

Ecological networks and opportunities for nature restoration through the Deerhurst Neighbourhood Development Plan

A report to the Deerhurst Parish Planning Group

Produced by the Gloucestershire Wildlife Trust, the Gloucestershire Centre for Environmental Records and Wild Service



Gloucestershire
Wildlife Trust



1. Introduction

1.1 Scope

- 3.1 Gloucestershire Wildlife Trust, in partnership with the Gloucestershire Centre for Environmental Records and Wild Service were commissioned by Deerhurst Parish Planning Group to provide information on the biodiversity and ecological networks within the parish to support the production of a Neighbourhood Development Plan (NDP). This report is a supplementary guidance document to accompany the ecological network maps.
- 3.1 This report contains information to support the Parish Planning Group to achieve the following objectives
- To produce an NDP informed by local ecological network maps, protecting designated biodiversity sites, other core parts of the network and the corridors between them.
 - To identify the best local locations for delivering Net Biodiversity Gain if it is not possible for developments to deliver this on-site.
 - To future proof the NDP against legislation due to be enacted through the upcoming Environment Act
 - To support biodiversity policy alignment with the government's 25 Year Environment Plan, the National Planning Policy Framework (NPPF) and the Joint Core Strategy (JCS).
 - Provide guidance on accessible natural greenspace and how to ensure that any Green Infrastructure created or enhanced through development provides significant biodiversity and health and wellbeing benefits.

1.2 Location

Deerhurst is a parish in Gloucestershire, situated in Tewkesbury Borough with a total area of 1224.6 ha, with a central point at grid reference SO869282.

1.3 Legislation and policy context

- 3.1 This report has been prepared in accordance with current relevant legislation summarised in appendix 1, however the following primary documents are of relevance.
- The Wildlife and Countryside Act 1981 (as amended)
 - The Countryside and Rights of Way Act (CRoW Act 2000 (as amended)
 - The Natural Environment and Rural Communities Act (NERC Act) 2000
 - The Conservation of Habitats and Species Regulations 2010 (as amended)
- 3.1 In October 2019 the UK Government introduced a new Environment Bill into parliament, which is due to gain royal assent in 2021. The Bill sets out new environmental legislation for the UK with a particular focus on the transition of legislation following the UK's exit from the European Union. The Bill contained several legislative commitments relating to the development planning system, so it is advised that the NDP is produced with these in mind.
- 3.1 The key commitments relevant to the NDP included in the Environment Bill are
- With a very small number of exemptions, there will be a mandatory requirement for all developments to deliver Biodiversity Net gain, as measured by the most current version of the Defra Metric.
 - A statutory requirement to produce and deliver a Local Nature Recovery Strategy including a spatial Nature Recovery Network. This is likely to become the responsibility of Local Authorities.
 - Strengthening of The Natural Environment and Rural Communities Act 2006 to require public authorities to 'have regard' to the enhancement, as well as the conservation, of biodiversity
- 3.1 No part of this report should be considered legal advice and when dealing with individual cases, the client is advised to consult the full texts of the relevant legislation and obtain further legal advice.

2. Nature Recovery Network methodology

2.1 The Nature Recovery Network is built from four ecological networks which are then combined. The four ecological Networks are:

 **Open habitats** (core habitat = species-rich neutral grassland, species-rich calcareous grassland, dry acid grassland, lowland heathland)

 **Wooded habitats** (core habitat = semi-natural woodland)

 **Water & wetland** (core habitat = ponds, rivers, bog, fen etc., wet heath and wet grassland)

 **Arable** (core habitat = important areas for arable plants, important areas for farmland birds and arable field margins)

2.2 In the open habitat and water & wetland networks, core habitats are priority habitats as listed on the Natural Environment and Rural Communities Act 2006, Section 41 list of priority habitats and species. For the wooded habitat network, all native broadleaved woodlands are included as core habitat.

2.3 Essentially, the core habitats are the current “good quality” semi-natural habitats, which are of greater biodiversity value compared to other habitat types.

2.4 The Nature Recovery Network considers the ability for species to move between these core habitat patches and looks for opportunities to improve the network by making patches bigger and more connected, i.e. more resilient. The connectivity within each of the four networks is assessed and opportunities for habitat restoration/creation are scored based on a number of constraint and opportunity data sets.

2.5 The four ecological networks are combined, using conditional statements, to give zones of high, medium or low priority for habitat restoration

3 Nature Recovery Network interpretation and opportunities

3.1 Interpretation

- 3.1.1 The Nature Recovery Network is an indicative guide generated from modelling the 'best available' data and may not always reflect the true picture on the ground. Expert interpretation should be sought to generate the best outcomes for restoration of the Nature Recovery Network and care should always be taken to prevent degradation or further isolation of any existing valued habitat.
- 3.1.2 The maps provided in appendix 2 are drafts (April 2020) of the Gloucestershire Nature Recovery Network and currently only includes the wooded and open habitat network elements.
- 3.1.3 Water & wetland and arable networks will be added during 2020 and updated maps provided, however, the water & wetland core habitats have been overlain for guidance. Where this overlaps with the grassland network this indicates wet floodplain grassland (known as coastal and floodplain grazing marsh - CFGM) is present. While CFGM is considered a priority habitat in its own right, it is also included within the open habitats network because the grassland habitat quality could be increased through appropriate management.
- 3.1.4 Traditional orchards are a priority habitat, but they also contribute to both the open habitat (species-rich grassland) network and the wooded network if managed correctly. Gloucestershire as part of the “Three Counties” has a particularly rich orchard history. Due to the number of specialist orchard dependent species, traditional orchards may need a separate connectivity assessment which is a further step in the Nature Recovery Network Mapping which is yet to be undertaken.
- 3.1.5 Until traditional orchard networks are assessed it is advised that developments impacting orchards require ecological surveys for the noble chafer beetle, an orchard-specialist species which may only be able to travel up to 200m.
- 3.1.6 Deerhurst contains several traditional or remnant traditional orchards, so off-site Biodiversity Net Gain opportunities could seek to expand these or create new orchard as part of a mixed wooded and grassland habitat network.

- 3.1.7 The parish contains two broad areas where retention and enhancement of the existing ecological networks should be a priority. The first is a mosaic of wetland and open habitat running along the southern boundary and the second is in the most northern corner where there is a cluster of cross-boundary core habitat and areas of high priority for open habitat restoration adjacent to the River Severn.

3.2 Opportunities and suggested policies

- 3.2.1 Below are suggested ecological policies for the Deerhurst NDP. These are based on the evidence-base consisting of the species and designated site data provided by the Gloucestershire Centre for Environmental Records and the Nature Recovery Network. They are aligned with the policies of the NPPF, JCS and the pre-submission Tewkesbury Borough Plan (TBP).
- 3.2.2 Developments should not be permitted on designated biodiversity sites, core habitat or high priority zones of the Nature Recovery Network. (NPPF para 170 and 174-175; JCS - SD9; TBP - NAT1).
- 3.2.3 Development leading to loss of irreplaceable habitat (e.g. ancient woodland, species-rich grassland) should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists. (NPPF para 175c; JCS SD9; TBP - NAT1).
- 3.2.4 Development outside of designated biodiversity sites, core habitat or high priority zones of the Nature Recovery Network, but which could cause significant direct or indirect harm to them (including further isolating them from the network), should be avoided wherever possible. If development proceeds, then it should use the mitigation hierarchy to remove or reduce these impacts in accordance with paragraph 175 of the National Planning Policy Framework. (NPPF para 175a; JCS SD9; TBP - NAT1).
- 3.2.5 All developments should deliver Biodiversity Net Gain that aligns with the most up-to-date version of the Nature Recovery Network, including both on and off-site works. (NPPF para 170d and 174a; JCS SD9; TBP - NAT1).
- 3.2.6 The southern boundary of the parish forms part of a mosaic of open and wetland habitats of county-level importance. Development that have a

significant adverse impact on the core habitat and high priority areas in this location should not be permitted.

4 Green Infrastructure and Accessible Green Space

4.1 Importance of accessible natural greenspace

- 4.1.1 A wealth of evidence, both published and non-published, currently exists, demonstrating the positive and measurable benefits the natural environment can provide to the UK's health and well-being. Wider determinants of health are coming to the forefront in prevention initiatives and pilot projects, with the environment being one of the 'trojan horses' to address health issues.
- 4.1.2 Accessible green space supports communities to stay connected to nature and can be used to help people feel mentally uplifted, and physically resilient, providing routes for people to self-manage their mental and physical wellbeing. In addition, accessible green space keeps communities, not only connected to nature, but connected to their community, to each other and to their local surroundings.
- 4.1.3 Richardson and Mitchell [1] carried out an analysis of data from across the UK, showing that rates of mortality from cardiovascular disease and respiratory disease amongst men decreased with increasing access to greenspace. Wells et al and Bowler et al, [2], found that individuals with easy access to nature are three times more likely to participate in physical activity and 40% less likely to become overweight or obese. According to Laumann et al, Pretty et al, Duncan et al, and Brown, Barton and Gladwell [3], viewing nature has a relaxing effect on the cardiovascular system and autonomic function, with the reduction of air pollution via increased plant abundance being associated with decreased incidence of cardiovascular and respiratory disease, as stated by Clark et al [4]. The risk of mortality caused by cardiovascular disease is lower in residential areas that have higher levels of 'greenness', with being physically active for 30 minutes a day directly reducing the risk of strokes, cardiovascular disease and obesity [5].
- 4.1.4 Across the UK various projects have taken place, or are in progress, broadly addressing health and well-being issues using the natural environment. Each one of the projects [**Appendix 3**: Non-published evidence of natural

environment benefits on physical, mental and social health] evidenced significant improvements in mental, physical and social health as a result of access to natural greenspace.

Current provision within Deerhurst Parish

4.2.1 Natural England's Accessible Natural Greenspace Standard (ANGSt), recommends that everyone, wherever they live, should have accessible natural greenspace. The standards define this as

- At least two hectares in size, no more than 300 metres (five minutes' walk) from home.
- At least one accessible 20-hectare site within 2km of home.
- One accessible 100-hectare site within 5km of home.
- One accessible 500-hectare site within 10km of home.
- A minimum of one hectare of statutory Local Nature Reserves per thousand population

4.2.2 It is often assumed that rural parishes will easily meet the ANGSt, but higher levels of private landownership in rural areas can limit access. Deerhurst has approximately 6 ha of publicly accessible greenspace and most residences have access to these sites or public rights of way through natural greenspace within 300 metres.

4.2.3 There are no larger accessible natural greenspaces within two km of most residences in the parish, so this need is not currently being met. Provision of a larger accessible natural greenspace in the Severn Vale between Gloucester and Tewkesbury will be required if significant residential developments are going to take place here.

4.3 Opportunities and suggested policies

4.3.1 On-site Green Infrastructure delivered through developments should not harm local ecological networks and should seek to enhance them wherever possible.

4.3.2 On-site Green Infrastructure delivered through developments should be delivered in accordance with Building with Nature Standards. This will align with policies in the emerging revision of the Tewkesbury Borough Local Plan.

4.3.3 Adequate provision of accessible natural greenspace, in-line with Natural England's ANGSt standards should be delivered as part of any major (ten or more homes) residential development within the Parish

[1] Richardson, E.A. and R. Mitchell, *Gender differences in relationships between urban green space and health in the United Kingdom*. Social Science & Medicine, 2010. 71(3): p. 568-575.

[2] Wells et al 2007, Bowler et al., 2010

[3] Laumann et al, 2003, Pretty et al., 2005; Brown, Barton and Gladwell, 2013, Duncan et al. 2014

[4] Clark et al., 2014

[5] Health and Social Care Information Centre, 2013, Health Survey for England 2012. Volume 1: Chapter 2 – Physical inactivity in adults

[6] The direct and indirect contribution made by The Wildlife Trusts to the health and wellbeing of local people – University of Essex, p.18

Appendix 1: Key national and international biodiversity policy and legislation as of April 2020

Statutory nature conservation sites and protected species are a 'material consideration' in the UK planning process (DCLG, March 2012). Where planning permission is not required, for example on proposals for external repair to structures, consideration of protected species remains necessary given their protection under UK law.

The Conservation of Habitats and Species Regulations 2017 transpose the requirements of European Directives such as the Habitats Directive and Birds Directive into UK law, enabling the designation of protected sites and species at a European level.

The Wildlife and Countryside Act 1981 (as amended) forms the key piece of UK legislation relating to the protection of habitats and species. The Countryside and Rights of Way Act 2000 provides additional support to the 1981 Act, for example, increasing the protection of certain reptile species. Specific protection for badger is provided by the Protection of Badger Act 1992. The Wild Mammals (Protection) Act 1996 sets out the welfare framework with respect to wild mammals prohibiting a range of activities which may cause unnecessary suffering.

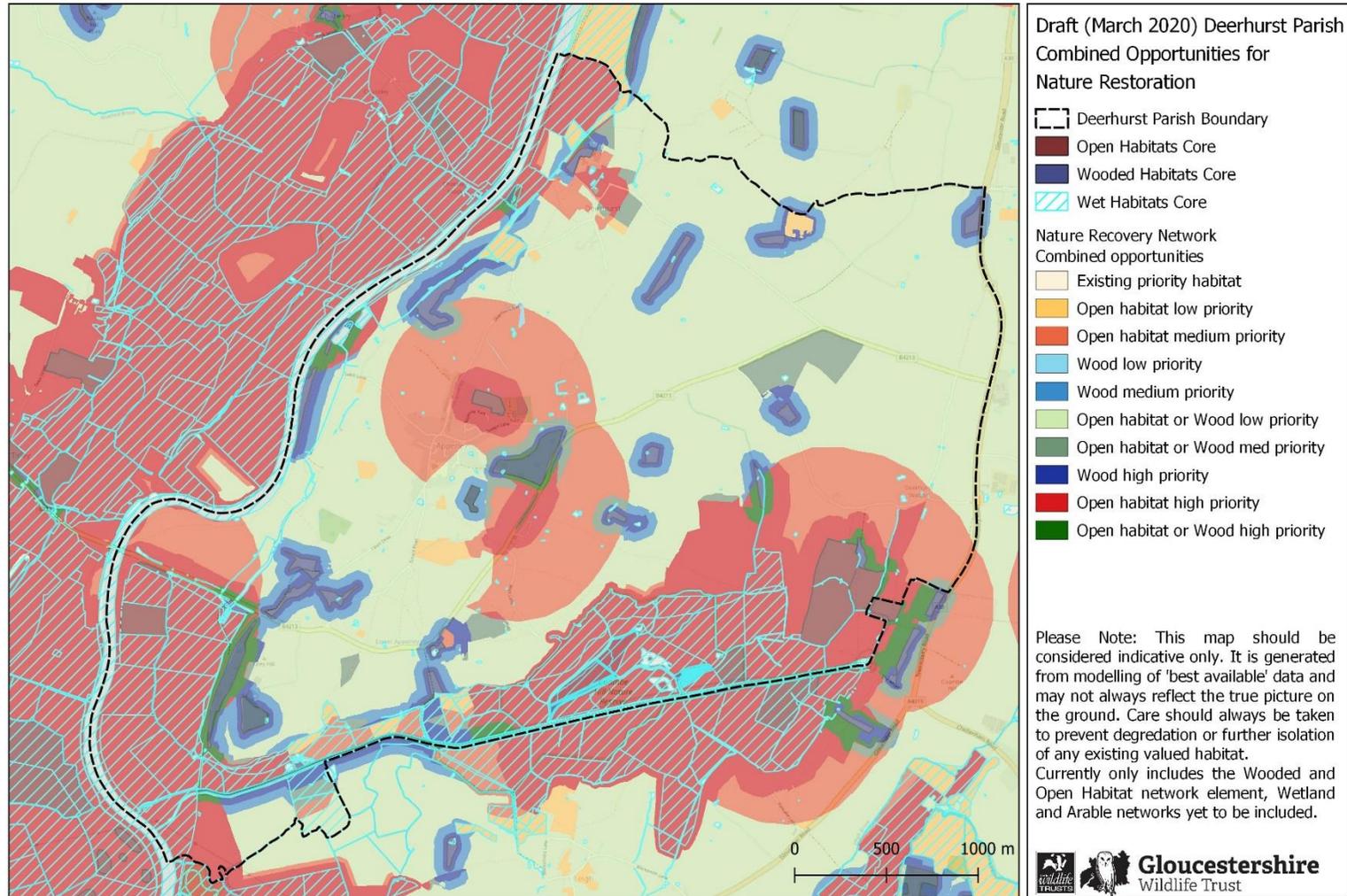
The Government has a duty to ensure that parties take reasonable practicable steps to further the conservation of habitats and species of Principal Importance for Conservation in England listed under Section 41 of the Natural Environment and Rural Communities Bill 2006. In addition, the 2006 Act places a Biodiversity Duty on public authorities who 'must, in exercising [their] functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity' (Section 40 (1)). Criteria for selection of priority habitats and species include, for example, international threat (such that species may be protected in their strong holds) and marked national decline.

The National Planning Policy Framework [3][1] states (in section 11) that the planning system should minimise impacts on biodiversity, providing net gains in biodiversity, where possible. It also states that local planning authorities and planning policies should:

- Plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure;
- Take account of the need to plan for biodiversity at a landscape-scale across local authority boundaries;

- Identify and map components of the local ecological networks, including international, national and local sites of importance for biodiversity, and areas identified by local partnerships for habitat restoration or creation; and
- Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the recovery of priority species populations, linked to national and local targets and identify suitable indicators for monitoring biodiversity in the plan.

Appendix 2: The Nature Recovery Network in Deerhurst Parish



Map includes data derived from LCM2015 © NERC (CEH) 2017.
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Appendix 3: Non-published evidence of natural environment benefits on physical, mental and social health

- At Lancashire Wildlife Trust, the concept of 'Men in Sheds', originating in Australia, is used to help men who have found themselves isolated from their wider community, to reconnect, forge new friendships and keep up those skills learned from a lifetime's experience, all of which promote wellbeing. Some of the activities include building bird tables and houses, making memorial benches for members of the community, repairing walls, benches, gates, bug hotels, helping install reed bed filtration systems, refurbishing tools and machinery.
- Staffordshire Wildlife Trust introduced the 'Wild Steps' programme in 2008 to promote health and fitness by engaging local people in conservation skills and wildlife themed walks to help enhance local green spaces (Staffordshire Wildlife Trust, 2011; 2012). The 4-year project engaged over 900 participants in a series of nature-based activities including wildlife walks and practical conservation. The health and wellbeing impact of engaging in the project was assessed in 30 volunteers who attended the programme for a series of 12 weeks. The 'Wild Steps' programme was open to all local residents within target wards of Newcastle under Lyme designated by a NHS commissioning board. During the 12-week period information was made available regarding healthy lifestyle choices from organisations like the British Heart Foundation and the NHS 'Keep Active' programme. These volunteers reported that attending the Wild Steps programme not only improved the quality of the environment but also increased their happiness, confidence and community cohesion. Throughout the project all participants were encouraged to complete a 'Health Log Book' which tracked their calorie burn and highlighted the health goals they had set themselves, whilst involved with the project. Measurement scales were also made available for individuals to track their weight and BMI (this was optional). 30 volunteers from the local community who had been involved in the project took part in the final consultation, 29 of these participants suggested there had been an improvement in their mental health. Approximately 97% of 29 participants improved their mental health, 80% reduced their smoking and drinking and 61% revisited places that they had worked on during the project. Furthermore, more than 70% of participants reduced their body mass index, with 65.8lbs being lost across 30 volunteers. Participants felt healthier as a result of the project and also developed a variety of skills: "I feel fitter and healthier since joining the WILD STEPS project. I have relished my opportunity to enhance my current skills and learn new ones..."

“Since participating in the project I have taken on board healthy eating, more exercise, and feel healthier...” Participants also reported that they had made new friends and interacted with others: “It’s been great to meet new people...” “Good socially, mentally happier, made friends, discovered new places, encouraged to keep healthy.” [6].

- At Gloucestershire Wildlife Trust, a project called ‘Garden Mentors’ ran for three years in the Tewkesbury Borough area part funded by Severn Vale Housing Society (SVHS). SVHS identified residents who were struggling to look after their gardens due to ill health, age or disability. At the end of the project, SVHS had a waiting list of residents wanting to join Garden Mentors. GWT found local volunteers to help look after the gardens in return for learning more about gardening for wildlife, and wildlife in general. An objective of the project was for the volunteers to form a bond with the resident and to offer garden support outside of the visits with GWT; residents were also encouraged to be able and willing to work between visits themselves, or with support from family and friends. Over the three years, a total of 184 garden visits were made, there were 610 volunteer hours, one training garden was set up in Priors Park, Tewkesbury, with one communal space improved. The visits were a great source of social interaction between GWT, the volunteer and the resident. The residents reported feeling better about their gardens and in themselves.
- Gloucestershire Wildlife Trust also ran a five-year project from 2015-2020 called ‘Brighter Futures’ where participants who have been unemployed for over three years, are at risk of social isolation, or disengaged from society, take place in eight-week long courses in practical land management. The Trust monitors participants on this project, with the Warwick-Edinburgh Mental Wellbeing Scale being used, showing over 80% of participants reporting improvements in their well-being, and 100% of participants becoming volunteers with Gloucestershire Wildlife Trust.
- Working in collaboration with the Gloucestershire public health team GWT has developed the UK’s first benchmark for green infrastructure, designing active lifestyles into the development of new housing. The standards cover wellbeing, developed in partnership with the UWE WHO Collaborating Centre for Health and Planning. The standards are already adopted by the new allocations at Elms Park (north west Cheltenham) and Chesterton in Cirencester, and we are exploring use of the benchmark in the redevelopment of Podsmead and Matson in Gloucester.

- In addition to these initiatives, London Wildlife Trust ran a highly successful horticulture therapy project, 'Potted History', engaging participants with early on-set dementia in ongoing horticulture training and activities over a three-year period. This project resulted in the dementia in participants being marginally delayed, and wider networks, especially family, reporting positive incidents in participants due to the support received in the project.