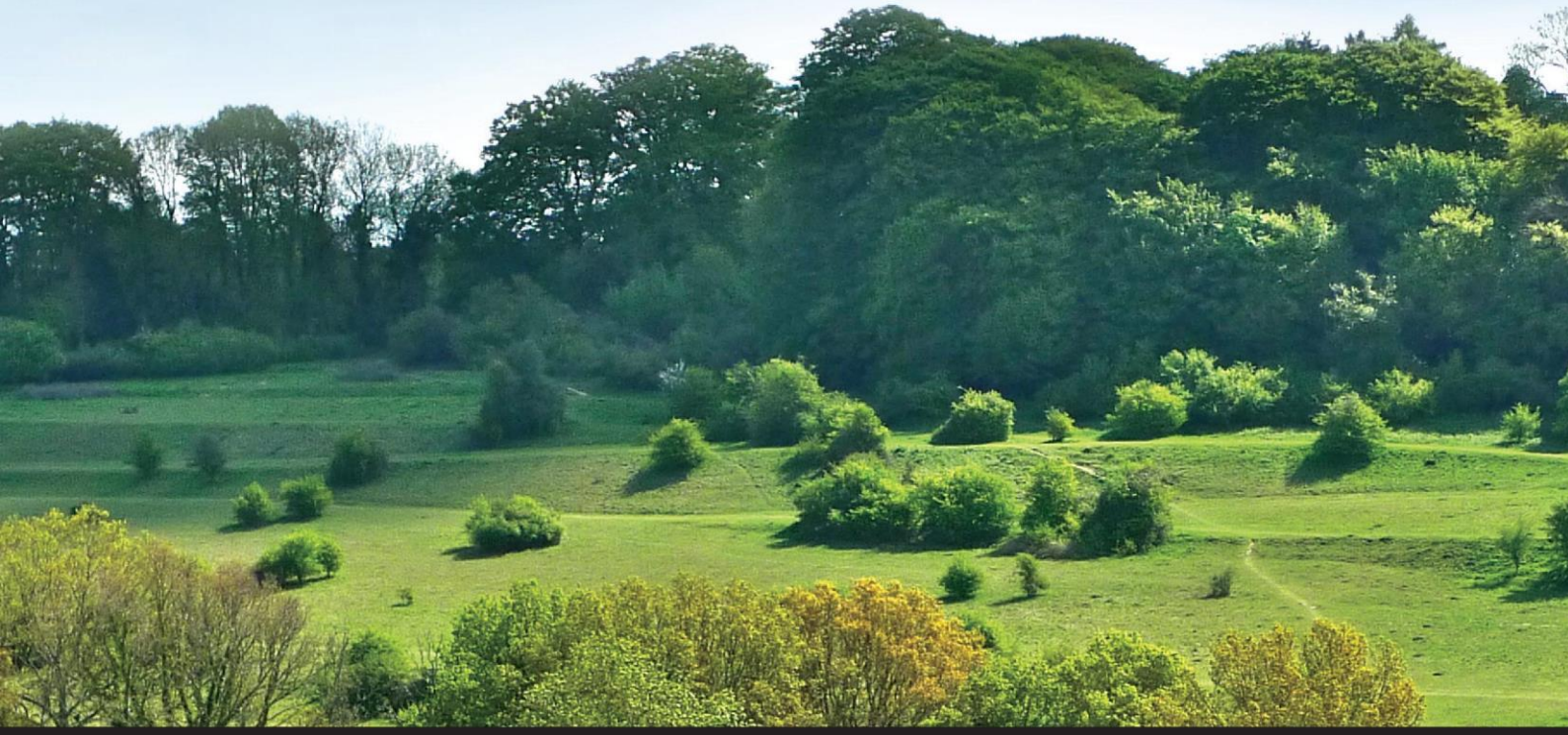
Horndean Parish

Biodiversity Action Plan



Caring for Horndean's Wildlife

Front cover	top	Catherington Down from the west showing 'Strip Lynchetts'
	bottom	Path through Yoell's copse at Bluebell time
Back cover	top	Catherington Lith Woodland Fair
	centre left	Common Frog
	centre middle	Yellow-legged Clearwing Moth
	centre right	Nuthatch on feeder
	bottom	Ancient pond in Yoell's Copse, Winter 2010

Below: Ham Lane, one of Horndean's Ancient Lanes linking Yoell's Copse to Catherington Down

We are grateful to the following organisations for sponsoring the publication of this Plan.

FOREWORD

This Horndean Biodiversity Action Plan describes the rich natural environment of the Parish and is both timely and inspirational. We are all well aware of threats to our environment in both town and countryside. The pressures include development, pollution and climate change; we must fight to protect our existing landscape, the countryside and its trees, hedgerows and wildlife.

As residents of Horndean Parish you are exceptionally well placed to appreciate the value of trees, with Yoell's Copse being a jewel in the crown. The rare Wye Whitebeams have drawn me to the wood on a number of occasions and I marvel at these special trees, hiding in a Hampshire community. Trees help to define our sense of place; they are the distinctive element of our landscape and support a huge range of biodiversity.

In your gardens and open spaces you live amongst trees that are a legacy from the former farmland. These include some majestic old oaks, veritable green monuments in their own right

It is obvious that this Biodiversity Action Plan is the result of a true passion in Horndean for your local environment, and it sets out clearly what is special and how the biodiversity of the Parish can be improved for future generations.

On behalf of the Tree Council, I am delighted to be able to endorse it.

Jon Stokes
Director of Programmes
The Tree Council[34]

Click on the icon in the top left of the screen to open the Table of Contents which lets you view the section you want by clicking on the section heading.

Ctrl-Click the small raised numbers in the text for references in Appendix 2

To contact the Horndean Biodiversity Group email:
horndeanbiodiversitygroup@gmail.com

SECTION 1 BIODIVERSITY

1.1 What is Biodiversity?

Biodiversity is the sum of the variety of all living organisms from plants, animals and fungi, to micro-organisms invisible to the human eye which makes up and sustains our natural environment.

The first legal framework to support the conservation of biodiversity and to require strategies and action plans to achieve this was the 1992 Rio Convention on Biological Diversity. This defined biodiversity as 'The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.'

1992	Convention on Biological Diversity signed by 159 countries at the Rio Earth Summit.
1994	UK Government publishes the UK Biodiversity Action Plan ('BAP')[4]
1998 2000	Hampshire County Council BAP Volume One published in September 1998 and Volume Two published July 2000[5]
1999-2002	Horndean Parish Council commissions the production of the Horndean Local Nature Conservation Plan and the Village Design Statement
2006	The Natural Environment and Rural Committees Act[12]
2007	UK partnership organisations produced 'Conserving Biodiversity – The U.K Approach' setting out a devolved framework for biodiversity conservation and promoting strategic action at a local level[6]
2009	East Hampshire Biodiversity Action Plan 2009-2019 approved[7]
2010	The strategic plan of the UN Convention on Biological Diversity is published at their meeting in Nagoya, Japan and includes five strategic goals and targets to be achieved by 2020
2010	The UN declares 2010 the International Year of Biodiversity with the aim of increasing awareness of the irreversible damage being done to global biodiversity
2011	UK Government's Natural Environment White Paper published in June[18]
2011	UK Government's Biodiversity 2020 Strategy for England's Wildlife and Ecosystem Services is published in August sets out how the quality of our environment on land and at sea will be improved over the next ten years[19]
2012	Defra and the devolved administrations publish the UK post-2010 Biodiversity Framework in July covering the period from 2011 to 2020[20]

1.2 Why is it Important?

Biodiversity underpins the healthy natural ecosystems on which the human race relies for its food, water and medicine as well as natural resources such as wood, rubber and products derived from animals.

Biodiversity is fundamental to life on Earth because it supports the things on which we depend such as fresh water, fertile soil and clean air. This is due to the way the different organisms interact with each other to help maintain the balance of the global ecosystem. Biodiversity also helps regulate natural processes such as the growth cycles of plants, the mating seasons of animals, and even weather systems.

It has been estimated that about 80% of our food comes from just 20 kinds of plant, and that although many kinds of animal are used as food, most comes from only a few species. Similarly, many drugs are derived from just a few plant species and it may well be that other plants could prove to be potential sources of new drugs that could enhance our lives.

Many building materials as well as fibres, dyes, resins, gums, adhesives, rubber and oil also come from plants, and other as yet unknown

materials could be discovered from research into covering a wider diversity of organisms.

Accordingly, the need to preserve and promote biodiversity is not just so that we can enjoy walks and drives in the countryside looking at the different trees, plants and other wildlife that it supports, it is about ensuring that those trees, plants and other wildlife survive because the future of the human race depends on them.

1.3 How can we preserve it?

Horndean has a range of valuable habitats in a relatively small area owing to its unique geology. These include ancient woodland, wildflower meadows and lowland heath, all of which have their own unique character and are threatened because Horndean is an attractive area for business development due to its location on the A3 between Portsmouth and London. As a result, many habitats are becoming fragmented and isolated and are too small to provide a good home for wildlife and risk being lost forever. The increase in the population of the Parish and its need for housing is reducing the green spaces that we share with wildlife for mutual benefit.

Action to preserve biodiversity can take place on a number of different levels from sympathetic management of public space and the countryside by local authorities, to growing wildflowers in our gardens, putting out bird feeders in winter and creating compost piles. Groups have been formed by local residents with an interest in wildlife and a passion for the local area such as the South Downs Group of the Hampshire and Isle of Wight Wildlife Trust ('HIWWT') and Horndean Biodiversity Group ('HBG'). Increasing Environmental Awareness, particularly among young people, is one of the most important things we can do in securing our natural heritage for future generations. An educational programme is in place between schools in Horndean and the Parish Council aimed at increasing awareness of the wildlife value of local sites.

Ultimately, British wildlife depends on the availability of good habitat and this is something that can be encouraged by everyone, from homeowners to national government.

1.4 The Need for a Biodiversity Action Plan for Horndean

The Natural Environment and Rural Communities Act 2006[12] states that "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."

This Plan identifies the animal and plant species living in the Parish and the sites that provide their habitats, and sets out the actions to protect and enhance them while also providing the green space that local people use for recreation. It also aims to encourage the local community to help carry out these actions, and engage children's interest in the species and wildlife that can be found locally, as well as helping them to understand the importance of our natural environment.

The following sections cover Horndean past and present including its geology and geography; the different types of land found in the Parish and the species that live on it, and finally the actions we can take to preserve and enhance them to benefit both our wildlife and ourselves.

Biodiversity Action Plan ('BAP')

These Plans are internationally recognized programs addressing threatened species and habitats designed to protect and restore biological systems.

Their principal elements typically include recording information for selected species or habitats; assessing their conservation status; setting targets for conservation and restoration; and establishing timelines and partnerships for its implementation.

SECTION 2 HORNDEAN

2.1 History

Horndean once stood on the northern boundary of the Forest of Bere, a great forest that stretched from the border of Hampshire to Winchester. Archaeological records for Horndean list finds from the Mesolithic (10,000BC-4,001BC) and Neolithic (4,000BC–2201BC) periods and sites with evidence of habitation from the Bronze Age (2,200 BC–801BC) onwards. Around 8000 BC a large part of the south side of Horndean was covered by deciduous forest, dominated by oak. The woodland would have formed a barrier between the communities living along the coast and the chalk downland to the north of Horndean. Two natural breaks connect the downs with the coastal plain, the Meon Valley to the west and the valley of the Lavant running through Havant, Rowlands Castle and Finchdean. A direct line through the forest in the area which is now Waterlooville and Cowplain, for those travelling from Portsmouth to London, would have been relatively recent. The present Horndean landscape has been influenced for more than 5000 years by human settlement and farming activities. This has been a key factor affecting our present range of plant and animal species.

Ancient Bridleway and Copse at New Barn Farm

2.2 Present Day

Horndean is a large community of almost 13,000 people located on the northern edge of the Waterlooville built up area. Most of the urban area is surrounded by open countryside and part of the Parish is in the South Downs National Park ('SDNP'). The concealed location of Horndean allows views of the landscape to predominate. Excellent views of the coast and Isle of Wight can be enjoyed

Lovedean's rural landscape

from Horndean Down and from behind Catherington Church. Portsmouth Road, Havant Road and Lovedean Lane from the north all provide attractive routes into Horndean.

Horndean is a border village with many natural and artificial boundaries. The East Hampshire District Landscape Character Assessment shows Horndean as being mainly 'Downland Mosaic' with a band of 'Wooded Clayland' in the south while in the north of the Parish chalk downland is more dominant. The Parish has a mixture of large open arable fields on well-drained calcareous soil and smaller fields of mixed arable pasture and woodland both on heavier soils. The area has a rich mixture of habitats for wildlife ranging from chalk grassland in the north to heathland in the southeast leading on to a larger area across the boundary at Havant Thicket.

Merchistoun Road Oak

Scattered across the whole Parish are many fragments of Ancient Woodland. South Horndean, including the village area, has many mature trees including oaks from ancient woodlands and specimen trees from old estates. The most valuable natural, yet threatened, feature in Horndean is our wonderful selection of native trees, enhanced by some fine imported species planted in the 18th and 19th century. The oak is probably our greatest asset and there are some survivors from the Forest of Bere that are 300 or more years old, many of which are now within the built up area. Oaks support a vast number of other wildlife species including birds, animals, invertebrates, mosses, lichens, ferns and fungi. For these reasons and because the Government now proposes to allow mature native trees to be removed to make way for housing[45] [46], oaks are high on our list of priorities for conservation and new planting projects. It is noted that housing development in Havant Road and proposal for houses in Blendworth Lane are designed to protect and preserve the oaks on these sites.

Fence Around Oak on Havant Road Development

There are a number of ancient lanes in the Parish (Coldhill, Ham and Tagdell Lanes) and to the east; Sheepwash Road is an ancient route through the area onto the South Downs. The development of roads fragment the landscape into a series of smaller blocks. The southern boundary of the South Downs National Park cuts through the northern third of the Parish and the original boundary of the Forest of Bere running near to the present southern boundary of the Parish.

Some local hedgerows still contain English and Wych Elm. Several large Elms that surrounded Jubilee Field appeared in German reconnaissance photographs, taken in 1940. The Parish has a very rich diversity of flora and throughout the summer there are a number of different locations which are especially valuable for wildflowers

A study of old documents and maps to back up field surveys gives useful information on the evolution of the countryside. Many of our best localities for biodiversity are the ancient hedgerows and trackways, many of which are still in existence and mostly accessible within the Parish. There have been several detailed hedgerow surveys going back to the 1970s organised by volunteer groups. Most hedgerows are managed by farmers and the Highways Departments and are in some cases supported by government Stewardship schemes but there are still some surviving within housing estates, including rows of mature trees such as oak, field maple, holly and hazel. These are all excellent habitats for wildlife and aid those trying to attract wildlife into their gardens. They also provide a corridor across the built up area. New hedgerows and lines of trees should be integral to plans for housing with a green infrastructure or replacing lost hedgerows in the more rural farmland. Species are becoming isolated due to urban spread and it is important to keep and maintain wildlife corridors to encourage the movement of species.

Although the construction of the A3 and A3(M) have fragmented the landscape, the banks and roundabout from Horndean to Waterlooville at Junction 2 have produced a nature reserve supporting what may be the best orchid site in South East Hampshire, no doubt helped by it being largely inaccessible.

2.3 Geology and Soil

The varied geology of the Parish supports a wide variety of habitats in which a wide range of plants and animals can thrive as the different rock types lead to differences in soil chemistry.

The calcareous chalk in the northern half of the Parish gives rise to alkaline soils such as those found at Catherington Down which support species-rich grasslands with Beech, Yew and Ash being dominant in the woodland strips traversing the downland. Clay-with-Flints cover many of the upland areas of chalk including Catherington and the fields extending towards Catherington Lith, as well as Hinton Farm and much of Blendworth on the eastern boundary. Exposures of this clay were seen at the south end of Catherington Lane during the laying of new gas mains during 2011.

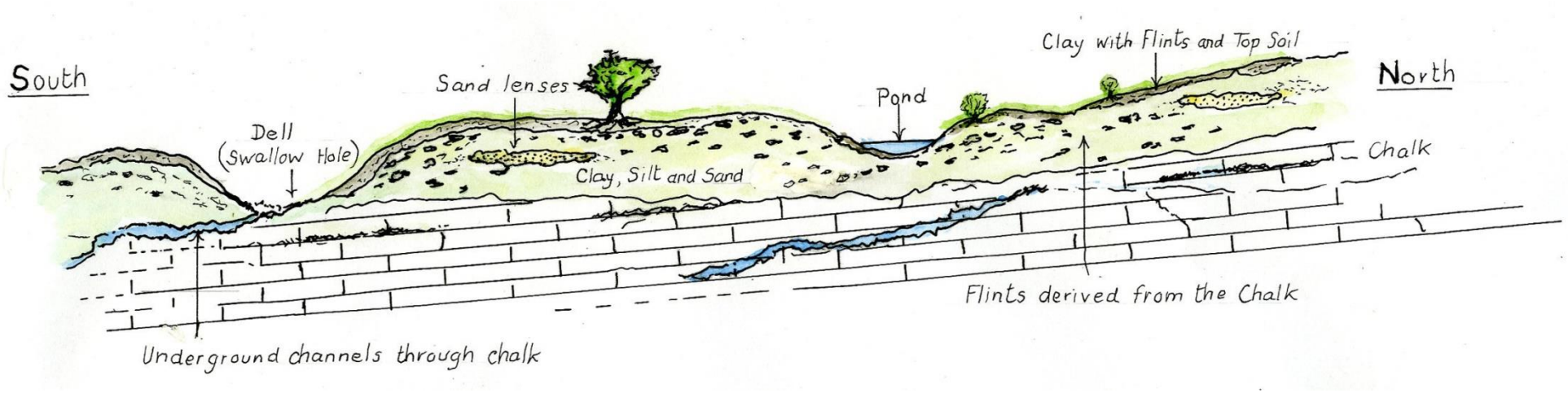
The coarser textured and less fertile sandy soil in the south is better drained and warms up more quickly in the spring, giving rise to heathland, such as found at Hazleton Common, as well as grassland and many small wooded areas which are dominated by oak, Field Maple and Hazel.

Fossil sea urchin in chalk path in Clanfield

In between there are a variety of clay soils which are richer in nutrients. The Reading Beds, made up of mottled clay and small pockets of sand overlay the chalk at variable depths up to 30 metres, covering a large part of the southern half of Horndean. These deposits contain large quantities of broken and nodular flints derived from the chalk beds below them which mean they are difficult for farmers and gardeners to cultivate which has played a part in saving wildlife habitats such as Yoells Copse and Dell Piece.

Geology Section Map

A section from south to north through the centre of Horndean showing the geological features found within the parish passing through Hazelton Common and Dell Piece West.



Geological Section

Superficial Deposits	Top soil	From 0.01 to 0.6 metres
	Clay wit flints	Variable depth (up to 2.5 metres on gas pipe trenches (2013)
Bedrock Deposits	Reading beds	Clay, silt and sand mixture 10 to 30 metres
	Upper chalk	Up to 250 metres (only seen in pits, quarries and excavations)

More information can be gained by observing road works, building sites and bore hole records.
To the south of Horndean in Cowplain there is London Clay. To the north towards Petersfield (A3 and Queen Elizabeth Park) beds of the Middle and Lower Chalk can be seen. Near Buriton the Upper Greensand and Gault Clay are exposed.

2.4 Fossils and Flints

The commonest fossils found in Horndean are sea urchins, sponges, brachiopods and other marine invertebrates that originally lived in marine waters at between 100 and 500 metre depths. The fossils have all been derived from the weathering of Chalk and represent biodiversity in the Upper Cretaceous seas that covered this area, over 65 million years ago. Many of the fossils are found as flint in gardens, fields and in pits across the Parish. Flints of all sizes and types are very plentiful across the Parish and feature in many buildings and walls, the older flintwork being coloured by several species of lichens.

2.5 Climate and Hydrology

The geographical location of Horndean midway along the south coast determines that we are just to the west of the area for those species associated with a drier continental climate and just to the east of the area of species preferring damper Atlantic conditions. The Horndean area generally enjoys a mild and equable climate but in recent years we have experienced more extreme weather conditions such as periods of heavy rain followed by periods of drought. This has had an effect on soil structure particularly on clay soils derived from the Reading Beds and in the northern part of the Parish the clay with flints. During long dry spells deep cracks appear, into which rain rapidly drains through to the underlying chalk.

Cracks in Pyle Farm pond in June 2010

The effects on the local wildlife of changes in the climate are very difficult to estimate but it is certain that plants and animals are far better at adapting to changes than human beings that live in a man-made environment.

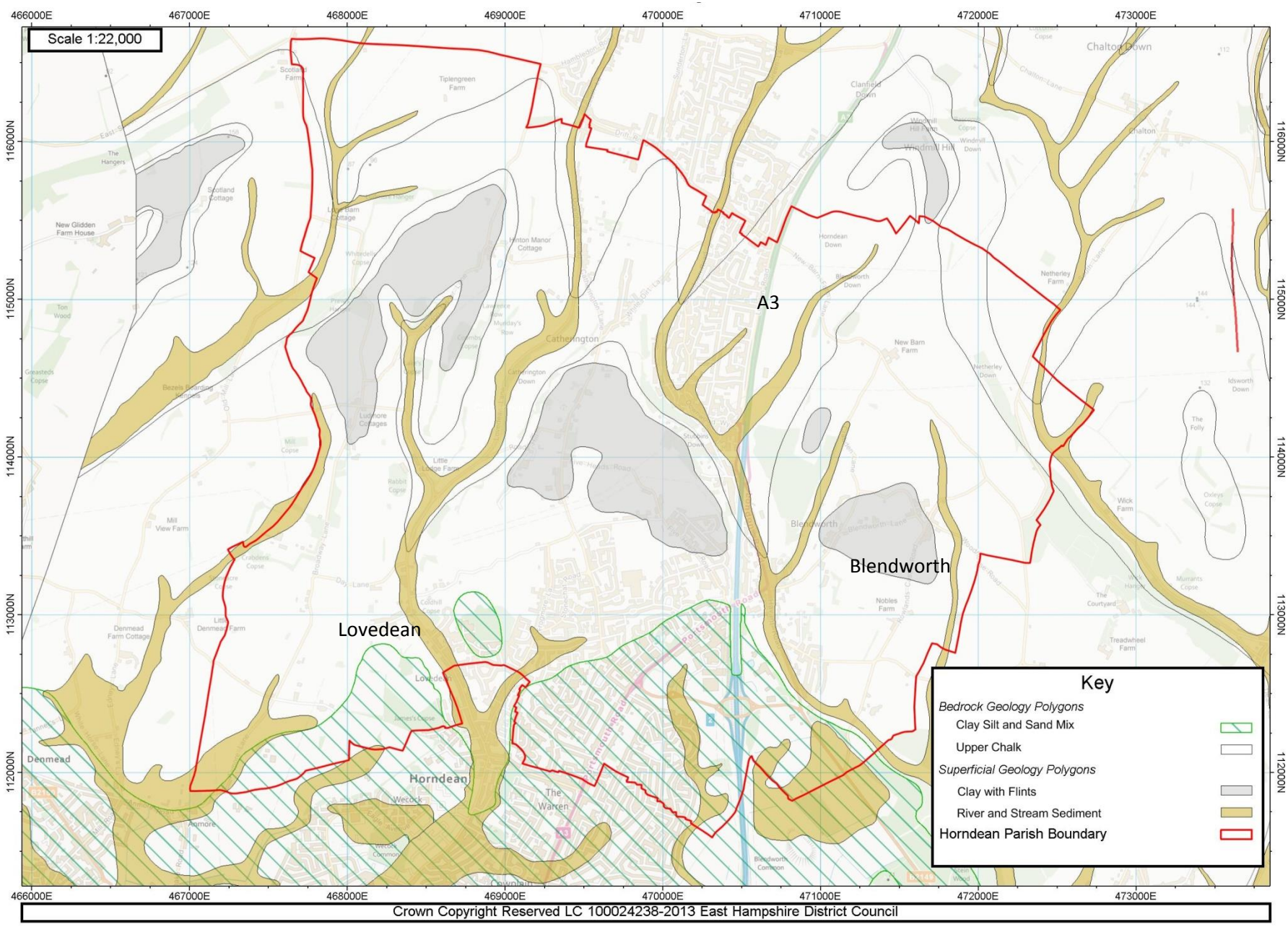
Solar Farm in Day Lane

2.6 Natural Energy Resources

For many years oil exploration has been undertaken on the east side of Horndean and is mainly screened within woodland. Oil continues to be pumped at Pyle Farm and there may be further exploration for oil north east of the Parish. There is a Solar Farm at Lovedean in open farmland which is surrounded by hedgerows and some important and protected grass verges. It is important that both areas are monitored to study any impact or changes that these activities may have on the local wildlife. This also applies to any plans to extend oil exploration in the area in future.

Oil pumping near Keydell Nursery

Horndean Parish Geological Features



SECTION 3 HABITATS

3.1 Overview

Horndean Parish contains large areas of urban land and countryside, both of which can provide valuable habitats for a wide range of different species if managed in a way that supports wildlife. These include land managed for food such as farmland and allotments, and for leisure such as parkland, gardens and churchyards.

The Parish also has fragmented areas of species-rich, priority habitats which typically characterise traditional Hampshire countryside, such as ancient semi-natural woodland, calcareous grassland and lowland heath, and wetlands, much of which is included on designated wildlife sites. Many of these sites are linked by natural networks which are important sustaining and promoting the species that live on them.

In 2012, Horndean Parish Council's nature reserves were entered into a Higher Level Stewardship ('HLS') agreement which will continue until 2022 and currently governs their management. According to Natural England's website, much of this area is not covered by stewardship schemes. Details of extant stewardship agreements within the Parish can be viewed using the 'Nature on the Map' tool on the Natural England website.

Ecological data generated within Horndean is collected by Hampshire Biodiversity Information Centre ('HBIC')[39], a department of Hampshire County Council.

The data collected by HBG voluntary recording schemes should be passed onto HBIC via appropriate county recorders who collate and verify the information before passing it on to be entered into a central database at Hampshire County Council.

Centralising ecological records in this way allows an insight into 'the bigger picture' and is a valuable tool in the designation of areas such as Sites of Importance to Nature Conservation (SINCs), which rely on a relatively high level of species diversity. Software such as 'Mapmate' can be used to collate data and send it on to HBIC.

Records taken by professional ecologists also exist, as part of site surveys carried out on designated areas at set intervals. In some unusual cases, national archiving organisations such as the National Museum of Wales have come to Horndean to help verify recordings of extremely rare specimens, namely the Wye Whitebeam in Yoells Copse.

3.2 Working together with residents

Natural open space is acknowledged as having a role in improving human health and Horndean Parish Council's designated sites which include countryside, nature reserves and parks are used extensively by its residents for leisure. Accordingly to manage the sites effectively we need to ensure that the public who use and enjoy them appreciate the importance of conserving the wildlife and the habitats and plant life on which they depend and know how they can play their part in helping to achieve this. This also means ensuring that the management plans to promote and preserve the biodiversity and wildlife habitats of these sites (which are usually publicised on the Parish Council web site and on the sites themselves) take account of the needs of the public.

3.3 Site management

Management of grassland sites may include

- marking routes across the site to reduce soil compression which damages the ground flora and soil fungi and micro-organisms essential for the recycling of soil nutrients.,
- grazing sites by cattle to break down rank vegetation and create room for renewed plant growth resulting in parts of the site being temporarily closed to the public,
- protection of ground nesting birds such as Nightjar, Snipe, Skylark and Woodcock by making access conditional on keeping dogs on leads[25],
- brush cutting or removal of selected saplings.

Educational events may also be held covering matters such as the range of species present in that area, or to explain the presence of cattle to help to reduce people's concerns about these animals which some can find intimidating. Finally, users of sites need to appreciate that during the summer, extensive, dense areas of dry, flammable vegetation like gorse mean that fires can start and spread very quickly and be difficult to put out. Accordingly we need to be careful to avoid doing anything that could cause them.

There are many opportunities for volunteers to assist in maintenance of the Parish Council sites for which some training can be arranged, including:

- Assisting with the maintenance of Parish council sites;
- Working on biodiversity projects in the Parish;
- Undertaking surveying of flora and fauna within the Parish;
- Managing surveying programmes and liaison with HBIC, HIWWT and the county recorders.

Recording the existing species and highlighting the breadth of biodiversity in the Parish may help draw attention to the importance of preserving them. Surveying also indicates if species are increasing or reducing and also raises awareness of undesirable species and infections to flora or

Volunteers Helping Plant Trees at Jubilee Field (Nov 2012)

fauna. This knowledge can be used to improve the management of sites and to assess what if any wider actions are necessary.

Currently there are programmes to

- survey butterflies and moths,
- survey wild flowers,
- establish a register of ancient and notable trees,
- survey hedgerows, hedgerow flora and verges.

The range of surveys can be extended as more volunteers become available.

Actions to protect Fungi include the following:

- Encourage people to use the main footpaths in the LNRs (by signage) can help protect fungi and life in the leaf litter.
- Protect trees on construction sites by fencing and preventing heavy equipment and materials using the ground over the shallow feeding root run of most trees. The protective fences should be placed beyond the canopy of the tree and the drip line in accordance with B.S. 5837
- Avoid the use of fungicides and pesticides in fields and gardens especially near hedgerows or grass verges
- Retain deadwood and keep some standing dead timber in woodland. Keep regular records of species seen on surveys and fungal forays.

Parish Tree Wardens. The Tree Warden Scheme was launched in East Hampshire in 1989. Horndean has had three Tree Wardens appointed as volunteers to gather information, to give advice and to encourage practical projects relating to trees in the community. In Horndean the main task has been helping to protect threatened trees and generally raise the profile of trees in the local community. There has been an increase in tree pests and diseases and so a constant need for inspection and on all tree matters they liaise closely with local rangers and council tree officers.

Recording Moths in Horndean. The best place to see and record moths is in our own gardens using the moth traps described below, but do check that the bright light is not going to disturb neighbours. Traps can be loaned from HBG members or better still you can make your own. Most moth species have a flight season and time and so light trapping is best at intervals throughout the year and from dusk to dawn. The Annual 'National Moth Night' is held at different months each year and records are sent in annually from Horndean. Many moth species are day-flying and can be seen whilst studying butterflies and many nocturnal species come to house lights through open windows or porches. The majority of caterpillars found in Gardens or along hedgerows are moths.

Moth trapping in Horndean. Occasionally, moth trapping session have been held on our nature reserves, these are announced in newsletters, the public are invited but the weather is a problem to giving advanced notice of events. There are problems with organising moth trapping in public areas but setting a moth trap in your garden at dusk and checking and identifying the contents in the morning is a most enjoyable task. Most urban gardens in Horndean will attract at least a 100 species and those near Catherington Lane will attract in excess of 300 species during one year. The traps used are Robinson and Skinner types, each using mercury vapour lamps running off mains voltage or a portable generator if there is no mains power as in the middle of Hazleton Common. Sometimes a large number of insects from other groups such as flies, beetles and even a hornet will enter the trap. There may be many moth species attracted or a very large number of just one or two species, and then very small micro moths can appear in great numbers. Amongst the more spectacular larger

moths the **Elephant Hawk-moth** and the larger **Yellow Underwings** are very frequent. All the moths caught are released to the wild after recording. It is important not to record in the same area without a time interval as many moths will re-enter the trap.

Finally, we should do all we can to encourage children to participate in conservation activities so that they learn about the importance of preserving biodiversity and how it will affect their future.

3.4 Urban Habitat

3.4.1 Allotments

Allotments are an important community facility and provide valuable habitats for many native plants and animals especially in the urban parts of Horndean where garden space is becoming very limited. There are currently only 10 small allotments in Napier Road of about 100 square metres. There is a waiting list and the Parish Plan has indicated a demand for more, proposing up to three new sites spread across the Parish but as near as possible to areas of high density housing. There are a number of small allotments at Horndean Technology College for use by children.

WHAT CAN WE DO?

Create a rotation of crops within the plots in which flowering plants such as peas, beans and herbs are included and encourage habitat creation and give special attention to the margins and plot boundaries with trees and hedgerows. Introduce blossom and fruit trees.

3.4.2 Parkland and Playing Fields

The Parish of Horndean contains several areas of land for recreational use, much of which is managed by local authorities. Although in most cases these areas are managed for public recreation rather than for nature conservation, they serve as stepping stones for wildlife.

Some of these areas are left uncropped, which does have some benefit for wildlife conservation. These include Five Heads Road, Jubilee Field, Deep Dell and Downs Park recreation grounds, as well as the grounds of Merchistoun Hall which has previously been managed for public recreation and conservation. Management has included hedgerow planting with native species, wildflower sowing and pond upkeep.

Amenity grassland is usually extremely uniform and species-poor. This means that it is of quite low value to biodiversity. However, in some areas it is often used as winter feeding grounds for birds, particularly waterfowl and geese, as areas of bare ground can provide an accessible source of invertebrates.

3.4.3 Gardens

Private gardens can be extremely rich in wildlife even in the urban parts of the Parish. Collectively they form wildlife corridors. Many are bordered by the remains of old hedgerows often now reduced to a row of maturing native trees including oaks, field maple and ash. This leads to problems with many trees being close to properties and eventually needing severe reduction or lopping. Many examples can be seen in Horndean, eg. gardens backing on to Yoells Copse, Bull's Copse, Stonechat Road and new estates in North Horndean. Merchistoun Road has a better layout in which several oaks were retained in gardens and in the green areas within the estate. These provide a rich habitat for wildlife and the adjoining gardens, if managed appropriately, can attract wildlife and provide homes for many species.

In recent years houses with large gardens have been purchased by developers for 'infill' housing. Some plots in Catherington Lane have provided space for six or more new houses and any trees retained are surrounded by access drives and car parking. This is damaging for wildlife, biodiversity and a healthy environment. Front gardens have also become smaller or disappeared altogether as they have been replaced with hard standing or gravel for patios and off-road parking. This has an adverse impact on the environment and has a serious effect on the richness of biodiversity. However the smallest spaces, from window boxes to patio pots can be managed with a careful choice of plants to provide nectar and mini flower meadows.

Further loss of green space in Horndean could be limited if local communities and the planning authorities are more aware of the importance of the natural environment and the wildlife it supports which this Biodiversity Action Plan may help address.

2,673 species of native plants and animals were recorded in one UK garden over a 30 year period illustrating how important gardens can be for wildlife and biodiversity.

WHAT CAN WE DO?

Adding a row of flowering plants in a vegetable garden will attract hoverflies which consume large numbers of greenflies.

Bees are one of the principal pollinators of flowering plants and play a vital economic role in food production. Without bees, raspberries, apples, beans and other produce would be in short supply and many wild flowers could become rare. Many species are now declining mainly because of intensification in farming and loss of habitat. Gardens are an essential habitat for bumble bees. Making a bee garden by growing suitable plants and providing places for them to nest can help to reverse this decline and maintain the present population. The presence of bumblebees, and the

sound of them working, bring a garden to life, providing a source of interest and enjoyment, especially for children.

WHAT CAN WE DO?

Planting flowers that flower for as long as possible throughout the year will help the greatest number of bee species. A list of suitable plants including native shrubs that can be used to fill up gaps in hedgerows is given in APPENDIX 8.

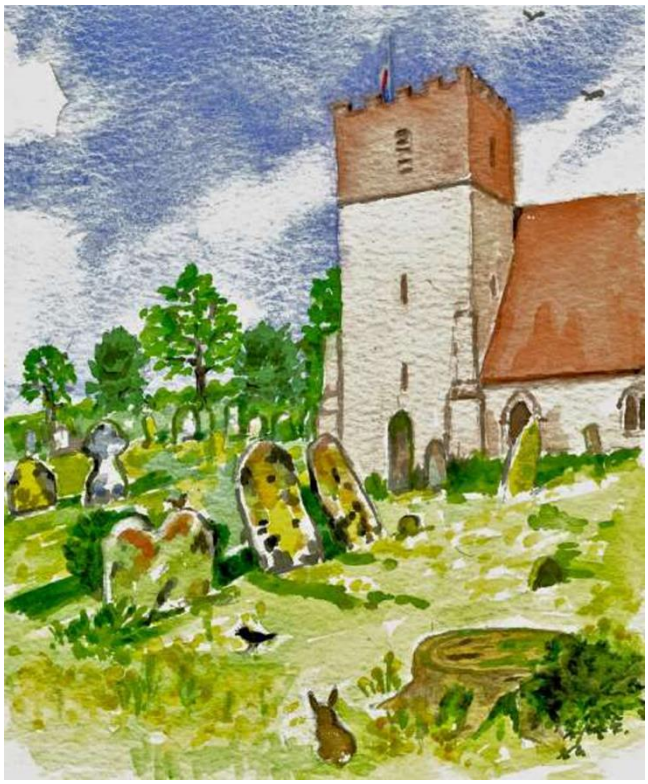
An undisturbed compost heap, log pile and banks of old turf can provide nesting and hibernating sites. Bundles of reed, bamboo or other hollow stems and even old bird nest boxes can provide nesting holes.

See 'Further Reading' at the end of this document for more information on this subject.

3.4.4 Churchyards

Churchyards are like small islands of a past time where there is an atmosphere of peace and tranquillity. Not just a resting place for our ancestors but a valuable sanctuary for a wide range of wildlife. With a little care, churchyards, cemeteries and gardens of remembrance can be managed in a way that is attractive to local people, visitors and wildlife and at the same time enhance a lasting memorial to past generations.

A good guide to churchyard management is the 'Caring for God's Acre Action Pack'[22] which contains ideas and projects suitable for all ages and abilities. One of the best projects to benefit biodiversity is to keep an area of grassland aside as a wild flower meadow, and provide information on what is happening so that visitors do not regard it as an area of neglect. Surveys would be required prior to producing a management plan.



Catherington Churchyard

The Parish has three mature churchyards:

1. Catherington Church is the oldest and has a potential for enhancing the larger area as a species rich habitat for wildlife. The cemetery extension is now managed by EHDC and a conservation project in this area would be not only of great benefit to wildlife but of educational value for the schools nearby and add to an area already rich in biodiversity.

2. Blendworth Church was built in 1852 on a new site and so the present churchyard dates from that time and has recently had a small extension. Both these churchyards are surrounded by open fields and beyond areas of ancient woodland called Catherington and Blendworth Liths with hedgerows in between acting as links. Some of these

would benefit from management especially additional planting.

'High Forest' rare native trees

3. Old Blendworth churchyard is the original site of Blendworth Parish Church and dates back to at least the 14th century as a small church site. The remains of the last building on the site (St. Giles) can be found in the centre of the area and is now managed by Horndean Parish Council as a quiet resting place encouraging wildlife.

Lichens in Churchyards.[32] Several species of lichens can be found in churchyards. A survey of lichens in these churchyards carried out by Dr Francis Rose found that Catherington churchyard had 63 species in July 1992 and Blendworth had 41 species in February 1994. St.Giles in Old Blendworth only had 14 species in 1994 but at that time a number of the gravestones had been laid flat and had gathered mosses at the expense of lichens after which attempts were made to clean up the stones. Since then management has improved with sympathetic care by the Parish countryside team.

3.5 Countryside

3.5.1 Farmland

Over 50% of the land within the Parish boundary is used for agricultural purposes. This includes substantial areas of arable farmland, as well as grazing cows, sheep and horses, and it represents a very important aspect of the area's habitat. Arable farmland is a valuable habitat for a variety of bird species that are of BAP priority, such as Skylark, Yellowhammer and Lapwing.

The biodiversity value of arable farmland is heavily dependent on the presence of permanent grassland and other un-cropped habitats, such as hedgerows, stands of trees and drainage ditches. Extensive areas of uniform crop species such as those in the north of the Parish are generally undesirable from a nature conservation perspective. Traditional farmland is considered to be of high conservation importance as it contains a higher proportion of the bird species which are in decline in non-farmland habitats.

3.5.2 Woodland

Woodlands are a unique habitat as they are dominated by trees, which are longer-lived than the structural components of most other habitat types.

Important features of woodland habitats are tree-species composition, continuity of the site, age and structure of stands, quantity and types of dead wood, the forest edge, and variation in soils, topography and drainage.

Horndean contains many fragments of ancient semi-natural woodland which would have once covered the majority of South East Hampshire. Most of these woodlands contain Ancient Woodland Vascular Plants ('AWVPs') which are typical of this habitat, particularly bluebells, moschatel, wood anemones, butcher's broom and dog's mercury. Ancient woodland refers to areas that have been continually wooded since 1600AD.

Many fragments of ancient semi-natural woodland within Horndean Parish are not owned by the Parish Council, including the largest area of this habitat type within the Parish, Blendworth Lith. They are not necessarily managed for nature conservation. Most of these sites have been given Site of Importance for Nature Conservation ('SINC') status by Hampshire County Council, provided they are at least two hectares in size. There are a few small woodland sites less than two hectares that remain unprotected.

3.5.3 Grassland and Heath

There are two broad types of grassland within Horndean: acidic and calcareous. These are determined by their underlying geology. Examples of acid grassland include Dell Piece West and Hazleton Common. Catherington Down and Netherley Down are good examples of calcareous grassland, which is characterised by a thin layer of nutrient-poor soil on a chalk substratum.

Improved Grassland at Horndean Down

Large areas of grassland in Horndean are grazed. This benefits conservation when it results in a varied sward structure ('sward structure' refers to density and height of vegetation). It can however be detrimental to biodiversity if it results in uniform and closely cropped swards of grass, as occurs with sheep. Conversely, horses, which do much of the grazing in Horndean are highly selective grazers that have the potential to create more varied grassland, with both long and close cropped areas.

3.5.4 Aquatic and Wetlands

Ponds and Wetland at Hazleton Common

The varied geology of the Parish affects its ponds and streams as these are fed from groundwater as well as rainwater.

There are a significant number of ponds in the Parish of Horndean, differing in size and quality and ranging from large ponds, some natural, to small garden ponds. Some of these are in private gardens while others are on nature reserves owned by the Parish Council. Freshwater ponds and wetland habitats are extremely important refuges for a massive array of wildlife, some of which are becoming increasingly rare and endangered.

Within the UK, ponds are home to two thirds of all freshwater plants and animals, including over 3,000 invertebrate species. They are important for waterfowl, amphibians, and reptiles and as

watering holes for mammals. Pond habitats are essential not only for waterborne species but for terrestrial wildlife too. Many invertebrate species such as dragonflies and mayflies begin their life within a body of water. Some of the important species related to ponds include Great Crested Newts and Grass Snakes. More than three quarters of our freshwater ponds were lost because of the changes in land use over the 20th Century. This, coupled with their diversity of species, has resulted in them being recognised as important for wildlife under the Habitat Action Plan.

An important feature of a pond is its age. An old, well-established pond will have a high diversity of plant and animal species, much the same as ancient woodland. However, a newly formed pond will contain species that are only present in the early stages of the ponds development. A mixture of old and new is needed to maintain the largest diversity of wildlife.

The largest pond in Horndean can be found at Keydell Nursery. This pond is managed as a duck pond and contains no surface vegetation, other than water lilies and is surrounded by trees and shrubs.

Hazleton Common has three ponds and an area of waterlogged ground. One of the ponds is very well established whereas the others are more recent. The oldest and largest pond has Great Crested Newts present and they all attract multiple species of dragonfly every year.

The area of water at Dell Piece West is very shallow and often dries out during the summer. It contains reedmace and many species of sedge. It is also a good site for bird species, such as mallards, coots and herons and several species of dragonfly. A garden pond can also provide a haven for dragonflies by attracting many species into an urban garden enabling their spectacular aerobatics, brilliant colours and intriguing life-cycle to be witnessed at close quarters. For more details see the British Dragonfly Society's booklet 'Dig a Pond for Dragonflies'[23].

Catherington Pond is another attractive body of water which has been a feature of Catherington Village since before 1920. It contains Flag Iris and Bog Bean. The water levels differ greatly depending on the amount of rain as it is fed by run-off from the road.

A major threat to ponds in Horndean is invasion from alien species such as goldfish or terrapins. These predate invertebrate life and can devastate the pond diversity. Other invasive species of particular concern are New Zealand pygmy weed and parrots feather, both are a particular problem in the pond at Merchistoun Hall. These plant species can completely cover the surface of the pond, preventing light from penetrating the water and their decaying of plant material reduces oxygen levels for fauna.

In Horndean there are two main lavants with a number of branches. These can be seen on the 'Geological Features ' map by following the 'green' areas representing river and stream sediments. Lavants are usually sourced from 'intermittent' springs such as those seen near the A3 at Dell Piece West and also at Lovedean Lane. Generally referred to as 'bournes', in Wiltshire and Dorset they are often known as 'winterbournes' and in Hampshire and West Sussex as 'lavants'. Local examples potentially provide good areas for wildlife habitats but are not suitable for housing sites.

3.6 Natural Networks

The local natural environment contains a number of disconnected places: gardens, parks, playing fields, farmland, woodland, grassland and wetlands. It should be considered not just as isolated spots of green but a potentially thriving network linking wildlife sites across these environments. Important habitat can also be found on undisturbed road verges.

3.6.1 Core areas and stepping stone sites

The core areas support a significant range of species of flora and fauna. In Horndean they are the wider countryside, mainly in the South Downs National Park and the designated areas in the Parish. Stepping stone sites are much smaller and within either the farmed or the urban areas. They include; copses, parks, gardens and open spaces in the urban. Together with the wild life corridors they enable species to move between the core sites and into the heart of the urban area. [17]

3.6.2 Wild life Corridors

'Wild life corridors' are uncropped links. The most effective wild life corridor in Horndean is the wide strip of land enclosing the A3/A3(M). This is a wild area that few people, dogs or cats visit enabling wild life to move between the South Downs and the extended Waterlooville urban area with minimal predation. At a more detailed level Portsmouth Road with its tree lined avenue, the Merchistoun Road area, road verges, water filled ditches and hedges, some along rights of way, function in a similar way. For example, a length of hedgerow which runs between two separate stands of woodland can enable small mammals, insects, bats and birds to travel between them, by providing shelter and a means of navigation.

Ancient Hedgerow with Ash and Oak

3.6.3 Hedgerows and Verges

Horndean contains a significant amount of un-cropped hedgerow, typically on farmland, along footpaths[3] and bridleways, on borders of woodland areas and on boundaries of public spaces. Many of these are ancient track ways which have remained undisturbed for centuries. Many of Horndean's hedgerows are well established and date back several hundred years and are pre-enclosure. The adjacent verges still contain pockets of bluebells and a few clumps of primroses and barren strawberry as well as woodland plants such as dog's mercury, wood anemones, stitchwort and wild garlic in early spring and by may many hedgerows, such as the very long verge in Woodhouse Lane in Blendworth becomes a ribbon of cow parsley. The cow parsley and hogweed are a great attraction to hover flies, small beetles and other invertebrates. As they go to seed the grasses and a number of arable species take over and grass cutting gets under way. A number of rarer flowers appear on occasions such as bee orchids in a verge along Hazleton Way, and winter heliotrope by the car entrance to Merchistoun Hall.

Hedgerows are a particularly important aspect of agricultural land, from a conservation perspective. They are essential for maintaining a network for wildlife between larger sites, such as areas of woodland, from which small mammals, birds and plants can benefit. Wildlife, including species of song and gamebirds, can feed from areas of crops more readily, with hedgerows providing cover for nesting nearby. This cover can also be provided by scattered trees or bushes and rough field

margins. Adjacent areas of woodland are useful in this respect for bird species, such as the Yellowhammer. The ground flora at the base of hedgerows is a very important part of the hedgerow and contributes significantly to the species diversity.

Roadside verges are defined as the strips of land between the road or footpath surface and the land boundary line which may be a hedgerow, fence or wall. They are an important wildlife habitat and if managed sympathetically support a wide range of biodiversity. It is estimated that Hampshire provides approximately 13 thousand hectares of roadside verge, equivalent to 3% of the county's land area.

Some of the best green verges in Horndean are wide ones that run alongside ancient estate boundaries many of which are backed by a hedgerow and a bank and ditch. When the A3(M) was being constructed, much soil was removed for cuttings, slip roads and roundabouts. These disturbed areas are now flower-rich verges - seen as 'linear' meadows which are particularly good sites for orchid species such as Pyramidal, Bee and Common Spotted Orchids. These verges also have the advantage of very limited public access or disturbance.

Marker for protection of wild flower verge

Along the minor roads, plant communities can indicate the under-lying geology. Most verges in Horndean lie on the more alkaline chalk soils, where the verge is a south sloping bank. These verges are all at risk from a variety of factors including excessive mowing, erosion (especially from car parking and horse riding), road widening, cable laying, winter salt spreading, fly tipping, herbicide use and in several cases a spread of invasive species such as bracken or brambles. One of the greatest threats to the health of roadside native flowers may well be the slow increase in soil fertility caused by nitrogen from car exhausts and the 'run-off' from arable fields. Other problems can result from planting of a limited range of grasses and managing verges to satisfy a perceived public preference for neatness.

Roadside verges and hedgerows are particularly important habitats for plants, birds, small mammals and insects because of the loss of grassland in the last 60 years, and they help to support valuable wildlife corridors.

The County Council is responsible for the management of the verges on all roads (except the A3(M) and A3) in the county. Hampshire has a good record with no fewer than 224 protected verges that have been identified as being of ecological importance and supporting an important flora. More verges need to be identified in Horndean as we only have two or three listed.

A Road Verge Project was launched in May 2012 to identify more important verges so that the sites can be enhanced and maintained through appropriate management and protection such as organising the cutting regimes, scrub clearance, preventing damage from road maintenance or cable laying and by the monitoring of protected verges. Special verges will be marked with pegs

The road verges in the Parish make a big contribution to the attractive rural and urban character of Horndean. A good show of flowers such as buttercups, daisies and dandelions bordering our hedgerows creates a strong positive impression to visitors and local people alike.

See 'Further Reading' at the end of this document for more information on this subject.

3.7 Neighbouring Habitats

Recently Laid Hedgerow at Parsonage Field

It is essential to consider habitats that neighbour our Parish, as wildlife is by no means static. Some bat species have been known to travel up to six miles from their roost to their feeding site and birds are not constrained by Parish boundaries. Badgers are another frequent boundary crosser as territories can be 30 hectares or more. There are nearby surrounding areas that contain similar habitat types to those in Horndean. This helps to maintain the stability of Horndean's natural environment.

An extensive area of chalk downland lies to the north of Horndean with Butser Hill being part of Queen Elizabeth Country Park and nearer to Horndean is a smaller but species rich area of Oxenbourne Down consisting of chalk grassland and the rare habitat chalk heath. It is an excellent area for butterflies with good populations of Duke of Burgundy, Chalkhill Blue and the scarce Silver-spotted Skipper can be found.

Elsewhere in the surrounding areas are extensive regions of woodland. Wick Hanger is a wooded area on steep chalk escarpments. Other woodlands in the region include Queens Enclosure and Havant Thicket which are expanses of mixed semi-natural ancient woodland managed by the Forestry Commission. The Holt is another area of re planted woodland to the south east of the Parish. Much of these woodlands are the remains of the Forest of Bere.

Another important habitat that can be found neighbouring Horndean Parish is lowland heath. Blendworth Common situated between Hazleton Common and the Holt woodland is a 56 hectare area designated as acid grassland. This was once part of the Forest of Bere. It is now managed by grazing and signs of re-emerging heathland cover can be seen.

Immediately to the South of Horndean there is the large urban area of Waterlooville. Some of the green areas previously mentioned act as natural networks into the urban area.

3.8 Sites Designated for Nature Conservation

Horndean Parish Council owns and manages five sites designated and afforded protection for nature conservation covering in total an area of approximately 50 hectares. These sites are

- Yoell's Copse, Catherington Lith and Hazelton Common which are designated as Local Nature Reserves ('LNR') meaning that they are important for wildlife, education or public enjoyment,

- Catherington Down which is a Site of Special Scientific Interest ('SSSI') meaning that it has legal protection as one of the county's best wildlife and/or geological sites, and
- Dell Piece West which is a Site of Importance to Nature Conservation ('SINC')[15] meaning that it is considered to be of particular importance for nature conservation. The Parish also has several other SINCs which are in private ownership.

Beech and Bluebells in Yoells Copse

A more detailed explanation of these designations is shown in APPENDIX 5.

3.8.1 Yoells Copse

Yoells Copse is five hectares of semi-natural ancient woodland that has survived the development of residential housing in the surrounding area. Because of its long history as an isolated fragment of woodland, Yoells Copse is free from invasive species and contains a number of Wild Service Trees and unusual native tree species including an extremely rare hybrid species tree called the Wye Whitebeam, which is one of only a few known specimens within the United Kingdom.

Habitat management within Yoells Copse is similar to ancient semi-natural woodland areas of Catherington Lith. Work carried out in the winter of 2011 involved thinning of the woodland canopy and controlling the extensive areas of understory species, such as Holly. Cuttings were sold as logs, chipped, left as dead wood piles, or burnt on site.

Ancient Pond in Yoells Copse

The site also contains a pond, valuable to frogs and other aquatic species. The tree canopy around the pond is currently too dense. It is planned to be thinned and low vegetation, typical to pond edges, will be encouraged instead.

Yoell's Copse once had areas of orchard on the south side and although these have now been lost to housing they could account for the many species of wasps and bees that have been recorded in the Copse. It is unlikely that it contains species that rely on travelling, such as Dormice. Hedgerow links with other sites should be considered a priority for future management and plans for such a project are already underway with Horndean Biodiversity Group.

More information on Yoell's Copse can be found on the Yoell's Copse website.

3.8.2 Catherington Lith

Catherington Lith is 12 hectares of ancient semi-natural woodland, secondary woodland and pockets of chalk grassland. This nature reserve has been owned and managed by Horndean Parish Council since 2004. Catherington Lith is another fragment of lowland deciduous woodland, which is of BAP priority. This gets used heavily for recreational purposes by the public and shares some of its boundary with fields used mainly for grazing horses. The woodland itself includes a variety of species, indicative of semi-natural ancient woodland, such as those mentioned above for Yoells Copse.

There are many AWVP species present in Catherington Lith. These include species of ground flora such as Bluebells and Wood Anemones which indicate that the woodland has been in place since at least 1600AD.

As much of the site is ancient semi-natural woodland, these areas are subject to low-intensity management. Work has been planned to thin and fell some older trees in order to allow light to the woodland floor. This would encourage greater diversity of ground flora and help to increase the overall biodiversity of the site.

Another key factor affecting this site's value to wildlife conservation is its connectivity, via linear strips of un-cropped habitat (i.e. hedgerows), to other larger areas of woodland. This allows species such as Dormice to travel between woodlands and populate new areas. Because of this, areas of hedgerows in Horndean, which are not necessarily owned by the Parish Council, should be monitored closely. Another management technique within Catherington Lith is to create a hedge running around the perimeter of the site, which will also be extremely beneficial for wildlife.

Catherington Lith also contains small pockets of Calcareous grassland. These areas used to be much larger but woodland has been allowed to regenerate and encroach, since they were cleared during the Second World War. These areas currently total less than 1 hectare and this will be a priority for future management.

This site is about to undergo a survey programme for Dormice, which are suspected to be on the site. To improve structure of the woodland and its value to conservation of Dormice and other species, it is advisable to carry out some coppicing and planting of the Hazel understory.

Woodland pasture at Catherington Lith

3.8.3 Hazleton Common

Hazleton Common, which is approximately 15.96 hectares in size, contains extensive areas of open scrub and grassland, as well as two pockets of ancient woodland. It was acquired in 1996 by Horndean Parish Council which manages it to encourage a transition to lowland heath habitat from acid grassland. This is proving to be successful with the emergence of species such as

Common Heather and Gorse on the site. There are also records of Nightjars using the site, which is promising for the future, as these are a species which are indicative of good lowland heath habitat.

There are three ponds to the mid-south of the site which have historical records of the highly protected Great-crested Newt. Generally speaking, lowland heath should contain good populations of reptiles and amphibians and Hazleton Common is no exception, with Adders, Slowworms and Common Lizards.

Hazleton Common is an interesting example of a habitat which is in a transitional phase. It has historically been acid grassland, with fragments of lowland deciduous woodland. However, plant species are starting to establish on this site that are symptomatic of lowland heath habitat, such as Common Heather. Lowland heath is currently a BAP priority habitat, as is lowland dry acid grassland. To distinguish between the two, generally; less than 25% dwarf shrub cover should be assessed as grassland, over 25% as heathland.

A significant amount of scrub clearance is likely to be carried out on this site in coming years if the site is to meet its management objectives and not convert to secondary woodland.

3.8.4 Catherington Down and Parsonage Field

Catherington Down is one of the most significant sites in Horndean for wildlife and this is reflected in the fact that it is afforded statutory protection both as a SSSI and a LNR. This status is due to the ecological and historical value of the site. Ancient farming systems, known as 'Strip Lynchets' are clearly visible on the Down.

Catherington Down

Catherington Down is classified as 'unimproved calcareous grassland'. This means its soils have remained undisturbed and un-fertilised for many hundreds of years, possibly since medieval times. This has resulted in a variety of rare and unusual plant species that are specially adapted to its conditions, such as Round-headed Rampion, Eyebright and Clustered Bellflower being found on the Down. It is because of its special features that the site is designated as a SSSI.

There have also been good numbers of Orchids on this site, with historical records of Common Spotted Orchids, Pyramidal Orchids, Frog Orchids and Autumn Lady's Tresses.

Chalk downland is often very good habitat for certain species of butterfly and Catherington Down is no exception, with records of Grizzled Skippers, Large Skippers and Small Skippers.

There are linear strips of woodland running along the edges of Catherington Down and these have records of Silver-Washed Fritillary butterfly, as well as many 'ancient woodland indicator' vascular

plant species, such as Toothwort and the rare Moschatel.

Management of Catherington Down includes scrub clearance during the winter and grazing from March to late summer. The objective of these techniques is to prevent the encroachment of scrub and rank grass onto more valuable calcareous grassland, for which this site is designated a SSSI.

Scrub Clearing on Catherington Down

Parsonage Field is a small wildflower meadow which borders the North-Eastern edge of Catherington Down. It has previously been sown with wildflower seeds and features a number of hedgerows which have been managed using traditional 'hedge laying' techniques. The site is cut once a year and the cuttings are removed, as an artificial substitute in the absence of grazing.

Eyebright on Catherington Down

3.8.5 Dell Piece West

Dell Piece West which is 4.15 hectares of acid grassland with pockets of deciduous woodland may be designated as a LNR. Horndean Parish Council acquired management and ownership of the site in 2005. The site is heavily used by people walking to the adjacent supermarket and for dog walking.

Dell Piece West contains a large pond, which is fenced off from the rest of the site. The fence has recently had chicken wire added to the bottom half in an attempt to keep dogs out of the pond and the surrounding area. Throughout the winter, Snipe and Heron have been observed feeding around the edges on more than one occasion.

In 2011-2012 grazing and cutting regimes began on Dell Piece West. Before this however, little or no vegetation management had been in place for this grassland. Because of this, there are extensive areas of tall grass with quite a thick litter layer. This forms ideal habitat for small mammals such as voles and subsequently, birds of prey, like Kestrels are commonplace here. However, this dense litter layer and previous lack of cutting or grazing is not ideal for producing a diversity of plant species.

This site was originally completely wooded before the construction of the A3M motorway. Although

there were once plans to develop the site these were withdrawn because of its value to wildlife and the site was designated as a SINC.

Throughout the summer of 2011 a seasonal youth project installed livestock fencing around Dell Piece West to enable grazing in 2012. This enabled this site to meet its conservation objectives, as little vegetation management has been carried out here in recent years.

Dell Piece West should be viewed as an opportunity to create a scenic, grazed nature reserve in an urban environment that is conspicuous to the general public.

3.8.6 Sites of Importance for Nature Conservation in Private ownership

Blendworth Lith

At 12 hectares, Blendworth Lith (SU 708136) is the largest area of semi-natural ancient woodland in the Parish of Horndean. The site is mainly ancient woodland on upper chalk, although a small area in the South-east of the site has been reclaimed by the woodland at a later date.

30 ancient woodland indicator species have been recorded in Blendworth Lith, including Toothwort, Moschatel and Solomon's Seal. The composition of the woodland includes a variety of canopy trees including oak, whitebeam, Sweet Chestnut, beech, ash and some conifers. There are a number of old stools in this woodland that suggest it was once managed by coppicing

Dell Piece West Pond in flood

Blendworth Lith is within the boundaries of SDNP and is generally subject to low-intensity management. It is bordered on all sides by agricultural fields.

James Copse and James Copse North

James Copse (SU 685123) is a 100 year old oak plantation covering 6 hectares of hazel, ash and maple and a few mature beech. Together the sites support 109 plant species including 43 AWVP indicators, wild service, whitebeam, crab apple, holly and yew.

James Copse Paddock

This is typical forest edge landscape (SU 683127/8) covering 1.9 hectares and consisting of two separate areas, a small paddock surrounded by hedgerows and a remnant of ancient woodland that was once part of James Copse. 26 ancient woodland indicators and four acid neutral grassland indicators were noted in the 1991 HBIC survey.

Crabden Copse and Crabden Row

Lying alongside Lovedean national grid transformer station on Broadway Lane, Crabden Copse (SU 675134) covers 1 hectare and Crabden Row (SU 678136) also covers 1 hectare.

Rabbit Copse

Close to Hinton Daubney, west of Lovedean Lane, (SU 684138), Rabbit Copse covers two hectares.

Prew Hanger

Parts of Prew Hanger (SU 678148) and covering four hectares can be seen from footpath No. 7 and Broadway Lane.

Shuts Grove

Shuts Grove (SU 685149), covering three hectares is located alongside the road to the south west of Hinton Manor. It is shown on the 1870 6"/mile O/S map as an isolated copse with pits showing signs of chalk digging dug out to lime fields. It consists of ancient semi-natural woodland. 27 AWIS species have been recorded. Since the change of ownership in 1998 the site has been managed for the conservation of wildlife.

Coombs Copse

Coombs Copse is located south of Hinton Manor (SU 688147) and covers three hectares.

Ludmore Hanger/Whitedells Copse

Located east of Lone Barn Farm (SU 682156) and covering 1 hectare, the ends are visible from the road and footpath 41. These sites are essentially good value hedgerows that contain mature ash and an ancient yew.

Redcroft Row

Redcroft Row (SU 708125) 2ha Located in Keydell Nursery between Havant Road and Bridleway 24b (Sheepwash Road). Most trees are located to the site boundaries and formed of middle-aged and mature Ash, Field Maple, oak and Sycamore with Hawthorn and Hazel Coppice. With the exception of the Ash, most trees seem to be in reasonable condition. Much of the ground flora has been lost to car park and yards. The SINC has recently been slightly redefined as there is a proposal to build on part of the nursery. There is public access to much of the site in nursery opening hours. TPO's EH157 and 188 refer.

Wick Hanger

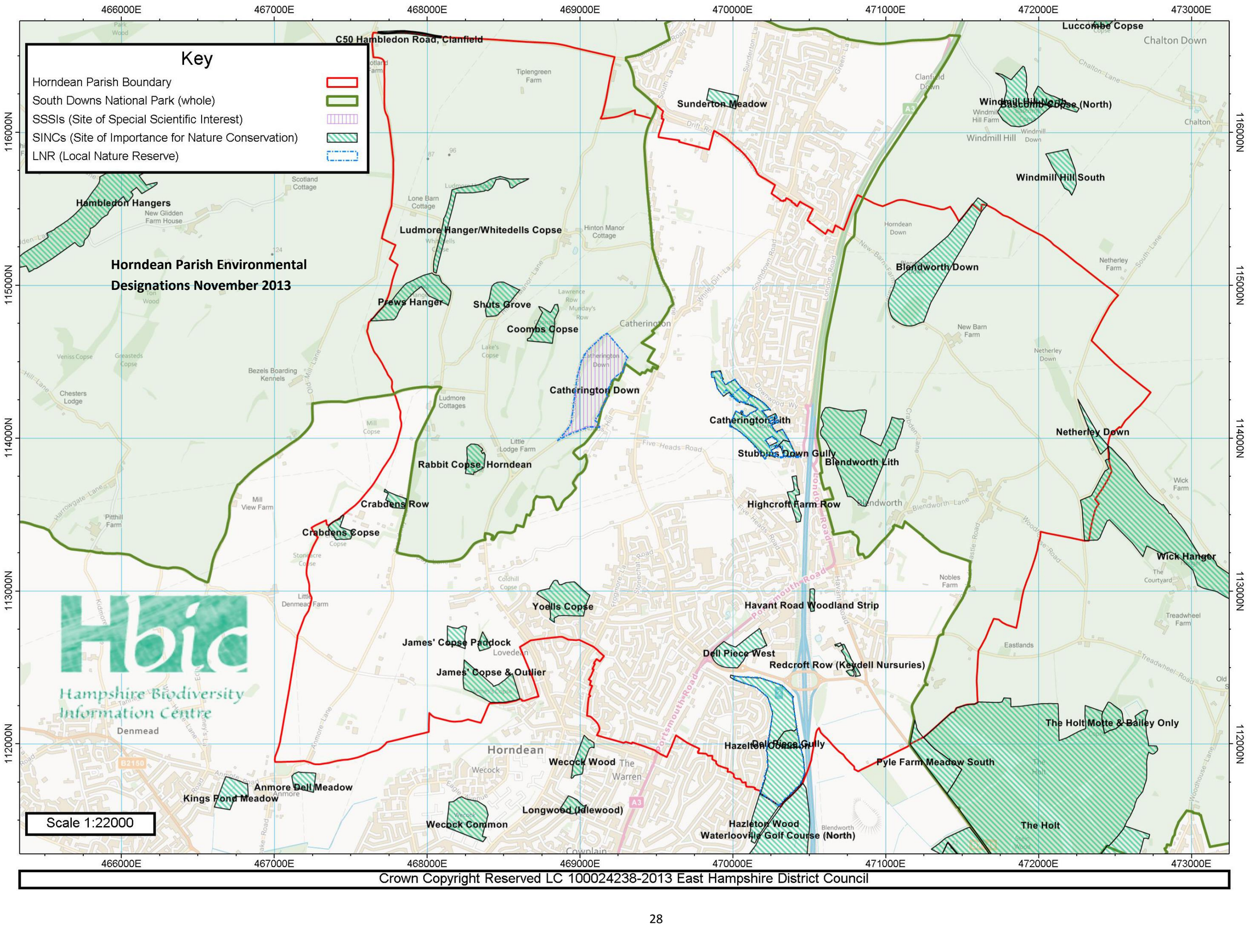
Wick Hanger (SU 723132), 32 hectares in size of which 0.34 hectares is in Horndean, is bisected by the Horndean, Rowlands Castle boundary. The strip within Horndean has several ancient woodland indicators including Spurge Laurel, Butcher's Broom, orchids and bluebells.

Pyle Farm Meadow South

This site (SU 713120) covering 5.38 hectares extends to the boundary with Rowlands Castle and the Holt. HBIC indicate that it's agriculturally unimproved grassland. It can be viewed from the B2149.

Hambledon Lane Verge

Located on the boundary between Horndean and Clanfield (SU 680166) it contained 38 species, including seven chalk grassland indictors, in 2010.



Crown Copyright Reserved LC 100024238-2013 East Hampshire District Council

SECTION 4 **SPECIES**

4.1 Introduction

Horndean is home to a large number of different plants and animals and if we are to ensure that they can survive and thrive in the future we need comprehensive records of all these species together with an understanding of their requirements and habitats and how they can be provided and preserved.[2] To produce and maintain this information requires a lot of work and manpower, and local people who have or are keen to develop an interest in observing and recording wildlife can be of enormous assistance in doing this. Guidance in identifying all the different species can be provided by the many local experts and experienced amateur naturalists who are willing to help us achieve these goals.

HBIC maintains a repository of all species data collected by the many groups that have carried out surveys or kept records in Horndean, and The Hampshire County Council Arts and Museums Service has a large collection of specimens of plants and animals. Details of the species that we currently know live in Horndean are described in the following paragraphs.

Living Record

The success of this Action Plan depends to some extent on local people sharing and recording their observations. To enable this to be done in an easy but enjoyable way, HBIC in partnership with HIWWT and the Recording Groups have set up 'Living Record'. This allows recorders and observers to map and download records whilst enabling the County Recorders to check the records before they are collated and made available to HBIC.

Each record has to include your name, species name (or image file numbers if ID is unknown), Grid reference, site name and date of observation. With Living Record all your species records can be stored in one place. It has the great advantage that it enables a Group to work collaboratively as a team, making it easy to see each other's records. HBG is recommending all members and wildlife observers to register and start recording via Living Record.

Leaflets containing further information and registration forms can be downloaded from www.livingrecord.net

4.2 Mammals

Horndean has small populations of both rare species such as Dormice, Hares and Bats as well as more common species such as the Grey Squirrel. It can be difficult to establish details of current mammal populations as many mammals are nocturnal and numbers can fluctuate from year to year according to weather conditions and human activities. The measures needed to either protect or control populations that have been observed are described under the following species headings.

4.2.1 Hazel Dormouse

These are rarely observed in Horndean primarily because they are nocturnal and spend most of their time in the trees and hibernate from late October to May depending on the climate and available food sources. Their preferred habitat comprises mixed deciduous woodland with coppiced hazel where there are many different plant and tree species to provide food all year round and good hedgerow connections to allow them to move between sites.

To arrest the decline in their numbers which has resulted from the loss of habitat our remaining fragments of ancient woodland need to be managed so as to encourage a variety of foodplants to grow at different times of the year; to increase wildlife corridors and maintain coppicing in areas such as Catherington Lith, Wick Hanger, Netherly Down and the Ancient Lanes linking with the isolated Yoell's Copse.

Hedgehog

4.2.2 Hedgehog

These animals are frequently found in Horndean gardens and, like dormice, are mainly nocturnal. They can travel long distances when foraging for food, their favourites being caterpillars, slugs, snails and earthworms which make them popular with gardeners. They can be encouraged into gardens by leaving piles of leaves and twigs around or by making a purpose built shelter**.**

Their survival can be helped by avoiding the use of slug pellets and checking long grass before cutting or strimming. Hedgehogs often rest in bonfire heaps and so these should be checked before lighting. However the biggest threat to them remains habitat loss and one way in which this can be reduced is for boundary hedgerows to be retained or planted.

4.2.3 Badger

Badgers are generally nocturnal creatures that live within social groups underground in setts which are often on slopes and are easily identified by their numerous entrance holes and mounds of freshly excavated earth. Badgers can be found in many places around the Parish and a good example of their extensive setts can be found at Catherington Lith; others are found on the edge of footpaths in Blendworth and Lovedean. Their main diet consists of earthworms but they also eat berries, fungus and other grubs.

Although numbers are stable across the UK the highest cause of accidental death is by cars. Badgers are creatures of habit and use well-trodden routes. Building fences or roads through their territory will cut off access to food for them, however with special gates and careful planning access is not restricted.

4.2.4 Bats

There are up to 17 species of bat in the UK, the following five of which have been recorded in Horndean:

- Common Pipistrelle is our smallest and most common bat, emerging about 20 minutes after sunset. Frequently seen above garden ponds feeding on insects such as midges and moths. It is estimated that a Common Pipistrelle can eat as many as 3000 insects in a single night so to attract bats a garden needs to be insect rich. This can be achieved by growing pollen rich plants especially evening scented flowers such as tobacco plants, night scented stocks and evening primroses that will attract night flying insects.

Brown Long Eared Bat

- Brown Long Eared. A common bat species that has very long ears, allowing it to detect its prey on the leaves of trees illustrated here by a specimen found in a garden in Five Heads Road in Horndean.
- Natterer's . This has been recorded in Horndean. It is widespread in the UK however it is scarce and its population in this country is of international importance.
- Noctule. Britain's largest bat and one of the earliest to emerge from its roost. Their flight is usually high near the tree tops. They have been seen near the top of Catherington Down
- Serotine. Another rare species occurring in the south of England. These bats feed on large insects such as chafers and a decline in these could cause a reduction in Serotine numbers.

The urban landscape plays quite an important role for bats as many roosts can be found in homes and buildings. They travel considerable distances in search of food so that they may not roost and only use gardens and ponds as a feeding ground. Roosts can vary from ancient trees to old buildings and attics. One ancient tree on Catherington Down was thought to have four different species roosting in it. A number of bat boxes have been fixed up across the Parish in ancient woodland, open farmland and gardens, usually on mature oaks at a height of at least nine metres to be out of reach of cats.

The best and most accurate way of identifying and recording bats is by using bat detectors that can be tuned to pick up the frequency of each species call.

Vole

4.2.5 Moles and Shrews

Moles live primarily underground and can be easily located by their characteristic mounds of soil found in grassland in areas where the soil is well drained and contains lots of earthworms such as Old School Field in Catherington. Although the way they dig through the soil is excellent for aerating the ground and allowing it to drain better the resulting mole hills can be a problem if they appear in lawns or playing fields.

Common Shrews are tiny animals that use their long tapering snout to sniff out their prey of beetles, worms and spiders and the shrews in turn are a source of food for predators such as kestrels. They can be found at most of our nature reserves and rarely live for more than a year.

4.2.6 Rodents

These are the small mammals that include mice, rats and voles. Although mainly nocturnal they often visit bird feeders and gardens during the day where they can expect to find an abundant supply of nuts and seeds.

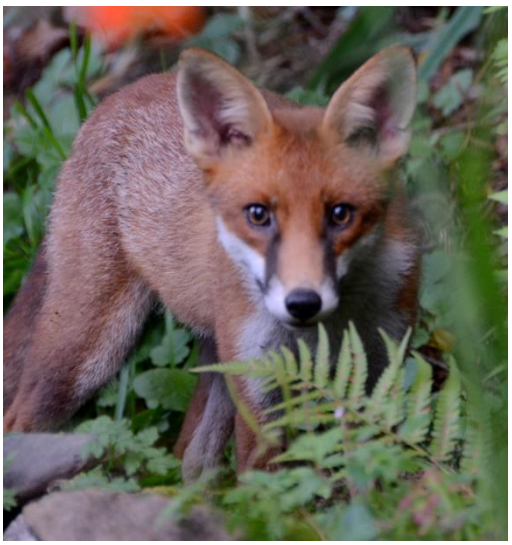
Although the Brown Rat is one of the commonest rodents it is not so often seen and is less likely to be caught by cats. However the rodent that is most often encountered is the Grey Squirrel that came originally from North America and now out-competes the native Red Squirrel and also carries the squirrel pox. Their numbers are steadily increasing which can be a problem as they can cause damage to native trees and garden plants as well as to loft spaces if they get into them.

4.2.7 Rabbits and hares

Rabbits are probably the most widespread mammals in Horndean. Often thought of as a pest, they

can actually help manage habitats. Rabbits feed on grassland and can keep fast growing plants like nettles down allowing other plants to grow. At Hazleton Common and Catherington Down for example, grazing by rabbits has kept down lots of scrub that might take over. However, too many rabbits can also have an adverse effect by over grazing, as a result there is nothing but closely cropped grass in certain areas which is not good for wildflowers.

Unlike rabbits, Brown Hares do not use burrows but live in small depressions in the ground amongst long grasses in open grassland areas including arable fields in which they sit and sleep until feeding at night on tender grass shoots and cereal crops.



Red Fox

The intensification of agriculture which has reduced the diversity of plant life in the countryside that hares need has resulted in a decline in their numbers as has the death of young Hares from disease or predation by foxes. Hares are generally solitary but will often join groups to feed. Hares produce two to four young per litter and may have up to four litters in one year.

Young Roe Deer in Bracken

4.2.8 Red Fox

The Parish is home to a number of Red Foxes, frequently spotted in the countryside and can be watched in urban areas. They hold territories varying from half a hectare in urban areas up to 20 hectares in rural areas. Foxes are omnivorous and eat almost anything from mice, beetles and blackberries to the contents of black plastic bags and waste bins.

4.2.9 Deer

Roe Deer can be seen roaming the fields or nature reserves foraging for food. They generally eat buds, young shoots and leaves of trees and shrubs (including garden roses!) and for these reasons areas of coppiced woodland need to be fenced. They are frequently seen in all of our nature reserves. The one illustrated was sitting very still in Bracken in the centre of Dell Piece unnoticed by passers-by. On rare occasions Muntjac Deer have been seen at Catherington Lith.

4.3 Birds

4.3.1 Categories of conservation importance

The RSPB's three categories of conservation importance are shown for the birds described in this section that all have verified records within the Parish of Horndean.

- The Red category is the highest conservation priority and applies to species needing urgent action;
- Amber is the next most critical group, followed by

- Green that applies to species that occur regularly in the UK but do not qualify under any or the other two criteria. Full details of these categories are shown on the RSPB website.

Ideas as to how we can help to improve their habitats to attract occasional and migrating species and the regular breeding species to our gardens by providing food and water especially in winter and by providing secure nesting boxes and roosting places are described for Garden Birds, Woodland Birds, Farmland species, Wetland species, and Birds of Prey.

4.3.2 Garden Birds

Throughout Horndean a large number of garden birdfeeders cater for healthy populations of common British birds and many people are now joining in the BTO Garden Birdwatch. This involves keeping regular records of species, and numbers visiting are entered on computer forms sent to BTO at regular intervals

Frequent visitors include Blackbird, Chaffinch, House Sparrow, Wood Pigeon, Dunnock, Blue Tit, Coal Tit, Great Tit, Long-tailed Tit, Green Finch, Goldfinch and in smaller numbers Song Thrush, amongst others. These species are mainly resident in the UK all year round and are very adaptable in terms of habitat in the winter months. Bird feeders provide a stable source of sustenance; however they may be vulnerable to domestic cats.

Nuthatch

4.3.3 Woodland Birds

Song Thrush

Green Woodpecker (Amber Status) is a common resident throughout Horndean. This is the largest of Britain's woodpeckers. Its loud, distinctive 'yaffle' call makes it easy to recognise. This species is common in deciduous woodland, as well as in gardens. Its diet consists mainly of ants which it takes from anthills with its powerful beak.

Great-spotted Woodpecker (Green Status) and **Lesser-spotted Woodpecker** (Red Status). These pied woodpeckers are often seen clinging to tree trunks. They inhabit woodland , preferably with mature broadleaved trees. The Great-spotted frequently visits garden bird feeders but the Lesser-spotted woodpecker is much rarer although it has been seen in Yoell's Copse where it spends most of its time in the tops of trees burrowing for insects and larvae.

Semi-albino blackbird

Nuthatch (Green Status) A small colourful bird that resembles a small woodpecker making a similar drilling noise. Seen widely throughout Horndean in mature woodland and a

frequent visitor of bird tables in the winter, as it is resident all year round, rarely straying far from the locality where it was hatched. It eats insects, seeds and nuts.

Treecreeper (Green Status) A small active bird which spends most of its life on trees and can often be seen moving up and down tree trunks, brown on top with whitish underparts They have a downwardly curved bill for extracting insects from the tree bark.

Goldcrest (Green Status) Britain's smallest bird, this species is partly resident all year round, partly migratory and tends to favour woodlands, coniferous or mixed, often seen high up in the canopy of pine trees.

4.3.4 Farmland Species

Sky Lark (Red Status) This species tends to be found in open countryside and are regularly seen and heard in reasonable numbers on Horndean Down (near Windmill Hill) and in Blendworth fields. It is currently in decline, particularly in the South of England, partially due to changes in habitat availability.

Corn Bunting (Red Status) Primarily a lowland farmland bird often seen around farms producing cereals and vegetables and uses an elevated, conspicuous position to give its song. It can be seen in similar locations to the Sky Lark, especially Windmill Hill. According to the RSPB website, the UK population of this species has declined by 90% since the 1970s.

Yellowhammer in Blendworth

Yellowhammer (Red Status) This attractive, yellow member of the bunting family prefers 'fringe habitat' between arable fields and more scrubby vegetation and has a very distinctive call. Seen in past years on Catherington Down and now only seen around hedgerows in Blendworth.

4.3.5 Wetland Species

Lapwing or Peewit (Red Status) Lapwing are characteristic of wet farmland or meadows and often form large flocks in the winter with distinctive display calls and flights during the breeding season. In Horndean this species can often be seen around Blendworth Common and towards our eastern boundary. As these birds are ground nesting they breed in areas that are undisturbed by mammals such as foxes.

Snipe (Amber Status) are extremely elusive, mottled brown wading birds with a long straight bill. They are rarely seen unless they are disturbed by the observer. In Horndean there are records of Snipe at Dell Piece West.

Mallard are characteristic of wetlands and ponds and is Britain's commonest duck. Often found nesting amongst vegetation on the edge of watercourses and ponds including Dell Piece West and Hazleton Common. They often visit garden ponds especially when tadpoles are present in early spring.

Heron are frequently seen in Horndean visiting larger ponds as at Dell Piece and smaller garden ponds.

4.3.6 Birds of Prey

Common Buzzard (Green Status) Although historically persecuted, Buzzards are now one of Britain's most common and widespread birds of prey. Often seen soaring above Horndean. In flight , it has a fan shaped, spread tail. It breeds in stands of trees and woodlands that have easy access to open countryside. Two popular localities are Catherington Down and Pyle Farm Lane and the Holt.

Kestrel (Amber Status) Small falcon with reddish underparts, pointed wings and a long tail, Often seen hovering over scrubby, uncropped habitat, particularly on the verges of the A3(M) motorway.

Sparrowhawk (Green Status) Small bird of prey which specialises in hunting in confined spaces such as woodland and urban gardens where they will kill and eat blackbirds and collared doves as seen in the picture.

Sparrow Hawk on lawn

4.3.7 Owls

Tawny Owl (Green Status) This enigmatic, nocturnal bird is known for making the stereotypical 'twit-twoo' call that owls are renowned for. Their diet consists mainly of small mammals. In Horndean, they are resident in areas of ancient woodland such as Catherington Lith and Yoell's Copse where a number of Owl boxes are being placed and there are also some in urban gardens in the Bull's Copse area.

Barn Owls are rarely seen in Horndean although have nested around Catherington and Hinton in the past.

Little Owls are the smallest of the owls no bigger than a blackbird and have nested in hedgerows on the western boundary. With careful observation they can sometimes be seen perched in mature solitary oaks.

There are many other common species seen across the Parish such as **Magpies, Jays**, **Starlings, Crows, Rooks** and recently **gulls,** and seasonally **Redwings** and **Fieldfares.** Amongst the rarer birds seen some seasons in Horndean are **Siskins, Bullfinches, Stonechats** (at Hazleton Common) and **Turtle Doves** (Catherington Down).

In addition to the efforts of feeding and helping garden birds it is important to retain dead standing trees to provide natural nesting places and habitats for beetles which provide additional food for woodpeckers and nuthatches.

4.4 Reptiles and Amphibians

In 2011, a study by the Amphibian and Reptile Conservation Trust found that many species of reptiles and amphibians are currently in decline. This includes species which have traditionally been very common in the UK, such as Adders and even the Common Frog. Studies like this highlight the

importance of preserving the habitats of these species, so that they continue to inhabit the countryside for future generations.

Horndean contains a number of areas classified as acid grassland and lowland heath. These areas are known to contain populations of Common Lizard, Adder, Grass Snake and Slowworm. All of these reptiles are most easily spotted on bare surfaces during hot, sunny weather.

Hazleton Common LNR, which is being managed towards a lowland heath habitat, contains all of these species of reptile. This nature reserve provides their preferred habitat of low-lying, acidic vegetation types, interspersed with scrub and exposed areas, suitable for basking in the sun. The site also contains 3 permanent ponds and numerous ephemeral water bodies which are great for amphibians.

4.4.1 Common Adder

Adder at Hazleton Common

Hazleton Common contains a significant population of Adders, which are best seen when they emerge from hibernation in the spring-time and begin shedding their dull winter skin, around April. This area is also home to a population of 'Black Adders', which are entirely black and can be mistaken for other species. Adders are different to most other reptiles, in that they give birth to live young, rather than lay eggs.

4.4.2 Common Lizard

Common (or Viviparous) Lizards are a frequently seen resident of Hazleton Common, as well as other areas of Horndean. This species thrives on wet, boggy heathland, which makes Hazleton Common perfect habitat.

As with many reptiles, Common Lizards are effectively 'solar powered', meaning that they are extremely active in hot sunny weather, but can appear to be lethargic during colder weather. Common Lizards are also able to shed their tails as a defence mechanism to predators.

4.4.3 Slow worm

Common Lizard on boardwalk at Hazleton Common

Despite their name, slow worms are a species of lizard. In keeping with other lizards, they have eyelids and this can be used to differentiate them from snakes. Slow worms are often seen as a gardener's friend, as slugs can form a large part of their diet.

Slow worm in Horndean garden

Slow worms prefer un-cropped vegetation and tend to hide under tin sheets or other surfaces that conduct heat in direct sunlight. Slow worm populations are currently undergoing national decline, partially due to loss of habitat. They can be found throughout Horndean, particularly where gardens contain compost heaps or other forms of warm cover in which they reside.

4.4.4 Grass Snake

The Grass Snake is non-venomous and is widespread in Britain. Their habitat is usually rough vegetation within close proximity of standing water, as amphibians provide a major part of their diet. Females can reach a length of 130cm, making it the largest indigenous reptile in the UK.

4.4.5 Common Frog

A common inhabitant of Britain's garden ponds, the Common Frog is an extremely adaptable species that can also be found in many rural locations. They prefer to lay their eggs in shallow water but spend a lot of time outside of the breeding season in terrestrial habitats. Garden ponds are the most abundant habitat for Common Frogs, within Horndean.

Common Frogs can vary in terms of their colouring and interestingly, are known to be able to lighten or darken their skin, according to their surroundings. This species feeds on a variety of invertebrates that are of a suitable size. In turn, it is a food source for a large number of predators, including birds of prey, foxes and domestic cats.

4.4.6 Common Toad

Identifiable from the Common Frog, due to the differing texture and colouring of the skin and the fact that it habitually walks, instead of hopping, the Common Toad shares many of its other lifecycle characteristics. Common toads spend far more time away from water than frogs, as they are more tolerant of drier conditions.

4.4.7 Smooth Newt

The Smooth Newt is the most common newt in Britain and is also known as the 'Common Newt'. During the breeding season, the male is easily identifiable by its crest. They often make characteristic 'popping' sounds while rising from water, for air. Standing water with plenty of vegetation is the preferred breeding habitat, whereas they can be found in a variety of locations at other times of the year. As well as Hazleton Common, Catherington Pond is a good place to see this species within Horndean.

4.4.8 Great-crested Newt

This species is afforded the highest legal protection of any newt in the UK. It is relatively easy to identify, as both sexes are considerably larger than other UK species of newt. Because of its larger size, it can consume a larger amount of food than its smaller counterparts and therefore requires a habitat that can support this during the months that it is based on land, outside of the breeding

season. In the breeding season, males have a ragged crest on their back, separate to the straighter crest running along the ridge of the tail.

4.4.9 Palmate Newt

The Palmate Newt is rarely larger than 6cm, making it Britain's smallest species of newt. It is similar in appearance to the Smooth Newt and its lifecycle is also similar. Although widely distributed in the UK, it is commonly found in lowland heath habitat in the South and West of England, as they can withstand drier conditions than their two newt counterparts.

4.5 Invertebrates

There are more invertebrate species in Britain than all the rest of the animal and plant species put together. They cover a tremendous range of ecological niches, some beneficial and some harmful to man. Because of this the major groups have been described separately, most amateur naturalists and ecologists specialise in only a small number of groups, the most popular without doubt being butterflies. Consequently many of the less popular groups are neglected but they all play an important part in the ecology of our local habitats. With over 20,000 species of insects in Britain we can only give attention to a very small number of 'indicator' or representative species.

Grizzled Skipper on Catherington Down

In each of the following sections we give some idea of the species present, drawn from habitat surveys, HBIC records and the observations of local naturalists and specialists. The only group that has been systematically recorded is butterflies. The aim of this Action Plan is to encourage a greater local interest in all the other groups by recording species present and conserving their habitats. Actions and suggestions for conservation are detailed under each section with special reference to gardening, hedgerow and pond management.

Holly Blue on bluebell in Monarchs Way

Identification Accurate recording is essential for reliable surveys. To have a good idea of the species present in Horndean we need the help of regular visitors to our wildlife sites as well as the occasional visits by ecologists. Ranging from beginners to experts, they can be encouraged by knowing that there are many experts in Hampshire willing to help, also there are many new identification guides, and websites. Many people are now enjoying capturing their observations on camera and we are now building up a reference library of photographs; images can now be sent to experts for a quick identification or verification. Complete beginners can quickly become experts even in some of the lesser known groups of insects. Since many invertebrates are either very small or only come out at night, only a small

5-spot Burnet moth day flying

percentage of our species are ever recorded but the list is growing. A sample of species seen in Horndean can be seen on our website - www.horndean biodiversity.co.uk

4.5.1 Butterflies and Moths

Butterflies are the most popular group in Horndean and one that has been systematically recorded since 2000. Regular weekly transects have been done at six local sites from March until October. In addition local people are recording sightings of butterflies in their gardens. The Parish also has an excellent network of hedgerows many of which are of considerable age containing a rich mixture of native species valuable to butterflies and many other insect species.

The following notable or protected species have been seen in the Parish over the last 20 years:-

Species	Habitats	Years sighted
Silver-washed Fritillary	Catherington Down, Catherington Lith, Hazleton Common, Windmill Hill and the Holt	2004/11, best year 2009
Small Heath	frequent at Windmill Hill and the Holt	Widespread 2004/11, best year 2005
Chalkhill Blue	Windmill Hill, and Catherington Lith	2001/9
Dingy Skipper	Catherington Down and Windmill Hill	2009/12, Best Year 2011
Grizzled Skipper	Catherington Down, Windmill Hill and the Holt	2009/12
White Admiral	The Holt and Windmill Hill	2006/11

Day Flying Moths. Recorders have been noting moths whilst doing Transects at **Dell Piece West and Hazleton Common**. Amongst the more common butterflies a large number of 'Browns' are seen annually on the open grassland sites such as Catherington Down, Dell Piece West and fields in Blendworth including **Marbled White, Meadow Brown, Ringlet and Gatekeeper.**

White Admiral at the Holt

Many species keep to the same spot each year and so conservation of favourite butterfly haunts can be guided by specific requirements. It is not practical to introduce new species unless they are known to have occurred in a locality in the past and sites are studied to check suitability. The number of migrant species visiting Horndean varies from year to year. Most years **Painted Ladies** (hundreds in 2009), and **Clouded Yellows** are seen. Of the 'residents' **Red Admirals, Small Tortoishells, Peacocks, Commas** are frequent and larval nests are usually found on the nettle patches at Catherington Downs and Blendworth fields and hedgerows and on one occasion a **Large Tortoishell** was seen at Soakfield Row in 2009, and caught on camera. Numbers fluctuate but of the **Whites** there are good numbers of **Large, Small and Green-veined whites** and our regular favourites in early spring are **Brimstones** and **Orange Tips.** There are few **Hairstreaks** but always **Large** and **Small Skippers** (incl. **Essex Skipper)**

What butterflies require. There are four main requirements - foodplants for the caterpillars, a source of nectar from flowers for the adults, a sunny and sheltered habitat and a suitable place to overwinter or hibernate. Although the adults will go to a range of flowers for nectar, the caterpillars are fussy and will only feed on a restricted range of plants and these need to be at a suitable stage of growth. Specific foodplant requirements should be kept in mind when producing action plans for creating wild flower meadows, improving grass verges, maintaining hedgerows and managing gardens for wildlife.

Privet Hawk Moth

Moths are less familiar than butterflies, mainly because the vast majority of them are nocturnal, but they are one of the most rewarding groups to study. Over 2400 species have been recorded in the UK. There has been an increase in the study of moths in recent years and annual reports have been produced in Horndean since 2005, all records are sent to the county recorder. Moths are divided into two groups, the micro-moths and the macro-moths. This is an artificial split of larger and smaller moths. There are almost twice as many 'micros' than 'macros' and confusingly some of the micros are larger than the macros. Well over 500 species of moths have been recorded in Horndean. Many, especially the micros, are difficult to identify, although aids to doing this such as field guides on websites can assist.

Micro-moth on young oak

Day flying moths. Many species have been recorded by the 'butterfly' team whilst doing transects. The best sites in Horndean are Dell Piece West, Hazleton Common and Catherington Down. In addition to day flying moths many species can be found resting in foliage or on tree trunks but to survive they have to be well camouflaged. The most notable species, (all seen at **Dell Piece West/Hazleton Common**) are **Five-spot Burnet, Cinnabars, Mother Shipton, Burnet Companion, Magpie, Silver Y, Yellow Shell** and a bright green micro with very long antennae called ***Adella***. Further afield the **Speckled Yellow** is very common on heathland. In gardens a spectacular sight on a summer evening is the **Hummingbird Hawk-moth**. A **Yellow-legged Clearwing** was seen on Hazleton Common in 2012 so we are always on the lookout for unexpected rarities, many of which mimic bees, wasps, flies and other insects.

Scarce Silver Lines

Value to the Ecosyste. Moths play an important role in the countryside as they are an important food source for many bird species and are a major food source for bats and spiders. Moths are also preyed upon by other insects such as beetles. Moth caterpillars are also hosts to parasitic wasps and flies, are food for lizards and small mammals and most important they play a valuable part as pollinators.

Only a small number of species eat our clothes or become a major pest. In Horndean the **Brown-tail moth** occurs on Horndean Down in controllable numbers and on rare occasions a small micro moth has produced millions of caterpillars which can defoliate a completer hedgerow, but the hedgerow (such as the one in Lovedean Lane in 2007) makes a complete recovery within a few months.

Tachinid Fly

Male Broad-bodied Chaser

4.5.2 Dragonflies and Damselflies

Dragonflies are the essence of summer. There can be few more enjoyable ways of spending a summer's day than strolling along the banks of a meandering river or sitting quietly at the edge of a pond, watching the activities of dragonflies and damselflies as they flutter and dart among fringing plants. Dragonflies are fascinating insects with complex behavioural traits that are often easy to observe.

Thirty eight species of Dragonfly are known to breed in GB and Ireland today. Their survival is by no means assured. Since 1945, three species that formerly bred in England have become extinct; many other species are far less common than they were 40 years ago

Azure Damselfly

There are five small ponds in the Horndean area with one in north Clanfield village, and two in the Queen Elizabeth Country Park which are open to public view and which support dragonflies. There are also a greater number of private ponds in gardens which are not generally open to public viewing.

Dragonflies and Damselflies need a pond, river, stream or ditch to mate, breed, lay eggs and for the larvae to mature before emergence as free flying insects and will frequently patrol and guard their home territory. Many Dragonflies will however venture from their home pond and may been seen in areas far from water. The active dragonfly season varies by species and generally lasts from late April through the summer into September.

Southern Hawker

Ponds in Horndean that are good habitats for dragonflies and are accessible to the public include Hazleton Common, Catherington village pond, Pyle Farm and The Holt.

4.5.3 Flies

There are over 100,000 known species of flies in the Order *Diptera*. Unlike bees they have only one pair of

wings as the hind pair of wings is reduced to pin-shaped structures called haltares which act as gyroscopes to maintain balance in flight. There are a very large number of families of flies but only a few have been recorded in Horndean. Although flies are not very popular, few of them are pests or nuisances and many are beneficial. Hoverflies are good pollinating species and their larvae are ferocious aphid hunters. They have no stings and are harmless. The main three families that have been studied are mostly easily identified without the use of a microscope.

Hoverfly

Ladybird Fly

The most popular group for study are the **Hoverflies.** They are fairly easy to identify and can be found across the Parish in all habitats including gardens (and in greenhouses). Some species are small and dark in colour but most have distinctive markings and some are remarkable for their resemblance to wasps and bees, even bumble bees. A large number of both wild and garden flowers attract hoverflies, such as buttercups, roses, brambles, ragwort, knapweed and they are comfortably examined on umbellifers especially cow parsley and hogweed. Gardens, hedgerows and semi woodland areas such as Dell Piece West are amongst ideal places to see hoverflies.

Bee-fly

A **Horndean Hoverfly Survey** is proposed for 2015 to promote wildlife surveys amongst members in a similar way to a survey being carried out by Southampton Natural History Society during 2013 in their members' gardens.

Dragonfly larva ready to hatch

Crane Flies are slender, long-legged and familiar to most. There are at least 10 species recorded in Horndean, they occur in most habitats especially grasslands and hedgerows.

The other group is the Tachinid Flies, the larvae of which are all internal parasites mainly on other insects. There are also dung flies, blow flies, bee-flies, house flies, horse flies, mosquitoes and others. In all there are over 5,000 species in Britain. Local studies will concentrate on Hoverflies, but a few of the more interesting species are shown here and several more are on Horndean Biodiversity Group website.

There are a small number of notable species of flies on the HBIC Records listed here. Few have common names.

Common Name	Latin Name	Status	Location	Year
Hornet robberfly	*Asilus crabroniformis*	HBAP, NN	Seen in Five Heads Rd, Horndean	2010
A picture-winged fly	*Chetostoma curvinerve*	IUCN_GB_pre94:VU	Dell Piece West	2001
Ladybird fly	*Gymnosoma rotundatum*	IUCN_GB_pre04:R	Dell Piece West, Blendworth HRs	2001, 2006-2010
Hoverfly	*Volucella inanis*	NN	Catherington Down	2009
Hoverfly	*Volucella inflata*	NN	Dell Piece West	2001
Hoverfly	*Volucella zonaria*	NN	Dell Piece West	1999, most years > 2011

4.5.4 Bees, Wasps and Ants

"Bees, Wasps and Ants are among the most important animals on the planet and are essential for the survival of countless other species – ourselves included" From George McGavin of the Bees, Wasps and Ants Recording Society ('BWARS')

Common Wasp

Hoverfly mimicking a bumble bee

In Horndean at least 20 notable or BAP species have been recorded on the grassland and woodland sites and several surveys have been carried out by Mike Edwards a prominent member of BWARS and the county recorder for Hampshire at Dell Piece West, Yoells Copse and Catherington. Hazleton Common and Dell Piece provide the best areas for a study of bees and wasps including gall wasps in the Parish. Across the Parish a number of pits, quarries and dells also provide excellent habitats for bees and wasps.

Wool Carder Bee

<u>Plant Galls and Parasitic Wasps</u>. Galls are mostly the work of small solitary and parasitic wasps. A variety of species can be found at Dell Piece West from oak Apples to Robin's pincushion. Much in evidence some years is the malformed acorn gall made by the small wasp ***Andricus quercuscalicis.***

Notable species of Bees and Wasps in Horndean on the HBIC records

Latin Name	Details	Status	Location	Year
Andrena bucephala	Bee	NS	Catherington Lith	2004
Andrena alfkenella	Mining bee	IUCN_GB_pre94:R	Parsonage Field	2003
			Hazleton Common	2001
			Catherington Lith	2004
Andrena minutaloides	West Palaeacctic species	NS	Parsonage Field	2003
			Catherington Lith	2004
Andrena bimaculata		NS	Parsonage Field	2003
Bombus rupestris	Hill Cuckoo Bee	NS UKBAP	Yoells Copse	2002
			Parsonage Field	2003
			Catherington Lith	2003/4
Bombus humilis	Brown-banded Carder Bee	UK & HBAP	Parsonage Field	2003/4
Bombus sylvarum	Shrill Carder Bee	NS, UK & HBAP	Dell Piece West	2001
Ceratina cyanea	Blue Carpenter Bee	IUCN_GB_pre94:R	Dell Piece West	2001
			Hazleton Common	2001
Dolichovespula media	Large median wasp	NS	Hazleton Common	2001
			Catherington Lith	2004
Dolichovespula saxonica-	Saxon wasp - Difficult ID	IUCN_GB_pre:IK	Catherington Lith	2004
Eucera nigrescens	Very rare	IUCN_GB_pre:EN	Dell Piece West	2001
Heriaides truncorum	Rare in Hampshire	IUCN_GB_pre:IK	Parsonage Field	2003
Hylaus cornutus		NS	Catherington Lith	2004
Lasioglossum malachurum	Small European halictid bee	NS	Parsonage Field	2003
Lasioglossum pauxillum	Bee	NS	Parsonage Field	2003
			Dell Piece West	2001
			Hazleton Common	2001
			Catherington Lith	2004
Melitta tricincta	Likes red bartsia flowers	NS	Parsonage Field	2003
			Dell Piece West	2001
			Catherington Lith	2004
Nomada fucata	A cleptoparasite of the Yellow-legged Mining Bee	NS	Yoells Copse	2002
Nomada Hirtipes	A smallish dark Nomada	IUCN_GB_pre:R	Catherington Lith	2004
Sphecodes crassus	A cuckoo bee	NS	Parsonage Field	2003

Descriptions of all species with distribution maps and photographs can be found on the BWARS website.

Ants in Horndean There are no systematic studies of ant species in Horndean but the most conspicuous presence of ants is on Catherington Down where the **Yellow Meadow Ant** has built many anthills on the lower slopes of the down. These are built up over many years and some may be of a great age.

Ant Hills on Catherington Down

Most people are familiar with the **Black Garden Ant** but this species has diminished in recent years and, like the Common Wasp may soon become a rarity largely due to very efficient means of eradication.

Bumble Bee on Comfrey

See 'Further Reading' at the end of this document for more information on the subjects covered in this section.

4.5.5 Beetles

BEETLES - Order *Coleoptera*

There are around 4000 species of beetles in the UK. One of the most interesting and successful groups of insects but they are under-recorded. Beetles are most often seen crossing roads and paths in the Parish; their favoured habitat being hedgerows especially those with grass verges but one of the best places to see beetles is in our own gardens where they can be encouraged by having small log piles or heaps of deadwood. They can be found in a great variety of places such as under logs and stones, amongst grass roots and in water, dung and carrion.

Longhorn Beetle

The Stag Beetle is a Hampshire BAP species. It has not been recorded recently in Horndean but there are several past records mostly in gardens especially those with mature oaks such as in the vicinity of Bull's Copse and Merchistoun Road. The big white grubs with an orange head take 3 to 4 years to mature and feed in wood in a mid-stage of decay. Its smaller ally the **Lesser Stag Beetle i**s common in Horndean.

Lesser Stag Beetle on Parsonage Field

The **Glow-worm** is not common and probably declining but we do have a small colony on our western boundary near Broadhalfpenny Down. Glow-worms can be seen in Havant Thicket. It is a beetle that preys on snails. One very prominent large beetle frequently seen in Horndean is the **Cockchafer** or **Maybug**. They are easily recognised because of their large size, clumsy flight and loud droning buzz. From mid-May onwards they are attracted to light and can be heard bouncing off the window. They are

frequently found in gardens and often come to moth traps. The most frequently seen group of beetles are the **Ladybirds.** There are about 42 species recorded in Britain and most are easily recognised**.** This group is under-recorded in Horndean; they are easily seen and identified. Southampton Natural History Society has produced a small handbook on Ladybirds, well-illustrated with an Identification key.

Cockchafer in Horndean Garden

Many beetles have striking colours and patterns including the many **Longhorn Beetles** which are frequently seen in Horndean gardens. Some are unwelcome pests such as the bright red **Lily Beetle,** also some members of the Weevil family. There are many other groups of beetles such as Burying beetles, Oil beetles, Dung beetles, Soldier beetles and Chafers each with their own specific habitat. A large number of small species can be found along the hedgerows in May and June on the flower heads of Cow Parsley and Hogweed. Such a large and varied group deserves more study and the Parish needs to build up a database.

22-spot Ladybird

4.5.6 Shield Bugs and Squashbugs

The ***Hemiptera*** includes two groups both of which have species that can be found in our gardens and in our grassland areas such as Dell Piece West. Bugs vary in size and shape but all possess sucking and piercing mouthparts adapted for sucking the juices of plants and some animals. The *Hemiptera* are divided into two groups :-***Heteroptera*****,** the true bugs and the ***Homoptera*** which include cicadas, leafhoppers, aphids and scale insects. Although aphids, scale insects and white fly are not welcome by gardeners they are a very important food source for tits and other small birds and therefore it is important to not use pesticides

Shield Bug

Shield Bugs. Several species of shield bug have been found in Horndean in grassland (**Dell Piece West, Hazleton Common)**, hedgerows and woodland, and they are frequently found in gardens, occasionally coming into the house. They have been recorded over a number of years by local naturalists. They are a good group for further study and systematic recording. Usually well camouflaged and perfectly matching the colour of the plants that they are resting on, many species go unseen. There are several **Aquatic** bugs such as water boatmen and pod skaters that can leave the water and fly considerable distances. One of the largest families of bugs is the **Mirid** or **Capsid** bugs. They are mostly small but with distinctive markings and may be confusing when trying to identify. They frequently come to moth traps.

4.5.7 Other Invertebrates

Land Snails and Slugs. About 90 species of land snails and 12 species of slugs are found in the British Isles. Apart from the common **Garden Snail** and the **Banded Snail** most species of snail are much smaller, are found in the leaf litter and are easily overlooked. Slugs and snails mostly feed on rotted vegetation and fungi which will benefit the garden as it recycles dead plant material returning it to the soil. They also provide food for slow worms, other reptiles, frogs, birds, hedgehogs and ground beetles but have a reputation for eating garden plants. The use of slug pellets can harm animals that may eat the pellets directly; however there are now a number of less harmful methods of controlling numbers of slugs described in the RHS/Wildlife Trust's "Wildlife Gardening for Everyone" [26]

Surveys in Horndean A survey of snails in the East Hampshire Hangers was held in 2000 and concentrated on four species, the **Lapidary Snail**, the **Cheese Snail**, the **Land Winkle** and the **Mountain Bullin**. The aim of this project was to (1) get local people involved in species recording and (2) to get a better idea of the distribution of the four species of snail within the Hangers. Sites chosen in Horndean were at Wick Hanger and Catherington Lith. The Land Winkle was at these sites and the Lapidary Snail had two records at Catherington Lith. Although there were many empty shells it is important to record living specimens and this is sometimes difficult as many snails are active at night and when it is humid. This survey was a joint initiative between HIWWT, EHDC and the Conchological Society.

A full survey of snails and slugs at Catherington Lith was carried out in the same year (2000) by Dr June Chatfield and a total of 37 species was recorded, further recording would likely bring the total to over 40 species. Surveys at Hazleton Common and Dell Piece West in August 1995 by June Chatfield and again by David Ball in August 1998 recorded over 20 species. All surveys are very dependent on weather and climate change and in recent years the wet seasons should favour many species especially in areas of ancient woodland or where there is plenty of leaf litter and dead wood.

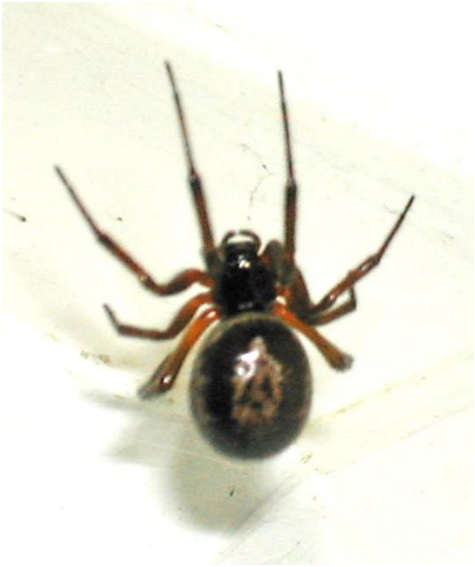
Wasp Spider

Other Invertebrate Groups There are many other Groups present in Horndean that have not been surveyed or included in this document but they do nevertheless play an important part in the local ecology and would considerably add to the list of species existing in the Parish largely in the soil. These include Earthworms, Millipedes, Centipedes, Woodlice, Lacewings, Scorpionflies, and Earwigs.

4.5.8 Spiders and Harvestmen

Not everyone's choice for study but they cannot be ignored and are an important part of the ecosystem. House spiders that run across the living room floor (usually males looking for females) and their webs that cross our path in the autumn. It is surprising that there are over 600 species found in Britain and most of these are in the south of England. In a survey of invertebrates at Dell Piece West and Hazleton Common in August and September 2001 by Dick Jones, over 60 species of spiders and 2 species of harvestmen were recorded. Dell Piece West had the greatest number of species per area and at that time had the greatest range of habitat, Hazleton Common had an extensive cover of brambles. In this survey 4 nationally scarce species were recorded – a comb-footed spider called **Steatoda nobilis, Zila diodia, Tetragnatha pinicola** and the remarkable **Wasp Spider**.

The Wasp spider is a large and spectacular spider that builds an orb web, similar to a garden spider but with a zig-zag ladder running vertically through the centre of the web and nearby there will be a large brown egg sac. At Dell Piece West they seem attracted to yellow fleabane for web building. Also seen occasionally on Horndean Down



False Widow Spider

About four species of Harvestmen are frequently found across the Parish, especially around houses and in gardens, easily recognised with their very long legs spread out flatly on walls and tree trunks mainly in the autumn or at harvest time as the name would imply. The **False Widow Spider** is worth a note as it has been increasingly found in Horndean and there have been reports of it biting but it is not as poisonous as the Black Widow spider. It is thought to have been introduced from the Canary Islands with banana imports and first reported by Steve McKnight in Merchistoun Road. The one illustrated was found in a Victory Avenue garden shed. It is about pea-sized with a shiny black body and often a grey pattern can be seen. They are mostly female as the male is smaller and often gets eaten by the female.

Ecological Value Smaller spiders form a valuable food source for small birds such as blue-tits, coal tits, sparrows and robins. The birds frequently enter greenhouses, sheds and hunt under window frames and ledges where there is food all year round.

4.5.9 Grasshoppers and Crickets

Grasshoppers and Crickets are under-recorded in Horndean and yet we have two very good sites which are host to a number of species - Catherington Down and Dell Piece West. Numbers of each species fluctuates from year to year according to weather patterns.

Grasshopper

4.6 Fungi

Fungi are not animals or plants and they are mostly out of sight except at fruiting time. They are however our greatest recycling agent. Many are parasites or cause disease when attacking our garden plants, crops and trees (eg. Rusts, Mildews, Honey Fungus and Dutch Elm Disease). Fungi are nevertheless a very important part of our biodiversity and an essential part of the ecosystem.

The best sites for seeing fungi are Catherington Lith, Yoells Copse, Hazleton Common and Wick Hanger. Common and rare fungi can be found almost anywhere but they are unpredictable and few records have been kept in the Parish. Fungal Forays are the best way to see fungi. Every year several walks are organised by Hampshire Wildlife Trust and the Hampshire Fungus Recording Group. Events are mostly held from September to November and details are listed on their websites and

Porcelain fungi

newsletters. An illustrated record of fungi seen in Horndean can be found on www.horndeanbiodiversity.co.uk/fungi.

Importance to Conservation Fungi recycles nutrients, by breaking down dead wood. Most importantly, they form an association with the roots of plants by obtaining important nutrients for the plant. Recent research suggests that 85% of all plant species use this partnership (mycorrhizal) to obtain their nutrients. In Horndean this could play an important part in the welfare of bluebells and orchids, both a valuable part of the local flora.

The ***Glomales*** are a little known or seen group of fungi that play a very important part in all natural ecosystems. They are the main order of fungi that live in association with plant roots to form ***mycorrhiza***. The fungal hyphae actually enter root cells to exchange nutrients. The fungi, (since they do not photosynthesise) receive carbohydrates from green plants which in turn receive nutrients such as nitrates and phosphates from the fungi. This is a symbiotic relationship beneficial to both partners. There are a number of species but they do not produce visible fruiting bodies as in other fungi and the hyphae in the roots of plants such as bluebells can only be seen with a microscope. These 'unseen' species are difficult to study or identify but they cannot be ignored when they are so important to biodiversity. The big problem is how to manage and conserve species that we cannot see and that so little is known about – their decline could have disastrous effects on our biodiversity.

Jelly Fungus on Elder

Threats to Fungi. Extreme weather conditions with unseasonable periods of drought alternating with periods of heavy rain will affect fungal growth and will contribute to a drop in the recycling of leaves and plant material by fungi and bacteria. Following recent dry winters it is apparent that leaves in woodland and gardens are taking longer to rot down.

Fly Agaric Toadstool

Trampling and soil compaction add to the many factors affecting beneficial soil fungi and ultimately affecting the health of our flora including our trees. Once trees and plants come under stress they are more likely to be affected by harmful fungi and disease.

Identification There are many well-illustrated field guides to fungi. There is considerable variation in the form and colour of many species making ID difficult and most guides can only include a selection of species. It is worth carrying a small mirror to ease the viewing of gills and stem on the underside of mushrooms.

Fungi on Catherington Down

4.7 Bryophytes (Mosses and liverworts)

These small, non-vascular plants play a vital role in regulating ecosystems because they provide an important buffer system for other plants which live alongside and benefit from the water and nutrients that bryophytes collect.

Sulphur Polypore on Yew

Mosses and Liverworts are around all through the year but the best time to study them is in mid-winter when everything else had died back. Mild and wet winters are beneficial to the rapid growth of mosses consequently over recent years they have become a more noticeable feature. Ecologically they are of great value because, not only provide a home for many small creatures, they in turn provide a valuable source of food for small birds in the winter.

We are very fortunate that the 'Flora of Hampshire' has a chapter devoted to the County Bryophyte flora written by the late Francis Rose and A.Crundell. This chapter also gives a short history of moss recording in the county. Around 500 species have been recorded in the county (out of a 1000 or more recorded in the UK) Well over 50 species have been recorded in Horndean and with the help of dedicated volunteers this number would be much higher.

Mosses are found almost everywhere but a good place to start recording is at home, on paths, walls and the tiles on the roof. Some new roofs near Yoell's Copse have become totally covered in less than five years.

Most of our ancient woodland has a large number of species built up over a long period of time but cultivated land (including garden lawns) also hosts a good number of species but they are tiny and unobtrusive.

Polytrichum Moss on Monarch's Way

The nearest most people get to studying mosses is when raking the lawn or scraping the paths, but closer examination with a lens reveals their great beauty and variety. Most species do have common names but they are not so well known as in flowering plants and so the Latin names are more commonly used. They are difficult for the beginner to identify and a good way to learn about them is to grow them at home in dishes or trays.

Mosses covering old oak roots

Common Thallose Liverwort

The only area in Horndean that has been surveyed in details is Yoell's Copse where a rich variety of mosses and liverworts including some rarities can be found, not only on tree trunks but growing on the ancient boundary banks especially near the ponds and also around the pits and hollows. A bryophyte survey on 6th February 2008 was carried out by R.C.Stern and P.Jones in Yoell's Copse and recorded 20 species of Mosses and six species of Liverwort.

Liverworts are harder to spot and often only show as a dull green patch on a tree trunk growing amongst mosses or lichens and almost disappear altogether in dry summers but, like mosses, have amazing powers of recovery. Most of the liverworts in Yoell's Copse are Leafy Liverworts but more familiar are the Thallose Liverworts often found on garden paths or on soil in flower pots, an example of each is shown in the photographs. More details of bryophytes in Horndean can be found on the biodiversity website. There are many recent guides for identification but the best for beginners and experts is "Mosses and Liverworts of Britain and Ireland - a field guide" produced by the British Bryological Society. Rod Stern who surveyed Yoell's Copse is the county recorder.

Leafy liverwort

4.8 Lichens

Over 500 species of lichens have been recorded in both Hampshire and West Sussex with the greatest number in

the New Forest. South-east Hampshire is more agricultural with few hard rock outcrops but in Horndean there is a good range of lichen species across the Parish.

Lichens

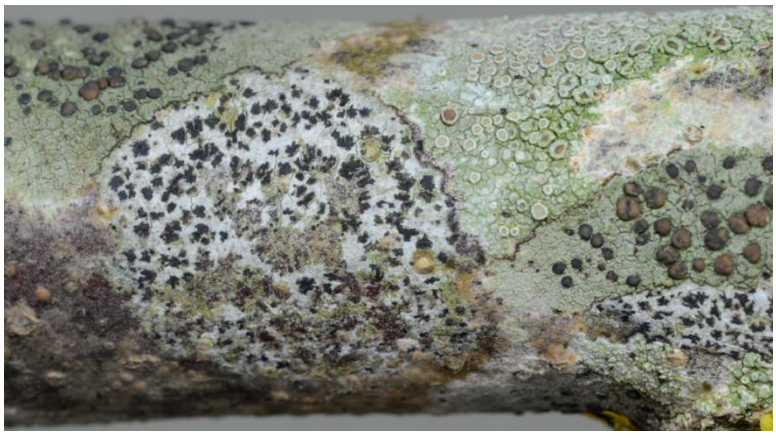
Apart from the churchyards, not many surveys have been carried out, particularly on our trees and areas of ancient woodland. The other main habitats where lichens are prominent are stone or flint buildings, tree trunks and twigs in urban and rural areas, and walls, paths, fences and roof tops.

Although difficult for beginners to identify, there are many helpful guides, keys and local courses available. The British Lichen Society website[32] also contains a photo- ID section.

Lichens on Tree Trunks and Twigs The best time to study lichens on trees is in the winter. Lichens like sunlight and in local woodland like Yoells Copse and Wick Hanger they mostly grow in the canopy and are best studied after winter gales when branches fall to the ground. In Yoells Copse during the 2011/12 winter several sessile oaks were felled as part of the management plan, this was a good opportunity to study lichens living at the higher levels of the tree. Measurements have shown that most lichens grow at over 50 feet where light levels are highest and mosses dominate the lower part of the trunk. Most of the oaks examined were Sessile oaks which, like English oak has a fairly strongly acidic bark.

The best tree species for lichens in Horndean are:-

- English and Sessile oak, Alder and Birch all having strongly acidic bark
- Hazel, Ash, Willow and Veteran oaks with mildly acidic bark
- Acers - Maples and Sycamore Many on urban roadside trees



Lichens

- Hawthorns and Blackthorn Strong growth of lichens on twigs on Catherington Down

Lichens on Walls, Paths, Fences and Roof-Tops

Many species can be found in gardens on paving stones, concrete and mortar. In rural and urban open spaces lichens will colonise wooden gates and stiles. There are many flint walls in Horndean on which lichens add colour and maturity with colonies growing on the flint surface as well as the mortar. A good example is the old flint wall around St.Giles churchyard in Old Blendworth. A large part of the surrounding wall has recently been rebuilt but a lichen survey was done prior to this, several species were found growing on the old section around the wall-letterbox to the left of the entrance gate.

Cowslips and Germander Speedwell

The tops and sides of red brick walls along Catherington Lane and Vincent Crescent have bright orange lichens, and an interesting grey lichen easily identified by the small cup-like structures up to 2cm tall growing from the base. There are good communities of lichens on the staddle stones supporting the old Grain Store along Catherington Lane. Even concrete paving stones soon become colonised by crusty lichens and can be found around the Co-Op corner shop at Kingsmead, not to be mistaken for chewing gum!

Lichens provide a safe habitat for a number of very small species of invertebrates such as snails, beetles, mites and bugs. They also make a good resting place for some species of moths that merge into a camouflaged background. They are integrated as a part of the woodland ecosystem and can survive in the most hostile environments on earth.

Dropwort on Catherington Down

4.9 Wildflowers

Horndean has a rich variety of wild flower species found in a range of habitats and soil types, from ancient woodland and wetland to heathland, grassland and chalk downland. In urban areas a number of native species still survive in corners of gardens, churchyards, school grounds and grass verges in spite of continuous clipping and mowing. Locally, many of these species are in decline – it is an important part of this plan to encourage gardeners and local communities by suggesting actions that will help these species to survive, and be appreciated as wild flowers, not just weeds.

Details of wildflowers seen in the Parish are shown in the following table.

Common Name	Latin Name	Status	Location	Records
Slender Soft=brome	*Bromus Lepidus*	CR	Catherington Down	1 record in 1995 *
Smooth Brome	*Bromus racemosus*	CS	Anmore Dell Farm	1 record in 2002 *
Basil Thyme	*Clinopodium acinos*	UK BAP, CS	Near Bat & Ball PH	1 record in 2001 *
Frog Orchid	*Coeloglossum viride*	UK BAP,	Catherington Lith Catherington Down	Last seen 1997
Dwarf Spurge	*Euphorbia exigua*	UK and H BAP CR	Snell's Corner	1 record in 1997
Eyebright	*Euphrasia pseudokerneri*	NS	Catherington Down	Frequent most years
Bluebell	*Hyacinthoides nonscripta*	CS	Present on all SINCs	Frequent every year
Toothwort	*Lathraea squamaria*	AWI	Catherington Down, Catherington Lith,	Frequent most years

Common Name	Latin Name	Status	Location	Records
			Ham Lane	
Summer Snowflake	*Leucojum aestivum*	H BAP	Catherington Lith	Seen 1989 to 2010
Narrow-leaved Bird's-foot-trefoil	*Lotus glaber*		Dell Piece West, Hazleton Common	1998 to 2012
Field Cow-wheat	*Mellampyrum arvense*	Rare (nHR - VC11)	Yoells Copse & James Copse	1998 to 2012
Fringed Water-lily	*Nymphoides peltata*	NR,CI AWI	Catherington Pond	1998 onwards
Corky-fruited Water-dropwort	*Oenanthe pimpinelloides*	NS	Stubbins Down (Catherington Lith)	1 record 1996 *
Greenwinged Orchid	*Orchis morio*	H BAP HS	Anmore Dell Fm, HZ	2 records '89, 2002 *
Yellow-juiced Poppy	*Papaver dubium, lecoqii*	CS	Nr Clanfield Observatory	1 record in 2000
Rough Poppy	*Papaver hybridum*	SHS	Day Lane	1 record in 2001 *
Round-headed Rampion	*Phyteuma orbiculare*	NS	Catherington Down	A few most years
Chalk Milkwort	*Polygala calcarea*	HS	Catherington Down, Netherley Down	2 records '87 & 2000
Sweet-briar	*Rosa rubiginosa agg.*	CS	Snell's Corner	1 record 1998
Wild Service-tree	*Sorbus torminalis*	HS AWI	Yoells Copse	All years 1997- 2012
Autumn Lady's tresses	*Spiranthes spiralis*	HS	Catherington Down	1 record 1998

On all our local nature reserves and habitats it is important to record and monitor the progress of species, and to keep under close control the spread of invasive species such as ivy, brambles, bracken and check for the presence of alien imports such as Himalayan Balsam, Knotweed, Rhododendron, Spanish bluebells and garden escapes.

A serious problem is the dumping of garden waste as this may contain seeds or roots that grow and spread into areas containing native flora. This especially applies to hedgerows and ancient woodland where any bluebell bulbs in the waste could grow and hybridise with the native English bluebells.

Native Bluebells

Native bluebells

Native bluebells carpet most of our local woodlands and is one of our best loved flowers. It is a welcome and wonderful sight to see in April and May each year. However there is now growing concern that the survival of the native species is being threatened. Every effort must be made to save the bluebells for future generations. Despite its abundance it is quite a demanding plant and the current extremes of climate do not help. The deep roots of bluebells become waterlogged if the water level is too high. The sappy leaves have poor powers of water conduction, and they

cannot live on very dry soils either, apart from in hollows and dells. The species is however reasonably accommodating if the soil water content is right. In Horndean on our moderately acid sandy loams bluebells survive, often growing with bracken as seen at Hazleton Common and Dell Piece West where they are often accompanied by wood anemones. Bluebells also do well on the clay and chalky ancient woodland sites such as Catherington Lith, Wick Hanger and small copses and lanes in the north west of the Parish.

Cow wheat in Yoell's Copse

Action to save the bluebells

Although little can be done about the changing climate there are positive ways in which we can help their survival. The two main threats are

(i) Hybridisation with the introduced Spanish Bluebell *Hyancinthoides hispanica.* Introduced around 1680 and crossing with the native species to produce the hybrid that is very common in many Horndean gardens and has been recorded in woodland and hedgerow since 1963.

WHAT CAN WE DO?

Remove and destroy any Spanish or hybrid bluebells in your garden. The plants must not be composted nor dumped as green waste in hedgerows or woodland. It is best to dig them up immediately after flowering and leave them in the sun with leaves intact to dry out for at least a month to ensure that they are dead.

Round Headed Rampion

(ii) Heavy Public use. Many of our best bluebell woods are open to the public and are often trampled by visitors not keeping to the established footpaths and often creating criss-cross path or short cuts to avoid muddy areas. This is a particular problem at Catherington Lith, Yoells Copse and north at bluebell woods in Clanfield.

To protect bluebells from being damaged in this way, muddy paths could be covered with wood chippings or other appropriate natural material. Notices could then be displayed requesting that people keep to the paths, and natural barriers such as brushwood and dead wood or log piles could be laid adjacent to the paths to form natural borders.

Moschatel on Catherington Down

Flowers on Chalk Downland

The main site to see chalk downland flowers is **Catherington Down**. A small area can be seen on the east side of Catherington Lith known as **Stubbins Down.**

The best time to visit Catherington Down is in July and August. The following species can always be seen on the Down but their numbers vary from year to year and a few species become very invasive whereas others are often difficult to find. They all suffer from trampling but it is important to carry out regular surveys to monitor changes in the flora and offer guidance to the management programme. Some species have declined in recent years.

Bird's Foot-Trefoil, Black Medick, Bulbous Buttercup, Burnet-Saxifrage, Clustered Bellflower, Cowslip, Dropwort, Dwarf Thistle, Fairy Flax, Harebell, Knapweed, Lady's Bedstraw, Marjoram, Milkwort, Quaking Grass, Red Bartsia, Red Clover, Restharrow, Ribwort and Hoary Plantain, Rock Rose, Rough Hawkbit, Round-Headed Rampion, Salad Burnet, Selfheal, Small Scabious, Tufted Vetch, Yellow Rattle, Wild Strawberry, Wild Thyme. This is a general list and does not contain orchids or grasses. A full list of species can be found on an HBIC Survey Summary carried out on Catherington Down by Ian Ralphs in July 2006.

4.10 Flowers in Ancient Woodland

Horndean has a number of isolated woodland sites that still support a good ground-layer of woodland flowers. Most of these areas are relics of semi natural Ancient Woodland and contain a number of plants in the ground-layer that are Indicators of Ancient Woodland (AWIS or AWVPs). The four areas of Ancient Woodland in Horndean that have been regularly surveyed for their ground flora are Catherington Lith with 31 AWVPs, Blendworth Lith and Wick Hanger both with 33 AWVPs , and Yoells Copse with 39 AWVPs .

Many of our woodland flowers have a strong affinity for ancient woodland and are rarely found elsewhere, and the following species are strong indicators that they were growing in an area of woodland that had been in existence for many hundreds of years. Throughout the 1980's, the Nature Conservancy (now Natural England) compiled a national inventory of ancient woodland. Those in Horndean that were 2 acres or more in size (1 Ha.)

Toothwort along Ham Lane

were protected as SINCs but this did not extend to many smaller fragment such as Coldhill Copse, Bulls Copse and Dell Piece West where a few patches of these AWVPs still survive even where new developments have encroached. Some of the species such as bluebells and violets will extend into other habitats such as hedgerow verges.

Ancient Woodland Indicator Species in Horndean

Common Name	Latin Name	Frequency, Locations
Barren Strawberry	Potentilla sterilis	Wood banks, common
Bluebell	Hyacynthoides non-scripta	Occurs throughout Parish
Broad-leaved Helleborine	Epipactis helleborine	Sheepwash Track, Dell Piece West
Butcher's Broom	Ruscus aculeatus	Yoells Copse, Catherington Lith, Pyle Farm Lane
Cow-wheat	Mealampyrum pratense	Yoells Copse
Golden-rod	Solidago virgaurea	Yoells Copse
Moschatel	Adoxa Moschatellina	Yoells Copse, Blendworth Lith, woods west of Catherington Down
Nettle-leaved Bellflower	Campanula trachelium	Catherington Lith, Wick Hanger,
Pignut	Conopodium majus	Yoells Copse, Catherington, Ham Lane and Blendworth Lith
Primrose	Primula vulgaris	In many hedgerows and woodland, some imported
Ransoms,	Allium ursinum	Common in most Ancient Woodland, especially. Yoells Copse and James Copse
Sanicle	Sanicula europaea	Across Parish in woods on richer soil.
Solomon's Seal	Polygonatum multiflorum	In most AW, present in Yoells Copse, Catherington Lith and Wick Hanger
Spurge-laurel	Daphne laureola	Rare but occurs in Catherington Lith and Wick Hanger
Sweet woodruff	Galium odoratum	Yoells Copse, Catherington Lith and common elsewhere
Toothwort	Lathraea squamaria	Frequent in Ancient Hedgerows, Catherington Lith, Ham Lane
Wood anemone	Anemone nemorosa	In all Horndean bluebell woods. Pink form at Dell Piece West and Catherington Lith
Wood -sorrel	Oxalis acetosella	Small patches in Yoells Copse, Catherington Lith and most of Horndean's Ancient Woodland
Yellow archangel	Lamiastrum Galeobdolon	Attractive flowers in May and June. Variegated form is an invasive garden escape.
Yellow pimpernel	Lysimachia nemorum	Frequent in Horndean's Ancient Woodland including Yoells Copse and Ancient Lanes.

4.11 Orchids in Horndean

There are 10 species of orchids present in Horndean and these are listed below.

Common Name	Latin Name	Frequency, Locations
Common Spotted Orchid	*Dactylorhiza fuchsii*	Frequent across the area, at Catherington Down and the A3(M) roundabout and slip roads
Pyramidal Orchid	*Anacamptis pyramidalis*	Occasioanal at Catherington Down**.** Frequent on Dell Piece roundabout and A3(M) banks

Common Name	Latin Name	Frequency, Locations
Early Purple Orchid	*Orchis mascula*	Appears in ancient woodland at Wick Hanger and frequent in copses north of Clanfield
Green-winged Orchid	*Orchis moria*	Rare, isolated specimen in garden near Hazleton Way
Fragrant Orchid	*Gymnadenia conopsea*	Irregular occurrence at Catherington Down, CL, A3 and Dell Piece roundabout and slip roads
Common Twayblade	*Listera ovata*	Frequent at CL on north slopes, occasional at Catherington Down and along ancient tracks
Bee Orchid	*Ophrys apifera*	On slip road and banks at Dell Piece East and on grass verge near Hazelton Way
Frog Orchid	*Coeloglossum viride*	Rare on Catherington Down slopes but difficult to spot
Broad-leaved Helleborine	*Epipactis helleborine*	Sheepwash track from Hazelton Common to Padnell Road (late flowering in August and DPW
Southern Marsh Orchid	*Dactylorhiza praetermissa*	Only at DPW, one or two fine specimens.

Some are frequent and are widely dispersed across the area. They vary in quantity, quality and location from year to year. On Catherington Down there has been a decline in recent years whereas at Dell Piece there have recently been new discoveries. Often a number appear on disturbed ground or on grass verges and road embankments as is the case with the A3(M) motorway. The only action that can be taken to conserve them is to observe and record their occurrence and to make management teams aware of their presence so that protective measures can be taken. This was the case along Hazelton Way where Bee orchids were growing on a section of the grass verge and cutting was avoided on this section.

Broad-leaved Helleborine

4.12 Arable Plants in Horndean

Arable plants, according to 'Plantlife', are the most critically threatened group of wild plants in the UK and have shown the greatest decline of any group of British plants over the past 25 years largely due to farming practices and climate change.[27] They do not only grow in arable fields but can be found along footpaths and roadside verges, in waste-places, allotments, school grounds, playing fields and most important gardens – all habitats that are common in Horndean.

Common Spotted Orchids and Ox-eye daisies

The presence of a wide range of arable plants encourages a diverse population of mammals, birds and invertebrates. This diversity has economic and environmental benefits such as an increase in natural predators of crop-destroying insects, an increase in game birds and an increased in

plant pollinators. For many the beauty of the countryside was enhanced by the flowers of the arable fields such as poppies, mayweed, red pimpernel, cornflowers and marigolds.

Pyramidal Orchid

Actions needed to preserve and encourage the growth of wildflowers are listed below:

A. Record and survey changes in the populations and distribution of arable and hedgerow plants in rural and urban sites.
B. Select suitable grassland sites for the planting of wild flowers and recreating flower meadows.
C. Collect seed as well as use commercial seed mixes to sow and propagate species appropriate to selected sites.
D. Raise awareness of local projects and encourage local urban groups to manage areas for wildflowers
E. Identify and record rare arable plants.

Wildflower species suggested for home propagation (mostly from seed)

Cornflower *(Centaurea)*
Viper's Bugloss *(Echium)*
Henbane *(Hyoscyamous),* Poisonous
Corncockle *(Agrostemma)*
Musk-mallow *(Althaea)*
Hemp-nettle (*Galeopsis)*
Pheasant's-eye *(Adonis)*
Red Poppy *(Papaver)*
3 species Chamomile (*Anthemis)*
Catmint *(Nepeta)*
Corn Marigold *(Chrysanthemum segetum)*
Yellow Vetchling *(Lathyrus)*

Many of these plants have rarer species in the same genus. Almost all are UK BAP Priority species but they have been selected as suitable for home growing and most are summer or autumn flowering. Many more will be found in the Identification Guide that can be downloaded from the Plantlife website.[27]

4.13 Alien and Invasive plant species

Alien species are non-native, non-indigenous, foreign, or exotic species outside the range they occupy naturally *or* could not occupy without direct or indirect introduction or care by humans and includes any part of such a species that might survive and reproduce. They therefore differ from Native or indigenous species that grow within the range they occupy naturally or could occupy without direct or indirect introduction or care by humans.

Invasive species[29] are alien species that becomes established in natural or semi-natural ecosystems or habitat, is an agent of change, and threatens native biodiversity. Some native species such as bracken and brambles may also be invasive.

Alien plants are not a major problem in Horndean but once they get a hold it is a very expensive task to remove them. The government has spent many millions of pounds trying to remove them. Funds will no longer be available and so it is now essential that local people are extremely vigilant and report anything suspect so that it can be stopped before spreading out of control. This document can only describe a few that are found in Horndean but details of the latest news and those species currently causing problems can be found on the Plantlife website.

The first two alien plants listed below are aquatic species present locally -

(i) **New Zealand pygmyweed** *Crassula* helmsii has been found in several local ponds and is difficult to remove as it easily fragments and bits could be spread by ducks or herons from one pond to another. Originally introduced from Australia in 1911 and sold in aquatic shops, it has been estimated that £3 million was spent just trying to control it but it has still not been eradicated.

(ii) **Parrot's Feather** spread across the pond at Merchistoun Park. Dies back in hard winters but regrowth is probably from stem fragments. Both these aquatics spread at the expense of native aquatics and can form dense mats.

(iii) **Japanese knotweed** is one of the most pernicious non-native weeds in Britain and very difficult (and expensive) to eradicate. There is an area to the north of Dell Piece West adjacent to F.P. 26 where Japanese knotweed has been growing for many years and is now difficult to remove and will involve several years of chemical treatment. It endorses the need for local people to be observant and report any suspect plants whether they are in their own garden or on adjacent land.

(iv) **Rhododendron** causes problems in the wild, particularly in ancient woodland where it can grow to over 10 metres in height and has thick leaves that shade out native plants and in turn leads to the loss of local animal life, including dormice, which are dependent on the native flora. There are two sites in Horndean, one at Catherington Lith and the other at the Deep Dell on Hazleton Common, where rhododendron has taken hold but has now been largely removed but these areas need careful monitoring over a number of years. Introduced in Victorian times to add attractive colour to the woods, the plant does not spread by underground root growth but by lateral horizontal growth of the branches, when the branches touch the ground they will root and continually extend the area of cover.

(v) **Himalayan balsam** was **i**ntroduced in 1839. It escaped from gardens and rapidly colonised river banks where volunteers have spent many hours removing the plants. Fortunately there have been no sightings in Horndean. Fine specimens can be seen by the village hall car park in Warnford.

(vi) **Invasive Native Plant Species.** The three native plants that have become very invasive if unchecked are Brambles, Ivy and Bracken. Conservation groups across the country have spent many hours removing scrub from woodland and downland habitats, the main target of attention being brambles. Although quick spreading both brambles and ivy are of great benefit to a wide range of wildlife and so a balanced approach is necessary.

Brambles provide food as nectar, pollen, flowers, fruit and leaves. They also provide good habitat and shelter for mammals such as dormouse and birds such as song thrush and wren and we all benefit from the fruit in the autumn. On the downside, if unmanaged, the spread of brambles can have a serious negative effect on the development of ground flora, especially in ancient woodland areas that have been coppiced. A careful balance has to be maintained in areas such as Yoell's Copse and Catherington Lith.

Ivy has in recent years spread at an alarming rate. As with brambles ivy has a rapidly spreading underground root system. In addition it has the ability to climb to great heights on trees, sometimes smothering an entire native tree. This can overshadow (and outcompete) the tree's leaves and the

Blackberries on Bramble

weight can bring down weak trees in storms. Ivy is very beneficial to insects, especially bees and wasps. The second generation of the Holly Blue butterfly feeds on ivy. The flowers provide nectar and pollen right up the end of the year when other sources of food are scarce. It is also beneficial to other insects and birds offering shelter and nesting sites. Again it is necessary to strike a balance.

Bracken can be a problem once it gets a hold because of its powerful underground root spread. There are a number of sites in Horndean where the spread of bracken is becoming difficult to control including some hedgerows. Areas at Dell Piece West, Catherington Lith, Hazleton Common and The Holt are spreading at the expense of other vegetation and can be very difficult to control, although there are some benefits to wildlife such as reptiles.

4.14 Trees and Shrubs

Several of the trees are over 250 years old and pre date the buildings and roads constructed since 1850. Trees are our living heritage and it is most important that they are looked after. Increasing housing density has brought many of the older trees into close proximity resulting in threats to both housing and trees but it is these older trees that provide habitats, shelter and food for such a large range of species that are important to the local ecology.

The Horndean Tree Register held on www.horndeantrees.co.uk aims to record and illustrate all the important trees growing in Horndean. There are many reasons for a tree being important. They may have landscape, environmental, historical value or simply be a part of the street scene - all will certainly be of importance to wildlife. The Register is arranged by species broadly in order of abundance in Horndean starting with the oaks, yews, ash and beech.

The Horndean Oaks. The Common or **Pedunculate Oak** is the greatest and most notable tree species in Horndean. Many mature oaks survive in the southern half of the Parish within housing estates, gardens and along lanes and hedgerows or in small copses. Many fields have a number of fine solitary oaks, some are on the line of former boundaries and all play an important part in the linking of corridors for wildlife and providing homes for birds and a many invertebrates, in fact more than 400 species of plant-eating insects are associated with the oak plus many species of fungi, mosses, ferns and lichens.

The oak trees growing at Dell Piece West are particularly healthy and fertile and many have grown from acorns to mature trees since the motorway construction and are now producing their own acorns (in 20 years).

In Yoells Copse a high percentage of the oaks are **Sessile Oaks** and there are also some hybrids ***(Q.rosacaea)*** . There are some fine specimens of **Holm Oak** near the centre of the village. They are hardy, were introduced in the 16th century and although non-native are evergreen and do provide shelter and nesting sites for birds. There are several **Turkey Oaks** on Dell Piece West and Hazleton Common. These are not-native, grow quickly and easily hybridise with native oaks and on ancient woodland areas are removed before they dominate over native species.

Horndean Ash is the second most common tree growing across the Parish and often in close proximity to oaks especially as hedgerow trees. It is a graceful and most attractive tree which rapidly spreads to open ground and across gardens largely due to a high production of wind-blown seeds or ‘keys’. It is hoped that many of the local native ash trees will remain immune to the Ash dieback disease. Ash is not host to as many species as oak but they are attractive to many lichens which add colour and interest in winter.

Yew Trees in Horndean are spread across the Parish in all our churchyards, and one of the largest in Hampshire is in Ludmore Hanger. It is poisonous and not host to much wildlife but one species of fungi that lives on yew is the Sulphur Polypore that can be seen growing on a yew tree along the A3 hedgerow near Merchistoun Park. Other native species that have a healthy presence in Horndean are Field Maple. Frequently found in local hedgerows and green spaces, also some very large veterans – 2 in Catherington churchyard and one at the south end of Keydell nurseries.

Sycamore is considered naturalised as it was introduced as early as c.1250. It can be a valuable part of the landscape other than in ancient woodland where it can dominate and shade the woodland floor. Some ancient coppiced sycamore survives in the small round wood on the path between Catherington and the Lith and on the higher parts at the south end of Catherington Down.

Beech is one of our most attractive native trees**.** The best trees occur in Catherington the finest specimen being next to Catherington School but a less noticed group are found further north by the junction with White Dirt Lane and others to the rear of the Old Vicarage. A fine avenue of around 50 beeches occurs on a steep bank along a road by Netherley Down. They do not live as long as oaks and rarely for over 400 years old and they are prone to falling down as they have a very shallow root plate and are subject to fungal attack. Many local trees have large bracket fungi attached. Dead beeches if left standing provide excellent nesting sites for woodpeckers and large fallen trunks make excellent homes for beetles and wasps etc. Many tall beeches along The Monarch's Way footpath to Rowlands Castle have a fine spread of buttress roots covered in many types of mosses such as *Polytrichum*. Also along Monarchs Way are Silver Birch and Aspen being the food plant of a number of insect species.

Small areas of coppiced **Hazel** can be found at Catherington Lith and Yoells Copse but on both the wooded east and west side of Catherington Down there are some very old coppiced stools. Larger areas of recently coppiced hazel can be found in Bluebell woods north of Horndean and most of our ancient hedgerows and shelter belts contain some hazel.

The genus *Sorbus* There are 3 species of native *Sorbus* which can all be found growing naturally in Yoells Copse:- **Wild Service Tree, Whitebeam** and **Rowan** or **Mountain Ash.** It is rare to find them all in one small area of woodland. They are all indicators of ancient woodland. It is even rarer to find natural hybrids between these species, here the Wild Service has crossed with the Whitebeam. Fine specimens of both species occur in close proximity and would both need to be flowering at the same time. These rare hybrids have only been found in the Wye Valley and one in Kent and are referred to as the **Wye Whitebeam**. It is also unusual to find Sessile oak and oak hybrids in the same copse, making the copse a very special site for its biodiversity.

Flowering Trees and Shrubs. There has been a decline in species producing blossom with nectar available for bees in recent years and attempts are now being made to include these species in planting schemes in Horndean's green spaces and hedgerows and also encourage their addition in gardens. They are chosen to provide a range of flowering times throughout the year. Most species also provide berries and nuts for birds and small mammals. The larger trees include **Wild Cherry**, a few of which can still be found in Yoells Copse.

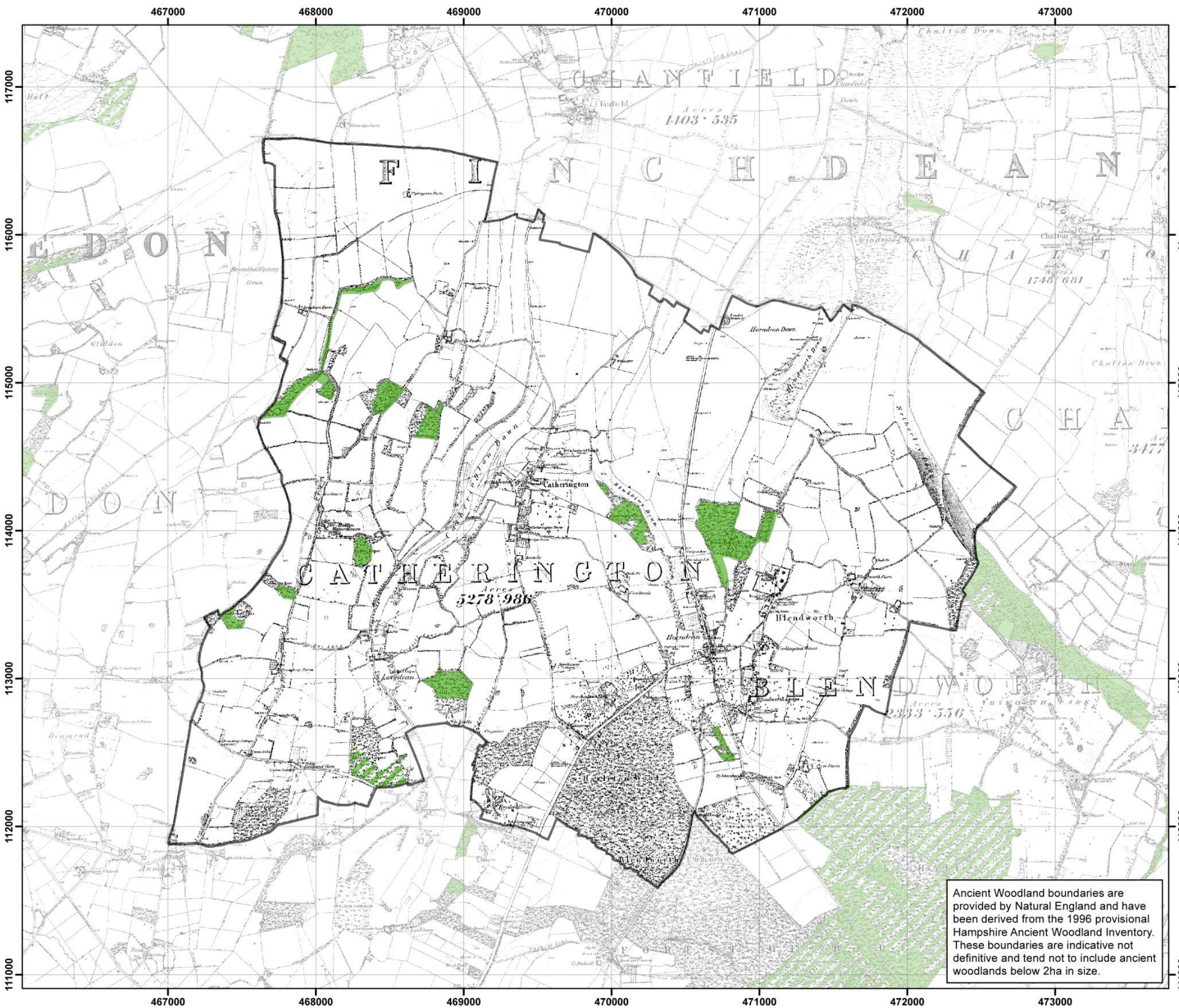
Wild Apple found in Yoells Copse and Dell Piece West and all the ***Sorbus sp.*** produce flowers high up in the canopy**.** Amongst the native flowering shrub species that are beneficial to pollinating insects are several members of the Rose family such as. **Blackthorn** and **Myrobalan Plum** or **Cherry Plum** *P.cerasifera.* Both are valuable hedgerow plants but Cherry Plum is especially valuable as it is the

earliest of flowering shrubs and valuable to bumble bees, providing nectar early in February when little else is available.

Hawthorn is the commonest and quickest growing hedgerow plant, used extensively for stock-proof enclosure hedges, is food plant for many insect species but has the disadvantage of spreading across chalk down-land in common with Blackthorn and has to be regularly cleared from Catherington Down and just a few mature bushes are left to offer shelter and food for animals and birds.

Rose

Wild Rose species including **Field Rose** and **Dog Rose** are frequent in most of our hedgerows with occasionally **Sweet-briar** and, of course **Brambles** or blackberries are found almost everywhere but it is important to note that brambles are divided into a large number of micro species that at some time in the distant past many gave up sexual reproduction and have persisted vegetatively as micro species. Of 300 of these micro species found in the UK over 150 have been detected in Hampshire all of which are described in the Flora of Hampshire. This may not seem relevant to Horndean but studies by Dr David Allen suggest that several of these species occur in ancient hedgerows on our side of Havant Thicket and suggest that the number present may have potential as historical indicators. The greater the number of different kinds in a particular hedge or wood, the older it is likely to be. Four members of the Honeysuckle family (*Caprifoliaceae)* are all frequently seen in our hedgerows, produce flowers and berries, attract moths and can be grown in gardens. They are **Guelder Rose, Wayfaring tree**, **Elder** and **Honeysuckle.**



Hbic

Hampshire Biodiversity Information Centre

HBIC Ref: 4211

Sites included in the Ancient Woodland Inventory within or overlapping Horndean Parish, on the Historic Mapping: Epoch 1 - 1866-1889

Legend

- Horndean Parish

Ancient Woodland Inventory

- Semi-Natural
- Replanted

N

Created: 02/07/2013

Scale at A3: 1:24,000

0 195 390 780 1,170 1,560 Meters

Ancient Woodland boundaries are provided by Natural England and have been derived from the 1996 provisional Hampshire Ancient Woodland Inventory. These boundaries are indicative not definitive and tend not to include ancient woodlands below 2ha in size.

SECTION 5 ACTIONS

5.1 Introduction

This section sets out the objectives, the recommended actions to achieve them and the outcomes of those actions that we believe would improve Horndean's biodiversity following the studies undertaken and described in the previous sections. Partners who might be able to assist in achieving the outcomes are shown in the table as are cross-references to other organisations that have made similar recommendations.

The cross-references in Column 6 identify similar recommendations in published documents relating to Horndean. Items marked, "EHDC DW" and "EHDC SA" relate respectively to the District Wide and South Area Action Tables in Section 3 of the 2009 Biodiversity Action Plan for East Hampshire[7]. Items marked, "PUSH" relate to the "October 2012 PUSH Green Infrastructure Implementation Framework"

5.2 Action Table

Ref.	Objective	Actions	Outcomes	Partners	Cross Ref
Urban Habitat – Section 3.4					
1.	To improve the management of gardens and allotments so that they are more sympathetic to wild life.	Encourage: • land management using methods sympathetic towards wildlife; • natural means of pest control avoiding the use of chemical sprays; • the growing fruit trees, flowering herbs and vegetables; • crop rotation on allotments and vegetable plots to include flowering plants such as peas and beans; • growing hedges to protect gardens and allotments from high winds; • growing a selection of plants that flower throughout the year; • participation in Big Garden Bird Watch; • compost heaps and piles of logs in gardens.	Improved support for wildlife populations. Increased populations of species that assist in pollination or control pests. Increased understanding of biodiversity and its conservation.	Residents, EHDC, HPC Residents Allotment holders.	EHDC SA4.4
2.	To reduce the loss of green space to hard standing.	Encourage residents to refrain from surfacing front gardens for parking.	Reduce loss of wildlife habitat Reduce risk of local flooding.	EHDC	

Ref.	Objective	Actions	Outcomes	Partners	Cross Ref
3.	To improve the value of open spaces for wildlife and to establish wild life corridors.	Encourage land owners to: • make better use of amenity grassland for biodiversity; • improve and introduce new hedgerows, wild flower borders and trees between sites.	Bigger, better and less-fragmented areas for wildlife.	EHDC HPC HCC	EHDC SA4.3
4.	Manage trees to: • Support wildlife; • Control pollution; • Moderate temperatures ; • Provide shelter from wind.	Maintain a register of ancient and notable trees. Map and encourage retention of the urban copses, obtaining site protection whenever possible. Encourage tree planting on appropriate urban sites. Seek protection of important trees and copses. Improve awareness of local trees and their environmental benefits.	Better and less fragmented areas for wildlife; An urban area that is more attractive and less susceptible to the extremes of natural events.	Residents Landowners HBG EHDC HPC Housing associations	Appendix [N] EHDC SA 2.4
5.	Maintain and enhance churchyards to support local flora and fauna.	Survey local churchyards for birds, mammals, reptiles, trees and plants present. Encourage owners of churchyards to produce and implement a plan for wildlife.	Better and less-fragmented areas for wildlife. Sites that people would like to visit to appreciate the surroundings.	Owners of sites HPC EHDC	Sec 3.4.4
6.	Create wildlife habitats in urban areas of Horndean.	Promote habitat creation schemes and management of wildlife to owners of recreational land and gardens; Campaign for road verges to be managed for floral diversity.	Wildlife populations supported. Aesthetic appeal to communities increased.	EHDC HPC HBG	EHDC SA 4.3
7.	Protect the native species of bluebell from hybridisation with the Spanish Bluebell.	Encourage residents and landowners to remove and destroy any Spanish or hybrid bluebells in their gardens and woodland.	Retention of important native species.	Residents Landowners HPC EHDC	

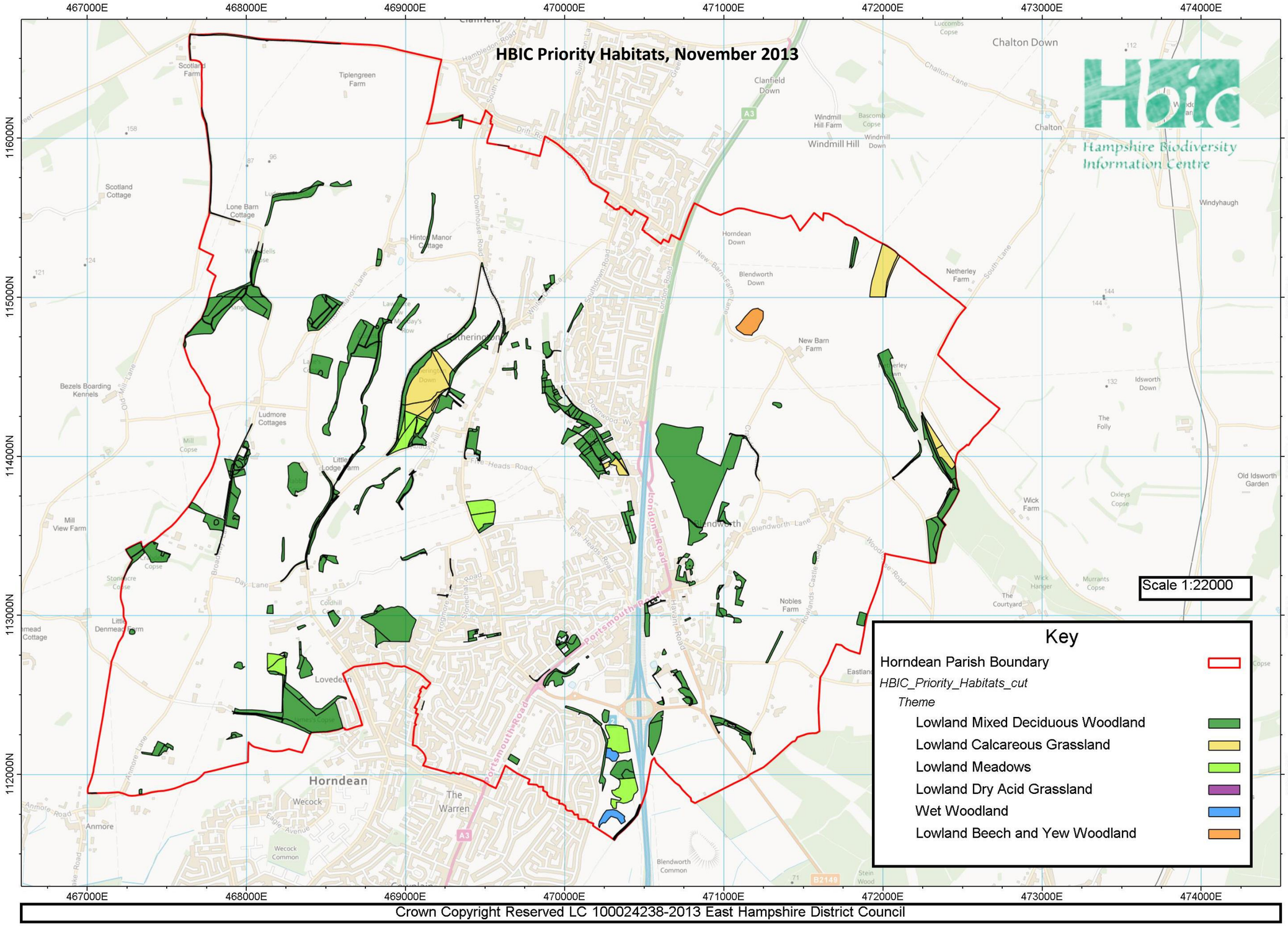
Ref.	Objective	Actions	Outcomes	Partners	Cross Ref
Countryside – Section 3.5					
8.	Improve the value of the countryside for wildlife.	Survey and record changes in the populations and distribution of arable and hedgerow plants in rural sites. Identify suitable sites for the planting of wild flowers and recreating flower meadows. Identify and record rare arable plants. Raise awareness of local projects and encourage local groups to manage areas for wildflowers. Work with SDNPA and Forestry Commission to encourage more local landowners to participate in environmental stewardship schemes in particular at the higher level and also schemes under the English Woodland Grant Scheme.	An increase in the numbers of natural predators of crop-destroying insects reducing the need to use sprays; Bigger, better and less-fragmented areas for wildlife; An increase in the numbers of natural pollinators.	HPC Local landowners SDNPA Forestry Commission	EHDC SA3.2 EHDC SA 2.5
Aquatic and wetland habitats - Section 3.5.4					
9.	Increase wetland biodiversity.	Encourage • the establishment of new ponds; • good management of existing ponds; • removal and reporting of alien species; • pond surveys; Where possible monitor the condition of ponds. Investigate the possibilities of extending wetland areas around Lavants.	Refuges for freshwater plants and animals, birds and insects Range of local biodiversity extended with wetland plants Reduced flood risk.	Residents HPC Schools Horndean Community Association EHDC HCC Developers	EHDC DW 2.7
Natural networks - Section 3.6					
10.	Enable wildlife to migrate between the countryside and urban habitat	Develop a plan for natural networks through and around the urban area linking isolated green sites with the open countryside.	Bigger, better and less-fragmented areas for wildlife.	HPC; EHDC; HCC. Residents Land owners.	PUSH U13
11.	Improve the wildlife habitat and floral diversity alongside roads.	Manage road verges for floral diversity. Reduce mowing of road verges that don't collect large amounts of rubbish and are not subject to bramble invasion.	Bigger, better and less-fragmented areas for wildlife.	EHDC HCC Highways Agency	PUSH U13; EHDC SA4.3

Ref.	Objective	Actions	Outcomes	Partners	Cross Ref
12.	Make better use of public rights of way to provide wild life corridors into the urban area.	Work with HCC to improve maintenance of rights of way to increase their value as wild life corridors.	Bigger, better and less-fragmented areas for wildlife.	HCC HPC HIWWT	PUSH U12 EHDC DW4.5
13.	Provide cover for nesting birds and maintain a network for wildlife between sites, such as woodland, ponds and grassland	Encourage planting of hedgerows Where possible enhance hedgerow network with trees or bushes and field margins. Increase the species diversity of ground flora in Hedgerows Conduct surveys of hedgerow ground flora.	Bigger, better and less-fragmented areas for wildlife.	SDNPA Landowners Residents HPC	EHDC SA 3.2
Designated sites – Section 3.8					
14.	Preserve the natural ancient woodland habitat	Continue low-intensity management of woodland areas in Yoell's Copse and Catherington Lith Connect to local ecological network. Undertake hazel coppicing.	Continued preservation of semi-natural ancient woodland. Colonisation by Dormice	HPC HCC FC	
15.	Encourage transition to Lowland Heath habitat.	Continue scrub management; Hazleton Common and Dell Piece West Continue enhancement of wetland areas	Wildlife reservoir improved	HPC HCC	
16.	Improve seasonal management of nature reserves to reduce damage to sites by overuse or disruption to grazing	Plan for short periods of closure of selected areas of sites to the public to enable grazing;	Retention of site designations. Improved biodiversity of sites.	HPC HCC	

Ref.	Objective	Actions	Outcomes	Partners	Cross Ref
17.	Assist visitors to enjoy designated sites without damaging biodiversity	Display notices on site and on web sites to persuade walkers to stay on footpaths. Establish preferred routes across designated sites by selective cutting of bushes and laying natural barriers alongside the paths. Encourage responsible dog ownership. Work with HCC to improve public rights of way to access sites.	An improved experience for visitors. Visitor pressure diverted away from most sensitive areas. Improved access to sites.	HPC HCC Residents	EHDC SA 4.5
18.	Maximise the ecological value of grassland on Catherington Down	Encourage maintenance/implementation of appropriate grazing regimes on downland; Maintain balance between species rich grassland and scrub;	Species diversity maintained and enhanced; Balance achieved between species rich grassland and scrub Improved habitat for wildflowers	SDNPA EHDC HIWWT HCC HPC NE	EHDC SA 1.1
19.	Expand UK BAP priority habitat surrounding Catherington Down.	Encourage owners of surrounding land to participate in environmental stewardship schemes; Support SDNPA project to re-create grassland habitat on a landscape scale, northeast and west of Catherington Down; Encourage owners of adjacent land used for horse grazing to improve grazing practices to reduce loss of wild life habitat.	Restoration of landscape scale unimproved chalk grassland; Landscape character enhanced; Large wildlife reservoir created; Maximize ecological functioning of chalk grassland habitat.	SDNPA HCC HPC EHDC Land owners	PUSH F2; EHDC SA 2.2

Ref.	Objective	Actions	Outcomes	Partners	Cross Ref
20.	Retain and improve the privately owned SINCs to enhance their status for wildlife and as core areas in the ecological network.	Encourage • owners to maintain the privately owned SINCs to improve their biodiversity • owners of woodland sites to undertake selective coppicing, perhaps working with the SDNPA • residents to walk the rights of way and minor roads alongside these sites, enjoy the situations offered and support the retention of these sites	An increased range of species; Increase in numbers of existing rare species An improved ecological network within the Parish.	Landowners Residents SDNPA EHDC HBIC	EHDC SA 1.2 EHDC SA 4.5
21.	Enhance species rich priority habitats, to improve their status for wildlife and Support the ecological network.	Encourage private landowners to manage land more sympathetically towards wildlife.	Species diversity maintained and enhanced.	Landowners; SDNPA; HPC HBIC	EHDC SA 2.3
Working together with residents - Section 3.2					
22.	Improve residents' knowledge of local wildlife.	Encourage garden moth recording Encourage local groups to share records with the wider recorder community and HBIC Undertake wildflower surveys on all designated sites. Target survey effort onto undesignated chalk downland sites	Increased understanding and awareness of variety and distribution of local wildlife.	HBG HBIC HPC HIWWLT	EHDC DW 3.1
23.	Promote biodiversity and its conservation to the public, land owners, land managers and decision makers	Install additional interpretation boards on nature reserves and at key ecological sites. Work with HIWWT and the SDNPA to providing opportunities for people to visit and learn about the local ecology.	An improved appreciation of how the natural environment works and how it is relevant to us all. Increased volunteering in biodiversity projects	HIWWT SDNPA HBG HPC	EHDC SA4.1

Ref.	Objective	Actions	Outcomes	Partners	Cross Ref
24.	Utilise local wild life attractions to win the hearts and minds of young residents.	Encourage pond dipping by children in selected safe locations; Promote wildlife walks on the nature reserves; Support the Horndean Technology College allotment project; Encourage community youth wild life garden projects. i.e. Jodrell Close	Young people understand the importance of local biodiversity and conservation; Future generations have greater awareness of wildlife and conservation issues.	HBG HPC Housing Associations HIWWLT SDNPA	
25.	Increase the knowledge base of skills to be used in conservation.	Develop volunteer training and fund expenses and subsidies. Improve links between groups to increase access to individuals with specific skills.	More effective conservation practices and better use of volunteers.	HPC EHDC HCC HIWWLT HBG	EHDC DW4.4


HBIC Priority Habitats, November 2013
Hampshire Biodiversity Information Centre
467000E
468000E
469000E
470000E
471000E
472000E
473000E
474000E
116000N
115000N
114000N
113000N
112000N
Scale 1:22000
Key
Horndean Parish Boundary
HBIC_Priority_Habitats_cut
Theme
Lowland Mixed Deciduous Woodland
Lowland Calcareous Grassland
Lowland Meadows
Lowland Dry Acid Grassland
Wet Woodland
Lowland Beech and Yew Woodland
Chalton Down
Clanfield Down
Windmill Hill
Windyhaugh
Horndean Down
Blendworth Down
Netherley Farm
New Barn Farm
Idsworth Down
Old Idsworth Garden
Horndean
Wecock
Anmore
Blendworth
Blendworth Common
Lovedean
Catherington
Clanfield
Chalton
Tiplengreen Farm
Scotland Farm
Scotland Cottage
Lone Barn Cottage
Hinton Manor Cottage
Bezels Boarding Kennels
Ludmore Cottages
Little Lodge Farm
Mill View Farm
Little Denmead Farm
Nobles Farm
Wick Farm
Oxleys Copse
Wick Hanger
Murrants Copse
The Courtyard
The Folly
The Warren
Wecock Common
Stein Wood
A3
B2149
London Road
Portsmouth Road
Havant Road
Five Heads Road
Blendworth Lane
Chalton Lane
South Lane
Downhouse Road
Old Mill Lane
Anmore Lane
Anmore Road
Day Lane
Broadwater
Coldhill
Frogmore
Stonechat Road
Rowlands Castle Road
Woodcroft Road
Southdown Road
Downwood Way
New Barn Farm Avenue
Eagle Avenue
Drift Road
Whitedells Lane
Hambledon Road
Windmill Hill Farm
Bascomb Copse
Windmill Down
Luccombs Copse
Mill Copse
Stonemere Copse
Lovedean Copse
Eastland Copse
Crown Copyright Reserved LC 100024238-2013 East Hampshire District Council

APPENDIX 1 **HORNDEAN'S URBAN WOODLAND**

Urban trees are often unprotected by law as a Tree Preservation Order is only applied if there is an identifiable risk. As more housing is built trees are put under risk by owners who fell trees prior to submitting a planning application or who get concerned where properties have been developed or extended too near to existing trees.

Listed below are the more significant groups of trees within and close to Horndean's urban area.

No.	Group of trees	Location & Grid Reference	Description	Current Protection and issues
1.	James Copse & James Copse North	Located on the western edge of Lovedean on the Havant BC boundary. SU683123	James Copse is a 100 year old oak plantation over hazel with rare starveling stools of Ash and Maple. It's in private ownership.	Has SINC status & very prominent from much of Horndean and Hartplain.
2.	Coldhill Copse	The Curve Lovedean SU685130	Includes Ash, oak, Holly, Hawthorn & Hazel.	In 2003 a Planning inspector rejected site for housing. TPO EH480 refers
3.	Yoells Copse	Forms a northern boundary to the estates in Lovedean. SU690129	5Ha of ancient woodland. It is now owned by Horndean PC. Is very prominent from much of Horndean.	Has SINC status. TPO EH120 refers. Lacks wild life corridor to north.
4.	Wagtail Road Copse	SU695129	Small copse left in recent development.	Partly covered by a TPO.
5.	Crouch, Coldhill, Tagdell & Ham Lanes plus Ham Lane Copse	Between Catherington & Lovedean. SU689134	Tree lined ancient lanes. Part of Crouch Lane is on the development boundary. Ham Lane is on the SDNP boundary. The copse includes Hazel and bluebells.	Equestrian activity could prejudice some trees.
6.	Catherington House	Five Heads/ Catherington Lane junction. SU694140	There are many specimen trees in grounds of Kings Court School.	In conservation area. TPO EH63 refers.
7.	Lychgate Copse	At junction of Catherington Lane and the Bridle Path. SU695135.	Small copse to north of Bridle Path with various species including Gean (Wild Cherry) In private ownership.	Not protected & immediately outside the development area.
8.	Dell Haven	North of Bridle Path and school field. SU697136	Mainly oak. Privately owned. Site recently developed.	TPO 668 refers.
9.	74-82 Five Heads Road	To north east of Five Heads Rd. SU700137	Small group of trees on edge of estate and are prominent from local R of W's.	TPO EH 859

No.	Group of trees	Location & Grid Reference	Description	Current Protection and issues
10.	Five Heads House Five Heads Road	Located around Five Heads House. SU700135	Mainly Copper beech Also unprotected Lime & Sycamore trees immediately across road. All are prominent in Horndean	TPO EH151 & TPO EH166 refer.
11.	40 Five Heads Road	Small group of trees alongside Five Heads Road. SU702134	Includes a large Horse Chestnut.	TPO650 refers.
12.	Highcroft Row:	Large copse between A3(M) & Bentley Close. Is south west of A3(M). SU704135	Abandoned Copse with evidence of quarrying in private ownership. Provides visual and noise barrier between A3(M) & residential area. Includes a large prominent Ash Tree. Shown on 1851-1855 OS map.	Is part of Wild life corridor alongside the A3 (M) promoted by PUSH as Project U13.
13.	Between A3(M) & Enterprise Rd.	SU705137	Band of trees that improve outlook and help to limit noise from A3(M).	No protection.
14.	Catherington Lith	Between Highcroft Estate and North Horndean. SU702140	Large prominent group of trees. Forms backdrop to North Horndean Estates. Links to wild life corridor along A3(M) Owned by Horndean PC.	Woodland SINC. See PUSH Project U13.
15.	St Catherines	West of Catherington Village. SU693144	Group of trees overlooking and to east of Catherington Down. Includes many beeches.	In conservation area and on edge of SDNP. TPO EH267 refers.
16.	Blendworth Lith	Large woodland to the east of London Road, forms backdrop to Horndean Village. SU 708136	In private ownership. Forms backdrop to much of Horndean Village.	SINC.
17.	Crookley Park	Located to north east of former Brewery. SU708132	Includes a wide selection of specimen & parkland trees located in business site. Provides much of the attractive woodland backdrop to Horndean Village Centre.	(TPO EH8) There are land owner proposals to build on site.
18.	Cadlington House	Groups of trees to south and west of house. SU711132	Specimen trees east of Blendworth Lane.	Within grounds of Grade 2 listed building and in Conservation area.
19.	Blendworth Lodge	SU709128	Within development boundary.	TPO EH9 refers.

No.	Group of trees	Location & Grid Reference	Description	Current Protection and issues
20.	Bulls Copse	Woodstock Av. south of Bull's Copse lane. SU691125	Band of trees, mainly oak at end of gardens is remnant of ancient copse	
21.	Bulls Copse	SU695125	Trees around old pond include mature Aspens.	
22.	Bulls Copse	In the Bull's Copse and Briarfield Gardens area. SU695127	Several trees including oaks.	Some trees have TPO's
23.	Area to the west of Keydell Close	S 692121.		There is a cluster of TPOs in this area. There is a case to re-survey and reassess.
24.	Portsmouth Road	Between Portsmouth Road & Rosemary Way SU697121	Trees to rear of houses in Portsmouth Road.	Area of special housing character.
25.	North west of Portsmouth Road.	Tree belt along Portsmouth Road, including Causeway Copse Napier Road and Merchistoun Hall Park SU700128	This is an urban tree belt in parkland that gives Horndean its attractive approach from the south. EHDC own the open space in Napier Road.	Trees on Napier Road are on EHDC land. TPO 129 covers the Merchistoun Hall site owned by Horndean Community Association. TPO EH212 applies to Causeway Copse, partly owned by Horndean PC.
26.	Merchistoun Estate	Several small groups of trees mainly in open spaces & back gardens. SU700130	Mainly large oaks. The large 'Merchistoun oak' is in the centre of a roundabout. Significant groups of trees in Nelson Crescent & Cunningham Road are on sites owned by EHDC. Also there are back garden trees. Many of these trees including some near to Horndean TC are unprotected and on privately owned or housing association or HCC land.	TPO EH604 covers one group in Murray Road

No.	Group of trees	Location & Grid Reference	Description	Current Protection and issues
27.	Redcroft Row. The band of trees along the to the north of	Is partly in a nursery and includes trees along the A3(M) SU708125.	The band of trees along the north of Redcroft Row comprising ash with two oaks, some field maple and hazel provides an attractive backdrop to this part of the village.	TPO EH463 applies to most but not all of these trees and is considered to need extending. Part of area is being developed for housing. Is part of Wild life corridor alongside the A3 (M) promoted by PUSH as Project U13.
28.	Soakfield Row	Close to junction of Pyle Lane & Manor Lodge Road SU711123	Is probably an ancient wood relic. Provides an attractive section to Horndean's approach from the east and is not protected.	
29.	Area north of Dell Piece East slip road	South of junction of Havant Rd & Manor Lodge Road. SU708125	Includes many mature oaks.	Possible area for housing and business development.
30.	Dell Piece East Copse	Alongside the A3(M) immediately south of Hazleton Junction. SU705124	Oak woodland with abundant Birch of recent secondary origin but lacking Hazel. Provides an attractive section to Horndean's approach from the east and from the A3(M).	Is part of Wild life corridor alongside the A3 (M) promoted by PUSH as Project U13.

APPENDIX 2 **REFERENCES**

1. **South Hampshire: Integrated Water Management Strategy for PUSH (2009) Section 5** www.environment-agency.gov.uk/static/documents/Leisure/PUSH_IWMS_MAR_09.pdf
2. **Conservation of Habitats and Species Regulations 2010** www.legislation.gov.uk/uksi/2010/490/contents/made
3. **Countryside & Rights of Way Act 2000** www.legislation.gov.uk/ukpga/2000/37/contents
4. **UK Biodiversity Action Plan** jncc.defra.gov.uk/default.aspx?page=5155
5. **Hampshire Biodiversity Action Plan** www3.hants.gov.uk/hampshirebiodiversity/hants-bap.htm
6. **Conserving Biodiversity – The UK Approach** jncc.defra.gov.uk/PDF/UKBAP_ConBio-UKApproach-2007.pdf
7. **Biodiversity Action Plan for East Hampshire 2009-2019** www.easthants.gov.uk/ehdc/HeritageWeb.nsf/webpages/Countryside
8. **Hampshire Biodiversity Partnership** www.hampshirebiodiversity.org.uk/partners.html
9. **South East Biodiversity Strategy** www.green-space.org.uk/downloads/regions/se/Presentations/SEBS%20-%20Sussex%20LBAP.pdf
10. **Review of Land Management Provision within Biodiversity Opportunity Areas in Hampshire** www3.hants.gov.uk/review_of_land_management_provision_within_boas_in_hampshire__full_report_.pdf
11. **Natural England** www.naturalengland.org.uk
12. **Natural Environment & Rural Communities Act 2006** www.legislation.gov.uk/ukpga/2006/16/contents
13. **Planning Policy Statements, Communities & Local Government** www.communities.gov.uk/planningandbuilding
14. **Joint Nature Conservation Committee** www.jncc.gov.uk
15. **SINC Designated Sites, Hampshire Biodiversity Information Centre** www3.hants.gov.uk/biodiversity/sincs
16. **Wildlife & Countryside Act 1981** www.legislation.gov.uk/ukpga/1981/69
17. **Countryside Survey - measuring change in our countryside** www.countrysidesurvey.org.uk
18. **The Natural Choice: Securing the value of nature - HM Government White Paper – June 2011** www.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf
19. **Biodiversity 2020: A strategy for England's wildlife and ecosystem services** www.gov.uk/government/uploads/system/uploads/attachment_data/file/69446/pb13583-biodiversity-strategy-2020-111111.pdf
20. **UK Post-2010 Biodiversity Framework - JNCC and Defra (2012)** jncc.defra.gov.uk/page-6189
21. **Higher Level Stewardship: Environmental Stewardship Handbook, 4th Edition – January 2013** http://publications.naturalengland.org.uk/publication/2827091
22. **Caring for God's Acre Action Pack** www.caringforgodsacre.org.uk
23. **Dig a Pond for Dragonflies - British Dragonfly Society's booklet** www.british-dragonflies.org.uk
24. **Great Crested Newt Surveys** http://ecosupport.co.uk/services/great-crested-newt-surveys-hampshire-uk
25. **Taking the lead: Managing walkers with dogs on your site** www.hants.gov.uk/rh/dogs/dogs-full.pdf

26. **Wildlife Gardening for Everyone - Wildlife Trusts Book**
www.wildlifetrusts.org/who-we-are/publications/books
27. **Wild Plants Guide**
www.plantlife.org.uk/wild_plants
28. **British Wild Flowers**
www.british-wild-flowers.co.uk/
29. **Managing invasive non-native plants - Environment Agency Document**
http://www.lbp.org.uk/
30. **Fungi Around Horndean**
http://wildlife.vigay.com/biodiversity/fungi/
31. **Hampshire Fungus Recording Group**
www.hampshirefungi.org.uk
32. **British Lichen Society**
www.thebls.org.uk/
33. **Woodland Trust Guide to British Trees**
www.british-trees.com/
34. **The Tree Council - UK charity promoting the importance of trees in a changing environment**
www.treecouncil.org.uk/
35. **When to Watch Wildlife - a month by month guide to the wildlife highlights around Britain**
www.whentowatchwildlife.org/
36. **Wild About Britain - British wildlife, the environment and the great outdoors**
www.wildaboutbritain.co.uk
37. **Federation of City Farms & Community Gardens**
www.farmgarden.org.uk/
38. **Freshwater Habitats Trust**
www.freshwaterhabitats.org.uk/
39. **Hampshire Biodiversity Information Centre**
www3.hants.gov.uk/landscape-and-heritage/hbic.htm
40. **The Conservation Volunteers - looking after green places**
www.tcv.org.uk/
41. **Hampshire Conservation Volunteers**
www.hcv.org.uk
42. **National Biodiversity Network - Distribution maps and UK wildlife data**
www.nbn.org.uk
43. **Yoell's Copse Nature Reserve**
www.yoellscopse.co.uk
44. **Bees, Wasps & Ants Recording Society**
www.bwars.com
45. **CPRE Countryside Voice, Spring 2014**
www.cpre.org.uk
46. **Biodiversity offsetting in England -green paper Sept.2013**
www.gov.uk/government/organisations/department-for-environment-food-rural-affairs

APPENDIX 3 **COUNTY RECORDERS**

Amphibians & Reptiles - Hampshire Amphibian & Reptile Group (HARG) c/o Hampshire & Isle of Wight Wildlife Trust, Beechcroft House, Vicarage Lane, Curdridge, Hampshire, SO32 2DP. Email: HARGRecorder@hwt.org.uk

Bats - Hampshire Bat Group: Matthew Clarke, 164 Windham Road, Bournemouth, Dorset, BH1 4RA. Email: records@bats.hampshire.org.uk

Bees, Wasps and Ants – Bees, Wasps and Ants Recording Society (BWARS): Mike Edwards, Lea-side, Caron Lane, Midhurst, West Sussex GU29 9LB. Email: ammophila@macace.net

Beetles – VC11: Records should be sent to the relevant national scheme (see www.brc.ac.uk/recording_schemes.asp) or direct to HBIC. Advice or verification provided by Michael Salmon, Avon Lodge, Woodgreen, New Forest, Hampshire SP6 2AU. Email: michael@salmon5621.eclipse.co.uk.
VC12: Dr Jonty Denton, 25 Glebe Meadow, Overton, Basingstoke, Hampshire, RG25 3ER. Email: jontydenton@aol.com

Birds - Hampshire Ornithological Society (HOS): Keith Betton, 8 Dukes Close, Folly Hill, Farnham, Surrey GU9 0DR. Tel:01252 724068. Email: keithbetton@hotmail.com

Bugs - VC11: Records should be sent to the relevant national scheme (see www.brc.ac.uk/recording_schemes.asp) or direct to HBIC. Advice or verification provided by Michael Salmon, Avon Lodge, Woodgreen, New Forest, Hampshire SP6 2AU. Email: michael@salmon5621.eclipse.co.uk.

VC12: Dr Jonty Denton, 25 Glebe Meadow, Overton, Basingstoke, Hampshire, RG25 3ER. Email: jontydenton@aol.com

Butterflies - Butterfly Conservation - Hampshire Branch : Linda Barker, 13 Ashdown Close, Chandler's Ford, Eastleigh, Hampshire, SO53 5QF Tel: 023 80270042. Email: lindabarker4@btinternet.com

Churchyard Conservation - Caring for God's Acre, 11 Drovers House, The Auction Yard, Craven Arms, Shropshire, SY7 9BZ Tel: 01588 673041 www.caringforgodsacre.or.uk

Dragonflies & Damselflies - British Dragonfly Society, Hampshire Branch : Peter Allen, Hackers, Martin, Fordingbridge, SP6 3LA. Tel: 01725 519269. Email: allenbds@waitrose.com

Fleas - Siphonaptera Recording Scheme : Robert George, 54 Richmond Park Avenue, Queens Park, Bournemouth, Dorset, BH8 9DR. Tel: 01202 515238

Flora - Botanical Society of the British Isles
- VC 11: Martin Rand, 21 Pine Road, Chandlers Ford, Eastleigh, Hampshire, SO53 1LH
Email: martin.rand@ntlworld.com
- VC 12: Tony Mundell, 38 Conifer Close, Church Crookham, Fleet, Hampshire, GU52 6LS.
Email: tonymundell@ukonline.co.uk

Fungi - Hampshire Fungus Recording Group: see contact details in APPENDIX 4

Hoverflies - Phil Budd, 488 Bitterne Road East, Bitterne, Southampton, SO18 5EP.
Tel: 023 8044 4172. Email : phillipbudd@btinternet.com.

Advice on identification also provided by Chris Palmer, Hampshire Museums Service. Email: chris.palmer@hants.gov.uk

Lichens - Neil Sanderson, 3 Green Close, Woodlands, Southampton, Hampshire, SO40 7HU Tel: 02380 293671. Email: neilsand@dircon.co.uk

Mammals - Hampshire Mammal Group: Hampshire & Isle of Wight Wildlife Trust.
See Contact details in Appendix 3

Molluscs - Conchological Society of Great Britain & Ireland: Records to Rev. Graham Long, 12 Burgate Fields, Fordingbridge, SP6 1LR. Tel: 01425 53718
Email: grahamlong@waitrose.com
Verification material to Dr June Chatfield, 44 Ashdell Road, Alton, GU34 2TA Tel 01420 82214

Mosses & Liverworts - British Bryological Society
- VC11: Rod Stern, 15 Selham Close Chichester, West Sussex, PO19 5BZ Email: roderickstern@yahoo.co.uk

Moths – Butterfly Conservation : Tim Norriss, 40 Taskers Drive, Anna Valley, Andover, Hampshire, SP11 7SA Tel : 01264 354944 Mobile : 0771 3254901 Email: tim@kitsmail.com

Spiders - VC12: Rod Allison, Walnut Barn, Gussage St Michael, Wimborne, Dorset, BH21 5HX. Email: rod.allison@walnutbarn.org

Stoneflies & Caddis flies - Graham Vick, Crossfields, Little London, Tadley, Hampshire RG26 5ET Tel 01256-850718. Email: Camdragonfly@aol.com

Hampshire Specialist Recording Groups

Badgers - **Eastern Hampshire:** Mick & Gill Neeve, 14 Sandown Close, Alton, GU34 2TG.
Tel: 01420 87366 Email: MGNeeve@aol.com
info@newforest-badgers.org

Bats - Hampshire Bat Group : Stephanie West (Membership Secretary), Spring Cottage, Somborne Park Road, Little Somborne, Hampshire, SO20 6HW
Email: hbgmembership@hotmail.co.uk

Birds - Hampshire Ornithological Society (HOS) : Alison Wall (Membership Secretary), 11 Waterloo Avenue, Basingstoke, Hampshire, RG23 8DL. Website: www.hos.org.uk

APPENDIX 4 CONTACTS AND LINKS

BBC wildlife
www.bbc.co.uk/nature

British Wildlife Magazine
www.britishwildlife.com/
The only independent magazine covering all aspects of British wildlife and its conservation

Buglife The Invertebrate Conservation Trust
Bug House Ham Lane, Orton Waterville, Peterborough PE2 5UU
www.buglife.org.uk
Tel: 01733 201 210
Useful for ID. Dedicated to the conservation of all invertebrates and campaigning to save bees

Butterfly Conservation (Hampshire Branch)
13 Ashdown Close, Chandler's Ford, Eastleigh, Hampshire SO53 5QF
Tel: (023) 80 270042
www.butterfly-conservation.org/
Hantsiow-butterflies.org.uk
email: lindajane@tcp.co.uk / lindabarker4@btinternet.com

Botanical Society of the British Isles (Hampshire Branch)
www.bsbi.org.uk/
email: vc11Recorder@hantsplants.org.uk

Campaign to Protect Rural England
Beaconsfield House, Andover Road, Winchester, Hampshire SO22 6AT
Tel: 01962 843655
www.cpre.org.uk/
email: info@cprehampshire.org

Department for Environment, Food and Rural Affairs
PO Box 1058, Lancaster House, Hampshire Court, Newcastle Business Park, Newcastle-Upon-Tyne, NE99 4YQ.
Tel: 0845 603 7777
www.rpa.gov.uk/
email: customer.service.centre@rpa.gsi.gov.uk

East Hampshire District Council
Penns Place, Petersfield, Hampshire GU31 4EX
Tel: 01730 266551
www.easthants.gov.uk/

Environment Agency
Local Area Office:
Solent and South Downs Area Office,
Guildbourne House, Chatsworth Road,
Worthing, Sussex, BN11 1LD
Tel: 0370 8506506
www.environment-agency.gov.uk/regions/southern
email: enquiries@environment-gency.gov.uk

Farm Conservation Advisor
Farming and Wildlife Advisory Group
The Old Cartshed, Herriard Park, Basingstoke, Hampshire RG25 2PL
Tel: 01256 381655
www.fwag.org.uk/
email: Debbie.miller@fwag.org.uk

Forestry Commission
South East England Forest District, Bucks Horn oak, Farnham, Surrey, GU10 4LS
Tel: 01420 23666
www.forestry.gov.uk/
email: enquiries.seefd@forestry.gsi.gov.uk

Hampshire and Isle of Wight Wildlife Trust
Hampshire Amphibian and Reptile Group
Hampshire Flora Group
Hampshire Mammal Group
Beechcroft, Vicarage Lane, Curdridge, Hampshire SO32 2DP
Tel: 01489 774400
www.hiwwt.org.uk/
email: feedback@hwt.org.uk

Hampshire Bat Group
Tel: 023 8061 7551
Local Contact: Nik Knight
www.hampshirebatgroup.org.uk
email: michael.pawling@btintermet.com
treasurer@bats.hampshire.org.uk

Hampshire Biodiversity Information Centre
c/o Environment Department, Hampshire County Council, 84-98 Southampton Road, Eastleigh, Hampshire, SO50 5PA
Tel: 02380 383446
www.hants.gov.uk/biodiversity/hbic
email: enquiries.hbic@hants.gov.uk

Hampshire County Council Arts and Museums Service

Chilcomb House, Chilcomb Lane, Winchester, Hampshire SO23 8RD
Tel: 01962 826700
www3.hants.gov.uk/museum/biology.htm
Keepers of the animal and plant collections of Hampshire including all insect groups, plants and fungi. Useful for ID, viewed by appointment.
Contact Christine Taylor, Keeper of Natural Sciences
email :christine.taylor@hants.gov.uk

Hampshire Fungus Recording Group

Dr. Stuart Skeates, 55 Cherville Street, Romsey, Hampshire SO51 8FB
Tel: 01794 522192
www.hampshirefungi.org.uk/
EMAIL : hfrg@hampshirefungi.org.uk

Hampshire Heathlands Project

Ecology Group
Environment Department, Hampshire County Council, 84-98 Southampton Road, Eastleigh, Hampshire, SO50 5PA
Tel: 02380 383463
www.hants.gov.uk/biodiversity
email: ecology.group@hants.gov.uk

Hampshire Ornithological Society

The Membership Secretary, 11 Waterloo Avenue, Winklebury, Basingstoke RG23 8DL
Tel: 01489 571486
www.hos.org.uk/
email: a.wall@tesco.net

Hampshire SINC Project

Ecology Group, Environment Department, Hampshire County Council, 84-98 Southampton Road,
Eastleigh, Hampshire SO50 5PA.
Tel: 02380 383463
www.hants.gov.uk/biodiversity
email: ecology.group@hants.gov.uk

National Farmers Union – South East

Ground Floor, Rotherbrook, Petersfield, Hampshire GU32 3QG
Tel: 01730 711950
www.nfuonline.com/
email: mailto:south.east@nfu.org.uk

Natural England

1 Southampton Road, Lyndhurst, Hampshire SO43 7BU
Tel: 02380 283944
www.naturalengland.org.uk/
email: hants.iwight@naturalengland.org.uk

Naturenet

www.naturenet.net/trees/index.htm
Tree advise, countryside law, hedgerow regulations

Princes Trust

www.princes-trust.org.uk
Practical support and training for young people

Royal Society for the Protection of Birds

South East England Office, 2nd Floor, 42 Frederick Place, Brighton, East Sussex BN1 4EA
Tel: 01273 775333
www.rspb.org.uk/

Science and Plants for Schools

www.saps.org.uk/component/content/article/310-identifying-trees-a-shrubs
Tree and shrub identification site

South Downs Joint Committee

Queen Elizabeth Country Park, Gravel Hill, Hampshire, PO8 0QE
Tel: 02392 571381
www.southdowns.gov.uk/
email: Hampshire@southdowns-aonb.gov.uk
Huge site covering all aspects of wildlife and environment

APPENDIX 5 **GLOSSARY OF TERMS**

Agri-environment schemes - schemes offering payments to farmers to promote farming compatible with the protection of the environment and the maintenance of the countryside as part of the Rural Development Regulation. Schemes applicable in all countries of the UK are Environmentally Sensitive Areas, Countryside Access Scheme, Organic Aid Scheme and Habitat Scheme.

Ancient Semi-Natural Woodland - land which retains a native tree and shrub cover that has not been planted, although it may have been managed by coppicing or felling and allowed to regenerate naturally; or plantation on ancient woodland sites (PAWS), where the original tree cover has been felled and replaced by planting, often with conifers, and usually over the last century.

Ancient woodlands are particularly important because they are exceptionally rich in wildlife, including many rare species and habitats; are an integral part of England's historic landscapes; and act as reservoirs from which wildlife can spread into new woodlands.

Biodiversity Opportunity Area - regional priority areas of opportunity for restoration and creation of Biodiversity Action Plan habitats.

Biosites – sites surveyed by HBIC.

Buffer Zone - a strip that partially or fully encloses an area to protect the inner section from ecological disturbance by outside pressures.

Calcareous - The period in geological time characterised by the deposition of chalk

Coppice - trees which are cut back to near ground level every few years and which grow again from the stump or stool. The many straight stems which grow from each stool are used for firewood, tools and other purposes.

Corridor - the principle of connections between wildlife habitats. Closely related to the theory of fragmentation, ecological corridors aim to provide a corridor for migration of all species between suitable habitat areas.

Environmental Stewardship - an agri-environment scheme which enables farmers and land managers in England to enter management agreements to maintain or enhance certain landscapes and features: it consists of two tiers: Entry Level Stewardship and Higher Level Stewardship.

Ecosystem - the interactions of animals, plants, fungi, and micro organisms with each other and the non-living world.

Edge-effects – where much of the biodiversity in small or narrow sites is under the influence of factors from outside the site. Larger blocks of habitat have an inner core which is buffered from these influences.

England Woodland Grant Scheme - grants from the Forestry Commission to create new woodlands and to encourage the good management and regeneration of existing woodlands.

Green Infrastructure – a term used to describe the accessible 'multi-functional' green space that should accompany housing developments for residents' quality of life. These areas provide potential direct and indirect benefits for biodiversity.

Habitat - a place where animals, plants, fungi, and micro organisms live.

Improved land – land that has been improved for the purposes of agricultural production, usually through ploughing, sowing, drainage, and the application of fertilisers.

Invasive alien species - species from other countries not naturally found growing in Britain, with a tendency to dominate communities to the detriment of native species.

Lavant - a temporary stream which only flows after wet weather or when the water table level rises.

Local Nature Reserves (LNR) - a site of importance for wildlife, geology, education or public enjoyment that offer people special opportunities to study or learn about nature or simply to enjoy it.

Site of Importance for Nature Conservation (SINC) - A non-statutory designation of sites at the county/district level. Sites are generally assessed by either local authorities or county wildlife trusts, and adopted in local plans.

Site of Special Scientific Interest (SSSI) - an area of land notified under the Wildlife and Countryside Act 1981 as being of special nature conservation interest. The SSSI designation applies in England, Wales and Scotland. Sites are notified by the appropriate country conservation agency which in England is Natural England who administers the SSSI system, designating and monitoring these areas of national importance for nature conservation. Natural England use standard criteria to assess the condition of SSSIs; if a site meets these criteria it has 'Favourable Condition Status'. Natural England works with, and provides advice and guidance, to landowners to ensure that the majority of SSSIs are either assessed as 'Favourable' or 'Unfavourable Recovering' (i.e. failing the criteria, but showing signs of recovery).

South East England Biodiversity Forum – forum attended by leading voluntary and statutory nature conservation organisations, with a remit to provide advice to regional government and co-ordinate biodiversity activity across the region.

Special Area for Conservation (SAC) - a site designated by the UK Government under EC Directive 92/43 on the conservation of natural habitats and of wild fauna and flora.

Tree Preservation Order (TPO) – an Order which causes the prohibition of cutting down, topping, lopping or the willful destruction of trees except with the consent from the Local Authority to ensure the preservation of trees, groups of trees and woodlands. Type "W" refers to TPOs for woodlands.

APPENDIX 6 **ENGLISH LATIN NAMES FOR BAP**

Adder	*Vipera berus*
Alder	*Alnus glutinosa*
Ash	*Fraxinus excelsior*
Aspen	*Populus tremula*
Autumn Lady's tresses	*Spiranthes spiralis*
Azure Damselfly	*Coenagrion puella*
Badger	*Meles meles*
Banded Snail	*Cepaea nemoralis*
Bank Vole	*Myodes glareolus*
Barn Owl	*Typo alba*
Bee Orchid	*Ophrys apifera*
Beech	*Fagus sativa*
Birch	*Betula*
Birds Foot Trefoil	*Lotus corniculatus*
Black Garden Ant	*Lasius niger*
Black Medic	*Medicago lupulina*
Blackbird	*Turdus merula*
Blackthorn	*Prunus spinosa*
Blue Tit	*Cynistes caeruleus*
Bluebells, Spanish	*Hyancinthoides hispanica*
Bluebells	*Hyancinthoides non-scripta*
Bogbean	*Menyanthes trifoliate*
Brambles/blackberries	*Rubus sp*
Broad-bodied Chaser	*Libellula depressa*
Brown Hare	*Lepus europeaus*
Brown Long-eared Bat	*Plecotus auritus*
Brown-tail moth	*Euproctis chrysorrhoea*
Bulbous Buttercup	*Ranunculus bulbosus*
Burnet Companion	*Euclidea glyphica*
Burrying Beetles	*Nicrophorus sp.*
Butcher's Broom	*Ruscus aculeatus*
Capsid Bugs	*Miridae*
Centipedes	*Chilopoda*
Chaffinch	*Fringilla coelebs*
Chalkhill Blue	*Lysandra coridon*
Cheese Snail	*Helicodonta obvoluta*
Cinnabar Moth	*Tyria jacobaeae*
Clouded Yellow	*Colias croceus*
Clustered Bellflower	*Campanula glomerata*
Coal Tit	*Periparus ater*
Comma butterfly	*Polygonia c-album*
Common Buzzard	*Buteo buteo*
Common Frog	*Rana temporaria*
Common Lizard	*Zootoca vivipara*
Common Pipistrelle	*Pipistrellus pipistrellus*
Common Red Darter	*Sympetrum striolatum*
Common Shrew	*Sorex araneusi*
Common Spotted Orchid	*Dactylorhiza fuchsia*
Common Toad	*Bufo bufo*
Coot	*Fulica*
Corn Bunting	*Emberiza calandra*
Cornflower	*Cetaurea cyanus*
Cow Parsley	*Anthriscus sylvestris*
Cowslip	*Primula veris*
Craneflies	*Tipulidae*
Crickets	*Orthoptera*
Dingy Skipper	*Erynnis tages*
Dog Rose	*Rosa canina*
Dog's Mercury	*Mercurialis perennis*
Duke of Burgundy	*Hamearis lucina*
Dung Beetles	*Scarabaeoidea*
Dunnock	*Prunella modularis*
Dwarf Thistle	*Cirsium acaule*
Earthworms	*Oligochaeta*
Earwigs	*Demaptera*
Elder	*Sambucus nigra*
Elephant Hawkmoth	*Deilephila elpenor*
English Oak	*Quercus robur*
English Elm	*Ulmus procera*
Essex Skipper	*Thymelicus lineola*
Field Maple	*Acer campestris*
Field Rose	*Rosa arvensis*
Field Vole	*Microtus agrestis*
Five-spot Burnet	*Zygaena trifolii*
Flag Iris	*Iris pseudocorus*
Frog Orchid	*Coeloglossum viride*
Garden Snail	*Helix aspersa*
Gatekeeper	*Pyronia tithonus*
Glow-worm	*Lampyris noctiluca*
Goldcrest	*Regulus regulus*
Goldfinch	*Carduelis carduelis*
Gorse	*Ulex europeaus*
Grass Snake	*Natrix natrix*
Great Crested Newt	*Triturus cristatus*
Great Tit	*Parus major*
Green-veined White	*Pieris napi*

Greenfinch	*Carduelis chloris*
Grey Squirrel	*Sciurus caroliensis*
Grizzled Skipper	*Pyrgus malvae*
Guelder Rose	*Viburnum opulus*
Harebell	*Campanula rotundifolia*
Harvestmen	*Opiliones (Arachnida)*
Hawthorn	*Crataegus monogyna*
Hazel Dormouse	*Muscardinus avellanarius*
Hazel	*Corylus avellana*
Heather	*Caluna vulgaris*
Hedgehog	*Erinaceus europaeus*
Heron	*Ardea cinerea*
Hoary Plaintain	*Plantago media*
Hogweed	*Heracleum sphondylium*
Holly	*Ilex aquifolium*
Holm Oak (Evergreen)	*Quercus ilex*
Honeysuckle	*Lonicera periclymenum*
House Sparrow	*Passer domesticus*
Hoverflies	*Syrphidae*
Hummingbird Hawkmoth	*Macroglossum stellatarum*
Japanese Knotweed	*Fallopia japonica*
Jelly Ear Fungus	*Auricularia auricular-judae*
Kestrel	*Falco tinnunculus*
Knapweed	*Centaurea sp*
Lacewings	*Neuroptera*
Ladies Bedstraw	*Galium verum*
Ladybirds	*Coccinellidae*
Lapidary Snail	*Helicigona lapicidia*
Lapwing	*Vanellus vanellus*
Large Red Damselfly	*Pyrrhosoma nymphula*
Large Skipper	*Ochlodes sylvanus*
Large Tortoiseshell	*Nymphalis polychloris*
Large White	*Pieris brassicae*
Large Yellow Underwing	*Noctua pronuba*
Lesser Stagbeetle	*Dorcus parallelipipedus*
Lesser-spotted Woodpecker	*Dendrocopus minor*
Lily Beetle	*Lilioceris lilli*
Little Owl	*Athene noctua*
Long Tailed Tit	*Aegithalos caudatus*
Magpie	*Pica pica*
Magpie Moth	*Abraxus grossulariata*
Mallard	*Anas platyrhynchos*
Marbled White	*Melanargia galathea*
Marigold (Corn)	*Chrysanthemum segetum*
Marjoram	*Origanum ajorana*
Maybug (Cockchafer)	*Melolontha melolontha*
Meadow Brown	*Maniola jurtina*
Milkwort	*Polygala sp*
Millipedes	*Diplopoda*
Mole	*Talpa europea*
Moschatel	*Adoxa moschatellina*
Mother Shipton Moth	*Callistege mi*
Mountain Bullin	*Ena Montana*
Muntjac Deer	*Muntiacus reevesi*
Myrabalan Plum (Cherry)	*Prunus cerasifera*
Natterer's Bat	*Myotis natteri*
New Zealand Pygmy Weed	*Crassla helmsii*
Nightjar	*Caprimulgus eurpeaus*
Noctule Bat	*Nyctalus noctula*
Nuthatch	*Sitta europaea*
Orange Tip	*Anthocaris cardamines*
Painted Lady	*Vanessa cardui*
Palmate Newt	*Lissotrton helveticus*
Parrots Feather	*Myriophyllum aquaticum*
Peacock butterfly	*Inachis io*
Pedunculate Oak	*Quercus robur*
Primrose	*Primula vulgaris*
Pyramidal Orchid	*Anacamptis pyramidalis*
Quaking Grass	*Briza media*
Rabbit	*Oryctolagus cuniculus*
Red Admiral	*Vanessa atalanta*
Red Bartsia	*Odontites vernus*
Red Clover	*Trifolium ratense*
Red Fox	*Vulpes vulpes*
Red Pimpernel	*Anagallis arvensis*
Restharrow	*Ononis repens*
Rhododendron	*Rhododendron ponticum*

Ribwort	*Plantago lanceolata*
Ringlet	*Aphantos hyperantus*
Rock Rose	*Helianthemum nummularium*
Roe Deer	*Capreolus capreolus*
Rough Hawkbit	*Leontodon hispidus*
Round-headed Rampion	*Phyteuma orbiculare*
Rowan or Mountain Ash	*Sorbus aucuparia*
Salad Burnet	*Sanguisorbas minor*
Scorpionflies	*Panorpa germanica*
Self Heal	*Prunella vulgaris*
Serotine Bat	*Eptesicus serotinus*
Sessile Oak	*Quercus petraea*
Silver Birch	*Betula pendula*
Silver Spotted Skipper	*Hesperia comma*
Silver Washed Fritillary	*Argynnis paphia*
Silver Y moth	*Autogramma comma*
Skylark	*Alauda arvensis*
Slow Worm	*Anguis fragilis*
Small Heath	*Coenonympha pamphilus*
Small Scabious	*Scabiosa columbaria*
Small Skipper	*Thymelicus sylvestris*Small
Tortoiseshell	*Algais urticae*
Small White	*Pieris rapae*
Smooth Common Newt	*Lissotriton vulgaris*
Snipe	*Gallinago*
Soldier beetles	*Cantharidae*
Solomons Seal	*Polygonatum multiflorum*
Song Thrush	*Turdus philomelis*
Southern Hawker	*Aeshna cyanea*
Spanish Bluebell	*Hyancinthoides hispanica*
Sparrowhawk	*Accipiter nisus*
Speckled Yellow moth	*Psedopanthera macularia*
Stag Beetle	*Lucanus servus*
Starling	*Sturnis vulgaris*
Stitchwort, Greater	*Stellaria holostea*
Stitchwort, Lesser	*Stellaria graminea*
Sulphur Polypore	*Laetiporus sulphurous*
Sweet Chestnut	*Castanea sativa*
Sweet Briar	*Rosa rubinogosa*
Sycamore	*Acer pseudoplatanus*
Tawny Owl	*Strix aluco*
Toothwort	*Lathraea clendestina*
Treecreeper	*Certhia familiaris*
Tufted Vetch	*Vicia cracca*
Turkey Oak	*Quercus cerris*
Wasp Spider	*Argiope bruennichi*
Wayfaring Tree	*Viburnum lantana*
White Admiral	*Limenitis Camilla*
Whitebeam	*Sorbus aria*
Wild Apple (Crab)	*Malus sylvestris*
Wild Cherry (Gean)	*Prunus avium*
Wild Garlic	*Allium ursinum*
Wild Service Tree	*Sorbus terminalis*
Wild Strawberry	*Frageria vesca*
Wild Thyme	*Thymus serpyllum*
Willow	*Salix sp*
Winter Heliotrope	*Petasites fragrans*
Wood Anemone	*Anemone nemerosa*
Wood Mouse	*Apodemus sylvaticus*
Wood Pigeon	*Columba palumbus*
Woodcock	*Scolopax rusticola*
Woodlice	*Isopoda*
Wych Elm	*Ulmus glabra*
Wye Whitebeam	*Sorbusx*
Yellow Hammer	*Emberiza citronella*
Yellow Legged Clearwing	*Synanthedon vespiformis*
Yellow Meadow Ant	*Lasius flavus*
Yellow Necked Mouse	*Apodemus flavicolis*
Yellow Rattle	*Rhinanthus minor*
Yellow Shell Moth	*Camptogramma bilineata*
Yew	*Taxus baccata*

APPENDIX 7 **ABBREVIATIONS AND WILDLIFE STATUS KEY**

AWIS	Ancient Woodland Indicator Species
AWVP	Ancient Woodland Vascular Plants
BAP	Biodiversity Action Plan
BTO	British Trust for Ornithology
BWARS	Bees, Wasps and Ants Recording Society
CHSR	Conservation of Habitats and Species Regulations
EHDC	East Hampshire District Council
FSC	Field Studies Council
FWAG	Farming & Wildlife Advisory Group
GR	Grid Reference
HBAP	Hampshire Biodiversity Action Plan
HBG	Horndean Biodiversity Group
HBIC	Hampshire Biodiversity Information Centre
HIWWT	Hampshire and Isle of Wight Wildlife Trust
HPC	Horndean Parish Council
IUCN	International Union for Conservation of Nature
LNR	Local Nature Reserves
PUSH	Partnership for Urban South Hampshire
RHS	Royal Horticultural Society
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SDNP	South Downs National Park
SINC	Sites of Importance for Nature Conservancy
SSSI	Site of Special Scientific Importance
TPO	Tree preservation order
UKBAP	UK Biodiversity Action Plan
VDS	Village Design Statement
WCA	Wildlife Countryside Act
WFD	Water Framework Directive

Nationally Notable Species

Na	Species which is thought to occur in 30 or fewer 10km squares of the national grid
Nb	Species which is thought to occur in 31 to 100 10km squares of the national grid and
N	Species which is thought to occur in 16 to 100 10km squares of the national grid
UK BAP	Species subject of a UK Biodiversity Action Plan
LBAP	Species subject of a Local Biodiversity Action Plan

IUCN Red List

CR	Critically Endangered	**LC**	Least Concern
E	Endangered	**DD**	Data Deficient
VU	Vulnerable	**NE**	Not Evaluate
NT	Near Threatened		

CS	County Scarce
NS	Nationally Scarce
NN	Nationally Notable

APPENDIX 8 FURTHER READING

Further information about matters covered in this document can be found in the publications and websites listed below under the headings of the sections to which they relate.

1.2 Why Is Biodiversity Important

Certain information in this section is drawn from the interview with the environmental economist Pavan Sukhdev titled 'Why conserve biodiversity?' on the Natural History Museum website.

3.4.3 Gardens

There have been numerous books on creating gardens for wildlife. The following selection is recommended

Wildlife Gardening for Everyone with your questions answered by the RHS and Wildlife Trusts experts. Ed. By M.Tait (2006). There are numerous contributions and the book is full of practical ideas on every aspect of gardening and habitat creation.

Guide to Garden Wildlife by Richard Lewington (2008) published by British Wildlife Publishing provides identification of more than 500 species likely to found in all gardens.

Wildlife of a Garden – A 30 year study by Jennifer Owen (2010 RHS) Gives details of over 2650 species recorded in her urban garden and with details of recording methods and techniques.

The National Trust Book of Wild Flower Gardening by John Stevens (1994) Gives information on the cultivation of over 250 wild flower species, well-illustrated and a guide to successful cultivation of native species in a variety of habitats and conditions.

The Wildlife Pond Handbook by Louise Bardsley (2005 Sussex Wildlife Trust) covers all aspects of pond management.

Natural England produce a number of leaflet and a CD on various aspects of wildlife gardening such as **Wildflower Meadows: How to create one in your own garden** (2007). Most of their guides (Ponds, Composting, Mammals) can be printed from www.naturalengland.org.uk

3.4.4 Churchyards

The **Caring for God's Acre Action pack** is a loose leaf folder in which pages on specific aspects can be copied.

There is a 4-page guide to the **Management of Churchyard Grassland for Conservation** and a 2-page handout on **Churchyard Lichens and their Conservation.**

Butterfly Conservation has a pamphlet on **Discovering Butterflies in Churchyards** and a similar pamphlet has been produced by **BLS** on **Churchyard Lichens.** There are blank Survey Forms for General Churchyard Surveys and a BLS Churchyard Mapping form (for Lichens)

Wildlife in the Churchyard by Francesca Greenoak

www3.hants.gov.uk/biodiversity/roadverges
>> Road Verges of Ecological Importance project for information on Road Verges

www3.hants.gov.uk/roads/trees-hedges-verges/
Information on verge maintenance and grass cutting etc.

www3.hants.gov.uk/hbic-rveis.pdf
2 pages (Pdf file) on Road Verges of Ecological Importance in Hampshire, Road verges for wildlife, The Hampshire Road Verge Management Project HCC/HIWWT free pamphlet.
www.horndeantrees.co.uk/

hedgerow trees in Horndean >> click on Hedgerow Verges . Shows photo examples of 12 of the verges in Horndean and details of survey methods used in local surveys.

www.devon.gov.uk
Pdf (83 pages) "The Management of Roadside Verges in Devon" 8th Edn July 2010
A very useful and well-illustrated guide, contains many useful tips applicable to Horndean. (No print copies now)

4.5.1 Butterflies and Moths

A good ID guide to Moths is the **Field Guide to the Moths of GB and Ireland** by Paul Waring and Martin Townsend with illustrations by Richard Lewington.

A lighter version with spiral binding, easier to use in the field is the **Concise Guide to Moths** by the same authors.

In a similar format a **Field Guide to the Micro Moths of GB and Ireland** was published in 2012.

A photographic Guide to British Moths and Butterflies by Chris Manley that includes many micro moths was published in 2008 by A & C B **2**

Web sites : www.hantsmoths.org.uk provides full details and photographs of all species that occur in Hampshire plus a newsletter. **www.UKMoths.org.uk** an online guide to all the UK moths and micro moths including description and details of life cycle. www.horndeanbiodiversity.co.uk/moths gives details and lists of species seen in Horndean with photographs and local news.

Pocket Guide to the Butterflies of Great Britain and Ireland by Richard Lewington covers all resident and migrant butterflies including all stages of their life cycle.

An annual report is prepared by John Nundy, co-ordinator of the local transects (Email: john.nundy@ntlworld.com) and all records are passed on to Butterfly Conservation who produce a detailed and well-illustrated Annual Report for Hampshire and the Isle of Wight that includes moths. A gallery of local butterflies seen in Horndean is found on www.horndeanbiodiversity.co.uk as well as the Annual Report

4.5.2 Dragonflies and Damselflies

A guided walk led by Lawrence Holloway is organised most years around the Nature Reserve. He is the author of **The Dragonflies and Damselflies of Pagham Harbour.**

Field Guide to the Dragonflies and Damselflies of GB and Ireland by Steve Brooks, illustrated by Richard Lewington.

The Dragonflies of Hampshire by John Taverner et al. With Hampshire distribution maps and habitat information.

Records for Hampshire are kept by the British Dragonfly Society,

Hampshire Branch: Peter Allan Tel: 01725 E: allenbds@waitrose.com

Records for Horndean can be found on the website www.horndeanbiodiversity.co.uk/dragonflies

4.5.3 Flies

Many ID books and pamphlets are available including **British Hoverflies** by Stubbs & Falk (2002) and **Britain's Hoverflies** by Ball & Morris (2013). **The Dipterists Forum** is the Society for the study of flies run by Stuart Ball. Website www.dipteristsforum.org.uk

4.5.4 Beetles

'**Discovery Guide' of British Beetles'** produced by the BBC Wildlife magazine and illustrated by Chris Shield. – "the most successful creatures on Earth may be secretive, but they're easy to find, if you

know how. Take tips from entomologist Richard Jones, and discover for yourself the diversity of beetles." *Now difficult to obtain but copies can be obtained from HBG*.

A Coleopterists Handbook (4th Edn.) gives practical advice and an introduction to all the beetle groups found in Britain – AES 2006

4.5.6 Shield Bugs and Squashbugs

Evans & Edmondson **Photoguide to Shieldbugs and Squashbugs of the British Isles** Pub. WGUK 2005 – wwwWildGuideUK.com Chinery,

M. **Collins Guide to Insects of Britain and West Europe** and there is a pamphlet/poster on **Bugs** by Buglife.

Hampshire Recorder: Dr Jonty Denton (for VC12) jontydenton@aol.com . Useful website: www.amentsoc.org/insects/fact-files/orders/

4.5.7 Other Invertebrates

For ID **Land Snails in the British Isles** by Robert Cameron AN AIDGAP/FSC Guide 2nd Edn 2008

Land Snails of the British Isles by A.A.Wardhaugh Shire Nat History 1989

A Guide to the Snails of Britain and Europe by Pfleger V and Chatfield J. Hamlyn 1988

The Conchological Society of G.B. and Ireland issue a Code of Conduct for Fieldwork pamphlet and there is a web site at www.conchsoc.org

Guide to Garden Wildlife written and illustrated by Richard Lewington and published by British Wildlife Publishing (2008)

4.5.8 Spiders and Harvestmen (Arachnida)

A Guide to Spiders by Dick Jones (Hamlyn 1983) Author lives locally and has helped with local surveys in Horndean **House and Garden Spiders** FSC Guide by Dr Rod Preston-Matham.

www.uksafari.com/spiders.htm Full of information to identify British spiders

www.wildlife.vigay.com/biodiversity/spiders gives more details on local spiders

4.5.4 Bees, Wasps and Ants

Further information on Bumble bees can be found in ***A Field Guide to the Bumblebees of GB and Ireland*** by Edwards, M & Jenner, M. (2005). There is a laminated ***Guide to bees of Britain*** and a good pamphlet has been produced by **Buglife** on **Ants, Bees and Wasps**

4.6 Fungi and Lichens

A Field Key to Common Churchyard Lichens – a laminated folder from FSC by Frank Dobson

A Guide to Churchyard Lichens (springbound) both by Frank Dobson and published by the British Lichen Society who also publish pamphlets on churchyard lichens with notes on 'How you can help'.

'Lichens on man-made surfaces' gives advice on growing lichens on new stone or concrete surfaces as well as methods of removing lichens from gravestones where really necessary. Copies of all these pamphlets and recording sheets are available free from HBG.

In addition to references mentioned under churchyards FSC have published a set of laminated folders on the main lichens, each guide covering the lichens of a specific habitat.

An illustrated summary of lichens found in Horndean can be found on the website www.horndeanbiodiversity.co.uk

Merryweather, J.W. 2001 Meet the Glomales – the ecology of mycorrhiza British Wildlife Vol.13 No.2

Mushrooms and other Fungi of GB and Europe by R. Phillips

Collins Complete Guide to British Mushrooms and Toadstools by Sterry and Hughes - both FHRG members (2009)

Collins Gem – Mushrooms & Toadstools, A Photoguide is more portable.

A guide to all aspects of fungi is Pat O'Reilly's book 'Fascinated by Fungi' (2011)

4.9 Wildflowers

Bluebells of Britain – An introduction to native bluebells and how you can help protect them

'Plantlife' pamphlet illustrates the differences between the native species and the hybrids.

The Wildlife Trusts, the Woodland Trust, The British Museum and Kew all produce detailed pages on bluebells and these can all be downloaded from their websites.

4.14 Trees and Shrubs

Collins Tree Guide by Owen Johnson & David More.

Readers Digest Field Guide to the Trees and Shrubs of Britain

Some Hampshire Bramble Hot Spots by David Allen - HBIC Newsletter Issue 6 (2006)

Acknowledgements

The Horndean Biodiversity Group gives special thanks to the following organisations and individuals that have helped in the compilation of this Biodiversity Action Plan.

Main Contributors	*John Vigay, Deryn Hawkins, Mike Ashton, Peter Leversha, John Telford, Oliver Saunders, Dominic Bowyer, Kim O'Brien*
Editor	*Andy Forbes*
Hampshire Biodiversity Information Service	*Nicky Court and team*
Hampshire and Isle of Wight Wildlife Trust	*Dr David Rumble, Sarah Jackson, Debbie Whitfield*
Butterfly Conservation	*John Nundy, Linda Barker*
East Hampshire District Council	*Mathew Fisk (GIS Officer) Martin Healey (Countryside)*

Picture Credits: Most of the photographs were taken by the main contributors mentioned above; the mapping information was supplied by HBIC and EHDC Geographic Information Service and the paintings by *Mavis Vigay.* The photographs and maps used in this document are subject to copyright which is retained by the supplier.

Surveyors and Recorders: The HBG would like to acknowledge and thank the many specialist advisors who have carried out surveys in Horndean and helped volunteers identify species. In alphabetical order they are:-

David Ball (Molluscs
Dr June Chatfield (Molluscs and Mosses)
Mike Edwards (Bees)
Dr Naomi Ewald (Ponds)
Stephen Harwood (Catherington Down)
Stephen d'est Hoare (EH Trees, Urban Planning)
Dr Nigel Johnson (Flora, Orchids)
Nik Knight (Bats)
Tim Norriss (Moths and 'Mapmate')
John Ockenden (EH Ancient Woodland)
John Pile (Local Historian, Forest of Bere)
Martin Rand (Flora)
Stuart Skates (Fungi)
Rod Stern (Bryophytes)
Jon Stokes (Tree Council)

The following have carried out site surveys on Horndean sites in recent years: *Joel Miller (HBIC), Ian Ralphs (HBIC), John Rowe (HBIC), Pete Durnell.* These surveys have been a great help to local volunteers who are monitoring sites and to those preparing management plans.

Thank you for taking time to read this Horndean Biodiversity Action Plan.

Please don't just close the cover and forget what you have read as

Our Countryside Needs You!

Horndean Biodiversity Group relies on volunteers to help with surveys, tree planting, moth trapping and other activities so if you can help with these please contact us by e-mailing horndeanbiodiversitygroup@gmail.com to offer your services.

You can also encourage wildlife by creating a rotation of crops within the plots in which flowering plants such as peas, beans and herbs are included which will encourage habitat creation. Give special attention to the margins and plot boundaries with hedgerows and trees such as blossom and fruit trees.

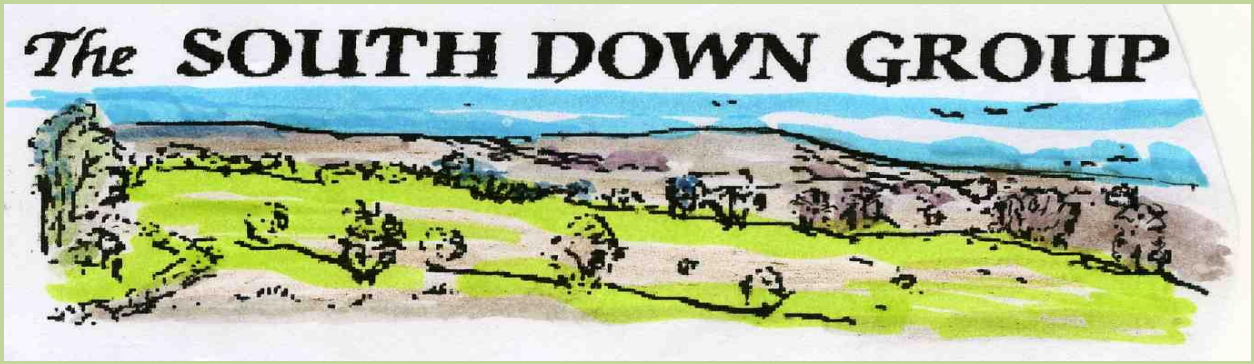
Our countryside and wildlife will reap the benefits…..and so will we

Hampshire & Isle of Wight Wildlife Trust

Protecting wildlife. Inspiring people.

The leading nature conservation charity in the two counties. For more than 50 years we have protected local wildlife and inspired people to love nature. No other organisation, local or national, does more to protect the wildlife and wild places of Hampshire, the Island and our local seas.

- **We manage 48 nature reserves**
- **We are supported by 27,000 members**
- **Our work is made possible by 900 volunteers including the South Down Group**



Peter Leversha - South Down HIWWT Chairman **www.wildlife.vigay.com**

Horndean Biodiversity Group

The Group works closely with Horndean Parish Council to bring together local people interested in observing and recording local wildlife; to raise awareness of the value and diversity of our wildlife, and to promote and encourage community involvement in the maintenance of our wildlife habitats including gardens, parkland, allotments, trees and the urban environment..

Our objectives are:

- **To identify and record the natural resources and history of our local area**
- **To survey and identify local habitats and species**
- **To encourage and support community involvement in habitat and species recording and monitoring**
- **To raise local awareness and involvement in biodiversity conservation**
- **To study historical documents and past surveys in order to study changes in the local landscape, habitats for wildlife and species**
- **To produce reports of surveys and activities of each section of the group and record species on a database**

Email: horndeanbiodiversitygroup@gmail.com **www.horndeanbiodiversity.co.uk**