RTPI
Royal Town Planning Institute

RTPI Practice Advice

NOVEMBER 2019

BIODIVERSITY IN PLANNING

Obligations and opportunities to promote biodiversity through the UK planning systems

In collaboration with:

partnership for Biodiversity in Planning

rtpi.org.uk

Introduction

This practice advice provides an overview of the main obligations and opportunities for planners to promote biodiversity through the four UK planning systems. It will equip readers with a solid foundation of knowledge about the key challenges relating to biodiversity and the current statutory duties and guidance that should be addressed through the planning systems. It offers practical pointers to support the integration of biodiversity into local policy, practice and individual development schemes through good practice examples. It also contains links to further information.

Local planning authorities (LPAs) can protect and enhance biodiversity in a number of ways:

- Adopting an integrated strategic planning approach to biodiversity in local plans and local nature recovery networks;
- Promoting biodiverse developments through planning obligations;
- Managing local government public assets to enhance biodiversity;
- Collaborative working with other LPAs, public bodies and local stakeholders;
- Embedding biodiversity evaluation and monitoring;
- Establishing robust financial and long-term management arrangements.

This advice is applicable to town planners in England, Northern Ireland, Scotland and Wales.

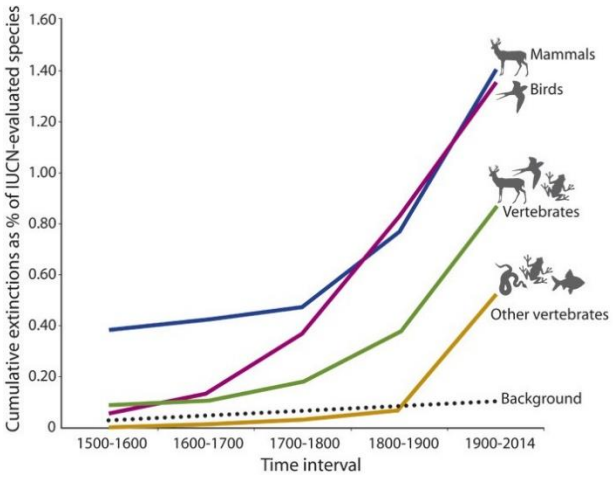
This is a joint publication with the Partnership for Biodiversity in Planning, a project funded by the Esmée Fairbairn Foundation, involving 19 conservation, planning and development organisations who are working to promote biodiversity. Find out more at www.biodiversityinplanning.org.

Contents

1. What is the problem?

According to the UN Convention on Biological Diversity[1], the word ‘biodiversity‘ refers to the variety of life on earth, including the different species of animals, plants, and micro-organisms that coexist globally. The term includes the genetic diversity that is necessary to ensure a healthy and resilient species. It also refers to the variety of ecosystems and their component habitats, from deserts, forests, wetlands, mountains, grasslands, freshwater lakes and rivers, marine ecosystems, as well as more human designed locations, like agricultural and urban landscapes.

There has been a significant decline in biodiversity for the last hundred years, with damaging implications for future wildlife and humanity. Local authorities have a duty to protect and enhance biodiversity, but are impeded by increasingly stretched resources putting pressure on their ability to meet their statutory obligations.



Cumulative trends in species global extinction. Source: Ceballos and Erlich (2018)

Declining biodiversity

Many reports describe how we are facing a global ‘sixth mass extinction’, in terms of the current rate of species loss[2]. Scientists report that species extinction is 100 times the ‘normal rate’ for the geological time[3]. Globally over a quarter of assessed animal and plant species are threatened, and around 1 million species already face extinction, unless action is taken to reduce biodiversity loss.

[1] UN Convention on Biological Diversity www.cbd.int/
[2] Ceballos, G. et al (2015) Accelerated modern human–induced species losses: Entering the sixth mass extinction. Science Advances. Vol. 1, no. 5, e1400253
[3] Ceballos, G. and Ehrlich, P. (2018) The misunderstood sixth mass extinction. Science 08 Jun 2018. Vol. 360, Issue 6393, pp. 1080-1081

In the UK, more than one in seven (assessed) wildlife species have become extinct or threatened with extinction in that last forty years[4].

> **"Over the long term, 41% of species had strong or moderate decreases and 26% had strong or moderate increases; 33% showed little change."**
>
> State of Nature Report, 2019

The drivers of biodiversity loss include:

- Intensive agriculture;
- Overconsumption and production of waste;
- Climate change impacts;
- Non-native invasive species; and
- Land-use changes, including deforestation and urbanisation[5,6].

The scale of the problem is not just significant ecologically. It also has serious implications for humanity, who depend on a healthy natural environment for the provision of natural resources (food, pharmaceuticals, construction materials), a good physical environment (air, soil, water quality), a functioning climate, and for general health and wellbeing.

Local and national ecological capacity

The four UK Governments all have policies placing a lead role on local planning authorities (LPAs) in addressing biodiversity losses. English LPAs have a statutory duty to show regard for conserving biodiversity in the exercise of all public functions[7]. Public bodies in Scotland and Northern Ireland have a duty to 'further the conservation of biodiversity'. In Wales, local authorities must 'maintain and enhance biodiversity' and 'promote the resilience of ecosystems'.

These duties protect all nature, not just in specific protected sites and species. LPAs must consider how a development might affect 'protected' and 'priority' species and habitats on or near a proposed development site when reviewing a planning application. 'Protected' species are wildlife species protected by law, as outlined by Natural England, Natural Resources Wales, Scottish

[4] Hayhow D.B. et al (2019) State of Nature report. State of Nature partnership https://nbn.org.uk/stateofnature2019

[5] IPBES (2019) Global Assessment Report on Biodiversity and Ecosystem Services www.ipbes.net/global-assessment-report-biodiversity-ecosystem-services

[6] State of Nature, *Op Cit*

[7] Outlined in the NERC Act (2006) for England www.legislation.gov.uk/ukpga/2006/16/contents, Nature Conservation (Scotland) Act 2004 for Scotland www.legislation.gov.uk/asp/2004/6/contents; Environment (Wales) Act 2016 Wales www.biodiversitywales.org.uk/Environment-Wales-Act; Wildlife and Natural Environment Act (Northern Ireland) 2011 www.legislation.gov.uk/nia/2011/15/contents

Natural Heritage and the Northern Ireland Environment Agency. These include otters, wildcats, pine martins, water voles, badgers, bats, hazel or common dormice, natterjack toads, great crested newts, wild birds, protected invertebrates, and protected plants.

In 2013, less than a third of LPAs were reported to have in-house ecology expertise[8]. LPAs are increasingly dependent on external consultants or in-house planners (who do not have specialist ecological training) to appraise the ecological impact of planning applications and permitted development, to ensure statutory biodiversity protections and net gain[9] are delivered. At the same time, national environmental bodies and many charities are increasingly stretched and therefore less able to offer the same level of support that was provided in the past.

2. Why is biodiversity important for planning?

Addressing legal and policy requirements for biodiversity

The UK Government and devolved administrations have placed regulations on LPAs to take a lead in responding to biodiversity losses through the adoption of clear environmental and planning policy requirements that encourage developers to take account of biodiversity impacts. Planning policy can also proactively promote biodiversity enhancement and support wider ecological connectivity, i.e. delivering a Biodiversity Net Gain (BNG). Planning and investment to enhance biodiversity can also contribute to wider local objectives, for example relating to health and wellbeing, active travel, flood prevention and local economies.

In England, the National Planning Policy Framework (NPPF, 2019) states that planning should contribute to conserving nature and securing 'net gains' for biodiversity (ch.15). The Strategic Planning Policy Statement (SPPS, 2015) for Northern Ireland similarly recognises that LPAs have a statutory duty to conserve biodiversity (para 6.171). The Scottish Planning Policy (2014) also supports this approach, recognising the vital services that ecosystems provide (para 194).

Planning Policy Wales 10 (2018) is equally emphatic, stating LPAs must promote the resilience of ecosystems, in accordance with Section 6 of the Duty of the Environment (Wales) Act (2016), by:

[8] ALGE (2013) Biodiversity data needs for Local authorities and National Park Authorities. Association of local Government Ecologists www.alge.org.uk/publications-and-reports/
[9] DEFRA (2019) Biodiversity net gain: updating planning requirements. Consultation outcome www.gov.uk/government/consultations/biodiversity-net-gain-updating-planning-requirements

- Maintaining and enhancing biodiversity;
- Not causing significant loss of habitats or populations of species;
- Providing a net benefit to biodiversity (Para 6.4.5);
- Maintaining and enhancing green infrastructure (para 3.32).

Table 1. Key policy and legislation relating to biodiversity in UK planning systems

	Key policies and legislation	
Country	**Planning**	**Environment***
England	**National Planning Policy Framework** (NPPF) (2019) especially Ch. 15 Conserving and enhancing the natural environment), including Biodiversity net gain requirement (paragraph 175a) **Town and Country Planning Act** (2017) **Environmental Impact Assessment** including (para 4 (b) Process; Schedule 3.1 (d) Screening development; Schedule 3.2 (1) (b) Location of development; Schedule 4.1 (c) Information in Environmental Statements **National Planning Practice Guidance** Natural Environment (para 10 – 35) responsibilities regarding protected and priority species and habitats; 'proportionate' information and assessment required on biodiversity impacts at all stages of development; local ecology networks and nature recovery networks; application of mitigation hierarchy, net gain metrics, and promotion of woodlands	**(Draft) Environment (Principles and Governance) Bill (2019/2020)** (England and Wales) **Conservation of Habitats and Species Regulations** 2012 (HM Government, 2017) Natural Environment and Rural Communities (NERC) Act (2006) **Wildlife and Countryside Act** (1981) (as amended)
Northern Ireland	**Strategic Planning Policy Statement for Northern Ireland** (Northern Ireland Executive, 2015) especially paras 6.168 - 6.198 Natural heritage	The **Wildlife and Natural Environment Act**, Northern Ireland (Northern Ireland Executive, 2011) **Biodiversity Strategy for Northern Ireland to 2020** (2015)
Scotland	**Scottish Planning Policy** (Scottish Government, 2014) especially paras 193-218 Valuing the Natural Environment;	**Nature Conservation** (Scotland) Act (Scottish Government, 2004) 'Scotland's Biodiversity' (2004) and '2020 Challenge for Scotland's Biodiversity' (2013) constitute the **Scottish Biodiversity Strategy**
Wales	**Planning Policy Wales 10** (Welsh Government, 2018 – edition 10) especially Ch.6 Distinctive Nature Spaces	**Environment Bill** (2019/2020) (England and Wales). **Environment (Wales) Act** (Welsh Government, 2016), especially Section 6, regarding public authority biodiversity duty **Welsh Nature Recovery Action Plan** (2015)

*Each country has requirements regarding habitats and species protections and licencing requirements, including: Hedgerows Regulations 1997; Protection of Badgers Act 1992, Wild Mammals (Protection) Act 1996, Deer Act 1991.

Each UK country has a Biodiversity Strategy which outline plans to address threats to 'protected' and 'priority' species and to 'priority habitats' which have been identified as being the most threatened and requiring conservation[10]. These national strategies are due to be updated with new local requirements after the 2020 strategies and targets have been reviewed. LPAs must also protect designated sites in accordance with their statutory duties (see Table 2).

Table 2. The hierarchy of protected designated sites in the UK

	Site designation	Details
Sites of international importance	Ramsar Sites	Listed under the Convention of Wetlands of International Importance,1971(as amended)
	Special Protection Areas (SPAs)	Classified under the EC Directive on the Conservation of Wild Birds,1979
	Special Areas of Conservation (SACs)*	Designated under the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora,1992 (the Habitats Directive)
	Biosphere reserves	Designated by UNESCO
Sites of national importance	National Nature Reserves (NNRs), National Scenic Areas (NSAs) and Marine Nature Reserves (MNRs)	Declared under Section 19 of the National Parks and Access to the Countryside Act 1949 or Section 35 of the Wildlife and Countryside Act 1981 (England, Scotland and Wales); Articles 16, 18 and 20 respectively of the Nature Conservation and Amenity Lands (NI) Order 1985;
	Sites of Special Scientific Interest (SSSIs) and Areas of Special Scientific Interest (ASSI)	Notified under Section 28 of the Wildlife and Countryside Act 1981 (England); Article 24 of the Nature Conservation and Amenity Lands (NI) Order 1985
Sites of regional / local importance	Local Nature Reserves (LNRs) Wildlife Refuges (WR)	Designated by local authorities under Section 21 of the National Parks and Access to the Countryside Act 1949 (England), Article 16 of the Wildlife (NI) Order 1985 (NI) and Article 22 of the Nature Conservation and Amenity Lands (NI) Order 1985
	Non-Statutory Nature Reserves	Established and managed by a variety of public and private bodes e.g. county councils, wildlife trusts, RSPB
	Sites of Nature Conservation Interest (SNCIs) and County Wildlife Sites (CWSs)	These are non-statutory sites of at least county importance for wildlife which meet agreed selection criteria. The status of this type of site varies considerably

*The Habitats Directive also applies to candidate SACs. It is Government policy that all candidate sites of international importance notified to the European Commission should receive the same protection as designated sites.

[10] Biodiversity 2020 Strategy for England https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69446/pb13583-biodiversity-strategy-2020-111111.pdf; Biodiversity Strategy for Scotland www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy; Welsh 'Nature Recovery Action Plan (2015) www.biodiversitywales.org.uk/Nature-Recovery-Plan; Biodiversity Strategy for Northern Ireland 2020 www.daera-ni.gov.uk/publications/biodiversity-strategy-northern-ireland-2020-0

Failure to observe these regulations can mean that LPAs may be subject to long and costly legal challenges. For example, the case of R (on the application of Simon Woolley) v Cheshire East Borough Council and Millennium Estates [2009] EWHC 1227[11] was subject to four years of appeals and inspections. The High Court judge quashed the LPA's decision to grant planning permission, which had authorised the demolition of a property containing a pipistrelle bat roost. They ruled that the decision threatened a European protected species under the EU Habitats Directive (92/43/EEC), and was in breach of the Conservation (Natural Habitats) Regulations 1994 (now amended as the Conservation of Habitats and Species Regulations 2017).

The Planning Inspectorate has stated that the biodiversity duty also applies to **permitted development**, according to regulation 9 of 'The Conservation of Habitats and Species Regulations 2017' for England and Section 6 of the Environment (Wales) Act 2016. In a recent appeal case, the Inspector stated:

> **"competent authorities must consider the Directives in making decisions relating to any of their planning functions[12]."**

The case of Bagshaw v Wyre Borough Council [2014] EWHC 508 has also highlighted the importance of **ecological assessment** surveys to establish the extent of threat to protected species before taking a planning application decision. The judgement stated:

> **"The Defendant has a statutory duty under regulation 9(3) of the 2010 Regulations to have regard to the requirements of the Habitats Directive. Paragraph 99 of the Circular states: "It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted…[13]."**

There are additional biodiversity assessment requirements that LPAs need to comply with. These include observance of the Environmental Information Regulations (2004), as well as compliance with the Environmental Impact Assessment (EIA) Directive and the Strategic Environmental Assessment (SEA) Directive (2001)[14].

[11] Woolley vs Cheshire East Borough Council. High Court Judgement https://cdn.bats.org.uk/pdf/Our%20Work/Case_No_CO28202008_Woolley_vs_Cheshire_East_Borough_Council_May_2009.pdf?mtime=20181101151338
[12] The Planning Inspectorate (2015) Appeal Decision APP/L3245/W/15/3004467 https://acp.planninginspectorate.gov.uk/ViewDocument.aspx?fileid=11781354
[13] Bagshaw v Wyre Borough Council High Court Judgement (para 33.(i)) www.bailii.org/ew/cases/EWHC/Admin/2014/508.html
[14] RTPI (2018) Strategic Environmental Assessment Practice Advice Note www.rtpi.org.uk/knowledge/practice/sea

In terms of legal enforcement, in England and Wales Section 17 of the Crime and Disorder Act (1998) states the local authorities have a duty to do all that is reasonable to prevent wildlife crime[15], as outlined in the Wildlife & Countryside Act 1981. This includes reporting incidents to the local police, most of which have Wildlife Crime Officers[16]. Natural England, the Northern Ireland Environment Agency, Natural Resources Wales, and Scottish Environment Protection Agency are tasked with investigating crimes against protected species and habitats (e.g. SSSIs). LPAs have the power to investigate and prosecute some wildlife crimes. Prosecutions for offences (e.g. killing or injuring protected species) can result in a prison sentence and fines.

Delivering local community objectives

Our understanding about the importance of biodiversity to our daily lives and for long-term survival is rapidly increasing. Biodiversity and the natural environment can deliver multiple benefits to local communities, including promoting health and wellbeing, contributing to the local economy, and responding to the climate emergency[17].

With regard to the role of biodiversity for health and wellbeing, studies highlight the improved recovery rates for patients exposed to natural views, as well as general improvements to physical and mental health[18]. Others describe how nature can act as a buffer to human induced problems, such as air[19], water and soil pollution.

> **"An estimated 1.4 billion kg of air pollutants were removed by natural vegetation in 2015 – saving a potential £1 billion in avoided health costs."**
>
> (Air Quality Expert Group, 2018)

Local investment in biodiversity has also been found to contribute to the economy. This includes attracting visitors (for tourism and local businesses)[20], and enhancing worker productivity and retention. Biodiversity can also make productive contributions. For example, an estimated 80,000 tonnes of food is produced on UK allotments annually, worth an estimated £114 million[21].

[15] Wildlife crime includes: poaching, coursing, egg theft, collection or trade of protected species and animal products, taking protected plants, use of poisons, snares or explosives to kill or injure animals, introducing invasive species, damaging or destroying the habitat of any protected animal www.met.police.uk/advice/advice-and-information/wc/wildlife-crime/what-is-wildlife-crime/
[16] www.nwcu.police.uk/find-your-local-police/
[17] 'Demystifying Series' papers – Valuing Nature Network: https://valuing-nature.net/demystifying-series
[18] Sandifer et al (2015) Exploring connections among nature, biodiversity, ecosystem services, and human health and well-being, Ecosystem Services, v.12, pp 1-15
[19] EFTEC and CEH (2019) Free calculator measures local air pollutant removal value of trees in the UK www.ceh.ac.uk/press/online-calculator-shows-how-trees-can-improve-air-quality-and-cut-health-costs
[20] Cinderby and Bagwell (2018) Exploring the co-benefits of urban green infrastructure improvements for businesses and workers' wellbeing. Area. 50: 126– 135
[21] ONS (2018 a.) UK natural capital: ecosystem accounts for urban areas. Office of National Statistics www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapital/ecosystemaccountsforurbanareas#what-ecosystem-services-do-urban-areas-provide

Nature-based climate benefits have been identified. For example, protecting woodland, peat bogs and wetlands can provide vital carbon sinks, absorbing carbon dioxide from the atmosphere. It has been calculated that in 2015, the 3.2 million hectares of woodland in the UK removed 16.5 million tonnes of carbon dioxide, valued at £1 billion in terms of services to the economy per annum[22].

Case study: Nature based approach

Newcastle upon Tyne is one of a number of cities adopting this nature based approach. It is a demonstration city for the 'Blue-Green Cities'[23] programme which aims to address flood risk, recognising that 92% of the city centre surfaces are impermeable. Newcastle is also promoting health benefits of biodiversity investment, such as the Greening Wingrove Community Partnership Project, involving tree planting, demonstration gardens, and an urban orchard.

The arrangement and selection of species are important when promoting 'ecosystem services'. Habitats and species need to be identified that are appropriate to the location and the problems that need to be addressed. For example, Oak trees may offer an excellent wildlife habitat, but they emit ozone, whilst Silver Birch trees absorb it[24]. Improving the range and number of sites that offer contextually appropriate wildlife, habitats, and ecosystem services, is therefore an important objective for local authorities.

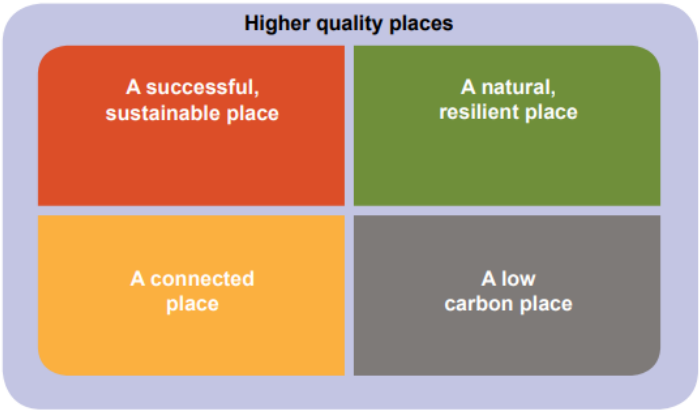
[22] ONS (2018 b.) UK Natural Capital: interim review and revised 2020 roadmap. Office of National Statistics www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/methodologies/uknaturalcapitalinterimreviewandrevised2020roadmap#main-points
[23] Blue-Green Cities www.bluegreencities.ac.uk/
[24] Air Quality Exert Group (2018) Impacts of Vegetation on Urban Air Pollution. DEFRA. https://uk-air.defra.gov.uk/library/reports.php?report_id=966

3. How should local planning authorities address biodiversity?

LPAs can meet their biodiversity duties in a number of ways. They can adopt appropriate planning policies and invest in their own public estate. They can work collaboratively to support more coordinated planning with other administrations. Engaging with local stakeholders helps to promote understanding and two-way cooperation when working to achieve biodiversity goals. LPAs need to have measures in place to monitor and evaluate biodiversity trends and performance over time. As well as financial and management arrangements, to ensure the effective delivery of biodiversity improvements, as agreed in planning consents and conditions.

Adopting a strategic planning approach: collaborative, ecosystem-based and landscape-scale planning

Ecosystem services are the benefits provided to humans by natural systems, ranging from food and water supply, to recreation and climate regulation. As the Scottish Planning Policy (2014) indicates, the natural environment is a central objective in achieving resilient and high quality local communities.



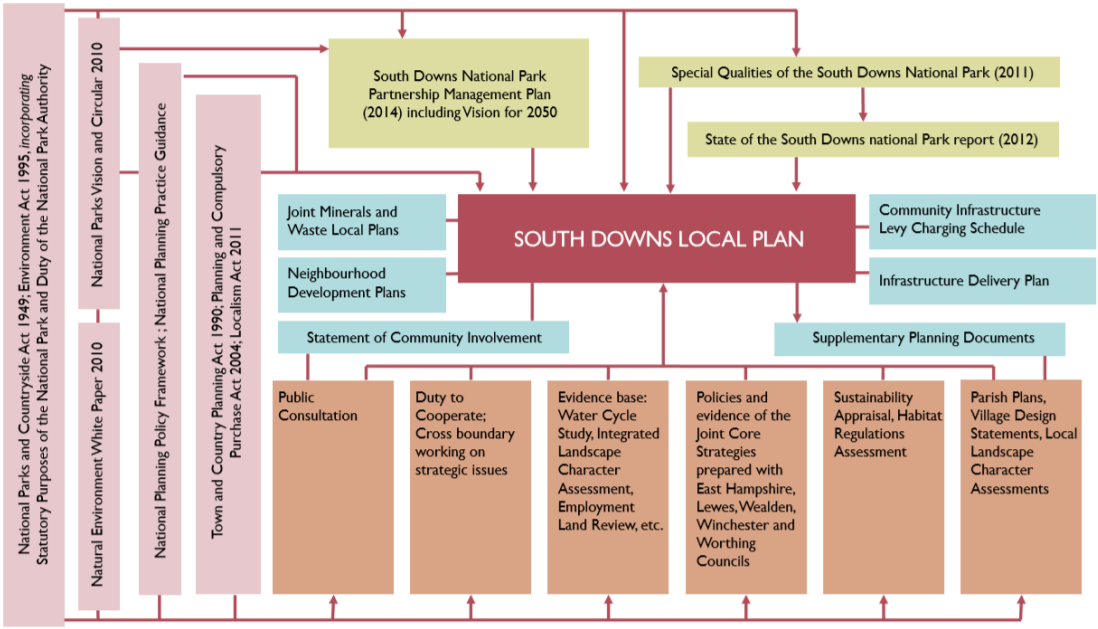
Higher quality places. Strategic planning objectives (Scottish Planning Policy, 2014)

Similarly, Planning Policy Wales (PPW) puts the concept of ‘placemaking’ at the heart of national planning policy. PPW 10 outlines detailed green infrastructure policies and requirements to meet biodiversity duties, recognising that biodiversity, ecological resilience and green spaces are integral components of achieving wider economic and social wellbeing objectives. National planning and environmental policies are clear that to achieve the multiple benefits associated with biodiversity. LPAs need to mainstream biodiversity as a central aim in local plans, environmental and green

infrastructure strategies. Biodiversity should also be integrated into other strategies that can have an impact on biodiversity, including transport, economy, housing and infrastructure[25].

Case studies: Mainstreaming biodiversity policy

The **South Downs National Park Authority** have established a biodiversity ecosystem services policy, as one of three overarching principles which all policies in the local plan are subservient to[26]. They also provide guidance for developers to understand how the policy should be applied when making a planning application and to achieve biodiversity enhancement in proposals[27].



Policies and plans linked to South Downs local plan (South Downs National Park Authority, 2019, p7)

Similarly, **Bracknell Forest Council** have adopted a Biodiversity Action Plan (BAP) for 2018-2023, in partnership with local organisations. The plan aims to deliver:

- Targeted monitoring – of priority species and habitats;
- Proactive policies – to protect important sites;
- Positive management – to maintain, restore and create key habitats for wildlife;
- Effective communication – between partners, landowners and the public to raise awareness, influence actions, encourage partnerships and inform decisions.

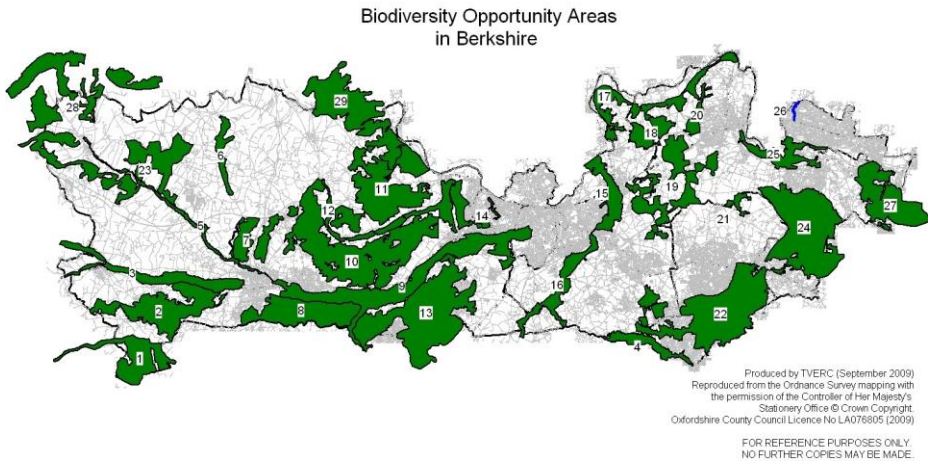
[25] Scott, A. (2017) Mainstreaming Ecosystem Science in Spatial Planning. https://mainstreaminggreeninfrastructure.com/outputs-page.php?Mainstreaming_SpatialPlanning
[26] South Downs National Park (2019) Local Plan www.southdowns.gov.uk/planning/national-park-local-plan/
[27] South Downs National Park (2018) Ecosystem Services and Householder Planning Applications www.southdowns.gov.uk/planning/supplementary-documents/

The plan is directly linked to the core strategy and commits the council to adopting a borough-wide green infrastructure policy, to develop a biodiversity accounting system to achieve net gain in planning applications and to securing 'biodiversity enhancement projects', through S106 planning obligations from appropriate developments[28].

Habitats and wildlife do not recognise institutional boundaries, therefore LPAs have a duty to cooperate (in accordance with the NPPF in England) when preparing strategic plans, including those regarding biodiversity. This requires LPAs to adopt a more transboundary, ecosystem-based and landscape-scale approach to working. In order to deliver their biodiversity duties, LPAs therefore need to work collaboratively with other LPAs, and partners, such as through Local Nature Partnerships and Local Biodiversity Partnerships, focusing on protecting and improving the natural environment based on local priorities and evidence. In England, DEFRA is promoting the creation of local 'nature recovery strategies' and 'nature recovery networks' which will require effective partnership working.

Case studies: Partnership working to bring wider biodiversity benefits

The **Berkshire Local Nature Partnership** used ecological and geological data to identify 29 Biodiversity Opportunity Areas (BOAs) as part of their landscape-scale approach to focus conservation action in the county. The BOAs include approximately 85% of Berkshire's Biodiversity Action Plan priority habitats, more than 48,000 hectares. The shared information helps the LPAs in the county identify where the greatest opportunities for habitat creation and restoration lie, enabling the efficient focusing of resources to where they will have the greatest positive conservation impact[29].



[28] Bracknell Forest Council Biodiversity Action Plan 2018-2023 www.bracknell-forest.gov.uk/parks-and-countryside/wildlife/biodiversity-action-plan
[29] Berkshire's Local Nature Partnership: Biodiversity Opportunity Areas http://berkshirelnp.org/index.php/what-we-do/strategy/biodiversity-opportunity-areas

Another example is the **Mersey Forest Partnership,** involving seven local authorities (Cheshire West and Chester, Halton, Knowsley, Liverpool, Sefton, St. Helens and Warrington) working together with landowners, the Forestry Commission, Natural England, Environment Agency, local businesses including United Utilities, and local communities. The Partnership manages the community owned Mersey Forest and helps to bring benefits for people, wildlife and the local economy.

"Green infrastructure is the region's life support system – the network of natural environmental components and green and blue spaces that lies within and between the North West's cities, towns and villages which provide multiple social, economic and environmental benefits."

Mersey Forest Partnership

Mersey Forest Partnership supports ten 'Friends of the Woodlands' groups who care for their local woods and have planted over 9 million trees since the beginning of the project in the early 1990s. The partnership established the URBAN GreenUP initiative[30] in Liverpool, where local partners have created green corridors to address local environmental targets on air quality, biodiversity and flooding and 'nature-based solutions'.

Planning requirements can be used to provide advice to developers on how key species and habitats should be managed and maintained overtime. This includes clarifications within supplementary planning documents about effective design principles, management and monitoring requirements. Importantly, LPAs can clarify any expected financial contributions towards biodiversity management and monitoring, through Community Infrastructure Levy (CIL) or S106 Agreements, increasing the resources available to enhance local parks and wildlife areas.

Case study: Investing in biodiversity through planning requirements

Carmarthenshire County Council has adopted a landscape-scale approach to conservation. The council has published supplementary planning guidance for the Caeau Mynydd Mawr Special Area of Conservation. The guidance establishes a management strategy to ameliorate for the loss of and secure the ongoing and future management of habitats used by the marsh fritillary butterfly (Euphydryas aurinia).

"The Marsh Fritillary is a native butterfly which has become increasingly scarce, so much so that it is now protected by law. Cross Hands and the surrounding area holds one of the last remaining strong populations in Britain."

(Carmarthenshire County Council, 2014)

[30] URBAN GreenUP Initiative www.urbangreenup.eu

In the guidance developers are required to make a financial contribution to mitigate for their development impacts, as a condition of granting planning permission for specific classifications of development within the area. The funds raised through development are invested in the long-term upkeep of the conservation area and protection of the butterfly[31]. There have been regular surveys to keep track of the butterfly population, which is reported to have successfully grown by 30% in the county, since the guidance was implemented[32].

Promoting biodiverse developments through planning

In accordance with national planning and biodiversity policies and legislation, LPAs need to ensure that planning applications and permitted developments take account of their potential biodiversity impact and provide opportunities to support biodiversity protection and ecological enhancement[33]. Local authorities can provide a clear planning framework to promote this approach. This includes using definite language that avoids ambiguity in local development management policies and planning conditions (e.g. not using wording like 'to have due regard' or 'to consider'). The BS 42020 Biodiversity: Code of Practice for Planning provides advice on the language to use. This includes writing conditions that require developers to respond to the recommendations set out in any Preliminary Ecology Appraisals or more detailed Ecology Impact Assessments that are conducted on proposed development sites, as well as making clear post construction conditions regarding monitoring and validation checks, financing, management and maintenance requirements.

Case studies: Clear planning policy, conditions and design guidance promoting biodiversity

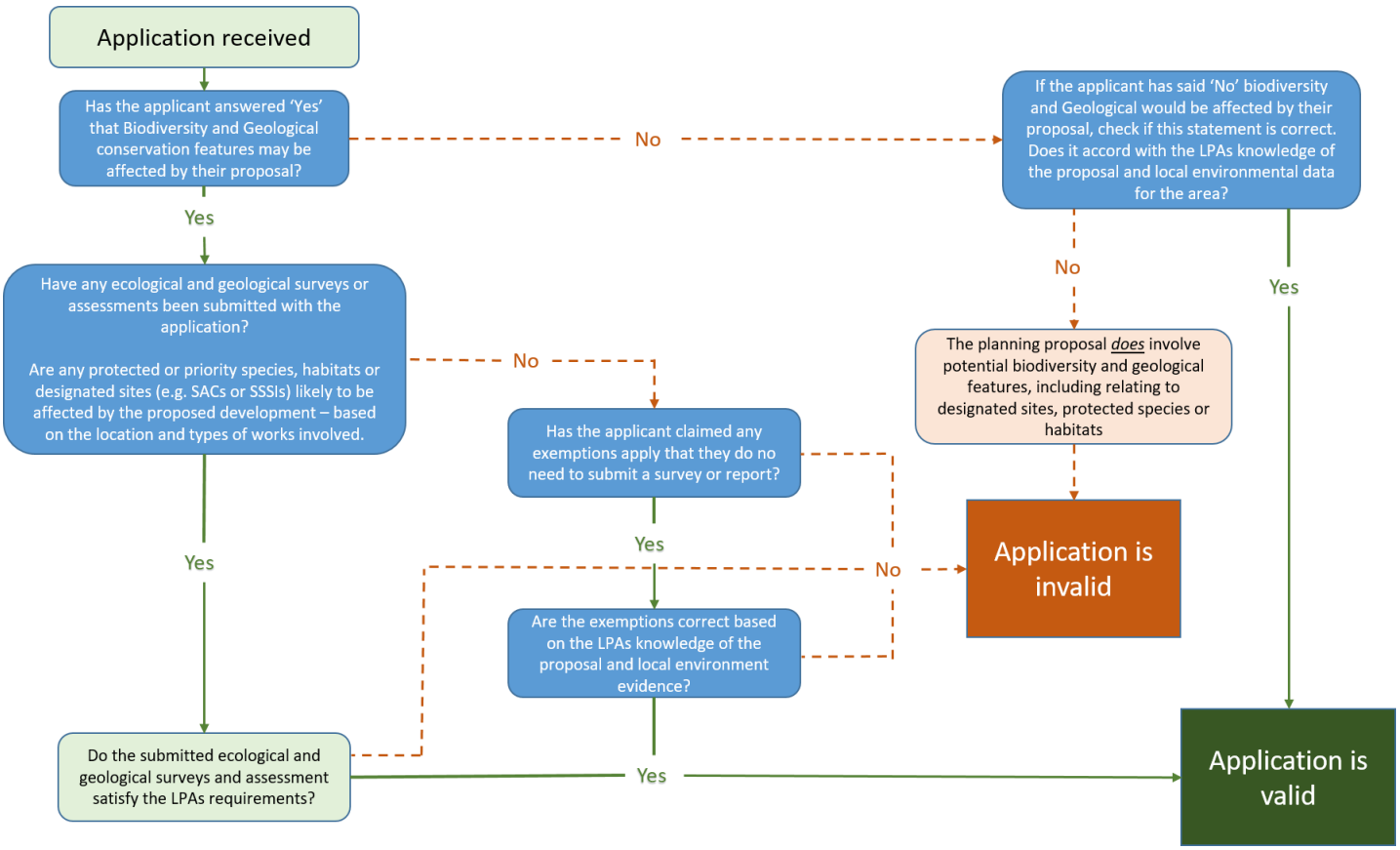
Lichfield District Council has introduced a supplementary planning document (SPD) that requires a 20% net gain in biodiversity in all new development projects[34]. Similarly, **Exeter City Council** has adopted a residential design SPD (2010), which includes a requirement for developers to demonstrate how they will 'protect and enhance biodiversity' in their Design and Access Statement submitted with their planning application. The council indicates that the Design and Access Statement must:

[31] Carmarthenshire Council (2014) Supplementary Planning Guidance www.carmarthenshire.gov.wales/media/3699/caeau-mynydd-mawr-spg-adopted.pdf
[32] Butterfly Conservation (2018) butterfly-conservation.org/sites/default/files/2019-04/Wales%20MF%20Feedback%202018.pdf
[33] Government advice for Protected Sites and Species www.gov.uk/topic/planning-development/protected-sites-species, including how to review planning applications: www.gov.uk/guidance/protected-sites-and-areas-how-to-review-planning-applications
[34] Fair, J. (2019) Inside a council's pioneering biodiversity net gain planning policy. ENDS Report 528, March 2019 (p32-33) and Lichfield's Biodiversity and Development SPD www.lichfielddc.gov.uk/downloads/file/1112/supplementary-planning-document-biodiversity-and-development

"set out the baseline ecological value of the site and proposals to enhance biodiversity. To do this a full ecological survey should be carried out by an appropriately qualified ecologist using recognised methodology."

In addition, Exeter City Council list a number of ecologically sensitive features that should be included within a scheme. These include nesting and roosting boxes, restored water courses and new water features, peatland protection, as well as making links with surrounding green spaces and wildlife corridors[35].

LPAs have a statutory duty to review all planning applications and permitted developments regarding the potential ecological impact of a development and to ensure proposals will promote ecological enhancement. This duty includes the need to validate planning applications to ensure biodiversity and geological conservation issues have been adequately addressed by the applicant. The validation process is summarised below[36].



Biodiversity in planning validation process by LPAs (adapted from ALGE, 2007)

[35] Exeter Council (2010) Residential Design Guide SPD https://exeter.gov.uk/planning-services/planning-policy/supplementary-planning-documents/residential-design-guide-spd/
[36] ALGE (2007) Validation of Planning Applications – Pilot Draft. Association of Local Government Ecologists www.alge.org.uk/publications-and-reports/

In Wales, a policy clarification letter to Chief Planning Officers explains that where biodiversity enhancement is not proposed as part of an application, significant weight will be given to its absence, and unless other significant material considerations indicate otherwise it will be necessary to refuse permission.

In October 2019, the UK Government presented the Environment Bill for England, which includes a new requirement for 'Net Gain' to biodiversity in development projects, i.e. developments should enhance rather than reduce the biodiversity present on a site. This is due to come into force by October 2021, and requires developers to produce a baseline assessment of the biodiversity currently present on a site and then estimate how proposed designs will increase that biodiversity, as well as provide post-construction evidence that at least a 10% gain has been achieved. Calculation of pre and post-construction biodiversity levels will be based on DEFRA's 'Biodiversity Metric 2.0'[37] (under public consultation until December 2019). The metric includes four components, each with specific indicators, to create an indicative biodiversity quality score pre and post-construction:

- **Distinctiveness** - a score is assigned based on DEFRA's habitat classification scores;
- **Condition** - based on DEFRA criteria associated to different habitats;
- **Strategic significance** - based on landscape-scale factors, defined nationally and locally;
- **Habitat connectivity** - based on a 'habitat aggregation' calculation linked to land area.

Developers will be expected to maintain any habitat creation or enhancement for a minimum of 30 years, with opportunities for longer-term protection. LPA's will need to agree biodiversity net gain plans with developers. If offsite compensation is agreed[38], as a last resort, local authorities will need to review developers' plans to ensure they deliver compensation through local habitat creation projects. If suitable local projects are unavailable, the Government will indicate nationally strategic habitats that can be invested in.

Preliminary Ecological Appraisal and Ecological Impact Assessment

When applying for planning permission a developer will need to provide evidence that they have undertaken the necessary checks and assessments to address the potential biodiversity impacts of their development proposal and deliver biodiversity net gain. This would typically involve the developer commissioning an ecological appraisal of the proposed site to consider the likely impacts

[37] http://nepubprod.appspot.com/publication/5850908674228224

[38] Certain 'irreplaceable habitats' will not be reflected by this mitigation approach and will be protected however, including: ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen in accordance with the National Planning Policy Framework (p.68-9, 2019) and the Conservation of Habitats and Species Regulations (2017)

to wildlife (flora and fauna) and establish baseline information. As advised by the British Standard BS 42020: 2013, an appraisal should be undertaken by a suitably qualified professional ecologist to ensure a rigorous and thorough independent appraisal.

Initially, the ecologist may decide to conduct a Preliminary Ecological Appraisal (PEA) to understand the potential ecological impacts that might be incurred. The PEA can involve a desk study and/or onsite surveys. PEAs typically involve:

- **Desk study** - also known as a 'background data search', an ecologist will review the development proposal alongside maps, aerial photographs, photographs of the site and local statutory and non-statutory designated sites for nature conservation. The consultant can obtain local data from a variety of sources, including from Local Environmental Record Centres and wildlife groups;
- **On-site survey** - also known as a site 'walkover', site assessment, constraints survey or scoping survey. This appraisal involves a visit by an ecologist to the proposed development site to assess the species, habitats and features present within and around the site.

The PEA is used to clarify any statutory obligations regarding biodiversity, regarding identifying potential ecological constraints or impacts to protected and priority species and habitats. The PEA outlines likely impacts and opportunities for mitigation, compensation and enhancement. It also considers if consultations are necessary with statutory bodies, as well as the need for any consents or special licences (BS 42020: 2013 para 6.1.9). PEAs should be conducted in accordance with the CIEEM Guidance for Preliminary Ecological Appraisals[39] (BS 42020: 2013, para 6.4.1). The PEA also determines if a more detailed Ecological Impact Assessment (EcIA) is required.

The EcIA is a more detailed process of identifying, quantifying and evaluating the potential impact of a development on species, habitats, and ecosystems for submission with a planning application. The assessment considers impacts within the development site, the surrounding locality and, where appropriate, on regional or national ecological resources. An EcIA is usually submitted with a planning application, unless the planning authority agrees that a PEA report is sufficient. The results of an EcIA should also be shared with the Local Environmental Records Centre.

If the development is subject to the Town & Country Planning (Environmental Impact Assessment) Regulations 2011 (for England, Scotland and Wales) or the Planning (EIA) Regulations for Northern Ireland (2017), (typically for larger schemes or when the impacts of the scheme are identified as likely to be environmentally significant), then a wide reaching Environmental Impact Assessment (EIA) will be required. An EIA requires an EcIA to be conducted as an element of a broader Environment Statement that will be produced as a part of the EIA, in accordance with the TCPA EIA Act (2017)[40]. In Scotland the Town and Country Planning (Environmental Impact

[39] https://cieem.net/resource/guidance-on-preliminary-ecological-appraisal-gpea/
[40] Government Guidance on EIA (2019) www.gov.uk/guidance/environmental-impact-assessment

Assessment) (Scotland) Regulations 2017 apply. Regardless of which assessment is applied, all planning applications should outline opportunities to promote wildlife gains through ecological enhancement, in accordance with national planning and environmental policies[41].

The Partnership for Biodiversity in Planning has created a free online tool, the **Wildlife Assessment Check**[42], to help identify whether there is a need to conduct ecological appraisals ahead of making a planning application. The tool primarily aims to help smaller developers who may be less aware that LPAs have a duty to assess planning applications for their potential impact to biodiversity. The Wildlife Assessment Check provides information about the key protected and priority species and designated sites that may be affected by development within a particular location or habitat.

Table 3. Species groups likely to be affected by development on different habitat types

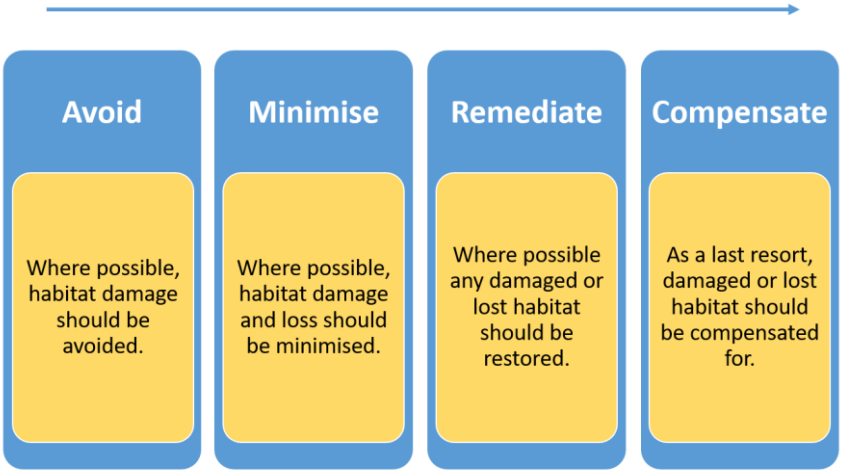
Habitat, building or land	Species to consider
Veteran (historical or important) trees, cellars, ice houses, old mines and caves	Bats, breeding birds and invertebrates
Buildings with features suitable for bats, or large gardens in suburban and rural areas	Bats, breeding birds, badgers, reptiles, invertebrates and great crested newts
Traditional timber-framed building (such as a barn or oast house)	Bats, barn owls and breeding birds
Lakes, rivers and streams (on land or nearby)	Amphibians, breeding birds, great crested newts, fish, otters, water voles and crayfish
Heathland on, nearby or linked to the site (by similar habitat)	Breeding birds, badgers, dormice, reptiles, invertebrates, natterjack toads and protected plants
Meadows, grassland, parkland and pasture on the land or linked to the site (by similar habitat)	Bats, badgers, breeding birds, great crested newts, invertebrates, reptiles and protected plants
Ponds or slow-flowing water bodies (like ditches) on the site, or within 500m and linked by semi-natural habitat such as parks or heaths	Amphibians, breeding birds, fish, great crested newts, water voles, invertebrates and crayfish
Rough grassland and previously developed land (brownfield sites), on or next to the site	Breeding birds, reptiles, invertebrate and protected plants
Woodland, scrub and hedgerows on, or next to the site	Bats, breeding birds, badgers, dormice, invertebrates, great crested newts, smooth snakes (see reptiles) and protected plants
Coastal habitats	Breeding birds, fish, natterjack toads and invertebrates

The tool indicates whether the developer is likely to need expert ecological advice. It aims to help smooth out the planning application process both for developers and local authorities, encouraging a more consistent and up-front approach to ecological appraisal.

[41] DEFRA (2019) op cit
[42] The Wildlife Assessment Check www.biodiversityinplaninning.org/wildlife-assessment-check

The **British Standard for Biodiversity** (BS 42020: 2013)[43] outlines detailed guidance on ecological appraisal and the ecological information that should be submitted in planning applications. The standard is targeted at ecologists and aims to improve the quality of biodiversity information that is presented in planning applications.

When validating a planning application, an LPA is required to confirm that necessary ecological data has been provided and they should ensure that the applicant has reasonably applied the '**mitigation hierarchy'** to their scheme. The hierarchy means that mitigation options regarding potential damage to biodiversity should be applied iteratively in order of preference, where any adverse environmental effects should firstly be avoided, then minimised, mitigated, and only as a last resort, with clear justification, compensated for; but enhancement must be secured wherever possible. In Wales this has been formalised in PPW 10 by requiring planning authorities to follow a 'step-wise' appraisal approach.



Mitigation hierarchy (Source: BS42020:2013)

Managing local government estates and public realm

Most LPAs still have clear responsibilities to manage and maintain local parks, public buildings, and the public realm (including streets and verges). This ownership provides an opportunity for local authorities to lead through example, demonstrating the approach they hope to encourage in the private realm.

[43] BS 42020:2013 British standard for Biodiversity – Code of Practice for Planning and development. (BSI, 2013)

Case study: Leading by example

As part of the **City of London Corporation** 'City Plan 2036', the Corporation has been working to increase green infrastructure provision and the quality of the local environment. They have supported the creation of 60 green roofs to reduce flood risk by reducing run off, mitigate the urban heat island effect and enhance biodiversity. The City has created numerous pocket parks and improved a network of green infrastructure to create greater amenity space and enhance opportunities for ecological connectivity.

The local authority requires all new developments and refurbishments to include a greening element to buildings and the public realm. The aim is to improve biodiversity, rainwater run-off, air and noise pollution, and urban temperature regulation. The underlying aim of this work is to ensure that the City is a more desirable business location and tourism destination.

Sharing the load: biodiversity communication and engagement

The UK is a signatory to the **UN Economic Commission for Europe's 'Århus Convention**' (1998) which seeks to guarantee the rights of citizens in relation to 'access to environmental information, public participation in environmental decision-making and access to justice in environmental matters'[44]. Through Århus, local authorities are obliged to improve public access to data on biodiversity (and other environmental information) through public policy and practice. This includes sharing local and national biodiversity information and trends, promoting greater awareness and active engagement in local species and habitat programmes, policy and planning decisions. In addition, they can promote a range of opportunities to encourage a wide cross section of people to contribute to biodiversity protection and enhancement, and to benefit from that through active engagement. The **Environmental Information Regulations (2004)** bring into force the Århus Convention' requirements in England, Northern Ireland and Wales. They require public access to environmental information held by public authorities in two ways:

- Public authorities must make environmental information available proactively;
- The public are entitled to request environmental information from public authorities.

Environmental information held by Scottish public authorities is covered by the Environmental Information (Scotland) Regulations 2004[45].

[44] www.unece.org/env/pp/introduction.html
[45] https://ico.org.uk/for-organisations/guide-to-the-environmental-information-regulations

Case study: Creating new communities in harmony with biodiversity

Aylesbury Vale District Council instigated a collaborative development process, inviting Barratt Homes to work in partnership with the RSPB on the Kingsbrook development to build 2,500 new homes[46]. RSPB assessed the site, to gain a baseline of on-site wildlife prior to construction. The first 300 units were built between 2016 and 2018, and an array of wildlife features were created, including native trees, community orchard, hedges and native wildflowers. There are swales (shallow channels) and pools to create a sustainable drainage system that holds rainwater in storms, planted with native vegetation. Wildlife corridors have been created for hedgehogs, frogs and newts. The site will include 60% greenspace, excluding gardens. The RSPB is working with residents and Barratt Homes to give advice on the site's wildlife friendly features, along with building wildlife friendly gardens in the show homes to demonstrate a model for private gardens[47].

"It was so encouraging to meet new residents of Kingsbrook who love the idea that their homes will be surrounded by green space and nature. For some it has been their top reason for wanting to move to Kingsbrook."

Adrian Thomas, RSPB

Embedding biodiversity evaluation and monitoring in local decision making

LPAs are required to undertake **Strategic Environmental Assessment** (SEA) of the effects of their decision making, plans and programmes on the environment, in accordance with the EU 'SEA Directive' (Directive 2001/42/EC):

> **"The Directive sets out clearly to establish a high level of protection for the environment (Article 1) and to integrate environmental considerations into the preparation of [plans and programmes] likely to have significant effects on the environment, with a view to promoting sustainable development[48]."**

Annex I(d) of the Directive requires LPAs to produce an environmental report that considers any existing environmental problems associated to public plans and programmes, including potential effects on **designated sites** linked to the 'Habitats Directive' (Directive 92/43/EEC3) and the 'Birds Directive' (Directive 2009/147/EC4). They also should consider the effects on 'biodiversity', 'fauna' and 'flora' (Annex I(f)). The SEA Directive states that LPAs to the need to comply with the UN Convention on Biological Diversity and associated protocols.

[46] RTPI (2019) Awards for Planning Excellence www.rtpi.org.uk/events/awards/awards-for-planning-excellence/
[47] RSPB (2018) Neighbourhoods for Nature. Kingsbrook Case study. Nature's Home, Summer 2018
[48] EU (2013) Guidance on Integrating Climate Change and Biodiversity into Strategic Environmental Assessment https://publications.europa.eu/en/publication-detail/-/publication/41f79c6f-9d84-4b1d-b695-9e362f324a9b

To comply with legislation, LPAs should work with partners, experts and local groups to keep up-to-date information on the status of biodiversity in their local area. Good data collection and review enables authorities to keep track of the implementation of key policies regarding progress on biodiversity protection and enhancement, as well as the appraisal of the potential impact of future plans and policies. This includes using national data sources like DEFRA's MAGIC tool[49], as well as local environmental record centres (LERCs) and local Wildlife Trusts who act as repositories for local biodiversity data.

Case study: Using biodiversity information to improve decision making

Northampton Borough Council Green Infrastructure Plan (2016)[50] has used a range of data to help the authority "prioritise the planning, development of, and investment in green infrastructure for the Northampton Related Development Area (NRDA) until 2029". Northampton recognised there were no baseline figures on which to monitor green infrastructure implementation. They gathered baseline information to provide an evidence base to help shape the development of the borough's local plan, as well as to establish policies aiming to enhance the quality of Northampton's natural environment, increase biodiversity and strengthen the local network of habitats. The plan proposes a series of local green infrastructure networks, identified through desk studies, fieldwork and consultation. Northampton have also adopted a clear monitoring framework to ensure the effective delivery of the plan and associated projects.

"Splitting the local level green infrastructure network into components makes it possible to understand how elements of the wider network are connected, and how they function at a local level. It also makes it easier to identify what needs to be done to enhance the local network."

Northampton Green Infrastructure Plan, 2016

The **Brecon Beacons National Park Authority** have a five-year Nature Recovery Action Plan (2019-2024) covering over 25 thousand hectares of land, the Rivers Usk and Wye, and many unique endemic plant species. The plan is focused on enhancing ecological survey, monitoring and surveillance programmes to improve the evidence base and programme delivery. The Local Nature Partnership will build on its access to a variety of specialists, visiting naturalists, links with researchers and partner expertise, as well as prioritise the 'citizen science' potential of the Park's visitors and local communities, investing in the next generation of specialist ecological field skills[51].

[49] https://magic.defra.gov.uk
[50] Northamptonshire County Council (2016) Green infrastructure Plan
[51] Brecon Beacons NPA (2019) Nature Recovery Action Plan www.beacons-npa.gov.uk/environment/nature-recovery-action-plan/

A new set of **natural capital accounting** tools are emerging, which assign financial values to the services provided by nature. It should be emphasised that such tools do not capture all the values associated with nature (including intrinsic values and non-anthropocentric values), however they can contribute to informing local planning decisions and objectives.

Case studies: Natural capital accounting to enhance local decisions and investment

Glasgow City Council used the B£ST (Benefits Estimation Tool) (free from CIRIA), to inform the city centre Surface Water Management Plan. It calculated that the net benefits of various ecological measures (green roofs, swales, permeable paving, pond/wetland and exceedance management measures) were worth over £60 million to the city for the services provided. These included flood relief, increased water quality, and carbon reduction and sequestration. By comparing alternative options, the local authority could then prioritise planning and investments with the most effective the ecosystem interventions[52].

Similarly, the **London Borough of Barking and Dagenham** used natural capital accounting, in combination with detailed data to analyse their local parks and open spaces and develop ten masterplanned park project designs. The local authority faced numerous health challenges, for example childhood obesity and health inequalities. The tool highlighted how targeted investments in borough parks and open space improvement would help address some of these problems and save the council money[53].

Bristol City Council used 'iTree', a natural capital accounting tool, to measure the services nature provides towards addressing climate impacts and strategic planning objectives. The council worked with the Forest of Avon Trust, the Woodland Trust, Forestry Commission, Bristol Tree Forum, and a number of volunteers, who undertook tree surveys throughout the city during the summer of 2018. The data collected calculated that:

"each year trees in Bristol provide environmental services worth around £2.7 million, removing about 100 tonnes of air pollution, reducing flood risk by soaking up some 90,000m3 of water and removing 14,000 tonnes of carbon dioxide, equivalent to the annual emission of about 9,000 cars."

The results were then used to inform an action plan for trees in Bristol in the "One City Plan' which proposes to double the existing 12% canopy cover in the city by 2046[54].

[52] Glasgow City (2019) Surface Water Management Plan, SustDrain www.susdrain.org/files/resources/BeST/best_case_study_glasgow_swmp.pdf
[53] Landscape Institute (2018) Celebrating people, place and nature www.landscapeinstitute.org/journal/celebrating-people-place-nature-awards-2018
[54] Bristol City Council (2019) One City Plan www.bristolonecity.com/one-city-plan/

Establishing financial and management arrangements

With more limited resources LPAs need to be increasingly innovative in how they ensure long-term funding to manage and maintain biodiversity within their communities.

The 25 Year Environment Plan for England includes the proposal to introduce 'Conservation Covenants', voluntary but legally binding agreements which enable landowners to leave a permanent conservation legacy on their land for future generations[55]. A landowner can make a formal agreement with a charity or public authority, to retain their land for a conservation purpose, such as maintaining an area of woodland, with public access to it or to avoid use of pesticides on a piece of native vegetation. Covenant agreements should be long lasting and continue even after a landowner has parted with the land, to ensure that the conservation value of the land is protected for lasting public benefit[56].

Local authorities are seeking multiple financial solutions to fund the long-term management and maintenance of biodiverse green infrastructure sites. Funding options depend on the type of area needing support and each route carries their own benefits and costs, legislative and administrative requirements. Options include:

- Creation of municipal bonds;
- Community Infrastructure Levy/planning charges (CILs);
- Section 106 or 75 development consent agreements;
- Commuted sums;
- Central government grants (i.e. Housing Growth Funds);
- Private company finance and sponsorship;
- Trust funds[57] [58].

Case study: Creating trusts to finance and maintain biodiverse green infrastructure

In **Milton Keynes**, the 'Park Trust' is an independent self-financing charity, which manages 6,000 acres of green spaces, including rivers, woodland, lakesides, parks and landscaped areas. The Trust is funded through a portfolio of investments, endowments, and charitable income. The Trust's investments provide the largest returns, from commercial property and managed funds, including ethical fund investments, and Whitecap, a subsidiary leisure company.

[55] HM Government (2018) A Green Future. Our 25 year plan to improve the environment. P.62
[56] The Law Commission (2015) Conservation Covenants. Executive Summary
[57] Ozdemiroglu E. & Duke G. (2019) Demystifying Green Finance, Valuing Nature Paper VNP21 https://valuing-nature.net/demystify-green-finance
[58] Mell (2017) Financing the future of green infrastructure planning: alternatives and opportunities in the UK

Biodiversity conservation is one of the Trust's core values[59]. Although it is not a public body, the Park Trust adheres to the Biodiversity Duty in the NERC Act 2006 (Section 40):

"to have regard, so far as is consistent with the proper exercise of its functions, to the purpose of conserving biodiversity."

Their biodiversity policy seeks to ensure wildlife conservation objectives are given a high priority, in balance with the recreational, amenity and landscape needs across the estate. In 2010, a Biodiversity Action Plan was produced which identified ten key habitats and fifteen priority species requiring individual Habitat Action Plans and Species Action Plans. The Trust has an Ecological Advisory Group (EAG) which meets quarterly to advise and guide the Trusts' biodiversity concerns, comprising Trust staff and external experts[60].

The future of biodiversity policy in the UK

Biodiversity is an area of legislation and policy that is undergoing a period of change in the UK.

The Environment Bill for England[61] was published in 15 October 2019 and proposed new requirements for English LPAs regarding biodiversity, including delivering Biodiversity Net Gain on new developments, the delivery of local nature recovery strategies and networks, as well as supporting new conservation covenants that will function to ensure effective planning and long-term management and maintenance of sites. RTPI, and other partners, are engaging with the Government regarding the further elaboration of the Bill.

In Scotland, the Planning (Scotland) Act 2019[62] contains a number of provisions that have implications for biodiversity in planning. These include a stronger provision to consider the effects of development on biodiversity as part of the assessment of environmental effects. The next National Planning Framework 4 is also likely to contain a policy to secure the positive effects for biodiversity, as well as any future Scottish biodiversity strategy.

In Wales, the Environment (Wales) Act 2016 made it a duty for LPAs to produce Area Statements and promote Biodiversity Net Gain[63]. The Area Statements set priorities for each locality and will drive Natural Resources Wales' work programmes locally, whilst influencing national policy and set priorities for funding streams. The statements will require new ways of working as they rely on successful collaboration to build resilient ecosystems and enhance the benefits for local people.

[59] Caircross, J. (2018) Milton Keynes: A Successful Trust Model
[60] The Parks Trust (2017) The Parks Trust Biodiversity Action Plan, 2017 - 2022 www.theparkstrust.com/our-work/introduction-to-landscape-management/action-for-wildlife/
[61] Environment Bill www.gov.uk/government/publications/draft-environment-principles-and-governance-bill-2018/environment-bill-summer-policy-statement-july-2019
[62] Planning (Scotland) Act www.legislation.gov.uk/asp/2019/13/contents/enacted
[63] https://naturalresources.wales/about-us/area-statements/area-statements-overview/?lang=en

Similar to Wales, the eleven local councils in Northern Ireland must make their decisions on planning applications in line with their Area Plans/Local Development Plans, and the Strategic Planning Policy Statement (SPPS), which indicates that the environment must be assessed as a 'material consideration' in any planning applications.

The future 'nature strategy' for England will contain clear guidance about future biodiversity targets and actions up to 2030, focusing particularly around spatial planning, partnerships and financial arrangements. Similarly, Northern Ireland, Scotland and Wales are revising their biodiversity strategies to set new targets, which will have implications for LPA biodiversity responsibilities for the next decade[64].

This practice advice note will be updated to reflect these changes as they come into force.

4. Sources of further information

A diverse range of organisations work to promote biodiversity at national and local levels as outlined in Table 4. **Local Nature Partnerships** and **Local Biodiversity Partnerships** can help local authorities to manage the natural environment at a landscape-scale, as a transboundary system and to embed the contribution green infrastructure to local decisions for the benefit of nature, people and the economy[65].

Local Environmental Records Centres (LERC) are not-for-profit organisations that provide an important repository of environmental data. They collect, collate and manage information on the natural environment for a defined geographic area. They support and collaborate with a network of experts to ensure information is robust and make information products and services accessible to a range of audiences including decision makers, the public and researchers[66].

[64] Welsh Nature Recovery Action Plan (2015) gov.wales/sites/default/files/publications/2019-05/nature-recovery-action-plan-2015.pdf; RSPB (2015) The Planning System in Northern Ireland www.rspb.org.uk/globalassets/downloads/get-involved/campaigning/the-planning-system-in-northern-ireland.pdf
[65] DEFRA (2012) Local Nature Partnerships Overview www.gov.uk/government/publications/role-of-local-nature-partnerships-an-overview
[66] Find your LERC here: www.alerc.org.uk/lerc-finder.html

Table 4. Key organisations providing biodiversity advice and information

Type	Organisation
National policy makers	Ministry for Housing Communities and Local Government (MCLG) Department for Environment, Food and Rural Affairs (DEFRA), UK Department of Agriculture, Environment and Rural Affairs (DAERA), Northern Ireland Environment and Forestry Directorate, Scottish Government Housing and Local Government, Welsh Government
National statutory bodies	Environment Agency (enforcement) Forestry Commission Forestry and Land Scotland and Scottish Forestry Joint Nature Conservation Committee Natural England Natural Resources Wales National Wildlife Crime Unit Northern Ireland Environment Agency (NIEA) Natural Heritage Northern Ireland Scottish Natural Heritage Scottish Environment Protection Agency (SEPA)
Professional ecological and environmental institutes	Association of Local Government Ecologists (ALGE) Chartered Institute for Environmental Ecology and Management (CIEEM) Construction Industry Research and Information Association (CIRIA) Institute for Environmental Management and Assessment (IEMA)
Data sources and managers	Local Environmental Record Centres Local Wildlife Trusts MAGIC National Biodiversity Network Atlas
Species and habitat conservation groups	Amphibian and Reptile Conservation (ARC) Trust Badger Trust Bat Conservation Trust Buglife Bumblebee Conservation Trust Butterfly Conservation Mammal Society Plantlife Protected, Threatened and Endangered Species (PTES) trust RSPB RSPCA Scottish Wildlife Trust The Conservation Volunteers (TCV) The Rivers Trust Wildfowl and Wetland Trust Woodland Trust

Biodiversity assessment

- Association for Local Environmental Record Centres (ALERC) www.alerc.org.uk
- BS42020: 2013 - British standard for Biodiversity – Code of Practice for Planning and development. (BSI, 2013)
- B£ST – Benefits Estimation Tool (SusDrain) www.susdrain.org/resources/best.html
- BRE Home Quality Mark (Building Research Establishment, 2015) www.homequalitymark.com
- Building with Nature – benchmark for people and nature (Gloucestershire Wildlife Trust and University of the West of England, 2017) www.buildingwithnature.org.uk
- Demystifying Series – Valuing Nature Network https://valuing-nature.net/demystifying-series
- Environmental Impact Assessment Guide to Shaping Quality Development (IEMA , 2015) www.iema.net/assets/uploads/iema_guidance_documents_eia_guide_to_shaping_quality_development_v7.pdf
- Environmental Information Regulations, Information Commissioner's Office; https://ico.org.uk/for-organisations/guide-to-the-environmental-information-regulations
- Government advice for protected sites and how to review planning applications www.gov.uk/guidance/protected-sites-and-areas-how-to-review-planning-applications
- Government Guidance on EIA (2019) www.gov.uk/guidance/environmental-impact-assessment
- MAGIC: geographic information across Great Britain https://magic.defra.gov.uk
- Natural Capital Planning Tool http://ncptool.com
- National Biodiversity Network https://nbn.org.uk
- Registered ecological consultants directory (CIEEM) https://events.cieem.net/RegisteredPracticeDirectory/Registered-Practice-Directory.aspx
- Technical Guidance Series Guidance for Preliminary Ecological Appraisals (CIEEM, 2013) www.cieem.net/data/files/Resource_Library/Technical_Guidance_Series/GPEA/GPEA_April_2013.pdf
- Wildlife Assessment Check www.biodiversityinplanning.org

Biodiversity enhancement, net gain and protection

- A Better Balance: A roadmap to biodiversity net gain. (Balfour Beatty, 2018) www.balfourbeatty.com/media/317352/balfour-beatty-a-better-balance-a-roadmap-to-biodiversity-net-gain.pdf
- Biodiversity Net Gain: consultation. (DEFRA, 2018) consult.defra.gov.uk/land-use/net-gain/
- Biodiversity Net Gain: updating planning requirements. Consultation outcome. www.gov.uk/government/consultations/biodiversity-net-gain-updating-planning-requirements

- Creating greenroofs for invertebrates: Best practice guidance (Buglife International, 2012) https://cdn.buglife.org.uk/2019/07/Creating-Green-Roofs-for-Invertebrates_Best-practice-guidance.pdf
- Designing for Biodiversity: a technical guide for new and existing buildings (2013) www.bats.org.uk/pages/guidanceforprof-designing_for_biodiversity_a_technical_guide_for_new_and_existing_buildings-1089.htm
- Green Infrastructure and Biodiversity. PERFECT Fact Sheet (TCPA, 2017) www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1526374606.pdf
- Guidance on Biodiversity Net Gain (CIRIA / CIEEM / IEMA, 2016 & 2019) www.ciria.org/Resources/Biodiversity_Net_Gain.aspx
- Homes for People and Nature: How to build housing in a nature friendly way (The Wildlife Trusts, 2018) www.wildlifetrusts.org/sites/default/files/2018-05/homes_for_people_and_wildlife_lr_-_spreads.pdf
- Landscape and Urban Design for Bats and Biodiversity (Kelly Gunnell, Gary Grant, Carol Williams, 2012) www.bats.org.uk/our-work/landscapes-for-bats/landscape-and-urban-design
- Local Nature Partnerships (LNPs) www.gov.uk/government/publications/role-of-local-nature-partnerships-an-overview
- Managing Grassland Road Verges: Best practice guidance (Plantlife, 2019) www.plantlife.org.uk/uk/about-us/news/road-verge-management-guide
- National Standards for Sustainable Drainage (SusDrain) www.susdrain.org/delivering-suds/using-suds/legislation-and-regulation/national-standards-for-sustainable-drainage.html
- National Wildlife Crime Unit www.nwcu.police.uk
- Partnership for Action Against Wildlife Crime (PAW) www.gov.uk/government/groups/partnership-for-action-against-wildlife-crime
- Trees Species selection for Green Insfrastructure, (Trees and Design Action Group, 2018) http://www.tdag.org.uk/species-selection-for-green-infrastructure.html
- Urban Greening Factor. Policy G5, London Plan (GLA, 2018) www.london.gov.uk/what-we-do/planning/london-plan/new-london-plan/draft-new-london-plan/chapter-8-green-infrastructure-and-natural-environment/policy-g5

Biodiversity policy

- 2020 Challenge: Scotland's Biodiversity Strategy www.gov.scot/publications/2020-challenge-scotlands-biodiversity-strategy-conservation-enhancement-biodiversity-scotland/
- 25 Year plan to improve the environment. (HM Government, 2018) www.gov.uk/government/publications/25-year-environment-plan
- Biodiversity Strategy for Northern Ireland to 2020 (2015) www.daera-ni.gov.uk/publications/biodiversity-strategy-northern-ireland-2020-0

- Conservation of Habitats and Species Regulations (HM Government, 2017) www.legislation.gov.uk/uksi/2017/1012/contents/made
- Environment (Wales) Act (Welsh Government, 2016) https://gweddill.gov.wales/topics/environmentcountryside/consmanagement/natural-resources-management/environment-act/?lang=en
- Environmental (Principles and Governance) Bill (2019/2020) (England and Wales)
- Natural Environment and Rural Communities (NERC) Act (2006) www.legislation.gov.uk/ukpga/2006/16/contents
- Nature Conservation (Scotland) Act (2004) www.legislation.gov.uk/asp/2004/6/contents
- The Århus Convention (UN Economic Commission for Europe, 1998) www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf
- The Wildlife and Natural Environment Act, Northern Ireland (Northern Ireland Executive, 2011) www.legislation.gov.uk/nia/2011/15/contents
- Wildlife and Countryside Act 1981 (as amended) www.legislation.gov.uk/ukpga/1981/69

Biodiversity advice

- Bats, planning and the law. (Bat Conservation Trust) www.bats.org.uk/our-work/buildings-planning-and-development/building-or-development-works/planning-and-the-law
- Biodiversity in Wales guidance, including section 6 biodiversity duty guidance and the Action Plan for Pollinators www.biodiversitywales.org.uk
- Guidance on building Development (England) with respect to Amphibians and Reptiles. (Amphibian and Reptile Conservation Trust, 2010) www.arc-trust.org/Handlers/Download.ashx?IDMF=cd0b787f-22fd-4aa9-989d-571ab0299f99
- National Planning Practice Guidance – Natural Environment (MHCLG, 2019) www.gov.uk/guidance/natural-environment#biodiversity-geodiversity-and-ecosystems
- Planning naturally: Spatial planning with nature in mind (RSPB, CIEEM and RTPI, 2013) www.rspb.org.uk/globalassets/downloads/documents/positions/planning/planning-naturally---spatial-planning-with-mature-in-mind.pdf
- Planning for green and prosperous communities. Guide 7 Practical Guides for Creating Successful New Communities. INTERREG project. (TCPA, 2018) www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1518622468.pdf
- Protected Sites and Species Planning and Development Guidance. (Natural England, 2019) www.gov.uk/topic/planning-development/protected-sites-species
- Species and habitats guidance. (JNCC, 2013) http://jncc.defra.gov.uk/page-6297

For more information about RTPI practice advice
www.rtpi.org.uk/knowledge/practice

Written by
Dr. Rosalie Callway, Partnership for Biodiversity in Planning

With special thanks to
Sarah Lewis (RTPI), Dr. Carol Williams, Jan Collins, Pete Charleston (BCT), Professor Alister Scott (University of Northumbria), John Day (RSPB), and Tom Hunt (ALERC), as well as to the planners and ecologists who reviewed this advice.

RTPI - Royal Town Planning Institute
practice@rtpi.org.uk
Tel: 020 7929 9494

Royal Town Planning Institute,
41 Botolph Lane, London EC3R 8DL.

Registered Charity in England (262865) & Scotland (SC037841)