Three Rivers District Council

Draft Three Rivers Nature Recovery Strategy

2023-2028

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THREE RIVERS DISTRICT COUNCIL

Three Rivers Nature Recovery Strategy Foreword

To be added

Introduction

1 Biodiversity encompasses all life on earth from fungi and bacteria to plants and animals, it forms a complex web of interactions between species providing everything needed for life on earth to exist. Although complex it is also delicate, a fine balance of species. However, human activity and, in particular climate change are taking the natural world off –balance.

2 For example, birds are laying their eggs earlier, then cannot find enough food to feed their young as invertebrates have not yet emerged from hibernation, and their food plants have not yet flowered. Invasive plants and animals not naturally found in Britain have been introduced, some accidently, to ecosystems and are outcompeting our native wildlife; dominating habitats and diminishing their value to native species.

3 In 2019 Three Rivers District Council (TRDC) declared a Climate Emergency, recognising the detrimental impact increasing global temperatures are having on Biodiversity, in addition to the many other climate challenges the world faces.

4 To address this TRDC published its Climate Change Emergency and Sustainability Strategy in 2021, which considered the Ecological Emergency and value of the natural world when building climate resilience. The Council is committed to achieving net-zero by 2030 for its own carbon emissions, and net-zero for the District by 2045: protection of the natural world will be vital to achieving this.

5 The Council's Tree Strategy (2022-2027) sets out TRDC's roles and responsibilities; as a landowner; regulator; and advocate for trees. Including the legal protection of trees; the maintenance and safety of TRDC trees, and trees in in relation to planning and development. The Three Rivers Nature Recovery Strategy will support The Tree Strategy, acknowledging that trees are a key component of the biodiversity present in the District and outlining approaches to tree and woodland management with the aim to benefit the ecosystem.

6 It is important to clarify that the Three Rivers Nature Recovery Strategy is not one of the Local Nature Recovery Strategy as part of the Environment Act 2021 (Part 6, section 104-106). Such a strategy may be produced at a county or regional level at some point in the future.

7 The Three Rivers Nature Recovery Strategy specifically addresses the Council's approach to protection of the natural world within the District. At the heart of the strategy is a 5-year Action Plan, which identifies and prioritises actions to be undertaken for the benefit of Biodiversity.

8 The strategy also recognises the rich diversity of wildlife already present within the District, both within protected nature reserves as well as public open space, residential gardens, grass verges, and more. It is accompanied by an outline of national legislation and policy relating to wildlife and the protection of habitats and species, in particular the recent Environment Act which became law in November 2021.

9 However, the strategy doesn't contain a huge amount of detailed information on species and habitats present in the district, or their health and condition. This has recently been considered in some detail in the Herts & Middlesex Wildlife Trust's (H&MWT's) excellent 2020 State of Nature report. In addition, a biodiversity baseline for Hertfordshire has been prepared by the Hertfordshire Climate Change and Sustainability Partnership. The Hertfordshire Natural History Society and Herts Biological Records Centre also holds much data on wildlife in the County.

10 The strategy is based on four main themes; Rivers & Wetlands; Trees & Woodlands; The Urban Environment and The Countryside. Broader than specific habitats, the themes aim to encompass the key natural environments found in Three Rivers, with each accompanied by a case study. For each theme a number of actions have been identified, and which aim to address key priorities for biodiversity in those environments.

Biodiversity in Three Rivers

12 Three Rivers District is approximately 89 km^2 (34 square miles), underlain by several types of geology including: various forms of Chalk bedrock, Lambeth Group geology and London Clay. Other than the London Clay, the other forms of bedrock provide a level of permeability which give the potential for water supply and aquifer properties.

13 The underlying geology of an area is one of the key factors in determining its biodiversity, as geomorphological processes played a key role in creating our ecosystems and habitats and are frequently involved in maintaining them in a dynamic form.

14 Three Rivers is a complex mix of landscapes and habitats from rural to urban areas that include woodland, grassland, wetland and farmland, among others. Approximately 6 km^2 (2 square miles) of the District is within The Chilterns Area of Outstanding Natural Beauty (AONB), comprising of a mosaic of grassland, woodland, arable land and its distinctive chalk streams.

15 Three National Character Area (NCA) profiles have been identified within the District (Natural England, 2014) which describe the character of the area in terms of landscape, geology, land use and habitats. Covering the TRDC area are the following profiles: The Chilterns, Northern Thames Basin and Thames Valley. The profiles can be viewed in full at: www.nationalcharacterareas.co.uk

16 At a finer scale the Hertfordshire Landscape Character Areas (LCA) define the landscape character of every area of the county. The Three Rivers district has been described and assessed in 13 different statements, the full statements can be viewed at: www.hertfordshire.gov.uk/services/recycling-waste-and-environment/landscape

17 77% of the District is designated Metropolitan Green Belt and supports a wealth of environments, including woodlands, wetlands, grasslands, orchards and greenspace. One of the key aims of Green Belt is to prevent urban sprawl into rural areas by preventing inappropriate development.

18 Within the district there are five Sites of Special Scientific Interest (SSSI's), a formal conservation designation from Natural England (the government's advisor on Nature Conservation), which gives statutory protection to wildlife due to rare species that are present on site, and / or special geological or physiological features. The District Council owns one of these sites, Croxley Common Moor SSSI – which comprises of approx. 39ha of lowland acid grassland, fen and scrub.

19 There are also nine Local Nature Reserves (LNR's) in the district, seven of which were designated by Three Rivers District Council and are owned and managed by the Council. The aim of LNRs is to recognise the importance of local wildlife and geological features, and their educational and intrinsic value to residents and local people.

20 The LNR's in the District include: Batchworth Heath, Croxley Common Moor, Oxhey Woods, Prestwick Road Meadows, Rickmansworth Aquadrome, The Withy Beds and Chorleywood House Estate. The additional two LNR's are Stockers Lake, owned by Affinity Water, managed by Herts & Middlesex Wildlife Trust and Chorleywood Common owned and managed by Chorleywood Parish Council.

21 In addition to these site designations there are also approximately 147 Local Wildlife sites (LWS's) in Three Rivers District. These are areas which have been identified as important for their wildlife; they do not have statutory protection, but are given some consideration within the planning process. They are monitored by the Herts &Middlesex Wildlife Trust, who also advise owners on their management.

Legislation

23 A variety of legislation protects biodiversity from being damaged or destroyed and ensures not only its protection but that, where necessary, attempts are made to return what has been lost. The legislation described below is far from exhaustive, but seeks to give an overview of the main protection for biodiversity in the UK.

The Wildlife & Countryside Act 1981

24 The primary legislation protecting the natural world in Great Britain is the Wildlife and Countryside Act 1981 covering plants, animals and habitats. Formed of 4 parts and broken down in 17 schedules; as an overview, the act covers: Wildlife, its protection and preventing the introduction of non-native species; Nature conservation and establishment of protected designated areas; Public rights of way; and other miscellaneous provisions. The act has since been amended and supplemented by a number of other pieces of legislation; all to protect the natural world.

25 It is the relevant legislation which supports the protection of land, for SSSI's this would be the Wildlife and Countryside Act 1981 whereas for the LNR's it would be the National Parks and Access to the Countryside Act 1949. As mentioned in the previous section, there are five Sites of Special Scientific Interest (SSSI's) and nine Local Nature Reserves (LNR's) within the district.

The Environment Act 2021

26 The Environment Act 2021 aims to protect the environment in a variety of ways: from improving air and water quality, tackling waste and improving biodiversity. The act also created the Office for Environmental Protection (OEP) which will have various environmental governance roles including enforcement of breaches of environmental law.

27 Additionally, subsequent legislation under this act is expected furthering the protection of the environment. One element of the act will include the creation of Local Nature Recovery Strategy's which together will cover the entirety of England and will include a statement of biodiversity priorities for the area as well as a local habitat map.

Biodiversity Net Gain (BNG)

28 A key element of the Environment Act 2021 is BNG. It is not a new concept as planning policy has long promoted biodiversity improvement; however, until the environment act there has been no statutory requirement. Using measurable improvements, it aims to both create new habitats and enhance existing ones. BNG is an approach to development and land management which aims to leave the natural environment in a better state than it was prior to development.

29 In England from November 2023, the environment act will require LPAs (Local Planning Authorities) such as TRDC to only grant planning permissions that will deliver a

minimum of 10% biodiversity gain, with minimal exceptions. Any ecological improvements that are made must then be protected and managed for at least 30 years.

Other legislation

30 There are other more specific pieces of legislation that consider only particular groups of species, or even single species. For example, the Protection of Badgers Act 1992, the Deer Act 1991 and the Weeds Act 1959.

31 In addition, part 8 of the Town and Country Planning Act 1990 contains the relevant law concerning tree protection. Tree Preservation Orders (TPO's) are made by the local planning authority to protect trees or woodlands of significant amenity value. Trees may also be protected if they are situated within a Conservation Area.

32 Important hedgerows may also be protected by the Hedgerow Regulations Act 1997 if they meet the criteria for length, location and are ecologically or historically important.

33 For more information on the protection of trees, please see the Council's Tree Strategy 2022-2027:

https://www.threerivers.gov.uk/media/project_tr/document/tree-strategy-2022.pdf

Three Rivers Environments

Rivers & Wetlands

35 Rivers and freshwater wetlands could be described as the arteries of the landscape, providing a home to a vast array of species as well as providing refuge and connectivity for many species as they move through the landscape and migrate. Freshwater systems that are healthy and resilient are key to sustainable water, food, energy and combatting climate change. Although the pressures facing these habitats can be observed at a national or even global scale, it is locally at river basin scale that the issues can be addressed.

36 Waterways are key to Three Rivers District and the Council takes its name from the three rivers that pass through the District: The River Chess, and River Gade which both feed the River Colne. All three of these rivers are classed as chalk streams, although they intersect with other water sources at various points along their length. The Grand Union Canal also runs through the district, alongside the River Gade and then on into the Colne Valley.

37 The River Colne is a tributary of the Thames, rising in North Mymms near Potters Bar with at least half of its course in Hertfordshire, and continues all the way through to Staines in Surrey. The Colne Valley is a mosaic of habitats that begins within the District at Rickmansworth Aquadrome.

38 Gravel extraction in the Valley over the last century has created a series of lakes and a wildlife corridor which is now a Regional Park approximately 111 km^2 (43 square miles) in size and a hub for biodiversity. Within the Regional Park there are thirteen SSSI's (including Old Park Wood); part of a National Nature Reserve (Ruislip Woods); as well seven LNRs- one of which is Rickmansworth Aquadrome.

Chalk Streams

39 Worldwide, there are approximately only 300 chalk streams with the majority of these found in the UK, France and Denmark, making these globally important habitats. Chalk streams are fed by groundwater aquifers and are heavily influenced by the chalk bedrock, which results in clean, clear water that maintains a relatively stable temperature.

40 It is these conditions which make Chalk streams such a valuable habitat to wildlife, utilised by fish, birds and a vast array of freshwater invertebrates including mayflies- whose larval stage is aquatic. The diversity of Mayflies and other freshwater flies are a particularly good indicator of water quality as they are only able to survive in clean water conditions. Chalk streams are considered to be the most botanically diverse rivers in the UK with a wide variety of plant life.

41 The River Chess, which passes through the District, like all chalk streams is an important habitat for a variety of fish including: Brown Trout *Salmo trutta*, Brook lamprey *Lampetra planeri*, Grayling *Thymallus thymallus* and Bullhead *Cottus gobio*. Many other

key species also rely on the river including Water vole *Arvicola amphibius*, Kingfisher *Alcedo atthis* and Water shrew *Neomys fodiens*.

42 However, chalk streams face threats that are fragmenting, damaging and destroying the habitat. Threats include over abstraction of water, poor water quality as a result of run-off from roads, agriculture, industry; sewerage discharge; invasive species (such as Himalayan Balsam *Impatiens glandulifera* and Signal Crayfish *Pacifastacus leniusculus*); and habitat loss resulting from erosion and over-grazing.

The Grand Union Canal

43 The Grand Union Canal also passes through the District, this man-made watercourse links London to Birmingham and today is maintained by the Canal & Rivers Trust. Its current course dates back to 1929, from to the amalgamation of other canals and creates a historically important trade route. The canal is a valuable piece of green infrastructure and wildlife corridor; and also provides a travel and leisure link for people. In addition, the canal is important wildlife corridor, which despite being man-made provides refuge for wildlife.

Wetlands

44 Rivers and other watercourses connect various wetlands throughout the district. Wetlands are unique habitats which for at least part of the year are saturated with water, this makes them very dynamic ecosystems which are entirely influenced by the environmental conditions (for example, drought, flooding etc.). They can be separated into a number of categories, such as, rivers, ditches, fen and reedbed.

45 TRDC owns and maintains a range of wetland habitats and stretches of river across the district. However, one of the most important aspects of maintaining healthy and biodiverse wetlands environments is taking a holistic approach to their management. The flow of clean water is vital to many of these environments as pollution, soil run-off and invasive species released into water courses up stream can cause serious damage to habitats and wildlife further downstream.

46 For example, the Withy Beds is wetland site in Moor Park, adjacent to the River Colne, with a variety of habitats including: ditches, ponds, wet woodland, wet grassland and backwaters. Backwaters are ponds which are connected to the river, they provide areas of still water which act as refuge areas to fish, birds, plants and invertebrates. Much of the site floods in the winter months; however, the site functions like a wetland “sponge” which helps to manage both flood and drought conditions. The soils and ponds are able to store floodwaters and then in times of drought, the river flow can be maintained for an increased period as the stored water is slowly released.

47 The Council has for many years, sought to work in partnership with other organisations on wetland improvement projects. In the future the Council will continue look to work along river catchments and engage with a range of partners to identify improvements.

The Council will also aim to increase networking between partners to share ideas, knowledge and successes.

Case Study – Partnership working

48 The Council is currently involved in a number of wetland conservation initiatives. On the River Chess at Scotsbridge the council is working with Countryside Management Service (CMS) to identify a range of in-channel improvements to diversify the aquatic habitat of the river. Further upstream at Chorleywood House Estate, plans are also being developed to create new offline pools alongside the Chess.

The Council, working with the Herts & Middlesex Wildlife Trust has cleared a stretch of the River Gade of overgrown trees and litter to enable water voles to transit safely between a population at Croxley Common Moor and another at Croxley Hall Fisheries. This will promote their survival by allowing the two groups to mix.

As part of The Rickmansworth Aquadrome Management Plan, a range of organisations (including the Environment Agency, Affinity Water, CMS, HMWT and local anglers) have been developing ideas for habitat improvements along the River Colne.

The Council are engaged in the development of two Sustainable Urban Drainage (SUDs) schemes with Hertfordshire County Council. This involves the installation of green infrastructure to slow down the flow of water in periods of high rainfall and hence reduce flooding. This project will work in conjunction with TRDC's alternative grassland management regime to ensure that both wildlife and flood prevention are addressed concurrently.

In addition to the above the Council attend the Colne Valley Partnership and support the work of the Hertfordshire Climate Change and Sustainability Partnership (HCCSP) to assist in the delivery of the HCCSP Water Action Plan across the county. TRDC also host a Water Partnership with stakeholders; a key objective is to support the restoration and improvement of the Chess, Gade and Colne.

Trees & Woodlands

49 At the end of the last glacial period (approx. 10,000 years ago), conditions in Britain were optimal for trees and plants to colonise, resulting in much of the land being covered by woodland. Throughout this post-glacial period, people have had a major impact on woodland as agriculture was introduced and populations increased, so much so that by 1086 the Doomsday book records that approximately only 15% of England was covered by woodland.

50 In 1919 the Forestry Commission was formed with the aim to reforest the country to protect the timber resource. Today, woodlands cover approximately 13% of the UK (3.2 million hectares) and have a number of benefits; such as a natural asset; as a tool in combatting climate change and reducing air pollution; and helping to cool urban areas.

51 The Council is a major tree and woodland owner throughout the district, from large woodlands to individual trees standing in parks or cemeteries. In 2022, the Council published a Tree Strategy which outlines the Council's responsibilities towards trees and related issues. Of the woodland owned by the Council, approximately 300 ha of this is classified as Ancient Woodland, a unique and irreplaceable habitat.

Ancient Woodland

52 Ancient Woodlands generally classified as areas that have been continuously wooded since at least 1600 and are a unique habitat that cannot be replicated. Currently only 2.5% of the UK is covered by this valuable habitat. The communities of invertebrates, birds, mammals, plants and fungi that exist in ancient woodlands are rich, complex and slow colonisers thriving on the soil which has been undisturbed for centuries, fuelled by dead wood and other decaying material.

53 Ancient woodland sites are often separated into two broad categories: Firstly Ancient Semi-Natural Woodland (ASNW) that have naturally developed with little human disturbance. Historically, these sites may have been used for timber or charcoal production, proving that they are not only valuable sites for wildlife but for people and historic value also.

54 Secondly, Plantations on Ancient Woodland Sites (PAWS) are areas that have had the native tree species of the woodland removed, often to be replaced by dense stands of non-native conifer for timber production. However, they are considered to be remnants of ancient woodland that can be restored.

55 During the first half of the 20th Century, due to war many ancient woodlands were felled and replanted to provide a stable timber resource for the future. This has negatively impacted the biodiversity due to densely planted trees resulting in continuous shade, the acidification of the soil from conifer needle drop, and damage due to felling.

56 The restoration of ancient woodland aims to improve biodiversity, enhance ecosystem resilience and increase production of vital environmental services - especially those in

relation to climate change. It is a reactive and targeted management regime where identified threats to the ancient woodland are removed, creating a more complex ecosystem with greater variation. The recovery of the ecosystem can slowly be achieved with regular and continual management.

Wet Woodlands

57 Another valuable woodland habitat is wet woodland; occurring on, at least seasonally wet soils, often on floodplains, along rivers and adjacent to lakes. Willow, Alder and Birch are often the dominant tree species accompanied by a wealth of biodiversity. The high humidity allows fungi and mosses to thrive along with plants such as marsh marigold, meadowsweet, yellow flag.

58 In addition to being a valuable habitat, wet woodlands are also important for their ability to clean water, providing a buffer against pollutants and mitigating the long-term impacts of climate change as carbon is taken from the atmosphere and stored. Despite the importance of this habitat, wet woodlands face threats from urban development, poor river management, conversion to agriculture and invasive species such as Himalayan balsam.

Individual trees

59 Alongside woodland habitats, individual trees can also be of great value to wildlife. As a general rule the older a tree becomes, the more wildlife it is able to support. The oldest living trees are often referred to as being 'ancient' and may be hundreds, or even thousands of years old. Many are well known, even famous specimens of exceptional size and age.

60 Whilst the Council doesn't own any ancient trees, it does care for many veteran trees, which can be several hundred years old. Whilst not as old as ancient trees, veteran specimens can still support a wide variety of insects, fungi and protected species, such as Bats.

61 Due to their age they can sometimes present a safety risk to visitors and the general public, but the Council will seek to retain these valuable trees for as long as possible by carrying out work to remove dangerous limbs or divert visitors away from beneath the canopy.

Tree Strategy

62 The TRDC tree strategy sets out in detail how the Council approaches the management of its own trees. In relation to individual trees, the Council is implementing a risk based tree safety strategy to ensure large trees in high risk locations are in a safe condition. Major open spaces and woodlands, have detailed five-year Greenspace Action plans, which identify key features and set actions for the conservation and enhancement of habitats.

63 The recently produced Biodiversity Opportunities Audit also identifies numerous opportunities for new tree and woodland planting on the Council's smaller open spaces across the district. In the future the aim is to produce brief management plans for the Council's smaller open spaces and woods.

Case Study – Bishops Wood County Park

64 Bishops Wood is a 38.5 ha woodland of largely of ASNW and PAWS. Aerial photography indicates that historically parts of the woodland were once more open and 'heathy' in nature, and most likely grazed by livestock. There are also many signs that traditional woodland management was practiced across the site, such as coppicing and pollarding of trees.

65 In 1970 the site was designated a SSSI for its varied woodland and wetland flora, and was the only known site in Hertfordshire for the Southern Wood Ant. Despite this designation large areas of the woodland were planted with non-native conifer trees. By the 1980's, as a result of the planting of conifers, there had been a significant loss of floristic diversity, the Wood Ants had become extinct and the site had been de-notified as a SSSI.

66 Since the early 2000's the Council has been undertaking work to gradually fell the conifers. This work has restored a number open areas and enabled young woodland of native trees to return in many areas.

67 Future plans include returning grazing to parts of the site to restore areas of wood pasture and thinning of the regenerating native trees. Trees will also be coppiced along the main paths through the woods to create sunny glades for butterflies and other insects.

68 In 2019 a project began to re-introduce Southern Wood Ants to Bishops Wood, which was previously the only site in Hertfordshire with a population. Listed as near-threatened on the IUCN Red List for Threatened Species, Wood Ants are a fascinating species. They are Britain's largest ant species with a complex social structure and the builders of striking above ground nests. They play a crucial role in the ecosystem, aiding tree growth by eating the pests; have great benefits to soil communities; and are a food source for other species including Green Woodpeckers and Badgers.

69 A population were translocated from Burnham Beeches to parts of the woodland with suitable, open sunny habitat. The protection and enhancement of the population at Bishops Wood is vital to the survival of Southern Wood Ant species and the biodiversity of the site.

The Urban Environment

70 The Climate and Biodiversity emergencies that are currently being faced world-wide have highlighted the link between people and the environment they live in, this can be seen most clearly in the urban environment (where urban relates to towns, cities, or densely populated areas).

71 Approximately 8% of land in England is classed as urban, making England one of Europe's most built up countries. However, urban areas are not purely concrete, and there are still many opportunities for nature as approximately 30% of urban areas are classified as natural land cover (golf courses, grassland, allotments etc.). Similarly, gardens are a hugely valuable resource to wildlife, creating a corridor and refuge for nature.

72 In towns and cities habitats are often degraded and fragmented, with noise, light and water pollution negatively impacting habitats and damaging wildlife. As a result, urban habitats are often lower in biodiversity than natural and semi-natural habitats in more rural areas.

73 Evidence also suggests that increasing urbanisation is increasing the risk of mis-timing between plants and pollinators, meaning that the two are not ready at the same time reducing the opportunity for pollination due to local changes in climate.

74 However, the urban environment can still support a wide variety of wildlife and there is much that can be done to increase biodiversity. Urban parks, gardens, verges and allotments not only provide habitats for wildlife, but also many other environmental benefits. These habitats are classed as natural capital which includes any natural features (grasslands, trees, rivers etc.) that provide benefit to the community.

75 There are also many species that have adapted to survive in the urban environment. Sometimes known as Urban Specialist Species (USS) they can include birds such as swifts, house martins, house sparrows and collared doves, which can be very good indicators of the health of the urban environment. These USS can also be considered as generalists with broad environmental tolerance, so are less sensitive to human disturbance and therefore can be more dominant within urban areas.

76 However, despite the wide distribution of USS, since the mid 1990's a decline in abundance of USS bird species has been observed, likely due to habitat loss, from re-developments, demolitions, renovations, and roof repairs.

77 Insects provide many ecosystem services from pollination to soil formation and natural control of pest species. Some pollinating insects may be benefitting from the urban environment due to a high number and range of plants in gardens, window boxes and parks. Recent studies suggest that urban sites can hold a greater diversity of bee species when compared to local agricultural land.

78 However, the impact of urbanisation is likely to differ between regions and local climates; generally, good quality urban habitats will be able to support strong populations of pollinating insect as well as other biodiversity.

79 There are a range of ways for schools, businesses and residents to contribute to urban biodiversity. With approximately 24 million gardens in the UK, there are plenty of opportunities for wildlife to co-exist within the urban landscape: be it, by installation of a bird or bat nesting box, leaving a pile of logs in the shade, providing wildlife with a water source year round with a bird bath and much more.

80 The Council has produced a guide for residents to making wildlife and environment improvements at home "A guide to Greening your Home", which can be viewed at: www.threerivers.gov.uk/egcl-page/a-guide-to-greening-your-home

81 The majority of the Council's public open space is within or on the edge of urban areas. These spaces provide a vital link for many residents and local community to the natural world and are highly valued for quiet recreational use. Many people also like to get actively involved in their local open space, and there are a number of 'Friends of' groups in district. These groups of volunteers, supported by the Council, undertake a range of practical tasks to help care for wildlife and the environment.

82 In addition, the Council has recently appointed a Community Biodiversity Officer to facilitate and lead activities and events across the district, to enable people to find out more about their local wildlife.

Case Study – The Biodiversity Opportunities Audit

83 Following the climate emergency declared in 2019, the need for public green space to offer more to wildlife has become increasingly clear especially in the context of climate change and species loss. In response Three Rivers has undertaken a Biodiversity Opportunities Audit (BOA) of its smaller open spaces that don't currently have detailed management plans for biodiversity.

84 The aim was to identify opportunities to improve biodiversity on sites across the District while taking into account the recreational value of an area to the local community. The audit also provides opportunities for carbon sequestration, the process of capturing and storing carbon dioxide which is a contributor to global warming as a greenhouse gas.

85 The Council began implantation of the BOA in 2022 with a focus on managing grasslands for wildlife. Over winter 2022/23, the Council is planting over 50 standard trees on sites identified in the audit and spring flowering wildflower bulbs are also being planted across the district as an early source of nectar for insects.

86 More information on the BOA can be viewed on the Council's website, and feedback submitted at: https://www.threerivers.gov.uk/egcl-page/grassland-management

The Countryside

88 The term countryside or rural area generally describes open, often agricultural or farmland with few houses or other buildings and far less densely populated than in urban areas. Hertfordshire County Council estimate that around half of the County is classed as agricultural land, which is reflected in the amount of farmland in Three Rivers district.

89 Agricultural land is classified into several categories (Agricultural Land Classification – ALC), where class one is the highest quality and class 5 is the poorest quality land, other land is then classed as "non-agricultural" or "urban".

90 In Three Rivers, the majority of agricultural land falls into class 3- of good to moderate quality, with smaller areas of class 2 (very good quality) and class 4 (poor quality). A total of 60% of land in the Three Rivers District falls into either class, 2, 3 or 4 for agricultural land, with the remaining 40% constituting non-agricultural and/or urban land.

91 Farmland wildlife relies on a network of habitats with plenty of connectivity including: grassland, orchards, arable fields, hedgerows, and ponds. Since the Second World War, modern intensive farming has led to substantial declines in farmland wildlife. The use of pesticides and chemical fertilisers have led to changes in the fertility, structure and acidity of the soil; pollution of groundwater; and nutrification of land and waterways.

92 However, ecological restoration of farmland and sustainable agricultural practices which benefit not only biodiversity but also the sustainability, and potentially productivity of the farm, are now widespread. Some generic ecological restoration solutions include: reducing the use of pesticides and fertilisers or substituting them for more sensitive products; increasing the size of patches of habitats and the connectivity between them; diversifying the species of crops; staggering the timing of maintenance works and removal of invasive species that may be outcompeting native wildlife.

93 Organic farming and restorative agricultural techniques, which do not add excessive nutrients into the process and help reduce biodiversity loss; often make farms richer with wildlife than conventionally farmed land. In Three rivers, at Wood Oaks farm in Maple Cross, the Soil Association demonstrates sustainable farming practices across their 300 acres to produce food, whilst protecting wildlife. They also welcome and engage local people in find out about environmentally sustainable food protection.

94 The majority of land in the countryside is farmed, and is privately owned. The Council has for many years worked in partnership with Countryside Management Service (CMS) part of Hertfordshire County Council, who advise farmers on environmentally sensitive farming and assist them in joining agri-environment schemes. These schemes provide farmers and land managers with support and funding to farm in ways that enhance biodiversity, the landscapes and improves the quality of soil, water and air.

Hedgerows

95 Hedgerows are considered to be the most widespread semi-natural habitat in the UK, providing food and shelter to wildlife as well as ecosystem services, such as carbon capture, reducing flooding, cleaning air. They also have significant heritage value; as up to 40% of UK hedges are considered ancient.

96 In rural areas hedgerows often contain a wide variety of shrub species such as Hawthorn, Hazel, Field Maple and Blackthorn, and larger tree species such as Ash, Oak and Hornbeam. In urban areas single species hedges of Yew, Privet, Box and Holly are more common, but still provide a valuable resource for wildlife and the environment.

97 Since the 1950's, at least 118,000 miles of hedgerow have been lost, mostly due to agricultural intensification; however, hedgerows face other threats including disease. In the past English Elm would have been a major hedgerow tree species, but Dutch Elm disease has severely reduced the number of these. It is particularly unfortunate that Elm has in many cases has been replaced by Ash which now faces the threat from Ash Dieback.

98 Adequate management is key to the health and value of hedges to wildlife and the wider landscape. Traditionally, hedges would have been laid every 10 - 15 years to maintain dense stock proof barriers that were also of great benefit to wildlife. In recent years the mechanical flailing of hedges on an annual basis has become widespread; however, this severely reduces the number of flowers the following spring, and can damage hedges over the long term.

99 Today, hedges are often cut after the harvest in late summer or early autumn; however, this decimates the winter food sources that overwintering birds need. Therefore, much later cutting is encouraged in February or March and for the frequency of these cuts to be reduced from every year to every 3 years.

Case Study – Chorleywood House Estate

100 Chorleywood House Estate Local Nature Reserve was purchased by the local authority in 1940, and has a rich history prior to becoming a public open space. The House and Estate were largely shaped in the 19th Century as the land formally occupied two separate farms. Lady Ela Russell developed the Estate to be as self-sufficient as possible. The sites occupies 65ha of countryside within the Chilterns Area of Outstanding Natural Beauty (AONB) and the management of this site aims to conserve its history and maintain the traditional management techniques.

101 Grasslands which are managed by sensitive grazing support a wealth of biodiversity; especially native plants. Grazing enhances the diversity of wildflowers which results in a varied grass sward, of different heights and structure. In turn, the habitat is able to support a greater diversity of species from invertebrates to mammals, birds and even reptiles. Traditionally, it is likely that the entire site would have been grazed in

compartments; and today the management plan aims to reflect this as several sections of the site are grazed in a conservation regime during the summer months.

102 Another remnant of its agricultural past is in the hedgerows of Chorleywood House Estate. Hedgerows across the site form a network connecting habitats and facilitating wildlife corridors. Some of the hedges have previously been layed, a traditional management technique which encourages new growth of the hedge, providing a stock proof barrier, dense cover for wildlife, and a source of food and nectar.

103 Since the Second World War the condition of hedges in the countryside have declined as fences were favoured and traditional management declined. Effective management of hedgerows, by hedgelaying, is important for preserving the countryside environment, providing wildlife corridors between habitats and the wider landscape while forming a strong, sheltering boundary.

104 Orchards are another valuable farmland habitat, and in addition to being an important source of food, have been part of the landscape since the Roman times. In traditional orchards, trees were widely spaced and the grassland managed by grazing. The Community Orchard at Chorleywood House Estate was created in 2008 and has 140 fruit trees, many of which are local varieties and contributes to the mosaic of habitats across the site, echoing earlier uses of the Estate; including market gardening.

Action Plan

No.	Section	Action
1	Three Rivers Biodiversity	Develop and improve the habitat mapping of TRDC land to aid management of open space for biodiversity using the Biodiversity Baseline, surveys and investigations.
2	Three Rivers Biodiversity	Where appropriate supply Grounds Maintenance with a wildflower seed mix to reinstate grass areas on open space.
3	Three Rivers Biodiversity	In biodiversity projects consider the risks and opportunities presented by climate change to ensure that the district adapts to the challenges presented – both to ensure the long term success of the biodiversity intervention, but also helping the district adapt to climate change.
4	Legislation	Investigate opportunities for Biodiversity Net Gain receptor sites within the District, including TRDC owned and managed green space. Working with Partners to establish a “shopping list” of biodiversity projects to benefit from Biodiversity Net Gain and grant funding.
5	Wetlands	Continue to develop Chalk Stream Recovery projects on TRDC open space (e.g. Chorleywood House Estate, Scotsbridge, The Aquadrome).
6	Wetlands	Undertake a hydrological survey of Rickmansworth Aquadrome LNR, a flood plain to understand the movement of water and its effects on the wetland habitats present.
7	Wetlands	Consider sustainable urban drainage (SUDs) opportunities throughout Oxhey Woods.
8	Wetlands	Investigate de-culverting and naturalising the water courses through South Oxhey Playing Fields.
9	Wetlands	Consider greater involvement with local wetland initiatives, projects and organisations such as Colne Can or Colne Valley Regional Park.
10	Woodlands	Develop detailed plans for conservation grazing at Bishops Wood Country Park.
11	Countryside	Assess the condition of TRDC owned hedgerows and review their management and whether restoration works may be desirable, such as hedgelaying, coppicing and replanting.
12	Countryside	At Chorleywood House Estate investigate the potential of creating an area to represent the historic farming of the site with introduction of cornfield wildflower species and cereals in a small pilot area.
13	Countryside	Continue to support CMS to undertake advisory farm visits and support farmers in the district to take advantage of Agri-environmental schemes.

14	Urban	Investigate opportunities to support urban specialist species on TRDC buildings, including installation of swift nesting boxes, bat boxes and other nesting and roosting opportunities.
15	Urban	Investigate opportunities to use wildflower mixes to benefit pollinating insects within urban settings (e.g. flower beds, planters, around the base of newly planted trees).
16	Urban	Develop knowledge of biodiversity in the urban areas within the District by surveying and potential use of citizen science (e.g. Butterfly transects, RSPB bird surveys, ancient tree hunt).
17	Urban	Creation of educational material within the theme of Biodiversity to be distributed to the community via the Council's website and social media.
18	Urban	Continue to support local conservation volunteering groups throughout the District.

THREE RIVERS
DISTRICT COUNCIL