

Appendix 6

Green Infrastructure and Ecosystem Services



1. Introduction

1.1 Introduction

Making Space for Nature ¹ reviewed England's existing wildlife and ecological networks. It set out the rationale and opportunities for a shift from managing local wildlife sites towards large-scale habitat restoration and recreation – achieving greater ecological connectivity through the re-establishment of ecological processes and ecosystem services, for the benefits of both people and wildlife. It called for more, bigger, better and joined ecological networks.

Over the last century, extensive fragmentation has taken place in England's landscapes, resulting in adjustments in wildlife habitats, the movement of species and a decline in biodiversity. The problem has been intensified through climate change, which has affected the ability for wildlife species to adjust.

A potential solution has been proposed through the creation of 'ecological networks' i.e. corridors and stepping stones that connect core areas of biodiversity, surrounded by buffer zones. These 'econets' have, until recently, been based on scientific principles - yet there are also human and cultural implications, whether beneficial (such as enhanced landscapes, better opportunities to view wildlife) or problematic (including restricted views, removal of woodland, or increased wetness)².

Wildlife movement corridors, also called dispersal corridors or landscape linkages as opposed to linear habitats, are linear features whose primary wildlife function is to connect at least two significant habitat areas (Beier and Loe 1992). These corridors may help to reduce or moderate some of the adverse effects of habitat fragmentation by facilitating dispersal of individuals between substantive patches of remaining habitat, allowing for both long-term genetic interchange and individuals to re-colonise habitat patches from which populations have been locally extirpated.

2. Background

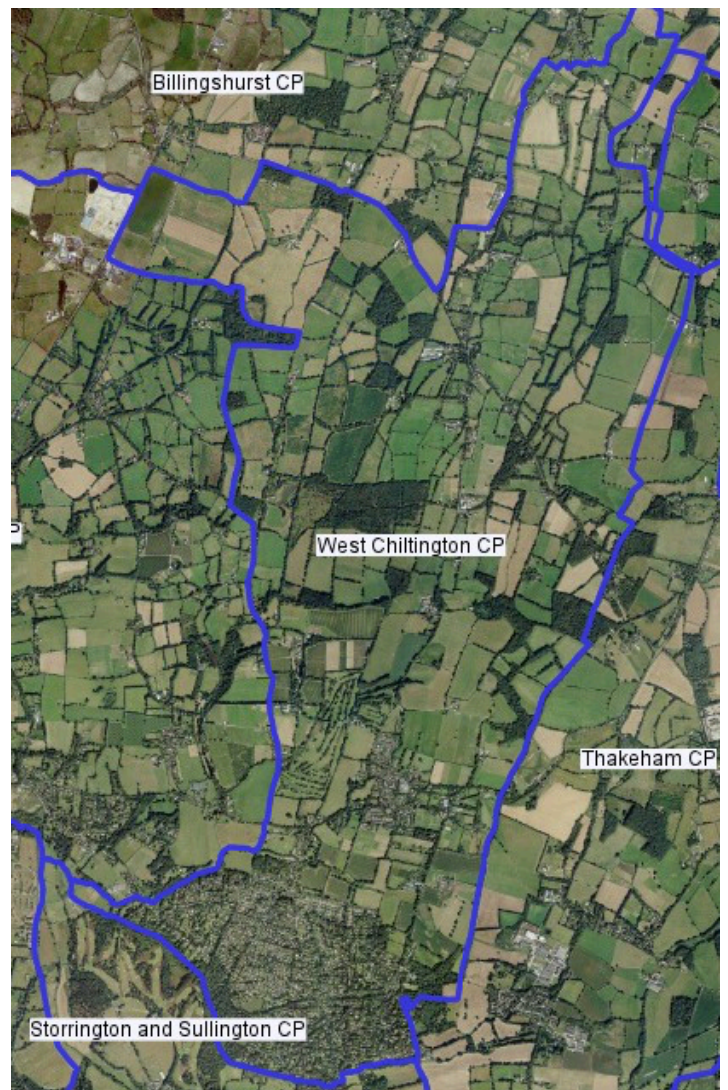
2.1 West Chiltington lies in a strategic location between the South Downs National Park and the High Weald Area of Outstanding National Beauty, considered an area of international importance. The northern section of the Parish is predominantly agricultural with considerable areas of Ancient Woodland and extensive tracts of land given over to vineyards. The developed area, however, includes both a Conservation Area in the Old

Village, small areas of woodland and an SSSI in the southern region bordering the South Downs National Park.

An extensive biodiversity survey was conducted across the Parish (Evidence Base 2). While only a snapshot in time, it demonstrates that the Parish currently supports a number of rare and rapidly declining species within varied habitats. The study recorded cuckoo, fieldfare, lesser spotted woodpecker, redwing, skylark, song thrush, sparrow and starling on the “high risk” red list and 14 bird species on the “urgent attention” amber list. The Parish also supports protected species such as bats, badgers and dormice and their habitats.

Protecting, maintaining and enhancing the local environment both now and for future generations is a significant challenge.

There is a continuing need to protect, enhance and manage locally designated landscapes, habitats and species, and to prevent the spread of invasive species within the Parish.



Aerial view of the Parish

Residents’ surveys show that local people are very in touch with the environment around them, noting varied wildlife and flora. All want to see the environment and heritage protected and enhanced.

1. Lawton et al, 2010 ; 2. Natural England 2015- econets, landscape and people ; Principles of Wildlife Corridor Design - Monica

2. Parish Natural Environment Designations

2.1 National

National Park

A very small area in the south of the Parish lies within the South Downs National Park.

SSSI

A small area of the SSSI site of Hurston Warren (Monkmead Woods) lies in the south of the Parish.

Ancient Woodland

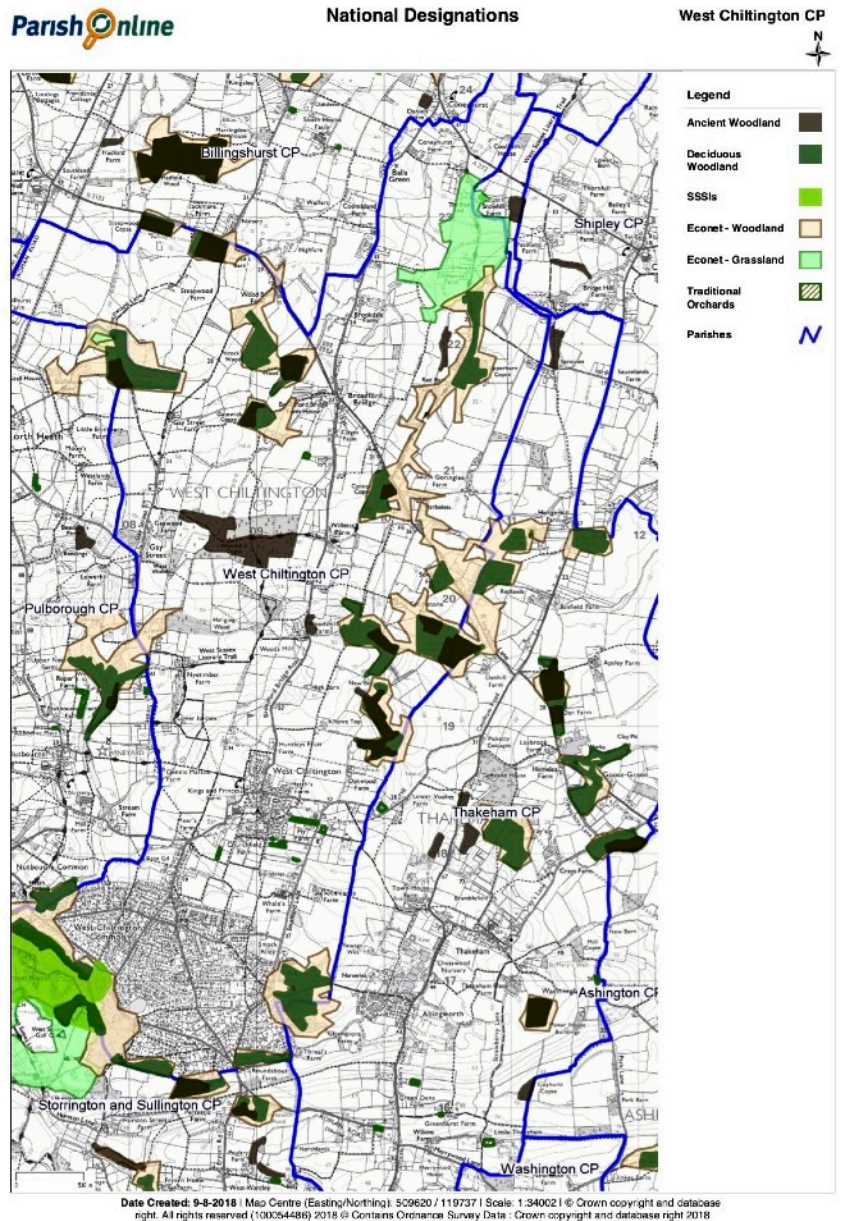
The Parish has significant areas designated as Ancient Woodland.

Traditional Orchards

The Parish has 8 recorded areas of traditional orchard.

Econet Woodland and Grassland

The Parish has extensive areas of both Econet woodland and grassland.



National designations map

2.2 Local

Trees

There are 100 Tree Preservation Orders covering a wide range of trees across the Parish.

Bat Sustenance Zone

The HDC Habitat Regulations Assessment identifies the whole of the parish as a Bat Sustenance Zone. The HDPF recognises the area as an important feeding ground for the internationally important Barbastelle bat.

3. Policy Context

3.1 National Planning Policy Framework (NPPF)

Chapter 15 of the NPPF - Conserving and enhancing the natural environment

3.2 South Downs National Park Authority

Policy SD2 - Ecosystem Services

3.3 Horsham District Planning Framework

Green Infrastructure Study 2014

4. West Chiltington Neighbourhood Plan (WCNP) Policy

4.1 The WCNP seeks to introduce designated biodiversity corridors extending across the Parish and linking with the adjoining parishes and the South Downs National Park.

4.2 The policy seeks to ensure that any proposal for development will demonstrate how the scheme will reduce impact on the biodiversity corridors.

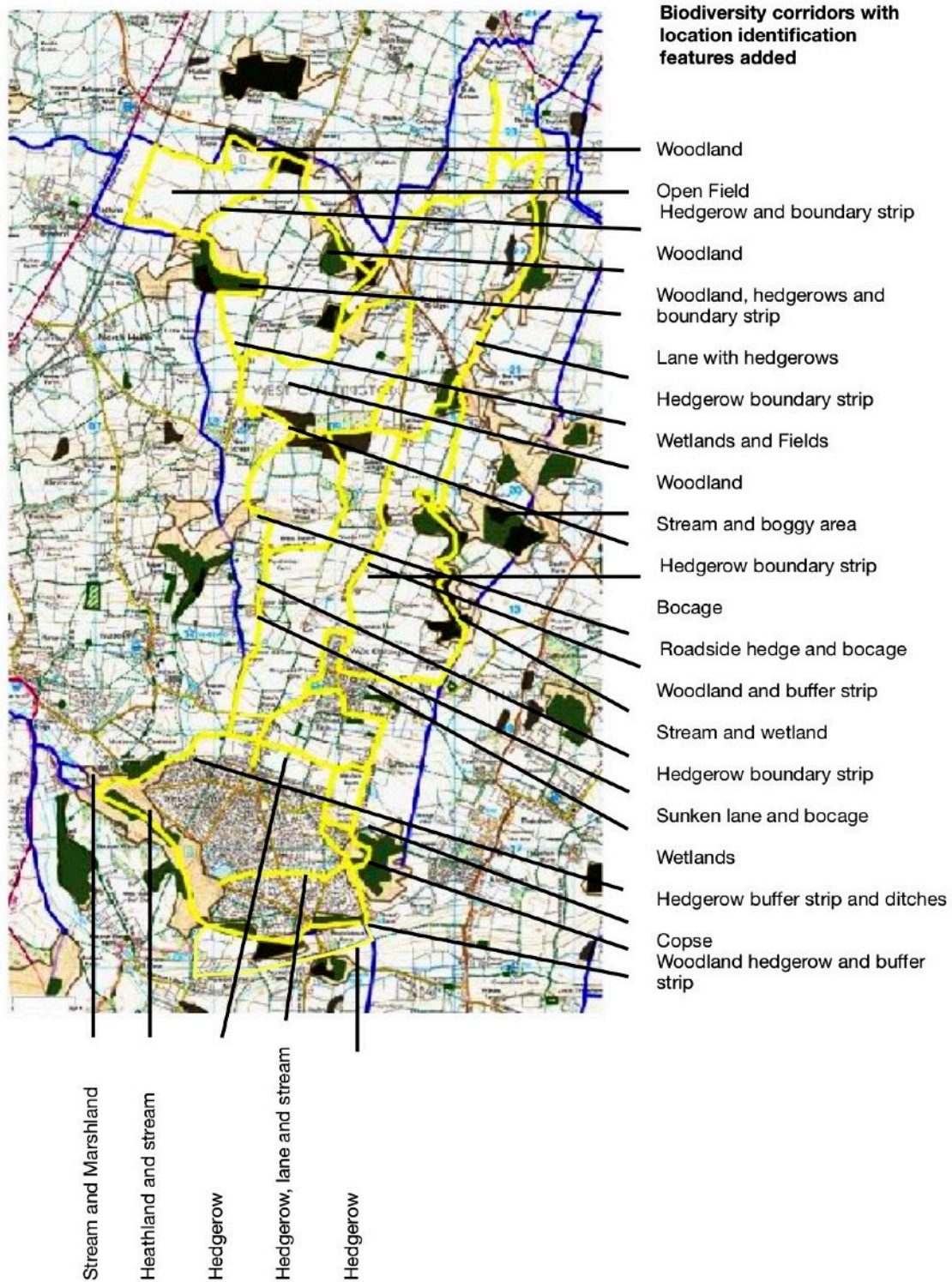
4.3 The Centre for Biological Diversity recommendation is that corridors should be a minimum of 1000 feet (300m) wide; should maintain as much open space as possible next to any culverts to encourage the use of the culverts.

5. Identification of corridors

5.1 The corridors have been identified by members of the team 'walking the Parish' as well as making use of data produced by the Sussex Biodiversity Record Centre. School

children and other residents were encouraged to use the iRecord online system to note any sightings of wildlife, flora and fauna. All of these pieces of information have been used to develop the extensive network of corridors shown on the map below:

5.2 Habitat types



The Parish has, as can be seen from the map, a wide variety of habitats. The River Chilt and the many ponds and drainage ditches provide wetland and marsh; the woods at Haglands, Monkmead, Smock Alley, Park Hanger, Stanford's Wood, London Copse and others, along with the many mature trees provide roosts and food for bats and birds, squirrels, invertebrates and insects.

5.3 Hurston Warren is an SSSI. This area of heathland on Lower Greensands contains a range of habitats including woodland, wet and dry heat , open water and bog. The quaking bog which has developed over an old lake is regarded as one of the best examples of its type in the south east and contains several locally rare plants (source: Natural England).

5.4 The areas to the north of the Parish, surrounding the Old Village and in the separation zone can be described as bocage having many stretches of hedgerow, trees, shrubs and grasses in which wildlife can find shelter and food. The linear pattern of the hedgerows encourages movement by individual animals which may contribute to the survival of populations. Hedgerows provide shelter and food for a host of animals from all zoological groups (mammals, birds, reptiles, amphibians, molluscs, insects, microorganisms etc.) at all colonisation levels (ground, bed of leaves, foliage, stems, trunks and high branches).



Pond at Southlands Lane

5.5 The local school children mention in their character assessments (see Evidence Base) the wide variety of wildlife seen in their own gardens and also the mature trees hedges and plants that they can see.

5.6 Significant areas (sample only)

Stream Lane - a 'highway' bounded by a stream and high hedgerows



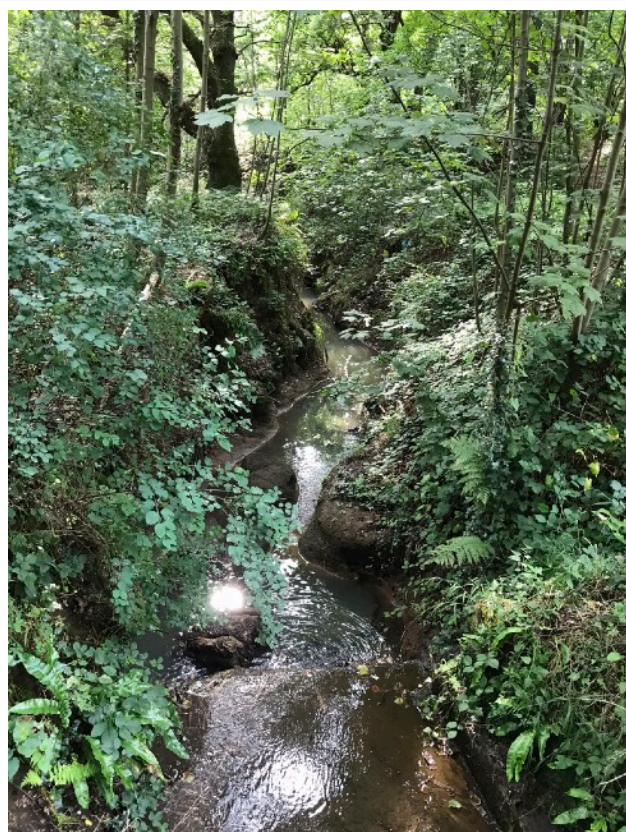
The River Chilt near Monkmead Lane



Spinney Lane - woodland hedgerow and buffer strip



The river Chilt running through Monkmead Woods



Fir Tree Lane - Hedgerow buffer strip



Threals Lane - woodland hedgerow and buffer strip



Lordings Lane - woodland hedgerow and buffer strip



Southlands Road - tree lined sunken lane



Smock Alley - tree lined abutting deciduous woodland



Juggs Lane - tree lined sunken lane



Broadford Bridge Road - tree lined road



Gay Street - tree lined road



The river at Smock Alley



6. Biodiversity within the Plan area

6.1 The Sussex Biodiversity Record Centre produced a desktop report in 2016 which identified species data collated from the biological recording community in Sussex (see Evidence base for full report). The report excludes location data relating to badgers, otters and some butterflies.

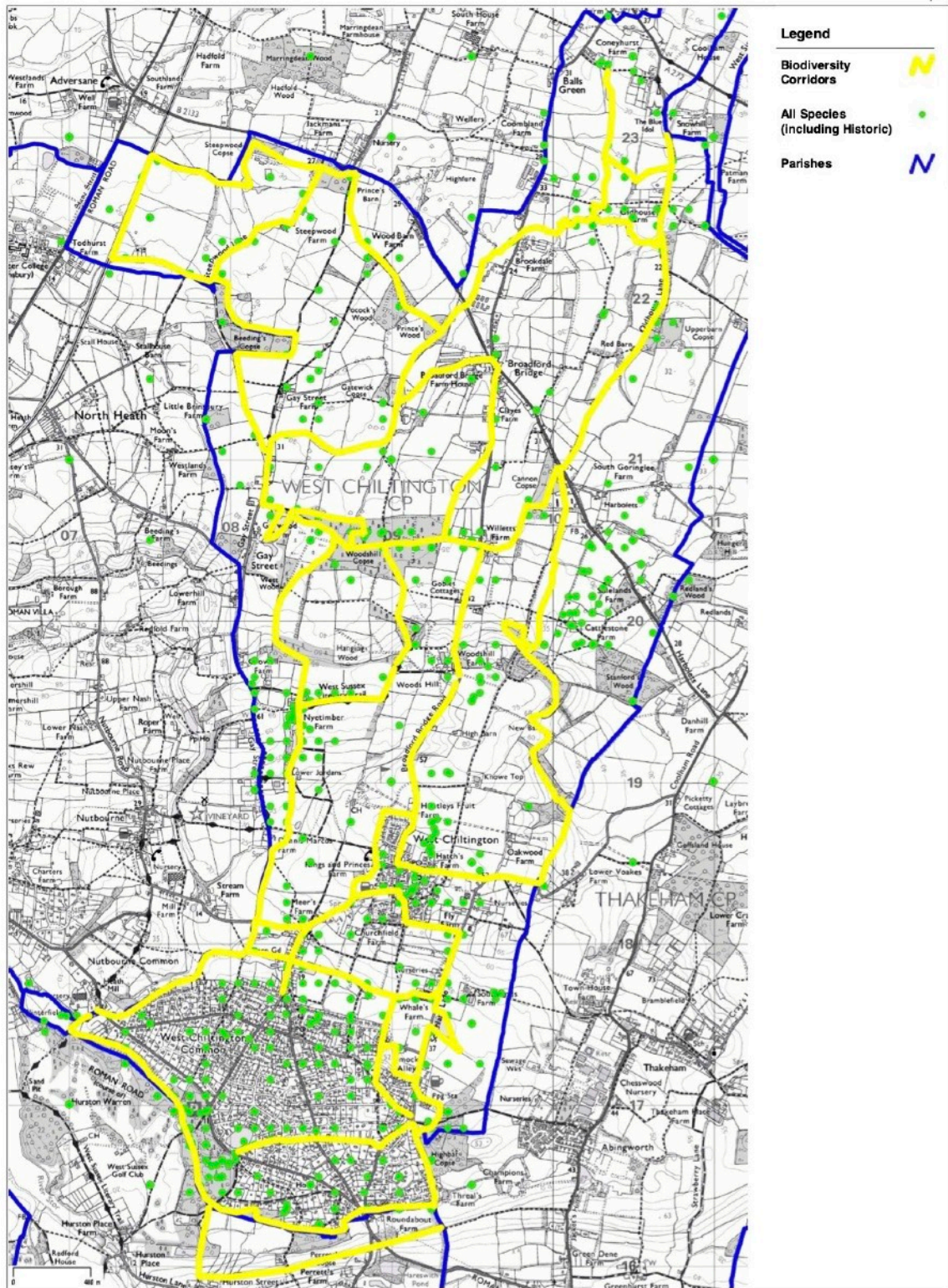
6.2 The report identifies seven species, including the hazel dormouse, which are on the Protected Species Register. It further identifies 10 of the 18 species of bats found in Britain including Brown Long-eared bats, Serotin and Pipstrelle sp.

6.3 31 species are recorded on the BoCC Red list which records species that are globally threatened due to rapid decline in numbers.

6.4 26 species of bird are identified as Priority Species in the UK Biodiversity Action Plan, each the subject of an action plan which seeks to reverse their decline. In the Plan area these include Bewick's Swan, White-fronted goose, Lapwing and Curlew.

6.5 It is not just wildlife that has been recorded. There are significant species of plant life such as Pillwort, found at West Chiltington Common that grows beside still or slow flowing, non-calcareous water.

6.6 The approximate location of the recorded sitings are displayed on the map below with the proposed biodiversity corridors overlaid. This clearly shows the importance of maintaining the range of habitat.



Date Created: 13-8-2018 | Map Centre (Easting/Northing): 508919 / 119828 | Scale: 1:30727 | © Crown copyright and database right. All rights reserved (100054486) 2018 © Contains Ordnance Survey Data : Crown copyright and database right 2018

recorded sitings proposed biodiversity corridors

7. Conclusion

7.1 Neighbourhood Plans give communities a great opportunity to ensure that existing wildlife areas are protected and enhanced and that new wildlife areas and corridors are identified and created within an area.

Additionally Neighbourhood Plans give the community an opportunity to formally identify non-designated areas that are important for wildlife, particularly in a local context.

7.2 The Sussex Wildlife Trust believes strongly in the concept of a living landscape. It is not enough to have a few isolated but well managed nature reserves; for wildlife to thrive it needs to be connected. The environment provides us with clean air, water, food, timber, flood security and climate control to name a few. We hope to restore, recreate and reconnect nature to help to create a resilient and healthy environment rich in wildlife that provides ecological security for people.

With this concept in mind the environmental impact of a development on a site should not be judged only on the ecology of that site, but also on how it connects to other sites. A strip of green may not have a high biodiversity value in itself but it could be the only link between two very valuable wildlife sites. Hedgerows for example, are extremely important links for wildlife. They provide foraging lines for bats, shelter for small mammals and amphibians that are moving through the landscape and are a great food source for insects, birds and many other animals. Other important habitats found in West Chiltington Parish include ancient woodland, traditional orchard, meadow and heathland (source Sussex Wildlife Trust).

7.3 Identifying and mapping the key areas throughout the Parish has given a snapshot of the rich diversity of habitat on our doorstep. The presence of so many internationally important and endangered species shows how important it is to manage the environment sensitively and ensure that any development proposal takes into account the corridors and the environment in general.

7.4 The Centre for Biological Diversity¹ recommendation is that corridors should be a minimum of 1000 feet (300m) wide; should maintain as much open space as possible next to any culverts to encourage the use of the culverts. These principles should be applied to the identified corridors and any other habitat that provides similar characteristics.

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¹ Principles of Wildlife Corridor Design 2003