homes.

The adaptation or building of homes targeted at elderly or disabled people in Cassington still does not resolve the issue of the lack of some village amenities, particularly public transport. The village questionnaire has identified that this lack of connectivity of the village is already influencing decisions regarding location of homes for the elderly. This is a complex problem to resolve and the residents of Cassington may have to consider the development of more formalised methods of community support for elderly or disabled members of the community (acknowledging that this happens informally in some cases already).

Recommendations regarding accessible and adaptable housing in Cassington:

- The Parish Council assesses needs for what proportion of new housing should be built to accessible and adaptable standards from West Oxfordshire District Council or Oxford County Council.
- Based on the outcome of such a consultation the Neighbourhood Plan could adopt a policy that a certain proportion of houses are built to accessible and adaptable standards.
- The Parish Council should put together an advice package for elderly residents on how to access grants for adaptation of housing, identifying reliable or specialist traders who undertake such works, and how to access other services or community care options that they may need (e.g. Homeshare).
- The Parish Council should initiate a conversation with the Churchfields Care Home or other care providers on the possibility of developing a new model of support for elderly people wishing to remain living semi-independently in their own homes.
- Cassington, as a community, may need to step in and consider how to provide care and support for elderly or disabled members of the village where services, such as public transport, do not exist. During the Covid pandemic some village social networks, such as the Cassington Café have had to be closed down and re-

establishment of these as soon as possible once the current health emergency has receded should be a priority.

### Acknowledgements

ADR would like to acknowledge the assistance of the Neighbourhood Planning Committee for comments and suggestions for this report (Jonty Ashworth; Piers Beeton; Ian Finlay; Barbara King; Anne Luttman-Johnson). Special thanks are due to Leani Haim, Oneill Homer, who provided guidance and reference material for design and development of the Cassington Green Infrastructure Plan. Thanks as well to Stewart Thompson for providing feedback on this report as well as contributing sections of text on birds, bats and newts as well as the new DEFRA agricultural policy. Thanks also go to Matt Britton for providing the text and photographs on Marlborough Pool. Special thanks to Tracey Cameron for providing support to the Neighbourhood Planning Committee through its deliberations. Finally, I thank the residents of the village of Cassington for making it such a pleasant place to live. I hope this report only improves your collective well-being.



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