Northamptonshire Biodiversity Action Plan

3rd edition 2015–2020

Northamptonshire Local • Nature • Partnership

Northamptonshire Biodiversity Action Plan
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Draft 1	25.08.2015	New draft version	Matt Johnson
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Draft 3	13.01.2016	Final draft	Matt Johnson
Draft 4	21.01.2016	Finalising document for launch	Matt Johnson Phil Jones Heather Webb

Contents

Introduction

Welcome to the 3rd edition of the Northamptonshire Biodiversity Action Plan (BAP). This document sets out the highest priorities for action to conserve Northamptonshire's most threatened and declining habitats and species.

Much progress was made during the period of the last BAP (2008–2015). However our wildlife remains under threat, and many of our species are declining due to increased pressure from development, agricultural intensification and climate change, which causes habitats to become reduced, fragmented or lost.

The document is aimed at conservation professionals, planners as well as the general public and provides an evidence base and framework for wildlife conservation priorities across the county for 2015–2020.

Based on the Lawton principles of bigger, better and more joined-up habitats, the BAP provides an action plan for landscape-scale conservation to maintain, restore and create priority habitats across the county.

What is the BAP?

At the 1992 Earth Summit in Rio the UK government, along with 150 other countries, signed the Convention on Biological Diversity (CBD). This is a commitment that all contracting parties shall "rehabilitate and restore degraded ecosystems and promote the recovery of threatened species through the development and implementation of plans or other strategies". The UK's strategy was the UK Biodiversity Action Plan (UK BAP), launched in 1994. Local Biodiversity Action Plans (LBAPs) followed, recognising that action for biodiversity conservation ultimately takes place at the local level. LBAPs identify priorities for action and give guidance on implementing targets to reverse the loss of habitats and species.

The tenth meeting of the Conference of the Parties to the CBD took place in Nagoya, Japan in October 2010. The meeting resulted in the 20 Aichi Targets, which were signed by 192 governments and aim to halt the loss in biodiversity worldwide by 2020. The targets include a range of challenges, from protecting our best habitats and rarest species to restoring the services our natural environment provides and tackling climate change. The UK Post-2010 Biodiversity Framework (July 2012) succeeds the UK BAP and describes how the Aichi Targets will be implemented across the UK. The current blueprint for biodiversity conservation in England is Biodiversity 2020: A strategy for England's wildlife and ecosystem services (August 2011).

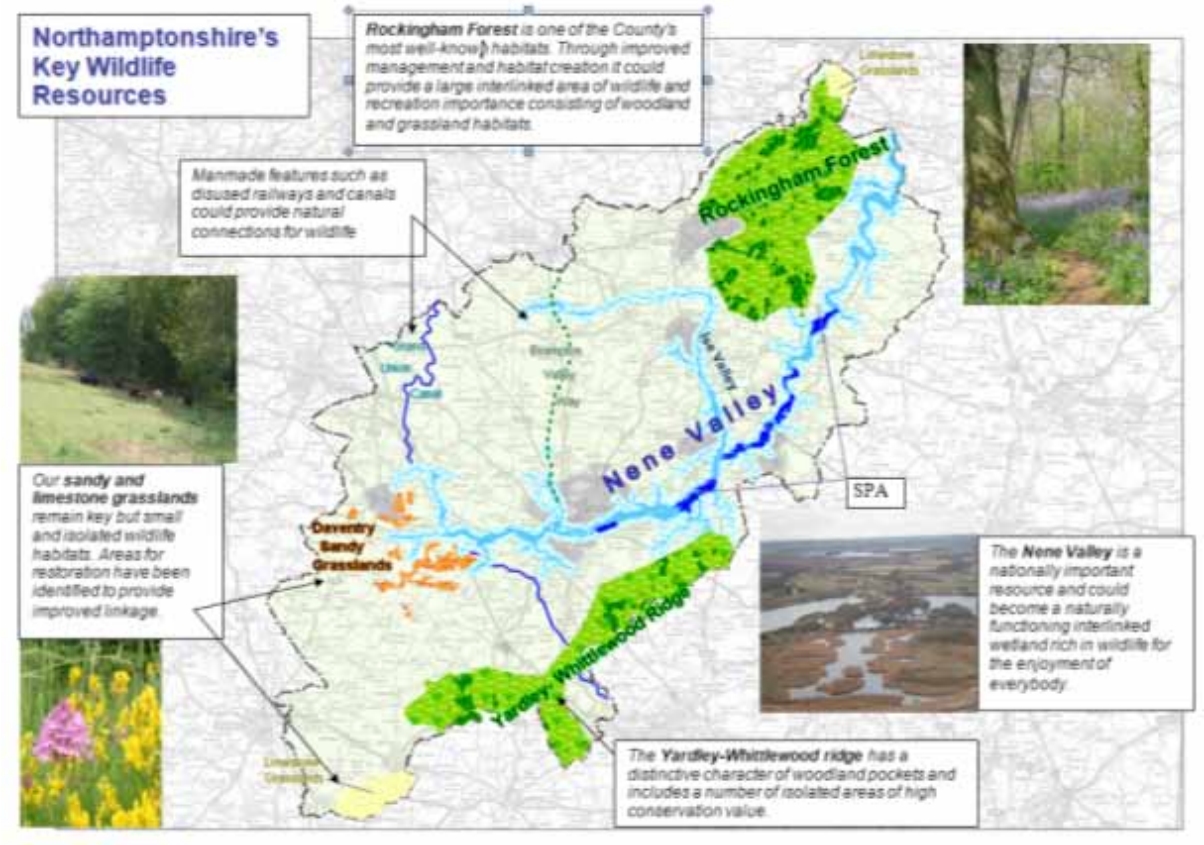
While Biodiversity 2020 has replaced the UK BAP, LBAPs have not been superseded. They are therefore still a very valuable reference and are written into current legislation and policy. The Northamptonshire BAP follows the Biodiversity 2020 ambition of landscape scale conservation, restoring natural processes and creating resilient ecological networks. Itis continually updated and is still in use to inform and guide many projects.

Biodiversity in Northamptonshire

Northamptonshire has diverse wildlife with a range of important habitats supporting species and sites of international importance (Figure 1). Priority habitats and species include:

- gravel pits and wet grassland supporting lapwing and curlew in the Nene Valley
- ancient woodlands of the Rockingham Forest and Yardley-Whittlewood Ridge where adder, barbastelle bats and wood white butterflies are found
- limestone grasslands of the north, with their orchids and grizzled skipper butterflies
- acid grasslands in the west, which support common lizard, and
- throughout tthe county, meadows supporting brown hare and many wildflower species.

Figure 1 Northamptonshire's key wildlife resources



However, Northamptonshire's biodiversity is under severe pressure. Most of our countryside consists of arable fields, which are of little biodiversity value. Additionally, our local wildlife is experiencing one of the highest levels of development pressure in the whole of the UK. Northamptonshire is expecting approximately 27,000 new homes to be built by 2021[1], along with the necessary infrastructure that goes along with them.

This development pressure, coupled with the fact that Northamptonshire has one of the UK's lowest proportions of protected areas for biodiversity, means that it is vital that steps are

[1] Includes approximately 7500 (half of 2011-2021 total of 15,000) in North Northamptonshire per Policy 28 of the North Northamptonshire Joint Core Strategy 2011-2031, plus 18,814 in West Northamptonshire per Appendix 3 Housing Trajectory of the West Northamptonshire Joint Core Strategy 2014-2029.

taken to ensure our remaining biodiversity is not further degraded or destroyed. Instead, new development should be seen as an opportunity, within which biodiversity can be integrated and enhanced to safeguard its future, while providing a naturally functioning environment for local communities to enjoy.

Biodiversity – a contraction of 'biological diversity' – simply means the variety of life. It refers to the number, variety and variability of living organisms. It is often described in terms of genes, species and ecosystems and is important for a range of reasons:

- **Appreciation:** many people have an interest in wildlife; approximately 1 in 10 UK adults are members of an environment and/or conservation group[2]
- **Quality of life:** wildlife can give us a sense of wellbeing, helping us to relax and improve our mental and physical health
- **Ecosystem services:** biodiversity provides humans with vital (and often undervalued) services such as climatic stability, clean air and water, pollination and flood protection
- **Economic benefits:** visitors who come to see wildlife and attractive landscapes spend money and contribute to the local economy. A biodiverse area is also more likely to be a desirable place to live and work.
- **Local distinctiveness:** the natural environment is an important part of local heritage, contributing to a sense of place and creating much of what makes Northamptonshire distinctive
- **Sustainable development:** biodiversity is a key aspect of sustainable development, ensuring that we pass on a healthy, functioning natural environment to future generations.

[2] Cracknell J, Miller F, Williams H. 2013. Passionate Collaboration? Taking the pulse of the UK environmental sector. Report to the Environmental Funders Network.

General principles for conservation in Northamptonshire

The importance of a landscape-scale approach

Good quality habitat areas are now small in size and heavily fragmented, resulting in increased threats of local extinctions. Added to this, climate change is a huge challenge for biodiversity. Most species are adapted to live within a clearly defined 'climate space'. As the climate changes, some species are starting to shift their geographic distribution to stay within their climate space. In Northamptonshire's current landscape of small, isolated habitat patches, it would be impossible for many species to 'jump the gaps' to follow their climate space. Left unchanged the situation would likely result in large numbers of local extinctions. Therefore it is essential to future-proof landscapes, allowing biodiversity to move freely through large, interconnected habitats (Figure 2).

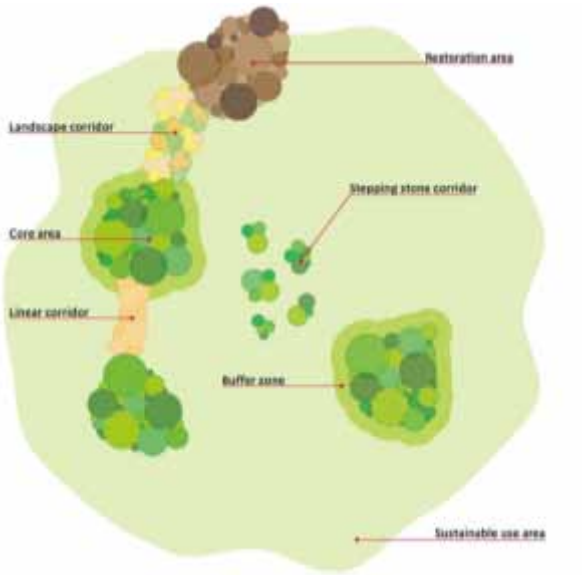


Figure 2 The principle of habitat connectivity

Conservation is now focussed on a landscape scale-approach, for example The Wildlife Trusts' 'Living Landscapes' and RSPB's 'Futurescapes', which aim to work with landowners outside nature reserves and protected areas in order provide bigger, better and more joined up wildlife habitat. Key landscapes in Northamptonshire are the Nene Valley, Rockingham Forest and Yardley-Whittlewood Ridge (Figure 1 above).

Green infrastructure

Green Infrastructure (GI) provides a framework to guide and prioritise habitat restoration and creation within strategic areas in Northamptonshire. Northamptonshire has a robust GI framework at both a sub-regional and local level. One of the main principles behind the GI framework is to provide a network of greenspace from high-use amenity land through to wilderness areas. It also seeks to link up areas of high biodiversity value into a continuous functioning network. The GI framework should be used in conjunction with the Northamptonshire BAP to help prioritise habitat creation or enhancement in any given area, and where possible, to link these areas with public access for the benefit of the local community.

The National Planning Policy Framework (NPPF) requires local authorities to set out a strategic approach. Sub-regional and local GI corridors have been mapped and can be found at www.rnrpenvironmentalcharacter.org.uk. GI is also being developed at a local level by Local Authorities such as Northampton Borough Council.

Ecological networks and habitat opportunity maps

Priority habitats are an essential part of GI. The GI Strategic Biodiversity Network maps for West and North Northamptonshire form a preliminary basis for prioritising habitat restoration and creation. Full details can be found in Northamptonshire's Environmental Character and GI Suite.

In priority areas, more detailed field-by-field habitat opportunity maps have been produced to

help identify which habitats would be priorities for habitat creation and restoration. A habitat opportunity map for the Nene Valley and a woodland opportunity map for the Rockingham Forest can be found on the Northamptonshire County Council website.

Nature Improvement Areas

Nature Improvement Areas (NIAs) are flagship nature areas for England that were established to create joined up and resilient ecological networks at a landscape scale. The Nene Valley Nature Improvement Area covers an area of 41,000 hectares running through the heart of Northamptonshire to Peterborough. It includes the River Nene and its tributaries, gravel pits, reservoirs and much of the floodplain within the valley itself. The NIA partnership was set up in 2012, with the aim of delivering a step change in nature conservation, where local organisations have come together with a shared vision for the natural environment. The NIA has a strong partnership approach, with conservation NGOs, local authorities and statutory agencies working closely together. Much progress has been made in the first three years with significant improvements for wildlife and people delivered through the sustainable use of natural resources, restoring and creating wildlife habitats, connecting local sites and joining up local action. The Nene Valley NIA has five objectives based around natural development, public access, river restoration, land management and ecosystem services. The NIA will continue to deliver against these objectives though its 2015-20 business plan.

For more information visit www.nenevalleynia.org.

The Ecosystem Approach, natural capital and ecosystem services

The Ecosystem Approach is a concept that integrates the management of land, water and living resources and aims to reach a balance between three objectives: conservation of biodiversity, its sustainable use, and equitable sharing of benefits arising from the utilisation of natural resources. The Ecosystem Approach involves a better understanding and the conservation of our natural capital and ecosystems services. Natural capital can be defined as the world's stocks of natural assets which include geology, soil, air, water and all living things. It is from this natural capital that humans derive a wide range of services, often called ecosystem services, which make human life possible.

Priority Habitats and Species

Priority habitats and species are the new national terms for BAP habitats and species. As the BAP still exists locally the terms priority habitat/species and BAP habitat/species are used interchangeably.

Maintaining and restoring priority habitat is the focus of the BAP. Northamptonshire's priority/BAP habitats cover a wide range of semi-natural habitat types, and are those that are identified as being the most threatened and requiring conservation action. Action plans for each priority habitat can be found in Chapter 3.

Priority/BAP species are those that were identified as being the most threatened and requiring conservation action. Most of our priority species depend on our priority habitats, and can therefore be conserved by maintaining our priority habitats. Some species require additional actions; these can be found in the relevant habitat action plans.

A range of wildlife, including priority species also rely on more common habitats such as churchyards and gardens. Conserving these habitats is also important and is covered in the General Action Plans in Chapter 2.

In some instances habitat creation will be necessary to maintain sufficient habitat for our

priority species and to extend and link existing habitats. Habitat creation should be targeted using the habitat opportunity maps and according to the following principles:

- Identify existing priority habitats, particularly Sites of Special Scientific Interest (SSSI) and Local Wildlife Sites (LWS), and aim to link and expand these
- Refer to the GI strategy map and aim to match suggested habitat types
- Take existing land character into account
- Aim to include several habitats to improve diversity and to avoid severing potential linkage of one habitat type for that of another
- Take into account minimum sizes required for different habitats in order to allow correct functioning
- Take into account the relative habitat creation targets between different habitats.

Almost all of Northamptonshire's priority habitat can be found in the designated statutory and non-statutory sites. Statutory sites receive some form of statutory protection for their nature conservation value. Non-statutory sites are also designated for their nature conservation value but do not receive statutory protection. Some non-statutory sites may however receive a degree of protection under national or local policy. Examples of each of these types of sites are detailed below.

Statutory sites

Natura 2000 Sites/European Sites: are the European Union-wide network of nature conservation sites established under the EC Habitats and Birds Directives. This network comprises Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

Northamptonshire's only European Site is the Upper Nene Valley Gravel Pits SPA.

Ramsar Sites: wetlands of international importance, designated under the Convention on Wetlands of International Importance, especially as Waterfowl Habitat (known as the Ramsar Convention after the Iranian city where it was drawn up and adopted in 1971). As a matter of policy, Ramsar sites in the UK are protected as European Sites. The Upper Nene Valley Gravel Pits SPA is also a Ramsar site.

Sites of Special Scientific Interest (SSSI): are the suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological features. These sites are also used to underpin other national and international nature conservation designations. Most SSSI are privately owned or managed; others are owned or managed by public bodies or non-government organisations.

At the time of writing, there are 57 SSSI in Northamptonshire, including Bugbrooke Meadows, Salcey Forest and Pitsford Reservoir (Figure 3).

National Nature Reserves (NNR): contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. NNR are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them.

In Northamptonshire, at the time of writing, there are two NNR: Buckingham Thick Copse, and Collyweston Great Wood and Easton Hornstocks.

Local Nature Reserves (LNR): declared and managed for nature conservation, LNRs provide opportunities for research and education, or simply enjoying and having contact with nature.

In Northamptonshire, at the time of writing, there are 18 LNR including Barnes Meadow, Kingsthorpe and Titchmarsh.

Non-statutory sites

Local Wildlife Sites (LWS): are local areas of land rich in wildlife. They encompass a variety of habitats such as species rich grasslands, ancient woodlands, wetlands, old quarries and roadside verges. Local Wildlife Sites (LWS) are a range of shapes and sizes and provide refuge for a wealth of wildlife. They are places where species and habitats flourish because of past and current management, are locally defined and are the most important areas for wildlife outside of legally protected sites.

At the time of writing, there are 734 LWS in Northamptonshire, including Abington Meadows, Cransley Wood and Stanwick Lakes (Figure 3).

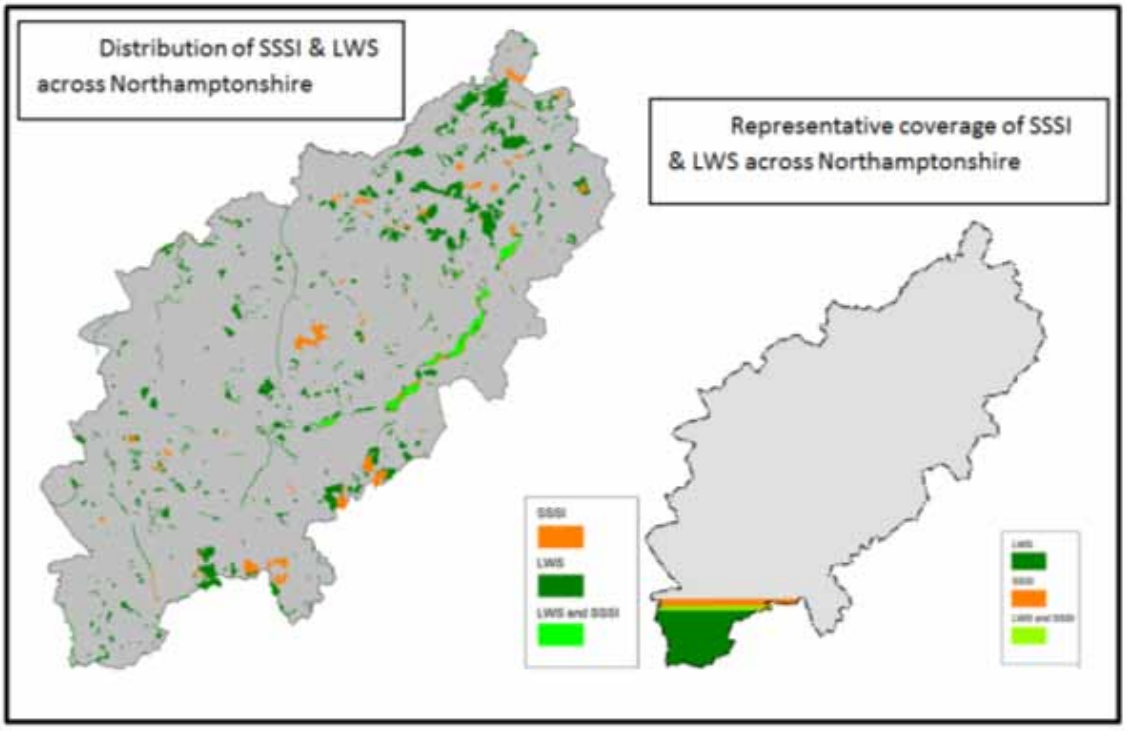
Protected Wildflower Verges: are roadside verges rich in wildlife. The Wildlife Trust and Northamptonshire County Council run a system to designate certain verges and protect and manage them to retain their wildflower interest as Protected Wildflower Verges (PWV).

At the time of writing, there are 32 PWV in Northamptonshire, stretching 26km and covering over 17 hectares.

Pocket Parks: the idea of Pocket Parks originated in Northamptonshire. They are natural areas of countryside which are owned, looked after and cherished by the local community for peaceful enjoyment, the protection of wildlife and to provide access for all.

At the time of writing, there are 83 Pocket Parks in Northamptonshire, including Crick Millennium Wood, Hollowell and Spratton.

Figure 3 Distribution and coverage of SSSI and LWS in Northamptonshire

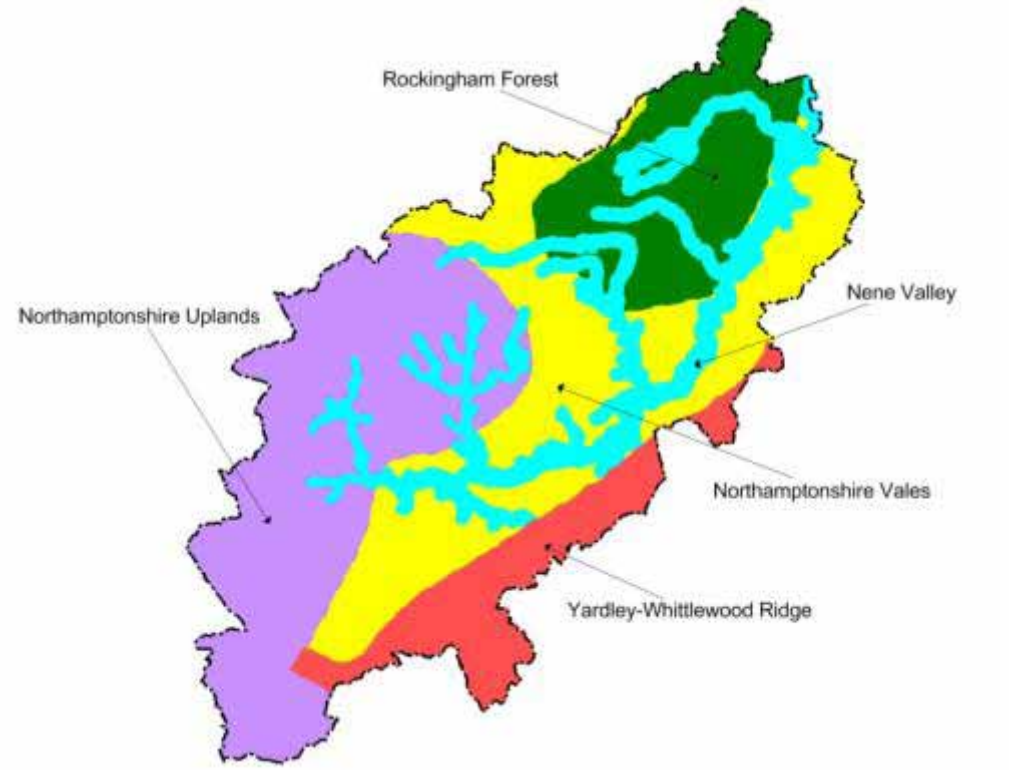


National Character Areas

Natural England has provided revised profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics and follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

Northamptonshire's landscape is covered by four NCAs (Figure 4):

Figure 4 The four National Character Areas in Northamptonshire



Northamptonshire Vales (NCA Profile 89): a series of low-lying clay vales and river valleys, including the rivers Nene and Welland and their tributaries, historic parkland, ridge and furrow and open field patterns. The river valleys are striking features of the area, with their riverside meadows and waterside trees and shrubs. Also common are the flooded gravel pits and their associated wetlands, which result from reclamation schemes.

Within the Vales is the Nene Valley NIA, at the heart of which is the Upper Nene Valley Gravel Pits Special Protection Area (SPA). The SPA was classified in 2011 in recognition of its wetland bird assemblage, which includes non-breeding great bittern, gadwall and European golden plover.

Northamptonshire Uplands (NCA Profile 95): an area of gently rolling hills and valleys. Rivers flow out in all directions, including the Cherwell, Avon, Welland, Tove, Ouse, Nene and Ise. Landscape features include extensive areas of open field systems with ridge and furrow, high and wide A-shaped hedgerows with their frequent mature trees, nationally important designed parkland landscapes, narrow lanes with very wide grassy verges, and the small, scattered but prominent, broadleaved woods and coverts.

Rockingham Forest (NCA Profile 92): a broad, low, undulating ridge underlain by Jurassic limestone. Large areas of woodland remain a significant feature of the landscape and form a patchwork with large to medium-sized fields of mixed arable. The area takes its name

from the Royal Hunting Forest and many of the woodlands are ancient. Formerly extensively coppiced, these woodlands contain a rich diversity of species that are of considerable nature conservation interest such as the black hairstreak butterfly and red kite.

Yardley-Whittlewood Ridge (NCA Profile 91): a low, gently undulating limestone plateau known locally as the Ridge. It contains a variety of semi-natural habitats, including ancient woodland, wood pasture and parkland, hedgerows and lowland meadow. It is a well-wooded landscape with a historic feel stemming from the former royal hunting forests around Yardley Chase, Salcey and Whittlewood forests. The Ridge retains a high proportion of ancient woodland of national importance and supports a wide range of species, particularly scarce species of butterfly such as the white admiral and wood white.

Table 1 below shows which priority habitats are of importance in each area.

Table 1 Priority habitats in the Nene Valley and National Character Areas

Habitat	Nene Valley	Rockingham Forest	N'hants Vales	N'hants Uplands	Yardley-Whittlewood Ridge
Arable field margins	Y	Y	Y	Y	Y
Eutrophic standing water	Y		Y		
Floodplain grazing marsh	Y		Y		
Hedgerows	Y	Y	Y	Y	Y
Lowland calcareous grassland		Y		Y	Y
Lowland dry acid grassland				Y	
Lowland fen	Y		Y		
Lowland heathland				Y	
Lowland meadow	Y	Y	Y	Y	Y
Lowland mixed deciduous woodland		Y	Y	Y	Y
Open mosaic		Y	Y		
Pond	Y	Y	Y	Y	Y
Reedbed	Y				
River	Y	Y	Y	Y	Y
Traditional orchards	Y	Y	Y	Y	Y
Wet woodland	Y				Y
Wood-pasture and parkland		Y			Y

Progress 2008–2015

There has been good progress against many BAP targets, actions and objectives over the last seven years. A large amount has been achieved through Higher Level Stewardship (HLS) and the English Woodland Grant Scheme, alongside specific projects run by individual organisations such as Wildlife Trust, River Nene Regional Park (RNRP) and RSPB, as well as collaborative projects such as the Nene Valley NIA.

Below are highlights of the achievement since the last BAP. Due to the difficulty and differences in reporting progress across different habitats and organisations, and the recent improvement in our baseline values, it is not possible to fully report on each target.

Across the county 608ha of priority habitat has been created and 1086ha of priority habitat restored including:

- 253ha of floristically enhanced grass margins created
- 172ha of species rich grassland brought into management through environmental stewardship
- 215ha of species rich grassland created and 423ha restored including 210ha of lowland meadow created and 210ha restored
- 285ha of floodplain grazing marsh brought into management under environmental stewardship, 162ha restored and 50ha created
- 32ha of lowland fen brought into management under environmental stewardship and 5ha restored
- 43 ponds brought into management under environmental stewardship
- 12ha of reedbed restored
- 32km of rivers restored
- 5ha of traditional orchard restored
- 16ha of wet woodland brought into management under environmental stewardship
- 29ha of wood-pasture and parkland created and 362ha restored, whilst 114ha was brought into management through environmental stewardship
- 5.27km of hedgerow of high environmental value brought into management under environmental stewardship
- 250ha of new woodland was created through the English Woodland Grant Scheme.

BAP partners

Below is a list of the key conservation organisations, BAP partners and partnerships in Northamptonshire.

Organisations

The Wildlife Trust BCN: local conservation charity who conserve local wildlife, by caring for land ourselves and with others, inspire others to take action for wildlife and inform people, by offering advice and sharing knowledge.

www.wildlifebcn.org

River Nene Regional Park: an independent Community Interest Company creating a green infrastructure network of environmental projects extending from Daventry to Peterborough linking the towns of Northampton, Towcester, Wellingborough, Kettering and Corby.

www.rivernene regionalpark.org

Natural England: the government's adviser for the natural environment in England, helping to protect England's nature and landscapes for people to enjoy and for the services they provide.

www.gov.uk/government/organisations/natural-england

RSPB: a national nature conservation charity, inspiring everyone to give nature a home. Together with partners, they protect threatened birds and wildlife so towns, the coast and countryside will teem with life once again.

www.rspb.org.uk

Rockingham Forest Trust: connecting people and places for good. They are an environmental charity that works to bring wide-ranging community benefits through creating and conserving special green spaces, and exploring local heritage, in ways which educate, involve and inspire.

www.rockingham-forest-trust.org.uk

Environment Agency: the government body responsible for managing the risk of flooding from main rivers, reservoirs, estuaries and the sea; working to create better places for people and wildlife, and support sustainable development.

www.gov.uk/government/organisations/environment-agency

Forestry Commission: the government department responsible for protecting, expanding and promoting the sustainable management of woodlands and increasing their value to society and the environment.

www.forestry.gov.uk

Northamptonshire Biodiversity Records Centre: promoting and supporting the collection and sharing of wildlife records, and providing access to information about the county's species, habitats and designated wildlife and geological sites.

www.northantsbrc.org.uk

University of Northampton: the primary university in the county housing academic schools covering business, education, health, science and technology, arts and social sciences. Supports business organisations in Northamptonshire and research.

www.northampton.ac.uk

Anglian Water Services Ltd: Provides water and water recycling services to more than six million domestic and business customers in the East of England and in Hartlepool. It is the largest water industry company by geographic area in England and Wales.

www.anglianwater.co.uk

Campaign for the Farmed Environment: a partnership approach which aims to pull together the huge amount of work that farmers and land managers already do to encourage wildlife, to benefit soil and water resources and support pollinators and farmland birds. It encourages voluntary management that will benefit the environment, including the retention of in-field habitats, whilst ensuring efficient and profitable food production.

Local councils

Partnerships

User guide for the general public

The BAP sets out most important actions for conserving Northamptonshire's wildlife. It is not an exhaustive list but it does set out an action plan for the county's priority habitats and species:. those which are rare, threatened, relied upon by local wildlife and wouldn't survive without conservation action.

Importance of biodiversity

Biodiversity – a contraction of 'biological diversity' – simply means the variety of life. It refers to the number, variety and variability of living organisms. It is often defined in terms of genes, species and ecosystems and is important for a range of reasons:

- **Appreciation:** many people have an interest in wildlife; approximately 1 in 10 UK adults are members of an environment and/or conservation group[1]
- **Quality of life:** wildlife can give us a sense of well-being, helping us to relax and improve our mental and physical health
- **Ecosystem services:** biodiversity provides humans with vital (and often under-valued) services such as climatic stability, clean air and water, pollination and flood protection
- **Economic benefits:** visitors who come to see wildlife and attractive landscapes spend money and contribute to the local economy. A biodiverse area is also more likely to be a desirable place to live and work.
- **Local distinctiveness:** the natural environment is an important part of local heritage, contributing to a sense of place and creating much of what makes Northamptonshire distinctive
- **Sustainable development:** biodiversity is a key aspect of sustainable development, ensuring that we pass on a healthy, functioning natural environment to future generations

We can all enjoy and support wildlife whether it be in our gardens, parks, nature reserves or the wider countryside.

Aim of the BAP

The aim of the BAP is to provide guidance on Northamptonshire's conservation priorities, how to achieve them and who should, and could, be involved.

The BAP provides a baseline, targets and an action plan up to 2020 for each priority habitat and associated species.

Structure of the BAP

The BAP was developed by the Northamptonshire Biodiversity Partnership, a group of conservation organisations, government bodies and local authorities. It reflects collective priorities for conservation and agreed actions to halt wildlife and habitat losses in Northamptonshire by 2020.

- **Introduction:** includes a background to BAPs, the state of wildlife in the county and the principles for its future conservation. It also identifies priority habitats in each of

[1] Cracknell J, Miller F, Williams H. 2013. Passionate Collaboration? Taking the pulse of the UK environmental sector. Report to the Environmental Funders Network.

Northamptonshire's National Character Areas.

- **General Action Plans (GAP):** these seven plans cover general strategies, targets and actions for conservation. They apply to all habitats and areas, and include actions in which anyone can get involved. Of particular relevance to the general public is the urban and artificial habitats GAP.
- **Habitat Action Plans (HAP):**
    - provide a description and baseline for each priority habitat, along with a list of priority areas and a general strategy for conservation
    - set out SMART[2] targets for the conservation of each priority habitat focussing on what proportion should be managed, restored and created by 2020
    - identify priority species associated with each habitat.
- **Appendices:** includes a list of priority species occurring in Northamptonshire and the habitats with which they are associated. Most species will be protected through conservation of the priority habitats, however in some cases additional conservation actions are also included.

How can the public use it?

- The BAP offers information on how you can help our county's wildlife by:
    - making your garden more nature friendly
    - taking part in wildlife surveys
    - working with others to make your local green spaces more diverse
    - getting involved with practical conservation activities (*e.g.* with the Wildlife Trust).

Monitoring and feedback

The BAP is informed by an evidence base built up through survey work and species recording. To monitor its success up-to-date surveys are required. To help the success of the BAP, why not send your wildlife sightings and action to the Northamptonshire Biodiversity Records Centre?

[2] SMART = Specific, Measurable, Attainable, Realistic, Timely

User guide for planners

The Northamptonshire BAP sets out the most important actions for conserving the county's priority habitats and species. It may therefore be a useful reference for those developing planning policy and determining planning applications.

This document does not set out an exhaustive list of all aspirational actions and targets to conserve biodiversity in Northamptonshire. Instead, only the highest priority actions and targets, which are realistic and achievable, are included.

Importance of biodiversity

Biodiversity – a contraction of 'biological diversity' – simply means the variety of life. It refers to the number, variety and variability of living organisms. It is often defined in terms of genes, species and ecosystems.

- Biodiversity conservation is a key principle of sustainable development.
- The natural environment is an important part of local heritage, contributing to a sense of place.
- Biodiversity provides ecosystem services such as climatic stability, clean air and water, pollination and flood protection.
- Visitors who come to see wildlife and attractive landscapes spend money and contribute to the local economy. A biodiverse area is also more likely to be a desirable place to live and work.
- Many people have an interest in wildlife: approximately 1 in 10 UK adults are members of an environment and/or conservation group.

All local authorities have a duty to have regard to the conservation of biodiversity in exercising their functions.

Relevance to planning

The BAP is material to both planning policy and development management. The context for biodiversity conservation is provided by a range of policy and legislation, the most important of which are:

- the **National Planning Policy Framework (NPPF)** states that the planning system should minimise impacts on biodiversity and provide net gains in biodiversity where possible (paragraph 109). Key sections for development management are:
    - paragraph 117 regarding planning policy and biodiversity impacts, and
    - paragraph 118 which includes principles for determining planning applications.
- the **Natural Environment and Rural Communities (NERC) Act 2006** section 40 requires every local authority to have a regard, so far as is consistent with the proper exercise of its functions, to the purpose of conserving biodiversity. This requirement is often referred to as the 'biodiversity duty'.
- Section 41 places a duty on the Secretary of State to maintain a list of species and habitats of principal importance for which conservation steps should be taken or promoted. For many of these species and habitats, locally appropriate conservation steps are identified in the Local Biodiversity Action Plan. The BAP provides a list of

priority habitats and species found in the county and identifies the priority areas for these.

The habitat and species conservation targets and actions contained in the BAP should be used to inform local planning policy, for example:

- Local Plans
- Core Strategies
- Neighbourhood Plans.

The BAP should be used along with the relevant supplementary planning documents (SPDs) (Biodiversity and Upper Nene Valley Gravel Pits Special Protection Area[1] [SPA] SPDs) to ensure that planning decisions are made with due regard to biodiversity.

A broader range of relevant legislation and planning policy can be found in Appendix 4.

Aims of the BAP

The aim of the BAP is to provide guidance on Northamptonshire's conservation priorities, how to achieve them and who should, and could, be involved.

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The BAP was developed by the Northamptonshire Biodiversity Partnership. It reflects collective priorities for conservation and agreed actions to halt wildlife and habitat losses in Northamptonshire up to 2020.

- **Introduction:** includes a background to BAPs, the state of wildlife in the county and the principles for its future conservation. It also identifies priority habitats in each of Northamptonshire's Natural Character Areas.
- **General Action Plans (GAP):** these seven plans cover general strategies, targets and actions for conservation. Of particular relevance for planners is the Policy and Planning General Action Plan.
- **Habitat Action Plans (HAP):**
    - provide a description and baseline for each priority habitat, along with a list of priority areas and a general strategy for conservation
    - set out SMART targets for the conservation of each priority habitat focussing on what proportion should be managed, restored and created by 2020
    - identify priority species associated with each habitat.
- **Appendices:** includes a list of all BAP species occurring in Northamptonshire and the habitats with which they are associated. Most species will be protected through conservation of the priority habitats, however in some cases additional conservation actions are also included.

[1] The Upper Nene Valley Gravel Pits Special Protection Area SPD applies in Wellingborough and East Northamptonshire, and is expected to be adopted in Northampton Borough in 2016. Relevant applications in South Northamptonshire District will also be expected to adhere to the procedures outlined in the SPD.

How planners can use it

- The BAP should be used to help local authorities develop Local Plan policies.
- The BAP should guide the planning decision process to ensure priority habitats and species are conserved, and that development leads to a net gain in biodiversity in accordance with the National Planning Policy Framework.
- The BAP provides an evidence base for priority habitats and species in the county, their rarity and the areas where their conservation, restoration and creation are most important.
- The BAP provides targets for habitat creation, to guide restoration schemes so they include habitat features most appropriate to the local landscape.
- The BAP should guide multi-functionality in landscaping schemes, such as Sustainable Urban Drainage Systems (SUDS), which create ponds, reedbeds or native hedgerows.

Monitoring and feedback

The BAP process only works if all partners communicate what actions they have achieved and what targets they have met. Planning officers should ensure habitat losses and gains through development are reported.

User guide for conservation professionals

This document sets out the highest priorities for action to conserve Northamptonshire's most threatened and declining habitats and species.

It attempts to set out a strategic framework and give guidance on priorities and how these might be achieved. It should therefore be used as a reference when planning projects and other related work.

This document does not set out an exhaustive list of all aspirational actions and targets to conserve biodiversity in Northamptonshire. Instead, only those highest priority actions and targets, which are realistic and achievable by BAP partners, are included. This is because resources are in short supply and difficult to obtain, so partners must focus efforts for BAP delivery and biodiversity conservation, alongside other priorities in the county.

Aims of the BAP

The Northamptonshire Biodiversity Action Plan sets out how the government's Biodiversity 2020 targets will be delivered at a local level. The aim of the BAP is to provide guidance on Northamptonshire's conservation priorities, how to achieve them and who should, and could, be involved.

The BAP provides a baseline, targets and an action plan up to 2020 for each habitat and associated species.

Structure of the BAP

The BAP was developed by the Northamptonshire Biodiversity Partnership. It reflects collective priorities for conservation and agreed actions to halt wildlife and habitat losses in Northamptonshire up to 2020.

- **Introduction:** includes a background to BAPs, the state of wildlife in the county and the principles for its future conservation. It also identifies priority habitats and species in each of Northamptonshire's Natural Character Areas.
- **General Action Plans (GAP):** these seven plans cover general strategies, targets and actions for conservation. They apply to all habitats and areas of the county.
- **Habitat Action Plans (HAP):**
    - provide a description and baseline for each priority habitat, along with a list of priority areas and a general strategy for conservation
    - set out SMART targets for the conservation of each priority habitat focussing on what proportion should be managed, restored and created by 2020
    - identify priority species associated with each habitat.

Appendices: includes a list of all BAP species occurring in Northamptonshire and the habitats with which they are associated. Most species will be protected through conservation of the priority habitats, however in some cases additional conservation actions are also included.

How to use it

The BAP:

- should be used to help plan landscape-scale and other conservation projects.
- provides an evidence base for funding bids for heritage and nature conservation.
- provides a source of information on priority habitats and species in the county, their rarity and the areas where their conservation, restoration and creation is most important.
- provides targets for habitat creation, to guide restoration schemes so they include habitat features most appropriate to the local landscape.
- Tprovides links to habitat opportunity mapping in the Nene Valley and Rockingham Forest.

Monitoring and feedback

The BAP process only works if all partners communicate what actions they have achieved and what targets they have met.

1. An integrated large-scale approach to conservation

Advisory and advocacy

Introduction

Most of Northamptonshire's countryside, including protected sites and nature reserves, is under private ownership. Landowners are therefore stewards of a significant proportion of the county's biodiversity resource. To conserve biodiversity it is essential that as much privately owned land as possible is not lost or degraded, but instead enhanced.

Arable fields are the dominant land cover in the county. Advisory work is therefore needed to notify landowners of existing biodiversity resources and to facilitate creation, restoration and enhancement works under Countryside Stewardship and other funding sources. The higher tier of Countryside Stewardship is likely to be highly targeted to where the greatest opportunities lie. Other schemes such as Catchment Sensitive Farming, Campaign for the Farmed Environment and the lower tiers of Countryside Stewardship will have more general wildlife benefits.

Much of our biodiversity exists within Local Wildlife Sites (LWS). These are non-statutory and are recognised at the local level as being of county (or sometimes greater) importance. Most LWS owners and managers welcome advice on funding availability and appropriate land management to benefit wildlife.

Main issues

- Limited resources available: funding and advice therefore needs to be targeted
- Scarcity of additional funding streams to complement agri-environment schemes
- Lack of advice and advocacy available to landowners

Strategy and guidelines

- Support and advise land owners and managers
- Target stewardship and other funding to maintain, buffer and link priority habitats
- Make good practice guidance for biodiversity available to landowners and managers
- Establish key sites as best examples of good practice

Targets

1. Establish another landscape conservation initiative across the county in addition to the Nene Valley NIA

2. Increase extent of priority habitat across the county by 1770ha through creation and restoration work
3. Ensure that 95% of county's SSSI are in at least favourable-recovering condition and that 50% are in a favourable condition
4. Ensure that 50% of Local Wildlife Sites are under positive management across the county by 2020
5. Maintain all Protected Wildflower Verges to ensure they meet the designation criteria or improve in species diversity by 2020 and identify 5 new PWV by 2020

Actions

A.	Continue Nene Valley NIA partnership and Nene Valley Catchment Partnership promoting and providing expert advice across all elements of conservation in the Nene Valley	All
B.	Ensure that landowners of 35 Local Wildlife Sites receive survey and management advice each year	Wildlife Trust
C.	Provide advice to landowners through Campaign for Farmed Environment (CFE) and Catchment Sensitive Farming (CSF) to manage, buffer and connect priority habitats	RNRP Wildlife Trust CFE Environment Agency
D.	Provide advice to SSSI owners and other landowners to manage, buffer and connect priority habitats through Countryside Stewardship	Natural England Forestry Commission
E.	Ensure all Protected Wildflower Verges are managed annually to maintain their interest and surveyed on a 5 year rotation	NCC Wildlife Trust
F.	Follow up on reports of suitable new PWV made by partners or the public by surveying and assessing during the current/next suitable surveying period	NCC Wildlife Trust

Further information and management advice

- Northamptonshire's Local Wildlife Sites
- Countryside Stewardship information
- Catchment Sensitive Farming information from RNRP
- Catchment Sensitive Farming guidance
- Nene Valley Nature Improvement Area
- Information on Sites of Special Scientific Interest
- Campaign for the Farmed Environment
- Campaign for the Farmed Environment in Northamptonshire

Urban & artificial habitats

Introduction

Northamptonshire's landscape is a patchwork of different habitats and built-up areas of varying scale and density. Beyond its arable expanses and fragments of wildlife-rich land that highlight past management and exploitation, lies a range of residential, commercial and industrial areas. These are superimposed on the geology and topography that form the National Character Areas and river catchments, and which, in a changing climate, determine the hydrology and ecology of a particular location.

In open, arable areas, buildings may offer nesting and roosting opportunities that otherwise wouldn't exist. Within villages and suburbs pollinator abundance and diversity can greatly exceed what is now present in much of the farmed countryside. Former gravel pits now have much greater wildlife value than the areas from which they were excavated.

Within built-up areas parks, private gardens, cemeteries, road verges, rail sidings, river banks and 'wasteland' can support a surprising variety of wildlife. Although species are likely to be restricted to adaptable generalists that either tolerate or are quick to respond to change, they can help in 'greening the grey' in very positive ways. How different areas (and their surroundings) are managed has a significant impact on the species they are likely to support in the long term. Some species can take advantage of the smallest opportunity but others may need help. Small decisions and interventions add up to make very real differences.

To help minimise adverse pressures on sensitive sites, it makes considerable sense to concentrate impacts within urban areas. The physical and mental health benefits of access to natural green space, of street trees, living walls and living roofs are well known. Houses near a park or waterway sell for higher prices than similar houses farther away. Even many smaller developments can include a communal green area which supports an abundance and diversity of wildlife. Such spaces can be multifunctional, by including ponds to absorb runoff and reduce winter flood risk, and sizeable trees which clean the air and provide summer cooling. Well designed green and brown roofs can compensate for some habitat losses at ground level.

In built-up areas the following features have considerable existing or potential wildlife value:

Features	Value	Suggestions
Main areas		
Woodland and other natural green spaces	Can depend on whether they are recent plantings or historic fragments that predate development	Effective management and buffering from development impacts can increase their value
Private gardens	Add up to a significant resource for wildlife across urban areas	Gardening with (or even for) nature can add greatly to their wildlife value
Parks, recreation areas and public gardens, sports grounds etc.	Larger green spaces, especially older ones can have considerable interest for people and wildlife	Much depends on how areas are managed both within their boundaries and in relation to their surroundings

Features	Value	Suggestions
Allotments and leisure gardens	Large areas, offering a diversity of microhabitats, shelter and nectar sources. Can be particularly important for amphibians, reptiles and hedgehogs.	Manage with wildlife in mind (limiting pesticide use and retaining features of value) to promote natural pollination and pest control
School grounds	Whatever space is available, these offer opportunities to bring nature into school and introduce children to natural processes	From green walls/roofs to meadow areas or grey water/ rainwater-fed ponds, loggeries, gardens, bushes or trees, many small to large opportunities exist
Churchyards and cemeteries	Often long established and with a variety of monumental rocks and plants, native and introduced memorial areas can provide surprising oases for wildlife in town and village	Surveys and appropriate management can reveal and retain the main interest and key features associated with memorial sites
Industrial and commercial areas	Areas between warehouses and factories, as well as the buildings themselves can offer space and unusual conditions	Management suited to keeping areas open can benefit species associated with brownfield communities
Main connectors and isolators		
Road and rail networks	Street trees, verges, roundabouts, embankments, rail sidings can all contribute significantly to urban greening, especially in hard-surfaced areas	Those responsible for network management can choose from a wide range of beneficial approaches
Footpaths, streets and cycleways etc.	Long established pathways and subsequent linkages between these to provide routes for people also offer corridors for wildlife. Such connections are important in linking scattered green spaces and have value in themselves.	
Water courses	Streams, rivers and canals can add hugely to the diversity of wildlife but past culverting, pollution and flood prevention measures too often limit ecological value and enjoyment	Waterway re-naturalisation incorporating more effective flood relief systems offers a way of benefitting nature and people. SUDS and new plantings have a vital role to play in this.
Small scale – features within wider areas		
Green and brown patches	The small spaces within developed areas, and between houses, and long-term and temporary brownfields often have potential which is rarely fully realised	Parish and neighbourhood plans offer communities an opportunity to identify local enhancements and management needs

Features	Value	Suggestions
Historic trees, avenues and hedges	Veteran trees and lines of trees and hedges may have considerable historical interest as well as wildlife interest	Such features should be subject to sensitive management, allowing for replacement where appropriate
Built structures	Walls, bridges, and buildings are highly artificial but potentially offer conditions suited to species that wouldn't otherwise be present	Wildlife-friendly features can be designed into structures and/or added at a later stage to benefit a wide range of plant and animal species

Options for urban enhancement

General options	Opportunities
Trees	• New plantings should be in accordance with the principle of 'the right tree, in the right place', taking account of likely climate change impacts • Mature and veteran trees should be identified, managed and valued appropriately
Artificial aids	• Roosting and nesting shelters: individual nest/roost box retrofits in walls or roof spaces respectively, purpose-built structures (*e.g.* bat breeding roosts/hibernacula) and/or retention/exposure of natural materials on site (dead wood, rock, bare earth)
'NuWilding'	• Green/brown roofs/walls make a profound difference, transforming what would otherwise be hard, sterile surfaces for the benefit of people, climate and wildlife • Meadow creation/restoration • SUDS: incorporation into new and existing development mini-mises flood/pollution risk and offers biodiversity enhancement • River restoration: where opportunities and resources exist *e.g.* in parks and regeneration areas, there is considerable scope to enhance urban areas • Pond/wetland/reedbed creation
Management	• Simple, cost-neutral changes in management regime (*e.g.* leaving unmown strips in grassland areas), even in small areas can have significant positive benefits, by adding to the diversity of conditions (different vegetation structure, soil moisture, food sources). • More extensive, long-term changes can benefit those species and habitats that respond more slowly
Plantings	• Choice of variety/species: pollen and nectar producing plants should be chosen to provide food for pollinators. Plants which flower at different times of year should be included. • Planting for impact: different plantings can help to raise awareness of biodiversity issues and positive actions which people can take in their own gardens (*e.g.* planting for pollinators). Prairie plants for example offer late season nectar sources and a wonderful autumnal displays. • Making the most of small areas

General options	Opportunities
Safeguarding	• Preservation: identifying and preserving areas of value • Management: getting the most out of areas • Protection: minimising (the likelihood of) negative impacts, *e.g.* pollution, non-native invasive species

Making a difference

There is a wide range of information available on how to enhance existing areas and new developments for biodiversity. Development and restoration schemes offer the prospect of resources to support biodiversity works. Helping community or special interest groups to address obstacles, realise proposals or make ongoing interventions can be a cost-effective means of delivering sustainable, wildlife-friendly development.

The greatest benefit will be realised through schemes that are based on up to date biodiversity evidence and framed within local plans and wider strategies including this BAP. Long-running and permanent schemes are likely to have the most significant value, provided ongoing management commitments are delivered. However ephemeral schemes will suit some species better and may more easily be incorporated within certain phases of a particular project.

Biodiversity conservation will only rarely be the main goal of a particular project, so it is important that where practicable there should be consideration of how it may contribute to biodiversity goals, whether in the short or longer term.

A range of grants is available, usually subject to match funding, which can help to bridge resource gaps, but knowing where and how to apply for what isn't always obvious to those most in need of help.

The introduction of a Community Infrastructure Levy should be used as an opportunity for making the most of Northamptonshire's natural capital at county, district and neighbourhood/ parish level. This is particularly important in urban situations where impacts are concentrated and where there is greatest need – and greatest potential benefit – in relation to sustainability and quality of life.

Individuals can have a positive impact through their decisions and actions, by making space for nature in their gardens, responding to development proposals and joining community groups.

Local groups can achieve much through their own actions, their ability to secure funding, and their influence on local agencies.

Local agencies like **housing associations, businesses**, and **local authorities** can play a part by calling for or contributing to improving conditions for wildlife, through day to day operations, their policies, the advice they provide and influence they have on others.

Figure 1 Northamptonshire local authority boundaries and major settlements

Options for BAP user groups

For the public

- Consider enhancing your garden or allotment for wildlife.
- Get involved with voluntary practical tasks in your local park or wildlife site.
- Respond to planning applications.
- Influence local development plans: tell your local authority which areas could be improved or connected.

For local authorities

- Review how individual areas are managed and the regimes provided to contractors: could these be improved?
- Identify enhancements for parks, greenways, commons and small green areas: which would have greatest benefit for wildlife and for connecting people with nature?
- Ensure the Community Infrastructure Levy (CIL) will work for wildlife.
- Identify likely areas for improvement in connection with biodiversity offsetting.

For business

- What local sites/community groups in your area might benefit from support?
- What sites might offer team-building tasks for staff?
- What elements of the BAP – championing a particular action plan or resourcing a particular action – could you contribute towards?

For developers

- How might your scheme(s) relate to strategies and particular BAP proposals and planning policies?
- Can you deliver effective biodiversity enhancement within your development site, its neighbourhood or through CIL?

Since Urban & Artificial is a new GAP, requiring the compilation of baseline data in a number

of areas, its targets are necessarily somewhat open in nature, with a focus on informing, influencing, involving and enabling others.

Targets

1. To have an effective evidence base to inform and influence future plans and actions
2. To ensure that different user groups are aware of relevant advice
3. 5–10 urban enhancement projects within the county showcase best practice
4. Different user groups are able to publicise plans and projects that have beneficial impact in urban areas

Actions

A.	Map urban areas of existing and potential value to biodiversity as part of local ecological network mapping	NBRC Local authorities
B.	Identify and prioritise practicable projects within urban areas, and promote fully costed projects on relevant platforms	Local authorities Environment Agency
C.	Highlight best practice examples of biodiversity enhancement/ offsetting in connection	Local authorities Wildlife Trust RSPB
D.	Ensure contributions towards biodiversity though planning obligations	NBP Local authorities
E.	Provide guidance to local communities on enhancing biodiversity through CIL contributions	NBP Local authorities
F.	Review and enhance management of public open spaces	Local authorities
G.	Work with park rangers and community groups to develop management strategies for parks and open spaces	Local authorities Wildlife Trust
H.	Publicise information about enhancing gardens	Wildlife Trust RSPB
I.	Encourage greater participation in the planning process to benefit biodiversity	Local authorities Wildlife Trust
J.	Promote wildlife recording within urban areas	NBRC
K.	Signpost local, regional and national information/advice sources	All
L.	Develop funding proposals around most suitable (B) projects	All

Further information and management advice

- ► Wildlife gardening advice from the Wildlife Trust
- ► Wild About Gardens
- ► Wildlife ponds (Freshwater Habitats Trust)
- ► Birds and bird boxes (RSPB)
- ► Bats and bat boxes (Bat Conservaton Trust)
- ► Managing your churchyard for wildlife
- ► Green roofs

Ecosystem services

Introduction

The benefits that people derive from the natural environment are known as ecosystem services. They are critical to our wellbeing and economic prosperity, yet are consistently undervalued in decision making. By identifying, mapping and valuing ecosystem services and biodiversity we are improving our understanding of the interdependencies between the natural environment, people and the economy.

Natural capital can be defined as the world's stocks of natural assets which include geology, soil, air, water and all living things.It is from this natural capital that humans derive the ecosystem services which make human life possible.

Examples of ecosystem services include flood regulation by grassland, crop pollination by insects and carbon sequestration by trees. Ecosystem services also include recreational benefits like tourism.

The Ecosystem Approach is a concept that integrates the management of land, water and living resources and aims to reach a balance between three objectives: biodiversity conservation, its sustainable use and equitable sharing of benefits arising from the use of natural resources.

The University of Northampton has been quantifying and mapping the provision of a range of different ecosystem services across the Nene Valley Nature Improvement Area.

Main issues

- Lack of knowledge about what ecosystem services provide and the biodiversity threshold required for a service to be provided
- Lack of understanding of the importance of ecosystem services
- Reductions in ecosystem services associated with declines in habitat extent or condition and changes in biodiversity

Strategy and guidelines

- Quantify the value of ecosystem services in Northamptonshire
- Map a range of ecosystem services, particularly those on which it is difficult to place a monetary value
- Enhance areas of nature conservation to support ecosystem services
- Raise awareness of ecosystem services, in particular with local authorities and the general public
- Promote an ecosystem approach to conservation across the county

Targets

1. Successful study of ecosystem services provided across a target area such as the Nene

Valley

2. Increase in ecosystem services integrated into planning policy and new development
3. Increase in investment in ecosystem services

Actions

A.	Collate data on key ecosystem services	University of Northampton NBRC
B.	Map or quantify key ecosystem services	University of Northampton NBRC
C.	Integrate ecosystem services into key local authority policies such core strategies, development plans and local plans	University of Northampton JPUs Local authorities Wildlife Trust
D.	Research and trial a working model of an ecosystem services payment scheme	University of Northampton RNRP

Further information and management advice

- Ecosystem services in the Nene Valley
- The UK National ecosystem services assessment
- Natural Capital Initiative
- Ecosystem Approach

2. Putting people at the heart of biodiversity policy

Community awareness and involvement

Introduction

Conservation organisations, local authorities and other bodies play a key role in conserving biodiversity but it is public awareness and appreciation of the natural environment that ultimately dictates the degree of success.

Active public or community involvement in conservation at the local level is critical. A range of projects and organisations exist at a range of scales to promote and engage local communities in wildlife conservation:

- Pocket parks, local nature reserves and 'friends of' groups provide opportunities for local people to manage and influence their local green space
- Measures to implement Accessible Natural Greenspace Standards (ANGSt) provide the means of ensuring more people are able to experience nature
- Education and interpretation promote public interest and increase understanding of biodiversity conservation. Schoolteachers have a large role to play in this respect.
- Development of wildlife areas in school grounds and making links with local nature reserves can supplement these efforts usefully.

Main issues

- Conserving biodiversity is as much about people as it is about wildlife. All sectors of the community should have the opportunity to be involved in both project design and implementation.
- A lack of awareness can lead to an unintentional disregard for wildlife and conservation.
- Recreation and visitor pressure can have a negative effect on wildlife.

Strategy and guidelines

- Develop 'flagship' sites to increase public awareness and appreciation of local biodiversity
- Destination Nene Valley is a partnership project which aims to better position and promote the Nene Valley. The project will promote the Nene Valley as a competitive, sustainable destination, offering world class wildlife to a mixture of local, national and international audiences.
- Environmental education: local school groups, Wildlife Watch, RSBP Phoenix and

natural history sessions for adults

- Local community events and guided walks

Targets

1. Ensure an active Local Nature Partnership and annual LNP conference
2. Improved ANGSt across the county
3. Increase in local community environmental events/walks delivered
4. Increase in volunteer hours delivering conservation action
5. Ensure that all Local Nature Reserves have management plans for improving biodiversity and that they are implemented

Actions

A.	Support all pocket park and other community groups in managing, enjoying and utilising green space of conservation value	Local authorities Wildlife Trust NCC
B.	Support or manage existing Local Nature Reserves and review management plans every 5 years or write plans for those that currently do not have them	Local authorities Wildlife Trust NCC
C.	Set up 'friends of' groups, a 'Green Gym' or similar initiatives at suitable sites	Groundwork
D.	Improve ANGSt standards across Northamptonshire	JPUs NCC
E.	Embed wildlife conservation in health and wellbeing strategies	LNP
F.	Work with local communities across the NIA to raise awareness of wildlife and conservation	Wildlife Trust RNRP Natural England
G.	Identify visitor access and issues in the Nene Valley and work with local communities to address issues	Wildlife Trust RNRP RSPB Natural England
H.	Engage with health and wellbeing agenda to promote benefits of biodiversity	LNP
I.	Maintain an active Local Nature Partnership (LNP) and run an annual LNP conference	LNP

Further information and management advice

- ► Destination Nene Valley
- ► Northamptonshire Local Nature Partnership
- ► Wildlife Watch and Phoenix groups
- ► Wildlife Trust local groups
- ► Pocket Parks
- ► Community projects in the Nene Valley NIA

3. Reducing Environmental Pressure Policy and Planning

Introduction

Along with agriculture, land use planning is a key driver of change for the biodiversity of Northamptonshire – for good or otherwise. Biodiversity is not just confined to designated sites and nature reserves but occurs throughout urban and rural areas. National legislation, policy and guidance now require a significant commitment to biodiversity conservation and enhancement from local authorities and other public bodies. For example, if biodiversity is to be conserved it needs to be considered within:

- Local Plans, policies, and applications for development or change of use
- The projects and programmes of Local Enterprise Partnerships and Northamptonshire Local Nature Partnership,
- Implementation of the Water Framework Directive.

Main issues

- Like the rest of the UK, Northamptonshire has had a protected sites system in place for a long time, and yet the county has still lost much of its wildlife.
- Making sure sites like LWS, SSSI and European sites are protected and well managed remains crucially important, but they can only work effectively if they are part of a wider, coherent ecological network that includes biodiversity corridors and 'stepping stones'.
- The land use planning system has a key role to play, not just in terms of protecting the remaining areas of high quality habitat, but also in realising opportunities through development to enhance habitats and create new ones.
- Direct and indirect pressure on land resources in Northamptonshire is high due to the large number of houses and associated infrastructure that are planned.

Strategy and guidelines

- Ensure that key habitats and species are protected in Local Plans
- Ensure that green infrastructure is given significant consideration in all planning applications that may affect land with existing or potential conservation value
- Support the development of the Local Biological Records Centre
- Provide biodiversity advice to developers and local authorities

Targets

1. Ensure no net loss of Local Wildlife Sites, nature reserves, pocket parks or Protected Wildflower Verges to development

2. Ensure that all relevant new developments lead to a net gain in biodiversity through on or off site mitigation with consideration to BAP targets
3. Ensure all new developments are accompanied by a suitable ecological survey that references loss and creation of priority habitat

Actions

A.	Refuse planning applications that show potential to damage or destroy a Local Wildlife Site, unless net biodiversity gain can be ensured	Local authorities Wildlife Trust
B.	Work with ecologists to ensure planning applications are accompanied by appropriate ecological surveys and data searches including loss and creation of priority habitat	Local authorities Wildlife Trust NBRC
C.	Monitor the change in number and area of sites of nature conservation value on an annual basis	Local authorities Wildlife Trust
D.	Engage environmental consultees in the production of conditions/Section 106 agreements that aim to deliver appropriate biodiversity gains	Local authorities Wildlife Trust
E.	Continue the work achieved through the growth and development NIA objective across the Nene Valley	JPUs Wildlife Trust NCC
F.	Ensure that the aims of the BAP are supported and referenced by local policy documents such as Local Plans and Supplementary Planning Documents	Local authorities
G.	Ensure that Northamptonshire's ecological networks have been identified and embedded into Local Plans	Local authorities Wildlife Trust

Further information and management advice

- LWS, SSSI and the SPA
- Biodiversity Supplementary Planning Document for Northamptonshire
- Upper Nene Valley Gravel Pits Special Protection Area Supplementary Planning Document
- More relevant legislation and planning policy information

Invasive Species

Introduction

Invasive species are classed as plants or animals that are non-native and have negative effects on our economy, our environment, or our health. They have been introduced (either deliberately or accidently) by humans outside of their natural range but do not include species that have changed their natural range in response to climate change.

Main issues

Invasive species outcompete species that are native to an area, adversely affecting an existing ecology or habitat.

Invasive species can have a detrimental effect on human health and wellbeing and economically important activities.

Many species have little impact on our biodiversity, however a small proportion do have significant impacts.

Strategy and guidelines

- Improve our data and monitoring of key invasive species across the county
- Ensure good biosecurity, particularly with regards to wetland habitats
- Undertake specific projects to reduce key invasive species in priority areas

Targets

1. Functioning database of the distribution of invasive species in the county
2. No designated sites lost or declining due to the presence of invasive species

Actions

A.	Create and maintain an up-to-date database of invasive species in the county	NBRC Environment Agency
B.	Ensure biosecurity information is available to prevent the spread of key invasive species	NBRC Environment Agency

Further information and management advice

- ► Northamptonshire Biodiversity Records Centre
- ► GB non-native species secretariat
- ► Environment Agency information on the control of invasive species

4. Improving our knowledge

Data, monitoring and evidence

Introduction

A sound knowledge of our local biodiversity resource is essential as a starting point for the effective implementation of conservation objectives. Without baseline data it is difficult to set targets and to measure progress towards them. The existing green infrastructure (GI) suite has provided a valuable framework for BAP delivery at the sub-regional level. Updating this dataset and assessing GI delivery both depend on monitoring biodiversity assets. Good biodiversity data are essential in the following aspects of partners' work:

- NPPF places responsibilities on planning authorities to base decisions on up-to-date ecological information
- Local Development Frameworks & Annual Monitoring Reports
- Green infrastructure
- Reporting to funders and performance indicators
- Biodiversity Duty (Section 40, NERC Act)
- Improving our knowledge of ecosystem services.

Main issues

- We have very little accurate baseline information on our prority habitats and species.
- Most of Northamptonshire's biodiversity data are derived from over 800 Local Wildlife Sites (LWS) but many of these have not been surveyed within the 5-year period that is recommended by Defra.
- There are also a further 1000 or more Potential Wildlife Sites (PWS), which have never been surveyed.
- For many of the priority species, monitoring has been identified at the national level as being the top priority if we are to understand how to conserve them.
- Landscape-scale projects and green infrastructure require a field-by-field knowledge of not just existing resources but also the best potential areas for linkage and expansion.
- In order to store, process and disseminate this information it is essential to have a fully functional records centre. The Northamptonshire Biodiversity Records Centre (NBRC) has established a one-stop shop for biological data but its future funding is uncertain and there are existing data that still need to be collated.

- We have little data on our natural resources and the ecosystem services they supply.

Strategy and guidelines

- Achieve funding and resources for the NBRC to become fully functional
- Resurvey LWS on a rolling 5-year programme and identify new LWS
- Identify priority areas for landscape-scale restoration and creation of priority habitats within the GI framework to focus action and guide development proposals
- Pass all biological records and monitoring results to the NBRC
- Support species and habitat monitoring above and beyond the LWS system
- Survey PWS and where necessary designate new LWS
- Focus on the green infrastructure strategy on a field-by-field basis to identify the current resources and highest priorities for habitat linkage
- Collect information on the county's natural capital to improve our knowledge on the ecosystem services it provides and to promote an ecosystem approach

Targets

1. Re-survey 200 Local Wildlife Sites by 2020, write site reports and provide management advice
2. Produce an updated strategic ecological network map for the county by 2020

Actions

A.	Ensure that 35 Local Wildlife Sites are surveyed each year across the county and management advice is provided to landowners	Wildlife Trust NCC
B.	Identify for survey PWS that have no supporting survey data and that are in a strategic location either in terms of development pressure or habitat connectivity	Wildlife Trust
C.	Annual report on Indicator 160 Wildlife Sites in Positive Conservation Management and work to increase the percentage	Wildlife Trust NCC
D.	Ensure there is a priority habitat map for the county that is updated on an annual basis	Wildlife Trust NBRC
E.	Ensure that priority species are the focus of survey efforts (for example through County Recorders) and that all results are reported to NBRC	Wildlife Trust NBRC
F.	Undertake Phase I, ecological network and/or green infrastructure mapping across the county to ensure that any planning decisions are underpinned by sound ecological evidence	Wildlife Trust JPUs NCC NBRC RNRP

G.	Ensure a fully funded and functioning records centre exists to collate and provide species and habitat data across the county	Wildlife Trust JPUs NCC Local authorities

Further information and management advice

- Local Wildlife Sites
- CIEEM guidelines for preliminary ecological appraisal
- Ecological survey calendar
- RNRPs Environmental Character and Green Infrastructure Suite
- Northamptonshire Biodiversity Records Centre

Arable field margins

Current UK status and trends
Unknown, but around 41% of the British landscape is tilled. Margins are under threat due to the end of Entry Level Stewardship.

Estimated current Northamptonshire resource
Unknown, around 105,000ha of arable land in Northants (45%)

Progress towards BAP targets 2008–2015
No targets set, but 253ha of floristically enhanced grass margins created

Lead partner
Natural England

Target areas

Habitat description

Arable field margins are herbaceous strips or blocks around arable fields that are managed specifically to provide benefits for wildlife. Arable field margins are usually sited on the outer 2–12m margin of the field. Much of the wildlife interest in arable areas is now found at the field edges or headland with many arable weeds now among our rarest plants.

The following margin types are included:

- Cultivated, low-input margins
- Margins sown to provide seed for wild birds
- Margins sown with wild flowers or agricultural legumes
- Margins providing permanent, grass strips with mixtures of tussocky and fine-leaved grasses

Arable field margins can support rare plants (*e.g.* corn parsley, shepherd's needle), crop-nesting bird species (*e.g.* corn bunting, reed bunting or lapwing), birds which feed in arable fields (*e.g.* grey partridge, tree sparrow, turtle dove) and a variety of bumblebee species.

Main issues and threats

- Intensification of crop production, including the use of herbicides to ensure a weed-free monoculture, and summer use of pesticides
- Lack of guidance and within the farming community perceived complexity of creating and maintaining arable margins
- Regular recreation (*e.g.* horse riders) trespassing onto arable margin set aside for wildlife

- Reduction in rotation of cereal crops and other land covers (including grass leys and fallows)
- Loss of stewardship funding, in particular Entry Level Stewardship (ELS)

General strategy

- Encourage maintenance of current arable field margins through Campaign for the Farmed Environment
- Encourage creation of new arable field margins through Countryside Stewardship
- Target arable field margin creation and maintenance in areas known to hold rare arable plants
- Work with Catchment Sensitive Farming to promote buffer strips where they buffer water courses and prevent erosion and runoff
- Target field margins where they buffer and link other existing priority habitat
- Encourage benefit stacking, for example enhancing existing margins by providing pollinator habitat or overwinter bird seed

Targets

1. Maintain the current extent of arable field margins
2. Create 400ha of arable field margins by 2020

Actions

A.	Maintain current extent of arable field margins by encouraging farmers to maintain existing habitat	CFE
B.	Create arable field margins through Countryside Stewardship and CFE	Natural England CFE
C.	Target buffer strip creation along where they buffer water courses and prevent erosion and runoff	Environment Agency RNRP
D.	Through Countryside Stewardship create margins in areas known to hold rare arable plants	Natural England
E.	Encourage enhance enhancement of existing margins by providing pollinator habitat or overwinter bird seed	CFE Natural England

Flagship species


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Don Loarie

- Corn bunting
- Grey partridge
- Harvest mouse
- Shepherd's needle
- Skylark
- Turtle dove

Further information and management advice

- Habitat information from the Wildlife Trust
- Habitat information from Natural England
- Campaign for the Farmed Environment advice
- Habitat and management advice from the RSPB
- Buglife's management advice for invertebrates
- Management advice for bumblebees from Bumblebee Conservation Trust

Eutrophic standing waters

Current UK status and trends
No accurate estimate exists for the total area of this habitat in Britain, but there may be around 54,000 hectares in England. Overall trends are not clear but new eutrophic standing waters have been created in many areas through quarrying in floodplains and reservoir construction. Fully natural lakes are now quite rare.

Estimated current Northamptonshire resource
There are at least 1600 hectares of standing open water in Northamptonshire ranging from small lakes to Pitsford Water. The proportion of this classed as eutrophic is unknown but will be significant.

Progress towards BAP targets 2008–2015
Many of Northamptonshire's large open water bodies are protected as LWS and/or SSSI. Since 2011, most gravel pits in the Nene Valley are also protected as a Special Protection Area and Ramsar site. Efforts are under way to understand and deal with direct and indirect threats to this habitat, including recreational disturbance.

Lead partner
Natural England

Target areas

Habitat Description

Eutrophic standing waters are highly productive because plant nutrients are plentiful, either naturally or as a result of artificial enrichment. In their natural state eutrophic waters have high biodiversity; planktonic algae and zooplankton are abundant in the water column, submerged vegetation is diverse and numerous species of invertebrate and fish are present, in turn supporting a diverse breeding and wintering bird assemblage and other species like otters. This habitat includes lakes, reservoirs and canals.

To prevent overlap with the Pond Action Plan, Eutrophic Standing Waters should be considered as areas of open, standing water over 2 hectares in size.

Main issues and threats

- Diffuse pollution from agricultural and urban runoff, causing nutrient enrichment
- Overstocking with coarse fish

- Disturbance and habitat degradation from water-based recreation and inappropriate shoreline development
- Recreational disturbance driven by nearby urban growth
- Impacts on native wildlife of alien species introduced accidentally or intentionally, *e.g.* signal crayfish, zander, Japanese knotweed, mink

General strategy

- There is no urgent need for large new open water bodies to be created
- The existing resource needs to be managed carefully to reconcile demand for recreation and leisure opportunities with wildlife value. Open water habitats play a key role in managing landscape quality and delivering green infrastructure opportunities.
- The impacts of introduced species need to be monitored carefully and mitigation measures incorporated into site management plans if necessary. Management of some introduced species will require a coordinated catchment-wide strategy to be effective.
- The effects of diffuse pollution on eutrophic standing waters in the county should be kept under review. Agri-environment schemes and the planning system should be used as appropriate to control and where possible reduce diffuse pollution problems.

Targets

1. Maintain the condition of all eutrophic standing waters of known conservation importance currently judged in good condition and bring into good condition all LWS and SSSI eutrophic standing waters not currently so

Actions

A.	Provide conservation and enhancement advice to landowners though LWS and SSSI work	Wildlife Trust Natural England
B.	Produce SPA Supplementary Planning Document	Natural England RSPB
C.	Respond to all planning applications and other proposals subject to a consenting scheme where these have the potential to damage or destroy the features of interest of a eutrophic lake designated as LWS, SSSI or SPA	Natural England Wildlife Trust Local authorities RSPB
D.	Monitor the occurrence and impacts of invasive non-native species (*e.g.* mink, signal crayfish, Crassula) in eutrophic habitats and where necessary, identify control measures in management plans and implement accordingly	Natural England Wildlife Trust Environment Agency NBRC
E.	Maintain a register of occurrence of invasive non-native species	NBRC County Recorders
F.	Research the effects of diffuse pollution on designated eutrophic standing waters in Northamptonshire and produce recommendations with an action plan as necessary	Environment Agency Natural England
G.	Help landowners to extend and create semi-natural habitats around the margins of eutrophic standing waters to help buffer the effects of diffuse pollution and silt, particularly through effective use of agri-environment schemes	Wildlife Trust RSPB Natural England

H.	Provide advice and help landowners implement measures to address diffuse water pollution through Catchment Sensitive Farming and other schemes	RNRP Anglian Water Environment Agency

Flagship Species

- Common toad
- Grass-wrack pondweed
- Otter
- Water vole

Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► Flora Locale restoration library
- ► Information on canals and wildlife from Canals and Rivers Trust
- ► Nature after minerals – grassland creation advice (from RSPB)
- ► Buglife's management advice for invertebrates

Floodplain grazing marsh

Current UK status and trends
Floodplain grazing marsh has declined significantly. In England and Wales the remaining wet grassland covers an area of approximately 220,000ha from a historical resource of 1.2 million ha. Losses over the last 60 years are typically 30-60% by area.

Estimated current Northamptonshire resource
1072ha of floodplain grazing marsh, of all levels of quality, were reported in 2015.

Progress towards BAP targets 2008–2015
285ha of floodplain grazing marsh brought into management under environmental stewardship, 162ha restored and 50ha created. Mineral planning consent was granted in 2009 on an area of land west of Earls Barton Quarry. The approved restoration proposals include the creation of an area of about 30ha of wet grassland as part of a larger mosaic of floodplain habitats. Extraction has not started (March 2015) so delivery of this new habitat is still years away.

Lead partner
RSPB

Target areas

Habitat description

Floodplain grazing marsh (FPGM) is defined as periodically inundated pasture, or meadow with ditches that maintain the water levels, containing standing fresh water. The ditches may be especially rich in plants and invertebrates. Almost all areas are grazed and some are cut for hay or silage. Sites may contain seasonal water-filled hollows and permanent ponds with emergent swamp communities. In Northamptonshire grazing marsh includes the NVC communities MG9 – MG13.

Floodplain grasslands in the UK are predominantly semi-natural or planted habitats, strongly influenced by water management and farming practices. They form important habitats for wildlife, perform a vital flood storage function and play a significant role in traditional farming systems. Winter floods bring nutrients to the grasslands. Traditional farming systems recognised this benefit, so the productive meadow sward was grazed by cattle or cut for hay.

Main issues and threats

- Agricultural intensification, leading to drainage and conversion to arable farmland
- Water abstraction

- River channel modifications (deepening, widening, and construction of flood defences) altering the frequency and duration of flooding
- Eutrophication of ditch systems and surface water features from diffuse pollution, mainly from agricultural runoff

General strategy

- Use habitat opportunity mapping to identify the current resources and highest priorities for linkage by sympathetic management of degraded sites and establishment of new sites
- Sympathetically manage and restore existing sites, funded primarily through Countryside Stewardship (advice is available from the Wildlife Trust, RNRP or RSPB)
- Promote re-creation opportunities targeted at key areas of the floodplain, to be delivered primarily by restoration of mineral sites where physical characteristics permit
- Create a landscape-scale wetland complex, with floodplain grazing marsh as a major component

Sites to focus on

- **Poor condition priority habitat:** Hydrological regime in place but site inappropriately managed *e.g.* water levels too low, insufficient or no wet surface features or flooding, inappropriate sward condition, incorrect hedge height, excessive scrub cover
- **Relict habitat:** Hydrological regime no longer in place but typical physical features of FPGM present (*e.g.* ditches reflecting previous management as wet grassland) and reflected in the existing land use and/or botanical communities present (*e.g.* intensively cultivated drained land)
- **Sites for new FPGM creation:** Generally agricultural land with no typical physical features of FPGM present, but with suitable topography, soil conditions and geographic location for habitat creation

Targets

1. Maintain the current extent of BAP-defined floodplain grazing marsh (no loss of BAP habitat)
2. Bring into positive management 300ha of BAP standard floodplain grazing marsh
3. Restore 200ha of relict floodplain grazing marsh from degraded sites no longer meeting BAP definition (*e.g.* agriculturally improved or with poor hydrological regime) by 2020
4. Establish 50ha of BAP-defined floodplain grazing marsh (which is capable of supporting a diverse range of invertebrates, mammals and breeding waders) from arable land/ quarries by 2020

Actions

A.	Identify the current extent of BAP-defined FPGM by 2020	Wildlife Trust NBRC
B.	Provide management advice to landowners of current FPGM LWS to maintain condition	Wildlife Trust

C.	Respond to all planning applications and other proposals subject to a consenting scheme where these have the potential to damage or destroy the features of interest of FPGM designated as LWS or SSSI	Wildlife Trust Natural England RSPB Local authorities
D.	Work with landowners to restore degraded FPGM habitat in the Nene Valley currently not classed as LWS	Wildlife Trust
E.	Help landowners and mineral companies establish the right conditions to create BAP quality FPGM from arable land in the Earls Barton West area by 2020, following restoration of sand and gravel quarries	Wildlife Trust RSPB
F.	Advise planning authorities, landowners and mineral companies on creating FPGM as part of applications for mineral quarrying in the Earls Barton area, to contribute to an overall long-term target beyond 2020 of 100–200 hectares	RSPB Wildlife Trust Local authorities Environment Agency

Flagship species

- Eurasian curlew (passing migrant)
- Flat-sedge
- Northern lapwing
- Pennyroyal

Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► Further habitat information from Natural England
- ► Wet Grassland Practical Manual: Breeding Waders (from RSPB)
- ► Advice for Farmers: Re-wetting grasslands (from RSPB)
- ► Management advice for invertebrates (from Buglife)

Hedgerows

Current UK status and trends
Estimated resource is 814,000km, but has been historic decline (*e.g.* 21% loss between 1984 and 1998)

Estimated current Northamptonshire resource
In the region of 13000km (1982 survey)

Progress towards BAP targets 2008–2015
5269m of hedgerow of high environmental value brought into management under HLS. Much of the county's remaining hedgerow resource is managed under ELS agreements.

Lead partner
Natural England

Target areas

Habitat description

A hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide. All hedgerows consisting predominantly (i.e. ≥80% cover) of at least one woody UK native species are covered by this priority habitat. Overall about 84% of hedgerows are covered by this definition.

Up to 33% of all hedgerows can be described as ancient and/or species rich. Many of these are the remnants of ancient woodlands that have been left to enclose fields. To meet the definition of ancient and/or species rich, hedgerows must meet one of the following criteria:

- Five or more woody species per 30m section
- Fewer woody species but a rich basal flora,
- Predate the Enclosure Acts (1720–1870).

Ancient hedgerows are often found along parish boundaries, streams and ancient roads and tracks. Enclosure hedgerows are found on early enclosures starting in the 13th century. Hedgerows can include ancient and veteran trees, which are important links to the past. Some may have Tree Preservation Orders. Most will be remnants of ancient woodland or will date back to when the site was enclosed.

Main issues and threats

- New development and associated infrastructure, with large lengths being removed for new housing development
- Inappropriate management (*e.g.* over cutting, grazing, and spray drift)

- Lack of suitable management (*e.g.* laying, coppicing, cutting)
- Removal of hedges to increase field size

General strategy

- Focus efforts across the county with emphasis on the Nene Valley, Rockingham Forest and Yardley-Whittlewood Ridge
- Implement sympathetic management through Countryside Stewardship
- Plant new hedgerows and restore existing hedgerows funded primarily through Countryside Stewardship

Additional information

Achieving condition (hedgerow trees): Management must be in place such that for every 100m of hedgerow two trees reach a diameter of ≥15cm. Through their Hedge Tree Campaign the Tree Council is highlighting the importance of hedgerow trees and are running a tree tagging campaign. Agri-environment schemes will also be able to encourage tagging and new planting where appropriate.

Expansion: Hedgerows must contain entirely native species including a number of tree-forming species such as oak. Appropriate management must be put in place.

Targets

1. Maintain the current extent of hedgerows (no net loss)
2. Restore appropriate management to 50% of hedgerows not currently under agri-environment schemes by 2020
3. Increase the number of new young hedgerow trees by 800 by 2025 (equal to rejuvenating or planting 40km of hedgerow)
4. Increase the extent of species-rich hedgerows by 40km by 2025. New hedgerows to include hedgerow trees

Actions

A.	Through Section 106 agreements/new developments ensure that existing species-rich hedgerows are maintained and new ones created	Developers Local authorities Wildlife Trust
B.	Provide maintenance and enhancement advice to landowners of hedgerows which are currently over-managed or in poor condition in the target areas of the Nene Valley, Rockingham Forest and Yardley-Whittlewood Ridge	Natural England Woodland Trust Wildlife Trust
C.	Restore hedgerows through the inclusion of appropriate prescriptions in Countryside Stewardship agreements	Natural England
D.	Plant new hedgerows and hedgerow tree species, appropriate to the locality. The priority should be for reinstating landscape boundary features.	Woodland Trust NCC

Flagship species

- Dormouse
- Eurasian tree sparrow
- Grey partridge
- White letter hairstreak
- Yellowhammer

Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► Further habitat and management information from the RSPB
- ► Hedgelink
- ► English Hedgerow Trust
- ► UK hedgerow regulations and management
- ► Flora Locale's restoration library
- ► Hedgerow management, dormice and biodiversity (from Natural England)
- ► Management advice for invertebrates (from Buglife)

Lowland calcareous grassland

Current UK status and trends
Sharp decline in extent by up to 50% over past 60 years; only 65,567ha remain in England. Remnant patches are often small and isolated.

Estimated current Northamptonshire resource
Approximately 242ha

Progress towards BAP targets 2008–2015
Unknown, but nature reserves managed and other sites restored through Environmental Stewardship.

Lead partner
Wildlife Trust

Target areas

Habitat description

Lowland calcareous grassland develops on shallow lime-rich soils, usually overlying limestone rocks. The most significant areas of calcareous grassland in Northamptonshire are found on artificial sites where removal of upper strata has exposed underlying limestone and natural re-colonisation has occurred. The less common natural sites are typically managed as components of pastoral or mixed farming systems, and a few are cut for hay. The majority of sites are found in the northeast and southwest of the county and associated with disused gullets, quarries and railways and along road verges.

In Northamptonshire calcareous grassland includes NVC communities CG2–5. CG3 is the dominant type, and is often the result of undergrazing. CG2 is a short sward community associated with heavy grazing. CG4 and CG5 are rank, tussocky grassland, which like CG3 are associated with low grazing levels.

Main issues and threats

- Quite a rare habitat in Northamptonshire with many important associated species. Much is isolated in small fragments, dangerously reducing species' population sizes and making it impossible for individuals to move between habitat patches.
- Additional loss of habitat to development
- Inappropriate or lack of management (*e.g.* undergrazing or improving soils with nutrients) leading to domination by coarse grasses and invasion by scrub

General strategy

- Conduct survey work and habitat opportunity mapping to identify the current resources and highest priorities for linkage by sympathetic management of degraded sites and establishment of new sites

- Expand habitat through arable land and improved pasture conversion to calcareous grassland in areas with suitable soil type and underlying geology
- Sympathetically manage and restore existing sites, funded primarily through Countryside Stewardship (advice can be provided by The Wildlife Trust). Grazing management is vital to control coarse grasses and scrub.
- Focus efforts on limestone slopes, mineral extraction sites and landfill sites
- Manage calcareous grassland sites to produce a mosaic of vegetation structure and composition to benefit invertebrates. Knowledge of the species present on a site will allow management to be tailored appropriately.

Targets

1. Maintain the current extent of lowland calcareous grassland priority habitat
2. Achieve favourable condition on 60ha of calcareous grassland by 2020
3. Restore 50ha of lowland calcareous grassland from semi-improved or neglected grassland to LWS-standard by 2020
4. Create 30ha of LWS-standard lowland calcareous grassland from arable, improved grassland, mineral extraction and landfill sites by 2020

Actions

A.	Maintain existing calcareous grassland resource in nature reserves, country parks & SSSI	Wildlife Trust NCC Natural England
B.	Ensure all calcareous grassland road verges are in a favourable or recovering condition	Wildlife Trust NCC
C.	Through advice and projects ensure up to date surveys of calcareous grassland LWS and bring sites into favourable management	Wildlife Trust
D.	Prioritise areas for calcareous grassland creation and restoration, to maximise buffering and linkage of existing sites as well as overall patch size	Wildlife Trust
E.	Through Section 106 agreements/new developments ensure semi-improved or neglected grassland is restored or created to BAP quality calcareous grassland	Developers Local authorities Wildlife Trust
F.	Restore and achieve condition on neglected grassland to LWS standard calcareous grassland through Countryside Stewardship	Natural England
G.	Identify mineral extraction or landfill sites on which calcareous grassland could be created and initiate the creation process by 2020	NCC Wildlife Trust

Flagship species

- Dingy skipper
- Grizzled skipper
- Small blue
- Man orchid
- Violet crowncup

Further information and management advice

- ► Habitat information from the Wildlife Trust
- ► More habitat information from the Wildlife Trust
- ► Further habitat information from Natural England
- ► Flora Locale's management, restoration and creation library
- ► Scrub management advice (from RSPB)
- ► Nature after minerals – grassland creation advice (from RSPB)
- ► Management advice for invertebrates (from Buglife)

Lowland dry acid grassland

Current UK status and trends
Substantial decline; only 15,453ha remaining in England. Severe decline in specialist species within sites.

Estimated current Northamptonshire resource
Approximately 155ha

Progress towards BAP targets 2008–2015
Unknown, but nature reserves managed and other sites restored through Environmental Stewardship.

Lead partner
Wildlife Trust

Target areas

Habitat description

Lowland dry acid grassland occurs on nutrient-poor free-draining soils, overlying acid rocks or superficial deposits like sands and gravels. In Northamptonshire it includes NVC communities U1 and U4.

U1 mostly occurs under scrub, on road verges or where rabbit grazing causes disturbance. U4 tends to occur in damper areas where rainwater filtering through sandstone encounters a layer of clay and flushes to the surface. In some cases sites will have succeeded to MG1, with coarser grasses dominating, typical of a long-term lack of management. However, this tends to occur on sites that have not been seeded or heavily fertilised; with the right management these habitats are often easily recoverable.

Areas within west Northamptonshire with potentially suitable soil types for acid grassland restoration or creation have been identified in High Woods Habitats Scoping Report. See maps below.

Main issues and threats

- Very little remaining in Northamptonshire. Much is isolated in small fragments, dangerously reducing species' population sizes and making it impossible for individuals to move between them.
- Additional loss of habitat to development
- Inappropriate management (*e.g.* improving soils with nutrients, liming, overgrazing/over-mowing)
- Lack of management (*e.g.* under-grazing)

General strategy

- Conduct survey work and habitat opportunity mapping to identify the current resources and highest priorities for linkage by sympathetic management of degraded sites
- Focus efforts on a 3 mile radius of High Wood south of Daventry and northwest of Northampton around Harlestone Firs
- Sympathetic management and restoration of existing sites, funded primarily through Countryside Stewardship (advice can be provided by The Wildlife Trust)

Targets

1. Maintain the current extent lowland dry acid grassland priority habitat
2. Achieve favourable condition on 30ha of lowland dry acid grassland by 2020
3. Restore 20ha of lowland dry acid grassland from semi-improved or neglected grassland to LWS standard by 2020
4. Create 10ha of LWS-standard lowland dry acid grassland from arable, improved grassland and coniferous plantation by 2020

Actions

A.	Maintain existing acid grassland resource in nature reserves and SSSI	Wildlife Trust Natural England
B.	Identify new Local Wildlife Sites that contain acid grassland within the South Daventry target areas and provide advice to landowners	Wildlife Trust
C.	Through advice and projects ensure up to date surveys of acid grassland LWS and bring sites into favourable management	Wildlife Trust
D.	Through Section 106 agreements/new developments ensure that semi-improved or neglected grassland within an acid grassland target area is restored or created to BAP quality acid grassland	Developers Local authorities Wildlife Trust
E.	Bring sites into favourable condition and restore semi-improved or neglected grassland to LWS standard acid grassland through Countryside Stewardship	Natural England

Flagship species


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Ben Sale


Natural England

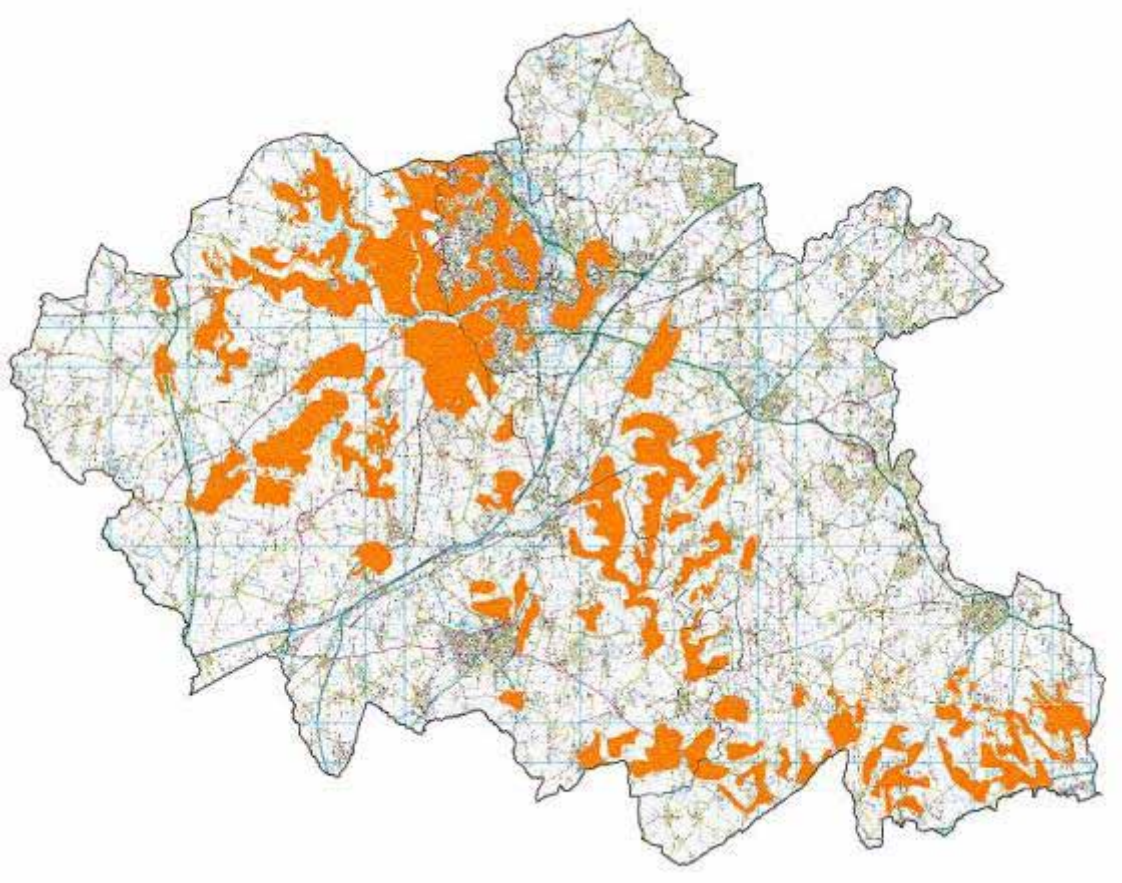
- Common lizard
- Four-spotted moth
- Skylark

Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► Further habitat information from Natural England
- ► Flora Locale's management, restoration and creation library
- ► Nature after minerals – grassland creation advice (from RSPB)
- ► Management advice for invertebrates (from Buglife)

Acid grassland creation maps

Figure 1 Areas in West Northamptonshire in excess of 50 hectares where acid grassland is likely to occur or where it may be possible to either restore or create acid grassland



Caveat: Soil maps are not totally reliable and other factors are also important in predicting suitability for current and potential habitat. This map should be used as a guide only and does not preclude the possibility of restoring or creating acid grassland in appropriate places elsewhere in the county.

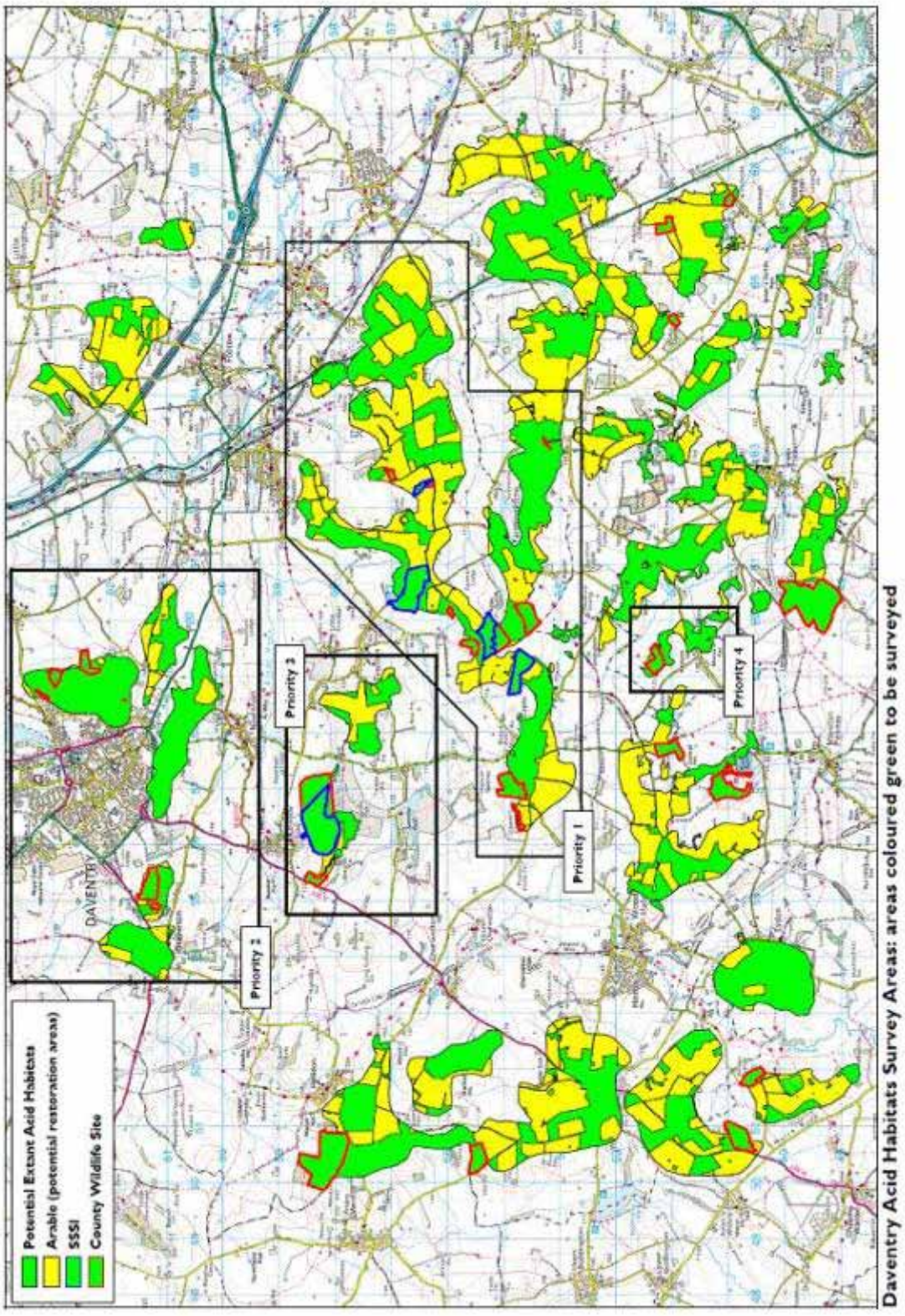


Figure AG2 Priority areas for recommended survey and investigation into potential habitat restoration and creation opportunities

Lowland fen

Current UK status and trends
Total extent is approximately 22,323ha across England. This is likely to be a significant decrease from 100 years ago.

Estimated current Northamptonshire resource
Approximately 136ha

Progress towards BAP targets 2008–2015
32ha of lowland fen brought into management under environmental stewardship and 5ha restored

Lead partner
Wildlife Trust

Target areas

Habitat description

Fens usually occur over peat but can also form on a river or stream floodplain which is waterlogged and, typically, periodically inundated, in which case they are referred to as floodplain mires. It is this type of fen that occurs in Northamptonshire. Fens receive water and nutrients from soil, rock and groundwater as well as rainfall. They encompass a wide range of plant communities and can include swamps, mires, springs and flushes. Fens often occur in association with other semi-natural habitats especially wet woodland, wet grassland and open water. In Northamptonshire fens occur solely on mineral soils, and are generally associated with other wetland habitats. They include NVC communities S22, S23, S26 and S28.

Similar habitats

Swamps tend to be relatively species-poor wetland habitats dominated by coarse grass or sedge species. They typically form in depressions in the ground, or as fringing vegetation on rivers, ponds, reservoirs etc. Springs occur where water wells up from underground aquifers, while flushes occur on sloping ground with impeded drainage. Species assemblages are partly determined by the underlying geology of the area.

Main issues and threats

- Very little remaining in Northamptonshire. Much is isolated in small fragments, dangerously reducing species' population sizes and making it impossible for individuals to move between habitat patches.
- Fragmentation due to land drainage and reclamation for agriculture
- Degradation in quality and species diversity due to lack of management and land drying

out often leading to scrub encroachment and succession to woodland

- Reduction in water quality, an increase in the incidence of pollution, both point source and diffuse, and nutrient enrichment

General strategy

- Conduct survey work and habitat opportunity mapping to identify the current resources and highest priorities for linkage by sympathetic management of degraded sites and establishment of new sites
- Reintroduce management and restore existing sites, funded primarily through Countryside Stewardship (advice can be provided by The Wildlife Trust)
- Monitor and manage water level and quality at the catchment scale to promote rehabilitation of degraded sites and creation of new sites. Bringing land adjacent to fen and wet woodland into a conservation scheme (i.e. creating buffer strips) is important to reduce nutrient enrichment.
- Ensure that flood risk management works with and enhances natural systems, for example through reconnecting watercourses with their floodplains
- Increase structural and floristic diversity and prevent dense scrub encroachment
- Establish a large-scale wetland complex incorporating all successional stages of fen

Targets

1. Maintain the current extent of fen-type habitat
2. Achieve favourable condition on 20ha of fen-type habitat by 2020
3. Restore 40ha of floodplain to LWS standard fen-type habitats by 2020
4. Create 20ha of fen-type habitats from arable, improved grassland or mineral extraction sites by 2020

Actions

A.	Identify the location of habitat that classifies as lowland fen	Wildlife Trust NBRC
B.	Manage existing fen-type resource in natures reserves and SSSI	Wildlife Trust Natural England
C.	Manage water level and quality at a catchment scale to promote rehabilitation of existing sites	RNRP Environment Agency
D.	Through management of flood risk create BAP quality lowland fen on the floodplain as natural flood defence	Environment Agency
E.	Restore areas of lowland fen in areas adjacent to existing fen, reedbed and wet woodland through Countryside Stewardship, targeting the Nene Valley	Natural England
F.	Through Section 106 agreements/new developments create areas of lowland fen on arable, improved grassland or mineral extraction sites	Developers Local authorities Wildlife Trust

Flagship species

- Marsh stitchwort
- Reed bunting
- Tubular water-dropwort
- Concolorous moth

Further information and management advice

- ► Flora Locale's management, restoration and creation library
- ► Further habitat information from Natural England
- ► The Fen Management Handbook (from Scottish Natural Heritage)
- ► Lowland agricultural land drainage systems advice (from RSPB)
- ► Management advice for invertebrates (from Buglife)

Lowland heathland

Current UK status and trends
In England approximately 56,819ha of lowland heathland remains, only one sixth of the heathland present in 1800.

Estimated current Northamptonshire resource
3ha (Harlestone Firs) and small patches of heather in other locations

Progress towards BAP targets 2008–2015
No loss of key sites

Lead partner
Wildlife Trust

Target areas

Habitat description

Lowland heathland occurs below 300m altitude on nutrient-poor, free-draining acidic soils where rainfall is below average. Vegetation is characterised by heather, dwarf gorses and cross-leaved heath. Heathland often occurs in a mosaic with acid grassland, wet bog and scrub. Together they form a broadly open landscape of dynamic habitats, undergoing significant changes in different successional stages. These different stages often co-occur within a site. In Northamptonshire heathland includes the NVC community H1.

Lowland heathland is currently found only at Harlestone Firs/Dallington Heath. There may be limited opportunities for some lowland heathland creation alongside acid grassland sites in the Daventry area but suitable soils in Northamptonshire are extremely limited in extent. Heather (*Calluna vulgaris*) occurs on a few other Local Wildlife Sites.

Heathland patches must be at least 30ha to be sustainable. This should be the ultimate target for Northamptonshire's only remaining area of heathland at Harlestone Firs.

Main issues and threats

- Tree and scrub encroachment and the simplification of vegetation structure due to a lack of conservation management such as light grazing or controlled burning
- Fragmentation due to development, *e.g.* housing and road construction
- Disturbance to and predation on ground nesting birds, reptiles and other fauna from human activity and domestic pets
- Repeated arson
- Conversion to conifer plantations

General strategy

- Extend and link remnant patches of habitat. Remnant heathland in Northamptonshire is limited to the Harlestone/Dallington Heaths north-west of Northampton. Patches of heathland survive among other conifer plantations, both on the rides and in clear-felled blocks
- Promote heathland formation adjacent to small patches of heather on Local Wildlife Sites and nature reserves

Targets

1. Maintain the current extent of at least LWS-standard lowland heathland
2. Increase the extent of lowland heathland by creating 10ha of LWS-standard habitat adjacent to existing heathland by 2020

Actions

A.	Maintain the current extent of habitat that classifies as lowland heathland	Wildlife Trust
B.	Create areas of heathland where appropriate conditions exist by encouraging landowners to manage existing patches of land with heathland indicators to promote heathland expansion	Wildlife Trust

Flagship species


Graham Gavaghan


Donald Hobern

- European nightjar
- Small heath
- Heath rustic

Further information and management advice

► Further habitat information from the Wildlife Trust

► Further habitat information from Natural England

► Flora Locale's management and restoration library

► Management advice for invertebrates (from Buglife)

Lowland meadow

Current UK status and trends
Substantial decline: 97% in the last 70 years. Estimated England resource is 36,129ha. Good progress in restoration and creation in recent years

Estimated current Northamptonshire resource
Approximately 693ha

Progress towards BAP targets 2008–2015
Good progress with 210ha of lowland meadow created and a further 210ha restored

Lead partner
Wildlife Trust

Target areas

Habitat description

Lowland meadows occur on neutral soils, often in river corridors and floodplains. They include most forms of unimproved neutral grassland over the enclosed lowland landscape. This plan includes grasslands cut for hay and unimproved neutral pastures grazed by livestock. The plan focuses on meadows with low-input nutrient regimes, which have a specialist group of scarce and declining plant species. In Northamptonshire lowland meadow includes NVC communities MG4, MG5 and MG8.

Flood meadows – MG4 grassland. These are areas which experience periodic inundation in winter, but have good sub-surface drainage and water retentive soils. This allows the water table to fall in spring, supporting species-rich MG4 (great burnet – meadow foxtail) plant communities.

Hay meadows – MG5 grassland. This is the typical grassland community of grazed or hay-cut dry meadows of lowland Britain managed in the traditional fashion and supporting species-rich MG5 (common knapweed – crested dog's-tail) plant communities.

Water meadows – MG8 grassland. Water meadows can occur naturally but often result from careful water level management; ditch water levels are kept high in summer to prevent either drying out or water-logging of the soil. Such habitats develop species-rich marsh marigold – crested dog's-tail vegetation communities.

Main issues and threats

- Little remaining in Northamptonshire. Much is located in small fragments dangerously reducing species' population sizes and making it impossible for individuals to move between habitat patches.
- Additional loss of habitat to development
- Inappropriate management (*e.g.* improving soils with nutrients, overgrazing/over mowing, mowing without removing the cuttings)

- Lack of management (*e.g.* under grazing) leading to nutrient build-up and dominance of a few coarse species

General strategy

- Undertake survey work and habitat opportunity mapping to identify the current resources and highest priorities for linkage through sympathetic management of degraded sites and establishment of new sites
- Sympathetically manage and restore existing sites, funded primarily through Countryside Stewardship (advice can be provided by The Wildlife Trust). Traditional management (hay cut and aftermath grazing) is vital to control coarse grasses and scrub.
- Direct efforts towards the Nene Valley and other river corridors

Targets

1. Maintain the current extent of at least LWS-standard lowland meadow
2. Achieve favourable condition on 100ha of lowland meadow by 2020
3. Restore 100ha of lowland meadow from semi-improved or neglected grassland to LWS standard by 2020
4. Create 80ha of LWS-standard lowland meadow from arable or improved grassland by 2020

Actions

A.	Maintain existing lowland meadow habitat in existing nature reserves, country parks and SSSI	Wildlife Trust NCC Natural England
B.	Ensure all neutral grassland road verges are in a favourable or recovering condition	NCC Wildlife Trust
C.	Through advice and projects ensure up to date surveys of lowland meadow LWS, provide management advice and bring sites into favourable management	Wildlife Trust
D.	Work with landowners to restore and create neutral grassland within the Nene Valley	Wildlife Trust
E.	Through Section 106 agreements/new developments ensure that semi-improved or neglected grassland is restored and created to BAP quality neutral grassland	Developers Local authorities Wildlife Trust
F.	Restore and achieve condition of neglected grassland to LWS standard neutral grassland through Countryside Stewardship	Natural England
G.	Offer advice to churchyard managers to ensure lowland meadow areas are managed and restored	Wildlife Trust
H.	Provide advice resources for meadow owners to encourage and facilitate management of lowland meadows through the Cut & Chew website	Wildlife Trust

Flagship species

- Brown hare
- Curlew
- Marsh stitchwort
- Skylark
- Yellow wagtail

Further information and management advice

- ► Further habitat information from Natural England
- ► Flora Locale's management, restoration and creation library
- ► Lowland Grassland Management Handbook (from Natural England)
- ► Conservation grazing advice leaflet (from the Wildlife Trust
- ► Floodplain Meadows Technical Handbook (from the Floodplain Meadows Partnership)
- ► Habitat management and creation advice (from Emorsgate Seeds)
- ► Management advice for invertebrates (from Buglife)
- ► Management advice for bumblebees (from Bumblebee Conservation Trust)

Lowland mixed deciduous woodland

Current UK status and trends
The area of woodland in the UK is estimated at 3.1 million hectares of which 1.3 million (42%) is in England. Since 1900 the overall area of forest cover has steadily increased from a low of 5% to 13%, although the UK remains one of the least wooded countries in Europe.

Estimated current Northamptonshire resource
Approximately 5.2% of Northamptonshire is woodland (compared to a national average of approximately 10%), of which 57% is broadleaved and 43% coniferous, mixed, scrub or newly planted

Progress towards BAP targets 2008–2015
At a national level, significant attention has been paid to developing a UK Forestry Standard (2011) and to protect, improve and expand our woodland resource. The government drive to protect woodlands focuses on ensuring that no net loss of woodland cover takes place and greater resilience to pests and diseases is considered. Improvements are made not only with better and increased management interventions, but also taking account of climate change forecasts and resilience to pest and disease threats. Woodland cover expansion is being progressed slowly through incentives, not only directly from Forestry Commission grants, but through schemes delivered by the Woodland Trust and others. Between 2008 and 2015, 250ha of new woodland were created within the county through the English Woodland Grant Scheme.

Lead partner
Forestry Commission

Target areas

Habitat description

This habitat includes ancient and semi-natural woodlands that consist of at least 90% native species. Native woodland of ash, maple and hazel is the commonest type found in the county. Many of these are ancient woodlands. Lowland woodlands occur chiefly on ridge and plateau tops where extensive calcareous boulder clay deposits have historically limited agricultural expansion. Calcicolous shrubs and plants such as dogwood, privet, spindle, wayfaring-tree, guelder rose, dog's mercury and enchanter's nightshade are distinctive components of the these woodlands, together

with bluebell and bramble. In such woods oak is often an artefact of planting, most of which was carried out more than 100 years ago in an attempt to convert coppice to high forest. Conversion to conifer plantation, carried out slightly later (from the 1960s to the 1990s), has destroyed many native woods. In Northamptonshire woodland includes NVC communities W7, W8 and W10.

Native oak woods are commonly associated with base-poor soils, which occur in patches and over sandstone soils in the west of the county. This type of wood lacks the base-rich indicators found in boulder clay woods. These freer-draining soils are typically dominated by pendunculate oak, birch, hazel, bracken, bramble and Yorkshire fog, with prominent displays of spring vernals such as bluebell and greater stitchwort. Small-leaved lime can also be locally prominent.

Many subsidiary woodland habitats like ponds, grass rides and open space are key biodiversity features and should be managed to maintain or enhance them as part of the overall woodland environment.

Native woodlands can be divided into two main categories: Ancient Semi-Natural Woodland (ASNW) and Other Semi-Natural Woodland (OSNW) or secondary woodland. ASNW generally has more conservation value and is more important because it has occupied the site, normally with minimal human change to the tree species composition, since at least AD 1600. It is the closest we have to natural woodland in the UK and is an irreplaceable part of our heritage. Another form of ancient woodland is Plantation on Ancient Woodland Site (PAWS). This is ancient woodland that has been altered, normally through felling and replanting, in such a way that has changed the tree species composition. Although the conservation value of PAWS is generally less than that of ASNW many of them can be restored to native species. For much of the last BAP period (2008 – 2015), any new woodland planting has resulted from incentivised woodland creation focussing on native species plantations. Some of this woodland expansion has been targeted specifically to expand existing woodland blocks, however precise figures are not known. Between 2008 and 2015 250ha of new woodland creation were planted through the English Woodland Grant Scheme (EWGS). A large proportion of this was native lowland planting at minimum densities of 1100 stems per ha. Other woodland creation has taken place outside of EWGS funding ranging from small owner or community plantings to larger schemes funded through other means.

Woodland is not evenly distributed across the county but historically concentrated in two areas:

- Rockingham Forest (East Northamptonshire, Corby and Kettering Districts)
- Yardley-Whittlewood Ridge (comprising Yardley Chase, Salcey and Whittlewood Forests (South Northamptonshire District)

Key opportunities for the Forestry Commission:

- Encourage planning authorities to resist development impacting on ASNW in line with planning policy
- Work with Natural England and other partners to target support at ASNW in unfavourable condition
- Continue to restore Forestry Commission owned PAWS to resilient native broadleaf
- Provide support through Countryside Stewardship to encourage the creation of new native woodlands in priority areas

- Increase the diversity and resilience of Forestry Commission conifer plantations by increasing the ratio of native broadleaves

Main issues and threats

- Loss of traditional management practises, such as coppicing
- Historic afforestation of native woodland with inappropriate species
- Decline or loss of management of subsidiary habitats, such as rides and open space
- Pests, diseases and climate change
- Alterations in import/export and national timber markets that may increase or reduce the woodland management taking place
- Development schemes threatening loss of woodland cover
- Increased deer numbers leading to negative impacts on woodland structure, vegetation and regeneration

General strategy

- Reinstate sustainable practices in neglected woodlands (to bring more woodlands into management)
- Discourage the planting of inappropriate species and encourage planting with a view to pest and climate change resilience
- Restore PAWS woodlands to native broadleaved woodland wherever possible
- Highlight the importance of subsidiary habitats such as rides, glades and edges, to encourage good forestry management
- Create new native woodland in locations where it will enhance existing native woodland – particularly ancient woods – and other priority targets, through good silvicultural practices being integral to the initial design
- Ensure there is no net loss of woodland cover in the county
- Include resilience in planning any forestry or woodland work to reflect climate change predictions and enhance LBAP species
- Work with The Deer Initiative to increase deer management in key woodland areas like Rockingham Forest

Targets

1. Maintain the current extent of at least LWS-standard ancient semi-natural woodland
2. Maintain the current extent of at least LWS-standard native secondary woodland
3. Bring into positive management 635ha of native broadleaved woodland by 2020 (~1% per year)
4. Restore 100ha of non-native plantations on ancient semi-natural woodland sites to native woodland by 2020
5. Increase the extent of native woodland by 250ha by 2020 through a combination

of converting (restocking) existing plantations and creating native woodland on ex-agricultural land

Actions

A.	Facilitate and initiate active management on woodland nature reserves, country parks, SSSI and LWS including the creation and maintenance of associated features such as glades and rides	Forestry Commission Wildlife Trust NCC Natural England
B.	Prevent the loss or damage of ancient woodland to development or other land uses	Local authorities Woodland Trust Wildlife Trust
C.	Retain existing veteran trees and identify and protect veteran trees of the future	Woodland Trust
D.	Identify and survey woodland identified as Local Wildlife Sites and provide management advice to landowners	Wildlife Trust
E.	Promote the use of woodfuel from native woodland as a sustainable source of heat and power generation and provide advice and support to landowners to establish supply chains that facilitate sustainable woodland management	Forestry Commission Woodland Trust NCC
F.	Identify the location of plantations on privately owned ancient woodland sites and provide support or advice to landowners about grant schemes available for conversion to semi-natural woodland	Forestry Commission Wildlife Trust Woodland Trust
G.	In line with established plans restore appropriate non-native plantations on ancient woodland sites on Forestry Commission owned or managed land. Target areas where there is potential connectivity to ancient and semi-natural woodlands.	Forestry Commission
H.	Identify target areas in the Rockingham Forest and Yardley-Whittlewood Ridge where woodland connectivity can be enhanced and ancient woodlands buffered, and promote the creation of native woodland on these sites through natural regeneration or planting of native species	Forestry Commission Wildlife Trust Woodland Trust RNRP
I.	Encourage all BAP quality woodlands have active UKFS-compliant Woodland Management Plans	Forestry Commission
J.	Work with the Rockingham Forest Deer Initiative project to increase deer management and monitoring	Forestry Commission Natural England Wildlife Trust

Flagship species

- Adder
- Barbastelle bat
- Brown long-eared bat
- Noctule bat
- White admiral
- Willow tit
- Wood white

Further information and management advice

► Further habitat information from the Wildlife Trust

► Further habitat information from the Woodland Trust

► Information on the UK Forestry Standard

► Management advice for invertebrates (from Buglife)

► Woodland management advice (from Forestry Commission)

► Management advice for small woods (from SmallWoods)

► Woodland management toolkit (from Sylva Foundation)

Open mosaic habitats on previously developed land

Current UK status and trends
Unknown current resource. Declining due to development pressure.

Estimated current Northamptonshire resource
Approximately 130ha

Progress towards BAP targets 2008–2015
130ha of priority habitat identified through survey work and a number of LWS designated

Lead partner
Wildlife Trust

Target areas

Habitat description

Previously developed land includes redundant urban land which once served a use such as industry, housing, quarrying, landfill or transportation but has now become derelict, allowing natural processes once again to take place. It is also known as brownfield. Within the county most previously developed habitats occur within the principal urban or quarried areas. These habitats are best defined by structure and growth form, rather than specific vegetation communities. They comprise mosaics of bare ground with, typically, very early pioneer communities, more established open grasslands, scrub and patches of other habitats like heathland, swamp, ephemeral pools and inundation grassland.

The heterogeneity of these habitats means that they hold diverse and sometimes unusual species assemblages, particularly for invertebrates. Pioneer communities are common and the habitat can remain in a state of 'suspended succession' for many years.

These habitat mosaics are essential to the survival of many species, both those specific to this type of habitat and to those moving between patches of other habitat. Brownfield sites also provide a refuge for species that would be associated with other habitats, *e.g.* species rich grasslands, were it not for human influence on the environment.

Habitats of high nature conservation value are generally those which contain:

- Large and/or species-rich mosaics of bare ground, pioneer communities, flower rich grassland and other habitats with associated structural and topographical features
- Bare ground and pioneer communities which have been retained over an extended period, demonstrating arrested succession
- Exceptional assemblages of key species groups.

Main issues and threats

- Development pressure due to historical lack of recognition and the consequently poor history of recording on many urban and post-industrial sites. Built development is concentrated in urban areas in order to protect the countryside and the current national target for housing is that 60% of all new housing should be on previously developed land.
- Mismanagement by 'green washing': topsoil importation, grassland seeding, and tree planting can be devastating to brownfield biodiversity

General strategy

- Protect sites through good use of planning conditions and Section 106 agreements to secure funding for long-term management
- Ensure that green infrastructure is integral in new development schemes
- Identify and survey previously developed sites that may have a high biodiversity value (particularly for invertebrates)
- Educate conservationists, local authorities and local people about the value of naturally recolonised habitats
- Ensure suitable restoration schemes are put in place once industrial use (*e.g.* landfill or quarrying) of a site ceases
- Focus on Northampton, Corby and Kettering, and previously quarried areas

Targets

1. Identify all areas that meet the definition for this habitat through desk study and site visits by 2020
2. Maintain the current known extent of this habitat and ensure no net loss
3. Achieve favourable condition on 30ha of open mosaic habitats by 2020

Actions

A.	By 2020 through desk study and survey work identify all open mosiac habitats that meet Local Wildlife Site criteria and provide advice to landowners	Wildlife Trust
B.	Through advice and projects ensure up to date surveys of open mosaic LWS and work with landowners to bring sites into favourable management	Wildlife Trust
C.	Carry out invertebrate surveys on sites meeting the BAP habitat description	County Recorders NBRC Wildlife Trust
D.	Produce a guidance document for planners and developers regarding the value of open mosaic habitats on previously developed land by 2020	Wildlife Trust Buglife
E.	Ensure that suitable restoration schemes are put in place once industrial use of sites such as landfill sites and quarries ceases	NCC Wildlife Trust

Flagship species

- Common lizard
- Garden tiger moth
- Grass snake
- Slow worm

Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► Buglife's open mosaic habitat inventory
- ► Management advice for invertebrates (from Buglife)
- ► Management advice for bumblebees (from Bumblebee Conservation Trust)

Ponds

Current UK status and trends
Around 500,000 in England and Wales. Historic decline in numbers but on the increase through the Million Ponds Project.

Estimated current Northamptonshire resource
Within Northamptonshire's Local Wildlife Sites 153ha of open water in is classified as pond. There will be many more across the wider countryside, however the number that would qualify as BAP habitat is unknown.

Progress towards BAP targets 2008–2015
Wildlife friendly ponds have been created across the county, including 39 through HLS

Lead partner
Natural England

Target areas

Habitat description

Ponds are defined as small water bodies between 1m^2 and 2ha that hold water for more than four months in a year. Ponds can be formed naturally in depressions created by glacial activity, natural subsidence or river activity. They can also be artificial, in gardens, village greens and rural areas, created by landowners for fishing, shooting, livestock watering, aesthetic or amenity purposes. The pond habitat includes the open water zone, which may contain submerged, free floating or floating-leaved vegetation, and water fringe vegetation. It also includes adjacent wetland habitats with contiguous water levels that are less than 0.25ha.

To be considered BAP habitat a pond must meet the above description and one of the following criteria:

- Habitats of international importance: ponds that meet criteria under Annex I of the Habitats Directive
- Species of high conservation importance: ponds supporting Red Data Book species, UK BAP species, species fully protected under the Wildlife and Countryside Act Schedules 5 and 8, Habitats Directive Annex II species, a Nationally Scarce wetland plant species, or three Nationally Scarce aquatic invertebrate species
- Exceptional assemblages of key biotic groups: ponds supporting exceptional populations or numbers of key species. Based on (i) criteria specified in guidelines for the selection

of biological SSSIs (currently amphibians and dragonflies only), and (ii) exceptionally rich sites for plants or invertebrates (i.e. supporting ≥30 wetland plant species or ≥50 aquatic macroinvertebrate species).

- Ponds of high ecological quality: ponds classified in the top PSYM category ("high") for ecological quality (i.e. having a PSYM score ≥75%).[1]
- Other important ponds: individual ponds or groups of ponds with a limited geographic distribution recognised as important because of their age, rarity of type or landscape context *e.g.* pingos, duneslack ponds, machair ponds.

In 2015, 115 Northamptonshire Local Wildlife Sites included at least one pond. Ponds provide habitat for invertebrates, which in turn attract foraging birds and bats. Managing ponds for biodiversity provides areas for water voles to feed, dragonfly larvae to develop and for newts to breed and lay their eggs.

Main issues and threats

- Lack of management leading to gradual loss of open water through siltation, build up of dead plant material and expansion of marginal vegetation
- Infilling of farm ponds that no longer have a specific function
- Nutrient enrichment (eutrophication) resulting from agricultural runoff and leaching
- Declining water quality and increasing pollution, both point source and diffuse
- Unrestrained livestock grazing can result in the loss of fringe habitats and marginal zones of farm ponds
- Invasive and non-native garden plant and fish species can seriously affect indigenous flora and fauna

General strategy

- Improve the ecological value of ponds by promoting management for nature conservation
- Reintroduce management of existing ponds and create new ponds, funded primarily through the Countryside Stewardship or Million Ponds Project (advice can be provided by The Wildlife Trust or Freshwater Habitats Trust)
- Create a full range of successional stages at every pond, from open water, through marginal zones, to scrub, woodland or grassland
- Maintain water quality by controlling agricultural inputs and point source pollution
- Recognise the value of temporary pools and protect them from infilling or excavation

Targets

1. Maintain the current extent of at least BAP habitat ponds
2. Achieve wildlife-friendly management of 50 ponds

1 PSYM = Predictive System for Multimetrics, a method for assessing the biological quality of still waters in England and Wales. Plant species and/or invertebrate families are surveyed using a standard method. The PSYM model uses environmental data to predict which plants and animals should be present in the waterbody if it were pristine. It then compares the predicted and actual survey data to provide a single value which summarises the waterbody's overall ecological quality.

3. Create 50 wildlife-friendly ponds

Actions

A.	Re-introduce management and restoration of existing ponds through appropriate Countryside Stewardship (CS) prescriptions for target habitats/species	Natural England RNRP Wildlife Trust
B.	Through Section 106 agreements/new developments ensure that ponds of LWS standard are created, restored or enhanced wherever appropriate	Developers Local authorities Wildlife Trust
C.	Encourage the creation of new ponds through the use of CS and other funding streams. A full range of successional stages should be created at every pond, from open water, through marginal zones, to scrub, woodland or grassland.	Natural England Froglife Wildlife Trust

Flagship species

- Common toad
- Grass snake
- Great crested newt
- Water vole

Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► Freshwater Habitat Trust research library
- ► Flora Locale's restoration library
- ► Just Add Water pond creation leaflet (from Froglife)
- ► Pond Creation Toolkit (from Freshwater Habitat Trust)
- ► Managing farmland for invertebrates – ponds and ditches (from Buglife)

Reedbed

Current UK status and trends
There are about 5000ha of reedbeds in the UK, but of the 900 or so sites contributing to this total, only about 50 are greater than 20ha, and these constitute much of the total area. As much as 45% of the reedbed existing in 1945 may have since been lost. Some large new reedbeds are now being created following aggregate quarrying.

Estimated current Northamptonshire resource
33 hectares, with most in small blocks and reed fringes of less than 1ha

Progress towards BAP targets 2008–2015
10ha brought into management and 12ha restored, mainly through HLS. Volunteers have cleared encroaching scrub from a small reedbed at Stanwick. Negotiations are underway to create a large new reedbed in the Earls Barton West area, as part of a wider wetland mosaic, following proposed aggregate extraction.

Lead partner
RSPB

Target areas

Habitat description

Reedbed is wetland habitat dominated by stands of common reed *Phragmites australis*, classified as NVC community S4. It is among the most important bird habitat in the UK. Reedbeds in which the water level remains high (20cm above the surface) in the summer months are referred to as reed swamp; those where the water table is at or below the surface are referred to as reed fen. For the purposes of this action plan it is considered important to distinguish wet reedbed due to its association with bittern *Botaurus stellaris*.

In Northamptonshire reedbeds are very restricted in size and are mainly associated with the margins of open water bodies, particularly flooded gravel pits. Isolated pockets of reedbed exist at Stortons Gravel Pits, Billing Sewage Treatment Works, Higham Ferrers Gravel Pits and Stanwick Lakes. Current reedbed extent and priority areas for creation can be found in the maps below.

Main issues and threats

- Small size and fragmentation

- Neglect or inappropriate management leading to drying out and scrub encroachment
- Decreased water quality and increased pollution, both point source and diffuse
- Challenge of achieving high quality reedbed creation over sufficiently large areas (>20ha) on sand and gravel sites in the Nene Valley

General strategy

- Ensure existing reedbeds are not damaged by inappropriate development, and are brought into favourable management where necessary
- Identify opportunities to create new reedbeds, ideally of a size (>20ha) and quality to attract the full range of specialised species that rely on them
- Focus reedbed creation in the Earls Barton West area. Smaller-scale opportunities to develop fringing reedbeds around existing lakes may occur elsewhere in the county.

Targets

1. Maintain the current extent and quality of wet reedbeds by 2020
2. Achieve favourable condition for all significant stands of reedbed not under current conservation management
3. Establish 50ha of wet reedbed from land of low nature conservation interest by 2020

Actions

A. Identify the current extent of BAP-defined reedbed by 2020	NBRC Wildlife Trust
B. Provide management advice to landowners of current reedbeds to maintain condition by 2020	Wildlife Trust RSPB
C. Respond to all planning applications and other proposals subject to a consenting scheme where these have the potential to damage or destroy the features of interest of a reedbed designated as LWS or SSSI	Wildlife Trust Natural England RSPB
D. By 2020 establish favourable management to ensure good condition for all significant stands of reedbed currently not in conservation management	Wildlife Trust
E. Help mineral companies and landowners establish the right conditions to create wet reedbed suitable for high priority breeding birds, mammals and invertebrates in the Earls Barton area by 2020	RSPB
F. Advise planning authorities, landowners and mineral companies on creating high quality reedbed as part of applications for mineral quarrying in the Earls Barton area, to contribute to an overall long-term target beyond 2020 of 100-130 hectares	RSPB Wildlife Trust Environment Agency

Flagship species

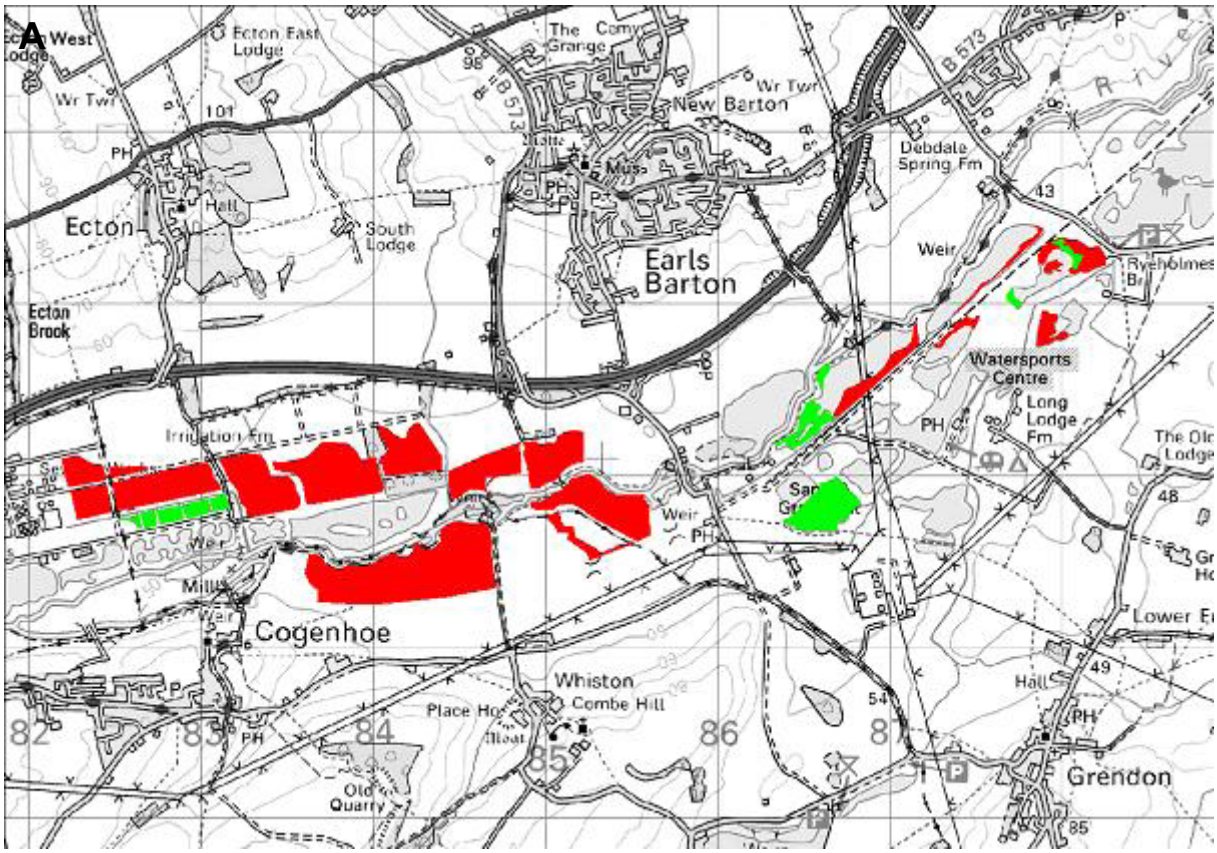
- Bittern
- Common cuckoo
- Common starling
- Harvest mouse
- Reed bunting

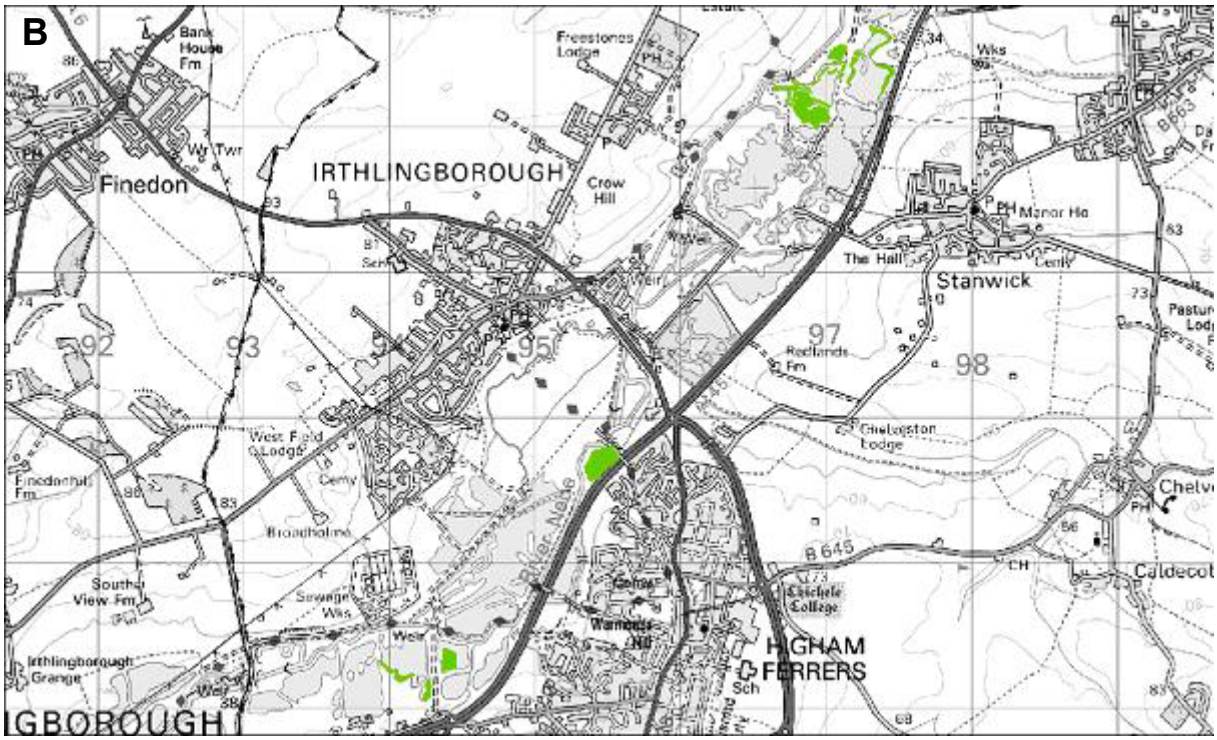
Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► Further habitat and management information from the RSPB
- ► Management information from the RSPB
- ► Further habitat information from Natural England
- ► Flora Locale's restoration library
- ► How to create and manage reedbeds (from Sussex Wildlife Trust)
- ► Management advice for invertebrates (from Buglife)

Reedbed creation maps

Figure 1 Map A below shows the extent of the current reedbed resource (green) and areas identified with potential for reedbed creation (red), mainly following gravel extraction in the Earls Barton West area. Map B shows the existing reedbed resource in the Higham Ferrers and Stanwick areas.





Rivers

Current UK status and trends
Water quality improving but problems caused by high levels of abstraction are increasing

Estimated current Northamptonshire resource

Progress towards BAP targets 2008–2015
Unknown

Lead partner
Environment Agency

Target areas

Habitat description

Rivers are exceptionally varied and dynamic habitats forming invaluable wildlife habitat. In Northamptonshire they vary from the fast-flowing streams rising in the southern and western uplands of the county, to the wide, slow-moving lowland River Nene. These watercourses form, either in their own right or in association with other habitats, a vital nature conservation and wildlife resource for the county. Marginal and bankside vegetation is an integral part of the river habitat and acts as an important migration corridor.

The Rivers Tove, Great Ouse, Avon and Nene all have their sources in the southern and western upland areas of the county. The River Welland forms part of Northamptonshire's northern boundary and flows north-west to the Wash. The Tove and Great Ouse flow east towards Bedfordshire, the Avon flows west into Warwickshire, and the Nene flows north-east from its source near Daventry across Northamptonshire and into Peterborough. Major tributaries that drain into the Nene are the Brampton Nene, River Ise, Harper's Brook and Willow Brook.

The River Nene is eutrophic, receiving treated sewage effluent from the Whilton, Billing, Broadholme and Corby sewage treatment works. Most of the rivers and streams in Northamptonshire have been engineered or managed to some extent, either for modern flood defences, or historically for milling, navigation and during railway construction.

Main issues and threats

- Abstraction for public water supply, industry and irrigation adversely affects flows in the county's major rivers
- Barriers in the form of weirs, locks and flood defence structures alter the natural flow and sediment regime of the river and prevent fish migration

- Land drainage and management practices have adversely affected water quality and river flows
- Arable cultivation and livestock grazing on the riverbank result in marginal, bankside and in-stream habitat loss, increased siltation of gravel beds, and increased herbicide, pesticide and ammonia seepage into the watercourse
- Invasive non-native plant and animal species like American signal crayfish (*Pacifastacus leniusculus*), Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*), and floating pennywort (*Hydrocotyle ranunculoides*) outcompete native species

General strategy

- Reduce the current level of abstraction and restrict future abstraction by the use of Catchment Abstraction Management Strategies and abstraction licensing
- Use agri-environment schemes to promote good practice like establishing buffer strips along riverbanks
- Implement catchment scale habitat improvement schemes
- Promote river improvements alongside planned urban developments
- Control the spread of invasive non-native species
- Identify and develop action plans to remove or modify priority barriers to fish and eel passage
- Produce catchment- and reach-scale plans for major river fisheries in Northamptonshire

Targets

1. Ensure no deterioration of river habitat quality (National River Habitat Survey Programme)
2. Ensure all rivers in Northamptonshire meet Good Ecological status or Good Ecological Potential by 2020

Actions

A.	Monitor and manage the spread of invasive non-native species on watercourses	Environment Agency NBRC
B.	Ensure biodiversity gains are made through flood defence work	Environment Agency Wildlife Trust
C.	Encourage better management of agricultural land to eliminate point source pollution	Environment Agency RNRP Anglian Water
D.	Encourage a catchment-wide approach to identifying sites suitable for conservation initiatives and for the targeting of improved management regimes	RNRP Environment Agency Wildlife Trust

E.	Ensure fish passes are created or barriers to fish movement removed at identified locations	Environment Agency RNRP
F.	Enhance for biodiversity 2km of river	Environment Agency RNRP

Flagship species

- European eel
- White-clawed freshwater crayfish
- Water vole
- Otter

Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► River restoration case studies from the Wildlife Trust
- ► Wildlife Trust's management advice
- ► River Restoration Centre online library
- ► Environment Agency website
- ► Guide to Catchment Sensitive Farming (from Natural England)
- ► Nene Catchment Partnership

Traditional orchards

Current UK status and trends
England resource is approximately 15,601ha but declining

Estimated current Northamptonshire resource
Between 15 and 90 hectares

Progress towards BAP targets 2008–2015
5ha of traditional orchard restored and 2 LWS designated for their traditional orchard habitat

Lead partner
Wildlife Trust

Target areas

Habitat description

Orchards are collections of cultivated 'top-fruit' and/or edible nut bearing trees. **Traditional orchards** are a subset of such orchards and may be described as those dominated by older, less intensively managed 'standard' trees, planted at relatively low densities and with main branches above the reach of grazing animals. Associated hedgerow habitat and ground flora may be diverse depending on their historical and present management. Under-storey grazing in such orchards was not uncommon and is now sometimes mimicked by appropriate mowing regimes. The minimum size of a traditional orchard is defined as five trees with crown edges less than 20m apart.

Traditional orchards can have significant ecological value and diversity. Ongoing research has identified their importance for birds (including woodpeckers, bullfinch, fieldfare and redwing) and many other species groups. In particular, much of the diversity has been found to depend on the microhabitats in dead or decaying wood – and mediated by rich assemblages of fungi and saproxylic invertebrates.

Main issues and threats

- Insensitive management *e.g.* intensive horse grazing or overwintering livestock, removal of dying trees, lack of re-planting regime
- Deliberate removal, partial removal or fragmentation for agriculture or development Particular issues include removal for "site improvement" and speculative removal to facilitate planning permission.
- Lack of traditional management: as orchards have in general been planted all at once, they are typically in danger of failing all at once if not appropriately managed
- Isolation: like many other counties Northamptonshire has experienced an ongoing

decline in the number of surviving orchards. This tends to isolate remaining orchards from one another, increasing local extinction rates among less mobile species.

General strategy

- Identify and maintain the current resource
- Enhance the current resource: reintroduce traditional management or restore degraded orchards through infill planting
- Enhance the perceived or actual economic and cultural, health and wellbeing values to be derived from traditionally managed orchards

Targets

1. Identify through desk study and site visits all areas that meet the definition for this habitat by 2020
2. Maintain the current extent of traditional orchards
3. Achieve favourable condition on 20ha of traditional orchard habitats by 2020
4. Restore 10ha of heavily degraded and historical orchard to LWS standard by 2020

Actions

A.	Through desk study and survey work identify and maintain the existing extent of traditional orchards	South Court Environmental Wildlife Trust
B.	Provide information on appropriate management for orchards to their owners and to those wishing to plant orchards in order to attain, maintain and enhance the biodiversity of their habitats	South Court Environmental Wildlife Trust
C.	Reinstate traditional management to orchards through Countryside Stewardship or other funded projects	Local authorities Natural England
D.	Restore degraded orchards through Section 106 agreements/ new developments	Local authorities Developers
E.	Where appropriate apply Tree Preservation Orders to safeguard orchard trees	Local authorities

Flagship species

- Common bullfinch
- Lesser-spotted woodpecker

Further information and management advice

- Further habitat information from the Wildlife Trust
- Further habitat information from Natural England
- Management and restoration information from Natural England
- Habitat and management information from the People's Trust for Endangered Species
- Habitat and management information from the Mid-Shires Orchard Group
- Management advice for bumblebees (from Bumblebee Conservation Trust)

Wet woodland

Current UK status and trends
A rough estimate of UK wet woodland habitat is between 50,000 and 70,000ha

Estimated current Northamptonshire resource
Approximately 170ha

Progress towards BAP targets 2008–2015
16ha of wet woodland brought into management under environmental stewardship

Lead partner
Wildlife Trust

Target areas

Habitat description

Wet woodlands occur on poorly drained or seasonally wet soils, usually with alder, birch and willows as the predominant tree species. It is found on floodplains, as successional habitat on fens and bogs, around water bodies and along stream and hillside flushes. Boundaries with dry woodland may be sharp or gradual and can change over time though natural processes or as a result of human influence. Wet woodlands are often found in mosaic with other key woodland habitats. There are 7 NVC wet woodland communities: W1 – 7.

Wet woodland has a canopy usually dominated by willow (*Salix* sp.), alder (*Alnus glutinosa*) or birch (*Betula* sp.) but stands vary considerably in their overall appearance. Riverside trees are also included, and are individuals that line the riverbanks throughout the county. These are important landscape features and support a wide range of invertebrates and other species.

Main issues and threats

- Very little remaining in Northamptonshire. Much is isolated in small fragments, dangerously reducing species' population sizes and making it impossible for individuals to move between them.
- Alteration of hydrology: flood prevention measures and water table lowering through drainage or abstraction lead to succession away from wet woodland
- Damage from mechanical operations, which have a detrimental effect on ground flora
- Over-tidiness resulting in the removal of dead trees and fallen dead wood
- Diseases such as Phytophthora, a root disease of alder

General strategy

- Detailed survey to identify wet woodland sites and those that could support wet woodland
- Sympathetic management and restoration of existing sites, funded primarily through Countryside Stewardship (advice can be provided by The Wildlife Trust)
- Maintain as a successional stage between open wetland areas and drier woodland. Particularly important within wet woodlands is a mosaic of habitats including lichen and moss covered trees, areas of higher ground, bare mud, stands of mature trees, clearings and rides, transitional edge habitat, fallen, submerged and standing dead wood and water bodies

Targets

1. Maintain the current extent of wet woodland priority habitat
2. Achieve favourable condition on 20ha of wet woodland habitat by 2020
3. Restore 10ha of degraded (i.e. dried out) wet woodland habitat to LWS standard by 2020
4. Create 10ha of LWS-standard wet woodland on non-wooded or plantation sites by 2020

Actions

A.	Ensure that existing wet woodland within designated sites is maintained in good condition through the control of water levels	Wildlife Trust Natural England Environment Agency
B.	Identify the location of all wet woodland outside of designated sites, identify new Local Wildlife Sites and provide advice to landowners	Wildlife Trust NBRC
C.	Provide management advice and incentives (through Countryside Stewardship) to owners of wet woodland outside of designated sites in order to achieve LWS condition	Natural England
D.	Create and restore areas of wet woodland through succession from open water bodies in the Nene Valley by 2020	Wildlife Trust
E.	Create and restore wet woodland through conditions on planning applications by 2020	Developers Local authorities Wildlife Trust

Flagship species


Stefan Bengdtsson


FC Franklin


Graham Canny

- Lesser spotted woodpecker
- Marsh tit
- Willow tit

Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► Further habitat information from Natural England
- ► Management advice from Forestry Commission
- ► Management advice from Devon Biodiversity Records Centre
- ► Management advice for invertebrates (from Buglife)

Wood-pasture and parkland

Current UK status and trends
It is estimated that less than 10,000 to 20,000ha of working wood-pasture and parkland remain nationally

Estimated current Northamptonshire resource
Approximately 202ha within Local Wildlife Sites, elsewhere up to 1000ha on over 30 sites in various states of dereliction

Progress towards BAP targets 2008–2015
114ha were brought into management, 362ha restored and 29ha created through environmental stewardship

Lead partner
Natural England

Target areas

Habitat description

Wood-pasture and parkland are areas of wooded land that have been historically used for the dual purpose of growing trees and grazing animals, particularly deer and livestock. They typically represent a vegetation structure rather than a particular plant community. These habitats usually consist of large spreading trees (native or non-native), often managed as pollards, set within a matrix of grassland or heathland. Many examples have been incorporated into other woodland, transformed into landscaped parks, or converted to arable farming. Parkland differs from wood-pasture in that deliberate planting, often with non-native species into a designed landscape, represents a significant component. Parklands are frequently designated for their historic and landscape value.

The intrinsic value of wood-pasture and parkland is primarily associated with the trees, which are often ancient, and in some cases may represent survivals of the genetic stock from the primeval forest, or wild wood. These trees are also habitat for a range of epiphyte flora and fungi, and for invertebrates of dead wood, which depend for some part of their life cycle on living, dying or dead wood.

Large areas of working wood-pasture and parkland may once have existed in the grounds of large estates and historic houses like Althorp, Fawsley and Castle Ashby. These have gradually been lost to other land uses or have lost their traditional features through neglect. However much survives in smaller patches across various estates.

Main issues and threats

- Lack of young trees to replace existing ancient examples is producing a skewed age structure and will lead to a break in continuity of suitable dead wood habitat
- Damage to tree roots from soil compaction and erosion caused by trampling by livestock

and people, car parking and close ploughing to former parkland trees when parkland is converted to other land uses

- Isolation and fragmentation of remaining wood-pasture and parkland sites; many of the species dependent on old trees are unable to move between sites due to their poor dispersal abilities and the increasing distances they need to travel
- Pasture improvement through reseeding, deep ploughing, fertiliser and other chemical treatments
- Over-grazing leading to bark browsing, soil compaction and loss of nectar plants
- Felling of old or dead trees for safety reasons (which are exempt from needing a felling licence)
- Loss of habitat through conversion to arable or other land uses

General strategy

- Plant young trees and ensure the survival of semi-mature trees to ensure a wide age range and continuous availability of dead wood
- Protect the area under tree canopies from compaction and erosion (*e.g.* by fencing)
- Encourage lower intensity farming of the grassland below the tree canopy (reduced grazing levels and lower fertiliser input)
- Discourage the felling of trees for safety reasons
- Restore areas of wood-pasture and parkland that have become partially converted to other land uses

Targets

1. Maintain the current extent and standard of wood-pasture and parkland and their associated trees by 2020
2. Achieve favourable condition on 150ha of wood-pasture and parkland habitat by 2020
3. Restore 200ha of degraded or remnant wood-pasture or parkland sites to help reverse fragmentation and reduce the generation gap between veteran trees by 2020
4. Establish 30ha of new wood-pasture or parkland on arable land or improved grassland

Actions

A.	Identify the extent and current condition of wood pasture and parkland in the county	Wildlife Trust Forestry Commission Natural England
B.	Manage wood-pasture and parkland through appropriate Countryside Stewardship (CS) prescriptions	Natural England
C.	Plant young trees and ensure the survival of semi-mature trees to veteran status to ensure a wide age range and constant availability of dead wood	Forestry Commission Woodland Trust

D.	Promote a balanced, risk-based approach to tree safety works, considering the biodiversity value of standing dead wood and advocating crown reduction as opposed to whole tree removal where this can reduce the public risk to a suitable level	Forestry Commission Woodland Trust
E.	Identify sites that are suitable for restoration which still support a number of ancient trees and/or parkland features. Restoration to be achieved through CS.	Forestry Commission Woodland Trust Natural England
F.	Identify suitable arable land or improved grassland for the establishment of a new wood-pasture or parkland site. To be achieved through CS.	Forestry Commission Wildlife Trust Natural England
G.	Identify potential areas for the expansion and buffering of wood pasture and parkland sites and provide advice to owners of this land	Wildlife Trust

Flagship species

- Brown long-eared bat
- Noctule
- Small heath
- Spotted flycatcher
- Stag beetle

Further information and management advice

- ► Further habitat information from the Wildlife Trust
- ► Further habitat information from Natural England
- ► Further habitat information from the Woodland Trust
- ► Management advice from the Forestry Commission
- ► Flora Locale's restoration library
- ► Management advice for invertebrates (from Buglife)

General targets

Advisory and advocacy

<<Description >>Actions

	Target description	Target	By
1	Establish another landscape conservation initiative across the county in addition to the Nene Valley	1	2020
2	Increase extent of priority habitat across the county by 1770ha through creation and restoration work	170ha	2020
3	Ensure that 95% of county's SSSI are in favourable-recovering condition and that 50% are in a favourable condition	95%	2020
4	Ensure that 50% of Local Wildlife Sites are under positive management across the county by 2020	50%	2020
5	Maintain all Protected Wildflower Verges (PWV) to ensure they meet the designation criteria or improve in species diversity by 2020 and identify 5 new PWV by 2020	32 (+5)	2020

Urban & artificial habitats

<<Description >>Actions

	Target description	Target	By
1	To have an effective evidence base to inform and influence future plans and actions	complete	2020
2	To ensure that different user groups are aware of relevant advice	complete	2020
3	5–10 urban enhancement projects within the county showcase best practice	5–10	2020
4	Different user groups are able to publicise plans and projects that have beneficial impact in urban areas	complete	2020

Ecosystem services

<<Description >>Actions

	Target description	Target	By
1	Successful study of ecosystem services provided across a target area such as the Nene Valley	1	2020
2	Increase in ecosystem services integrated into planning policy and new development	increase	2020
3	Increase in investment in ecosystem services	increase	2020

Community awareness and involvement

<<Description >>Actions

	Target description	Target	By
1	Ensure an active Local Nature Partnership and annual LNP conference	1 conference	2020
2	Improved ANGSt across the county	increase	2020
3	Increase in local community environmental events/walks delivered	increase	2020
4	Increase in volunteer hours delivering conservation action	increase	2020
5	Ensure that all Local Nature Reserves have management plans for improving biodiversity and that they are implemented	20	2020

Policy and planning

<<Description >>Actions

	Target description	Target	By
1	Ensure no net loss of Local Wildlife Sites, nature reserves, pocket parks or Protected Wildflower Verges to development	no loss	2020
2	Ensure that all relevant new developments lead to a net gain in biodiversity through on or off site mitigation with consideration of BAP targets	100%	2020

	Target description	Target	By
3	Ensure all new developments are accompanied by a suitable ecological survey that references loss and creation of priority habitat	100%	2020

Invasive species

<<Description >>Actions

	Target description	Target	By
1	Functioning database of the distribution of invasive species in the county	1	2020
2	No designated sites lost or declining due to the presence of invasive species	0	2020

Data, monitoring and evidence

<<Description >>Actions

	Target description	Target	By
1	Re-survey 200 LWS by 2020, write site reports and provide management advice	200 sites	2020
2	Produce an updated strategic ecological network map of the county by 2020	1	2020

Habitat targets

Arable field margins

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of arable field margins	No net loss	2020
2	Creation	Create 400ha of arable field margins by 2020	400ha	2020

Eutrophic standing waters

<<Description >>Actions

	Target type	Target description	Target	By
1	Achieving condition	Maintain the condition of all eutrophic standing waters of known conservation importance currently judged in good condition and bring into good condition all LWS and SSSI eutrophic standing waters not currently so	100%	2020
2				

Floodplain grazing marsh

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of BAP-defined floodplain grazing marsh (no loss of BAP habitat)	No loss	2020
2	Achieving condition	Bring into positive management 300ha of BAP standard floodplain grazing marsh	300ha	2020

	Target type	Target description	Target	By
3	Restoration	Restore 200ha of relict floodplain grazing marsh from degraded sites no longer meeting BAP definition (e.g. agriculturally improved or with poor hydrological regime) by 2020	200ha	2020
4	Creation	Establish 50ha of BAP-defined floodplain grazing marsh (which is capable of supporting a diverse range of invertebrates, mammals and breeding waders) from arable land/quarries by 2020	50ha	2020

Hedgerows

<<Description **>>Actions**

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of hedgerows (no net loss)	No net loss	2020
2	Restoration	Restore appropriate management to 50% of hedgerows not currently under agri-environment schemes by 2020	50%	2020
3	Achieving condition	Increase the number of new young hedgerow trees by 800 by 2025 (equal to rejuvenating or planting 40km of hedgerow)	800 trees	2020
4	Creation	Increase the extent of species-rich hedgerows by 40km by 2025. New hedgerows to include hedgerow trees	40km	2020

Lowland calcareous grassland

<<Description **>>Actions**

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of lowland calcareous grassland priority habitat	No loss	2020
2	Achieving condition	Achieve favourable condition on 60ha of calcareous grassland by 2020	60ha	2020
3	Restoration	Restore 50ha of lowland calcareous grassland from semi-improved or neglected grassland to LWS-standard by 2020	50ha	2020

	Target type	Target description	Target	By
4	Creation	Create 30ha of LWS-standard lowland calcareous grassland from arable, improved grassland and mineral extraction and landfill sites by 2020	30ha	2020

Lowland dry acid grassland

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent lowland dry acid grassland priority habitat	No loss	2020
2	Achieving condition	Achieve favourable condition on 30ha of lowland dry acid grassland by 2020	30ha	2020
3	Restoration	Restore 20ha of lowland dry acid grassland from semi-improved or neglected grassland to LWS-standard by 2020	20ha	2020
4	Creation	Create 10ha of LWS standard lowland dry acid grassland from arable, improved grassland and coniferous plantation by 2020	10ha	2020

Lowland fen

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of fen-type habitat	No loss	2020
2	Achieving condition	Achieve favourable condition on 20ha of fen-type habitat by 2020	20ha	2020
3	Restoration	Restore 40ha of floodplain to LWS standard fen-type habitats by 2020	40ha	2020
4	Creation	Create 20ha of fen-type habitats from arable, improved grassland or mineral extraction sites by 2020	20ha	2020

Lowland heathland

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of at least LWS-standard lowland heathland	No loss	2020
2	Creation	Increase the extent of lowland heathland by creating 10ha of LWS-standard habitat adjacent to existing heathland by 2020	10ha	2020

Lowland meadow

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of at least LWS-standard lowland meadow	No loss	2020
2	Achieving condition	Achieve favourable condition on 100ha of lowland meadow by 2020	100ha	2020
3	Restoration	Restore 100ha of lowland meadow from semi-improved or neglected grassland to LWS standard by 2020	100ha	2020
4	Creation	Create 80ha of LWS-standard lowland meadow from arable or improved grassland by 2020	80ha	2020

Lowland mixed deciduous woodland

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of at least LWS-standard ancient semi-natural woodland	No loss	2020
2	Maintaining extent	Maintain the current extent of at least LWS-standard native secondary woodland	No loss	2020
3	Achieving condition	Bring into positive management 635ha of native broadleaved woodland by 2020 (~1% per year)	635ha	2020

	Target type	Target description	Target	By
4	Restoration	Restore 100ha of non-native plantations on ancient semi-natural woodland sites to native woodland by 2020	100ha	2020
5	Creation	Increase the extent of Native Woodland by 250ha by 2020 through a combination of converting (restocking) existing plantations and creating native woodland on ex-agricultural land	250ha	2020

Open mosaic habitats on previously developed land

<<Description >>Actions

	Target type	Target description	Target	By
1	Identifying extent	Identify all areas that meet the definition for this habitat through desk study and site visits by 2020	100%	2020
2	Maintaining extent	Maintain the current known extent of this habitat and ensure no net loss	No net loss	2020
3	Achieving condition	Achieve favourable condition on 30ha of open mosaic habitats by 2020	30ha	2020

Ponds

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of at least BAP habitat ponds	No net loss	2020
2	Achieving condition	Achieve wildlife-friendly management of 50 ponds by 2020	50	2020
3	Creation	Create 50 wildlife-friendly ponds by 2020	50	2020

Reedbed

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent and quality of wet reedbeds by 2020	No loss	2020
2	Achieving condition	Achieve favourable condition for all significant stands of reedbed not under current conservation management	100%	2020
3	Creation	Establish 50ha of wet reedbed from land of low nature conservation interest by 2020	50ha	2020

Rivers

<<Description >>Actions

	Target type	Target description	Target	By
1	Maintaining extent	Ensure no deterioration of river habitat quality (National River Habitat Survey Programme)	No reduction in quality	2020
2	Achieving condition	Ensure all rivers in Northamptonshire meet Good Ecological status or Good Ecological Potential by 2020	100%	2020

Traditional orchards

<<Description >>Actions

	Target type	Target description	Target	By
1	Identifying extent	Identify through desk study and site visits all areas that meet the definition for this habitat by 2020	100%	2020
2	Maintaining extent	Maintain the current extent of traditional orchards	No loss	2020
3	Achieving condition	Achieve favourable condition on 20ha of traditional orchard habitats by 2020	20ha	2020
4	Restoration	Restore 10ha of heavily degraded and historical orchard to LWS standard by 2020	10ha	2020

Wet woodland

<<Description **>>Actions**

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent of wet woodland priority habitat	No loss	2020
2	Achieving condition	Achieve favourable condition on 20ha of wet woodland habitat by 2020	20ha	2020
3	Restoration	Restore 10ha of degraded (i.e. dried out) wet woodland habitat to LWS standard by 2020	10ha	2020
4	Creation	Creation of 10ha of LWS-standard wet woodland on non-wooded or plantation sites by 2020	10ha	2020

Wood-pasture and parkland

<<Description **>>Actions**

	Target type	Target description	Target	By
1	Maintaining extent	Maintain the current extent and standard of wood-pasture and parkland and their associated trees by 2020	No loss	2020
2	Achieving condition	Achieve favourable condition on 150ha of wood-pasture and parkland habitat by 2020	150ha	2020
3	Restoration	Restore 200ha of degraded or remnant wood-pasture or parkland sites to help reverse fragmentation and reduce the generation gap between veteran trees by 2020	200ha	2020
4	Creation	Establish 30ha of new wood-pasture or parkland on arable land or improved grassland	30ha	2020

General actions

Advisory and advocacy

<<Description **<<Targets**

	Action description	Lead partners
A	Continuation of Nene Valley NIA partnership and catchment partnership promoting and providing expert advice across all elements of conservation in the Nene Valley	All
B	Ensure that landowners of 35 Local Wildlife Sites receive survey and management advice each year	Wildlife Trust
C	Provide advice to landowners through Campaign for Farmed Environment (CFE) and Catchment Sensitive Farming (CSF) to manage, buffer and connect priority habitats	RNRP Wildlife Trust CFE Environment Agency
D	Provide advice to SSSI owners and other landowners to manage, buffer and connect priority habitats through Countryside Stewardship	Natural England Forestry Commission
E	Ensure all Protected Wildflower Verges are managed annually to maintain their interest and surveyed on a 5 year rotation	NCC Wildlife Trust
F	Follow up on reports of suitable new PWVs made by partners or the public by surveying and assessing during the current/next suitable surveying period	NCC Wildlife Trust

Urban & artificial habitats

<<Descripton **<<Targets**

	Action description	Lead partners
A	Map urban areas of existing and potential value to biodiversity as part of local ecological network mapping	Local authorities NBRC

	Action description	Lead partners
B	Identify and prioritise practicable projects within urban areas, and promote fully costed projects on relevant platforms	Local authorities Environment Agency
C	Highlight best practice examples of biodiversity enhancement/offsetting in connection	Local authorities Wildlife Trust RSPB
D	Ensure contributions towards biodiversity though planning obligations	NBP Local authorities
E	Provide guidance to local communities on enhancing biodiversity through CIL contributions	NBP Local authorities
F	Review and enhance management of public open spaces	Local authorities
G	Work with park rangers and community groups to develop management strategies for parks and open spaces	Local authorities Wildlife Trust
H	Publicise information about enhancing gardens	Wildlife Trust RSPB
I	Encourage greater participation in the planning process to benefit biodiversity	Local authorities Wildlife Trust
J	Promote wildlife recording within urban areas	NBRC
K	Signpost local, regional and national information/advice sources	All
L	Develop funding proposals around most suitable (B) projects	All

Ecosystem services

<<Description **<<Targets**

	Action description	Lead partners
A	Collate data on key ecosystem services	University of Northampton NBRC
B	Map or quantify key ecosystem services	University of Northampton NBRC

	Action description	Lead partners
C	Integrate ecosystem services into key local authority policies such core strategies, development plans and local plans	University of Northampton JPUs Local authorities Wildlife Trust
D	Research and trial a working model of an ecosystem services payment scheme	University of Northampton RNRP

Community awareness and involvement

<<Description **<<Targets**

	Action description	Lead partners
A	Support all pocket park and other community groups in managing, enjoying and utilising green space of conservation value	Local authorities Wildlife Trust NCC
B	Support or manage existing Local Nature Reserves (and review management plans every 5 years or write plans for those that currently do not have them	Local authorities Wildlife Trust NCC
C	Set up ‘Friends of’ groups, a ‘Green Gym’ or similar initiatives at suitable sites	Groundwork
D	Improve ANGSt standards across Northamptonshire	JPUs NCC
E	Embed wildlife conservation in health and wellbeing strategies	LNP
F	Work with local communities across the NIA to raise awareness of wildlife and conservation	Wildlife Trust RNRP Natural England
G	Identify visitor access and issues in the Nene Valley and work with local communities to address issues	Wildlife Trust RNRP RSPB Natural England
H	Engage with health and welleing agenda to promote benefits of biodiversity	LNP

	Action description	Lead partners
I	Maintain an active Local Nature Partnership and run an annual LNP conference	LNP

Policy and planning

<<Description **<<Targets**

	Action description	Lead partners
A	Refuse planning applications that show potential to damage or destroy a Local Wildlife Site, unless net biodiversity gain can be ensured	Local authorities Wildlife Trust
B	Work with ecologists to ensure planning applications are accompanied by appropriate ecological surveys and data searches including loss and creation of priority habitat	Local authorities Wildlife Trust NBRC
C	Monitor the change in number and area of sites of nature conservation value on an annual basis	Local authorities Wildlife Trust
D	Engage environmental consultees in the production of conditions/Section 106 agreements that aim to deliver appropriate biodiversity gains	Local authorities Wildlife Trust
E	Continue the work achieved through the growth and development NIA objective across the Nene Valley	JPUs Wildlife Trust NCC
F	Ensure that the aims of the BAP are supported and referenced by local policy documents such as Local Plans and Supplementary Planning Documents	Local authorities
G	Ensure that Northamptonshire's ecological networks have been identified and embedded into local plans	Local authorities Wildlife Trust

Invasive species

<<Description **<<Targets**

	Action description	Lead partners
A	Create and maintain an up-to-date database of invasive species in the county	NBRC Environment Agency
B	Ensure biosecurity information is available to prevent the spread of key invasive species	NBRC Environment Agency

Data, monitoring and evidence

<<Description **<<Targets**

	Action description	Lead partners
A	Ensure that 35 Local Wildlife Sites are surveyed each year across the county and management advice is provided to landowners	Wildlife Trust NCC
B	Identify for survey PWS that have no supporting survey data and that are in a strategic location either in terms of development pressure or habitat connectivity	Wildlife Trust
C	Report annually on Indicator 160 Wildlife Sites in Positive Conservation Management and work to increase the percentage	Wildlife Trust NCC
D	Ensure there is a priority habitat map for the county that is updated on an annual basis	Wildlife Trust NBRC
E	Ensure that priority species are the focus of survey efforts (for example through County Recorders) and that all results are reported to NBRC	Wildlife Trust NBRC
F	Undertake Phase I, ecological network and/or green infrastructure mapping across the county to ensure that any planning decisions are underpinned by sound ecological evidence	Wildlife Trust JPUs NCC NBRC RNRP

	Action description	Lead partners
G	Ensure a fully funded and functioning records centre exists to collate and provide species and habitat data across the county	Wildlife Trust JPUs NCC Local authorities

Habitat actions

Arable field margins

<<Description **<<Targets**

	Action description	Lead partners
A	Maintain current extent of arable field margins by encouraging farmers to maintain existing habitat	CFE
B	Create arable field margins through Countryside Stewardship and CFE	Natural England CFE
C	Target buffer strip creation along where they buffer water courses and prevent erosion and runoff	Environment Agency RNRP
D	Through Countryside Stewardship create margins in areas known to hold rare arable plants	Natural England
E	Encourage enhance enhancement of existing margins by providing pollinator habitat or overwinter bird seed	CFE Natural England

Eutrophic standing water

<<Description **<<Targets**

	Action description	Lead partners
A	Provide conservation and enhancement advice to landowners though LWS and SSSI work	Wildlife Trust Natural England
B	Produce SPA Supplementary Planning Document	Natural England RSPB
C	Respond to all planning applications and other proposals subject to a consenting scheme where these have the potential to damage or destroy the features of interest of a eutrophic lake designated as LWS, SSSI or SPA	Natural England Wildlife Trust Local Authorities RSPB

	Action description	Lead partners
D	Monitor the occurrence and impacts of invasive non-native species (*e.g.* mink, signal crayfish, Crassula) in eutrophic habitats and where necessary, identify control measures in management plans and implement accordingly	Natural England Wildlife Trust Environment Agency NBRC
E	Maintain a register of occurrence of invasive non-native species	NBRC County Recorders
F	Research the effects of diffuse pollution on designated eutrophic standing waters in Northamptonshire and produce recommendations with an action plan as necessary	Environment Agency Natural England
G	Help landowners to extend and create semi-natural habitats around the margins of eutrophic standing waters to help buffer the effects of diffuse pollution and silt, particularly through effective use of agri-environment schemes	Wildlife Trust RSPB Natural England
H	Provide advice and help landowners implement measures to address diffuse water pollution through Catchment Sensitive Farming and other schemes	RNRP Anglian Water Environment Agency

Floodplain grazing marsh

<<Description **<<Targets**

	Action description	Lead partners
A	Identify the current extent of BAP-defined floodplain grazing marsh (FPGM) by 2020	Wildlife Trust NBRC
B	Provide management advice to landowners of current FPGM LWS to maintain condition	Wildlife Trust
C	Respond to all planning applications and other proposals subject to a consenting scheme where these have the potential to damage or destroy the features of interest of FPGM designated as LWS or SSSI	Wildlife Trust Natural England RSPB Local authorities
D	Work with landowners to restore degraded FPGM habitat in the Nene Valley currently not classed as LWS	Wildlife Trust
E	Help landowners and mineral companies establish the right conditions to create BAP quality FPGM from arable land in the Earls Barton West area by 2020, following restoration of sand and gravel quarries	Wildlife Trust RSPB

	Action description	Lead partners
F	Advise planning authorities, landowners and mineral companies on creating FPGM as part of applications for mineral quarrying in the Earls Barton area, to contribute to an overall long-term target beyond 2020 of 100–200 hectares	RSPB Wildlife Trust Local authorities Environment Agency

Hedgerows

<<Description **<<Targets**

	Action description	Lead partners
A	Through Section 106 agreements/new developments ensure that all species-rich hedgerows are maintained and new ones created	Developers Local authorities Wildlife Trust
B	Provide maintenance and enhancement advice to landowners of hedgerows which are currently over-managed or in poor condition in the target areas of the Nene Valley, Rockingham Forest and Yardley-Whittlewood Ridge	Natural England Woodland Trust Wildlife Trust
C	Restore hedgerows through the inclusion of appropriate prescriptions in Countryside Stewardship agreements	Natural England
D	Plant new hedgerows and hedgerow tree species, appropriate to the locality. The priority should be for reinstating landscape boundary features.	Woodland Trust NCC

Lowland calcareous grassland

<<Description **<<Targets**

	Action description	Lead partners
A	Maintain existing calcareous grassland resource in nature reserves, country parks & SSSI	Wildlife Trust NCC Natural England
B	Ensure all calcareous grassland road verges are in a favourable or recovering condition	Wildlife Trust NCC

	Action description	Lead partners
C	Through advice and projects ensure up to date surveys of calcareous grassland LWS and bring sites into favourable management	Wildlife Trust
D	Prioritise areas for calcareous grassland creation and restoration, to maximise buffering and linkage of existing sites as well as overall patch size	Wildlife Trust
E	Through Section 106 agreements/new developments ensure semi-improved or neglected grassland is restored or created to BAP quality calcareous grassland	Developers Local authorities Wildlife Trust
F	Restore and achieve condition on neglected grassland to LWS standard calcareous grassland through Countryside Stewardship	Natural England
G	Identify mineral extraction or landfill sites on which calcareous grassland could be created and initiate the creation process by 2020	NCC Wildlife Trust

Lowland dry acid grassland

<<Description **<<Targets**

	Action description	Lead partners
A	Maintain existing acid grassland resource in nature reserves and SSSI	Wildlife Trust Natural England
B	Identify new Local Wildlife Sites that contain acid grassland within the South Daventry target areas and provide advice to landowners	Wildlife Trust
C	Through advice and projects ensure up to date surveys of acid grassland LWS and bring sites into favourable management	Wildlife Trust
D	Through Section 106 agreements/new developments ensure that semi-improved or neglected grassland within an acid grassland target area is restored or created to BAP quality acid grassland	Developers Local authorities Wildlife Trust
E	Bring sites into favourable condition and restore semi-improved or neglected grassland to LWS standard acid grassland through Countryside Stewardship	Natural England

Lowland fen

<<Description **<<Targets**

	Action description	Lead partners
A	Identify the location of habitat that classifies as lowland fen	Wildlife Trust NBRC
B	Manage existing fen-type resource in natures reserves and SSSI	Wildlife Trust Natural England
C	Manage water level and quality at a catchment scale to promote rehabilitation of existing sites	RNRP Environment Agency
D	Through management of flood risk create BAP quality lowland fen on the flood plain as natural flood defence	Environment Agency
E	Restore areas of lowland fen in areas adjacent to existing fen, reedbed and wet woodland through Countryside Stewardship, targeting the Nene Valley	Natural England
F	Through Section 106 agreements/new developments create areas of lowland fen on arable, improved grassland or mineral extraction sites	Developers Local authorities Wildlife Trust

Lowland heathland

<<Description **<<Targets**

	Action description	Lead partners
A	Maintain the current extent of habitat that classifies as lowland heathland	Wildlife Trust
B	Create areas of heathland where appropriate conditions exist by encouraging landowners to manage existing patches of land with heathland indicators to promote expansion of heathland	Wildlife Trust

Lowland meadow

<<Description <<Targets

	Action description	Lead partners
A	Maintain existing lowland meadow habitat in existing nature reserves, country parks and SSSI	Wildlife Trust NCC Natural England
B	Ensure all neutral grassland road verges are in a favourable or recovering condition	NCC Wildlife Trust
C	Through advice and projects ensure up to date surveys of lowland meadow LWS, provide management advice and bring sites into favourable management	Wildlife Trust
D	Work with landowners to restore and create neutral grassland within the Nene Valley	Wildlife Trust
E	Through Section 106 agreements/new developments ensure that semi-improved or neglected grassland is restored and created to BAP quality neutral grassland	Developers Local authorities Wildlife Trust
F	Restore and achieve condition of neglected grassland to LWS standard neutral grassland through Countryside Stewardship	Natural England
G	Offer advice to churchyard managers to ensure lowland meadow areas are managed and restored	Wildlife Trust
H	Provide advice resources for meadow owners to encourage and facilitate management of lowland meadows through the Cut & Chew website	Wildlife Trust

Lowland mixed deciduous woodland

<<Description <<Targets

	Action description	Lead partners
A	Facilitate and initiate active management on woodland nature reserves, country parks, SSSIs and LWS including the creation and maintenance of associated features such as glades and rides	Forestry Commission Wildlife Trust NCC Natural England

	Action description	Lead partners
B	Prevent the loss or damage of ancient woodland to development or other land uses	Local authorities Woodland Trust Wildlife Trust
C	Retain existing veteran trees and identify and protect veteran trees of the future	Woodland Trust
D	Identify and survey woodland identified as Local Wildlife Sites and provide management advice to landowners	Wildlife Trust
E	Promote the use of woodfuel from native woodland as a sustainable source of heat and power generation and provide advice and support to landowners to establish supply chains that facilitate sustainable woodland management	Forestry Commission Woodland Trust NCC
F	Identify the location of plantations on privately owned ancient woodland sites and provide support or advice to landowners about grant schemes available for conversion to semi-natural woodland	Forestry Commission Wildlife Trust Woodland Trust
G	In line with established plans restore appropriate non-native plantations on ancient woodland sites on Forestry Commission owned or managed land. Target areas where there is potential connectivity to ancient and semi-natural woodlands	Forestry Commission
H	Identify target areas in the Rockingham Forest and Yardley-Whittlewood Ridge where woodland connectivity can be enhanced and ancient woodlands buffered, and promote the creation of native woodland on these sites through natural regeneration or planting of native species	Forestry Commission Wildlife Trust Woodland Trust RNRP
I	Encourage all BAP quality woodlands have active UKFS-compliant Woodland Management Plans	Forestry Commission
J	Work with the Rockingham Forest Deer Initiative project to increase deer management and monitoring	Forestry Commission Natural England Wildlife Trust

Open mosaic habitats on previously developed land

<<Description **<<Targets**

	Action description	Lead partners
A	By 2020 through desk study and survey work identify all open mosiac habitats that meet Local Wildlife Site criteria and provide advice to landowners	Wildlife Trust
B	Through advice and projects ensure up to date surveys of open mosaic LWS and work with landowners to bring sites into favourable management	Wildlife Trust
C	Carry out invertebrate surveys on sites meeting the BAP habitat description	County Recorders NBRC Wildlife Trust
D	Produce a guidance document for planners and developers regarding the value of open mosaic habitats on previously developed land by 2020	Wildlife Trust Buglife
E	Ensure that suitable restoration schemes are put in place once industrial use of sites such as landfill sites and quarries ceases	NCC Wildlife Trust

Ponds

<<Description **<<Targets**

	Action description	Lead partners
A	Re-introduce management and restoration of existing ponds through appropriate Countryside Stewardship (CS) prescriptions for target habitats/species	Natural England RNRP Wildlife Trust
B	Through Section 106 agreements/new developments ensure that ponds of LWS standard are created, restored or enhanced wherever appropriate	Developers Local authorities Wildlife Trust Natural England
C	Encourage the creation of new ponds through the use of CS and other funding streams. A full range of successional stages should be created at every pond, from open water, through marginal zones, to scrub, woodland or grassland.	Natural England Froglife Wildlife Trust

Reedbed

<<Description **<<Targets**

	Action description	Lead partners
A	Identify the current extent of BAP-defined reedbed by 2020	NBRC Wildlife Trust
B	Provide management advice to landowners of current reedbeds to maintain condition by 2020	Wildlife Trust RSPB
C	Respond to all planning applications and other proposals subject to a consenting scheme where these have the potential to damage or destroy the features of interest of a reedbed designated as LWS or SSSI	Wildlife Trust Natural England RSPB
D	By 2020 establish favourable management to ensure good condition for all significant stands of reedbed currently not in conservation management	Wildlife Trust
E	Help mineral companies and landowners establish the right conditions to create wet reedbed suitable for high priority breeding birds, mammals and invertebrates in the Earls Barton area by 2020	RSPB
F	Advise planning authorities, landowners and mineral companies on creating high quality reedbed as part of applications for mineral quarrying in the Earls Barton area, to contribute to an overall long-term target beyond 2020 of 100–130 hectares	RSPB Wildlife Trust Environment Agency

Rivers

<<Description **<<Targets**

	Action description	Lead partners
A	Monitor and manage the spread of invasive non-native species on watercourses	Environment Agency NBRC
B	Ensure biodiversity gains are made through flood defence work	Environment Agency Wildlife Trust
C	Encourage better management of agricultural land to eliminate point source pollution	Environment Agency RNRP Anglian Water

	Action description	Lead partners
D	Encourage a catchment-wide approach to identifying sites suitable for conservation initiatives and for the targeting of improved management regimes	RNRP Environment Agency Wildlife Trust
E	Ensure fish passes are created or barriers to fish movement removed at identified locations	Environment Agency RNRP
F	Enhance for biodiversity of 2km of river	Environment Agency RNRP

Traditional orchards

<<Description **<<Targets**

	Action description	Lead partners
A	Through desk study and survey work identify and maintain the existing extent of traditional orchards	South Court Environmental Wildlife Trust
B	Provide information on appropriate management for orchards to their owners and to those wishing to plant orchards in order to attain, maintain and enhance the biodiversity of their habitats	South Court Environmental Wildlife Trust
C	Reinstate traditional management to orchards through Countryside Stewardship or other funded project	Local authorities Developers Natural England
D	Restore degraded orchards through Section 106 agreements/new developments	Local authorities Developers
E	Where appropriate apply Tree Preservation Orders to safeguard orchard trees	Local authorities

Wet woodland

<<Description **<<Targets**

	Action description	Lead partners
A	Ensure that existing wet woodland within designated sites is maintained in good condition through the control of water levels	Wildlife Trust Natural England Environment Agency
B	Identify the location of all wet woodland outside of designated sites, identify new Local Wildlife Sites and provide advice to landowners	Wildlife Trust NBRC
C	Provide management advice and incentives (through Countryside Stewardship) to owners of wet woodland outside of designated sites in order to achieve LWS condition	Natural England
D	Create and restore areas of wet woodland through succession from open water bodies in the Nene Valley by 2020	Wildlife Trust
E	Create and restore wet woodland through conditions on planning applications by 2020	Developers Local authorities Wildlife Trust

Wood-pasture and parkland

<<Description **<<Targets**

	Action description	Lead partners
A	Identify the extent and current condition of wood-pasture and parkland in the county	Wildlife Trust Forestry Commission Natural England
B	Manage wood-pasture and parkland through appropriate Countryside Stewardship (CS) prescriptions	Natural England
C	Plant young trees and ensure the survival of semi-mature trees to veteran status to ensure a wide age range and constant availability of dead wood	Forestry Commission Woodland Trust
D	Promote a balanced, risk-based approach to tree safety works, considering the biodiversity value of standing dead wood and advocating crown reduction as opposed to whole tree removal where this can reduce the public risk to a suitable level	Forestry Commission Woodland Trust

	Action description	Lead partners
E	Identify sites that are suitable for restoration which still support a number of ancient trees and/or parkland features. Restoration to be achieved through CS.	Forestry Commission Woodland Trust Natural England
F	Identify suitable arable land or improved grassland for the establishment of a new wood-pasture or parkland site. To be achieved through CS.	Forestry Commission Wildlife Trust Natural England
G	Identify potential areas for the expansion and buffering of wood pasture and parkland sites and provide advice to owners of this land	Wildlife Trust

UK Priority Species found in Northamptonshire

These have been grouped by taxon and listed alphabetically by scientific name

Local BAP species can be found in a separate table following this one

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
amphibian	great crested newt	*Triturus cristatus*	Wide-spread	Ponds				Reduce heavy shading, buffer zones around ponds, restrict grazing around pond margin, prevent stocking with fish or ducks.		HAP
bird	Eurasian tree sparrow	*Passer montanus*	Breeding	Hedgerow				Sensitive manage-ment of specific hedgerows and re-tention of dead trees	Summer Leys LNR	HAP
bird	willow tit	*Parus montanus kleinschim-dti6*	Breeding	Lowland mixed deciduous woodland	Wet woodland			Maintain standing deadwood		HAP
bony fish (Actinop-terygii)	European eel	*Anguilla anguilla*		Rivers						HAP
crustacean	white-clawed freshwater crayfish	*Austropota-mobius pallipes*	Unknown	Rivers					River Ise	HAP

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - butterfly	dingy skipper	*Erynnis tages*	Restricted	Lowland calcareous grassland	Open mosaic habitats on previously developed land			Common bird's foot trefoil in a sparse sward, with open ground and taller vegetation in a sunny sheltered position	Twywell Hills and Dales Country Park	HAP
insect - butterfly	grizzled skipper	*Pyrgus malvae*	Restricted	Lowland calcareous grassland	Open mosaic habitats on previously developed land			Rosaceae growing among short vegetation (< 10cm), with bare ground, taller vegetation and scrub or woodland edges	Twywell Hills and Dales Country Park	HAP
insect - butterfly	small blue	*Cupido minimus*	Very Rare	Lowland calcareous grassland				Kidney vetch is the sole food plant. Requires dry sheltered grassland with a mosaic of short and tall vegetation	Brackley Railway Line Embankment	HAP
insect - butterfly	white letter hairstreak	*Satyrium w-album*	Frequent	Hedgerow	Lowland mixed deciduous woodland			Maintain elm where present		HAP
insect - butterfly	wood white	*Leptidea sinapis*	Restricted	Lowland mixed deciduous woodland				Suitable ride management	Salcey Forest	HAP

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
reptile	adder	*Vipera berus*	Unknown	Lowland mixed deciduous woodland				Maintain sunny areas in woodland habitats	Kingscliffe Disused Railway Line, Fineshade Wood, Bedford Purlieus	HAP
terrestrial mammal	Barbastelle bat	*Barbastella barbastellus*		Lowland mixed deciduous woodland				Maintain standing deadwood		HAP
terrestrial mammal	dormouse	*Muscardinus avellanarius*		Hedgerow	Lowland mixed deciduous woodland			Requires actively managed hazel coppice	Woodland in Rockingham Forest area	HAP
terrestrial mammal	otter	*Lutra lutra*		Rivers	Eutrophic standing waters			See action plan	Widespread	HAP
bird	northern lapwing	*Vanellus vanellus*	Breeding	Floodplain grazing marsh				Maintain short vegetation structure of open aspect, with numerous flooded shallow scrapes/ grips	Mainly Nene Valley. Wadenhoe, Earls Barton Gravel Pit, Brampton Valley	HAP
bird	Eurasian curlew	*Numenius arquata*	Passage migrant - historical breeder	Eutrophic standing water	Floodplain grazing marsh	Lowland meadow				Monitor
bird	grey partridge	*Perdix perdix*	Breeding	Hedgerow	Arable					Monitor

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
bird	lesser spotted woodpecker	*Dendrocopos minor comminutus*	Breeding	Lowland mixed deciduous woodland	Traditional orchards	Wet woodland				Monitor
bird	marsh tit	*Parus palustris palustris/ dresseri*	Breeding	Lowland mixed deciduous woodland	Wet woodland					Monitor
bird	yellow wagtail	*Motacilla flava flavissima*	Breeding	Lowland meadow						Monitor
bony fish (Actinopterygii)	spined loach	*Cobitis taenia*		Rivers						Monitor
flowering plant	annual knawel	*Scleranthus annuus*	Rare	Open mosaic habitats on previously developed land				Prefers sandy areas such as disused sand pits	Earls Barton old sand pits	Monitor
flowering plant	basil thyme	*Clinopodium acinos*	Rare	Lowland calcareous grassland	Old quarries and railway lines				Croughton area, Collyweston, Twywell, Old Sulehay	Monitor
flowering plant	flat-sedge	*Blysmus compressus*	Very rare	Floodplain grazing marsh				Marshy fields should be cut for hay and the aftermath grazed	Bulwick	Monitor
flowering plant	fly orchid	*Ophrys insectifera*	Rare	Lowland mixed deciduous woodland				Preserve open woodland on calcareous soil and prevent scrub encroachment	Wakerley Woods, Collyweston, Easton Hornstocks	Monitor

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
flowering plant	frog orchid	*Dactylorhiza viridis*	Very rare	Lowland calcareous grassland				Requires dry, well-grazed grassland	Hardwick Meadow	Monitor
flowering plant	grass-wrack pondweed	*Potamoge-ton compressus*	Local	Rivers	Eutrophic standing waters			Retain wet ditches and canals, pre-vent eutrophication, monitor effects of boat traffic and as-sociated pollution	Nene and Grand Union Canal	Monitor
flowering plant	greater water parsnip	*Sium latifolium*	Rare	Marsh and swamp				Keep water in ditch-es open by occa-sional clearance with a bucket excavator or scythe. Prevent growth of carr and do not allow heavy grazing or frequent cutting.	Welland and Nene	Monitor
flowering plant	man orchid	*Orchis anthropo-phora*	Very rare	Lowland calcareous grassland				Grows particularly in grazed aban-doned chalkpits and limestone quarries, usually at the foot of slopes	Collyweston	Monitor
flowering plant	marsh stitchwort	*Stellaria palustris*	Very rare	Lowland meadow	Lowland fen	Floodplain grazing marsh			Salcey For-est, Trafford Bridge Marsh	Monitor
flowering plant	pennyroyal	*Mentha pulegium*	Very rare	Floodplain grazing marsh				Requires short turf in areas disturbed by grazing, trampling or vehicles	Nene Valley (var. erecta – not native?)	Monitor

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
flowering plant	purple milk-vetch	*Astragalus danicus*	Very rare	Lowland calcareous grassland				Well-drained limestone grasslands	Collyweston Quarries	Monitor
flowering plant	rare spring-sedge	*Carex ericetorum*	Very rare	Lowland calcareous grassland				Grazing of grass layer on infertile soils over chalk or limestone	Harlestone Firs	Monitor
flowering plant	red hemp-nettle	*Galeopsis angustifolia*	Very rare	Arable	Open mosaic habitats on previously developed land	Lowland calcareous grassland		Requires disturbed ground over calcareous substrates	Rothwell	Monitor
flowering plant	shepherd's needle	*Scandix pecten-veneris*	Very rare	Arable				Prefers heavy calcareous soils that dry out in summer. Reduce use of chemicals & retain field edge refuges.	Boddington Reservoir, Raunds	Monitor
flowering plant	tubular water-dropwort	*Oenanthe fistulosa*	Rare	Lowland meadow	Lowland fen	Floodplain grazing marsh	Seasonally flooded grassland		Great Doddington marsh, Welland Valley, Harringworth Meadow	Monitor
flowering plant	white helleborine	*Cephalanthera damasonium*	Very rare	Lowland mixed deciduous woodland	Woodland on calcareous soil				Woodford Shrubbery, Ashton Wold	Monitor

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
flowering plant	yellow bird's-nest	*Monotropa hypopitys*	Rare	Lowland mixed deciduous woodland	Sapro-phytic, in shrubby beech and pine woods				Apethorpe Woods, Wak-erley Woods	Monitor
insect - beetle (Co-leoptera)	stag beetle	*Lucanus cervus*	Very Rare	Wood-pasture and parkland						Monitor
insect - butterfly	white admiral	*Limenitis camilla*	Local	Lowland nixed deciduous woodland				Suitable ride management	Salcey Forest	Monitor
insect - moth	four-spotted moth	*Tyta luctuosa*	Very Rare	Lowland calcareous grassland	Lowland dry acid grassland	Open mosaic habitats on previ-ously developed land		Feeds on field bindweed. Prefers south-facing banks, dry ground, sparse vegetation.	Unknown	Monitor
insect - moth	heart moth	*Dicycla oo*	Very local	Lowland mixed deciduous woodland						Monitor
insect - moth	the concolorous	*Chortodes extrema*	Local	Lowland fen	Floodplain grazing marsh	Lowland mixed deciduous woodland			Glapthorn Cow Pasture, Geddington Chase	Monitor
insect - moth	white-spotted pinion	*Cosmia diffinis*	Rare	Lowland mixed deciduous woodland	Hedgerow					Monitor

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
reptile	common lizard	*Lacerta vivipara*	Unknown	Open mosaic habitats on previously developed land	Lowland calcareous grassland	Lowland dry acid grassland				Monitor
reptile	grass snake	*Natrix natrix*	Unknown	Open mosaic habitats on previously developed land	Ponds					Monitor
reptile	slow-worm	*Anguis fragilis*	Unknown	Open mosaic habitats on previously developed land						Monitor
terrestrial mammal	brown long-eared bat	*Plecotus auritus*		Lowland mixed deciduous woodland	Wood-pasture and parkland					Monitor
terrestrial mammal	noctule	*Nyctalus noctula*		Lowland mixed deciduous woodland	Wood-pasture and parkland					Monitor
terrestrial mammal	polecat	*Mustela putorius*		Lowland mixed deciduous woodland						Monitor
terrestrial mammal	soprano pipistrelle	*Pipistrellus pygmaeus*		Various						Monitor

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
terrestrial mammal	water vole	*Arvicola amphibius*		Rivers	Eutrophic standing waters	Ponds		See action plan	Barnwell Brook, Croughton, Swanspool Brook.	Monitor
amphibian	common toad	*Bufo bufo*		Rivers	Eutrophic standing waters	Ponds				No action
bird	black-tailed godwit	*Limosa imosa limosa*	Passage migrant	Floodplain grazing marsh						No action
bird	common bullfinch	*Pyrrhula pyrrhula pileata*	Breeding	Lowland mixed deciduous woodland	Orchards	Hedgerow				No action
bird	common cuckoo	*Cuculus canorus*	Breeding	Reedbed	Lowland mixed deciduous woodland					No action
bird	common grasshop-per warbler	*Locustella naevia*	Breeding	Lowland mixed deciduous woodland	Reedbed	Lowland meadow	Arable			No action
bird	common linnet	*Carduelis cannabina autochthona/ cannabina*	Breeding	Hedgerow	Lowland mixed deciduous woodland	Arable				No action
bird	common starling	*Sturnus vulgaris vulgaris*	Breeding	Reedbed	Arable	Lowland meadow				No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
bird	corn bunting	*Miliaria calandra calandra/ clanceyi*	Breeding	Arable						No action
bird	European nightjar	*Caprimulgus europaeus*	Breeding	Lowland heathland	Clear fell plantation				Yardley Chase, Titch-marsh Wood, Salcey Forest	No action
bird	European turtle dove	*Streptopelia turtur*	Breeding	Arable						No action
bird	hawfinch	*Cocco-thraustes cocco-thraustes*	Breeding	Lowland mixed deciduous woodland						No action
bird	hedge accentor	*Prunella modularis occidentalis*	Breeding	Hedgerow	Lowland mixed deciduous woodland					No action
bird	herring gull	*Larus argentatus argenteus*	Passage migrant and winter visitor	Eutrophic standing water						No action
bird	house sparrow	*Passer domesticus*	Breeding	Hedgerow	Open mo-saic habi-tats on previously developed land					No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
bird	lesser redpoll	*Carduelis cabaret*	Breeding	Lowland mixed deciduous woodland	Large woodland blocks with some conifers present				Unknown	No action
bird	reed bunting	*Emberiza schoeniclus*	Breeding	Reedbed	Lowland fen					No action
bird	skylark	*Alauda arvensis*	Breeding	Arable	Lowland meadow	Lowland dry acid grassland	Lowland calcareous grassland			No action
bird	song thrush	*Turdus philomelos clarkei*	Breeding	Lowland mixed deciduous woodland	Arable	Wet woodland				No action
bird	spotted flycatcher	*Muscicapa striata*	Breeding	Lowland mixed deciduous woodland	Hedgerow	Wood-pasture and parkland				No action
bird	tree pipit	*Anthus trivialis*	Breeding	Lowland mixed deciduous woodland				Clearings needed within woodlands	Fineshade Wood	No action
bird	wood warbler	*Phyllosco-pus sibilatrix*	Rare passage migrant	Lowland mixed deciduous woodland						No action
bird	yellowham-mer	*Emberiza citrinella*	Breeding	Hedgerow						No action
bony fish	brown/sea trout	*Salmo trutta*		Rivers						No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
bryophyte	clustered earth-moss	*Ephemerum cohaerens*	Rare	Eutrophic standing water					Daventry Reservoir, Wellford Reservoir	No action
flowering plant	corn buttercup	*Ranunculus arvensis*	Rare	Arable	Waste ground on clays and chalk				Sywell Country Park, Brampton Valley Way	No action
fungus	violet crowncup	*Sarcosphaera coronaria*	Rare	Lowland calcareous grassland				Associated with pine trees	Twywell Hills and Dales Country Park	No action
insect - beetle (Coleoptera)	Mellet's downy-back	*Ophonus melletii*	Very rare	Lowland calcareous grassland					Collyweston	No action
insect - beetle (Coleoptera)	oolite downy-back	*Ophonus stictus*	Very rare							No action
insect - beetle (Coleoptera)	scarce four-dot pin-palp	*Bembidion quadripustulatum*	Very rare	Lowland fen				Maintain areas of wet calcareous clay	Pitsford	No action
insect - beetle (Coleoptera)	set-aside downy-back	*Ophonus laticollis* (=*Harpalus punctatulus*)	Very rare	Lowland calcareous grassland					Collyweston	No action
insect - butterfly	small heath	*Coenonympha pamphilus*	Locally common	Lowland heathland	Open mosaic habitats on previously developed land	Wood-pasture and parkland				No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
Insect – fly (Diptera)	the phoenix fly	*Dorycera graminum*	Very Rare	Open mosaic habitats on previously developed land	Lowland calcareous grassland			Unknown	Bradlaugh Fields	No action
insect - moth	argent and sable	*Rheumaptera hastata*	Unknown	Lowland mixed deciduous woodland				Requires birch regeneration.		No action
insect - moth	August thorn	*Ennomos quercinaria*	Rather local	Lowland mixed deciduous woodland	Parkland	Hedgerow	Gardens, oak			No action
insect - moth	barred tooth-striped	*Trichopteryx polycommata*	Rare	Hedgerow	Lowland mixed deciduous woodland	Scrub				No action
insect - moth	beaded chestnut	*Agrochola lychnidis*	Common	Lowland mixed deciduous woodland						No action
insect - moth	blood-vein	*Timandra comae*	Common	Floodplain grazing marsh	Lowland fen	Damp, herb-rich places				No action
insect - moth	brindled beauty	*Lycia hirtaria*	Common	Lowland mixed deciduous woodland	Hedgerow	Scrub				No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - moth	broom moth	*Melanchra pisi*	Fairly common	Open mosaic habitats on previously developed land						No action
insect - moth	brown-spot pinion	*Agrochola litura*	Common	Lowland mixed deciduous woodland						No action
insect - moth	buff ermine	*Spilosoma luteum*	Common	Lowland mixed deciduous woodland	Lowland meadow	Hedgerows		Feeds on wide variety of herbaceous plants and trees in various habitats		No action
insect - moth	centre-barred sallow	*Atethmia centrago*	Common	Lowland Mixed Deciduous Woodland	Hedgerow	Mature ash				No action
insect - moth	chalk carpet	*Scotopteryx bipunctaria*	Unknown	Lowland calcareous grassland	Short grazed areas with bare ground			Feed on trefoils & clovers		No action
insect - moth	common fan-foot	*Pechipogo strigilata*		Lowland mixed deciduous woodland	Oak					No action
insect - moth	dark brocade	*Blepharita adusta*	Local	Lowland heathland	Lowland calcareous grassland	Lowland fen		Caterpillars feed on wide range of herbaceous plants and trees		No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - moth	dark spinach	*Pelurga comitata*	Local	Open mosaic habitats on previously developed land						No action
insect - moth	dark-barred twin-spot carpet	*Xanthorhoe ferrugata*	Common							No action
insect - moth	deep-brown dart	*Aporophyla lutulenta*	Fairly common	Lowland meadow	Lowland dry acid grassland	Lowland calcareous grassland				No action
insect - moth	dot moth	*Melanchra persicariae*	Common	Hedgerow	Gardens					No action
insect - moth	double dart	*Graphiphora augur*	Common	Lowland mixed deciduous woodland	Hedgerow	Lowland fen	Gardens			No action
insect - moth	dusky brocade	*Apamea remissa*	Common	Lowland meadow	Lowland dry acid grassland	Lowland calcareous grassland				No action
insect - moth	dusky thorn	*Ennomos fuscantaria*	Fairly common	Lowland mixed deciduous woodland	Hedgerow	Ash				No action
insect - moth	dusky-lemon sallow	*Xanthia gilvago*	Local	Lowland mixed deciduous woodland	Hedgerow	Elm				No action
insect - moth	ear moth	*Amphipoea oculea*	Scarce	Lowland meadow	Lowland dry acid grassland	Lowland calcareous grassland				No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - moth	false mocha	*Cyclophora porata*	Local	Lowland mixed deciduous woodland	Oak					No action
insect - moth	feathered gothic	*Tholera decimalis*	Fairly common	Lowland meadow	Lowland mixed deciduous woodland	Wood-pasture and parkland	Gardens. rough grassland			No action
insect - moth	figure of eight	*Diloba caeruleocephala*	Rather local	Hedgerow	Lowland mixed deciduous woodland	Gardens				No action
insect - moth	flounced chestnut	*Agrochola helvola*	Rather local	Lowland mixed deciduous woodland						No action
insect - moth	Galium carpet	*Epirrhoe galiata*	Rare	Lowland calcareous grassland						No action
insect - moth	garden dart	*Euxoa nigricans*	Fairly common	Open mosaic habitats on previously developed land				Wide range of herbaceous food plants. Found in gardens, allotments, waste ground.		No action
insect - moth	garden tiger	*Arctia caja*	Scarce	Open Mosaic Habitats on Previously Developed Land	Gardens, allotments, rough ground					No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - moth	ghost moth	*Hepialus humuli*	Common	Open mosaic habitats on previously developed land						No action
insect - moth	goat moth	*Cossus cossus*	Rare	Rivers	Lowland fen	Hedgerow	Lowland mixed deciduous woodland	Woodland edge		No action
insect - moth	grass rivulet	*Perizoma albulata albulata*	Local	Lowland calcareous grassland						No action
insect - moth	green-brindled crescent	*Allophyes oxyacanthae*	Common	Lowland mixed deciduous woodland	Hedgerow	Scrub				No action
insect - moth	grey dagger	*Acronicta psi*	Common	Lowland mixed deciduous woodland	Hedgerow					No action
insect - moth	heath rustic	*Xestia agathina*	Rare	Lowland heathland						No action
insect - moth	hedge rustic	*Tholera cespitis*	Local	Open mosaic habitats on previously developed land	Lowland meadow	Lowland dry acid grassland	Lowland calcareous grassland, gardens			No action
insect - moth	knot grass	*Acronicta rumicis*	Fairly common	Lowland mixed deciduous woodland	Scrub					No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - moth	large nutmeg	*Apamea anceps*	Common	Lowland calcareous grassland						No action
insect - moth	latticed heath	*Chiasmia clathrata*	Common	Arable	Lucerne crops					No action
insect - moth	minor shoulder-knot	*Brachylomia viminalis*	Fairly common	Wet woodland	Willow					No action
insect - moth	mottled rustic	*Caradrina morpheus*	Very common	Open mosaic habitats on previously developed land	Lowland meadow			Feeds on herbaceous plants, including nettle and dandelion		No action
insect - moth	mouse moth	*Amphipyra tragopoginis*	Common	Lowland mixed deciduous woodland						No action
insect - moth	mullein wave	*Scopula marginepunctata*	Very local	Rivers						No action
insect - moth	neglected rustic	*Xestia castanea*	Rare	Lowland mixed deciduous woodland	Lowland Heathland					No action
insect - moth	oak hook-tip	*Watsonalla binaria*	Common	Lowland mixed deciduous woodland	Hedgerow	Wood-pasture and parkland	Gardens, oak			No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - moth	oak lutestring	*Cymato-phorima diluta*	Local	Lowland mxed deciduous woodland	Oak					No action
insect - moth	oblique carpet	*Orthonama vittata*	Rare	Floodplain grazing marsh	Lowland fen	Wet woodland				No action
insect - moth	pale eggar	*Trichiura crataegi*	Fairly common	Lowland mixed deciduous woodland	Hedgerow	Lowland heathland	Gardens			No action
insect - moth	pale shining brown	*Polia bombycina*	Rare							No action
insect - moth	powdered Quaker	*Orthosia gracilis*	Common	Floodplain grazing marsh	Wet woodland	Gardens				No action
insect - moth	pretty chalk carpet	*Melanthia procellata*	Local	Lowland mixed deciduous woodland	Hedgerow	Scrub				No action
insect - moth	rosy minor	*Mesoligia literosa*	Local	Lowland calcareous grassland	All calcareous habitats					No action
insect - moth	rosy rustic	*Hydraecia micacea*	Common	Open mo-saic habi-tats on previously developed land	Gardens					No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - moth	September thorn	*Ennomos erosaria*	Fairly common	Lowland mixed deciduous woodland	Wood-pasture and parkland	Gardens				No action
insect - moth	shaded broad-bar	*Scotopteryx chenopo-diata*	Common	Lowland calcareous grassland	Hedgerow	Open mo-saic habi-tats on previously developed land				No action
insect - moth	shoulder-striped wainscot	*Mythimna comma*	Fairly common	Lowland fen	Floodplain grazing marsh	Lowland meadow	Gardens			No action
insect - moth	small emerald	*Hemistola chrysopras-aria*	Rather local	Hedgerow	Lowland mixed deciduous woodland	Gardens and scrub				No action
insect - moth	small phoenix	*Ecliptopera silaceata*	Common	Lowland mixed deciduous woodland	Lowland meadow			Food plant mainly willowherbs		No action
insect - moth	small square-spot	*Diarsia rubi*	Very common	Wet woodland	Floodplain grazing marsh	Gardens				No action
insect - moth	the cinnabar	*Tyria jacobaeae*	Common	Open mo-saic habi-tats on previously developed land	Ragwort					No action
insect - moth	the crescent	*Celaena leucostigma*	Local	Lowland fen	Reedbed	Floodplain grazing marsh	Wet woodland			No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - moth	the forester	*Adscita statices*	Rare	Lowland Meadow	Lowland dry acid grassland	Lowland calcareous grassland				No action
insect - moth	the lackey	*Malacosoma neustria*	Fairly common	Hedgerow	Lowland mixed deciduous woodland	Open mosaic habitats on previously developed land	Gardens			No action
insect - moth	the rustic	*Hoplodrina blanda*	Common	Lowland meadow	Open mosaic habitats on previously developed land			Feeds on grasses such as cock's-foot and tall fescue		No action
insect - moth	the sallow	*Xanthia icteritia*	Common							No action
insect - moth	the spinach	*Eulithis mellinata*	Fairly common	Gardens and allotments				Caterpillars feed on *Ribes* species		No action
insect - moth	the sprawler	*Asteroscopus sphinx*	Common	Lowland mixed deciduous woodland						No action
insect - moth	the streak	*Chesias legatella*	Local	Lowland mixed deciduous woodland	Hedgerow					No action
insect - moth	V-moth	*Macaria wauaria*	Local	Gardens and allotments				Feeds on *Ribes* species		No action

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
insect - moth	white ermine	*Spilosoma lubricipeda*	Common	Hedgerow	Lowland mixed deciduous woodland	Lowland meadow		Feeds on wide variety of herbaceous plants and trees in various habitats		No action
mollusc	depressed (or com-pressed) river mussel	*Pseudano-donta complanata*		Rivers						No action
terrestrial mammal	brown hare	*Lepus europaeus*		Lowland meadow	Lowland mixed deciduous woodland					No action
terrestrial mammal	harvest mouse	*Micromys minutus*		Arable	Reedbed	Lowland meadow				No action
terrestrial mammal	west European hedgehog	*Erinaceus europaeus*		Various						No action

Local BAP Species

These species are not UK Priority species but were judged to have local significance within Northamptonshire in 2008–15. They have retained this status for the 2015–2020 BAP.

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
lichen	A lichen	*Physcia clementii*	Found in 4 church-yards	Church-yards (Ironstone head-stones)				Sensitive management of graveyards	Byfield, Helmdon, Moreton Pinkney & Sulgrave	Monitor
Bird	barn owl	*Tyto alba*	Recovering	Lowland meadow	Lowland dry acid grassland	Rough grassland		Provision of long term nesting opportunities	Nene Valley	Monitor
Insect - butterfly	black hairstreak	*Satyrium pruni*	Breeding	Lowland mixed deciduous woodland	Hedgerow			Management to retain blackthorn scrub	Rockingham Forest	HAP
Flowering plant	black poplar	*Populus nigra* subsp. *Betuifolia*	Declining	Hedgerow				Protection of existing trees, plant females, remove hybrids	Scattered	HAP
Flowering plant	Plot's elm	*Ulmus plotii*	Very rare	Hedgerow				Protection of suckering trees in hedgerows	Laxton	HAP
insect - beetle (Co-leoptera)	lime bark beetle	*Ernoporus tiliae* (Panzer)	Very rare	Lowland mixed deciduous woodland				Management of old coppice of small-leaved lime	Easton Horn-stocks	HAP
Bird	nightingale	*Luscinia megarhyn-chos*	Breeding	Lowland mixed deciduous woodland				Coppice management	Rockingham Forest	HAP

Taxon	Common name	Scientific name	Northants status	Associated habitats				Management considerations	Key sites	Action category
Amphibian	palmate newt	*Triturus helveticus*	Rare	Ponds				Management of breeding ponds	Yardley Chase	HAP

Relevant Legislation and Planning Policy

Legislation

The main legislation relating to nature conservation in Great Britain is the **Wildlife and Countryside Act 1981 (as amended)**.

The Countryside and Rights of Way (CROW) Act, 2000
This amends the Wildlife and Countryside Act (1981) to strengthen protection for SSSIs and protected species, and places a duty on government departments to have regard for the conservation of biodiversity.

The Natural Environment and Rural Communities (NERC) Act, 2006
This extends the statutory duty of the CROW Act (2000), relating to biodiversity, to all public bodies. The duty to conserve biodiversity, under the NERC Act, states that: "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."

Two important **European Directives** governing biodiversity have been transposed into UK law. The objective of the Wild Birds Directive is to conserve wild bird populations. The objective of the Habitats Directive is to protect biodiversity through the conservation of natural habitats and species of wild fauna and flora. Both lay down rules for the protection, management and exploitation of such species.

The Conservation of Habitats and Species Regulations 2010 ('the Habitats Regulations')
These regulations transpose the Habitats Directive and certain elements of the Wild Birds Directive in England and Wales. The Habitats Regulations 2010 were amended by The Conservation of Habitats and Species (Amendment) Regulations 2012. In Northamptonshire, these Regulations are of particular importance in relation to the Upper Nene Valley Gravel Pits Special Protection Area (SPA), and to birds listed on Annex I of the Wild Birds Directive wherever they occur.

National policy

National Planning Policy Framework (NPPF)
The NPPF replaced Planning Policy Statement 9 (PPS9) on Biodiversity and Geological Conservation in 2012. It introduced a presumption in favour of sustainable development, which includes a need to contribute to protecting and enhancing our natural environment, and, as part of this, helping to improve biodiversity. Section 11 of the NPPF lays out the key requirements relating to biodiversity (paragraphs 109-119). Paragraph 117 is of particular relevance here, as it provides the national policy basis on which Local Authorities and developers should

implement the kind of actions laid out in this BAP.

Local Policy and Guidance

The NPPF places great weight on the importance of up-to-date Local Plans in decision-making. Each Local Planning Authority in Northamptonshire has, or should have, up-to-date adopted Local Plans that include policies to protect and enhance biodiversity in line with the requirements of the NPPF and national legislation.

In addition to these Local Plans, two Supplementary Planning Guidance documents have been developed to provide extra advice and guidance to local authority planners and developers in Northamptonshire. These are the **Biodiversity Supplementary Planning Document**, and the **Upper Nene Valley Gravel Pits Special Protection Area Supplementary Planning Document**. The first is designed to be used by those considering and applying for planning permission in Northamptonshire. It will also be a useful tool for those developing planning policy and making site allocations. The latter has been produced to help Local Planning Authorities, developers and others ensure that development has no significant effect on the SPA, in accordance with the legal requirements of the Habitats Regulations. The SPD outlines a consistent approach to both consulting Natural England and identifying potential significant effects on the SPA's qualifying features.

Glossary

Achieving condition	Maintaining the area of habitat already in good condition and working on some poor condition habitat. Poor condition habitat still meets UK BAP criteria; good condition habitat meets LWS criteria.
Biodiversity	A contraction of 'biological diversity', refers to the number, variety and variability of living organisms. It is often defined in terms of genes, species and ecosystems. Biodiversity is widely considered to be a measure of ecosystem quality or health: greater biodiversity indicates better health.
BAP (or priority) habitat	Area of habitat that meets the definition set out in the UK BAP list of priority habitats
Climate space	The area of land which is climatically suitable for a particular species or habitat. The space in which a particular species/habitat can survive will change (both in location and size) with a changing climate, forcing many species to relocate.
Countryside Stewardship	A government scheme that provides financial incentives for land managers to look after their environment through activities such as conserving and restoring wildlife habitats, flood risk management and woodland creation and management
Creation	The establishment of new BAP habitat in areas where it is not currently present and no significant remnants exist.
Ecosystem Services	The benefits which the natural environment provides to humans. These are generally classified as 1) supporting services (*e.g.* soil formation, photosynthesis), 2) provisioning services (*e.g.* food, fibre, fresh water), 3) regulating services (*e.g.* pollination, water purification) and 4) cultural services (*e.g.* recreation, spiritual enrichment).
LWS-standard	Habitat meets the UK BAP definition but also meets the higher standards of the Local Wildlife Site criteria for the specified habitat. Sites that meet the LWS criteria will be recognised as Local Wildlife Sites.
Maintaining extent	No reduction in the area of habitat that qualifies as the UK BAP or other specified type.
Natural Capital	The world's stocks of natural assets which include geology, soil, air, water and all living things. It is from this Natural Capital that humans derive a range of services, often called ecosystem services, which make human life possible.

Natural Character Area	A natural subdivision of England based on a combination of landscape, biodiversity, geodiversity and economic activity. They are defined by Natural England.
Restoration	Work on relic habitat that currently does not meet UK BAP criteria but shows indicators of that habitat.
SMART targets	Specific, Measurable, Achievable, Realistic, Timely

Guide to Acronyms and Abbreviations

BAP	Biodiversity Action Plan
CS	Countryside Stewardship
GI	Green Infrastructure
JPU	Joint Planning Unit
LNP	Local Nature Partnership
LNR	Local Nature Reserve
LWS	Local Wildlife Site
NACRE	Northamptonshire ACRE (Action with Communities in Rural England)
NBP	Northamptonshire Biodiversity Partnership
NBRC	Northamptonshire Biodiversity Records Centre
NIA	Nature Improvement Area
PWS	Potential Wildlife Site
RSPB	Royal Society for the Protection of Birds
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

Figures

Figure GS1 The GI Strategic Biodiversity Network Map for West Northamptonshire. After Northamptonshire's Environmental Character and GI Suite.

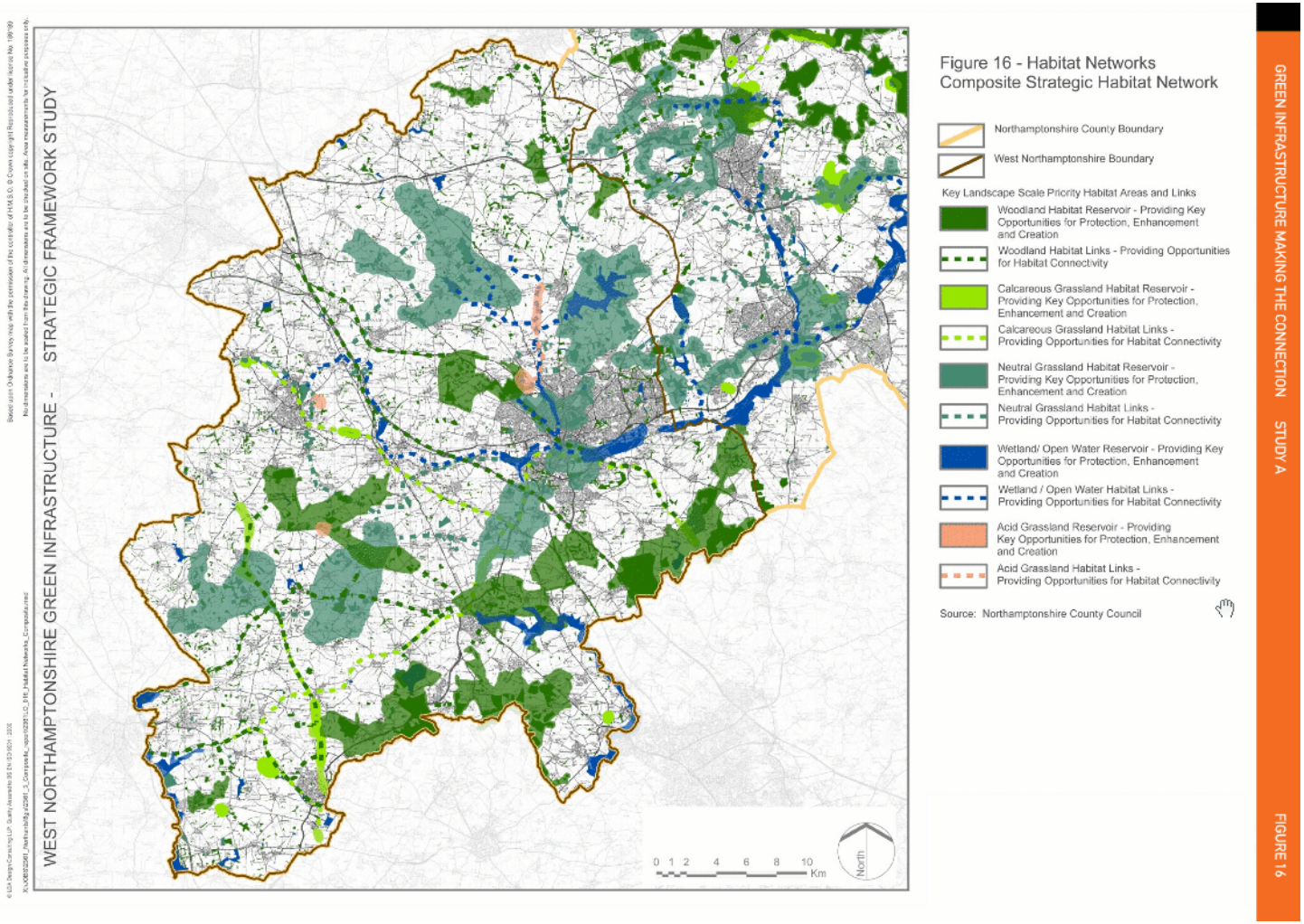


Figure GS2 The GI Strategic Biodiversity Network Map for North Northamptonshire. After Northamptonshire's Environmental Character and GI Suite.