PARISH OF EAST DEAN & FRISTON

BIODIVERSITY PROFILE (revised)

Jonathan Timberlake, Friston, February 2024

This profile has been written as a resource document for the East Dean and Friston Parish Neighbourhood Plan process. Its compilation incorporates data and information from many local sources. In particular, it draws heavily on a recent report produced by the Sussex Biodiversity Records Centre for the parish (ref. SxBRC/23/084, 12 May 2023) which contains all the records they hold for our geographic area. A comprehensive plant survey has also been carried out, along with the addition of many local biodiversity records and observations from residents. A number of local residents have assisted with additional information and suggestions.

The document provides an outline of the biodiversity of the parish and the historical and natural factors that have shaped it (sections 1 to 3), followed by brief descriptions of the main habitats found here and their relative significance (section 4). This is followed by a brief account of the main factors affecting the composition of our biodiversity and its abundance (section 5) which should help inform actions to be suggested in the neighbourhood plan. A more detailed account of the species found here and their significance, both ecologically and from a conservation perspective, is given in section 6. It makes particular reference to those species protected under various pieces of UK legislation. Section 7 provides a description and map of the eleven areas that are considered to be most important for biodiversity across the parish (Table 3 and Maps 1 & 2); these should act as focal points for any conservation actions. Finally, eight suggestions for future actions are listed (section 8).

Attached to this profile are series of compiled checklists for plants, mammals, birds, reptiles, amphibians, fish, butterflies and dragonflies, with those that are specially protected under legislation or of particular concern indicated. A footnote on the lists gives the species protection categories.

Findings and statements should be regarded as preliminary and open to correction and additions. It is planned to gather more biodiversity records in 2024, in light of which some statements might be modified or changed.

1. INTRODUCTION

The parish of East Dean and Friston lies in Wealden District in East Sussex within the South Downs National Park, with our planning authority being the South Downs National Park Authority (SDNPA). Lying just west of the coastal town of Eastbourne and with around 3 km of coastline, its total extent is approximately 900 ha (925 ha including the foreshore) or 9 km^2.

The parish is unusual in that it extends from high Downland to the coast and hence supports a great diversity of habitats from terrestrial to marine. Although there is a significant extent of rocky coastline and shallow sea, there is very little open freshwater and there are no streams or rivers.

It is a rural and originally agricultural parish, comprising the old village of East Dean along with hamlets at Friston, Crowlink, Birling Gap and Friston Place, and some scattered farms. In the 1920s, one of these farms (Gore Farm), along with the land of Peak Dean Manor, was purchased and development for new housing started. Building continued in phases right up to the 1970s. It is here on the newer Downlands Estate that the majority of the parish population reside and which now contains the great majority of houses and gardens, some of which are comparatively large.

Much of the area's biodiversity reflects this chalk downland and rural, small farm origin, along with species associated with large gardens and road verges. Historically, the parish was not a particularly wooded area (at least within the last 500 years), as can be seen in old photos and drawings. As most of the farmed area is now given over to livestock (sheep, with some cattle) and not crops, there are probably fewer agricultural weeds now than there were 100 years ago.

2. CONSERVATION AREAS AND LAND DESIGNATIONS

There are a number of land designations and protections relevant to planning across the parish. Many of these are briefly outlined below with the main areas being indicated. Table 1 shows their extent within the parish boundary and their distribution is shown on various maps produced during the neighbourhood planning process.

East Dean and Friston is an unusual parish in that more than half its extent is under ownership by semi-public national bodies with conservation and amenity as their main purposes; the National Trust and the Forestry Commission between them manage 500 ha or 54% of the parish. Nearly all National Trust land and the open grassland areas on Forestry Commission land are shown on one map as being under Higher Level Stewardship (HLS, see below) agreements. To that can be added 136 ha owned by the Gilbert or Beachy Head Estate that also has HLS agreements. Thus, over two-thirds (636 ha or 68.8%) of the parish is under what could be considered to be good environmental agriculture management practices, an enviable position in Sussex.

In the parish in recent years there have been no cultivated fields under **arable agriculture**, although this was not uncommon over ten years ago and is still seen in neighbouring areas such as on the Eastbourne Downland Estate. All agricultural fields are now grazed by sheep, occasionally with a few cattle; a few smaller privately-owned fields are used for horses. The total extent of fields within the parish, whether in private or semi-public ownership, is around 650 ha, with around 200 ha of this being privately held.

The approximate extent of **built-up area**, which includes often extensive and wildlife-friendly gardens, is around 125 ha. The great majority of this lies in the Downlands Estate together with the village of East Dean. Other settled areas are Friston Place, Crowlink, Gayles Farm, Birling Manor and Birling Gap.

Although **National Nature Reserves** have the highest statutory level of protection for conservation, there are none within the parish. The nearest are at Lullington Heath above Jevington and at Pevensey Levels outside Eastbourne.

At a lesser level of protection are **Sites of Special Scientific Interest** (SSSIs), which are areas notified under the Wildlife and Countryside Act 1981 as being of special interest for nature conservation. Although often not owned by the State, any changes in land use

have to be notified by the owner to Natural England, and there are a number of strong protections against loss or inappropriate land use and management. The main SSSI in the parish – Seaford to Beachy Head – runs along the entire coastline from east to west extending from 50 to 800 m inland, but mostly around 300 m. On some maps it is shown as two separate SSSIs with an inlier on Went Hill.

Local Wildlife Sites (formerly known as Sites of Nature Conservation Importance) are identified at a county level. The local Wildlife Trust (in our case the Sussex Wildlife Trust and the Sussex Biodiversity Records Centre) often helps with designation and mapping. The sites are of special interest for their fauna or flora and, although their designation gives no statutory protection, local planning authorities are expected to take their presence into account in any decisions (e.g. through Planning Policy Guidance such as PPG9 under the Town and Country Planning Act 1990). In the parish there is one large Local Wildlife Site which extends way beyond the parish boundaries and covers most of the wooded part of Friston Forest, with an outlier on the slopes of Friston Dencher. All of this land belongs to South East Water (previously the Eastbourne Waterworks Company) and is managed by Forestry England. It is unclear why one of the most biodiverse parts of Friston Forest – The Gallops – is excluded.

There are no **Local Nature Reserves** in the parish; the nearest is on Seaford Head the other side of the Cuckmere River.

A **Marine Conservation Zone** – Beachy Head West – extends out about 750 meters from the coast along its entire 3 km length within the parish. It comprises a wave-cut platform of gullies and ledges, important for coral, sponges and numerous marine invertebrates.

Table 1. Extent of various land categories within the parish.

category	# areas	extent (ha)	% total area
Built/settled areas	6	125 [3]	13.5
National Nature Reserves	0	0	0.0
Sites of Special Scientific Interest	4 [2]	160	17.3
Local Wildlife Sites	2 [2]	135 [3]	14.6
Ancient Woodland	2	2.2	0.2
Local Green Spaces (designated or public)	9	6.1	0.7
Higher Level Stewardship schemes [1]	6 [2]	136 [3]	14.7
National Trust land	1	280 [3]	30.3
South East Water/Forestry England	1	220 [3]	23.8
Open freshwater	2-10	c.0.02	<0.1
TOTAL PARISH		925	

Notes: [1] The Sussex BRC map shows a larger area; areas given here are only those on private land and do not include National Trust or Forestry land.
[2] Refers to blocks; some may be combined in the named designations. [3] Approximate extent.

Ancient Woodland, of which there are two small areas within the parish (Went Hill and Hobbs Eares), are woodlands that have not been removed or clear-felled since 1600, according to available maps. Although these woodlands may not have been cleared over that period, they may well have been managed for coppice or occasional logging; the designation does not imply that they are in good condition at present. Indeed, grazing and lack of regeneration can be significant issues.

Local Green Spaces (LGS) are a local-level designation of spaces that have particular local amenity or historical significance. Designated here under the National Planning Framework (2012) by the South Downs National Parks Authority, they offer local communities some protection against loss of green space to development, becoming similar to the Green Belt in their restrictions on development. They are often not in public ownership, and do not need to have full public access, although private gardens are excluded. Within the parish at present there are four designated **Village Greens** (Friston Green, East Dean Village Green, the Greensward and East Dean Church Green) and two additional Local Green Spaces (the Horsefield and Went Way allotments). In addition, the Recreation Ground (which belongs to the Parish Council) is a field held in Trust, and so fully protected.

Designated roadside verges receive conservation-orientated management from East Sussex Highways, usually this is reduced mowing outside of the growing season. There are two designated **Wildlife Verges** just outside the parish boundary along stretches of the A259 between Friston and Exceat and between East Dean and the Eastbourne Downs golf course. Recently, four short sections within the parish have been designated as Wildlife Verge (along the Birling Gap road, 750 m) or as Meadow Verge (Gilberts Drive, 270 m, and the Old Willingdon Road, 210 + 40 m).

There are various subsidy schemes for conservation-friendly management of agricultural land. The only one considered here is **Higher Level Stewardship** (HLS), which aims to allow farmers to provide more active and environmentally beneficial management practices, including hedgerow management, restoration of traditional farm buildings, buffer strips, mixed stocking and some level of public access. The current Defra map (Magic website) shows only privately-owned land in the parish under this scheme – all belonging to the Gilbert Estate – and not the large extent of National Trust and Forestry England land shown as being under the schemes on maps from the Sussex Biodiversity Records Centre (May 2023). The figure of 136 ha in Table 1 relates to the Defra map, but an additional 364 hectares is shown on the SxBRC map covering National Trust and Forestry land.

3. GEOLOGY & GEOMORPHOLOGY

The parish lies mostly on the Seaford Chalk Formation deposits dating from the Upper Cretaceous period around 85 million years ago. In the main valley bottoms, more recent Pleistocene (last million or so years) or younger alluvial and colluvial deposits are found, principally derived from the surrounding landscape. These deposits are underlain by so-called fragmented Coombe Rock created during the last Ice Age 12,000 years ago. On the higher downland crests there is a cap of more fertile Clay with Flints, also of Pleistocene age, which comprises many flints (hard silica rock) mixed with clay deposits derived from weathering of the underlying chalk over millennia. It is this Clay with Flints layer that over the last 70 years was often used for arable agriculture, along with the more traditionally-utilized valley bottoms. The geological sequence is readily seen on the cliffs of the Seven Sisters coastline and at Birling Gap.

The parish landscape broadly comprises a series of mostly NE–SW-trending dry valleys in the chalk, with the resulting high flat areas being the famous and iconic Downs. Some side valleys lead off the main ones. There are no remaining rivers or streams, although these were probably present soon after the glaciers retreated some 10,000 years ago and when the English Channel was forming.

The soils and natural vegetation broadly reflect the geological and geomorphological features, i.e, chalk grassland and scrub on steeper slopes, arable agriculture and semi-natural grasslands on more level terrain, and woodland on slightly deeper soils.

4. HABITATS

The main vegetation types and habitats found across the parish are described briefly below, with an indication of their extent and biodiversity significance.

According to Defra's Living England Habitat Map (https://magic.defra.gov.uk/MagicMap.aspx), the majority of the area comprises Calcareous Grassland, with significant extents of Scrub and Broadleaved Woodland (principally the planted Friston Forest), along with relatively small extents of Improved Grassland, coastal habitat and built-up areas and gardens. Their extent will be shown on other maps being prepared in the neighbourhood plan exercise.

4.1 Freshwater Ponds – as would be expected on a chalk landscape with very little surface water, freshwater ponds are scarce. There are no rivers in the parish, the closest being the Cuckmere River some 3 km distant. The main freshwater body is Friston Pond, an ancient and mature clay-lined pond some 40 m^2 in extent. But there are also two concrete-lined dewponds in the parish plus many garden ponds on the Downlands Estate, the latter now being probably of considerable importance locally for breeding amphibians and aquatic invertebrates.

4.2 Chalk Grassland – this habitat is characterised by short grassland found on shallow soils over the chalk bedrock. It is mostly unimproved (i.e. has not been over-sown or had artificial fertilizer applied) and has been unploughed for many years, especially on steeper slopes. The Priority Habitat Inventory - Lowland Calcareous Grassland (as shown on Defra's Magic map) covers about a fifth of the parish. Much of the grassland away from the immediate coastline was ploughed after the Second World War and as a result now supports a lower-diversity chalk grassland flora. Areas of chalk grassland of particular biodiversity value are found at Went Hill, Belle Tout, Seven Sisters cliffs, Crowlink, Friston Dencher and The Gallops (a large grassland area within Friston Forest, see map 1). There are extensive areas of good chalk grassland on the adjacent Eastbourne Downland, such as at Bullock Down and Beachy Head. The Seaford Natural History Society has been carrying out annual surveys of the flora of some chalk grassland areas on National Trust land to help advise on their management.

4.3 Semi-improved grazing land and old fields – agricultural grazing land covers the largest part of the parish but is comparatively species-poor. The non-priority Good Quality Semi-Improved Grassland (as shown on Defra's Magic map) covers about a tenth of the parish. Most of this has been cultivated at some time in the past, especially the deeper soils associated with the clay-with-flints layer overlying the chalk, hence the reduced levels of biodiversity now found there. Within the parish at present, fields are rarely cultivated but many are cut annually for hay or silage, although they cannot be considered hay meadows in the classic sense. Owing to this management regime, plant diversity is comparatively low and consists of generally widespread species. This is also reflected in the bird populations, which mostly comprise larger species such as from the crow family (corvids). However, less disturbed fields will also have skylarks, pipits and similar species, as well as raptors.

4.4 Ancient Woodland – there is a small extent of ancient woodland (defined as woodland that has been in continuous existence since 1600 AD) on Went Hill and on Hobbs Eares at Friston, but these patches have few large trees and the understory is not well-developed. Now mostly dominated by sycamore and ash trees, they do not have many of the characteristics and species that one would expect to find in old mature woodlands. In addition, many of the large ash trees present have succumbed to Ash Dieback disease. Designated Ancient Woodland covers about 2.2 ha in the parish.

4.5 Deciduous woodland patches – historically, this was not a particularly wooded area. Woodland within the parish appears to be mostly planted (or with much enrichment planting over the years) with no ancient trees or any that are old growth or 'over-mature'. As can be seen on old aerial photos, 80 years ago there would have been significantly less woodland than is found now. Since then, Friston Forest was planted along with enrichment planting adjacent to existing woodlands such as on Went Hill. On Defra's Magic map Priority Habitat Inventory, apart from Friston Forest (see below), their category of Deciduous Woodland mostly comprises small patches or copses and is probably less than 5% of the total area.

4.6 Friston Forest is a mixed deciduous forest planted for watershed protection, with the first plantings in the mid-1930s. Previously much of this area would have been chalk grassland under sheep grazing. Initially evergreen coniferous species were planted for protection, with broadleaved species such as ash, sycamore and beech planted underneath. Most conifers have now been removed and the canopy principally comprises beech, sycamore and ash, sometimes in blocks rather than being mixed. Areas of particular interest are the more mature areas such as at Butchers Hole Bottom and around Friston Place and the Eastbourne waterworks. Ash Dieback has had a major impact across the area, and many have been felled and removed from close to paths or roads, being replaced by natural regeneration of sycamore.

4.7 Thickets – thickets of Blackthorns and Hawthorn are common on the 'less-improved' parts of the coastal downland in particular, but also in places such as Friston Dencher. Some may represent or have been part of old hedgerows or trackways. There are also large areas of gorse thicket closer to the coastline. From old airphotos it appears that the extent of thicket is now greater than it was before World War II. These patches provide good shelter and food such as berries for a range of birds and small mammals, including rabbits. The mature Downland Estate gardens now provide similar habitat and corridors in many places with good year-round food sources available for mammals, birds, amphibians, and many invertebrates such as butterflies, moths and bees.

4.8 Hedgerows – these are not always easy to separate from thickets but are valuable for plants, birds, butterflies and small mammals. Importantly, they act as corridors for movement between different habitats and parts of the parish, including for bats. Some hedge-lines may be of fairly ancient origin, but have been cut back and thinned repeatedly. Hedgerows along the Old Willingdon Road, in the Friston Church area and at Crowlink are of particular significance.

4.9 Road verges – although not a particularly important or extensive habitat here, verges along main roads, maintained by East Sussex County Council or the Parish Council, are included. On the basis of plant species recorded, ESCC has recently designated one stretch of Wildlife Verge (reduced cutting regime to encourage wildlife) on the Birling Gap road, and three sections of Meadow Verge (a less-protected category, but also with

reduced cutting) along Gilberts Drive and the Old Willingdon Road. Together these total 1.26 km in length.

4.10 Gardens – the mature large gardens on parts of the Downlands Estate in particular have now become an important habitat for a range of wildlife. Gardens at Friston Place, Crowlink and at Gayles Farm are also important in this regard. Large gardens typically have some large trees in places and patches with dense undergrowth and compost heaps. Food in the form of fruit, foliage, nectar and pollen is available for a longer period of the year than is often the case in the surrounding countryside as there is a greater range of species planted and with longer flowering times. Pollinator numbers (bees and other flying insects) are thus often relatively high, as well as populations of smaller birds. Garden ponds provide a significant habitat for biodiversity in many gardens, being mostly absent elsewhere.

4.11 Sea cliffs and coastal strip – extending along the whole southern margin this forms the most iconic part of the parish. Although the cliffs themselves are of great scenic and geological interest, they are not a significant habitat for most species. A few birds such as ravens however, use them for nesting. Likewise, the pebbly foreshore, much of which is covered at high tide, supports little marine or terrestrial life. It is the rockpools and shallow water beyond that are of great importance for a wide range of organisms. Marine birds and ducks are often seen in these shallow waters, although most are transient visitors rather than resident. This is the habitat with the highest visitor numbers and impact, especially around Birling Gap and along the coast path.

5. ISSUES INFLUENCING BIODIVERSITY

5.1 Grazing. Grazing has mostly been by sheep and sheep numbers historically were greater than they are today. In the past sheep grazing of the non-cultivated downland was through large combined flocks with a shepherd and with little fencing. Thus, grazing pressure was less concentrated although animal numbers were probably greater. It was this grazing that helped shape the downland we know today and helped maintain the characteristic short chalk grassland flora. Rabbits are now also very important in maintaining short grassland, at least locally close to suitable burrow sites. Although myxomatosis reduced rabbit numbers greatly in the 1950s-60s, resulting in a spread of thicket vegetation and coarse grasses, they recovered. Recently, however, a new viral rabbit disease has arrived, Rabbit Haemorrhagic Disease (“bunny Ebola”), which risks allowing the chalk grassland to become rank again. Cattle have been introduced seasonally in recent years, with conservation grazing of coarse herbage being done by ponies for shorter periods close to the coast.

Also important to consider here is that continued sheep grazing and high rabbit populations over the decades have significantly inhibited tree and woodland regeneration, such that many woodland patches now are becoming moribund with few saplings, e.g. Friston Dencher. This lack of regeneration poses a significant threat to some components of woodland biodiversity across the parish and some levels of protection from grazing may be required.

5.2 Agriculture. Apart from livestock grazing there has been minimal arable agriculture practiced across the parish in recent years. Most fields within the parish are now either grazed or cut for hay or silage. However, after the Second World War there was a big push to plough downland for grain production, some fields of which persisted into the last

decade or so. This resulted in the loss of much of our chalk grassland species; recovery from ploughing can take decades. At present the most significant chalk grassland areas are those that have not been ploughed or fertilized for many years, possibly a century or more. Some indirect effects of sheep-raising include the use of vermicides and drenches that act as insecticides in dung, reducing invertebrate levels and rates of breakdown.

Much of the farmland in the parish is, or has recently been, under Entry Level plus Higher-Level Stewardship agreements whereby state grants are paid to farmers or land managers for the purposes of effectively managing their land in a manner which protects and enhances the environment and wildlife. This has given greater protections to biodiversity across the area.

Some arable farming areas occur adjacent to the parish, in particular on the leased farms on the Eastbourne Downland estate along the eastern margins. Now it is mostly fodder crops and grass for livestock that are grown, either harvested or grazed in situ, but grain (mostly barley) has occasionally been cultivated. In the past (10-30 years ago), oilseed rape was common. Runoff and drift from fertilizer, etc. can be seen within the parish.

The ploughing and fertilizing of fields adjacent to and overlooking the parish does have a visual impact on our area, principally through the loss of views of rolling unbroken Downland that surround us.

5.3 Diseases. Ash Dieback has had a big impact locally, especially in hedgerows and in small woodland patches. Ash trees are generally being replaced by sycamore, a species that has a denser canopy and is less wildlife-friendly. There is a need for monitoring of woodland and hedgerow species composition across the parish in light of this.

Dutch elm disease has destroyed many elms across the parish and has had a marked visual impact, especially trees planted alongside roads such as Gilberts Drive. There are few larger English Elms now left; those there are remain saplings or coppice growth, or are Wych Elm.

Historically, myxomatosis had a devastating effect on the local rabbit population. But numbers did recover over the last 20-30 years. However, a new viral rabbit disease – Rabbit Haemorrhagic Disease (RHD) – has arrived in the parish, and it is suggested this is reducing rabbit populations again. No quantitative assessment appears to have been made on its impact.

5.4 Churchyards. Churchyards in some other urban and rural areas have become important wildlife refuges, both for animals and some plant species. However, both our churchyards (Friston and East Dean) are regularly maintained with few ‘wild’ areas left; they do not appear to be acting as important wildlife areas. There is an issue here of ‘manicuring’ and ‘sterile management’, also found in many other local landholdings, that could be discussed further.

It is not certain if there are any roosting bat populations associated with the churches, something that needs to be determined. Botanical surveys of the two churchyards in 2008 and 2016 showed some interesting records of species now not present.

5.5 Visitors and Tourism. The parish has become a very popular tourist destination, especially since the establishment of the South Down National Park in April 2010. However, this is mostly confined to the Birling Gap area and along the South Downs Way

and, to a lesser extent, to the village of East Dean and the village green. Walkers are an important component of the visitors. Tourist numbers visiting Birling Gap were estimated by the National Trust (2023) as being perhaps 500,000 to 600,000 per year, mostly concentrated in the summer months. Such levels of visits and footfall can have an effect on biodiversity, which is particularly apparent on Belle Tout, around Birling Gap and along the Seven Sisters part of the South Downs Way. Here there is some soil erosion on footpaths, especially on the steeper slopes, and thus trampling of some chalk grassland plants. However, this is rather minimal and acceptable at present in all but a couple of localities. Road verges in the Birling Gap area are being damaged, and portions of these are in the process of being designated as Wildlife Verges by East Sussex County Council. Surprisingly, this disturbance does not seem to be unduly affecting bird populations in the broader area.

In the summer months thousands of people visit the pebble beach at Birling Gap, swim and surf near the shore and explore the rockpools. It is not clear what affect this might be having on marine biodiversity, but physical damage seems minimal.

Although visitor pressure does not appear to be impacting upon biodiversity significantly at present, this should be monitored especially as visitor numbers and cars are likely to increase in the coming years.

5.6 Pollution, litter, Dark Skies policy

Although nowhere near as deleterious in their effects as in some other Sussex parishes, there are issues of groundwater pollution, litter, environmental noise from traffic, and the fact that the A259 road in particular acts as a barrier to animal movement as well as causing a number of road kills every year. It is thought most residences are linked to mains drainage, and there is a sewage works situated in The Wish by Birling Gap. But some road and roof runoff goes into soakaways. However, this is unlikely to be having a deleterious effect on biodiversity. Much of the deep chalk deposits under the surrounding Downland is an important aquifer; there are three pumping stations within a few kilometres including Friston Pump Station inside the parish. South East Water monitor water condition and also control much of the land use in the Friston Forest catchment.

Litter is a minor issue along the main roads and some paths. Although unsightly, it is probably having minimal impact on biodiversity. Occasional fly-tipping occurs along the A259 towards Exceat and along the Jevington road.

Probably of greatest significance is the impact of the moderately heavy and continual traffic along the A259 road that runs across the parish, dividing it north and south. Road kills are often seen – principally badgers and foxes, but also other mammals and birds – and undoubtedly the road is acting as a partial barrier or significant risk to animal movement. To what extent this is limiting the growth in population of larger mammals is not known. Traffic along the road down towards Exceat or towards the Eastbourne golf course is traveling at higher speeds then when inside the parish, especially within the built-up area. Thus road kills are probably more frequent just outside the parish boundaries.

The South Downs Park Authority has instituted a Dark Skies policy, which is more/less adhered to across the parish. Light pollution is minimal, although some strong lights that can interfere with wildlife are still seen on the Downlands Estate.

6. SPECIES

The section below discusses species diversity of different groups from plants to insects, with particular reference to important sites and species with special protections in place.

6.1 Mammals

Mammals are treated here in four groups – (a) medium-sized terrestrial, (b) small-size terrestrial, (c) bats, and (d) marine mammals.

a) Medium-sized mammals – these are heavier than 200 gm, yet under 50 kg when adult. Eight species have been recorded ranging from Roe Deer and Badger to Rabbit, Brown Hare, Stoat and Weasel (although the latter is generally 100-150 gm).

Roe Deer are resident in Friston Forest and are increasingly seen (although not resident) in East Dean and on the Downlands Estate. No other deer species have been recorded from the parish or immediately adjacent areas. Unlike in some other places, here they are not yet a problem in terms of either numbers or damage.

Foxes and badgers are common throughout the parish, with a number of setts and dens in wooded areas. Despite road kills, populations appear to be stable or have grown over the last decade, probably helped by an increase in available food supply on the Downlands Estate and large gardens with overgrown sections.

Brown Hares are seen on open downland, especially around Crowlink and Birling Gap. It is assumed they are resident. Hare-coursing is an occasional threat in the Crowlink area but is under continual surveillance. European Rabbits are very common with many burrows being seen, especially on downland and grazed fields; rabbits are not found on the Downlands Estate except on margins adjacent to agricultural land. The parish-wide population probably exceeds 1000. However, in the last few years there is evidence of significant outbreaks of the RHD virus with many deaths and a noticeable population decline. Rabbits fulfil an important ecological function in keeping chalk grassland very low through intensive grazing and in reducing scrub encroachment. This is especially apparent along the clifftops and steeper areas of chalk grassland towards the coastline. Indeed, the continued presence of a high rabbit population ensures the continued presence of a number of chalk grassland plants and insects. There is now a noticeable increase in taller grasses in many places owing to reduced rabbit grazing.

The Rabbit is regarded as globally Near Threatened owing to loss of habitat and epidemic disease, while the Brown Hare is a UK Priority Species and protected under Section 41.

The Grey Squirrel is commonly seen and is especially associated with gardens and Friston Forest.

Both stoats and weasels are occasionally seen on the downs, and are assumed to be resident. Numbers are unknown. Rabbits and voles are presumably their major food source, along with ground-nesting birds.

Further investigation needs to be done on population numbers of some of the less common species. The presence of gardens and domestic pets will have an effect on their distribution and numbers, but it is not clear to what extent changes in agricultural land use (e.g. presence and intensity of livestock grazing) will also affect them.

b) Small-sized mammals – this includes all rodents (except squirrel) and small insectivores.

Among insectivores, European Hedgehogs are very scarce here compared with the Polegate and Eastbourne areas. Only a few records are available from the last few years, mostly from the top end of Friston. It has been assessed as Vulnerable on the GB Red List and is also a UK Priority Species and protected under Section 41. Pygmy Shrews are not uncommon in gardens, while European Moles are occasional in the Crowlink area, possibly associated with richer agricultural soils. It is possible that the Common Shrew is also present.

Field Vole and Wood Mouse are commonly found on unimproved grassland and in some gardens. Wood mice sometimes enter houses in the colder months. Both species are an important food source for raptors and larger mammals. Although there are no records, it is possible that both Bank Vole and Yellow-necked Mouse are also present. The Hazel Dormouse (assessed as Vulnerable on the GB Red List, and a BAP and Section 41 species) is occasional in the Friston Forest area. Harvest Mice were probably present historically when there was more grain production.

Both the House Mouse and Brown Rat are sometimes found associated with human habitation.

Given their importance as a food source for raptors and some predators, small mammals have undoubtedly been under-recorded in terms of distribution and frequency. Further investigation of their status is required.

The reduced intensity of sheep grazing in recent years, the increase in occasional cattle grazing and the reduction of crop production (especially grain) in and around the parish will undoubtedly be having an impact on medium- and small-sized mammal populations, and possibly also bats through the availability of flying invertebrates. This needs to be assessed, and will be a threat to some species but an advantage to others.

c) Bats – this group has been poorly recorded across the parish. Apart from the Common Pipistrelle and Noctule Bat most of the eight species (with a possible ninth) are only known from one or two records. Species-level records, however, depend very much on specialist recorders and the use of bat detectors, hence confirmed records are few. Anecdotal evidence and general observation suggest there has been no particular decline over the last decade.

Records are mostly of relatively widespread species, such as the pipistrelles, but notable records are of the hibernacula of Whiskered or Brandt's bat and the sighting of the Serotine.

The main recorded localities for bats, probably reflecting more the locations surveyed, are Friston water tunnel near the top of Hillside, Friston church and Friston pond, and Crowlink Place with Crowlink Corner. Other important localities are likely to include older buildings in East Dean village and barns and agricultural buildings in and adjacent to the parish. Common Pipistrelle and the Noctule Bat have been recorded (unconfirmed) in gardens on the Downlands Estate. The only recorded roosts or hibernacula recorded are in Friston water tunnel (Whiskered/Brandt's Bat and Brown Long-eared bat). Other records have been from occasional roof surveys of houses or by using bat detectors.

All bats are protected under EU legislation (Habitats Directive Annex 4) and under UK law (Wildlife & Countryside Act, Schedule 5), while some species are in addition protected under Section 41. The Serotine Bat is also considered Vulnerable on the GB Red List and the Whiskered Bat is assessed as Data Deficient.

A comprehensive survey of bats across the parish is required, which will need to involve specialists, such as from the Sussex Bat Group. This survey should focus on old buildings and ponds. Specific protection may be required for some locations.

d) Marine mammals – only four species have been recorded – two species of seal (Grey Seal and Harbour or Common Seal) and two dolphin/porpoises (Harbour or Common Porpoise and Bottle-nosed Dolphin) – although it is probable that others pass through the inshore waters off Birling Gap and the Seven Sisters. All species are non-resident, i.e. do not breed or bask on the shores of the parish or adjacent areas, although the Sussex Dolphin Project mentions there is a semi-resident pod of Harbour Porpoise off the Seven Sisters cliffs between Seaford Head and Eastbourne, which often feeds close inshore at high tide. The Grey Seal is now increasingly seen offshore.

Harbour Seal, Harbour Porpoise and Bottle-nosed Dolphin are all protected under the EU Habitats Directive (Annex 2) and in UK under Section 41. The two dolphins are both UK BAP Priority Species.

Further investigation needs to be done to ascertain how frequent the occurrence of marine mammals is in our parish waters, and how important our waters are for feeding.

6.2 Birds

A checklist of birds recorded from the parish, compiled from almost 36,000 records at the Sussex Biodiversity Records Centre, 220 records on iRecord plus numerous personal observations from residents, shows 191 species (see checklist). Of these, 152 species have at least one record from 2020 or later, but 39 species are known only from a record in the previous decade (2010 onwards) and are indicated with an H on the attached list. The list does not include rarely seen migrants or vagrants, e.g. individuals blown off-course from normal routes, nor does it include older historical sightings. There are 53 breeding records from the parish and immediately adjacent areas, although this is likely to be an underestimate. Notes given here are mostly drawn from the Sussex Ornithological Society and may not always apply to the species within the parish, unless indicated otherwise.

A disproportionate number of records (over 85%) are from the coastal strip – Birling Gap, Belle Tout and the Seven Sisters cliffs, probably due to the tens of thousands of visitors annually as well as the interest created by sightings of scarce or rare migrants.

Birds present can be roughly placed in five, often-overlapping, categories – garden birds; species of open downland, hedgerows and fields; woodland birds; shoreline or coastal species; and passage migrants.

Many species recorded are coastal or passage migrants, species that either move around the coast depending on the seasons and food availability, or which make landfall in Sussex after crossing the channel or coming from further afield before moving north into UK (and vice-versa).

The parish is moderately diverse as regards bird life but with an (unsurprisingly) disproportionate number of shore and seabirds and passage migrants. It seems particularly

poor in woodland species, both in regard to species diversity and in population size. There is now limited arable or intensive livestock agriculture in the area, hence less dung and disturbance, and this may be a reason for low numbers of insect-eating species.

Of the species with records from 2020 and later, 32 are on the UK Red List and 69 are on the Amber List (Birds of Conservation Concern 5, British Trust for Ornithology, 2021). These are shown in the accompanying checklist. Of these, 23 species are designated under the National Environment Research Council (NERC) Section 31 as species with required priority national actions under the UK Biodiversity Action Plan, 30 are on Schedule 1 of the Wildlife and Countryside Act, and 26 are listed under the EU's Birds and Habitats Directive. Thus 51 or 26% of birds recorded from the parish in recent years are under some form of national legislated protection, particularly waterfowl and seabirds and raptors as well as migratory species.

6.3 Amphibians and Reptiles

The parish appears to have good thriving populations of a number of amphibian and reptile species, especially Common Toad, Common Frog, Smooth Newt and Slow-worm. This probably reflects the frequency of garden ponds and suitable garden habitats, particularly on the Downlands Estate but also Friston Pond and Friston Forest.

Toads, frogs and the Smooth Newt breed in a wide range of ponds, and adult and sub-adults are commonly found in nearby gardens. Great Crested Newts have been recorded from Friston Pond (2016) and the dewpond at Gap Bottom (Crowlink, 2005), but are more local and temporal. There are only historic records of Palmate Newt (2009, Friston Pond).

Among reptiles, the Slow-worm is common in gardens, especially those with some rank vegetated corners or compost pits, while the Common Viper (adder) is often seen sunning itself on the downs or in more open areas within Friston Forest. Grass Snakes are occasionally found in the vicinity of ponds with amphibians, their main food source. The Common Lizard is more rarely seen on open sunny banks.

All reptiles and amphibians are listed under Schedule 5, while all reptiles, Common Toad and Great Crested Newt are BAP species and protected under Section 41. In addition, the Great Crested Newt is protected under the EU's Habitat Directive (Annex 2). The Common Toad has been assessed as Near Threatened on the GB Red List.

6.4 Fish

There are two freshwater fish recorded from the parish — the Three-spined and the Nine-spined Sticklebacks — both from Friston Pond. However, it is possible that some other native freshwater fish species are to be found in some garden ponds.

Marine fish have been under-recorded, and only six are listed. Most of these are found in rock-pools off Birling Gap. Undoubtedly other marine fish are to be found, even if they are not breeding and just passing through, but are not listed here.

6.5 Butterflies

Butterflies and moths (Lepidoptera) are a fairly well-recorded group across the parish, but only data on butterflies have been analysed to date. A total of 38 species have been recorded, of which three are occasional vagrants. One species of particular note is the Chalk Hill Blue with a large population found on grassland at The Gallops in Friston Forest, apparently one of the largest populations of this species in Sussex. Chalk grassland as well as gardens are important habitats, as are woodland glades in Friston Forest and

some hedgerows. The diversity of flowering plants associated with gardens on the Downlands Estate probably helps maintain diversity and population numbers.

Although eleven species are listed on the GB and/or England IUCN Red List, only four butterflies are particularly threatened – Dingy Skipper (Vulnerable), White Admiral (Vulnerable, but here it is only known as a vagrant), Grizzled Skipper (Vulnerable) and White-letter Hairstreak (Endangered). Seven butterflies are UK Biodiversity Action Plan species (Small Heath, Small Blue, Dingy Skipper, Wall Brown, White Admiral, Grizzled Skipper and White-letter Hairstreak), seven are designated under NERC Section 41 with priority actions required (Small Heath, Small Blue, Dingy Skipper, Wall Brown, White Admiral, Grizzled Skipper and White-letter Hairstreak), while six are protected under Schedule 8 of the Wildlife and Countryside Act (Small Blue, Silver-spotted Skipper, Large Tortoiseshell – here only a vagrant, Adonis Blue, Chalk Hill Blue and White-letter Hairstreak). Some of these species are also regarded as being Rare in Sussex.

Records on day-flying and night-flying moths have not yet been analysed, although there are up to 100 rarities and species of particular concern among them.

6.6 Dragonflies

Dragonflies and damselflies (Odonata) are associated with ponds and other freshwater bodies, which are very localised within the parish. Fourteen species have been recorded in recent years of which four are the slenderer damselflies. The main locality is Friston Pond, but Crowlink, Belle Tout and the Horseshoe Plantation have a number of records, all probably associated with dewponds. There are a number of records from garden ponds in the Downlands Estate, indicating the importance of ponds in maintaining biodiversity in the parish.

There are no species of particular national concern, but the Red-veined Darter is Sussex Rare and the Common Darter is designated as Data Deficient on the GB Red List.

6.7 Vascular Plants

The parish is relatively rich in terms of vascular plant species (flowering plants plus ferns and conifers), as would be expected from a coastal agricultural area with scattered woodlands and large gardens. A comprehensive survey of vascular plants (flowering plants, conifers and ferns) was carried out by the author during 2023, with additional records included from the Sussex Biodiversity Records Centre, iRecord and the Seaford Natural History Society, along with historical and current observations from local residents. Only confirmed records from 2020 or later have been included, although some species with only historical records from 2010 to 2019 have been incorporated (indicated by H in the attached list). Uncertain records and identifications, and obvious recent plantings and garden escapes, are excluded. This survey is still ongoing and will be updated in 2024, but is thought to cover over 95% of the vascular species probably found here.

So far there are 401 native and/or naturalised species of flowering plants recorded from in or immediately adjacent to the parish, plus six species of fern. Of the flowering plants, 37 are introductions to our area but have become more/less naturalised. Forty-nine woody plant species (trees and shrubs) have been found, of which 24 are trees (four mostly found as planted individuals), plus 27 species of aquatic plants associated with ponds or wetlands and 11 species of orchid.

Of the native plant species, two are considered Endangered in England – Yellow Bird's-nest and Burnt Orchid (the latter from just outside the parish boundary), one is considered Vulnerable (Chicory, which here is an introduction), and 10 have been listed as Near Threatened for England. In addition, three species have been listed under section 41 of NERC and are UK Biodiversity Action Plan species (Yellow Bird's-nest, White Helleborine and Pheasant's Eye – English species with priority actions required) and three others are listed under the Wildlife and Countryside Act, Schedule 8 (Bluebell, Early Spider Orchid, Lizard Orchid [just outside parish boundary] – no intentional picking or sale). Six species are considered nationally scarce or a Sussex rarity – Round-headed Rampion, Fringed Waterlily, White Horehound, Early Spider Orchid, Pheasant's Eye and Bastard Toadflax.

The most important locality in the parish in terms of diversity and unusual plant species is the Belle Tout area, followed by Birling Gap (especially for coastal and cliff species) and the Seven Sisters cliff areas, the steep chalk grasslands on Went Hill and at Crowlink (already protected as Sites of Special Scientific Interest), and parts of Friston Forest. Ferns are principally confined to undergrowth in Friston Forest and in some densely wooded areas nearby. Perhaps the rarest habitat is freshwater ponds, only represented in the parish by Friston Pond and the dewpond at Crowlink, although undoubtedly garden ponds in and around the Downlands Estate also support some of these aquatic species. Historically, Friston Pond supported a greater range of aquatic species before it was rehabilitated around 2010 than it does at present, although some of these are thought to have been introduced.

Table 2. Recorded species totals in various biodiversity groups across East Dean and Friston.

species group	# spp.	# protected spp
Vascular plants	401	6
Terrestrial mammals	16	3
Bats	8	8
Marine mammals	4	3
Birds	191	67
Fish	8	0
Reptiles + amphibians	9	9
Butterflies	38	11
Dragonflies	14	0
TOTAL	689	107

Note: Species with protection include those that are UK Biodiversity Action Plan species, those listed under the Wildlife & Countryside Act Schedules 5 and 8, and those listed under Section 41 (NERC).

6.8 Limitations of Species Coverage

Coverage of available biodiversity data is not even, either between areas or animal and plant groups, or even within them. For example, the great majority of records held at the Sussex Biodiversity Records Centre come from the Belle Tout, Birling Gap and Seven Sisters cliffs areas along with Friston Forest, with many fewer records from East Dean village and the Downlands estate, presumably reflecting visitor numbers and interests. Of

particular note is that bird records are vastly more numerous than those for mammals or other vertebrates, followed by a high number of butterfly records, more than for flowering plants. The number of bat records in particular is very low and does not reflect their assumed distribution and diversity. For vascular plants recent coverage has been relatively uniform in terms of area, but with inadequate recording of grasses and sedges.

Some data are available for other groups, particularly for terrestrial invertebrates such as moths, bees and beetles, but these have not yet been analysed. Importantly, there are few records from the marine environment included here.

These factors should be taken into account when assessing the comparative significance of different sites or localities. Further survey work will undoubtedly increase the number of known vascular plant species and those of some insect groups. Topics that particularly require more information are indicated in Section 6.

7. IMPORTANT BIODIVERSITY AREAS

Brief descriptions of eleven areas of particular significance for biodiversity identified across the parish are given below, listed from the northwest to southeast. These were selected on the basis of the biodiversity they support and the scarcity of the habitat locally, and are shown in Table 3 and in accompanying maps (Maps 1 & 2). The selection is based on habitat type as well as on populations of significant species from groups including flowering plants, terrestrial mammals, birds, amphibians, and butterflies.

1. **The Gallops and Friston Forest**. An area of 75.1 ha (of which 58.7 ha lies within the parish boundary) comprising sloping chalk grassland and mature planted broadleaved woodland. The Gallops is an important site for the Chalkhill Blue butterfly and numerous other butterfly species, as well as for its chalk flora. Adders, some terrestrial mammals and raptors are common. The surrounding woodland and woodland-grassland margins contain many restricted plant species, including White Helleborine orchid and the parasitic Yellow Bird's-nest.

Friston Forest is owned by South East Water and managed under a long-term lease by the parastatal Forestry England with full public access. It was originally purchased in the 1920s for catchment protection for the Eastbourne water supply. The Gallops grassland area has recently been fenced into paddocks by Forestry England under advice from Butterfly Conservation to allow better grazing control for the management of the Chalkhill Blue butterfly population. The woodland portion forms part of a designated Local Wildlife Site. Evidence of an Iron-Age village were found in the lower parts during excavations for a new water pipe.

2. **Friston Dencher**. The mapped area forms part of the mid-slope along Sheep Down on the northwest-facing downland slopes below the Old Willingdon Road. It consists of old improved or unimproved grazed chalk grassland with extensive linear thickets and low open woodland of hawthorn, sycamore and ash, with blackthorn and some gorse as understorey. There are a number of typical chalk grassland species present, including cowslip and native bluebells. Although fairly heavily grazed by sheep, the linear section can act as a corridor for woodland birds and other vertebrates, linking the Old Willingdon Road and the large Downlands Estate gardens to Friston Forest proper. The thickets are possibly associated with old trackways.

The area is 12.3 ha in extent and owned by South East Water/Forestry England, but grazed by a local sheep farmer. Most of it is designated as a Local Wildlife Site.

3. **Old Willingdon Road**. This is a long narrow strip of hedgerow and field margin continuing on from the end of the metalled Old Willingdon Road towards Willingdon Hill. The strip is rich in hedgerow herbs, butterflies and other insects, and hedgerow and grassland birds, for which it provides shelter as well as a corridor for movement. It consists of an old trackway with hedgerow or field margins or banks on both sides and is very biodiverse given its narrow width.

Bordering Forestry England land and private farmland, the strip is now a public footpath and bridleway which may belong to East Sussex Country Council. However, it does not appear to be formally protected. The mapped area is 3.4 ha in extent, of which only the southern 0.76 ha lies inside the parish boundary.

4. **Friston Pond**. The pond and immediate wooded environs lie south of the main A259 road opposite Friston Church. It provides a very important freshwater habitat, the most important in the parish, for many invertebrate species, amphibians (four species), two species of small fish and a number of aquatic plant species. However, a number of these are now only known from historical records and were probably planted. It is a long-established pond perhaps 50 m^2 in extent that is in good ecological condition (survey done by Freshwater Habitats Trust in May 2023). Amphibians presumably move into the adjacent Friston Forest after breeding; contiguity with the forest is essential for the movement/migration of amphibians. Some waterbirds such as moorhen occasionally breed there.

The pond is a scheduled Ancient Monument while the pond and its surrounds are a registered Village Green space belonging to and managed by the East Dean and Friston Parish Council. The mapped area is 0.2 ha.

5. **Warren Lane slopes**. An extensive overgrown and wooded area on a steep slope along an historic access track at the base of some properties on the east side of Warren Lane on the Downlands Estate. It consists of a mixture of trees, most of them planted over 50 years ago with many now large and mature. The area acts as a refuge for foxes, badgers with some dens and setts present, and may also act as a temporary refuge for roe deer coming in from Friston Forest. Buzzards regularly breed in larger trees, along with jays and other woodland birds. Its major biodiversity value is as an undisturbed refuge for wildlife and can act as a corridor for birds and mammals across the estate.

Some Warren Lane residents own a lower ‘extension’ of their plots which form part of this area, but none have developed them. It also includes the upper parts of some gardens of Deneside and Hillside. Other ‘blocks’ of the mapped area formed part of the original estate and remain unallocated; these have now effectively reverted to Crown ownership and should be available to be designated or obtained by the Parish Council. The area is 1.1 ha in total.

6. **Hobbs Eares**. This area comprises open fields and woodland from Friston Church downhill to Upper Street in East Dean village. Part of it is pasture while about half is mixed sycamore-ash woodland, some designated as Ancient Woodland. A number of trees on the lower margins are enhancement plantings. The majority of the grassland is of lesser biodiversity interest and is on disturbed clay-rich soils, but the strip along the north-eastern margin close to the A259 road supports elements of chalk grassland flora as well as a healthy rabbit population. Botanically, the most important section lies in the southern corner between the top of the woodland and the flint wall. Although now not adequately grazed it still retains many chalk grassland species. Plants such as Early Spider orchid were recorded some years ago when the area was more intensively grazed by sheep. The woodland does not seem to contain any plants indicative of very mature woodland, and

few trees are of any great size or age, but badgers, foxes and various woodland bird species are seen. Part of the area has probably not been ploughed or heavily disturbed for over a century, although the main slope along the footpath has been disturbed. Restoration of a livestock grazing regime is required to restore the chalk flora. Ash-dieback disease is having a significant impact along the A259 path in particular, and many trees have now been cut down.

The area shown is nearly all owned and managed by the National Trust, and has been used for lease grazing for sheep over the years. There is annual plant monitoring of some grassland sections by the Seaford Natural History Society. Total mapped area is 6.2 ha including the woodland and thicket fringe along the north-east boundary on what is public land by the maintained footpath. The biggest threat by far is inadequate grazing pressure.

7. **Went Hill**. This is a very significant area of good quality chalk grassland and woodland on the steep northeast-facing slopes of Went Hill overlooking East Dean village. Some of the woodland has been enrichment planted; ash and sycamore are the main species along with smaller trees and shrubs of hawthorn, blackthorn and elder, among others. The understorey is relatively open and not well-developed with few indicator species of mature woodland. Badger setts are common, with many rabbit burrows on the margins. There is also evidence of browsing by deer. There are two extensive areas of rich chalk grassland on very steep east-facing slopes with a wide range of typical chalkland flora, including cowslip, pyramidal orchid and clustered bellflower. These are grazed by sheep at moderate intensity, as well as by rabbits, and have presumably never been ploughed or heavily-disturbed. The area represents perhaps the most significant habitat for biodiversity in the parish inland of the coastal strip.

The higher elevation western part of the mapped area is owned and managed by the National Trust while all of the ancient woodland and the important chalk grassland on slopes is owned by the Beachy Head Estate (Mr Davies-Gilbert). The great majority of the mapped area is designated as a Site of Special Scientific Interest (SSSI) or as Ancient Woodland and so is well-protected. The total extent is 8.8 ha, of which around 6 ha is SSSI and 1.4 ha is ancient woodland.

8. **Crowlink**. This area comprises the southern extent of Gap Bottom and the Crowlink valley from Brass Point to Flagstaff Brow. The mapped boundary broadly follows the SSSI boundary with an extension to include the Crowlink dewpond and associated thickets and some of the woodland and thicket on the upper slopes extending towards Gayles Farm.

The majority comprises grazed (principally sheep, but occasionally cattle) chalk grassland that has probably only rarely been ploughed, with thickets of gorse, blackthorn and hawthorn on some slopes. The concrete-lined dewpond supports a range of aquatic plants and invertebrates, and has contained Great Crested Newts in the past. Badgers, foxes, voles and stoats are common, and rabbits are abundant. Many bird species are found here including many raptors, a range of corvids including ravens, grassland birds such as skylark and pipits, while seabirds often visit the area. Plants of particular note include Autumn Ladies Tresses, pyramidal orchid, Bastard Toadflax, the two Reseda species and, close to the cliffs, species of short salt spray-tolerant species such as Buckshorn Plantain and Reseda lutea. The nationally-scarce Pheasant's Eye has been recorded, but has not been seen in the last few years, possibly due to an inadequate grazing regime.

The extent of the area is 41.0 ha, all owned and managed by the National Trust. About 95% is designated as an SSSI. Grassland plant monitoring of a significant portion is carried out annually by the Seaford Natural History Society.

9. **Seven Sisters coastline**. This mapped area follows the coastline east from Flagstaff Brow over Michel Dene to the houses at Birling Gap, and extends from 150 to 600 m inland. The inner limit, which is essentially the boundary of the SSSI, is determined by the extent of less-disturbed chalk grassland; fields further inland have been ploughed in the past or improved thus have fewer chalk grassland plants or patches of thicket. The vegetation and species found are very similar to those in the Crowlink area but with no dewponds. As with Crowlink, the area is extensively used for walking by visitors and forms part of the South Downs Way; the coastal margin has a high footfall resulting in short turf.

The extent is 42.9 ha, all of it owned and managed by the National Trust and is designated as an SSSI. Grassland plant monitoring of some areas is carried out annually by the Seaford Natural History Society.

10. **Belle Tout**. Perhaps the most important single biodiversity site in the parish, this area covers the hill on which the old Belle Tout lighthouse sits from the cliffs to the coast road, although the lighthouse itself and the eastern half of the hill actually lie outside the parish boundary. The vegetation comprises mixed chalk grassland, gorse thicket and, most significantly, some hectares of chalk heath. Within the mapped area (although just outside the parish boundary) is the Horseshoe Plantation comprising large trees principally of sycamore and ash with a mixed herbaceous understorey. It is an important refuge or resting place for recently arrived migrant birds.

There are a number of scarce chalk grassland plant species found such as Round-headed Rampion and Early Spider orchid (just outside the parish boundary), the chalk heathland supports Calluna vulgaris, Erica tetralix and other characteristic acid-loving heathland species, while there are a few unusual plants established in disturbed sites such as Soapwort, English Stonecrop, Henbane and Common Mullein. Chalk heath is a very scarce habitat in UK, and is locally best represented at Lullington Heath National Nature Reserve some 6 km away.

The great majority of the mapped area lies within the Seven Sisters SSSI and that part within the parish is owned and managed by the National Trust, while the eastern portion is owned and managed by Eastbourne Council. Although the area is not farmed and rarely grazed now by domestic livestock, Exmoor, Shetland and other ponies are brought in seasonally to keep down encroachment of coarse vegetation.

The extent of the whole mapped area of biodiversity interest is 36.4 ha, of which only around 20 ha lie within the parish. Around 600,000 to 800,000 visitors per year come to Birling Gap, with many of these walking on the slopes up to Birling Gap along part of the South Downs Way. Visitor pressure on the turf is considerable in places.

11. **Seven Sisters cliffs and rockpools**. This area comprises the chalk cliffs themselves, the pebble beach and foreshore. The rockpools that are exposed at low tide and (arbitrarily) 50 m or so of shallow water beyond. The cliffs themselves, although of great geological interest, support very little biodiversity, but there are some pairs of nesting ravens. Likewise, the pebble beach supports almost no flowering plant species as nearly all of it is covered at high tide. The major area of biodiversity interest is the rockpools formed on the chalk platform and which are exposed at low tide. These have a rich flora of marine algae, invertebrates such as sea-anemones, crabs and other crustacea, and small fish. The shallow waters beyond are also important for many marine groups such as algae and smaller fish.

Sighting of larger fish, seals, porpoises and dolphins are mostly from beyond this shallow marine zone. However, they could still be possibly influenced by development within the parish such as disturbance from increasing visitor numbers and surfers, or pollution including through sewage outflow. There are a large number of seabirds and

ducks recorded from the shallow waters along this shoreline. The great majority are casual visitors rather than breeding or feeding for other than a brief period.

The full extent of this seashore unit is 65.6 ha. The terrestrial part down to the low water line is all designated as part of the Seven Sisters SSSI while the marine part lies just outside. The full extent of the SSSI belongs to and is managed by the National Trust. Around 25 ha of the marine part lies outside the SSSI within the Crown Estate.

7.2 Additional Sites

In addition to the above, there are four sites or small areas of specific or lesser, but still significant interest for their biodiversity: Friston Place meadow, Peak Dean Woodland, Friston water tunnel and settled parts of Birling Gap. These are briefly described below and shown with labelled place-markers on Map 2.

Friston Place meadow: Centred around a wildflower meadow in the south-west, this includes planted mature woodland of various ages with a number of species, many introduced, located around the manor buildings of Friston Place, a manor that dates back over 1000 years. The mapped area includes mature gardens, forest rides, hedgerows and some old-established grazed pastures or old fields and covers 21.6 ha. It is nearly all under private ownership, although marginal parts are managed by Forestry England.

Peak Dean/The Brow: This small area (approx. 0.7 ha) is a private property with one house and extensive semi-wild grounds that are probably a refuge for foxes, badgers, other small mammals and a number of bird species. It is assumed to be an important stepping stone for movement of wildlife from Friston Forest into the main block of the Downlands Estate. However, it has not yet been possible to confirm its wildlife value. Although access is now from The Brow, the property formed part of the old manor holdings of Peak Dean. The property is unoccupied at present and may be subdivided and sold in the near future.

Friston water tunnel: There is a small cutting at the western limits of Warren Lane near the top of Hillside on the Downlands Estate, at the end of which is a gated and padlocked tunnel entrance. The mapped site, belonging to South East Water, comprises this cutting and the interior of an unused tunnel which formed part of the water system linked to the water storage cistern at the top of the Jevington Road. At least two species of bat – Whiskered (or Brandt's) and Brown-eared – have been recorded roosting and hibernating here in the past; an updated survey is required. As long as access is restricted and disturbance minimised, the site should still be suitable.

Birling Gap: this small area of around 5.5 ha encompasses the houses and gardens on the western side of Birling Gap and the edge of the cliffs by the carpark. Although not a natural habitat there are a range of unusual naturalised plants such as Tree Mallow and Hottentot Fig, as well as populations of Sea Thrift, Sea Lavender, Soapwort, Silver Ragwort and Sea Beet around the carpark and by the remaining coastguard houses. In addition, the shrubs and thickets higher up the slope are an important refuge for migrant birds after crossing the channel. Much of the area lies in private hands, with the rest being owned by the National Trust.

Table 3. Important biodiversity areas in parish of East Dean and Friston.

area name	size (ha)	% of parish	ownership	formally protected	priority status
1. The Gallops & Friston Forest	58.7	6.35	Forestry/SE Water	yes	1
2. Friston Dencher	12.3	1.33	Forestry/SE Water	yes	3
3. Old Willingdon Road	0.8	0.09	Uncertain/ESCC?	no	2
4. Warren Lane slopes	1.1	0.12	Downlands/private	no	3
5. Friston Pond	0.2	0.02	ED&F Parish Council	yes + Anc.Mon.	1
6. Hobbs Eares	6.2	0.67	NT	yes	2
7. Went Hill	8.8	0.95	NT/Davies-Gilbert	yes, SSSI	1
8. Crowlink	41.0	4.43	NT	yes, SSSI	1
9. Seven Sisters coastline	42.9	4.64	NT	yes, SSSI	2
10. Belle Tout	20.5	2.22	NT/Eastbourne Corp/ Davies-Gilbert	yes, SSSI	1
11. Seven Sisters cliffs and foreshore	65.6	7.09	NT/Crown	Yes, SSSI	1
TOTAL	204.9	22.15			

Notes:

1. Priority status is based on JRT assessment: 1=high importance, 2=medium significance, 3=lesser significance
2. Total area of parish = 900 ha + approx. 25 ha foreshore/marine = **925 ha**
   Important areas of biodiversity significance = **205 ha** or 22% of total parish extent.
3. Those already under some form of statutory or practical protection = 256.2 ha (27.7% of parish)
   Conservation areas with no effective or formal protection = 1.9 ha (0.2% of parish)
4. However, even those areas with some form of protection (e.g. National Trust ownership, Forest England management, Site of Special Scientific Interest) does not imply that the full range of biodiversity values will necessarily be maintained.
5. Areas in private ownership with no statutory designation, such as being in an SSSI, can rapidly lose their biodiversity significance with little opportunity for the public to exert pressure. These are the more important sites on which we could develop some form of community focus.

8. SUGGESTED FUTURE ACTIONS

Below are some suggestions as to future actions that could be undertaken to protect biodiversity across the parish, and to improve our knowledge on it.

a) A major issue is the moribund status of many hedgerows and woodland patches with much-reduced regeneration. This could be rectified using some level of grazing control or localised fencing. An associated issue, linked to the loss of ash from ash dieback disease, is the increasing dominance of sycamore over other native species, which needs to be monitored; there is reduced biodiversity under a dense sycamore canopy compared to a more open ash or hawthorn canopy.

b) It is suggested that strong efforts be made to restore, re-establish and better manage hedgerows across the parish, both for their biodiversity and to act as corridors.

c) For the continued health of the remaining patches of good chalk grassland, appropriate levels of grazing are required, something lacking in some sites at present. This can be by sheep, rabbits, or even cattle. There has been much loss of chalk grassland species and the spread of rough grasses such as Tor grass owing to inadequate sheep grazing (e.g. on Hobbs Eares), and expansion of scrub (gorse, Blackthorn) elsewhere.

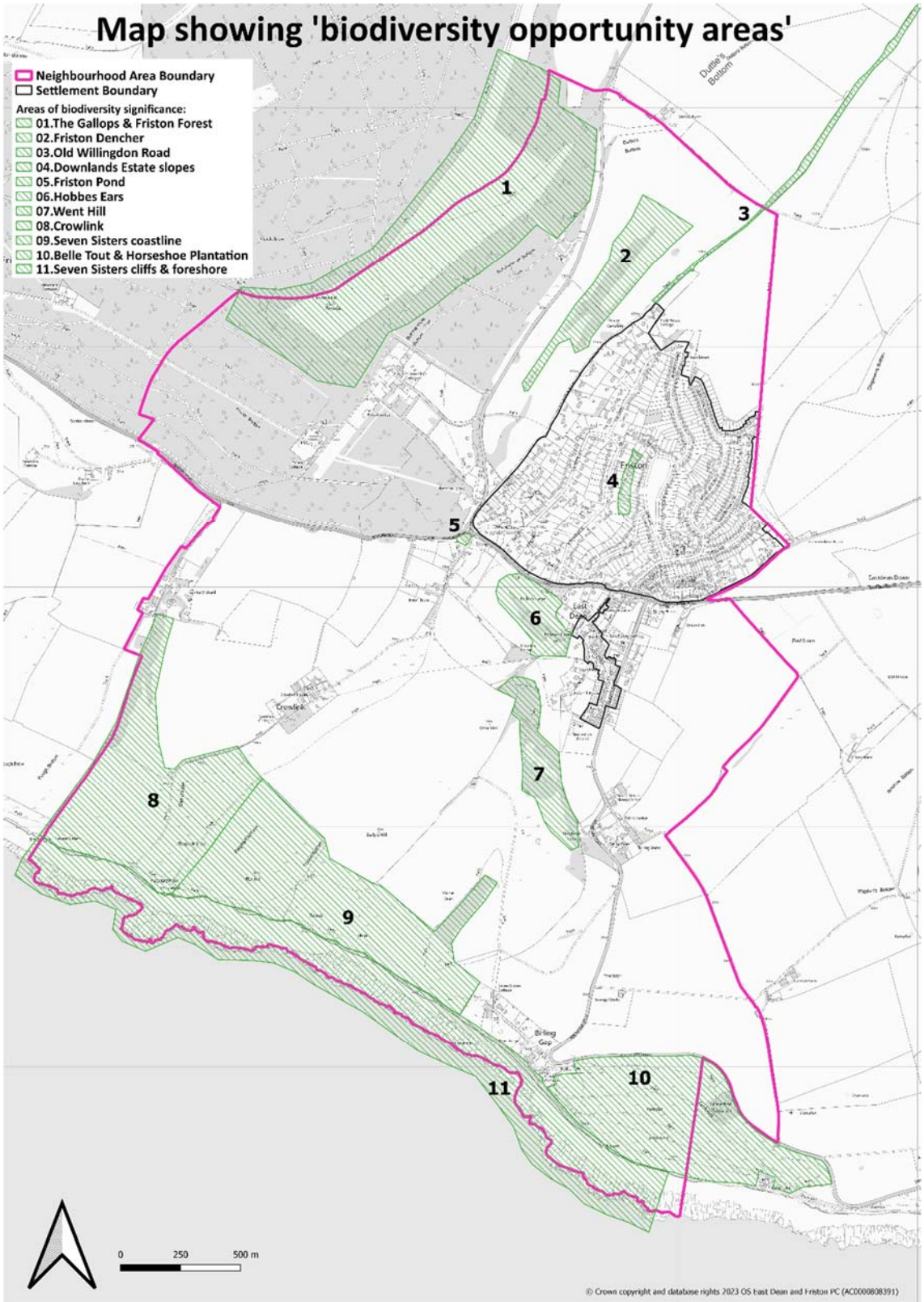
d) One of the more important but also scarce habitats in the parish is freshwater. In order to understand the importance of gardens, especially across the Downlands Estate, a basic pond survey should be undertaken looking at size, presence of breeding amphibians, dragonflies and other aquatic invertebrates, and native aquatic plants.

e) Data on the presence, numbers and distribution of bats across the parish is particularly weak. A bat survey needs to be carried out, focussing in particular on older buildings including barns. Bats are a useful indicator of ecosystem heath and the populations of flying insects. The installation of bat boxes in many suitable locations should be strongly encouraged.

f) The establishment of wildflower strips on public land and in gardens should be encouraged where appropriate in order to provide greater seasonal availability of nectar and pollen for pollinators and other insects, as well as providing shelter and ‘stepping stones’ to other habitats.

g) An assessment of rockpool and inshore biodiversity is needed, against which monitoring of possible impacts due to increasing visitor numbers can take place.

h) A general integrated biodiversity monitoring system could be established across the parish, focussing not just on mammals and birds but also flowering plants and the extent and condition of important habitats. Some monitoring already takes place, such as of plants on National Trust land and butterflies on the Gallops at Friston Forest by the Seaford Natural History Society. But ideally these should be integrated and have some level of coordination in order to obtain an overall picture.



Map 1. Areas of biodiversity significance across the parish of East Dean and Friston.

Map 2. Areas of biodiversity significance across the parish of East Dean and Friston shown over Google Earth imagery, also indicating the four additional sites.