



Oxfordshire Local Nature Recovery Strategy Phase 3 consultation: Analysis of responses: Appendix 3

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1. Comments on Description of Strategy Area

- This is a great document, from which I learnt a huge amount about the county and local area (Survey 64).
- The document is very well written and helpful. (Survey 76)

There were 57 comments suggesting changes to the Description of the Strategy Area. Although many praised the rich level of detail, several also flagged that it was very long and a bit repetitive. There were some specific suggestions for restructuring, and suggestions that a wider range of case studies could be included alongside the large section on Big Chalk.

Several comments asked for the Conservation Target Areas and previous Draft Nature Recovery Network to be explicitly referenced, and the role of the Oxfordshire Local Nature Partnership to be explained. There were many detailed comments including identification of typos and other errors. These categories of comment are illustrated in the sections below.

There were also calls to include an overall vision, principles, and further detail on urban nature, wider benefits of nature, the relation with planning policy (Email 12), delivery methods, community engagement, targets, monitoring and evaluation. As these issues are fully discussed in Section 4 of the main report they are not repeated here. However, we do include a summary of specific requests to strengthen the 'people and nature' narrative, in Section 1.3.6.

1.1 Restructuring to reduce repetition

Several comments noted that there appears to be a lot of repetition in the Description of the Strategy Area which could be reduced by separating out generic opportunities that apply to all river catchments and/or NCAs from those that are specific to the individual areas. Survey 86 made several points on this issue.

- This is a superb document written in an engaging style; but there is huge repetition, and sentences are often too long to follow. The rivers section could be made far shorter by stating in one place the methods for habitat restoration (e.g. rewiggling rivers and restoration of floodplains, leaky dams and refuges, re-gravelling) rather than repeating it for each section. (Survey 86)
- Most ecosystem services apply to every National Character Area so it would be better to have a single section on the benefits of nature. (Survey 86)
- Restoring floodplains and pooling is described well on P46 - this should be written under a single section at the beginning, rather than being repeated (but differently) for each NCA. (Survey 86)
- In addition, Survey 86 suggested including a set of generic principles at the beginning of the document, as discussed in Section 4.1.2 of the main report, covering issues such as the importance of organic farming.

This was also picked up by BBOWT who asked for the Oxfordshire Biodiversity Advisory Group within the LNP to be invited to help create a generic list of opportunities and a more detailed list of NCA specific opportunities (Box 5).



Box 5: BBOWT comments on generic opportunities for nature recovery
(Email 11)

Add a section on generic opportunities that could apply to several or all NCAs. This can link to Priorities and PMs in the SBP that are not currently mentioned in the NCA sections. It should include the following generic opportunities.

1. **Large-scale nature reserves with visitor facilities.** Oxfordshire to have at least one large scale nature reserve with a visitor centre and trails, including a large scale wetland nature reserve. Possible sites are the Otmoor and Upper Ray area or the Upper Thames and Lower Windrush catchments, both in the Upper Thames Clay Vales NCA.
2. **Education and lifelong learning.** This could include measures in i) schools, including through nature areas in school grounds, lessons delivered outdoors, regular field trips to nature reserves or natural areas, or to environmental education centres, and Earth Education programmes or Forest Schools or similar; ii) through the creation of large-scale nature reserves with visitor centres, iii) encouraging the delivery of public events and learning activities aimed at a variety of ages both at new centres and at existing venues; and iv) interpretive exhibits, talks, workshops, events, walks, learning activities, field survey events and more to help people, of a variety of ages, experience and learn about nature and the natural environment.
3. **Low intervention habitat management, habitat mosaics, and other non-priority habitat types.** This includes i) scrub, a greatly undervalued habitat of importance in particular for birds and invertebrates, ii) non-priority wildflower grassland that can nevertheless provide much for wildlife, and iii) low-intervention wet and/or dry mosaic habitats that can develop under low levels of grazing by a variety of stock, leading to a patchwork of scrub, woodland, wildflower grassland, bare ground successional habitats, ponds and scrapes with major benefits for wildlife, often in a very short timescale. This can link to PM24, 27 and 51.
4. **Urban ecology.** Could move the content in the Appendix into the generic opportunities section. Includes i) Increase the number and quality of street trees, and ii) Require large areas of green space within new developments, with high wildlife diversity and managed access over some but not all of the area. Establish a similar model to the Parks Trust model in Milton Keynes where new developments pay for the management of these green spaces in perpetuity through investing in an endowment fund with a not-for-profit or charitable Trust. Explore whether this could also apply to existing green spaces.

NCA specific opportunities – see detailed points in Email 11.

There were conflicting views on structuring according to the NCAs, but it is possible that restructuring according to the suggestions above could address the criticism by Survey 66.

- The focus on different types of restoration actions by NCA is a very nice link between different planning disciplines (landscape and ecology). The description of each NCA is clear and helps set the scene/describe the geographic context. (Email 9)



- The descriptions are rather cumbersome at present. The NCA accounts are somewhat uneven and is not clear that they really add much. (Survey 66)

A final point on restructuring was a request to bring forward the section on pressures, which is currently right at the end of the document.

- I would like to see the section on pressures brought forward. After all it is Government policy (and is enshrined in law) to halt the decline in biodiversity by 2030. This will require us to identify and reduce the pressures. (Survey 74)

1.2 Including more case studies, projects and organisations

- **Working across Oxfordshire's Border - Regional Projects:** please include the bold proposition for a 100 sq mile Regional Nature Park (RNP) across Buckinghamshire and Oxfordshire. Bioabundance Community Interest Company can provide a detailed case for the RNP, which should be highlighted in the same way as Big Chalk (Survey 86, Bioabundance)
- **NCA Opportunities for Recovery:** More organisations could be named in this section. [A list of examples was included in the detailed comment but is not to be shared as it is incomplete]. Could also use the State of Nature report, which shows a wide range of case studies involving numerous organisations, to identify projects and organisations in the NCA sections (Biodiversity of note, Work done to date, opportunities for recovery). (Email 11, BBOWT)
- **The long section on Big Chalk could be turned into one of several shorter case studies** e.g. Bernwood, Otmoor, Ray area, and an urban example. (Email 11, BBOWT)

1.3 Detailed suggestions for changes

Here we gather some key comments and suggestions for each part of the DSA. See also the following detailed comments for specific changes and typos which need to be addressed: **Email 6** (comments on annotated pdf), **Email 9**, **Email 18**, **Email 35**, **Survey 71**, **Survey 72**, **Survey 82**, **Survey 86**, **Survey 88**, **Survey 127**.

1.3.1 Biodiversity in the UK and Local Nature Recovery Strategies (LNRS).

- I can't see anywhere an explanation of what the Oxfordshire Local Nature Partnership is, and how it links with the LNRS: it just appears in the introduction and is never mentioned again! (Survey 44)
- Maps are very small scale and so difficult to read and use. E.g. Rivers in Oxfordshire p80, LNRS baseline map p16. Should be a function to zoom in to view map portions at larger scales. (Survey 116)

Introduction

- Add the statement "Wildlife is of intrinsic value in itself, irrespective of its value to humans" to the introduction (Email 11, BBOWT).
- Clarify somewhere the role of farmland / wider landscape in view of this comment: "The LNRS seems to view farmland as not really being what the Strategy covers: that there is 'biodiversity habitats' (yes, LNRS territory) and (p.42) 'farmland / wider environment' (no, not LNRS territory)" (Survey 44)

Wider benefits of nature recovery actions

- Strengthen this section to emphasise human dependence on nature for survival. “Nature recovery actions ...could significantly improve human health and wellbeing in the future.” (Email 11, BBOWT).
- Thank you for the focus on Big Chalk. Please add (to a new section on Principles at the start of the document), the global responsibility we have for chalk. It is not commonly known that chalk is exceptionally rare and found almost exclusively in the South of England (with patches in Greenland, France, Asia and Texas); and with almost all of the chalk streams being here. (Survey 86)

1.3.2 Summary of Oxfordshire’s biodiversity

- Can we have some mention of the Oxford Green Belt. This is a designated landscape and has huge potential for access to the countryside and wellbeing. (Survey 74)
- The baseline map (p16) does not include CTAs. Also, there is no baseline map of habitats (TVERC/Natural England Inventory of Priority Habitats). This would support the Strategy, providing important context about the distribution and extent of semi-natural habitats across the county. (Survey 82)
- Turn the long section on Big Chalk into one of several shorter case studies e.g. Bernwood, Otmoor, Ray area, and an urban example. (Email 11). Email 35 suggests including the Earth Trust’s work.
- See also Section 1.3.6 of the main report on including more about people and nature, and the inequitable distribution of green spaces.

1.3.3 Opportunities by NCA

- As County Ecologist I was responsible for both the OWLS and CTA initiatives. I am very pleased that OWLS is being highlighted so prominently within the draft LNR document. However, I was disappointed that I could find no mention of CTAs. At the time it was intended that OWLS would provide a broad framework for landscape and biodiversity conservation within the wider countryside. It led on to the development of the CTAs which, in my opinion, provided a more detailed and evidence-based approach to biodiversity recovery throughout the county. I believe it should be at least mentioned within the strategy to make sure the wider public is aware of the valuable role it has to play in delivering biodiversity gain. I think a combination of both OWLS and CTAs is the best way to proceed and anything that can be done to engage the wider public through the LNR Plan is greatly welcomed. I thought that the draft Nature Recovery Network Plan, with its core, recovery and wider landscape zones, produced by TVERC was very informative and was wondering if it could be incorporated into the LNR. (Survey 10)
- Pg 34: Does the wording ‘Oxfordshire outlined in a black border’ in the figure caption belong to the map on P35? (Survey 14, 15)
- Page 31 and Page 50 need stronger reference to floodplain meadows - significant county for this habitat (Survey 69)



1.3.4 River basins

- The freshwater section needs to be less totally focused on the Water Framework Directive. This is now a bit out of date - not least because concepts about freshwaters have arisen in Oxfordshire over the last 20 years. The Wildlife and Countryside Link 'Charter for Small Waters' will address some of these issues, as will the 'Reset for Water' currently being developed by Freshwater Habitats Trust and partners and the Important Freshwater Areas process. (Survey 105, Freshwater Habitats Trust)
- I'm a bit disappointed by the analysis of the Thames Basin. The Thames is a defining factor in Oxfordshire and its tributaries and floodplain have huge potential for restoration, e.g. the Mill Stream west of Wallingford is an old channel of the Thames which rises in the chalk streams in Blewbury, with reports of water voles and otters (Survey 74).

1.3.5 Pressures

- Climate change should be first in this section as it is an umbrella pressure that results in a range of other pressures, e.g. invasive species, pests and disease etc. The section needs re-wording in parts (speak to NAME REDACTED, OCC) and needs to better reference the speed of climate change and difficulty of habitats/species to adapt. (Survey 108, Climate Adaptation Lead, OCC)
- Survey 110 suggests that 'lack of public engagement' should also be a pressure.
- Deer are listed under invasive and non-native species. Whilst a key challenge for biodiversity, roe and fallow don't meet my understanding of those two terms. (Survey 124)
- Rabbits are a naturalised species which has been here since Norman or probably since Roman times performing a vital function as a keystone species. They are now also on the IUCN Red List. Please remove reference to it as a non-native invasive species. (Survey 86)
- See also Section 1.3.6 of the main report on the impacts of the biodiversity crisis and inequitable distribution of green spaces on resilience to climate impacts such as floods, droughts, heatwaves etc.

1.3.6 Strengthening the 'people and nature' narrative

Survey 72 (Public Health team) proposed several additions to the DSA to strengthen the 'people and nature' perspective. The proposed actions below have been extracted and summarised from the verbatim response and are not direct quotes.

- State that there are complex links between human health, ecological health, and the climate crisis. Short-medium term actions for biodiversity need to be linked to a longer-term ambition to restore human relationships with the more than human world. Emphasise the importance of cultural ecosystem services and refer to the economic benefits of biodiversity and nature-based solutions.
- Emphasise the impacts of the inequitable distribution of green spaces (e.g. surface water flooding or urban heat island effect) and related opportunities for



people to participate in nature recovery. This is particularly important when claiming 'public health' co-benefits, which cannot be considered without explicit reference to health inequality. These points could be added to 'A summary of Oxfordshire's biodiversity' and 'Pressures of Oxfordshire's biodiversity and habitats'.

- Explicitly recognise opportunities to enhance access/engagement/connectivity without detracting from primary outcomes. Several example projects are celebrated only for their impacts on biodiversity, which misrepresents their holistic approach. This includes integrated approaches to social and environmental sustainability by Banbury CAG, the Wild Kidlington project (which is funded through COVID recovery grants), and Nature Recovery Network's well-established social farming initiative.
- Include a statement about a proportionate approach to prioritising actions that offer multiple benefits to people and nature. This should include steps to actively involve communities and underrepresented groups in action planning and strategy implementation and could include an aspiration for a more detailed approach to urban nature recovery mapping that complements the LNRS.

2. Comments on Statement of Biodiversity Priorities

There was broad support for the content of the Statement of Biodiversity priorities, but also many suggestions for refinements, covering almost all the potential measures. In this section we summarise requests for additional priorities, additional potential measures, and other specific changes. These often reflect the overarching themes on strengthening the focus on urban areas, wider benefits, large areas and connectivity which were discussed in Section 4 of the main report.

Some of these comments offer conflicting views. These included the use of non-native species (potential climate resilience vs supporting native fauna), and competing priorities for creation and management of woodland, scrub, grasslands, riparian buffers, floodplains and deadwood.

See also the detailed comments from Cotswolds National Landscapes (Email 6) and The Tree Service (Email 17) as annotated pdfs; some of their broad comments were extracted and included as separate comments as well. Email 9 contains a detailed list of typos.

2.1 General comments on the Statement of Biodiversity Priorities

Some general comments focus on the issues already discussed in Section 4 of the main report, such as the need for a summary, targets, information on delivery, and concerns around loss of biodiversity due to development. These comments are not repeated here, but we do summarise other general comments specific to this document that were not fully captured in the main report.



- We strongly welcome the priorities and potential measures listed in the Statement of Biodiversity Priorities. (Survey 84)

Evidence, methodology, and links to external guidance

- Targets: as discussed in Section 4.8 of the main report, several comments asked for quantitative targets on the area of habitats to be restored (e.g. Survey 66).
- It would be good to refer to available studies or evidence where possible. E.g. what is the evidence backing up the recommendation that selective de-ringing branches of old trees will have benefits to biodiversity? Adding this evidence into the document will make it much more robust, and point towards the most effective actions for each species/habitats. Resources like conservationevidence.com may be useful for quickly summarizing available evidence. (Survey 36)
- Somewhere, either in this document or a separate one, we need a full explanation of how the habitat map was created and how the opportunity areas were mapped. For example, how were the opportunities for hedgerows, or calcareous / acid / neutral grassland, mapped? (Survey 91)
- How was this list made? It would be helpful to have a technical annex summarising what datasets were used (ecological, geological, historic environment etc.) and how they fed into the process. Although local knowledge and expertise is clearly essential to the process and has provided an apparently comprehensive set of priorities and potential measures, the use of data to both confirm and reinforce this approach would be valuable. (Email 35)
- Signposting further guidance through links is of great value as it would not be possible to provide this level of detail in the document. However, online documents could move or be deleted, and therefore the links will become inactive. Could a full list of references be included in an appendix so that these can be searched/sourced directly by the reader? (Email 35). Or will the LNRS look to reference its own sources of guidance in the future? (Email 14)

Readability and usability

- The wording of the Priorities is confusing and inconsistent. It would be better to use the imperative rather than the present tense for all the priorities, e.g. 'Create more habitat' rather than 'There is more habitat'. (Survey 86, Email 14)
- I am unclear as to how the list of priorities is to be used. E.g. I would expect that priority 1 would be the most important, 22 much less important and 33 still less important, etc. This could guide whether some could be done sooner if money is available. (Survey 102)
- Potential measures which are not mapped on the habitat map might benefit from inclusion of an additional column stating the type of areas/habitats where these actions could be carried out and what land management systems it is compatible with. This is particularly relevant for creation of new habitat types. (Email 14)
- I am concerned that there are too many priorities. When people produce such long lists, effort can be dissipated in too many directions. I would prefer a much

smaller set of top priorities, backed up by second order priorities which would receive attention once, say, the top ten have been addressed (Survey 99)

Specific issues

- **People and nature:** We are broadly supportive of the content of the draft Statement of Biodiversity Priorities. However, to ensure overall sustainability of the strategy there needs to be greater clarity and more detail given to the 'people and nature' narrative. There is significant opportunity to integrate social value into priorities and potential measures (as well as spatial mapping methodology), with a view to strengthening the wider relevance and long-term viability of the strategy - without detracting from short/medium term ecological outcomes. For example, the PMs for woodland, farmland etc could support wellbeing and education initiatives that enhance biodiversity and offer social value, such as the Eynsham Nature Recovery Network in the Eynsham area, and Willowbrook Farm's community farming initiatives for people with learning disability. (Survey 72, other specific suggestions included below.; see also Survey 51 - include more about partnership working)
- **Development concerns:** as discussed in Section 4.5 of the main report, several comments asked for stronger statements about the importance of protecting existing habitats from development, especially mature trees, hedgerows etc. (e.g. Survey 67)
- **Right tree right place:** The priorities for woodland and tree planting do not refer to "right tree right place." There should be a focus on extending and connecting existing woods without damaging or fragmenting other existing priority habitats, particularly ancient species-rich grassland and wet meadows. This must be emphasised, as these habitats are vulnerable to poorly located tree planting. Whilst we need more wet woodland, the best way to create this habitat is where soils are already wet/seasonally inundated ie river floodplains BUT as woodland can essentially be created anywhere, priority should be given first to species-rich floodplain meadows. (Survey 69, Floodplain Meadows Partnership; Survey 42)
- **SSSIs.** We would recommend that SSSIs are more clearly included in the plan. Much biodiversity protection requires that SSSIs are maintained in in quality. Of course there are legal/bureaucratic reasons for excluding SSSIs because, in theory, they are all being maintained by existing funded processes. In practice, these often aren't effective meaning that funding prioritised through the LNRS process be able to pick up the slack. (Survey 105)

2.2 Changes to introductory text

Various changes were suggested to improve integration of people and nature (Survey 72):

- We suggest that the opening statement is revised to the following: Priorities should be set for recovering or enhancing biodiversity, maximising the opportunities to contribute to wider health, social and climate challenges, and delivering other environmental benefits.



- More sensitive articulation of our relationship with nature, which avoids an extractive approach. An alternative view of 'ecosystems services' is that the benefits offered to humans by the more than human world are gifts to be reciprocated. Nature connectedness, associated with contact and interaction with nature, is a key determinant of wellbeing and pro-environmental behaviour. Priorities should therefore seek to enhance nature connection for environmental as much as health purposes.
- More detailed explanation of 'wider environmental benefits' of nature (bearing in mind the above) and equality of distribution. Those with more proximal relevance to public wellbeing include access to greenspace, air quality, urban heat, flood risk, and water quality. However, it should be noted that a wider determinants model of health includes all the 'ecosystems services' referenced in Appendix 1.
- Recognition that 'improving public health and wellbeing' cannot occur in isolation from a strategic approach to the drivers of health inequality. Oxfordshire is a deeply unequal county, with a difference in life expectancy of 11-12 years between the richest and poorest areas. A confluence of disadvantage - including environmental determinants of wellbeing - drives this disparity.
- Typos: P5 "it is ok key importance", Diag P5 the first box shouldn't yes be no and no be Yes? (Survey 86)

2.3 Add new Priorities

- Mobilising the population to act for nature: 'Improve awareness of the biodiversity crisis and efforts to address this, and address barriers to involvement so that more people from across all communities are taking action for nature.' (Survey 72) - see below for Potential Measures to go with this.
- The importance of providing nature-rich spaces near/within public infrastructure such as schools and hospitals where the health and social benefits of nature connection are particularly marked should be mentioned as a priority (such facilities could be added as an additional layer to urban maps). Prioritisation could be enhanced by identifying such facilities located in areas where access to nature is particularly poor. Recovery projects are already being delivered on NHS estates that build in opportunities for BNG and maximise potential impact for people and nature. (Survey 72)
- The draft statement of biodiversity priorities is generally excellent, but connectivity is mentioned only like an 'add-on' at the end of each section. As connectivity often depends on areas of mixed land use between habitat patches that are not formally protected, the LNRS should add a priority to recognise and enhance existing wildlife corridors and to develop strategies for creating new wildlife corridors with recommended Potential Measures. This is urgent given the rapid acceleration of climate change and extreme weather events, which will force some species to move in and out of existing areas of high biodiversity, and may decimate species with just one extreme weather event (Survey 61)
- Due to climate change, the configuration of suitable habitats and their respective locations may change as temperatures increase, potentially moving habitat to



higher elevations etc. An additional priority on assessing future impacts on habitats/species would be sensible. (Survey 108)

- P32/33 [*Seems to fit best here though no P or PM specified*]. State ambition to have more space for nature within the farmed landscape and “Improved grassland and arable land is managed to regenerate healthy soils, incorporate thriving wildlife-rich habitats, including agroforestry, and improve water quality, all contributing to high nature value food and fibre production systems”. (Survey 69, FMP)
- Areas of high soil erosion as a result of poor farming methods should be added and made priorities for action. There are many, mostly cultivated steep slopes of the Chilterns. After heavy rainstorms, there's plenty evidence of mass soil erosion. (Survey 13)
- Tackle recreational impacts at a strategic level through:
 - improving footpath and bridleway circular routes and sustainable transport to spread visitors more widely
 - creating recreational natural parks near urban areas that provide a similar experience to nature reserves without impacting vulnerable habitats, and
 - prioritising areas away from housing for regeneration of vulnerable habitats (Email 16)
- Encourage reporting to TVERC (Survey 51)

2.4 Change existing Priorities

- P1 The priority should be specifically for species rich grasslands and to be consistent with other habitats (e.g. P16) should reference good ecological condition and management to support biodiversity. (Survey 73)
- P16: Consider selecting new woodland locations that can deliver additional ecosystem services to nearby communities, such as flood protection. (Survey 122)
- P7: Heathland and acid grassland have been grouped together. While they exist in similar conditions and often simultaneously, it may be useful to split them out as they require different management measures. (Survey 73)
- P16: Suggest rewording text for the priority on woodlands to ‘create woodlands in good ecological condition’. (Survey 73)
- P22: This should potentially be split into two priorities as there are two types of fen that require very different types of management. For example, the advice for surface water fed fens is to cut the vegetation once every 3 years in rotation, but for seepage (groundwater fed) fens they should be cut and cleared every year, to mimic the close grazing they had historically. Seepage fens have much rarer and at-risk plant and invertebrate species which will simply disappear if not cut every year. I think it is important to make this distinction at priority level, not just because of the totally different management requirements, but because many will not be aware of the distinction. They are separate habitats. If it cannot be split in two, then both types should be named in the title, or failing that, in the description of the priority. (Survey 110)



- P24: Include within P24 the role alluvial soil in good condition and nature rich habitats on floodplains can play in storing carbon as well as water management / quality as it will be a significant driver for why this land is restored. (Survey 69) *[n.b. carbon storage is already included in the list of wider benefits]*
- P25: Would be good to make the link that these areas are often also important for connectivity between urban areas and there is a potential co-benefit of expanding these areas to also protect pathways, tow paths etc. (Survey 108)
- P27: Referencing the creation of sustainable drainage systems (SuDS) can be a valuable way to improve biodiversity while also contributing to flood reduction. Sustainable drainage systems are designed to manage stormwater runoff in ways that mimic natural drainage processes, and they can include a range of features that not only help with water management but also enhance the local ecosystem. Examples include rain gardens, mini ponds, orchards, wetlands, and balancing ponds. These SuDS features not only contribute to flood risk management but also serve to improve biodiversity by creating diverse habitats for plants, animals, and insects. Their inclusion under Priority 37 aligns with the broader goals of environmental sustainability and ecosystem enhancement. (Survey 111)
- P32: It would be valuable to highlight the important role that gardens in small villages and hamlets play within the farming landscape. These gardens serve as critical biodiversity pockets, supporting bird populations and other wildlife. Adding text to reflect their contribution would underline the interconnected nature of rural habitats and the broader ecosystem. (Survey 122)
- PM36: Tree planting of climate resilient species may be the preferred approach where future timber production is a consideration. (Survey 124)
- P37: Oxfordshire's towns and cities have more biodiversity as part of daily life (at home, at work, and in parks and gardens).
 - o This is a welcome section but I feel it could be much expanded. (Survey 7)
 - o There is a noticeable gap in actions addressing villages within Oxfordshire. These settlements play a crucial role in nature recovery, serving as hubs of community engagement and as part of the ecological network. This policy should give greater emphasis to their significance. At a minimum, villages should be explicitly included in the title of this priority to ensure their importance is recognized and integrated into the plan. (Survey 122)
 - o Change to 'Oxfordshire's villages, towns and cities...' to note the importance of buildings in villages (Survey 15, 106, 124)
 - o This priority should and all associated potential measures must also address inequitable distribution, connectivity, and quality of nature spaces in urban areas. The importance of nature connectedness should also be referenced. This is associated with perceived biodiversity, quality of green infrastructure and opportunities to interact with nature - as much as quantity and proximity of greenspace. (Survey 72)
 - o Under Priority 37, referencing the creation of sustainable drainage systems (SuDS) can be a valuable way to improve biodiversity while also



contributing to flood reduction. Sustainable drainage systems are designed to manage stormwater runoff in ways that mimic natural drainage processes, and they can include a range of features that not only help with water management but also enhance the local ecosystem. Examples include rain gardens, mini ponds, orchards, wetlands, and balancing ponds. These SuDS features not only contribute to flood risk management but also serve to improve biodiversity by creating diverse habitats for plants, animals, and insects. (Survey 111)

- No mention is made of the release of game-birds in Oxfordshire. Managing land for game is damaging to nature, e.g. adders and lizards as well as the killing of birds of prey. Persecution of particular 'pest' species should be countered: ragwort, essential for the cinnabar moth; chafer beetles which might mess up pristine green desert 'lawns'. Pigeon spikes also prevent other birds perching. No pigeons - no peregrine falcons! (Survey 86)

2.5 Add new Potential Measures

- New PM for P19: (freshwater habitat health) suggesting relevant Healthy Place Shaping approaches (green infrastructure including small scale urban greening, community engagement in nature projects, and green social prescribing) to reduce the impact of pharmaceutical pollution on our waterways. (Survey 72)
- P19 Rivers: Work with planning authorities, landowners and the water company (Thames Water) to increase the number of waterbodies in good ecological status via improving water quality. This may be through targeted, evidence-based upgrades to sewage treatment works, nature-based solutions like constructed wetlands, or encouraging landowners to adopt water friendly farming practises which minimise run-off. (Survey 28)
- New PM for P26: There should be a PM to limit climate change, which is a big cause of invasive species, so we can link to Oxfordshire's other climate mitigation work.
- New PM for P37: (Urban biodiversity) there needs to be an extra measure for urban grassland management. This needs to reference the Plantlife / Buglife etc guidance, which has been summarised in this document https://www.biodiversity.ox.ac.uk/research_stories/urban-grassland-verge-guidelines-guidance-booklet/ (Survey 91)
- New PM for P37: Could we add an action focussed on supporting Oxfordshire allotments to make the most of their biodiversity assets? For example, a programme of introducing permaculture principles to reduce water use and chemicals and increase natural services. Currently there is very little support, and allotment practises can range from the very beneficial to the very harmful. Also, could street trees be mentioned explicitly, as they have particular management requirements but particularly strong natural services benefits including for climate adaptation? (Survey 24)
- Oxfordshire has a good number of community woodlands, many created in the late 90's early '00s. I feel these merit special mention and mapping as they are



important areas where people - often in rural communities - can experience nature. (Survey 124)

- New PM for P37: There needs to be a PM referring to protecting any urban habitat from wildfires and other negative impacts from human access. (Survey 108)
- Reference specific nature-based solutions for climate vulnerability, such as Sustainable Urban Drainage Systems (SUDS). (Survey 72)
- Add a potential measure to address water quality issues in urban areas for their role in underpinning wider urban environmental networks and their prominent cultural and recreational significance to the people of Oxfordshire. (Survey 72)
- Add a PM to improve river water quality, through:
 1. timely and appropriate upgrades to the sewerage network and sewage treatment,
 2. nature based solutions like constructed wetlands,
 3. working in catchment partnerships and with authorities such as Natural England and the Environment Agency to reduce surface water pollution from agricultural runoff. (Survey 6)
- We would like to see the following Potential Measures added to a new Priority on equitable public engagement:
 - o Ensure accessible communication about nature recovery opportunities, sources of funding, and other forms of support, using a range of communication media.
 - o Encourage cross sectoral participation in nature recovery through strategic initiatives such as the OLNP People and Nature Subgroup, the National Education Nature Park, and Wild Oxfordshire's Nature Positive Business Network. (Survey 72, see also Survey 65 on the need to incorporate local priorities and concerns)
- Consider including a measure for creation of Open Mosaic Habitats on Previously Development Land (there is currently only a measure for their management). This is particularly relevant in relation to restoration of minerals sites. (Survey 73)
- Heathland and grassland are potentially vulnerable to wildfires, particularly when human populations are nearby/ have access. Measures to limit use of cigarettes/ bbq's etc at these locations could be included as PM's. (Survey 108)
- Develop guidance for community safety around green spaces, in particular woodlands (for example, open canopy woodland and grassland and fens may be a better fit in high crime areas/deprived areas, than closed canopy woodland or hedging). (Survey 24)
- Add Potential Measures to highlight the importance of active travel corridors alongside measures to join up habitats - including Public Rights of Way, permissive paths, and accessible walking/wheeling routes for people with disabilities - as a means of reducing the impact of private car use on surrounding areas (E.g. applied to waterways, hedgerows, boundaries, mixed habitats, woodlands, and agricultural and rural landholdings). (Survey 72)

2.6 Change existing Potential Measures

Many of the suggested changes to PMs relate to the overarching theme of focusing more on urban nature recovery and its benefits for human health and well-being. Many of these comments are from Survey 72, the response from Oxfordshire County Council's Public Health team.

- It could be helpful to provide habitat definitions, potentially including UK Hab codes, link the PMs with habitat creation as part of Biodiversity Net Gain. For example, the terminology used such as 'species rich neutral grassland' does not directly align to UK Hab. (Survey 73)
- PM02 and PM05: clarify species-rich neutral grassland. Neutral grassland Habitats of Principal Importance under the NERC Act found in Oxfordshire are lowland meadows (UK Hab g3a/ NVC MG4, MG5, MG8 (see comments under PM55/57). It is questionable whether 'other neutral grasslands' (g3c under UK Hab) should be considered a priority in themselves, but their role should be recognised in connectivity and mosaics under PM09 which currently introduces another undefined term 'wildflower grassland', PM24, and their relevance to some species priorities. A useful link to include for grassland restoration and management work could be the CIEEM grassland management and restoration guidance (Survey 73)
- PM03: also note the value in creating localised pooling of water (Survey 73)
- PM1, PM2, PM3: I was pleased that P1 refers to creating grasslands that include scrub and mosaic habitats. However, the three component measures PM1, PM2 and PM3 do not explicitly mention scrub and mosaic habitats, only grassland. Therefore I think these measures should be edited to explicitly include a requirement to create scrub alongside the grassland. (Survey 91)
- Within the measures which suggest the creation of mosaic habitats, could a set of habitats be listed which would be suitable for inclusion? (Survey 73)
- PM06, PM21, and PM77. Suggest adding "create warrens to encourage rabbits for their grazing, which can contribute to a variety of sward heights." Rabbits have a vital role in keeping grass short, particularly in chalk meadows, and are now on the IUCN red list due to rabbit haemorrhagic disease and myxomatosis. They are an important prey species for stoats and other mustelids, and roadkill rabbits are important for red kites. They may be beneficial on solar farms to provide cropped grass. P2 describes cutting, grazing and mowing to "improve and manage existing species rich grassland to become wildlife-rich and achieve good ecological condition long-term." This was formerly the job of the rabbit. Duke of Burgundy Butterflies respond to grazed land, but not by sheep; the stone curlew and a multitude of others require short grass. Of the silver-spotted skipper, the List says: "Create and manage south-facing calcareous grassland to achieve extremely short turf with Sheep's Fescue growing. In the absence of sufficient rabbits, implement a rotational grazing regime to achieve short turf." Far better to use this naturalised keystone species. (Survey 86)
- PM07, PM08, PM24: I strongly agree with P3, PM07 and PM08 to create 'messier' habitats including scrub, and PM24 to create grass-scrub-tree mosaics including through natural regeneration / rewilding. When managing scrub, I would like to



see an explicit requirement to encourage development of old scrub, which supports particular invertebrate communities. If scrub is managed by felling on rotation, old scrub will not develop. (Survey 91)

- PM08: Remove reference to areas of scrub from neutral grassland and lowland/hay meadows, where invading scrub just becomes an ongoing management headache/challenge. Better to include scrub with hedgerows &/or woodland. The following shows how contradictory/confusing the text is with regard to scrub (taken from Neutral Grassland section). I suggest most farmers/land managers will not do this:
 - Prevent scrub from encroaching while allowing a minority area of scrub that is managed for varied age, composition and physical structure including glades and scalloped edges [*This is PM08*].
 - Introduce limited scrub and manage to ensure structural diversity. (Survey 69, The Floodplain Meadow Partnership) [*Not sure which PM this refers to, does not match the text*]
- PM10: Brief reference to specific examples of multifunctional barriers etc. would be beneficial as there are no links to guidance. (Email 35)
- PM12 Remove cuttings after annual autumn cut of road verges (Survey 49, Survey 124, more detail in Email 18,).
- PM13 - the University of Oxford's verge management [guidelines](#) could also be referenced here (Survey 71, Wild Oxfordshire)
- PM15 and PM16: Creating and restoring Heathland and Acid Grassland. There are very few opportunity areas mapped, because the required soil type is rare in Oxfordshire. However, there seem to be fewer opportunities than identified in the Oxfordshire Local Biodiversity Action plan. Are the parameters too tight? Maybe expand to land in Soilscares 7 and 10? (Email 9)
- PM17: need to mention successional planting with an age overlap of 50 years to allow trees to develop veteran features (Email 1)
- PM17: please could the Broughton Castle be added to the list of examples here to represent this amazing complex estate/parkland habitat type in the northern part of the county. (Survey 44)
- PM17: Note the value of the scrub component of wood pasture as part of the overall mosaic - supporting certain stages of lifecycles of deadwood invertebrates (Survey 124)
- PM18: [*comment said P29 but seems to refer to PM18*]. In the northern part of the county, there are many ancient and veteran trees, mostly oaks, that stand within hedgerows often as old boundary markers. I feel these should be mentioned in the section 'ancient and veteran trees'. (Survey 44)
- PM20: There are of course plenty of saproxylic species, and they need traditional orchards. The text seems to suggest waiting for trees to be over-mature before replanting and gapping up. The age structure should allow for an overlap of 50 years which is how long it takes for a fruit tree to develop veteran features. Suggest amending the text (see Email 1 for wording).



- PM20: Orchards: Change 'do not remove or burn deadwood' to 'try to avoid removing deadwood, taking into account public safety if the site is open access' (Email 20)
- PM21: Make specific reference to the value of maintaining bare ground. (Email 35)
- PM21 'corners of agricultural land' are unlikely to meet the definition of OMHPD which has a minimum size of 0.25ha - suggest this might be best picked up as a measure under P32. (Survey 73)
- PM23. Please mention native Limes (Lindens, *Tilia cordata* and *Tilia platyphyllos*) in new parkland and wood pasture. Linden forest was the native natural climax woodland of the south-east, 1000s of years ago, not oak woodland. Limes more resistant to a warming climate. . (Email 18)
- PM23: Create new parkland and wood pasture. This currently focuses on trees only. Add the opportunity to create large areas of species rich grassland in parkland settings. This would be beneficial for pollinators that need both the trees and the grassland. (Survey 29)
- PM25 says "use local species where possible, you could also consider sourcing some trees or seed from a provenance which can tolerate, resist, or enjoy various climate conditions where necessary." However it is almost impossible to determine which species will be robust to future climate change. I believe the LNRS should specify that a diverse mix of native species should be used, rather than allowing non-native species which are less likely to support native fauna. (Survey 91)
- PM25: does the title make sense? (Create new areas that contain, trees, parkland, or wood pasture to contain future ancient and veteran trees within suitable areas.) (Email 17)
- PM27: Presumably a reference to 'rewilding', it could be noted here or in an additional action that it is possible to achieve many of the aims of this approach in areas that include other more intensive land use (arable, urban) through the creation of a connected network of spaces where natural processes are the predominant management approach used. (Email 35)
- PM29: Include a link to UK Forest Standard (Survey 124)
- PM29: concerned about flood risk if drainage channels are blocked to re-wet woodland (Email 17).
- PM31: Managing populations of species that reach unsustainable levels. It could be added that deer and squirrels do play an ecological role in woodlands. Deer can help to create and maintain open ground, and when squirrels browse young trees they help to create diverse tree structures and imperfections that can create niche habitats for invertebrates. (Survey 91)
- PM31: Could the long-term introduction of apex predators be considered here as a deer management measure? And also engagement campaigns with cat and dog owners to reduce predation of songbirds, amphibians, lizards etc. (Survey 24)



- PM32 and PM34: There may be circumstances where woodland, and ancient species-rich woodland in particular, might be damaged by well meaning but poorly informed 'traditional' management. Furthermore, there are likely to be circumstances where non-intervention management might be the most appropriate approach with regards the preservation of structure, dead/moribund wood/trees, epiphytes and ground (notably bryophyte) flora. Further clarification of 'where needed' and 'where appropriate' should therefore be included, especially with regards ecological survey/data and depth of understanding of the requirements of the existing flora and specialist fauna (notably invertebrates). (Email 35)
- PM32: thinning ancient woodlands. I am concerned that this could lead to over-management of semi-natural and ancient woodlands for timber extraction. e.g. if the most mature trees - which are the most valuable for timber - are 'thinned', preventing new ancient trees from developing. I would like to see a suitable caveat added to prevent over-extraction of biomass from semi-natural woodlands under the guise of 'thinning'. (Survey 91)
- PM34: Large scale coppice is proposed but (a) unlikely to be practical - it has not been for the last 40 years; (b) recoppicing does not always have the same effects now as in the past. (Survey 66)
- PM34: Lime makes excellent coppice - add this to coppice proposals (Email 18)
- PM35 - PM38: Consider reference to the introduction of locally sourced field-layer flora appropriate to the site conditions where new woodlands are isolated from existing populations. (Email 35)
- PM35: Clarify that once the woodland is created to 'manage it to aim to achieve a good ecological condition'. Include wording to suggest that woodland should be created to achieve good ecological condition in the long-term. (Survey 73)
- PM35: "If planting trees, consider tree species that suit the soil type for that area and which are likely to survive into the future." I would like to add "native" before "tree species" in this sentence to prevent people thinking that non-native species will have nature recovery benefits. (Survey 91)
- PM35: Consider deleting 'or enabling them to grow' from title of PM35 (Create new woodland by planting trees or enabling them to grow) (Email 17, The Tree Service)
- PM40 to PM54: Freshwater habitats. The broad approach is good, in that it covers the full range of freshwater habitats. However it should more closely follow the Oxfordshire Important Freshwater Areas analysis results, which should be available soon after Christmas. Our general advice on priorities for freshwater, and especially the small running and standing waters which make up the majority of the water environment and are effectively excluded from the WFD, is available [here](#). There's an over-emphasis on Water Voles and Otters which, as important as they are, overlooks the much greater number of uncommon, declining and endangered water plants and freshwater invertebrates. (Survey 105, FHT)



- PM40: Consider mentioning de-culverting, removal of artificial banks and naturalisation of modified watercourse channels. This is particularly achievable where redevelopment or new developments are taking place. (Email 35)
- PM40 on freshwater habitats states: 'use of species that can engineer habitats'. Let us not be coy - if we mean beavers we should say beavers. (Survey 86)
- PM40: It would be helpful to highlight measures to improve actual water quality: the Cherwell & Ray Catchment Partnership is ideally placed to lead on such matters. (Survey 44)
- PM41: In addition to the maintaining of marginal vegetation, the creation of marginal vegetation should be included as a potential measure, particularly where this is absent due to the presence of brick or sheet piled banks. (Email 35)
- PM43/45: Please would you outline the evidence that buffers from intensive land use of 50m around ponds (PM43), and a mere 10m around chalk streams (PM45), are sufficient. (Survey 86)
- PM45: Please could you name Hendred Brook, Ginge Brook and Lockinge Brook here, to raise awareness that these are rare and precious chalk streams. (Survey 115)
- PM47: Text is missing (Survey 64). Reference the lowland fen report produced for the South and Vale local plan (Survey 73)
- PM47: Distinguish between surface water and groundwater fens and state that identifying the catchment is key to successfully implementing this measure. For groundwater fens this needs expert hydrological advice. Giving planning permission for mineral extraction adjacent to a fen (both types) and within its catchment will result in the fen going into serious decline or ceasing to exist. (Email 18, Survey 49, Survey 110)
- PM48. Management of lowland fens: you need to say there are two types of lowland fens with different management needs. You link to a BBOWT website which gives management of only the commoner floodplain fen marginal to a river or pond margin fen, usually mesotrophic, mixed tall wetland herb vegetation managed by rotational cutting/collecting of only a proportion (30%) annually. The second type is the rare groundwater-fed spring or seepage, alkaline, calcareous, tufa-forming valley-head springs fens that are dependent on very low nutrient, high calcium water from underground limestone or chalk aquifers. This second type is an extremely rare and special habitat to Oxfordshire found especially in the Midvale Ridge of Corallian geology limestone (CTAs Oxford heights west and Oxford heights East. with Lye valley in the city in the centre). Most in Vale of White horse - Cothill fen SSSI/SAC, Barrow fm fen, Dry Sandford Pit, Frilford heath fens, Chilswell, Limekiln copse, Raleigh park, Marley fens. In south district - Sydlings copse, Spartum fen and others. (Email 18)
- PM48 includes clearing reedbeds. It is very important to protect existing reedbeds to support, for example, reed warblers and reed buntings - they are a valuable habitat in their own right. This should have text added to prevent over-clearing of reeds, which has happened on some fens, e.g. in Abingdon. There is also a conflict



between PM48 re clearing scrub and trees from fens and PM49, supporting fen carr. Fen carr has been targeted for clearance on the grounds of 'fen restoration' in some places e.g. Wytham Woods. (Survey 91)

- PM 49 and PM 50. You give links to the Buglife site for management of fens, but this is for management of lowland floodplain type tall herb fens (talks about rotational management, deep litter layers and turf striping/scrapes) and NOT the second type of rare spring/seepage alkaline tufa-forming valley-head spring fens with rare Soldierflies, water penny beetle *Eubria palustris* and e.g. Southern damselfly. The best examples are Cothill fen and Lye Valley fen which still have the rare M13 Black bog rush- Blunt flowered rush plant habitat association which is improving with much restoration activity from BBOWT and NE volunteer group work. This habitat has been lost in many other of our special spring/seepage fens and is the target habitat for restoration activities from damaged or 'ghost fens' which still have the right hydrology and a depth of carbon rich peat (by FHT, see below). See detailed information in Email 18.
- PM52: Consider in this or other PMs the potential benefits of pond and wetland creation in arable fields/landscapes to aid hydrological management from an agronomic perspective. (Email 35)
- PM55 and PM57 relate to lowland meadows specifically in the floodplain and reference MG4. Clarify whether these measures are intended to also include all UK Hab g3a grassland which in addition to NVC MG4 includes NVC MG8 and MG5 (UK Hab g3a6), with the latter generally occurring on drier soils (not necessarily in the floodplain), or whether it applies only to g3a5/ MG4. This is also relevant to whether MG5 are picked up under PM02. This clarification will be useful to all end users in understanding which neutral grassland habitats are most desirable in specific locations, but clarification of UK Hab categories will be particularly important in relation to application of strategic significance for users applying the statutory biodiversity metric. (Survey 73)
- PM55: Suggest clarifying the terminology around lowland meadows. Lowland meadows include floodplain meadows, which are amongst the UK's rarest and most biodiverse habitats, and drier meadows, which are less biodiverse and less rare. (Survey 69, Floodplain Meadows Partnership)
 - o Suggest simplifying the title from 'Create new areas of lowland meadow by creating and restoring floodplain meadows' to Create new areas of floodplain meadow. [*n.b. see comment above re whether other meadow types are included*]
 - o Suggest highlighting that only 1200ha of the rare MG4 floodplain meadows remain in the UK and over 25% of this lies in Oxfordshire. Therefore Oxfordshire has a strategically important role in supporting its survival.
 - o Recommend that focus is on creating meadows in areas where existing hydrological conditions are appropriate, rather than focusing on connecting land to rivers in this section. There is a huge amount of land already suitable for meadow creation/restoration without resorting to costly earthworks. Targeting arable and maize cultivation in river floodplains will



bring multiple benefits including reduced siltation/soil loadings/diffuse pollution (with benefits to flood risk reduction, fisheries and invertebrate communities etc).

- o Recommend that green hay should only be taken from good quality restoration meadows not from the tiny number of ancient meadows. Summer 2024 has shown the real threat to the ancient meadows from the rush to create new meadows using green hay. We are in danger of 'killing the goose that lays the golden egg'.
- o It should be made clear that ancient floodplain meadows must be considered 'irreplaceable habitat' and protected accordingly. Research from CEH predicts 150 years for the colonisation of the majority of species in a new site; research from the OU looking at restorations over 30 years, found only a 25% success rate, with success being 16 species per metre square. Ancient meadows have >40 species per metre square.
- o Suggest linking to Floodplain Meadows Partnership's [Technical Handbook](#) and other [advice](#).
- PM55: Prioritise the creation of floodplain meadows over floodplain grazing marsh since they are far more biodiverse and internationally rare. (Survey 127)
- PM56: Highlight hay-making before grazing to remove fertility, which prevents more competitive species such as grasses from dominating and impacting on biodiversity. The timing of the hay-cut is critical to the long-term sustainability of biodiverse meadows. Suggest adding to the last paragraph: Oxfordshire also holds the largest contiguous area of MG4 grassland in the UK in Pixie, Yarnton and Oxey Meads above Port Meadow. Work to create a nature recovery network of floodplain meadows and associated habitats is underway to connect them with Cassington Mead and Long Mead upstream. 210 hectares of rare floodplain have been connected in this area. Discussions with landowners and regional Ngos are ongoing to extend this nature recovery network upstream towards Chimney Meadows. Remove Magnificent Meadows reference as this is Plantlife and also Buglife and instead point to Floodplain Meadow Partnership for advice. Remove reference to mob grazing. See other suggestions in full comment. (Survey 69, Floodplain Meadows Partnership)
- PM57. The text is confusing - 'Wetland mosaic' was developed to replace the vague term "coastal and floodplain grazing marsh". Suggest replacing all references to CFPGM with Floodplain meadows or Marshland. (Survey 69)
- PM57 should include "maintain appropriate level of rush cover to support breeding waders". (Survey 81)
- PM58. Buffer strips will not work on steep slopes with friable soils. The term is too vague, and most are far too narrow to have any effect at reducing diffuse pollution to rivers and lakes. Far FAR better to restore floodplain habitats, particularly where land use is intensive grassland or arable (because soils under these land uses will be v compacted). Leave river margins unploughed and divert run off to storage areas. (Survey 69, Floodplain Meadows Partnership)



- PM59 - should go beyond stopping spread, seeking to eradicate invasives where possible. (Survey 81)
- PM60: may not always be possible to retain stumps of felled ash trees if restocking is required. (Email 17)
- PM61: link to Hedgeline (Survey 73)
- PM62: Hedgerows - could add planting barberry and link to barberry carpet moth. (Survey 73)
- PM64 'untreated wooden fences' I presume means sweet chestnut or oak - expensive option - not really linked to Countryside Stewardship options. (Survey 73)
- PM66 - PM68: Refer to in-field strips in addition to margins. (Email 35)
- PM68: We are not convinced the use of "and cultivars" is helpful - it is likely to encourage uses of the many commercially available "wildflower" seed mixes and turfs that contain non-natives or garden varieties of native species. This can be a source of invasive species issues, e.g. via introducing more vigorous cultivars of native species that outcompete or interbreed with the originals. Variegated Yellow Archangel (Schedule 9 invasive plant and a cultivar of a wild species) is a good example of how this can go wrong! (Email 9)
- PM73 (Farmland soils). MUST include management and restoration of species rich grasslands such as producing hay and extensive grazing on grasslands such as floodplain meadows as an agricultural practice. a form of land sharing. (Survey 69)

PM77: Create and/or improve more habitats near people in Oxfordshire which benefit biodiversity.

- Consider mapping to priority areas identified in the Oxfordshire's greenspace-deprived neighbourhood report. Also highlight the wider environmental benefits specific to urban areas of some habitats including rainwater gardens and swales (biodiverse SUDs) to reduce surface water runoff, and trees and greenroofs to slow runoff and increase urban cooling, consider mapping these to priority areas identified in the Climate Vulnerability Assessment for increased flooding and heatwave risk. (Survey 73)
- Buildings are a habitat for a variety of species and new development and extensions provide an opportunity to include measures such as integrated bird, bat and bee boxes. Install bird and bat boxes on existing buildings, and protect and retain existing nest sites. (Survey 106). **Survey 15** suggests detailed additional text on swift bricks and bat boxes.
- Add 'Create and/or improve more habitats near people in Oxfordshire which benefit biodiversity and address inequitable distribution of environmental determinants of health and wellbeing'. Reference to the need for long term planning to 'bring nature in' to urban areas devoid of biodiversity, which could be left behind through a 'bigger, better, more connected' approach. (Survey 72)



- PM77: Expand upon the statement ‘there are a range of actions which could be suitable’, provide examples and make reference to the fact that many of the other PMs in the document are appropriate in urban settings (e.g. many of those provided for grassland, mixed habitats, woodlands, rivers, hedgerows etc.). (Email 35)

PM78: Increase tree canopy cover in Oxfordshire by planting trees and woodlands and managing existing trees and woodlands.

- Reference climate risk and resilience and mitigation of excess heat on human health (Survey 72)

PM79: Create and improve wildlife-rich corridors of suitable habitat through or near towns and cities in Oxfordshire

- Link to opportunities to improve active travel networks that promote incidental encounters with nature, promote physical activity, and reduce the environmental impact of private car use, including Public Rights of Way, permissive paths, and accessible walking/wheeling routes for people with disabilities. (Survey 72)
- Add a reference to Natural England's Green Infrastructure Framework to inform future action. (Survey 72)
- Also consider referring to active travel routes within other PMs, e.g. waterways, hedgerows, mixed habitats, woodlands, and farmland. (Survey 72)
- Reference opportunities to welcome people onto land for wellbeing and education initiatives that enhance biodiversity and offer social value. (E.g. applied to PMs for mixed habitats, woodlands, and agricultural and rural landholdings). Local examples include Nature Recovery Network in the Eynsham area, Lopemedede Farm just over the border in Buckinghamshire, and Willowbrook Farm, which has a strong focus on environmental stewardship and hosts community farming initiatives for people with learning disability. (Survey 72)

2.7 Remove existing Potential Measures

- PM11 is duplicated in PM28 and PM39 – could we have one measure that delivers against multiple priorities? (Survey 72)
- PM22 may be a duplicate of other objectives (Survey 72)
- Can't see it but just in case I have missed it - need to remove any reference to creating scrapes in floodplains. Destructive to the soil, damages biodiversity and impact on carbon storage. Similarly treatment wetlands do not work on floodplains. (Survey 69)

2.8 Appendices

Appendix 1

- Include text on circular economy (see Survey 46)
- The climate adaptation section should make clear that one of the main aims of the LNRS is to link habitats, which is very important to enabling species to adapt to climate change by improving their mobility etc. (Survey 108)



- Add a reference to access to nature, which links the other cultural ecosystem services (Survey 70)
- Request to include text on natural capital benefits of the shooting industry (Survey 80)

Appendix 2

- Include reference to County Council - The emerging Circular Economy strategy (Survey 46).
- Was the Tree Policy included in the review? (Email 17).
- Include South Oxfordshire and Vale of White Horse District Councils' current, adopted local plans, and correct some other details - see Email 9 for details. Also refer to 'Lowland Fens: Identifying sites and mapping hydrological risk zones in South Oxfordshire and Vale of White Horse (Freshwater Habitats Trust, 2024)' (Email 9).

3. Comments on Species Priority List

See also the detailed comments from Cotswolds National Landscapes as an annotated pdf (**Email 6**) and from The Tree Service (**Email 17**), and some typos (Survey 86).

3.1 Overall comments on species priority list

There was overall agreement that this is a very comprehensive list, but several comments querying the purpose of the Species Priority List and links with the Statement of Biodiversity Priorities (see also Section 4.1.5 of the main report), and suggestions for improving readability and usability.

- A very impressive list of species that require safeguards and specific conservation measures. If effective, these will benefit wildlife more widely. (Survey 85)
- It is a fascinating document with much detail and interesting data. How will it be kept up to date? It will quickly become much less useful if not updated. (Survey 102)
- It could be helpful if the proposed actions for species could be referenced within the proposed measures of the Statement of Biodiversity Priorities, and/or the relevant codes for habitat actions referenced in the species list. Complementary species-specific actions could thus be nested within the broader proposed measures for habitats which would help stakeholders see what further actions they can take for species within their habitat proposals. (Email 14)
- An ecosystem needs the healthy co-existence of multiple species, not just a few "priorities", and the "priorities" may depend on a broad range of species for their existence that may not be identified as priorities. Targeting overall improvement and diversity of ecosystems is likely to improve the population of priority species as a byproduct (Survey 104)
- Could we see where these priority species are, so we can focus work in those areas? Though this could be difficult as some species records are very sensitive. (Survey 73)



- Rather than listing species alphabetically, could they be grouped into broad taxonomic categories: birds, mammals, reptiles, invertebrates, plants, fungi, lichen. (Survey 111)
- It would be helpful to include the 800 species that are also relevant (Survey 95)

There were also some specific suggestions for additions to the text.

- Could the need for more surveys be emphasised as an overarching aim for all species, not just some? (Survey 44). Could there be some further work to raise awareness of the priority species and encourage citizens to report sightings. (Survey 7)
- Mention dogs and the damage they do to ground nesting birds, small mammals and amphibians. Restrictions on dog walking is essential as asking owners to keep them on the lead is a waste of time. (Survey 4)
- Would it be possible to help emphasise where species can be helped in urban areas? Hedgehogs, swifts and bats are obvious examples, but perhaps a set of icons of some kind (e.g. indicating water, urban, meadow, woodland) would help people identify visually where there are species they might be able to help? (Survey 64)
- It is clear that the list has been produced following a rigorous process of data analysis and peer review. It would be useful to include a summary of this process in an appendix in the Species Priority List, as this could be viewed in isolation. (Email 35)
- Regarding future climate change, it would be useful to specify which UKCIP climate model projections this LNRS is based upon, and to state how often this LNRS will be up-dated or revised. (Survey 61)

3.2 Species to add

Plants

- **Meadow Clary** (*Salvia pratensis*) - a Schedule 8 plant. Most of the 26 extant populations are in the Cotswolds, with about half in Oxfordshire, (Survey 32 lists details). Also **Wild Clary** - both listed as Near Threatened in the Rare Plants Register and can be found on some of the verges in the county. (Survey 71)
- **Knapweed** and **Greater Broomrape** (Survey 71)
- **Common Water Crowfoot** (*Ranunculus aquilus*) as a species that is indicative of water quality - previously found in most of the upper Thames tributaries but lost from many sites due to the silt and slime that is symptomatic of poor water quality. (Survey 28, Survey 71)
- **Floodplain meadows MG4 species** impacted by hydrology - see [this](#) (Survey 69)
- **Ancient Woodland Indicator plants:** create a short list as an indicator for deer management in woodland. Whorled Solomon's seal is so specialised and rare that it won't work as a general indicator across the county. (Survey 28)



- **Freshwater plants** of naturally eutrophic and mesotrophic water (perhaps also oligotrophic waters, though these are scarce in Oxfordshire) (Survey 105)
- **Creeping Marshwort or Fen Violet?** Both are nationally threatened and present in Oxfordshire. (Survey 110)
- **Lodden lily** (Survey 87)

Invertebrates

- **Striped-lychnis moth** - Association with Dark Mullein (Survey 71)
- **Pearl-bordered fritillary** - needs interconnected woodland populations. (Survey 67)
- **Club tailed dragonfly** (Survey 87)
- **Hymenopterans (bees, wasps and ants):** Oxfordshire has many species with national rarity or conservation status. Please continue to seek a reviewer for the taxa as there are many specialist species within this Taxa for which general habitat considerations are unlikely to go far enough and opportunities for targeted conservation should be explored. (Email 9)
- **Pseudorhyssa alpestris**, a very rare, parasitic wasp recorded at Blenheim. (Survey 71)
- **A Ruby-tailed wasp**, *Chrysis gracillima*, is rare and listed as 'RDB2- Vulnerable. Rcorded at Cuxham Meadow. (Survey 71)
- **Yellow-shouldered Nomad Bee**, *Nomada ferruginata*, a rare bee recorded at Shotover (Survey 71)
- **Roman Snail** (Survey 71)
- **Glow-worms** (*Lampyris noctiluca*) - very local in South Oxfordshire. Habitat at risk from increased tree planting on snail-rich chalky soils (Survey 67)
- **Rugged and Black Oil-beetles** (Survey 71)
- **Stag beetle:** Oxfordshire is at the centre of their range and they are endangered, and an iconic species. Associated with deadwood habitat. (Survey 86)
- **Dung beetles:** keystone species, necessary for grassland ecosystems to operate (Survey 120)
- **Freshwater invertebrates** of unpolluted standing water associated with fens and floodplains. (Survey 105)
- **Desmoulin Whorl Snail** (Survey 87)

Reptiles

- **Slow worms**, present in Oxfordshire (Survey 2)

Birds

- **Lesser Spotted Woodpecker** (declining drastically, possibly the odd territory still in Oxfordshire). Wet woodland creation and management (particularly standing deadwood retention) likely to be beneficial, although the national speed



of decline of this species doesn't seem to be explicable fully in terms of habitat loss. (Email 9)

- **Hawfinch.** We believe this species breeds very locally in the Cotswolds/Chilterns? Parts of the county are also important for this species in winter. (Email 9)
- Disappearing woodland birds, e.g. **Hawfinch, Woodcock** and **Cuckoo**. (Survey 116)
- **Marsh Harrier** (Until recently did not breed in Oxfordshire, expanding and now breeds at Otmoor (thus in the same category as Crane). Reedbed creation benefits this species. (Email 9)
- **Owls:** why are they not included? (Survey 79)
- **Farmland Birds** - add **Bullfinch** and ground nesting species including **Grey Partridge** and **Lapwing** - Red Listed species declining in South Oxfordshire over the last 25 years. (Survey 117)
- **Lapwing:** add to the list of Breeding wetland birds. (Survey 71, Survey 81, Email 9 - unless it has been filtered out by the shortlisting process)
- **Wintering wildfowl?** e.g. Lower Windrush Valley is believed to be nationally important for [these birds](#) and Otmoor will be similar. (Survey 71)
- **Water rail** (Survey 87)
- **Storks**, but only once landscapes have recovered, to avoid negative impacts on amphibians. (Survey 24)

Mammals

- **Badgers** (Survey 7, Survey 115)
- Long-term plan for re-introduction of apex predators such as **wolves**, for deer management. (Survey 24)

3.3 Species to remove

- I think the purpose of a priority species list is to include species that are a good measure of wider habitat goals (e.g. farmland birds, dormouse) or ones that need very specific management (e.g. water vole - mink control). Site specific target species don't need to be in a county-wide strategy document as they can be dealt with in the site management plan. (Survey 28)
- Breeding Waders P12 - a crane is technically not a breeding wader. (Survey 71)
- Greater Horseshoe bats are not noted as being present in Oxfordshire on the OBG website, but TVERC may have records. (Survey 71)

3.4 Species to change

- **Adders:** There is a lack of robust evidence on the impact of pheasant presence on adder populations. Some studies show no evidence of impact or interaction, and others indicate correlations of impact but tend to rely on author opinion to speculate on mechanisms. Game bird release is a driver for habitat creation,



especially woodlands, hedgerows and wild bird covers, and the management of predators, especially those known to predate on adders like carrion crow and red fox. (Survey 80, The British Association for Shooting and Conservation)

- **Bats:** The species of bats listed for protection is correct, but there is strong evidence that with climate change and very great inter-annual variations in the extreme weather which forces bats to change their hibernation patterns, other bat species found in Oxfordshire should also be added to the list: Natterers, Daubenton's, and Brown Long-eared bats, which have all shown extreme variations in populations in Oxfordshire. More data is required to continue monitoring all bat populations in Oxfordshire, and particularly from the largest underground bat hibernaculum in Oxfordshire within the Horspath Tunnel. (Survey 61)
- **Bats** are largely discussed in terms of rural woodland but some species are also present in urban areas, including noctule bats along the Thames in central Oxford. Can we mention that we need action to protect commuting and foraging routes in the city from inappropriate development? (Survey 37)
- **Blackthorn butterflies:** currently has a rural focus only (Otmoor) but we also need to protect and encourage blackthorn in urban spaces as there have been many sightings in Oxford recently. (Survey 37 lists locations). Should the text also mention ash, as "master trees" of this species are used as perches (largely by Brown Hairstreak) prior to egg-laying on the blackthorn? (Email 9)
- **Breeding waders:** Add Lower Windrush Valley as a key location? (Survey 71) Management also involves predator control and fencing (Email 9).
- **Breeding waders:** "Reduction of shooting any species considered to be Game species within this group." We recommend this action is updated to reflect support for sustainable harvest following best practice for research and conservation action. We question what evidence has informed your suggestion that a reduction in harvest of 'game' species will promote recovery in general or on Otmoor? The insinuation is that shooting is a cause of population decline. Conversely there is evidence that being a quarry species leads to increased habitat management and species management levels which is addressing known issues of habitat condition and extent and predation. A simplistic recommendation to reduce shooting does not address the species needs nor make best use of the habitat and species management effort that comes with them being harvested sustainably. BASC has provided guidance to the shooting community on sustainable harvest. We have recommendations for common snipe that are evidence-based and proportionate to the risks, noting that common snipe is the only quarry species listed for action for Otmoor. [See detailed reply for guidance to shooters, e.g. submitting bag data to GWCT National Gamebag Census or BASC Green Shoots Bagged It to better inform harvest estimates, and 'Shoot what you need, not what you can']. (Survey 80, The British Association for Shooting and Conservation)
- **Curlew:** more associated with semi-natural grasslands, especially lowland wet grassland, than wet habitats. Also mention Hay Meadows. Appropriate management of the nesting fields is desperately needed. Change 'hatch chicks' to



'fledge chicks'. Fencing the nests helps exclude mammal predators but predator control is needed for birds such as crows. (Survey 44, Survey 71, Survey 80).

- **Fish** could be expanded out into different species. The rivers rising in the Cotswolds NL and heading into the Thames were once known for their grayling, roach and brown trout populations. These have dropped considerably but could be reintroduced, indeed grayling have been recently released into the Sherborne Brook. Cold, clean water with plenty of in-channel diversity with spawning and feeding grounds is needed. (Survey 62, Cotswolds Rivers Trust, offers to help with this section)
- **Greater Crested Newts:** large ponds are not necessarily always best with somewhere around 450m² to 500m² being considered most suitable. Could refer to the HSI criteria. (Survey 73). Typo "New development/infrastructure can include requires amphibian friendly landscaping". (Email 9)
- **Hazel dormice:** Please would you explain how hazel dormice travel 2km to the next woodland when they can travel only 50m to the next tree? (Survey 86)
- **Lizards:** There is a known population of lizards (*Zootoca vivipara*) at Banbury Country Park. It would be nice to mention this to highlight that priority species can be present even close to urban centres. (Survey 44)
- **Marsh Fritillary / Devils Bit Scabious:** Add measure to reestablish DBS in suitable areas of large, unoccupied habitats (Email 9). Long Mead Foundation suggests Devils Bit Scabious should be supported in its own right. It exists in Yarnton Mead, and Long Mead has re-introduced hand-propagated plants to 70ha of floodplain meadow (Survey 127)
- **Monkey Orchid:** an exclusively grassland species (does not grow in the yew woodland at Hartslock). Given that a potential major risk to the Hartslock population is hybridisation with Lady Orchid present at the same site, an action could include targeted reintroduction at suitable sites where Lady Orchid is absent. (Email 9)
- **Poplar trees:** - key locations River Thame catchment and maybe along the Great Ouse (Survey 71)
- **Silver-spotted Skipper:** the photo is American (an *Epargyrous*) not the British species *Hespera Comma*. (Survey 19)
- **Swifts:** Suggest changing text on Swifts: see detailed comment in **Survey 14**. Could the Cherwell Swifts be mentioned? It would be great to promote swift bricks, with swift boxes being very much second best: the swifts use the same nest spots year on year and boxes are relatively short-lived, also the temperature is better regulated for nests within a building and they remain dry. Replace 'Cherwell' (not a town!) with Banbury as an area with nesting swifts (Survey 44). We provide nesting boxes/cups for swifts and house martins in and around Charlbury but this is not enough, the birds need insects. If spraying continues by the local landowners the populations will continue to plummet. (Survey 45).



- **Turtle Dove:** While we support the inclusion of Turtle Dove we would not support captive breeding. Recovery can be achieved through other measures – see the International Species Action Plan for Turtle Doves. (Survey 81, RSPB)
- **Water voles:** the bank gradient is important, they like a steep bank with small ledge at the base. A slower flow rate is also beneficial. Could point towards the Water Vole Conservation Handbook from NHBS Academic & Professional Books. (Survey 73)
- **Whorled Solomon's Seal** is a garden escape in Oxfordshire (Survey 105)
- **Yellow Wagtail:** please change Yellow Wagtail Project to Partnership (Survey 71)

Appendix 1

- **Woodland sections:** mention importance of natural regeneration such as at Knepp, to create structural diversity. (Survey 86)

4. Comments on Local Habitat Map

4.1 Map accuracy and usability

Although the map was thought to be very useful, there were several suggestions for making it more user-friendly and accurate, and several requests for mapping exact boundaries instead of hexagons.

4.1.1 Making the map more user-friendly

- **Names for zones.** Create catchier names for the different zones on the map in line with the previous mapping work done to create the draft nature recovery network for Oxfordshire, e.g. Core Zone for APiBs, Recovery Zone for the mapped measures and Wider Landscape for other areas. (Email 11, BBOWT)
- **Click-through menu.** It is not easy to compare the potential actions that apply in a given place with the click-through right/left arrows. It would be more user-friendly if clicking on a location caused the interface to display a single, scrollable menu that lists all the potential actions, preferably hyperlinked to the relevant pages in the Statement of priorities document. (Email 9)
- **Toggling layers on and off.** It would be useful if you could filter to only display one PM at a time. We achieved this by fiddling around with the layers but it isn't very intuitive. (Email 9, see also Survey 111)
- **Search feature.** We would love to see an additional search function for grid reference as most biological records are recorded this way, rather than a postcode. (Email 9). It is difficult to find some areas as the post code search is too general e.g. it doesn't go below OX29 9 which makes adding things difficult (Survey 79).
- **Unmapped measures.** If the unmapped potential measures could apply at any location, that needs to be stated much more prominently. Otherwise, they may be missed both by funding applicants and grant funders. Just listing the OWLS zones is not enough. One option would be to add an extra measure at the end of the



click through menu to explain that there are unmapped measures set out in the Priorities document. Email 11 (BBOWT)

- **Guidance.** The Arcgis MAP is amazing, including the exciting layer showing the Oxfordshire Wildlife and Landscape (OWLS) Study Map; and what can be done with recovery areas that are not priorities. However we did not have time to watch 32 minutes of three separate videos on how to use it, so originally we missed the richness of information available. Please can we have a concise written description of how to use the map as part of a new LNRS summary document referring to a single short video for the visuals (max 10 minutes). (Survey 86)
- Publicly available digital maps e.g. shapefiles should be made available to users (Survey 35)

4.1.2 Missing geographic features and habitat misclassification

Some ponds are incorrectly classified e.g. already lost, or swimming pools (Email 9) and sewage treatment lagoons (Survey 107) mapped as ponds.

There was a request for a more comprehensive ecological survey across the county to update TVERC data (Survey 74).

4.1.3 Including entire land parcels instead of hexagons

The map was generated using hexagonal grid cells, meaning that it generally does not conform to land parcels such as field boundaries. Several survey and email responses requested that the map should use exact boundaries, and pins on the map requested certain whole land parcels to be included rather than just part. A particular point made was that boundaries including only part of a land parcel make it very difficult to calculate and understand biodiversity net gain uplift. Further comments asked for a more coherent network, with fewer isolated polygons. On the other hand, accurate mapping of the grass strips between solar panels was also thought to look odd and to require a caveat or explanation. Typical comments are listed below.

- Where habitat creation opportunity areas bisect field boundaries they should be extended to follow the boundaries of the field. This is a more rational way of populating the edges of the LNRS maps that reflects the landform and usage. Natural England have advised other Responsible Authorities that field boundaries would be their preferred approach. (Survey 35)
- The use of a coarse geometry of hexagons to define the boundaries of most of the LNRS areas is visually a bit odd, especially given that some areas have much more precisely marked boundaries. We presume the intention is to amend and fine tune the boundaries of polygons over time, otherwise it appears rather a blunt tool. There are inexplicable gaps with the same attributes as the surrounding area (false negatives), and isolated hexagons that could be false positive. We suggest that these areas are 'smoothed' to create consistency in connectivity. (Email 9)
- Using large hexagons seems very crude and inaccurate and often misses parcels of land or river channels where conservation work is already taking place. (Survey 116)



- Mapping only part of a land parcel could cause confusion and delays when calculating Biodiversity Net Gain scores. (Survey 107)
- I found the map tool really interesting and helpful. I did notice some peculiar shapes which I presume are created by an algorithm. It might be useful to have a caveat or FAQ with the final map to explain that so it doesn't put people off using the tool in general. (Survey 114)
- This is an example of where an algorithm has got a bit confused in shape mapping - this overlays a solar farm, row by row at one point. It may not be feasible to manually check and correct such oddities, so perhaps the final map could come with some caveats. (Map 1624)

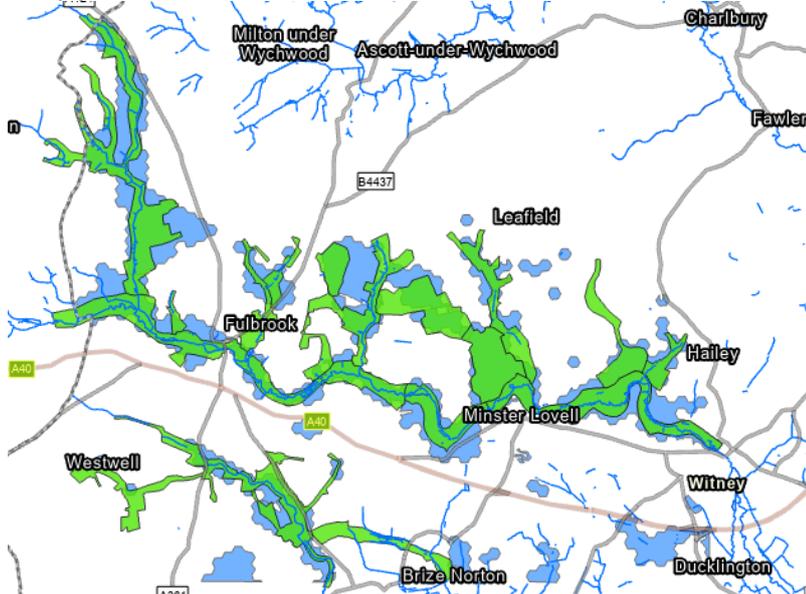


- The areas mapped as hexagonal points without meaningful boundaries could complicate reference to the LNRS for Planning Policy and Development Management. This is particularly regarding its role in biodiversity net gain assessments for 'strategic significance', encouraging biodiversity gain sites within the Strategy area and setting specific net gain requirements. The final map would benefit from having ecologically coherent and robust boundaries. For example, mapped areas to the boundary of fields or following landscape features - whilst making it clear that actions can be taken outside these areas. (Email 14, Cherwell District Council)
- The strategic areas seem to stop halfway through a site and then finish into the boundary of another. For a project, such as Oxford STW upgrade, this is likely to cause quite an issue with 'uplift' in units for offsetting in a strategic area, as the current boundaries don't seem to match up with what is on the ground. (Survey 107, Thames Water)
- There are strange breaks in the priority areas where hexagons run out, perhaps half-way across a field, or come in and out along a waterway, so that you get short stretches of priority and non-priority intermingled. Could we work things down to a finer scale, if possible. (Survey 98)
- The mapping here does not seem to make sense. (Map 1358)
- We recommend that Potential Measures should take more accurate account of land plots (avoiding the fractional coverage of so many crop fields that have limited potential for Nature Recovery) and that they should extend further along the upper ends of minor water-courses and small valleys. These areas often have the greatest potential for nature-recovery activity, particularly for pond and wetland creation and natural flood management measures. Often they can also



provide greater connectivity across the landscape and avoid isolated ‘islands’.
(Email 34, see Figure 1)

Figure 1. Example of request for mapped PMs to be made more coherent and mapped to exact boundaries (Mid Windrush Land and Nature Group, Email 36)



4.2 Proposing potential measures (PMs) where none exist

There were 346 comments related to adding PMs to the map where none currently exist, of which 325 were map pins. There were a wide range of different types of request, summarised below.

Respondents may not have been aware that some of these areas were not included because they are Scheduled Monuments, SSSIs, or Grade 1 or 2 farmland. Measures are not currently mapped for Scheduled Monuments, though it was suggested that these areas could be included with appropriate PMs such as grassland restoration. Grade 1 and 2 farmland was not excluded but received a negative weighting in the map creation. However, it could be suitable for certain measures such as agroforestry, hedgerow creation or grassland restoration.

4.2.1 Areas where nature recovery is desired, planned, ongoing or completed.

Areas where nature recovery activities are planned, ongoing or completed.

Some examples:

- A habitat bank, partly but not completely covered by mapped measures (Email 2)
- A rewilding project that fills a gap in the network, creating scrub and habitat mosaics and hosting priority species. (Email 4).
- A project to infill the hedgerows around Marsh Baldon to enhance biodiversity and combat climate change, agreed by the village council, which will pay for trees, and by the farmer. (Email 24)
- Sites under stewardship management for traditional hay meadows and parkland under contract with Earth Trust. (Email 36)



- Please include all of the Castle Meadows (King's and Queen's Arbours) all the way from Castle St to the river - this is all under Earth Trust management (Map 1672)

Areas where people would like to undertake future actions. These expressed a desire to carry out future restoration work, sometimes specific and sometimes unspecified. Some of these were from landowners or community groups.

- We would encourage the LNRS to consider how the Ock and Thame Landscape recovery project is best recognised within the LNRS. Landowner willingness, backed by a flagship Government strand of ELMS, may be a significant means of attaining nature recovery. (Survey 77)
- We have mapped projects where action is agreed with the landowner. However, we have other potential future projects - what opportunity there is for identifying these on a rolling basis? As landowner agreement has not yet been obtained, making them visible now might compromise a favourable outcome. (Survey 77)

4.2.2 Areas with existing biodiversity value.

There were many pins on the map identifying places with existing habitats or species of interest. These were typically submitted as “Observation, comment or idea”, and not all of them were explicitly linked to a suggestion to include the area in the network. A range of examples are shown below but there are many such comments.

- I would like to see Nethercote on the map in some way (east of M40 at Banbury) the verges and hedgerows show good examples of connectivity and a great example of residents working with authorities for verge management etc & it is good to promote smaller areas. (Survey 17, Keep Nethercote Rural)
- Must include Horse Fields in Iffley; Burgess Field by Port Meadow; Trap Grounds (Survey 96)
- This woodland should be part of the local habitat map as it contains some magnificent trees including Huntingdon Elms close to 100 feet tall. Supports much wildlife including ravens (Map 19)
- A landowner has recently created a large amount of wildflower meadow here with planted native trees and shrubs. It would be good to see this taken into account as a stepping stone habitat. There are also ancient woodland indicators along Stonesfield Lane bridleway, which could be taken into account. (Map 35)

4.2.3 Areas that can fill in gaps in the network.

Several pins identified specific opportunities to fill gaps in the current LNRS map, making it more connected, often along watercourses. For example, there are gaps along the Thames south of Abingdon (Email 9).

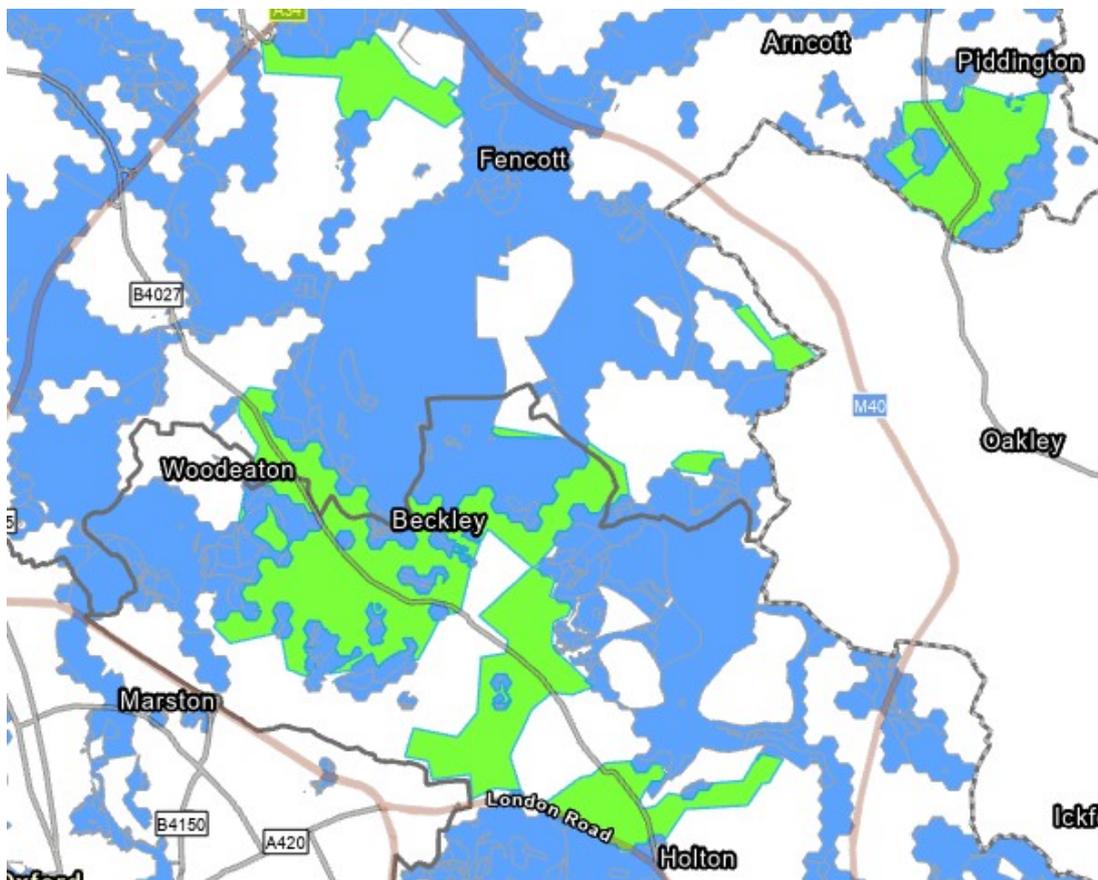
- Surely the whole of the Thames should be a priority area? How otherwise are we to link Wallingford and Goring with Conservation Target Areas? (Map 1661)
- While many wildlife corridors are already recognised on the draft Local Habitat Map, some in the locality of Shotover, Horspath, and Garsington are not shown, causing some concern to the parish councils and community groups working to protect and enhance them (Survey 61)



- A section of watercourse here that could be included to connect up two areas of mapped potential measures (Map 571)
- There are some instances of the polygons not entirely encompassing the Channel(s) of the River Thames and Tributaries. I have commented on the ones I have spotted, but would encourage a review to ensure all river channels are incorporated. (Survey 77, River Thames Conservation Trust)

The REBORN group sent a detailed map of opportunities to connect gaps in the Bernwood-Otmoor-Ray region (Figure 2). This is based on a specific list of target interventions to restore, create, link and buffer habitats such as limestone grassland, acid grassland, calcareous fen, tufa springs, historic parkland and ancient woodland, matched to local knowledge of soil type, ecology and hydrology (see Email 16 for details)

Figure 2. Map sent in by REBORN, imported to GIS. Blue is the draft LNRS measures; green areas are the new areas proposed.



4.2.4 Opportunities in urban areas.

As discussed in Section 4.2 of the main report, many responses requested a much greater focus on urban nature recovery. This was reflected in the map, with 30% of all pins being located in urban areas.

- There doesn't appear to be much, if any, habitat allocated for major towns, including Abingdon, Thame, Banbury. (Survey 108)

Survey 72 (from the Oxfordshire Public Health team) stressed that the urban PMs must be mapped, and proposed a method to take into account the potential to deliver wider benefits:

- Incorporate spatial data on equitable distribution of accessible greenspace, air quality, urban heat and flood risk
- Apply appropriate weighting for habitats that can address the above (e.g. woodland or community orchards for nature access)
- Allow small areas to be included in the urban PMs.
- Apply enhanced measures to understand and protect connectivity of urban habitat. This is particularly important to avoid irreversible biodiversity loss due to fragmentation.
- Prioritise geographical areas where multiple positive outcomes (for biodiversity and 'wider environmental benefits') can be achieved.

Other typical comments included the following.

Opportunities for urban corridors along old railways (Map 346) and railway edges (352), footpaths (Map 1972), hedgerows (Map 1847), and even a central reservation (Map 26-29). Allotments were identified as potentially contributing to urban corridors (Map 1175).

- County Park has a lot of potential for habitat enhancement - recommend that a green band is created from Shilton, through the allotments and Kilkenny, then down through the green spaces to here as lots of areas that can be improved (Map 270)

Urban areas with high biodiversity value that should be included in the map, such as ancient meadows in Oxford (e.g. Map 31, 864, 1240, 1271, 1338), and an urban woodland (Map 1961). Some of these pins also noted certain areas with high current or potential future value for biodiversity that are threatened by development (see Section 4.5 of the main report).

- This is a vital wildlife area home to slow worms, brown hairstreak butterflies and green hairstreak butterflies, toads and a range of other important species. The habitats are managed by Oxford Urban Wildlife Group and volunteers work towards increased. Local school children have Forest School daily in term time, and there are volunteer opportunities, conservation skills training courses and health and wellbeing events. (Map 1961)
- These ancient meadows are rich in biodiversity. Urban green spaces such as these need to be protected just as much as locations in the wider county. They are few, and easily lost. (Map 31)

The **importance of urban buildings** was recognised:

- House martins are site loyal to nesting sites on the buildings of Fulwell. Any renovations or new builds should be including house martin cups as a result. Surrounding land rich in wildflowers and insects will benefit these birds. (Map 863)



There were **requests to include other urban green spaces that are already being sensitively managed**, such as Banbury Country Park (Map 350, only partly included), Browning Road Park (Map 353).

- The whole of Browning Road Park should be included. Banbury Town Council manage this public open space sensitively with wildlife in mind and it is impressive in terms particularly of invertebrates, birds and amphibians. (Map 353)

Specific areas with potential for improvement were identified, including churchyards (Map 1971, 1973), allotments (Map 703), parks and other open spaces (Map 358, 359, 388, 1202, 1350, 1974), neglected ancient hedgerows around a recreation ground (Map 1847, 1962), new green space delivered as part of housing (Map 70, 1220), SUDs retention ponds (Map 1176), a disused car park (Map 48), urban woodland (Map 860) and a neglected nature reserve (Map 179).

- These detention ponds could be enhanced as wetland habitats with PM43 and PM44. (Map 1176)
- Kilkenny Lane Country Park could really benefit from PM38, PM103, PM5, PM06, PM2, PM29 and PM08. It could also benefit from PM52 (Map 790)
- Potential sites for Tiny Forests were identified (Map 1652, 1668, 1678, 1694)

Some comments identified opportunities to deliver wider benefits

- Map opportunities to provide nature-rich spaces near/within public infrastructure such as schools and hospitals where the health and social benefits of nature connection are particularly marked, and identify where access to nature is particularly poor. (Survey 72)
- Create habitat to slow surface run off to reduce flood risk, while creating a community asset that offers local cooling, shading, carbon capture, and benefits to biodiversity (Map 190).

Many pins identified areas where local volunteers are already working to protect and enhance urban biodiversity.

- This area has been restored by local volunteers from Greening Jericho, and I am sure now has a variety of (if small) habitats and pockets of biodiversity. (Map 502)
- Boundary brook nature reserve - the home of Oxford Urban Wildlife Group. An amazing place with a huge amount of biodiversity. Well managed by staff and volunteers. Provides mental wellbeing for local residents. Lots of sessions held here, singing in nature, hedge laying, moth identification, bat identification and more. Also used by neighbouring school (Map 1362)
- Rose Hill and Iffley Low Carbon have planted over 800 English native trees on Rose Hill Recreation Ground over the last few years, including over a dozen tree species. (Map 1556)

4.2.5 Other specific local areas

There was one general request for more areas to be mapped at the local level:

- The LNRS digital mapping needs to be much stronger, showing a wider range of habitats. The baseline mapping was very limited, in terms of existing sites and

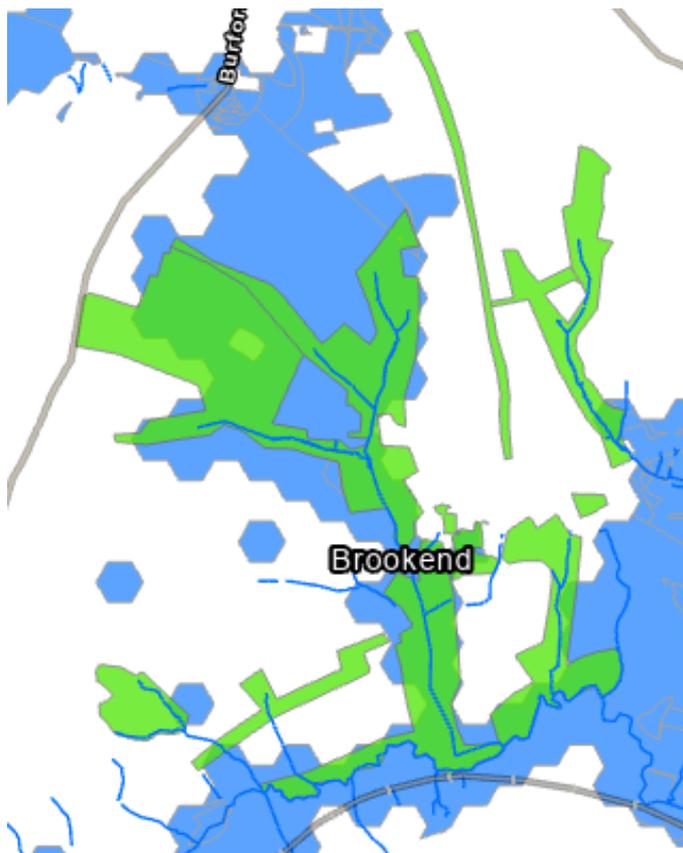


connectivity. This has left a large gap to be filled and opportunities to be identified. Hopefully the consultation will fill some of this gap, but there will probably need to be more locally focussed work to improve coverage (Survey 118)

Many comments suggested measures in specific areas that do not fall into the above categories (ongoing work, high biodiversity interest, filling gaps, urban areas), but where they saw local potential. Here we list a few examples:

- East of South Stoke on the arable land there are opportunities to enhance the farmland with headland strips, hedges, trees. The geology and floods suggest opportunities for further connected wetland habitats. (Email 19)
- Fields south of Whitecross Green Wood (Email 11)
- Chadlington Parish sent their own local opportunity map including some key corridors for biodiversity and movement of species (addressing PMs 64 and 65), which overlaps with the LNRS but does not match it exactly (Figure 3). (Email 23)

Figure 3. Chadlington Parish biodiversity corridors (green) compared to LNRS map (blue)



4.2.6 Requests for additional PMs in areas containing other PMs.

In some places, requests were made to include additional PMs, e.g.:

- At the Buscot and Coleshill Estate, we are running two nature recovery projects - one focused on delivering on the NT's land and one focused on delivering more across the Cole Catchment. We strongly welcome the areas of nature recovery



identified in both these areas, but believe there are more opportunities across the estate and the catchment, and some refining of the options identified already is possible. (Survey 84)

- The site may benefit from a series of natural flood management projects such as bunds and leaky dams to reduce flooding downstream PM52. The site may also benefit from PM57. (Map 769)
- Add PM56 - these are MG4 type meadows that have fallen into mismanagement. (Map 76)

4.2.7 Requests to consider expanding some mapped PMs.

One response (Email 9) queried the mapped PMs for acid grassland and heathland, which appeared to cover a smaller area than the existing Oxfordshire Local Biodiversity Action Plan. It was suggested to expand the area to include additional soil types (Soilscapes 7 and 10).

There was a request to consider mapping hydrological risk zones for fens using a new dataset for South Oxfordshire and Vale of White Horse (Email 9).

4.2.8 Mapping of unmapped PMs.

A general request was made from BBOWT (Email 11) for more of the unmapped PMs to be mapped, especially those concerned with scrub, mosaics, fen and reedbed habitats. There was strong concern that otherwise these unmapped PMs would be neglected by landowners and excluded from potential funding opportunities. Survey73 and Survey 91 also suggested mapping some of the unmapped PMs.

- Concerned that unmapped measures may be overlooked or ineligible for BNG and other funding. Suggest mapping some of them and adding the rest as a generic option visible on the map. (Email 11, BBOWT)
- What will happen to unmapped land? Is there a risk that focusing exclusively on the priority areas will leave unmapped areas vulnerable to damaging use (Email 33).
- Potential measures which are not mapped on the habitat map might benefit from inclusion of an additional column stating more generally the type of areas/habitats where these actions could be carried out and what land management systems it is compatible with. This is particularly relevant for creation of new habitat types. (Email 14)

The specific PMs identified for possible mapping are:

- PM07: Create and maintain pockets of diverse **scrub on grasslands** as suitable.
- PM08: Manage **existing areas of scrub** to create a varied age and physical structure including glades and scalloped edges.
- PM24: Create new areas of habitat which contain a **matrix of habitat types** including small woodland patches, scattered trees, scrub, and grassland.
- PM27: Create **new large areas** which contain a mix of habitats suitable to the site to benefit wildlife.



- PM37: Create **dense shrubby habitat** within and around woodlands.
- PM41: Manage operational canals to improve (or maintain good quality) habitats or wildlife corridors through Oxfordshire.
- PM42: Improve the condition (or maintain a good condition) of lakes in Oxfordshire.
- PM44: Improve (or maintain a good quality of) **existing reedbeds** to create a varied vegetation structure that supports reedbed species.
- PM47: Ensure the continued **supply of water** and control over water levels **into existing fens**.
- PM48: **Existing fens** in Oxfordshire are managed to improve their condition and benefit to biodiversity (including ghost fens).
- PM49: Retain and create **'fen carr'**, a wet woodland fen habitat that tends to be made up from 'sallow' willow species and alder.
- PM50: **Create or improve existing fens** and ghost fens to ensure the presence and flow of clean water and create open sunny fen pools.
- PM53: **Create more reedbed** habitat at suitable locations to provide habitat for reedbed specialists (often as part of larger wetland mosaics)
- PM54: **Create fen, marsh and swamp** wetland habitat areas in suitable locations in Oxfordshire
- Include all roadside verges and hedgerows, many of which are in poor condition (Survey 57)

PM 47-50 could be based on the new document: "Lowland fens - Identifying sites and mapping hydrological risk zones in South Oxfordshire and Vale of White Horse" produced by Freshwater Habitats Trust for the South and Vale Local Plan. (Email 11)

4.2.9 *Areas at high risk of soil erosion.*

- Areas of high soil erosion as a result of poor farming methods should be added and made priorities for action. There are many, mostly cultivated steep slopes of the Chilterns. After heavy rainstorms, there's plenty evidence of mass soil erosion. (Survey 13)

4.2.10 *Buffers for certain areas*

- **Buffer SSSIs, LWSs and potentially other APIBs** by one or two hexagons (200-400m) (Email 11).
- **Zone 3 sub-groundwater hydrological risk zone for Cothill Fen** (see the maps in the document "Lowland fens - Identifying sites and mapping hydrological risk zones in South Oxfordshire and Vale of White Horse" on page 152 (or page 154 of the PDF) (Email 11)
- **All existing designated (including LWS), protected or priority habitats should be mapped and buffered (suggested buffers of 250m minimum).** There should be additional buffers that link isolated habitats to other habitat



opportunity areas to help build functioning ecological networks - in accordance with the Natural England Habitat Networks Model. (Survey 35)

- **Buffer existing habitats by 200-400m.** Edge effects greatly reduce the quality of habitats and 'corridors' due to pollution, noise, light, recreational impacts, and microclimate effects, with impacts felt at least 200m into a habitat, and possibly over 400m. This could affect the many smaller areas and corridors in the map. We suggest:
 - Giving existing habitat blocks a suitable buffer habitat improvement or low intervention agriculture of least of 200m and for many habitats at least 400m wide.
 - Making habitat blocks more round/square, not narrow and long.
 - Considering if narrow habitat areas and corridors are viable and can be widened (Email 16)

4.2.11 *Include the full extent of all Conservation Target Areas (CTAs).*

Three email responses (Email 11, 14 and 16), two survey responses (Survey 10 and 82) and two map pins (Map 446 and Map 466) requested that the full area of all Conservation Target Areas (CTAs) should be included, and that it would be helpful to explain the role of the CTAs and the previous draft Nature Recovery Network map of Oxfordshire. Email 11 also suggested further work post-consultation to ensure that the Aims/Targets of the CTAs are reflected in the Potential Measures of the LNRS.

The [CTAs](#) are existing areas targeted for nature recovery in Oxfordshire that were jointly developed by local organisations in 2006, covering clusters of high value habitats. The existing LNRS map includes a substantial proportion of the CTAs, as it was weighted to take them into account, but not their entire area. For example, Email 16 "*recommends that much of the former Oxford Heights CTA should be included as 'priority' areas because it meets key nature regeneration objectives. This is informed by the soil characteristics, drainage and springs based on local knowledge and geology mapping.*"

- The baseline map does not include CTAs (Conservation Target Areas). The Oxfordshire Wildlife and Landscape Study (OWLS), which mapped biodiversity across the county according to landscape type, was a precursor to the development of the CTAs. The CTA approach was a major milestone for conservation in Oxfordshire and could, along with the related Nature Recovery Areas, make a major contribution, once updated, to the LNRS process. (Survey 82)
- As County Ecologist I was responsible for both the OWLS and CTA initiatives. I am very pleased that OWLS is being highlighted so prominently within the draft LNR document. However, I was disappointed that I could find no mention of CTAs. At the time it was intended that OWLS would provide a broad framework for landscape and biodiversity conservation within the wider countryside. It led on to the development of the CTAs which, in my opinion, provided a more detailed and evidence based approach to biodiversity recovery throughout the county. I believe it should be at least mentioned within the strategy to make sure the wider public is aware of the valuable role it has to play in delivering biodiversity gain.
I think a combination of both OWLS and CTAs is the best way to proceed and anything that can be done to engage the wider public through the LNR Plan is greatly welcomed. I don't know if it would work but I thought that the draft Nature

Recovery Network Plan, with its core, recovery and wider landscape zones, produced by TVERC was very informative and was wondering if there was any way it could be incorporated into the LNR. (Survey 10)

4.2.12 *Designated sites*

There was a request from Cherwell District Council for its District Wildlife Sites to be included.

- Whilst the majority of District Wildlife Sites (DWS) are covered within the mapped Strategy area, we consider the Oxfordshire Wildlife Site Project to include both LWS and DWS and would therefore support inclusion of all DWSs as areas of potential value for biodiversity, which recognise access and involvement of the community. (Email 14, Cherwell District Council)

SSSIs are included within the LNRS as 'Areas of existing importance for biodiversity' but guidance from Defra states that measures should not be mapped there because they already have site management plans. However, several comments expressed concern over this and suggested it should be challenged (Email 11, Survey 105; see Section 4.7.2 of the main report)

4.3 Disagree with mapped PM

83 comments disagreed with the mapped PM, for five main reasons summarised below.

4.3.1 *PMs incompatible with current habitat*

There were many comments stating that the mapped measure was not compatible with the existing habitat. For example, semi-natural woodlands were mapped as being suitable for restoration to grassland. It was also pointed out that many locations have both enhancement and creation options, whereas this should depend on whether the habitat already exists in that location. A few examples are given below.

- For existing areas of importance for biodiversity, generally enhancement rather than creation measures should be mapped (with some exceptions that might be suitable in some circumstances e.g. pond creation) (Survey 73)
- There are potentially too many options for measures in places. For example, on a piece of land that is lowland calcareous grassland PHI and a Local Wildlife Site, there are 6 options. Option 1 is create Wood pasture and Parkland (not really appropriate) and only when you get to options 4 and 5 are they specific to Calcareous grasslands. Surely they should be the first two options and perhaps there should be a maximum of 4 potential measures anywhere? Too many means that there is then little steering as to what is appropriate. Chalk grassland is more important than wood pasture and parkland (although both are important). (Survey 97)
- Please don't create grassland here - it is ancient woodland! (Map 1061)
- This is an important area of ridge and furrow and should not be planted with trees. (Map 1135)
- This should not be targeted for woodland creation as this field is an amazing wildflower meadow (Map 686)



- This area not suitable for new woodland due to vicinity to important breeding wader areas. (Map 1019)
- Neutral grassland is not appropriate here due to the presence of reedbed (Map 1010)
- Landowner managing orchard area as traditional orchard into the future [*mapped for incompatible measures e.g. wetland*] (Map 154)

There were also various comments expecting more accuracy – related to the request querying the extension of the mapped polygons over lakes, roads and private gardens, and for hedgerows.

- Proposing neutral grassland creation in a lake? (Map 1052, 1055)
- Woodland planting suggested on a road (Map 1006)
- Hedgerow creation in random central areas of fields is unlikely to happen (Map 1016)
- It is questionable whether SSSIs identified purely for geological interest should be mapped as existing Areas of Importance for Biodiversity, although some of them are also identified as Local Wildlife Sites. Suggest LNRS measures should only be mapped on geological SSSIs where this is compatible with their geological value. (Survey 73)

4.3.2 *Incompatible PMs for sports fields, play parks, allotments, and cemeteries*

There were several requests to remove PMs that are incompatible with current land use for sports fields, playgrounds, allotments, churchyards and cemeteries, such as wetland or woodland creation. However there was also willingness to consider appropriate measures.

- This area is allotments. It is already quite ecologically diverse with many plot holders keen on wildlife. I don't think suggesting it is planted as wet woodland is appropriate for this site. Increasing the take up of wildlife friendly gardening by plot holders would be a more appropriate action. (Map 193)
- This area is allotment - measures for biodiversity have been included by community group including hazel coppice, wildflower meadow and orchards but not likely suitable for reversion to lowland meadow (Map 703).
- This is Osney Cemetery. Action here should be creating a mosaic of habitats including trees, scrub and species rich grassland. (Map 194, area mapped for river restoration and riparian habitats)
- This is an area of graveyard so the River restoration objective is inappropriate (Map 430)
- Sport England is concerned that many playing fields are identified for an alternative use that is not compatible with their primary use as a sports facility. Sport England does not object to the LNRS encouraging sports clubs to increase biodiversity on their sites, but these are not appropriate areas for creation of wetlands, restoration of peatlands, planting of trees and hedgerows or more sustainable management of existing woodlands and other habitats like



grasslands. Either remove these from the LNRS or add a caveat e.g. trees and hedgerows could be round the edge of the field so that they do not affect the function. (Email 13)

On the other hand, there were also some comments on the potential for enhancing biodiversity on these sites:

- This area is owned by the Parish Council and leased by Enstone Sports Club. While maintaining the valuable sports fields which are used by many local people, there could be further opportunities for increasing biodiversity around the perimeter of the site. (Map 278, 1582)
- There are so many sports fields in this area that are barely used – it would be far more useful to plant a forest here, which in the long term would provide for both greater biodiversity and more recreation. (Map 1352)

4.3.3 Requests to remove areas scheduled for development.

Thames Water commented that many of their operational sites are covered by the mapped areas, with lagoons typically mapped as ponds. They were concerned that this could lead to delays in planning applications for expansion of infrastructure on their sites, e.g. new buildings (Survey 107).

Aspect Ecology on behalf of Greystoke CB Ltd requested removal of the land at Waterstock Golf Course which is part of a planning application, now at appeal, on the grounds that the grassland lies outside the floodplain and is UKHab 'Other Neutral Grassland' in 'poor' condition. They proposed adjusting the boundary. (Email 15)

4.3.4 Requests to remove certain areas of farmland or private gardens

One comment asked to remove their land from the map on the grounds that actions were already ongoing.

- I write in response to the recommended actions you have suggested on our property. We believe that you may have mis-designated the current use of some of the land and that some of your recommendations are neither practical nor necessary. We already have a woodland maintenance and planting plan and have planted over ten thousand trees on our farm. There are many miles of connected wildlife corridors; one of the reasons these are so successful is that incursions by humans are kept to a minimum. We are not in need of volunteers. (Email 37)
- Seemingly random bits of private gardens suggested for woodland creation (Map 1007)

Some other comments queried why particular areas of arable land were included on the map. This seemed to indicate that the respondent was expecting the map to include only areas that had some existing biodiversity interest, rather than areas that could be restored from low-biodiversity land.

- Unclear what particular merit this area has for PMs (Map 886 to 893)
- These are not biologically significant areas. They have been cultivated for several years as *Miscanthus* monoculture. (Map 990-992)



- Why is this bit of field included, when nearby much more interesting sites are not? (Map 1002)

4.3.5 Request to change to a different PM

A few comments suggested changing the mapped PMs to something different. For example, two comments suggested replacing woodland creation with grassland on farmland on the grounds that it conflicted with the traditional open landscape. (Survey 120, see Section 4.5.4 of the main report) and historic land use as meadows (Email 40).

- Not clear why this crop field in particular is being designated for PM35 woodland creation (Map 409)
- I am happy to support the area mapped as PM40 (Restore rivers and riparian habitats). However, three of my three fields overlap with PM35 "Create new woodland." An even better strategy would be to revert from arable to species diverse lowland pasture. If financially viable and practical, I would like to be able to do this. Grants and/or funding would be very welcome. Some of these fields regularly flood each year, they are carbon rich soil, and used by species characteristic of open countryside including lapwing, snipe, grey partridge, barn owl, and formerly curlew. (Email 40, Map 960, 965, 973, 975, 982, 984)

4.4 Information on local nature features or activities

191 comments, of which 143 were map pins, provided information on local species, habitats, and ongoing nature recovery actions, or simply expressed appreciation of particular areas. Sometimes it was clear that the comment was asking for the area to be included in the LNRS map, or for potential measures on that site to be modified, but not always. Nevertheless, this represents a rich source of information and guidance to help inform future nature recovery activities. Many examples have already been cited in this report, but some additional examples are summarised below.

- This is a beautiful semi wild space, that has been used by the local community for ever, e.g. as an informal forest school. There are old oak trees dotted around the woodland, one has a commemorative plaque to remember a family member. There are several indicator species of ancient woodlands, such as orchids and bluebells. But also flytipping. (Map 59)
- The Ewelme Brook is a rare chalk stream with an improvement plan underway. It is managed by the Chilterns Chalk Stream Project. (Map 68)
- Finstock for Nature are planting a community orchard in the Parish Field, land owned by Finstock Parish Council (Map 71)
- Verges managed by OCC but additional management undertaken by CAG to enhance verges for wildflowers as this is a key connection between larger areas for wildflower and animal biodiversity. (Map 87)
- Curlew field - hasn't been ploughed for at least 15 years. Good chalk downland plant community (Map 248)
- Rabbit bank - many orchids, cowslips, broomrape and lots of butterflies (Map 250)



- Cuttle Brook nature reserve is a fantastic asset for nature and people of Thame: rich habitats including meadow, wood and riverbank of huge value to biodiversity & wellbeing. (Map 1296)
- Often wet in winter and supports various fungi (Map 1504)