Neighbourhood Plan – Environment & Heritage Group

No. 3 Natural Environment

The Neighbourhood Plan will adopt the policies SP23, DM38, SP21, DM26, DM 25, DM 27 of the Arun Local Plan, Natural Environment and agrees with Paragraphs 19.1.1 and 19.2.1 (quoted below) and Soil Chapter 12.1. However the NP extends this protection beyond networks and corridors to include wider areas of land, which provide rich and varied habitats for a wide number of species and, beyond that, offer opportunities for tourism, education and recreation within the NP area. If policies change on the Local Plan this section of the Neighbourhood Plan will be reviewed.

All biodiversity information in this section regarding species and habitats has been provided by the Sussex Biodiversity Record Centre (SxBRC) and the Sussex Ornithological Society (SOS). The Tree Preservation Orders were provided by Arun District Council and the Ancient / Veteran Trees of note from the Woodland Trust, Ancient Tree Hunt. A full and comprehensive report of the biodiversity of the two Parishes was provided by SxBRC dated 22 October 2012 and permission has been granted for this data to be included in the NP. SOS provided a report of bird sightings up to and including 2011, dated 18 November 2012.

OBJECTIVES

• Designated Sites	
• Non designated sites	
• Trees & Woodland	
• Soil & Geology	
• Wildlife Habitat	

Objectives

Encourage and promote the conservation and enhancement of biodiversity and the natural environment.	SP 23
Create new areas for habitats and species.	SP 23
Identify and protect wider areas of land, beyond networks and corridors, which provide rich and varied habitats for a wide number of species and offer opportunities for tourism, education and recreation.	

Promote the identification, protection and enhancement of migratory corridors linking the NP area with areas of biodiversity importance in neighbouring parishes.	SP 23
Identify and recommend areas for up-to-date surveys. Protect these areas where necessary.	
Investigate areas linked with Wandley's Lane Toad Crossing and protect these areas whilst investigation takes place.	
Arrange to carry out a Phase 1 Environmental Survey across the NP.	
Identify ways to ensure that SxBRC are copied in on all biodiversity surveys completed including those done prior to building developments.	
Protection of Trees	DM 38
Identify areas which would benefit from the additional planting of native trees.	
Identify where additional trees need protection via TPOs.	
Produce maintenance advisory notes for privately owned protected trees.	
Identify an area in Eastergate Parish to be planted as a Public Woodland.	
Recommend that ADC regularly review and enforce where necessary Riparian Laws to ensure the constant free-flow of the Barnham Rife.	Riparian Laws Land Drainage Act 1991
Support the promotion of Agri-Environment Schemes (and similar) to farmers and nursery owners to ensure the conservation of natural habitats and sustainable farming.	

Natural Environment

Natural Heritage and biodiversity make up the natural environment and are inextricably linked. Natural heritage is recognised as an important environmental and economic resource that requires care and management through the planning process. Biodiversity.....includes plants, animals, invisible micro-organisms and bacteria which, together, interact in complex ways with the environment to create living ecosystems. Biodiversity is all around us, not just in wild places and nature reserves but also in our cities, the places we live and work, our farmland and our countryside. We are an

integral part of this biodiversity and it is significantly influenced by our effect on it.

Arun District Council Local Plan – Consultation Doc 19.07.12 Para 19.1.1

Designated Sites

Sites of Nature Conservation Importance (SNCIs).

Whilst there are no officially designated sites in the two parishes it is important to note the SNCI on Fontwell Racecourse bordering the northern area of Eastergate Parish and to be aware of possible migration of both flora and fauna to and from this site. The site is formally described as 'species rich' and of the 19 flora species mentioned, of particular note are the 'Adder's Tongue' (*Ophioglossum vulgatum*) and a large population of 'Green Winged Orchid' (*Orchis morio*).

The Site Description for Fontwell Park Racecourse SNCI is attached at Appx A.

Recommendations

The NP will promote the identification, protection and enhancement of such migratory corridors.

Non-Designated Sites

Much of our biodiversity occurs outside sites which are not subject to legal protection under national and EU law. These include hedgerows, watercourses and associated riparian (riverbank) zones. A network of protected areas and ecological corridors available to support the movement of species and to sustain habitats, ecological processes and functions is necessary to maintain biodiversity. Article 10 of the Habitats Directive requires EU member states in their land-use planning and development policies to encourage the management of features which constitute such ecological networks and which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure (such as rivers with their banks or the traditional systems for marking field boundaries) or their function as stepping stones (such as ponds or small woods), are essential for the migration, dispersal and genetic exchange of wild species. It is important that the preservation and enhancement of biodiversity is considered as part of the design of proposed development schemes from the outset.

Arun District Council Local Plan – Consultation Doc 19.07.12 Para 19.2.1

The NP agrees with the above statement and wishes to extend the recognition of the need to protect and enhance areas of wider land than just ecological corridors.

The Biodiversity Report provided by SxBRC and Bird Report from SOS, indicate the NP area to be biodiversity rich in its flora and fauna and of great importance for the provision of varied habitats for a large number of Protected Species, Schedule 1 Birds, UK BAP Species, Species listed under the Natural Environment and Rural Communities (NERC) Act, Birds of Conservation Concern (including groups Red, Amber and Green), Sussex Rare Species, Sussex invasive Alien Species. Seven different habitats

identified by the SxBRC Report are highlighted on the Habitat Map in the report and twelve areas rich in birdlife in the SOS report.

The SxBRC report and SOS report form an essential part of the biodiversity section of the NP and these two texts are included as evidential documents. A synopsis of these reports is included at Appx B and C for ease of reference.

Biodiversity Opportunity Areas (BOAs)

> These areas have been identified by the Sussex Biodiversity Partnership in order to deliver the Sussex Biodiversity Action Plan.
>
> BOAs represent the targeted landscape-scale approach to conserving biodiversity in Sussex. Biodiversity Action Plan (BAP) targets will be linked to BOAs wherever possible, increasing effectiveness of work and making reporting easier.
>
> Landscape scale conservation involves identifying opportunities to expand, link and buffer key sites, and increasing the quality of the entire countryside for wildlife. This approach is vital to ensure our species can adapt to the challenge of climate change.
>
> Conservation of the environment is limited by available funding, and BOAs identify the greatest opportunities for habitat creation and restoration. This will enable focusing of resources to where they will have the greatest positive conservation impact, and provide quality areas in which people want to live and work.
>
> *Sussex Biodiversity Partnership Website*

Lidsey Rife has been identified as a BOA for Arun. This is important for the NP as the rife forms the Parish Boundary between Eastergate and Aldingbourne. This is also the Barnham-Lidsey Rife which has a rich variety of birdlife on the water, banks and surrounding fields as detailed in the SOS report.

The Statement for this BOA is attached at Appx D.

Recommendations

The NP supports this statement with reservations regarding the "..identified opportunity for development.." It is recommended that all Parishes bordering the Lidsey Rife be consulted before firm plans for this 'Biodiversity Opportunity Area' are put in place. The NP recommends that natural footpaths encouraging public access into this area be considered.

Biodiversity Surveys

Wandley's Copse – Ancient Woodland

As with the Fontwell Park Racecourse SNCI, the close proximity of Wandley's Copse, Ancient Woodland, to the north-eastern boundary between Walberton and Eastergate Parishes, makes it an important feature of consideration to the biodiversity of the NP area.

The survey lists 25 different species of trees and shrubs, 8 different ferns, 188 different vascular plants, 32 different bird species, 6 mammals including protected species and, 7 varieties of butterfly.

Recommendations

The NP will promote the identification, protection and enhancement of migratory corridors.

Old Canal, West of Yapton Potential SNCI

Survey requested from WSCC but not found. The SNCI was never put in place.

Recommendations

The NP recommends that this area is reviewed again for potential SNCI status.

Meadow at Eastergate

Survey of Unimproved Neutral Grassland Vol. 2. Ruth Allwright 1988

Site 75 Eastergate Meadow 0.36 hectares 32 species
Site assessment 5 - some potential with sympathetic management – becoming coarse
grassland

Land at Fontwell (between Fontwell Avenue & Wandley's Lane)

This survey includes the grassland fields and hedgerows opposite Fontwell Racecourse at the northern area of Eastergate Parish boundary. The NP questions the full value of this survey as it was carried out in the month of December. 13 species of grass / flora were recorded in one field 26 in the second. In the hedgerows 18 species of flora and 15 Trees including Pedunculate Oak, Sycamore & Pine.

Recommendations

The NP recommends these two unutilised fields be protected as a natural area of a publicly accessible green space. It could be developed naturally, following the example of Wandley's Copse in Walberton, with rules for proper management. It could be planted as natural woodland or given over to allotments (a need for which is identified in the Green Infrastructure section of the NP) or a combination of the two. This group will seek to engage with the community to discover what would be the most beneficial. *(This land has now been included into Walberton Parish and so is out of the NP area for Barnham and Eastergate)*.

Woodland space for children encourages natural creativity and imaginary physical play which is important in every child's development. As stated in the 'Play England Charter for Children's Play'...

- Play promotes children's development, learning, imagination, creativity and independence.
- Play can help to keep children healthy and active.
- Play allows children to experience and encounter boundaries, learning to assess and manage risk in their lives; both physical and social

- Play helps children to understand the people and places in their lives, learn about their environment and develop their sense of community

> "..Children need and want to stretch and challenge themselves when they play….Play provision and play space that is stimulating and exciting allows children to encounter and learn about risk. This helps them to build confidence, learn skills and develop resilience at their own pace.."
>
> *Play England Charter for Children's Play (updated 2009)*

The Arun Play Strategy also cautions:

> **Introduction**
> "..By ignoring the essential play needs of our children we are creating problems for the future in terms of inhibiting educational ability, key social skills and increasing the likelihood of physical and mental health problems in later life."
>
> **Chapter 2**
> Good quality play spaces find a balance between risk and benefit and provide challenge. Children will naturally test their own limits, not always successfully; by repeated attempts they will eventually master the skill and as they grow they will seek out new challenges and new risks.."
>
> *Arun Play Strategy (2011-2016)*

Natural play areas are of particular importance:

> "..Children benefit in particular from being able to play in natural environments. They tend to be more active, and evidence suggests that contact with natural environments supports positive mental health.."
>
> *Sustainable Development Commission (2007)*

The need for a woodland area in Eastergate Parish has been identified later in this document under 'Trees and Woodland.' An additional area of green space would help to improve the mental and physical health of those living in the NP area. As identified in ADC's GI Study:

> "..a lack of access and proximity to high quality green space can be associated with poor health and well being outcomes for communities, linked both to poor physical health and to mental health...The indices of Multiple Deprivation together with feedback from the workshop, revealed areas surrounding Barnham...also have significant levels of poor health in the district.."
>
> *Arun District Council Green Infrastructure Study Report V.8 Paragraph 3.11*

Woodland also has the benefit of helping combat climate change through the removal of CO2 and storage of carbon. Woodland can also contribute to the control of flooding and soil erosion. *(Broadmeadow and Ray, Climate Change and British Woodland, June 2005)*.

Wandley's Lane Toad Crossing

This lies just north of the NP area in Walberton Parish. Information received from a Conservation Officer of the Sussex Wildlife Trust identifies the need for this crossing to be further investigated. The Trust has:

> "..past records for this crossing, but nothing recent. This may be because the crossing is no longer active, but it is more likely that there are a lack of records because there is not currently an active volunteer toad patrol for the area.
>
> Toads are very faithful to their ancestral breeding ponds, so I would certainly encourage you to highlight and protect the crossing site in the Neighbourhood Plan. Additionally it would be extremely beneficial to look at any ponds in the vicinity of the crossing and protect these also.."
>
> *Email 3 May 2013 from Jess Price, Conservation Officer, Sussex Wildlife Trust*

Recommendations

The E&H group will further investigate this crossing and ponds in the vicinity in partnership with Walberton Parish and seek to recruit Toad Crossing volunteers. There are two ponds marked on the parish map due West of Wandley's Copse which are potentials for breeding sites. The northern pond (privately owned) was teeming with young frogs and toads in the summer of 2013. The NP recommends the crossing, ponds and waterways in the vicinity be highlighted and protected whilst investigation takes place.

St. George's & St. Mary's Churchyards

Botanical surveys of the Churchyards were completed. 108 species were recorded at St. Georges and 104 species at St. Mary's.

Recommendations

The two churchyards have not been listed as Green Infrastructure Assets on ADC's GI Asset List. The NP recommends both churchyards be added.

The NP recommends an up to date botanical survey be carried out on both churchyards.

Chichester & Arundel Canal (A29 Lidsey to Yapton)

Handwritten and anonymous site Vegetation Survey 1988 found 18 grasses, 17 trees, 77 herbs of differing species. On the Barnham Court to Yapton section it was found to be pleasant with lots of common plants on the banks. However there was some obstruction on the footpath and it was overgrown in parts.

Recommendations

Up-to-date surveys be carried out on the length of the old canal across the NP area and recommendations for protections and enhancements made.

Nanny Copse, Barnham

Ecological Survey by John Knight 1999. This survey is superseded by the Copse now being listed as Ancient Woodland, however the historical biodiversity is of interest.

- Geology: Quaternary drift deposits of brick-earth, head and alluvium.
- Trees: Ash as dominant species, also Oak, Hazel, Field Maple, Hawthorn and isolated instances of Small-Leaved Lime and Holly.
- Hedgerow: Crab Apple and Spindle.
- Flora: Ivy, Bluebell, Dog's Mercury, Wood Melick, Soft Sheild Fern, Remote Sedge, Stinking Iris. 10 Ancient Woodland indicator species were recorded.
- Birds: Kestrel and Sparrowhawk nesting, Little Owl and Tawny Owl, Song Thrush and their anvils.
- Mammals: evidence of Fox, Roe Deer, Squirrels, Bank Voles and Bats.
- Insects: Meadow Brown and Speckled Wood Butterflies, Common Darter and Southern Hawker Dragonflies.
- Management: Would benefit from active management sympathetically in liaison with ADC owing to Tree Preservation Orders.
- Recommendations: Dead and dying trees left for invertebrates, storm blown trees cut and left as habitat pile, careful thinning of Ash, small glades for butterflies, de-silting and re-profiling of stream for pants and amphibians, area east of stream left unmanaged because of diversity of plants, more complete wildlife survey.

Walberton Phase 1 Environmental Survey

This survey was completed in Walberton Parish in the Summer of 1995, recording all the wildlife habitats in the area. This survey is not relevant to Eastergate and Barnham NP but is a fascinating and inspiring document, now providing an historical ecological snapshot of the Parish and giving a useful baseline for future comparisons. The NP considers it would be worthwhile completing such a survey in the NP area. The County Principal Ecologist is supportive of this idea:

> ".. I think that would be fantastic if something similar was done in Barnham and Eastergate. I think it is a great way of involving local people in surveying, appreciating and protecting the local environment and well worth recommending in the NP.."
>
> *Email from Principal Ecologist, WSCC dated 1 May 2013*

Recommendations

The NP recommends that a Phase 1 Environmental Survey be carried out in the NP area across Barnham and Eastergate Parishes. This should be run by local volunteers with advice and guidance from Sussex Wildlife Trust / Natural England. Grant or grants should be sought for this project with the intension of completing such surveys at regular intervals as advised. Completed surveys to be shared with local people, Parish Councils, Arun District Council, West Sussex County Council and the Sussex Biodiversity Records Centre.

Environment Agency Surveys

As the surveys recorded in the SxBRC Biodiversity report were completed in 1996, the Environment Agency provided their latest Lidsey Rife Waterbody Summary dated 24 April 2013 (Appx E).

The sample shows DO, Phosphate and Ammonia failures. The report notes that the sample point is being affected by the Lidsey Waste Water Treatment Works even though it is upstream of the outlet of the works. It notes the yearly problems along the foul network resulting in manholes popping along the rife from Barnham down to the works. Low flows in the rife allow the discharged effluent to back up to the upstream sample point. This infiltration of water into the system causes Lidsey WWTW to back up and manholes to discharge into the rife. The report recommends adding an additional sample point on the Barnham Rife to monitor the impact of this on the Rife.

Due to the rural nature of this waterbody it is suspected that phosphate and dissolved oxygen are also being impacted by diffuse pollution from arable fields and horticulture as a result of agriculture and rural land management. The report identifies as an action the need to work with Natural England to target Catchment Sensitive Farming type activities and agri-environment schemes to ensure adoption of best farming practices.

A further 'invertebrate failure' was detected, 28 taxons (a group of organisms) were expected to be found, only 18 were recorded. Remedial actions are to be identified to improve the invertebrate communities.

The report also notes that the Lidsey Rife waterbody should include the Barnham Rife as this forms the eastern arm of the Lidsey Rife.

Identified and ongoing actions include:

- WSCC and Arun DC are completing a study to address the surface water flooding and infiltration into the sewage network causing manholes to pop and cause sewage pollution. .
- Barnham Rife to be assessed whether it should be classified as WFD Waterbody and grouped with Lidsey Rife as there are similar pressures on both stretches.

This survey is highly important in considering both surface water and waste water drainage and their impact on the Natural Environment. The maintenance of a pollution-free Rife through the NP area is essential for the protection of this natural ecological corridor and important habitat for flora and fauna alike.

Recommendations

In order to ensure the maintenance of the free flow of the Rife the NP recommends the District Council regularly review, and enforce where necessary, the Riparian Laws for all landowners in the area where the rife flows through. This will assist not only with the maintenance of biodiversity of the Rife but will also be beneficial in helping to alleviate the flooding and drainage issues.

The NP supports the promotion of Agri-Environment Schemes, and similar schemes, in the area to encourage farmers and nursery owners to carry out best practice in their respective fields, to support both conservation of natural habitats and sustainable farming.

<u>Regionally Important Geological Sites (RIGS) and County Geological Sites (COGS)</u>

COGS are places that are considered to be especially important for the geology they exhibit. They are mostly old quarries, pits, roadside cuttings and other excavations which expose rocks normally covered by soil and vegetation. Some sites are natural exposures of interesting rocks in river banks and cliffs, and others are fine views which demonstrate how the underlying geology and forces of erosion have shaped the

landscape. COGS are not a legal or statutory designation but they are valuable enough to the region to deserve recognition.

RIGS (now termed Local Geological Sites) are an important educational, historical and recreational resource. There are selected on a local basis according to Nationally Agreed Criteria:

- The value of a site for educational purposes in life-long learning.
- The value of a site for study by both amateur and professional Earth scientists.
- The historical value of a site in terms of important advances in Earth science knowledge, events or human exploitation.
- The aesthetic value of a site in the landscape, particularly in relation to promoting public awareness and appreciation of Earth sciences.

Natural England Website

There are 12 sites within the Parishes which have been surveyed as part of the Sussex Geological Sites Survey (1126). These sites have been identified and surveyed by the Booth Museum of Natural History based in Brighton.

Recommendations

It is recommended that the E&H group further investigates the sites noted in the NP Area.

Up to Date Surveys

It has been discovered in the development of this section that up-to-date survey information is not being sent to important organisations such as the Sussex Biodiversity Record Centre.

Recommendations

The NP will work to find a way to ensure that when biodiversity surveys are completed in the area, the company completing the survey is required to send a copy to SxBRC and similar local groups.

Trees & Woodland

> Trees and woodland make a valuable contribution to the landscape and visual amenity of Arun. Trees are also vital to protecting development from the impacts of climate change such as higher temperatures and exposure to the sun. Trees, either individually or in groups, perform many functions such as shelter from wind, shade from the sun, act as a natural barrier, absorb pollutants, and provide a biodiversity function in terms of provision of habitat and food sources. They are important producers of oxygen and act as carbon sinks. In urban settings, trees or groups of trees can contribute significantly to the local environment and to the successful integration of new buildings into the landscape. The planting or retention of mature trees can contribute to amenity and more attractive developments as well as retaining important wildlife habitats. The retention of trees should be considered at the design stage of all developments.
>
> *Arun District Council Local Plan – Consultation Doc 19.07.12 Para 19.3.1*

Tree Warden

> The Tree Warden Scheme is a national initiative to enable people to play an active role in conserving and enhancing their local trees and woods. The scheme was founded and is co-ordinated by The Tree Council.
>
> Tree Wardens are volunteers, appointed by parish councils or other community organisations, who gather information about their local trees, get involved in local tree matters and encourage local practical projects related to the trees and woods.
>
> *The Tree Council Website*

We are fortunate in the NP area to have a Tree Warden appointed by Barnham Parish Council. The Tree Warden has been consulted in the development of this area of the NP.

Ancient Woodland

> "..Ancient Woodland is defined by Natural England as a site that has had a continuous woodland cover since at least 1600AD. It is an irreplaceable, wildlife-rich habitat, and often includes archaeological features.." "..Planning Policy Statement 9: Biodiversity & Geological Conservation (2005) (published by ODPM, Office of the Deputy Prime Minister) states that, 'ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated.'.."
>
> *Sussex Biodiversity Report 22 October 2012*

There are 4 Areas of Ancient Woodland in the NP area, all located within the Barnham Parish.

- Private wood, Nanny's Copse, off Lake Lane, Barnham.

- Public wood, Hedge End Wood, off Orchard Way, Barnham. In this woodland you can see evidence of coppicing in the past. The trees are mostly oak, ash, maple and some holly.
- Private wood, north of the rife in Highground Lane
- Private wood, north of Yapton Road, east of the public footpath running from the road north to the railway.

Ancient/Veteran Trees

> "..Ancient trees form a vital part of our landscape, heritage and biodiversity. Ancient trees are biologically, aesthetically or culturally interesting because of their great age. In ancient or post-mature stage of life. Have a large girth relative to others of the same species. Veteran trees are usually in the second or mature stage of life. Have important wildlife and habitat features including hollowing or associated decay fungi, holes, wounds and large dead branches.."
>
> *Sussex Biodiversity Report 22 October 2012*

At the time of writing there are 6 Veteran Trees in the NP Area:

- A Veteran Tree 42048, a Pedunculate Oak with a girth of 7.5 in Nursery Close, on the Farnhurst Estate in Eastergate Parish.
- A Veteran Tree 97693, a Pedunculate Oak with a girth of 4.51. In Eastergate, north east of the junction of Barnham Road with Church Lane.
- 2 x Veteran Trees 97690 & 97691, both a Pedunculate Oak one with a girth of 4.8 and the other a girth of 7.6. In Eastergate, between Barnham Road and Eastergate Lane, adjacent to a track.
- A Veteran Tree 113053, a Yew, Eastergate Churchyard.
- A Veteran Tree 113390, a Copper or Purple Beech, with girth of 3.22, in garden of 'Thimbles' Listed Building, Barnham Road.

The Woodland Trust Website – Ancient Tree Hunt

Ancient Woodland & New Developments

It is essential that strong consideration be given to the preservation and protection of the Ancient Woodlands within the NP area when considering applications for existing building extensions and new developments.

Recommendations

The NP will adopt Natural England's "Ancient Woodland Standing Advice, version 3 (30th May 2012)" as quoted below and recommends the District Council adopts this in the Local Plan:

Extract from Natural England's Standing Advice Section 7.5 (Pages 18 & 19)

Examples of conditions which may be attached to the grant of planning permission to protect ancient woodland.

7.5.1

Development close to, though not directly involving destruction of an ancient woodland, can nevertheless be damaging to the site. Whilst development should be kept as far as possible from ancient woodland, a minimum buffer of at least 15 metres in width should be maintained between the ancient woodland and development boundary. (24)

Management plans for the woodland and identified wildlife features (such as hedgerows etc) to ensure long term viability. This should be secured in a Section 106 Agreement to provide long term security.

Connectivity of woodland to be maintained (including maintenance and enhancement of hedgerows, copses) and then included in the Section 106.

The provision of interpretative material to inform new residents of the importance of the ancient woodland.

Mechanisms for the control of pollution / maintenance of hydrology to be secured as appropriate.

Lighting should be designed to face away from woodland and minimise light spill onto the woodland and woodland edge.

Footnotes

24 The 15m buffer as used in the Four Acre Wood case is an example of best practice. Depending on their size buffer zones can create space to allow the development of a varied woodland edge and for any run-off from a development to be slowed and absorbed. In addition buffer zones can avoid or reduce potentially harmful effects of development including damage to tree roots, disturbance, noise, pet predation, light spill and the need for tree management.

Tree Preservation Orders

A Tree Preservation Order (TPO) is an Order made by a Council in respect of a tree(s) because the tree is considered to bring amenity value to the surrounding area. The order makes it an offence to cut down, uproot, prune, lop or damage the tree in question without first obtaining the Council's consent. A TPO can apply to a single tree, a group of trees or a woodland.

The Council must give notice of the making of a TPO and will consider any objections to it before making the decision whether to confirm it, to confirm it subject to modifications or to not confirm it.

Anyone who wishes to fell or carry out work to a tree protected by a TPO must apply to the Council to obtain permission. That person does not have to be the tree owner but they must state the reasons for making the application, the works required and make it clear to which tree the application relates.

Government Planning Portal Website

Trees are an important feature throughout the NP area, bringing shape and design to existing areas of housing, natural habitat and green infrastructure.

Recommendations

The NP endorses the Local Plan Policy DM 38 Protection of Trees. The NP will work closely with the Local Tree Warden to identify areas which would benefit from additional tree planting of new native trees as well as supporting the identification of any additional trees that would benefit the area by being formally protected.

There are currently over 74 trees protected by 8 TPOs in Barnham and over 122 in Eastergate protected by 17 TPOs. The location of these TPOs are mapped at Appx F and the details of each TPO listed at Appx G.

Trees & New Developments

New developments are covered by British Standard 5837: 2012 and is also reference in the Local Plan Policy DM38.

All trees regardless of their protected status, can be a material consideration in a planning application. The British Standard 'Trees in relation to construction – Recommendations' BS5873:2012 recommends the steps that should be taken to ensure that trees are appropriately and successfully retained when a development takes place.

Any development that would result in the loss of, or the deterioration in the quality of, an important natural feature(s), including protected trees and hedgerows, will not normally be permitted. In exceptional circumstances, where the benefit of development is considered to outweigh the benefit of preserving natural features, development will be permitted subject to adequate compensatory provision being made. The retention of trees, hedgerows and other natural features in situ will always be preferable.

There should be no unacceptable loss or damage to existing trees or woodlands during, or as a result of development.

Adequate tree survey information must be provided as part of the planning applications.

Trees not to be retained as a result of the development are to be replaced with native trees as advised by the Local Tree Warden (see Appx H) at least at the ratio of three to one and additionally new trees should be planted at a minimum of :

- 3 trees for each dwelling for residential development or:

- For non residential development, whatever is the greater of one tree for each parking space or one tree per 50m2 of gross floor space.

Any new tree planted shall be maintained for at least 10 years.

Where it is not possible to secure this new or replacement tree planting within the site, the trees should be planted at a suitable, agreed location outside the site.

Urban Trees

Benefits:

- provide habitats for wildlife.
- provide shade and reduce ambient temperature.
- provide sense of place and community.
- lower levels of noise and dust.
- reduce surface flood water run-off.
- reduce stress.
- produce oxygen and reduce carbon dioxide.
- encourage walking.

Many urban trees can be found in both the Barnham and Eastergate areas. Over 200 are protected by TPOs (see TPO Map Appx F & List at Appx G). These were growing long before any substantial housing was built in Barnham & Eastergate when the area was still farmland and some of these trees are now aged between 150 to 200 years old. The older species are mostly Oaks with a few Ash, and a Plane in Farnhurst Road.

Along Barnham Lane some rare trees grow (Judas, Vine Maple, Catalpa, Liquidamber, etc) left over from when the field was used as a tree nursery. This hedgerow is unusual as it has so many different species grown into it.

Recommendations
It is recommended that the whole hedgerow along Barnham Lane (as detailed above) and continuing into Walberton Parish, be protected by a blanket TPO.

Owen Johnson, a noted Tree Specialist has found only two examples of the Vine Maple within the whole of Sussex.

> "..Vine Maple A. Circinatum Occasioal in collections but one in a country hedge at Barnham Lane SU962047. (The only other one noted is in) High Beeches.."
>
> *The Sussex Tree Book by Owen Johnson Pg 48*

Fontwell Avenue, Eastergate has a fine row of Conifers which also need to be protected.

Eastergate playing field. New trees planted over recent years are now well established.

Recommendations

1. Plant more Native Urban Trees.
2. Maintain Urban Trees. This is the responsibility of ADC through their Tree Officer and a plan is already set up to complete this. It is recommended ADC work in close partnership with the Parish Council Tree Warden.
3. Provide a reference for help and advice with important trees on private ground eg: very old tree growing in Nursery Close, Barnham. This is an important tree not only for the NP area but also for Sussex.
4. There are no public wooded areas in Eastergate. An area will be identified and planted with native trees. (See native tree list at Appx H).
5. Barnham Lane hedgerow to be protected by a blanket TPO.
6. Row of Conifers in Fontwell Avenue, Eastergate to be protected by TPOs.

Soil & Geology

The area of Eastergate and Barnham can be seen on the 1:50,000 British Geological Survey Map of the area (to be obtained from BGS) to be underlain by River Terrace Deposits, Head Deposits and Raised Beach Deposits over London Clay and Lambeth Beds. At depth, The Chalk Formation is found.

There are several types of superficial deposit, including raised beaches and brickearth. These were formed in periods of climate change during the ice ages. The raised beaches were generally formed during periods of higher sea level, when ice sheets were at a minimum, and the sand and shingle deposits can be seen in many low cliffs. The brickearth is originally a wind-blown dust deposited under extremely cold, dry conditions but much has been re-deposited by flood water and mixed with flints.

Superficial deposits were originally recorded only onshore and around the coast where they were laid down by various natural processes such as action by ice, water and wind. More recently offshore deposits have been mapped and may be separate sea-bed sediments.

Most of these superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches. Almost all of these deposits were formerly classified on the basis of mode of origin with names such as, 'glacial deposits', 'river terrace deposits' or 'blown sand'; or on their composition such as 'peat.'

Superficial Deposits

River Terrace Deposits: consist of sheets of gravel and sand. Some variability in soils is to be expected at junctions with various terraces, as riverbanks existed there. The remains of these former riverbanks can be soft and silty or contain clay. The gravels have often been worked locally in the past, on a piecemeal basis. However in Eastergate and Barnham, gravel and sand hasn't been excavated.

Head Deposits: Head describes deposits at the very top of the geological succession that could not be classified more accurately. The term has been used by British geologists since the middle of the 19th century. Areas identified as head include deposits of aeolian origin such as blown sand and loess, slope deposits such as gelifluctates and solifluctates, and recently eroded soil material, called colluvium.

Raised Beach Deposits: A former beach, recognizable by beach deposits and marine shells, which now stands above sea level some metres inland. Where land is rising because of isostasy, several raised beaches may be seen at different levels.

Solid Geology

London Clay: In the area of Eastergate and Barnham, the London Clay ranges between 0 to over 100 metres in thickness. Its base overlies the Reading Formation beds. London Clay ranges from silty plastic clays and silty sands to widespread cross-bedded fine to medium grained sheet sands. Pebble beds of grey to black well rounded flints in a matrix of glauconitic fine to course grained sand, silt and clay are found, but are generally less than a metre thick. Lenticular beds of fine to medium cross-bedded sands of up to 10m thick are found at two horizons.

Lambeth Beds (Woolwich and Reading Beds):.The Lambeth Group is a stratigraphic group, a set of geological rock strata in the London and Hampshire Basins of southern England. It comprises a complex of vertically and laterally varying gravels, sands, silts and clays deposited between 56-55 million years before present when the sea floor was raised above sea level by earth movements and the Chalk was eroded. It is found throughout the London Basin with a thickness between 10m and 30m and the Hampshire Basin with a thickness between 50m and less than 25m.

Groundwater

Groundwater forms the largest available store of fresh water in England and Wales – in fact there is far more groundwater than there is fresh surface water. However, the proportion of drinking water supplied by groundwater varies regionally. Over lowland England, where the pressures on land use are greatest, half our supplies come from groundwater; this rises to more than 70 per cent in the south-east. In rural areas, groundwater may be the only viable water source for isolated properties. Groundwater is found in rocks below the surface. In the Arun District, the main groundwater source is from the Chalk Rock (see section 2 on Water for further information).

Summary

- Our natural environment is dictated by the soils and geology underneath our parishes. Barnham and Eastergate lie on poorly permeable soils and geology. This has given rise to having many surface water features in the area and subsequent problems of drainage from increasing number of developments that need to discharge surface water to these.

Appendices

A. Fontwell Racecourse SNCI Ar 1 Statement

B. Sussex Biodiversity Report – Synopsis

C. Sussex Ornithological Society Report – Synopsis

D. Biodiversity Opportunity Area Statement – 64 Lidsey Rife

E. Waterbody Summary Sheet Lidsey Rife

F. Tree Preservation Order Location Map

G. Tree Preservation Orders – Detailed List

H. List of British Native Trees

Acknowledgements

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Environment Agency

Sussex Biodiversity Records Centre

Sussex Ornithological Society

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Sussex Amphibian and Reptile Group

Sussex Wildlife Trust

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Marked up map overlay of biodiversity surveys and sightings.