

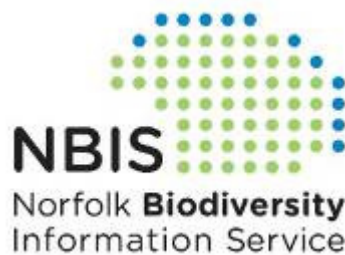
The River Babingley

A State of the Environment Report



**Produced by Norfolk Biodiversity Information
Service**

Norfolk Biodiversity Information Service (NBIS) is a Local Record Centre holding information on species, geodiversity, habitats and protected sites for the county of Norfolk. For more information see our website: www.nbis.org.uk



This report is available for download from the NBIS website www.nbis.org.uk

Report written by Lizzy Oddy, May 2014.

Acknowledgements:

The author would like to thank the following people for their help and input into this report: Mark Andrews (Environment Agency); Edward Cross (Abbey Farm); Kelly Powell (Norfolk County Council Historic Environment Service).

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FOREWORD

The Babingley River rises east of the village of Flitcham close to Abbey Farm. It meanders gently through the royal Sandringham estate and joins the sea through Wootton Marsh into the Great Ouse. The river itself is a very beautiful and ecologically rich habitat, perhaps because it has had far less human intervention than some rivers in the county.

It runs for 19.6km and is joined by the River Cong, a small tributary, in Congham. In some ways the river serves as a reminder of the permanence of nature in the face of man's constant striving for control. In its past the river would have powered several mills: at Abbey Farm, Congham Oil Mill, Hillington Park, West Newton Paper Mill and Babingley Watermill.

It passes through the village of Babingley now lost with its lonely little ruined church of St Felix. The saint supposedly ran aground in the river and was rescued by a beaver. The beaver was made a bishop by Felix and you will see on the Babingley village sign a little beaver in a bishop's hat.

The river also passes under the disused railway that ran from King's Lynn to Wolferton and carried many members of the royal family and their household to Sandringham.

The river is special in that it is a chalk river of which there are only around 200 in the world. It is surrounded by arable land, coniferous plantations, marshland and fen.

Access is relatively limited, however for wildlife and river enthusiasts there are spots at which you are guaranteed to see something special. Water voles and otters are regular visitors along with buzzards, osprey, barn owls and kingfishers. Trout, carp and brook lamprey may be glimpsed in the clear waters. The river is also special for invertebrates and includes a wide selection of damselflies and dragonflies. Abbey Farm at Flitcham has some public access and a lovely bird hide which is well worth a visit and is close to the source. There is also a Public Right of Way beside Babingley Bridge near Castle Rising and a small Natural England nature reserve where the river joins the Ouse at Point Green.

The 9 Chalk Rivers project recognises the important part the river plays in the wider area both for wildlife and people. The river has been modified (straightened) in places. It also suffers from silt build up from roads and adjacent farmland. Habitats need to be improved for species alongside the need for better flood storage solutions to safeguard communities. Having said all that, the Babingley is a very healthy river in general and some enhancement work from the Norfolk Rivers Trust will no doubt improve functioning and quality for wildlife even more.

I hope you enjoy reading this guide for the river and please do see it for yourself. Norfolk is so lucky to be blessed with the presence of these amazing chalk rivers, which truly are gems of the natural world. However they need our attention if we want to safeguard their future so if you want to get involved with the work of the project then we would love to hear from you.

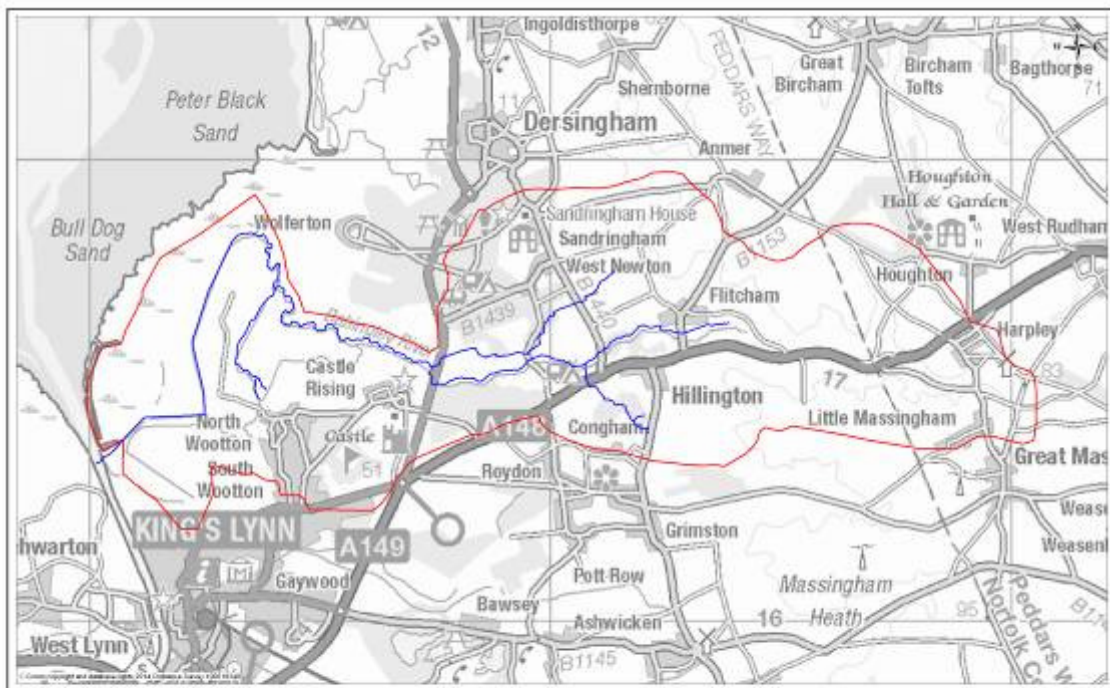
Gemma Clark - 9 Chalk Rivers Project Community Involvement Officer
<http://www.norfolkriverstrust.org/>

WELCOME

The River Babingley is a North Norfolk chalk river which flows for **19.6 km** from its source near Flitcham to where it enters the Great Ouse through Wootton Marsh. Its catchment encompasses the area from Sandringham down to the north of King's Lynn and as far east as West Rudham Common, covering **9100 hectares**. The boundary of the catchment can be seen on the map below.

This report is written by Norfolk Biodiversity Information Service (NBIS) with contributions from people involved in the Babingley catchment. It brings together key information about the environment of the Babingley catchment, showcasing the important sites, species, habitats, geology and historic features of the area. It aims to inform, inspire and enthuse local people like you to get out and enjoy the Babingley area. The data included provide an important baseline to be compared against in the future and show how the environment of the Babingley catchment is changing.

If, after reading this State of the Environment Report, you want to find out more about particular aspects of the Babingley catchment environment, useful web links are provided on page 33 for further information. Definitions of words in SMALL CAPITALS are given in the glossary on page 31.



The red outline on the map above shows the boundary of the River Babingley catchment area. The blue line shows the River Babingley and its tributaries.

LANDSCAPE AND GEODIVERSITY

GEODIVERSITY underpins the landscape of the Babingley catchment. Natural processes have been working over many thousands (and millions) of years to produce the landforms and soils of the valley, and the range of important wildlife habitats we see today.

GEODIVERSITY has made a big contribution to human life through resources which we often take for granted such as drinking water, minerals, building stone and soils for farming.

GEODIVERSITY Sites

These are non-designated sites of GEODIVERSITY interest determined by the Norfolk GEODIVERSITY Partnership. There are **seven** GEODIVERSITY sites within the Babingley catchment. These are:

Name	Description
Ling Common Pits (x3)	Sand pits
Hillington Chalk Quarry & Congham Chalk Pit	Active quarry
Harpley Dams Chalk Pit	Disused quarry
St Augustine's Way Site	PALAEOLITHIC findspots
School Site & St Augustine's Way Site & Nursery Road Site	PALAEOLITHIC findspots



Sand hills at Ling Common © [Richard Humphrey](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

IMPORTANT SITES

Did you know that there are sites within the Babingley catchment that are important for their wildlife or geology at a county, national or even international level? These sites are crucial for the conservation of rare plants, animals and geology, and many of them are open to the public allowing you to explore and experience nature for yourself.



Site Designations

There are a number of designations that a site can be given in the UK, providing different levels of protection. For example, 'statutory sites' are protected by law in the planning process, while 'non-statutory' sites are not, although they are still recognised as important and taken into account in planning. The different levels of designation are summarised below:

Designation		Description
Ramsar Site	Statutory international	An internationally important wetland site, designated under the RAMSAR CONVENTION.
Special Protection Area (SPA)	Statutory international	European designation for sites of international importance for birds.
Special Area of Conservation (SAC)	Statutory international	European protected site designated by the UK government. Sites of international importance under the EC HABITATS DIRECTIVE.
Site of Special Scientific Interest (SSSI)	Statutory national	Designated and protected by Natural England as the best sites for wildlife or geology in the country.
National Nature Reserve (NNR)	Statutory national	A site of national importance for nature conservation. Allow scientific research and most have at least some public access.
Local Nature Reserve (LNR)	Statutory local	A site of special nature conservation interest locally, designated by local authorities.
County Wildlife Site (CWS)	Non-statutory county	Sites outside of statutory protected areas but of wildlife importance at a county level.

Statutory Sites Immediately Adjacent to the Babingley Catchment

Site Type	Site Name
Ramsar	The Wash
Special Area of Conservation	The Wash & North Norfolk Coast
Special Protection Area	The Wash
National Nature Reserve	The Wash

The Wash

Designated as a Ramsar Site, SAC, SPA and National Nature Reserve, The Wash is an incredibly important site. Partly in Norfolk and partly in Lincolnshire, and with a total area of over 100000 hectares, The Wash is made up of deep and shallow water, mudflats and saltmarshes. It is one of Britain's most important winter feeding areas for birds and supports one of the largest populations of common seal in England.



The designated sites of The Wash

The Wash contains approximately 10% of England's saltmarsh habitat (see page 15) and its intertidal mudflats are famous for vast numbers of worms, shellfish, shrimps and other small crustaceans. The Wash is also an important nursery ground for many fish species, including cod, plaice, sole and whiting.

A circular walk up to Point Green begins at a small car park at the end of a rough track leading from the port in King's Lynn. A boardwalk takes you over saltmarsh to the point where the River Babingley joins the Great Ouse.

Information taken from www.naturalengland.org.uk/ourwork/conservation/designations/nnr/1006144.aspx and publications.naturalengland.org.uk/file/65039

Sites of Special Scientific Interest

There is **one SSSI** immediately adjacent to the Babingley catchment. This is **The Wash**. See page 4 for more information about The Wash.



SSSI Condition

SSSIs are managed by Natural England who regularly assesses their condition under six categories:

Favourable: This means the site is being adequately conserved and is meeting its conservation objectives.

Unfavourable Recovering: All the necessary management measures are in place on the site and provided that this is sustained, favourable condition will be reached in time.

Unfavourable No Change: The site is not being conserved and is in poor, but not worsening condition. The longer it remains in this state the more difficult it is likely to be to achieve recovery.

Unfavourable Declining: The site condition is becoming progressively worse and changes to site management or external pressures are needed to reverse this.

Part Destroyed: Part of the special interest feature of the site has suffered lasting damage and will never recover.

Destroyed: All of the special interest feature of the site has suffered lasting damage and will never recover.

(Information taken from the Natural England website: <http://www.sssi.naturalengland.org.uk/special/sssi/glossary.cfm>)

SSSI	Condition*	Last Monitored
The Wash	This SSSI covers a large area split between Norfolk and Lincolnshire. The area is broken down into units. Of the Norfolk units: 10 are Favourable 1 is Unfavourable Recovering 2 are Unfavourable Declining	2009, 2011

* See 'SSSI Condition' box above for further information

(Information taken from <http://www.sssi.naturalengland.org.uk/Special/sssi/search.cfm>)

County Wildlife Sites

County Wildlife Sites (CWS) are particularly important sites for wildlife in Norfolk. While not protected by law, they are taken into account in the planning process. There are **22** CWS in the Babingley catchment, covering an area of **475.72 ha**. Many CWS are privately owned and do not allow public access. However **five** of them are publicly accessible (see pg 7).



County Wildlife Site Monitoring

County Wildlife Sites are monitored every year to determine what percentage are in Positive Conservation Management. The statistic for each district is reported to central government.

Being in Positive Conservation Management means that a site is actively being maintained or improved for the species for which is designated as important. This is often achieved through Environmental Stewardship schemes. Such schemes are run by Defra, and they encourage farmers and landowners to manage their land in a way that provides benefits to the environment alongside the traditional farming outputs such as crops and livestock (see page 16 for more information on Environmental Stewardship schemes).

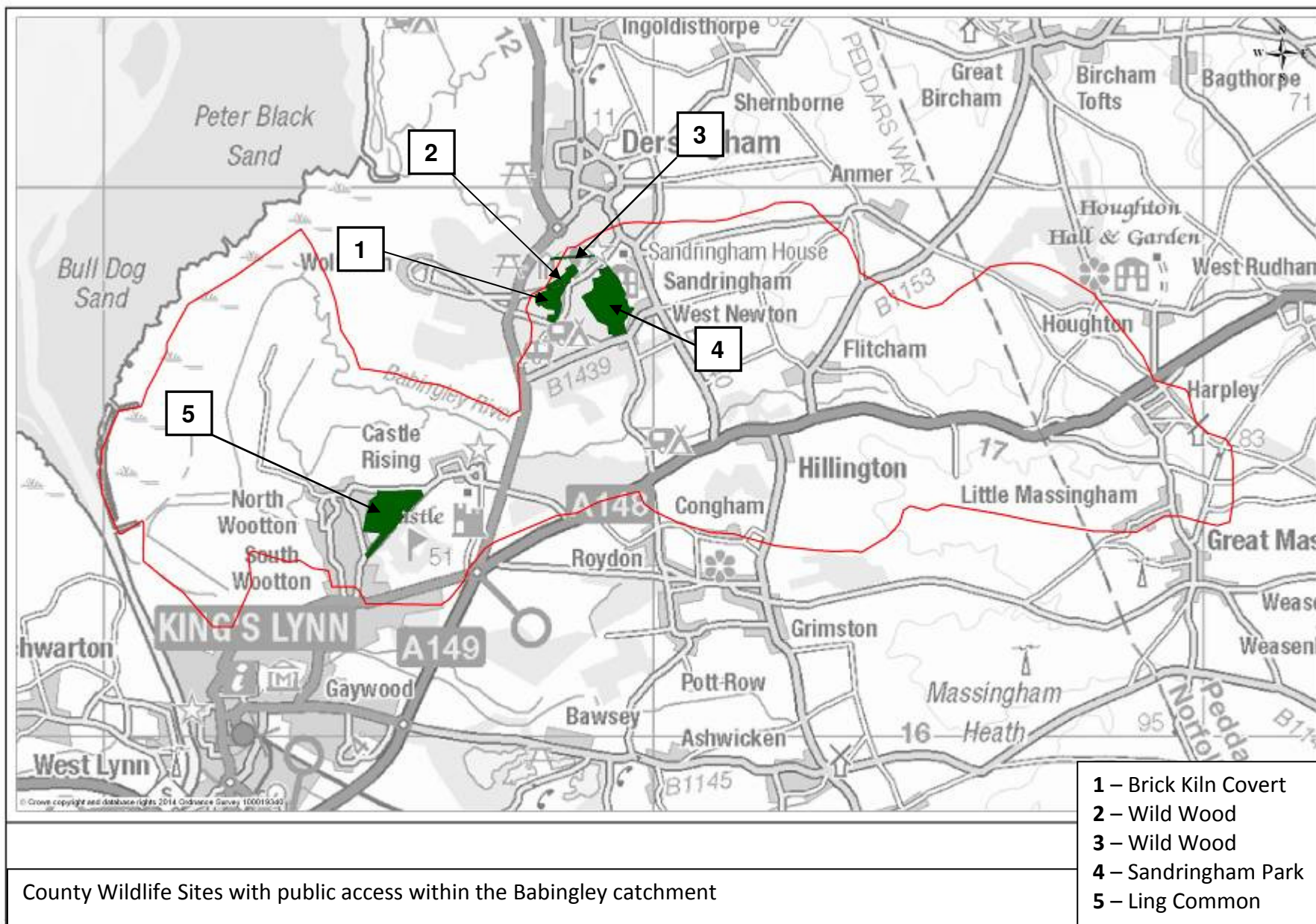
In the reporting year 2012/13, of the **22** County Wildlife Sites within or overlapping the Babingley catchment **16** of them (**72.7%**) were in positive conservation management and **6** of them (**27.3%**) were not.

Roadside Nature Reserves

Roadside Nature Reserves (RNRs) are stretches of road verge designated for their ecological interest. Many contain the last remaining fragments of old unimproved grassland that was once widespread, and often hold rare or unusual plants. The RNR scheme is run by Norfolk County Council, and although the designation is non-statutory, the RNRs are individually managed to protect the plants and animals living there. There are **two** RNRs within the Babingley Catchment covering a total length of **720m**. These are Hillington and Harpley, both found on the A148 and designated for their chalk grassland flora.



(Information from Roadside Nature Reserve citations)



1 – Brick Kiln Covert: (19.6ha). A large area of birch woodland over an acid substrate with remnants of a heathland flora. A strip of neutral grassland runs through the middle of the site.

Located by the road to the Sandringham Estate off the A149 to the south of Dersingham. Parking at Sandringham is free.

2 – Wild Wood: (9.5ha). An area of oak and silver birch dominated woodland. The site contains many mature trees (notably oaks) but also occasional sweet chestnut and Scot's Pine. There are also some patches of coniferous plantation.

Located by the road to the Sandringham Estate off the A149 to the south of Dersingham. Parking at Sandringham is free.

3 – Wild Wood: (3.13ha). A thin strip consisting mainly of acid grassland intermixed with heathland areas. Runs between Princess's Drive and Sandringham Visitor Centre.

Located by the road to the Sandringham Estate off the A149 to the south of Dersingham. Parking at Sandringham is free.

4 – Sandringham Park: (64.9ha). A large area of parkland with semi-improved neutral grassland containing small areas of woodland and ponds. The grassland is cut and grazed, and is limed regularly. Some of the scattered oaks are up to 700 years old. The ponds are largely MESOTROPHIC and contain a variety of species.

Located by the road to the Sandringham Estate off the A149 to the south of Dersingham. Parking at Sandringham is free.

5 – Ling Common: (60.7ha). An area of woodland on a gently undulating site over a light sandy soil. The canopy is dominated by mature birch, with frequent Scot's Pine and occasional oak. In more open areas, heathland species such as heather, cross-leaved heath and purple moor-grass occur.

There is a parking area and site entrance beside Lynn Road, opposite King's Lynn Golf Club.



Ling Common © [Andy Peacock](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)



Sandringham Park © [Christine Matthews](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

HABITATS AND LAND USE

A habitat is “an environment in which an organism or ecological community normally lives or occurs”. While some species are able to live in a variety of habitats, there are others that can only survive in a particular habitat type. Land use describes how the land is being utilised by people.

Different habitats also provide different ‘services’ to people. For example woodlands provide timber and help absorb CO₂. Areas of grassland in built-up areas are important for flood prevention during heavy rain, as they allow the excess water to soak into the ground. Plus, getting out into nature helps people to unwind and relax from the stresses of daily life. This concept, known as ‘ECOSYSTEM Services’ is explained further below.



ECOSYSTEM Services

As humans we gain many benefits from natural ECOSYSTEMS. These are known as **ECOSYSTEM services** and they can be divided into four categories:

Provisioning – nature providing us with goods such as food, fuel, fresh water, natural medicines and biochemicals.

Regulating – nature providing services such as pollination, pest control, water purification and climate regulation.

Cultural – the non-material benefits of nature, such as spiritual enrichment, recreation and aesthetic experiences.

Supporting – nature providing services which underpin all the other ECOSYSTEM services, such as soil creation, nutrient cycling and photosynthesis.

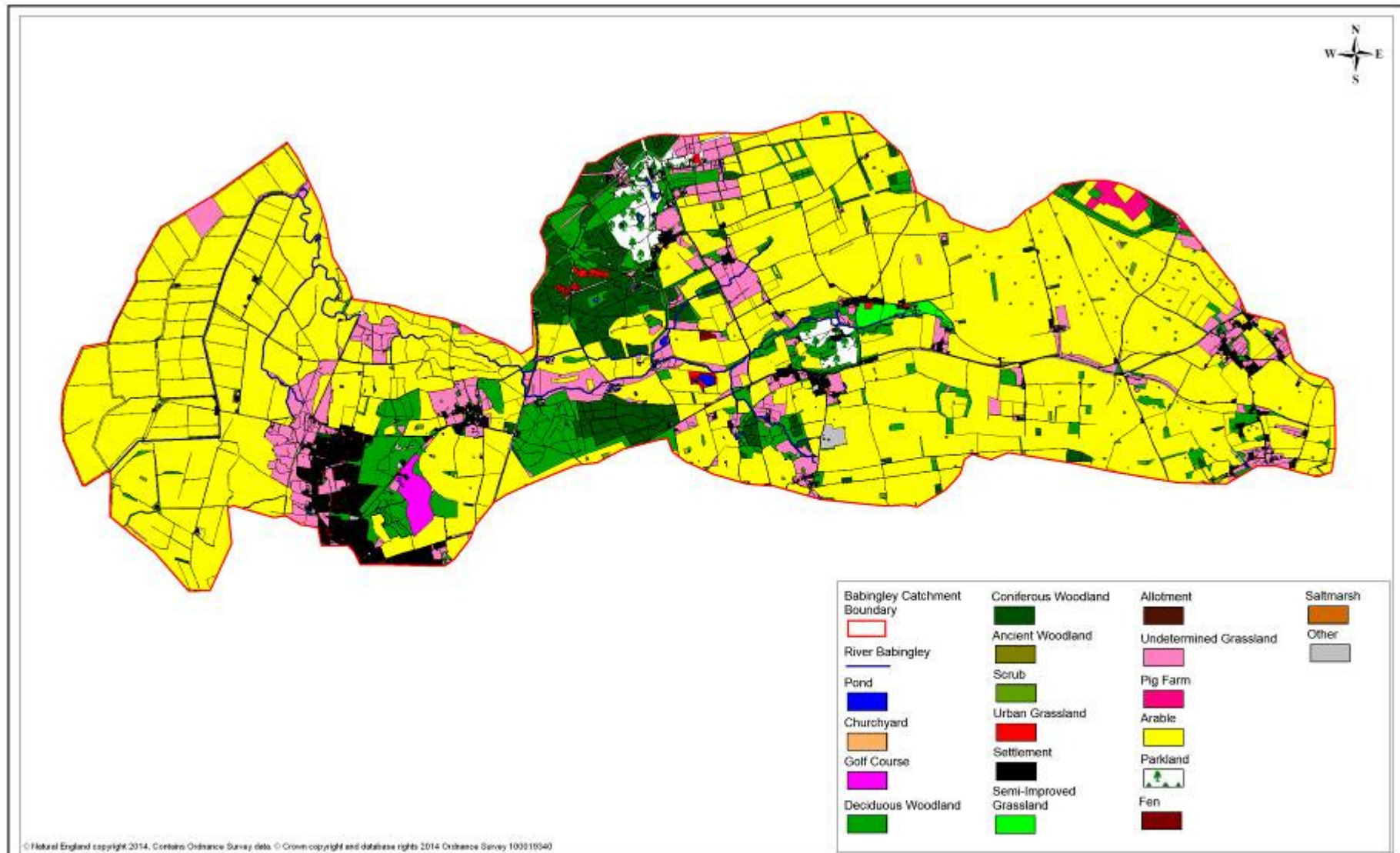
Over the last few years, more and more people have realised the importance of the natural world to the health, wellbeing and even the survival of humans. Many ECOSYSTEM services are being assigned monetary values, often based on how much it would cost to replace the service with a human-made alternative. This helps decision makers by expressing the value of an ECOSYSTEM in a tangible way, but can be controversial. Some people argue that the ‘intrinsic value’ of nature should be reason enough to conserve it.

Habitat and Land-Use Mapping

The map on page 12 shows the different habitat types (e.g. saltmarsh, semi-improved grassland, deciduous woodland etc) and land uses (e.g. arable land, parkland, churchyards etc) within the boundary of the Babingley catchment.

The habitats and land uses were mapped from a combination of aerial photographs and from the Natural England Priority Habitat Inventory information held by NBIS. In some cases, exact habitat types could not be determined using these methods e.g. grassland types not included in the Natural England Priority Habitat Inventories. In this case, the area was mapped as 'undetermined grassland'.

The final map was used to determine the overall area of each habitat and land-use type in the Babingley catchment. These areas can be compared over time to reveal losses or gains in particular habitats and land-uses.



Habitats and Land-Use in the Babingley Catchment

Parkland (268.8ha, approx 2.95% of total area) – The parkland within the Babingley catchment is that on the Sandringham and Hillington estates (see page 24). Parkland is important for its mosaic habitat and particularly for the ancient and decaying trees it generally contains, and the animals, plants and fungi which depend on them. In some areas, parkland has been converted to other land uses such as arable or amenity land. These are still classed as important if the surviving veteran trees are of nature conservation interest.



Sandringham Park © [Christine Matthews](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

Woodland – The Babingley catchment contains both **deciduous (779.2ha, 8.6% of total area)** and **coniferous woodland (440.8ha, 4.8% of total area)**. Some of the deciduous woodland in the Babingley catchment is also classed as **ancient woodland (48.3ha, 0.53% of total area)**. This is an area that has been continuously wooded since at least 1600AD. It can include both semi-natural woodland and plantations on ancient woodland sites. Ancient woodland is rare – it is thought to cover just 3% of England's land area. It is also exceptionally rich in wildlife, and can act as a reservoir from which wildlife can spread out into new woodlands.



Saltmarsh, The Wash © [Richard Humphrey](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

Saltmarsh (2.94ha, 0.03% of total area) – Mostly found just to the west of the catchment, coastal saltmarsh consists of the upper, vegetated portions of intertidal mudflats. The vegetation on a saltmarsh is limited to a low number of salt-tolerant species which are adapted to regular immersion by the tides. They act as an important resource for wading birds and wildfowl, and provide sheltered nursery sites for several species of fish. Since medieval times, many saltmarshes have been converted to agricultural land.

Golf Course (41.7ha, 0.5% of total area) – Golf courses have the potential to provide important habitats for a range of species. While the greens and fairways may be closely mown and treated with herbicides, areas of rough and woodland, not to mention water can provide homes and food sources for birds, small mammals, amphibians and INVERTEBRATES.



Golf Course © [Ian Capper](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

Ponds – There are **171** ponds in the Babingley catchment, covering a total area of **23.3 hectares**. Ponds are often overlooked habitats but can be important for wildlife, both resident and visiting, particularly in an arable landscape.

Arable areas can sometimes seem boring, bare and devoid of wildlife. However if they are managed well they support important species, some of which are found nowhere else. There are **6304.7ha** of arable land in the Babingley catchment – the largest area of any habitat or land-use type, and **69%** of the total area of the catchment.

(Information taken from UK Biodiversity Action Plan documents)

Agri- Environment Schemes

Agri Environment Schemes reward farmers for managing parts of their land in a way that benefits the environment. Environmental Stewardship is an agri-environment scheme run by Natural England. There are **157 parcels of land** currently under Environmental Stewardship in the Babingley catchment. Environmental Stewardship has a number of different levels:

- *Entry Level Stewardship (ELS)* – **42 parcels of land** of land in the Babingley catchment are covered by Entry Level Stewardship or the organic equivalent. Open to all farmers, ELS delivers simple and effective environmental management, including options such as hedgerow management, providing WILD BIRD COVER and creating BUFFER STRIPS.
- *Higher Level Stewardship (HLS)* – **115 parcels of land** of land in the catchment are under Higher Level Stewardship. This is a competitive scheme that involves more complex management options and aims to provide more wide ranging environmental benefits.

Current Environmental Stewardship options in place within the Babingley catchment include:

- Protection of in-field trees
- BUFFER STRIPS on cultivated land or intensive grassland
- Low input permanent grassland.
- Floristically enhanced grass margins.
- Enhanced wild bird seed mix plots.
- Maintenance of ponds with a high wildlife value.
- Maintenance of coastal saltmarsh.

Environmental Stewardship is now coming to an end, and will be replaced by the New Environmental Land management Scheme (NELMS).

(Information taken from <http://www.naturalengland.org.uk/ourwork/farming/funding/es/default.aspx>)





Environmentally Friendly Farming in the Babingley Catchment – Edward Cross, Abbey Farm, Flitcham

Abbey Farm, Flitcham lies on the chalk scarp that runs north to south through West Norfolk. It includes one of the springheads of the River Babingley. The farm has been working to improve its environmental performance and wildlife conservation for about 30 years.

Our work on protecting the watercourse has included:

- Preventing pollution from fuel and agrochemicals by BUNDING storage and handling areas, and restricting areas where our sprayer travels, is filled and serviced away from locations where any contamination could enter the watercourse.
- Reducing soil erosion into the river by trapping silt, diverting rainwater flow from tracks and yards away from drains, reducing stocking rates on wet grasslands, fencing livestock off some watercourse banks and minimising water flow down 'tramlines' (the tracks used by sprayers in arable crops).
- Reducing agrochemical inputs near the watercourse. The wetland grasslands on the farm have not received fertilisers or spray applications for over 20 years, in part thanks to funding from Environmental Stewardship which has reduced the dependency on income from livestock production.

Wildlife habitat improvement across the farm has included:

- Maintaining and increasing wild plant diversity by establishing diverse field margins and chalk grassland using local origin seed. This has worked particularly well on the steepest, chalky slopes on the scarp.
- Providing winter feeding resources for birds including WILD BIRD COVER, feeding stations supplied with supplementary feed and leaving green crop stubbles from autumn to spring.
- Rotational hedge trimming, new hedge planting and creation of green lanes to improve the links between habitats.



© Edward Cross. Sluice near the bird hide when the springs are flowing.

Continued over...



On the wetlands we have:

- Improved the water supply for wildlife. The springs feeding most of the wetlands do not have a set pattern of flow. They may produce water continuously for 18 months and then have the same period of time with no flow at all. We have tried to keep some areas as wet as possible by creating two permanent ponds and raising the water level elsewhere using sluices and bunds. Breeding birds such as Kingfisher, Mute Swan, Little Grebe, Lapwing, Oystercatcher, Reed Bunting, Tufted Duck and Shoveller have benefitted from this, though Snipe have not nested for about 30 years.

All of the above work is on-going. We hope to continue getting advice on improving our management. One area of concern is the group of the three largest ponds here. These were probably created in the 19th Century and are fed with water when the springs are flowing. They are prone to silting-up rapidly and have almost no weed growth in them. We hope to improve the ecological performance of these features. We are also undertaking a programme of work to reduce further the risk of pollution from agrochemicals, fertiliser and soil erosion.

There is a public bird hide overlooking part of the wetlands and 13ha of permissive public access on grasslands near the village of Flitcham (accessed from the village sports field). See page 25 for more information about access at Abbey Farm.

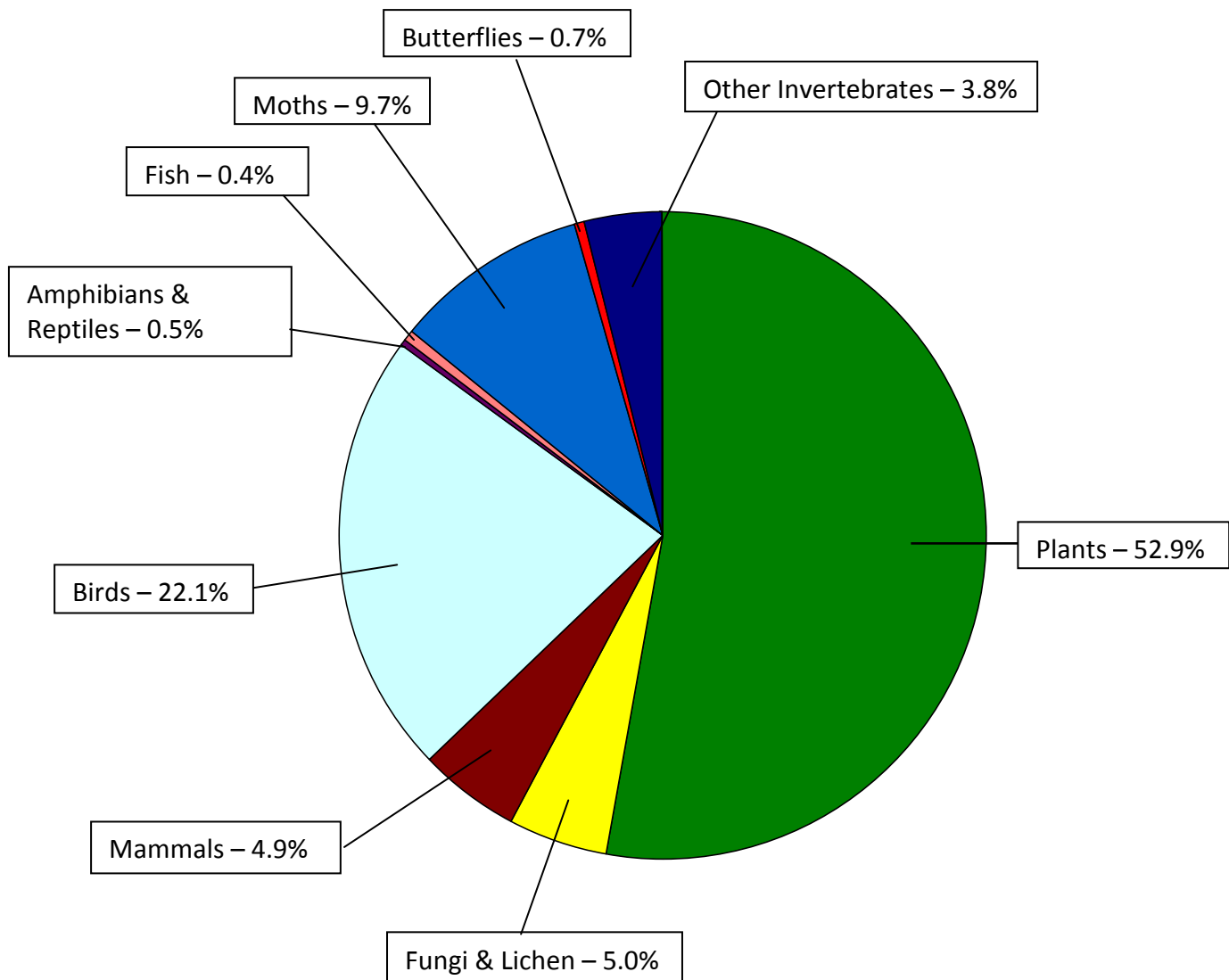


© Diana Martin. The view from the Abbey Farm bird hide.

SPECIES

There are thousands of species which call the Babingley catchment home. From the towering oak to the ferocious green tiger beetle, from the noisy pink-footed goose to the elusive adder, NBIS holds **23313** individual records of **2704** species from within the Babingley catchment.

This chart shows the percentage of the total number of species records made up by each group of species (plants, mammals, birds etc) recorded in the Babingley catchment. [Based on the data held by Norfolk Biodiversity Information Service, January 2014]



You can see from the graph that the records held by NBIS for the Babingley catchment are dominated by plant records. Plants are a good group to start recording as they don't run or fly off, giving you plenty of time to get a really good look at them. However there are also a lot of species to get to grips with! A large proportion of these records came from the late 1980s when there was a concerted effort by plant recorders to cover as much of the county as possible. A more recent chunk of records was thanks to the recording efforts of the West Norfolk Flora Group.

Rare Species

297 of the species recorded in the Babingley catchment since 2000 are what would be classed as '**Species of Conservation Concern**'. These are species that are rare or scarce, or that are protected at an international, European, national or local level. They include **37** species of flowering plant and **12** species of mammal. It is important to know where these species are found in order to protect them from further decline. For more information on how you can get involved in species recording see pg 29.



European eel © [Dmitriy Konstantinov](#) licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license

Invasive Non-native Species



Invasive Egyptian Goose © [TristramBrelstaff](#) licensed under the Creative Commons Attribution 3.0 Unported license

Eight of the species recorded in the Babingley catchment since 2000 are **invasive non-native species**. These have been introduced to the area by people and have a tendency to spread rapidly and cause problems for our native wildlife. Knowing where they are enables conservationists to keep a check on their distribution and intervene before they start causing a problem. The Norfolk Non-Native Species Initiative co-ordinates this work.

Biodiversity Action Plan Priority species

Biodiversity Action Plan (BAP) Priority species are a priority for conservation in the UK based on their international importance, rapid decline and high risk of further decline and extinction. The list was revised in 2007 and now includes 1150 species.

138 of the Species of Conservation Concern in the Babingley catchment are **Biodiversity Action Plan Priority species**.



Harvest Mouse © [Hecke](#) licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license



Butterflies in the Babingley Catchment

Butterflies are some of the more easily seen invertebrates. Their bright colours make them easy to identify and they are good indicators of the health of the environment.

At least 19 species of butterflies have been recorded in the Babingley catchment area. Here are a few you might see:

Brimstone (*Gonepteryx rhamni*)

A medium-large butterfly with leaf shaped yellow-green wings. Found in scrubby grassland and woodland. The butterfly flies long distances and can often be seen along road verges and hedgerows.



Brimstone © Martyn Gorman under this Creative Commons Attribution – Share Alike 2.0 Generic Licence

Comma (*Polygonia c-album*)

An orange and brown butterfly with distinctive ragged wing edges and a white comma shape under the wings. It is often seen in gardens prior to hibernation, searching for food. Usually breeds and hibernates in woodland.

Common Blue (*Polyommatus icarus*)

Found in a variety of grassy habitats, especially in sheltered sunny spots, this is the most widespread blue butterfly in Britain. The male has blue wings with a dark border and white fringe. The female is mainly brown but with a blue dusting near the body.



Common Blue © Ernst Vikne under this Creative Commons Attribution – Share Alike 2.0 Generic Licence

Orange Tip (*Anthocharis cardamines*)

Often seen in spring and early summer, this butterfly can be seen in hedgerows and meadows, and readily visits gardens. Males are distinctive being white with bright orange wing-tips. Females are white with black wingtips. Both have mottled green under-wings.

Small Copper (*Lycaena phlaeas*)

A bright copper colour with brown margins and spots, these butterflies are generally seen in ones and twos as the males are territorial. This species favours warm dry conditions on unimproved grassland, heathland, woodland clearings and occasionally gardens.



Small Copper © Evelyn Simak and licensed for reuse under this Creative Commons Licence

(Information taken from www.butterfly-conservation.org/50/identify-a-butterfly.html)

Butterfly Monitoring

As butterflies are important indicator species, Butterfly Conservation runs a number of schemes to record and monitor them. Over 15,000 volunteers are involved in this. The data collected by these schemes are used by the government for assessing the health of the environment, and also to help direct conservation effort to make it as effective as possible.

You don't need to be an expert to take part – beginners are welcome! To find out more about the Butterfly Conservation surveys see: <http://butterfly-conservation.org/110/recording-and-monitoring.html>

HISTORIC ENVIRONMENT – Kelly Powell, Norfolk County Council Historic Environment Service

The historic environment encompasses all of the physical evidence and material remains that our ancestors have left on the landscape.

Within the Babingley catchment there are records of **370** historic monuments, **251** 'find spots' (places where historic artefacts have been found) and **67** historic buildings. These records range from the PALAEOLOGIC right through to World War II.

Prehistoric Activity in the Babingley Catchment

Our prehistoric past is represented in the Babingley catchment area by the funerary monuments of the Neolithic and Bronze Age periods which often survive above other monument types of this date due to their robust nature. These BARROWS or mounds were often placed in river valleys, although in the Babingley catchment most of the surviving examples are located to the east, beyond the river's source. To the west of the village of Harpley in an area known as Harpley Common a group of standing Bronze Age round BARROWS have been designated as SCHEDULED MONUMENTS and can be viewed from the Harpley to Anmer road. To the east on West Rudham common two earlier and much more unusual scheduled BARROWS are present. These Neolithic long BARROWS are two of only five standing monuments of this type in Norfolk and although one has been truncated the more northerly example is the best preserved of the five. Both groups once incorporated further BARROWS that have been excavated by antiquarians or plough levelled.



BARROW at Harpley Common ©Norfolk County Council Historic Environment Service

Numerous other plough levelled BARROWS have been identified all along the valley of the Babingley. These can be seen from the air as 'ring ditches' where the presence of infilled ditches which once surrounded the mounds have caused crops to grow at different rates.

Congham

Although currently a small rural village in the south of the Babingley catchment, Congham was once a settlement of high importance. Extensive evidence for long-term occupation activity spanning the Iron Age to post-medieval period includes a probable Roman villa, Early Saxon settlement and cemetery, evidence of a Middle Saxon 'productive' or market site and medieval to post-medieval settlement.

Iron Age activity is partly represented by finds of Iron Age coinage, although it is unclear how densely the site was settled at the time. The Roman villa site was partially excavated in 1973 when floor layers were located, although no walls were found. It is likely that building material was removed in the post Roman period. Lots of red, orange, yellow and blue painted wall plaster was found, some painted to imitate marble indicating the building would have been quite luxuriously decorated. A GEOPHYSICAL SURVEY carried out in 1991 demonstrated that the archaeology around the villa is also of interest with features identifying former buildings or centres of industrial activity across the whole area of the survey.

A series of investigations including small excavations, field walking, GEOPHYSICAL SURVEY and metal detecting has shown that settlement continued into the Saxon period and a large Early Saxon cemetery has been identified through small scale excavation and collection of a large assemblage of grave goods over many years.

One of the most interesting periods in Congham's history is the middle Saxon period when the settlement appears to have been one of a small number of 'rural centres' or 'productive sites'. These are thought to have been trade centres with markets or fairs or possibly ecclesiastical centres, trading both locally and internationally. This type of site is recognised through prolific assemblages of artefacts including middle Saxon sceatta or coins and small scale excavation has identified structures dating to this period.

Although settlement continued into the late Saxon and medieval periods – as attested by the 13th century church of St Andrew – Congham gradually became the small village we see today.



Congham Church © [Evelyn Simak](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

Castle Rising

Castle Rising sits in the centre of the Babingley catchment. The present structure is roofless and without upper floors but is one of the best preserved Norman castles in the country. The castle was founded by William de Albin in 1138 after his marriage to Henry I's widow although it remained unfinished and uninhabited until the first decades of the 13th century. The castle stands in an inner bailey surrounded by tall banks standing to their original height and with the remains of a later curtain wall. It incorporates a chapel of ease, built around AD 1100. An outer bailey of earthworks survives to the east. In about AD 1300 a room was constructed above the forebuilding and this is the only part of the castle that is still roofed. In 1327 the castle was conveyed to the crown and in the 14th century Queen Isabella, the widow of Edward II, lived in a private suite to the south of the keep. Later the castle gradually fell into disrepair and parts of it were demolished in the 15th and 16th centuries. Excavation during the 1970's and 1980's uncovered extensive evidence of buildings belonging to the medieval period. The castle is open to the public.



Castle Rising © Copyright [Chris Eaton](#) and licensed for [reuse](#) under this [Creative Commons Licence](#).

Landscape Parks

The Babingley catchment area contains the landscape parks of Sandringham and Hillington. The great house at Sandringham sits within a Grade II* listed park and is of course famous as the country retreat of the Queen and the Duke of Edinburgh. Members of the Royal family spend Christmas at Sandringham and make it their base until February each year.

The estate was bought by the Prince of Wales, the future King Edward VII, in 1862. The Prince rebuilt most of the house between 1867 and 1870, retaining only the mid-19th century conservatory, incorporated as a billiard room. A ballroom was added in 1883, the upper storeys were rebuilt after a fire in 1891 and a new storey added to the bowling alley. Large portions of the servants' quarters to the south were demolished in 1974. The gardens and the main ground floor rooms are open to the public when the Royal family is not in residence. The surrounding garden contains lakes and rockwork designed by William Broderick Thomas and James Pulham in the 1870s. It has been continuously developed throughout the 20th century to include a garden area designed in 1947 by Geoffrey Jellicoe, set in a park of 18th century origins and extensive woodlands enlarged during the 19th century. The park also contains a large octagonal game larder, now used as a public convenience.

Although less grand, Hillington Park is also an interesting landscape. There has been a house on the site since 1624 however the current structure was built in the 1940s. Associated with the hall are a 17th to 19th century walled garden, a 19th century dovecote and a complex of 19th century brick drainage tunnels. The house is surrounded by a landscape park laid out in the 1760s, which incorporated several pre-parkland trees. The park also contains a scheduled medieval moat which has been used to site a summerhouse in the past and four medieval stone cross shafts have been set into the main gateway. An 18th century wilderness survives in the centre of the park and a 19th century ice house to the south east. The Babingley flows directly through the park and is incorporated into its design; in one spot a possible duck decoy has been constructed. A post medieval pumping station containing an iron water wheel and a pumping system once pumped water to a reservoir which supplied Hillington Hall.



Sandringham Park © [Christine Matthews](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

WATER QUALITY

Measuring the quality of the water in the River Babingley gives an indication of how healthy the river is. It shows the effect of habitat restoration work on the river, and also means that where water quality levels are not as high as they should be, measures can be put in place to improve them.

The Environment Agency monitors the water quality of rivers in order to assess them against the standards set out in the Water Framework Directive. These standards allow the river to be classified as having 'High', 'Good', 'Moderate', 'Poor' or 'Bad' ecological status. 'High' means the conditions are largely undisturbed.

Monitoring takes into account the populations of fish and INVERTEBRATES present, the levels of dissolved oxygen, phosphate and ammonia in the water, and the pH of the river amongst other measures.

The 2009 baseline overall ecological potential of the Babingley River is **MODERATE**.

OVERALL ECOLOGICAL QUALITY	Fish	INVERTEBRATES	Ammonia	Dissolved Oxygen	pH	Phosphate
Moderate	Poor	High	High	High	High	High

The HYDRO-MORPHOLOGICAL quality of the river (is Not High) means that the river can only achieve Good ecological status overall.

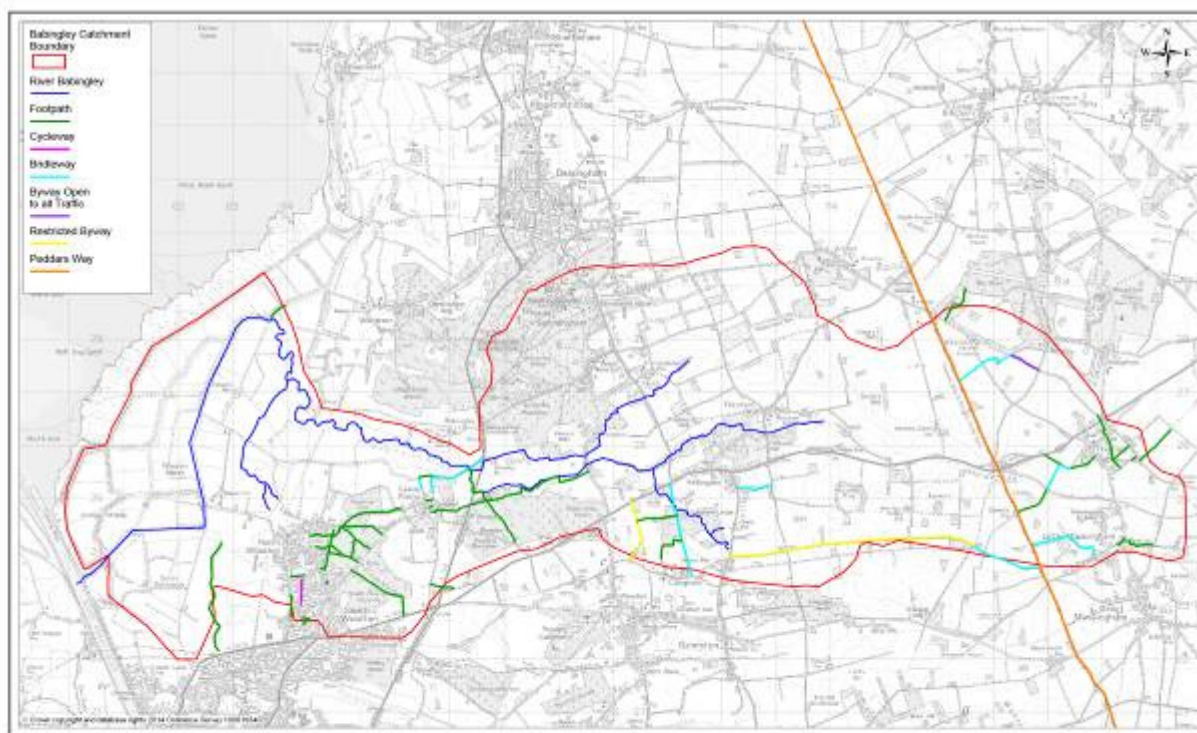
(Data from the Environment Agency website)



River Babingley near Castle Rising © [Richard Humphrey](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

GETTING OUT IN THE BABINGLEY CATCHMENT AREA

There are lots of opportunities for getting out and enjoying the Babingley catchment. There are over **20km** of public footpaths within the Babingley catchment, along with **8.7km** of bridleways and **5.7km** of restricted byways (restricted byways allow access on foot, horseback, cycling or any other non-mechanical vehicle).



Public Rights of Way in the Babingley catchment

The Peddars Way

The Peddars Way is a long-distance trail which starts at Knettishall Country Park in Suffolk and follows the route of an old Roman road to Holme-next-the-Sea where it meets the Norfolk Coast Path. The terrain of the trail is varied but it is generally flat or of a gentle gradient, and most of the Peddars Way is accessible to cyclists and horse riders as well as walkers (alternatives are provided where footpath restrictions apply). The Peddars Way passes through the Babingley catchment area close to Little Massingham and Harpley, past large arable fields that were once heathland. Slightly further north, towards Sedgeford and Fring the trail has a particularly remote feel to it. The official leaflet for the Peddars Way and Norfolk Coast Path national Trail is available to download from the National Trails website (www.nationaltrail.co.uk/peddars-way-and-norfolk-coast-path/leaflets).

Access at Abbey Farm, Flitcham

The bird hide at Abbey Farm is open every day free of charge. It is accessible to wheelchair users and there is a small car park nearby. Occasional management work is generally carried out on a Wednesday, so you may see fewer birds at this time.

There are also two areas of meadow which are open to the public throughout the year. A 25 acre area near to the village of Flitcham is great for spotting wildflowers and butterflies in the summer. It also contains a stream and a pond, home to dragonflies, damselflies and spawning frogs and toads. A small access area to the east has a stream that flows only in the wetter months. It is usually relatively dry from July to September.

A seasonal footpath joins Abbey Road near the eastern end of the pastures. It is only open from 1st July – 30th September and 1st February- 20th March to avoid disturbing wintering pink-footed geese and nesting lapwing and grey partridge. The path runs through flower-filled grassland and leads to a hilltop viewpoint.

Abbey Farm also has an open day each year.

For more information and a map of access points visit: www.abbeyfarm.co.uk/access.shtml
See page 16 for more information on environmentally friendly farming at Abbey Farm.

Castle Rising to Babingley Bridge

Enjoy fine views across the valley on this pleasant 2.25 mile return walk from the church of St Lawrence to Babingley Bridge. Much of this easy walk is on a tarmaced road that is closed to traffic so you can walk in peace and quiet. And Babingley Bridge is a great spot to play pooh sticks!

For more information and directions see

<http://www.norfolkcoastaonb.org.uk/mediaps/pdfuploads/pd001428.pdf>



Babingley Bridge © [Richard Humphrey](#) and licensed for [reuse](#) under this [Creative Commons Licence](#)

GETTING INVOLVED

If you want to do more than simply get outside and explore the Babingley catchment area, there are ways that you can become more involved, such as by joining a community conservation group, or recording the wildlife you encounter, and make a positive contribution to species and habitat conservation.

Conservation Volunteering

Taking part in practical conservation work is a great way to meet new people, improve your fitness, experience the natural world and make a difference. Depending on the group you are involved in, tasks can vary widely from scrub clearance to species surveys, tree planting to pond creation. You usually need no prior experience and tools and equipment are generally provided.

If you are interested in getting involved in conservation volunteering, a good place to start is the Norfolk branch of The Conservation Volunteers (TCV), who work with local communities to improve their natural environment. See their website for more details:

http://www2.tcv.org.uk/display/btcv_norfolk

Other conservation groups in Norfolk are listed here:

<http://www.norfolkbiodiversity.org/communityprojects/>



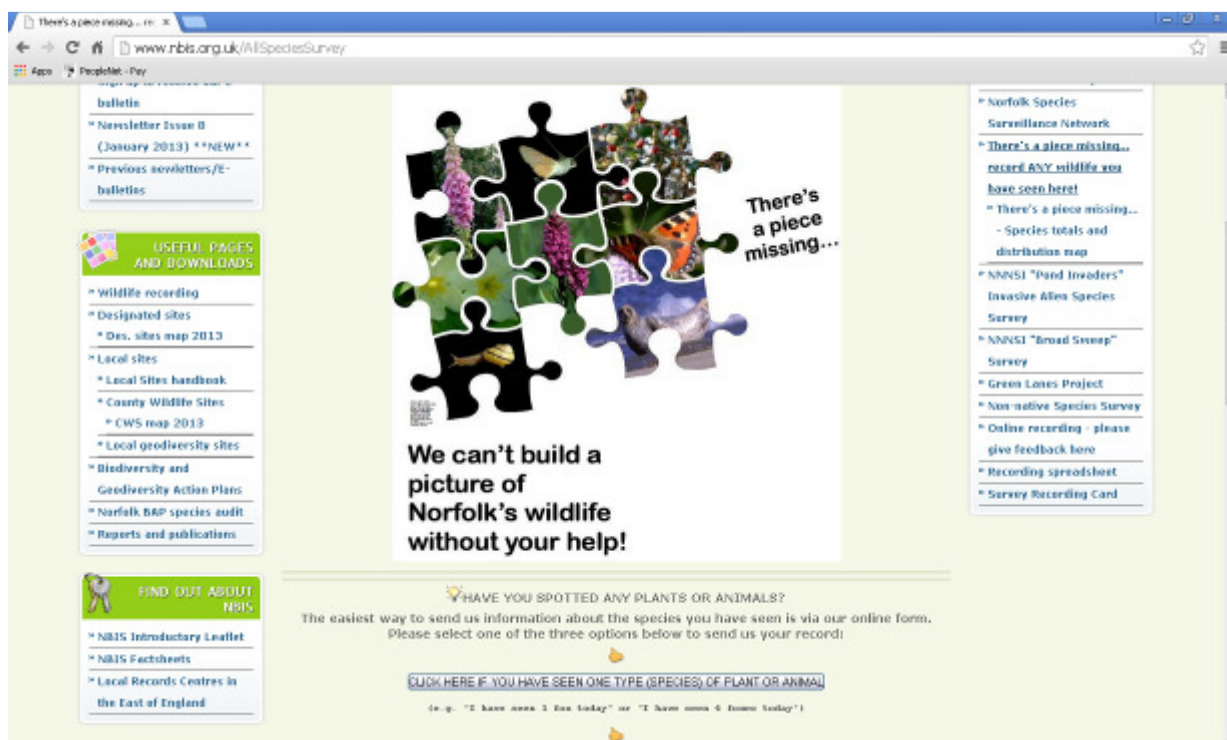
Species Recording

Norfolk Biodiversity Information Service (NBIS) collects, collates, manages and disseminates information on species, habitats, GEODIVERSITY and protected sites in Norfolk. The majority of species records come from volunteer recorders, who regularly send in details of the wildlife they have seen.

If you want to record wildlife in the Babingley catchment and be part of improving our understanding of the Valley's environment, helping to protect it, you need to record the 'four Ws' – WHAT you saw, WHERE you saw it, WHEN you saw it and WHO you are.

If you're not 100% sure of what species it is, then please don't record it. Or send a photo to NBIS so they can check the identification.

You can email your records to nbis@norfolk.gov.uk or why not use their online recording form at <http://www.nbis.org.uk/AllSpeciesSurvey>





THE COUNTRYSIDE CODE

The countryside code helps members of the public to respect, protect and enjoy the countryside. It is mostly common sense, and by following it we can ensure that visiting the countryside is an enjoyable experience for everyone.

Be safe, plan ahead and follow any signs:

Even if you're just venturing out locally it is best to get the latest information on where you can and can't go. For example some areas of open land may be closed while work is carried out or during breeding seasons. Follow advice and local signs. Be prepared for the unexpected!

Leave gates and property as you find them:

Respect the working life of the countryside. Our actions can have an effect on people's livelihoods, our heritage and the safety and welfare of animals and ourselves.

Protect plants and animals, and take your litter home:

We have a responsibility to protect our countryside both now and for future generations. Make sure you don't harm animals, birds, plants or trees.

Keep dogs under close control:

The countryside is a great place to exercise dogs. However it is every owner's duty to ensure that their dog is not a danger or nuisance to farm animals, wildlife or other people.

Consider other people:

Showing consideration and respect for other people who live, work or use the countryside for recreation helps to make it a pleasant environment for everyone.

GLOSSARY

BARROW – A large mound of earth or stones over the remains of the dead.

BUFFER STRIPS – Strips of land left uncultivated between cultivated land and features such as ponds, streams, ditches and woodland. They protect these features from fertiliser run-off from the cultivated land and can also provide extra habitat for wildlife if managed correctly. An Environmental Stewardship option.

BUNDING – A constructed retaining wall designed to prevent breaches from a known source e.g. a potential pollutant.

EC HABITATS DIRECTIVE – A European Union Directive adopted in 1992 aiming to protect 220 habitats and around 1000 species listed in the directive's Annexes. Led to the setting up of a network of Special Areas of Conservation.

ECOSYSTEM – A biological environment consisting of all the organisms living in a particular area, as well as the non-living components with which the organisms interact (such as air, soil, water and sunlight).

GEODIVERSITY – The variety of rocks, minerals, fossils, soils and landforms, and the natural processes that formed them.

GEOPHYSICAL SURVEY – Ground-based physical sensing techniques used for archaeological mapping e.g. metal detectors, ground penetrating radar etc.

HYDRO-MORPHOLOGICAL - The physical characteristics of the shape, boundaries and content of a water body.

INVERTEBRATES – Animals without a backbone.

MESOTROPIC – A water body with an intermediate level of nutrient productivity.

PALAEOLITHIC - The cultural period of the Stone Age beginning with the earliest chipped stone tools, about 750,000 years ago, until about 15,000 years ago.

POLLARD – The tradition of pollarding involves removing the upper branches of a tree to encourage new wood growth. On trees that have been previously pollarded and then just left, the regrowth forms thick, trunk-like branches.

RAMSAR CONVENTION – An international treaty for the conservation and sustainable use of wetlands.

SCHEDULED MONUMENT – A nationally important archaeological site or historic building, given protection against unauthorised change.

WILD BIRD COVER – An Environmental Stewardship option where land is planted specifically to provide cover for wild birds.

USEFUL WEB LINKS

General

Norfolk Biodiversity Information Service: www.nbis.org.uk

Norfolk Biodiversity Partnership: www.norfolkbiodiversity.org

Norfolk Non-native Species Initiative: <http://www.norfolkbiodiversity.org/nonnativespecies/>

Norfolk Wildlife Trust: <http://www.norfolkwildlifetrust.org.uk/>

Norfolk Rivers Trust: <http://www.norfolkriverstrust.org/>

GEODIVERSITY

Norfolk GEODIVERSITY Partnership: <https://sites.google.com/site/norfolkgeodiversity/>

Important Sites

Protected sites:

<http://www.naturalengland.org.uk/ourwork/conservation/designatedareas/default.aspx>

SSSI Citations: <http://www.sssi.naturalengland.org.uk/special/sssi/search.cfm>

The Wash:

www.jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0017075

www.naturalengland.org.uk/ourwork/conservation/designations/nnr/1006144.aspx

Habitats and Land-Use

Abbey Farm, Flitcham: <http://www.abbeyfarm.co.uk/aboutfarm.shtml>

UK Biodiversity Action Plan Habitats: <http://jncc.defra.gov.uk/page-5717>

Ancient Woodland: www.naturalengland.org.uk/Images/standing-advice-ancient-woodland_tcm6-32633.pdf

Environmental Stewardship:

<http://www.naturalengland.org.uk/ourwork/farming/funding/es/default.aspx>

Species

Biodiversity Action Plan species: <http://jncc.defra.gov.uk/page-5717>

Identifying Butterflies: www.butterfly-conservation.org/50/identify-a-butterfly.html

Recording Butterflies: www.butterfly-conservation.org/110/recording-and-monitoring.html

Historic Environment

Norfolk Heritage Explorer: <http://www.heritage.norfolk.gov.uk/>

Environmental Quality

Water Quality: http://maps.environment-agency.gov.uk/wiyby/queryController?topic=wfd_rivers&ep=2ndtierquery&lang=e&layerGroups=1&x=567473.854&y=326146.109&extraClause=EA_WB_ID~%27GB105033047620%27&textonly=off&atestValue=&latestField=

Getting Out in the Babingley Catchment Area

Peddars Way: www.nationaltrail.co.uk/peddars-way-and-norfolk-coast-path

Download the official leaflet for the Peddars Way & Norfolk Coast path National Trail from:
www.nationaltrail.co.uk/peddars-way-and-norfolk-coast-path/leaflets

Abbey farm Access: www.abbeyfarm.co.uk/access.shtml

Castle Rising to Babingley Bridge walk:
www.norfolkcoastandnrb.org.uk/mediaps/pdfuploads/pd001428.pdf

Getting Involved in the Babingley Catchment Area

The Conservation Volunteers (TCV) Norfolk: http://www2.tcv.org.uk/display/btcv_norfolk

NBIS Online Recording: <http://www.nbis.org.uk/AllSpeciesSurvey>