

Oxford Local Plan 2016-2036

Preferred Options Consultation

Response from Friends of Lye Valley

Ch 4 p60 Wise use of resources and good quality local environment

Option 29 We support development on brownfield sites and suggest that car parks should not be lost to development but that flats be built over all the car parks making efficient use of land area.

We do not support development on greenfield sites at all. With increasing population due to intensified development on brownfield sites, greenfield sites are needed for recreation and mental health and well-being of city inhabitants. If they are 'underused' now this does not mean they will remain underused in future. Also green areas provide cooling and counter the urban heat island effect of hard buildings and surfaces that will be ever more likely with climate change to hotter summers. A mown, green grassy field may appear 'under-used' or 'vacant' or 'of low biodiversity' but in fact it may perform a number of useful functions that are not immediately obvious. For a start worm- and root-action in soil ensure channels giving full rainwater permeability, something that is not possible in perpetuity with development, even with SuDS. A natural grassy field and soil profile ensures groundwater recharge (crucial in green spaces which are within the Lye Valley SSSI and LWS fen rainwater catchment zones – this applies to sites **454 & 341**) and prevents run-off. A healthy soil contains worms and grubs like leatherjackets in a grassy sward providing food for foraging hedgehogs and birds that like short vegetation like blackbirds, song thrushes, starlings and jackdaws. A casual walk over a site may not detect any of this usage. 'Mitigation' for housing development often includes the suggestion of bird boxes and bat boxes and the installation of 'green roofs and green walls'. These do not give long term biodiversity gain or in any way compensate for the actual habitat lost. Nest boxes are too short term for real biodiversity gain and do not replace what a grassed field offers, i.e. no food. Green roofs and walls provide some useful functions (cooling, slowing rain run-off) but do not have proper soil, are too windy and alternately too hot and too dry to provide worms and grubs found in a greenfield. Even if there were food, hedgehogs cannot fly up to a green roof to feed.

Any assessed as 'low biodiversity' green field with, for example, amenity recreational grass sward, has the potential to be improved to a site of higher biodiversity to a rich flowery sward more attractive and beneficial to pollinators and birds by means of re-seeding (see 'Bee-friendly Mown Grassland' species mix on website of J A Webb at https://drive.google.com/file/d/0B6FclnWXS_fDejY1NHRVcnE1OE0/view)

It is just a matter of the will to do it and the knowledge of appropriate wildflower seed mix for the habitat area soil.

Opt 36 ch 4 Water Efficiency (Residential)

Whilst we agree new housing needs to be made much more water efficient in general; please include the following for any development within the rainwater catchment of the Lye Valley SSSI and LWS areas - new houses should NOT have rainwater harvesting in order to flush toilets or for other uses. All rainwater intercepted from roofs should be directed to soak-aways to recharge groundwater and feed SSSI fen springs.

Option 38 Ch 4 Flood Risk zones

We do not support any development in Flood Zone 3b (the functional floodplain) even if it has been previously developed. If previously developed it should be returned to greenfield.

Section 4.24 'Flooding and Drainage' says '*climate change is likely to increase the areas at risk of flooding, as well as the frequency and severity of the floods*'. With predicted increased frequency and intensity of heavy rainfall especially in the winter time in the future, it would be sensible to view all 3b areas as far too risky for housing. These areas are needed for infiltration and water storage and their removal is likely to increase the cost of flood alleviation elsewhere. This applies even with various flood alleviation schemes in place. The aim of these schemes is not to provide new flood plain areas suitable for development; with them in place the floodplain will still flood and this should be avoided.

Option 41 Ch 4 Surface and groundwater flow and groundwater recharge.

We give support for A+C, but have with the following reservations regarding B, which applies specifically to the Lye Valley:

We note and applaud the special consideration given to the needs of the important Lye Valley SSSI rare calcareous, alkaline, fen wetland. Under B it is stated that '*the policy could apply to a defined area (i.e. policy of requiring SuDS and an assessment to demonstrate there will be no adverse impact upon the surface and groundwater flow to the Lye Valley SSSI) but this could be difficult because of a lack of detailed information on the hydrology of the area, or it could be applied to allocated sites within the area that is likely to impact on the hydrology of the SSSI*.'

Firstly allowing any development within the already calculated catchment limits of the Lye Valley SSSI fens is risky – climate change to reduced overall rainfall in the future will already be somewhat starving the fen springs in future plus SuDS may be ineffective in allowing sufficient rainfall infiltration long term (who will maintain, i.e. desilt, SuDS in private developments to ensure maximum efficiency in perpetuity?).

Lack of detailed information on the hydrology of the area – there should be a priority for generation of information on the more accurately defined limits of the rainwater catchment for the Lye Valley. This has been a known urgent need for years and without it the future

protection of the flow to the SSSI fen springs is insecure. Full catchment protection is necessary, which will mean retaining any greenfield areas i.e. no development at all within the defined catchment limits. The alternative option of having a policy that requires SuDS etc. for development sites that are likely to impact the hydrology of the SSSI is far too weak. For **previously developed** sites within the catchment, we would like instructions on re-development to ensure run-off is reduced and infiltration increased by the removal of as much impermeable hard surfacing as possible and the whole site not actually under houses having increased permeability (introduction of green areas, rain gardens in courtyards etc) in order to help the Lye Valley fens in the future. In such redevelopment, an important point is that the new houses should NOT have rainwater harvesting in order to flush toilets or for other uses. All rainwater intercepted from roofs should be directed to soak-aways to recharge groundwater and feed fen springs.

Recent water chemistry studies of the springs within the Lye Valley SSSI have revealed significant groundwater pollution with nitrate in any springs downslope from developed areas. This can have come only from leaks from sewer joints or from ageing sewer damage and this nitrate is damaging to the SSSI biodiversity. To improve the situation in the future, in **any redevelopment of brownfield areas adjacent to Lye Valley fen springs, existing sewers should be lined so they cannot leak or if new sewers to be installed, then they should be sealed**, ensuring no future groundwater pollution and thus remediation of the SSSI spring water quality to beneficial and desired lower nitrate levels.

Option 50 Ch 5

We give cautious support to Option A - the identification and protection of a 'Green infrastructure network' including a policy which protects green areas linking already designated wildlife sites to form a functional network; as we consider one of the biggest threats to biodiversity in the city is isolation and fragmentation of wildlife green areas by wildlife-impassable urbanised areas. Isolation often leads to species extinction in the cut-off areas. This is why Friends of Lye Valley have produced our '**Vision for the Lye Valley**' document (already submitted to Planning Policy) which details plans to protect, join up and restore areas of high biodiversity fen wetland, woodland and dry land flowery areas in the Boundary brook and Lye Brook corridors and parts of Oxford Golf course.

However, some small green sites are already isolated by housing and roads all round. Our reservation is that it would not seem possible to create green links to and from them through roads and housing, so we hope that this does not mean that these sites are excluded from the designated green infrastructure network and will be therefore be more at risk of loss.

Option 51 Ch 5 **Securing a net gain in green infrastructure**

If private green space comes forward for development and public access increases to the remaining green area, by conversion to a park, this sounds good for people, but not all wildlife can take a lot of public pressure. Very shy species won't thrive, more dog walking

gives nutrient enrichment, and more cats limits bird nesting. These are potential negative impacts that do not seem to have been considered when discussing public access and we would like these included along with, for example, landscape character change.

Actually the difficulty of managing small local green areas (?pocket parks?) is more than made up for by people having the convenience of a **short** walk to a local green space, especially for those of limited mobility and the very young. Young children need green spaces near to home. By concentrating all efforts on enhancing only bigger parks (and by implication losing to development little local green spaces?) you discriminate against some of the population.

Option 53 Ch 5 Biodiversity sites, wildlife corridors. Species protection independent ecological assessment (accounting)

Opt 53 A+B. We support this combined option with reservations. The city has stunning biodiversity, partly because of its special geology (limestone/sands/clays) variable topography and landforms and numerous river corridors and floodplains. Because of the extent and complexity of the City's biodiversity, it cannot be assumed that the biodiversity of sites in the city is already fully recorded and well known. In fact, this is very far from the truth. The focus of planning policy should be on all biodiversity, not just the legally protected species like great crested newts, bats and reptiles. Independent ecological assessment is very unlikely to discover, for example, the real biodiversity of fungi and invertebrates on any site due to lack of skills in these groups. Ecological assessment needs to be thorough, or a rich site may be recorded as low-biodiversity (needs much more than a one day survey). Use of a 'biodiversity calculator' to assess the worth of a site is only as good as the biodiversity surveys carried out. Such surveys need to cover all species groups or the 'accounting' on biodiversity worth of any site will be in error.

As regards Option B, 'mitigation and compensation' for damage to a wildlife site can be very inadequate in our experience and the 'overall net gain' being demonstrated is difficult to prove. Option B should be strengthened to signal that the emphasis on "avoid, mitigate, compensate" should be very much on "avoid".

Opt 55 Ch 5 Allotments

We do not support Option A. Although Option B sounds very inflexible it is only so in respect of not losing allotments. There is no suggestion in either A or B that new sites will be created. We cannot afford to lose what we have. Those on the outskirts of the city will soon be surrounded by housing and become more popular as the surrounding population increases.

All allotments should be kept for the generation of food for a growing population and for the wildlife benefits that allotments provide. Out of all habitat types, the Charity Buglife found that allotments support the greatest diversity of bees. They can also support protected species such as slow worms, grass snakes and lizards. Allotments near more extensive and

varied wildlife/green areas such as Town Furze allotments and Fairview allotments adjacent to the Lye Valley LWS are especially valuable to wildlife, as species breeding in the allotments can forage in the LWS and vice versa, supporting and enhancing the biodiversity of both the allotments and the nearby LWS. Surveys are necessary but this may also be the case for Ingle Close allotments adjacent to Headington Cemetery.

Opt 56 Ch 5 Protecting and promoting watercourses, making more of Blue Infrastructure

Our blue corridors all over the city are immensely valuable to wildlife and people.

However, developments that come close to watercourse margins or new pathways to watercourse margins can often bring problems to the watercourse marginal vegetation (trampling, dumping) that are difficult to manage. Costs of management of these newly accessible areas will not be borne forever by developers of nearby housing. We think in particular about the smaller watercourses of the Boundary and Lye Brooks. In particular how will any development of site 329 Valentia Road Recreation Ground (part) bring any enhancement to the Boundary Brook adjacent? See specific comments under 'Sites' below.

Opt 57 Ch 5 Species enhancement in new developments

The aim of trying to help wildlife species live in new developments is laudable. Option A is obviously better than requiring nothing (rejected option) from developers. BUT the following should be clearly understood, hopefully leading to a slight policy change:

Bird and bat boxes in new developments sound like a good and helpful idea, but are often ineffective in helping the types of species for which they are intended, so money spent on them is wasted. They offer no long term lasting biodiversity gain to compensate for loss of an area to development. There is no guarantee they will be kept up or maintained/replaced by future human residents of the new housing, for example. They are little use to birds and bats if there is insufficient food source of insects or seeds within short flying distances of the boxes. In other words, there **need to be green spaces nearby with appropriate vegetation(including wetlands) that provide food for bats and birds for the boxes on any houses to be useful**. The same goes for invertebrate boxes. Planting native nectar- and pollen-rich plants is more likely to be beneficial for a longer time. However they don't always have to be native plants to benefit pollinators – see the suggestions at <http://judithwebb.weebly.com/pollinators.html> on border shrubs, perennials and groundcover species beneficial to pollinators. Plantings **need to be combined with suitable breeding sites for pollinators** (like bees, butterflies and flies) nearby. This means for bees, rough tussocky grassy areas, log and/or rock piles (unsightly, unlikely to be acceptable in new development?) for butterflies, planting appropriate caterpillar native food plants (maybe unattractive) and for flies, a variety of richly diversely vegetated areas including wetlands, which may not be possible. Without provision of breeding sites nearby, all such box enhancements will be useless. If the development includes water infiltration

swales or rain gardens, these temporary wetlands will usefully generate some insects like midges and craneflies for bats and birds, so boxes near these might be the best combination.

There is no mention of help for declining species like hedgehogs. To make gardens 'hedgehog friendly' help is needed so they access the large foraging area they require. Garden fences of houses in new developments are often impenetrable wooden panels. These could be required to have at least two holes the size of a CD case constructed at the base to allow hedgehogs to travel from garden to garden in search of food. Pipe of the right diameter inserted at the base of the fence is an easy and cheap solution. Additional benefits of such connecting passages between gardens are that frogs, toads and newts might be able to move freely between any garden ponds owners create.

There is no 'quick-fix' for species enhancements in developments which can be guaranteed to compensate long term for the species losses occasioned by the development.

Given that Option A dictates a solution that is better than nothing, we would be happier if the policy stated '*Integrated ecological enhancements such as bird bat and invertebrate boxes... where the situation is near suitable food sources*' (i.e. near a green vegetated area or waterbody). If not near such natural food sources, we consider it **better to require compensation money from the developer to carry out enhancements in a more natural area like a local park**. Consider adding a requirement that new development garden fencing be made with holes at the base as described.

Opt 59 Ch 5 Green/brown roofs and walls.

We reiterate our answer given under Opt 29: Green roofs and green walls do not give long term biodiversity gain or in any way compensate for the actual habitat lost if that habitat was a greenfield with a good soil structure and a whole wealth of invertebrate soil life. They may have some biodiversity, but it will be different and they do not support the range of species that will have been lost in developing a greenfield. A grassed field (even with no 'flowers') with a healthy soil structure contains worms and grubs like leatherjackets in a sward providing food for foraging hedgehogs and birds that like short vegetation such as blackbirds, song thrushes, starlings and jackdaws. Green roofs and walls provide some useful functions (building cooling, slowing rain run-off) but do not have proper soil, are too windy and variously too hot and too cold and too dry to provide the worms and grubs food source found in a greenfield. Even if there were food, hedgehogs cannot fly up to a green roof to feed.

Green/brown roofs and walls do not allow groundwater recharge in the way an undeveloped greenfield will.

Climate change to hotter, drier summers will mean that the only green vegetation likely to survive well on a green roof would be drought- and heat-resistant succulent stonecrops and

houseleeks which offer limited food source and if high up, will not attract many bees because of the energetic cost of flying up there. The roofs will effectively be deserts in summer. Requiring roofs to have a deeper soil and irrigation systems to support any other type of vegetation like meadow flora, would mean more complicated maintenance and vastly greater expense, which developers are unlikely to agree to.

Brown roofs may have a better chance of replicating the habitat below lost to development but again they are most likely to be a hotter and drier version of what was lost, a desert type of situation. Not a great variety of wildlife would thrive here and obviously, hedgehogs and other mammals that could use a brownfield at ground level cannot fly up to such a roof to feed.

We would prefer a policy which promotes real biodiversity gain within the development and performs a useful function such as nectar flower-rich rain infiltration gardens and other pocket flower-rich green areas specifically designed to support declining pollinators, for a start. Even a close mown green verge can be made flower-rich, at the same maintenance cost as plain grass. Attractive flowery areas at ground level would be appreciated by residents who would not see what is up on a roof.

In many cases flat roofs on developments would be better fully occupied by an array of solar PV panels than a green or brown roof.

Ch 9 Sites

Comments on specific Sites recommended for further investigation for development in the area of interest to FoLV:

063 Warneford hospital

This site includes a large area of currently greenfield which is fully rainwater permeable and with minimal natural slow percolation run-off to the Boundary Brook. To fully protect the Boundary brook LWS corridor and South fen section of the Lye Valley SSSI from increased damaging bank erosion by high storm flows in the brook, any re-development of this site covering greenfield with buildings and hard surfacing would have to incorporate full SuDS with infiltration swales so that **zero run-off is produced to the Boundary brook.**

064 Warren Crescent

There are on-going concerns about this site for a 10 house development and in particular, FoLV remain deeply concerned about the water quality (chemistry) issues for the adjacent SSSI fen and the safety of any development on the made ground of the tipped embankment **which has a buried spring line.**

012 Churchill hospital and ambulance centre

The planned re development of the east side of this site is on the rainwater catchment zone of the Lye Valley Fen SSSI west side springs. Any re-development will need to have no

underground structures which will interrupt the spring flow to the SSSI. Additionally to water flow, **maintenance of good water chemistry is vital to the SSSI fen**. This is as important as good water flow. Recent water chemistry studies in the adjacent SSSI springs have shown that almost all of them on the west side, next to the Churchill site, show a degree of ground water pollution (**elevated nitrate levels, up to 35x the very low level that should exist**) which are very detrimental to the fen habitat. The source of this nitrate will very likely be leaky or cracked, aged sewers within the old Churchill east side. To protect the SSSI in any replacement of sewers during site redevelopment it is essential that any replaced sewers are sealed and any remaining original sewers impermeably lined. This will ensure no further sewage leakage to groundwater and remediate the contamination to the adjacent SSSI.

Additionally, re-development of this side of the Churchill site will involve loss of green permeable spaces of wide grass verges with the increase in hard surfacing. Even with permeable paving and permeable asphalt there will likely be an increased rainwater run off from the re-developed site. This will need to be effectively infiltrated to re-supply the SSSI fen springs.

170 Barton Road Recreation Ground (part)

Apart from all the other reasons for keeping it green, currently this site does **not** contribute water to the Thames Water surface storm-water drain network that outputs at the head of the Lye Valley LWS and this situation needs to continue by keeping site 170 fully rain permeable. At the Lye Valley head the brook is in receipt of surface run-off (storm water) via a 600mm diameter Thames Water drain surface which collects from a very large city area. Peak storm run-off from this drain has already caused dreadful erosional damage in the fen SSSI and all efforts possible should be taken to reduce the water volume output of this drain and its flow should certainly not be allowed to increase. This means no new developments should connect to it.

The network of surface storm drains leading to the Thames Water outfall serves a much bigger area than the natural rainwater catchment of the Lye Valley fen SSSI. It extends to beyond Bury Knowle Park, so it probably will receive any drainage water from a developed site 170. Any development of 170 would have to ensure every drop of roof/paving water entered the ground and zero storm run-off be produced to the drain, in perpetuity. In other words if SuDS were suggested as a solution, they would need to work at peak efficiency forever. This cannot be guaranteed. It will be far better to leave it undeveloped as Greenfield.

203 Dunstan Park

We are very surprised to see this site included as possibility for development as there are known biodiversity constraints, despite no official Scheduling of the site for biodiversity interest. The centre of the site contains a limy, tufa (calcium carbonate) depositing spring which feeds a small alkaline wetland (mini-fen) area for which J A Webb of FoLV has supplied biodiversity survey data to the City Council since 2002. One UKBAP Priority (Section 41) invertebrate (the Southern Yellow Splinter crane fly *Lipsothrix nervosa*) has been found there with minimal survey time. It is likely that this site in the past used to have a number

of wetland plants now rare in the county as early botanical texts list them in a wetland described as 'Behind Headington Hill'. The peat extends farther from to each side of the stream than is immediately obvious due to previous drainage and construction of two pond areas along the stream. The most suitable use of this site would be for **biodiversity enhancement, restoring lost important species**. Specifically, this would include restoration to re-wet the old peat areas and bring back the mini-fen wetland by regular bunding up of the stream, plus removal of a large amount of trees and scrub near the stream to return it to the more open habitat seen in old photographs from the 1970s. Regular small log dams along the stream course will assist in retaining stream and run-off water onsite and therefore will act as **beneficial flood control features**, reducing the site's water output down to the vulnerable Northway housing area. Drier areas around the site margins are suitable for floral enhancement and hay meadow management to provide greater support for pollinating insects. The rainwater catchment of the spring and mini fen is likely to be greenfields and gardens on higher ground to the east and south. Any development in this wider area will affect the essential calcium-rich spring water flow to the spring in the park.

329 Valentia Road recreation ground (part)

If this site is to have some housing development, the question arises – what will be the fate of the remaining green area, presumably behind house gardens along the course of the Boundary Brook to the east of the recreation ground? It is already stated in Ch 5 Opt 51 discussion that if a green space is not big enough to be classified as a 'Small Park' then '*it can be difficult to manage and often provide few social and environmental benefits*'. The risk is that this remainder will become a difficult to manage area, giving few benefits and in the worst case scenario subject to undesirable activities such as antisocial activity and fly tipping. Developing up to the brook margin (i.e. incorporating it into long gardens) would lose the last open section of the upper part of the Boundary brook to public access and enjoyment.

This site needs looking at for alternative imaginative uses that will make it multifunctional, keeping the play areas and having additional functions. For a start there could be **areas along the brook margin that might be restored to a useful wetland habitat** or there could be **water interception ponds constructed here to store peak storm run-off** coming down the brook. This 'slowing the flow' in the brook would have extremely beneficial function of reducing the likelihood of flooding further down the lower reaches of the Boundary brook near Florence Park and could reduce erosion to the south fen part of the Lye Valley SSSI.

341 William Morris Close sports ground

Apart from all the other reasons for keeping it green, this is within the rain water catchment of the spring-fed LWS wetlands on the adjacent Oxford golf course to the north. These calcareous, alkaline, springs need water flow protection for the future as the dependent wetland areas are planned for restoration to a more biodiverse habitat (restoration of old

'Hogley bog' in the **'Vision for the Valley'** produced by Friends of Lye Valley. This site 341 should remain green and fully rainwater permeable **to continue to aid vital spring flow to the LWS**. Any development would have to ensure every drop of roof/paving water entered the ground and zero run-off be produced, in perpetuity (in other words if SuDS were suggested as a solution, they would need to work at peak efficiency forever, which cannot be guaranteed). Better to leave it undeveloped and fully rainwater permeable, for sport, as now.

454 Amenity land and garages between Wood farm road and Nuffield road.

Apart from all the other reasons for keeping it green, this is within the calculated rain water catchment of the North fen section of the Lye Valley SSSI, so should remain green and fully rainwater permeable to aid spring flow to the SSSI. Any development would have to ensure every drop of roof/paving water entered the ground and zero storm run-off be produced, in perpetuity (in other words if SuDS were suggested as a solution, they would need to work at peak efficiency forever which cannot be guaranteed). By far the best option would therefore be to leave it undeveloped as and fully rainwater permeable as now.