



Biodiversity and planning

Guidance for new developments

Supplementary Planning Document

March 2023

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1. Key points

Much of our wildlife-rich habitat has been lost over the last century and many species are in long-term decline. The UK is now one of the most nature depleted countries in the world.

The [Government's 25 Year Environment Plan](#) (2018) marked a step-change in ambition for wildlife and the natural environment. Its overarching ambition is to 'leave our environment in a better state than we found it and to pass on to the next generation a natural environment protected and enhanced for the future'.

A key principle of the Environment Plan is to support development and the environment by embedding the principle that new development should result in "net environmental gain – with neglected or degraded land returned to health and habitats for wildlife restored or created". This has laid the foundation for the Environment Act 2021 to tackle biodiversity loss and recover nature through Biodiversity Net Gain, where development has a positive impact on biodiversity not just a neutral or negative impact, and the Nature Recovery Network (and supporting local strategies), which will require more habitat; in better condition; in bigger patches that are more closely connected.

This Supplementary Planning Document (SPD) forms part of South Gloucestershire Council's response to the Environment Act. It sets out the factors the Council will take into consideration to help ensure that biodiversity is adequately conserved, enhanced, and achieves a measurable net gain throughout the development process. It informs applicants of the level of information required to accompany planning applications, giving practical advice and step-by-step guidance on how development and associated land use change proposals will need to comply with legislation, the National Planning Policy Framework, and the policies on the natural environment in the adopted Local Plan.

The commencement of the Biodiversity Net Gain provisions in the Environment Act are subject to further regulations made by the Secretary of State. At the time of publishing this SPD secondary legislation and further detailed guidance on achieving 10% Biodiversity Net Gain is anticipated to apply to development by late 2023. Pending this, the Council's interim objectives in relation to Biodiversity Net Gain and our approach to assessment within the planning process, is set out in Chapter 6 and 8. The SPD should be read alongside any further forthcoming government guidance and appropriate consideration given to the most up to date advice and guidance.

It is advised that specialist ecological consultant advice is sought in terms of assessing and collating the scope of biodiversity information required to support a given application, in consultation with the Council's Ecological Officer(s).

This SPD is intended to supersede the South Gloucestershire Design Guide: Biodiversity and the Planning Process (adopted 2005). It will also in time be updated to support the Council's new Local Plan when adopted and when secondary legislation and further guidance relating to the Environment Act 2021 has been agreed.

A Climate Emergency was declared by South Gloucestershire Council on the 17th July 2019. This is now at the heart of significant aspects of the Council Plan (2020-2024) and associated priorities and commitments. Putting nature at the heart of how new developments are established is crucial to providing climate resilience. It allows for a more sustainable approach to be taken and gives opportunities for adaptation as part of the challenge of climate change. Preparing, adopting and implementing this SPD is one of the keyways the Council will realise its ambitions of nature recovery and also its aspirations on becoming carbon neutral by 2030.

2. Introduction

Any development or land use change has the potential to impact (both negatively and positively) on local biodiversity through its effect on habitats and wildlife. This SPD provides detail on how biodiversity will be integrated into the development process to ensure that legislation, policy, and best practice standards are met. It identifies and describes when and where biodiversity will need to be protected by the planning system; clearly sets out when to survey, what to survey for and how surveys should be conducted; it guides applicants through the Biodiversity Mitigation Hierarchy of **Avoid, Mitigate, Compensate**; and sets out how a measurable net gain to South Gloucestershire's biodiversity will be achieved. It also introduces the South Gloucestershire Nature Recovery Network (and supporting Local Nature Recovery Strategy) and the Great Crested Newt District Licencing Scheme.

The principal objectives of this SPD are to provide advice and guidance to support the understanding of:

- What is biodiversity and why it is important.
- The legislative framework, which includes the new Environment Act (2021), and how this governs biodiversity considerations that must be taken into account in the planning process.
- The Council's commitment to support nature recovery.
- Existing policies on the natural environment and biodiversity within the South Gloucestershire Core Strategy 2006-2027 (adopted December 2013) and the Policies, Sites and Places (PSP) Plan (adopted November 2017).
- When and where biodiversity is likely to need protecting in South Gloucestershire.
- What Biodiversity Net Gain and the Nature Recovery Network are in planning terms.
- What South Gloucestershire Council expects to be included and addressed within any planning application. Providing a guide through the planning process detailing the information that needs to be submitted at each stage.
- How to build biodiversity into development. Explaining how to integrate biodiversity into all stages of the planning, design, and development process and provide an illustrative best practice biodiversity design guide to help support successful planning.

This SPD should be read in conjunction with the following related SPD's:

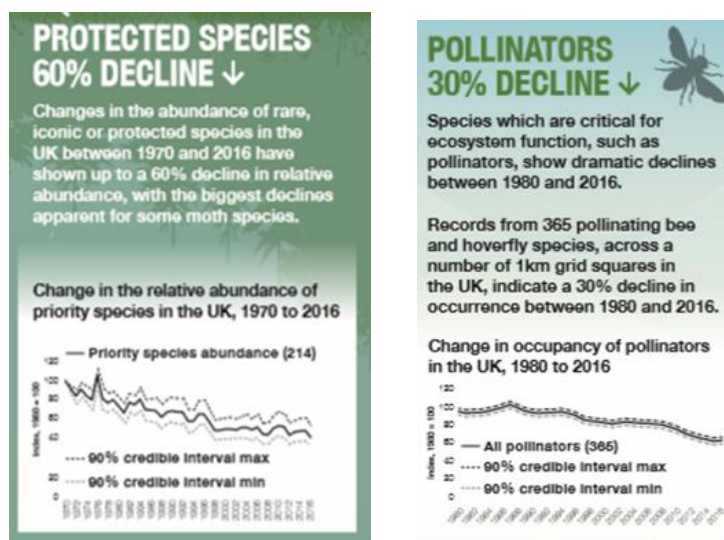
- **Trees and Development Sites** – published April 2021
- **Sustainable Drainage Systems (SuDS)** – published April 2021
- **Green Infrastructure** – published April 2021
- **Traditional Rural Buildings (Guidance on Barn Conversions)** - published April 2021

All the Council's SPD's can be found here <https://beta.southglos.gov.uk/planning-policy-guidance/>

3. What is Biodiversity and Why is it Important?

Biodiversity can be simply defined as the ‘variety of life on earth’. It includes not just the rare or the threatened, but also the wildlife that is familiar to us. Supporting biodiversity is essential for sustainable development and human well-being. It underpins the provision of what is referred to as ecosystem services - food, fibre, fuel, and cultural activities such as recreation and tourism; it mitigates and provides resilience to climate change; regulates the climate; purifies our air and water; provides natural flood protection, pollinator services, soil formation and nutrient cycling. Biodiversity underpins ecosystem functions that are essential for human health and well-being¹ and contributes to economic welfare.

Despite being fundamental to our existence, the world is losing its biodiversity at an ever-increasing rate. Since the 1970's there has been a worldwide decline in wildlife populations of 60%.² Globally, 75% of human food production relies on insect pollination and yet insect populations are plummeting. In the UK, biodiversity is also in drastic decline; 15% of species are currently threatened with extinction. During the 20th Century approximately 2% of UK species have become extinct³. Once common species such as hedgehogs, house sparrows and common toads have seen losses of more than 50% in the last 25 years. UK Priority Species have also declined in abundance by 39% over the same period⁴.



Source: Natural Capital Committee Final Response to the 25-year Environment Plan Progress Report - October 2020.

There have also been substantial losses of many semi-natural habitats, particularly in England, and many are now largely confined to small, isolated fragments.⁵ The largest decline has been for species-rich grasslands which saw a 97% loss over a 50-year period in the last Century⁶.

¹ Cardinale et al., 2012, IPBES, 2019, Mace et al., 2012

² WWT Living Planet Report 2018. Accessed online [Living Planet Report 2018 | WWF](https://www.livingplanetreport.org/)

³ UK State of Nature Report (2019). Accessed online <https://nbn.org.uk/stateofnature2019/>

⁴ JNCC UK Biodiversity Indicators 2021. Accessed online <https://jncc.gov.uk/our-work/uk-biodiversity-indicators-2021/>

⁵ Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H., Forshaw, J., Haddow, R.W., Hilborner, S., Leafe, R.N., Mace, G.M., Southgate, M.P., Sutherland, W.J., Tew, T.E., Varley, J. & Wynne, G.R. (2010) Making Space for Nature: a review of England's wildlife sites and ecological networks. Report to Defra.

⁶ (Fuller, R.M. (1987) The changing extent and conservation interest of lowland grasslands in England and Wales: a review of grassland surveys 1930-84. Biological Conservation 40: 281-300.

4. Legislation, Planning Policy and Standards

4.1 Overview

In addition to the Town and Country Planning Act 1990, there is a complex range of legislation and policy guidance derived from international, national, and local programmes which protect and enhance biodiversity. Both national and local planning policy identifies the need to protect existing biodiversity, deliver enhancements and achieve a measurable net gain in biodiversity through the planning process. This is strengthened through the legislative framework providing protection for species and sites that are important for wildlife, Biodiversity Net Gain, and the Nature Recovery Network, as well as supporting Local Nature Recovery Strategies.

4.2 Legislative framework

Biodiversity is protected through a variety of pieces of primary and secondary legislation, with which national and local policy documents and the planning process has to concord. Together they provide different levels of protection to a variety of plants and animals and sites recognised as being important for nature conservation. The legislation runs in parallel to the planning process and informs the protection afforded to wildlife in policy and through development control. The presence of protected habitats and species is therefore a material consideration which must be addressed by the Council and developers alike.

The primary pieces of legislation relating to biodiversity and nature conservation in England are:

Environment Act 2021. The Environment Bill received Royal Assent on 9th November 2021, meaning it is now an Act of Parliament. This makes provision for the introduction of 10% mandatory Biodiversity Net Gain to ensure developments covered by the Town & Country Planning Act (TCPA) delivers an increase in biodiversity value post development. The Act introduces a statutory requirement for Local Nature Recovery Strategies (LNRS) to be produced by a responsible authority appointed by the Government. LNRS will support the Nature Recovery Network as a spatial plan to protect and restore wildlife. It also makes provision for strengthening the Biodiversity Duty for Local Authorities.

The Conservation (Natural Habitats etc.) Regulations 2017 (as amended). Often referred to as the 'Habitat Regulations'. These are the mechanism by which the European Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (otherwise known as 'the Habitats Directive 1992'), is implemented in the UK.

The Wildlife and Countryside Act 1981 (as amended). The principal Act relating to the protection of wildlife in Great Britain, with the lists of Protected Species of flora and fauna comprising Schedules 1, 5 and 8.

The Protection of Badgers Act 1992. The Act that brings together all legislation that is specific to badgers, with the exception of their inclusion in Schedule 6 of the Wildlife and Countryside Act 1981.

The Hedgerow Regulations 1997. The Regulations protect all hedgerows meeting the criteria for ‘importance’ from removal with certain exemptions.

Natural Environment and Rural Communities Act (NERC) 2006. Under the Act, local planning authorities have a statutory duty under the Natural Environment and Rural Communities Act 2006 to have regard to conserving biodiversity in so far as it is consistent with the discharging of their normal duties. This is often referred to as the Biodiversity Duty. The Act also identifies Habitat and Species of Principle Importance. The Environment Act will amend Section 40 of NERC to conserve and enhance biodiversity once the relevant provisions have come into force.

The Countryside and Rights of Way (CROW) Act 2000. The Act covers a review of public footpaths, the so-called ‘right to roam’ on certain upland or uncultivated areas in England and Wales; and extended offences relating to the disturbance of certain birds and animals to include ‘reckless’ (as well as ‘intentional’) acts.

National Parks and Access to the Countryside Act 1949. The legislation by which Local Nature Reserves are declared.

4.3 National policy

The National Planning Policy Framework (NPPF, 2021) sets out how the Government intends the planning system to operate when determining planning applications and in preparing Local Plans and Supplementary Planning Documents. The NPPF has a range of requirements relating to biodiversity that are relevant to this SPD.

[Chapter 15 of the NPPF](#) states that the planning system should help contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, sites of biodiversity or geological value. It should minimise impacts on biodiversity and provide net gains and should also include the establishment of coherent ecological networks to provide greater resilience against current and future pressures.

Paragraph 180 sets out how planning authorities should deal with biodiversity when considering planning applications. This includes application of the ‘Mitigation Hierarchy’; development in relation to Sites of Special Scientific Interest (SSSI), irreplaceable habitats; and support for development that conserves or enhances biodiversity, and which can secure measurable net gains for biodiversity.

National Planning Practice Guidance (NPPG) on the Natural Environment (Paras 10 – 35) details the responsibilities regarding Protected and Priority Species and Habitats; and the ‘proportionate’ information and assessment required on biodiversity impacts at all stages of development. It also advises on the restoration or enhancement of local ecological networks, including those that contribute to the wider Nature Recovery Network, the application of the mitigation hierarchy, net gain metrics, and promotion of woodlands.

Complementary to the NPPF and NPPG the **Biodiversity and Geological Conservation: Circular 06/2005** provides guidance on the application of the law relating to planning and nature conservation. It covers internationally and nationally designated sites; the conservation of habitats and species outside those sites; the species protected by law; and other duties such as Environmental Impact Assessment (EIA).

Natural England has produced Standing Advice on a range of Protected Species, ancient woodland, and ancient and veteran trees for local planning authorities in England. The Standing Advice is a material consideration in the determination of planning applications in the same way as a letter received from Natural England following consultation would be. Further information can be found on the [protected species and development: advice for local planning authorities](#) web pages.

4.4 Local Planning Policy

The South Gloucestershire Local Plan is required to contribute to the delivery of sustainable development and the following documents and policies on the natural environment and biodiversity have been devised to provide a strong and strategic basis for delivering this through the local planning process.

The South Gloucestershire Core Strategy 2006-2027 (adopted December 2013) - sets out a vision for future development in South Gloucestershire to 2027. It covers the general location, type and scale of development as well as protecting what is valued about the area.

- **Policy CS2 – Green Infrastructure.** This policy highlights the importance of protecting and enhancing species and existing habitats; and creating new semi-natural habitats within the context of a Strategic Green Infrastructure Network and its role in adapting to climate change.
- **Policy CS9 – Managing the Environment and Heritage.** Under this policy new development will be expected to conserve and enhance the natural environment, avoiding or minimising impacts on biodiversity and geodiversity.
- **Policy CS24 – Green Infrastructure, Sport and Recreation Standards.** This policy recognises that where natural/semi-natural space provision is inadequate in terms of providing for the quantity, quality and accessibility to meet the needs of future occupiers of a new development those needs must be met by the new development, along with the subsequent management and maintenance.

The **Policies, Sites and Places Development Plan Document (DPD)** includes policies for managing new development and has the following development management policies relating to biodiversity and nature conservation.

- **Policy PSP3 – Trees and Woodland:** This sets out the provisions within development control for the protection of existing mature or ancient woodland, veteran trees and ancient or species-rich hedgerows.
- **Policy PSP18 – Statutory Wildlife Sites: European Sites and Sites of Special Scientific Interest (SSSIs):** This outlines how development likely to have a significant effect on Special Protection Area (SPA), Special Area of Conservation (SAC) or, Ramsar (European Site) will be assessed under Articles 6(3)/6(4) of the Habitats Directive 1992 (Habitat Regulations) prior to planning permission being granted.

The Council also has a statutory duty to avoid damage to SSSIs and to further their conservation and enhancement.

- **Policy PSP19 – Wider Biodiversity:** This policy covers issues of development affecting ‘irreplaceable habitats’; Biodiversity Gain; Local Sites of Nature Conservation Interest (SNCI) or Regionally Important Geological Sites (RIGS); Protected Species and the species and habitats included in the South Gloucestershire Biodiversity Action Plan (BAP); the Species and Habitats of Principle Importance in England; birds listed on the Red, Amber or Green Lists of Species of Conservation Concern; ‘wildlife corridors’ or new green infrastructure; and brownfield sites supporting notable assemblages of invertebrates.

4.5 Permitted development

Permitted Development or ‘PD’ relates to types of development which do not require a specific grant of planning permission, including new agricultural buildings, larger household extensions and telecommunications. The system has been expanded to cover other changes of use including, shops or offices to residential use, and the conversion of agricultural buildings for commercial or residential use.

Permitted development is granted subject to the requirements of regulations 75 - 78 of The Conservation of Habitats and Species Regulations 2017’ (‘The Habitat Regulations’), which seeks to ensure that it will not adversely affect European designated sites and European Protected Species. Furthermore, when exercising any functions relating to permitted development, such as the grant of prior approval, the Council must have regard to the requirements of the Habitats Directive (per Regulation 9(3) of the Habitats Regulations). Chapter 5, Section 5.2 and Section 5.2 deal with Protected Sites/Species and Development respectively, Chapter 7 explains what the Council will need to consider when determining planning applications and Chapter 9 provides further detail on The Habitat Regulations and Appropriate Assessment.

4.6 Listed Buildings Consent

As above, under Regulation 9 of ‘The Habitats Regulations’, when exercising any of its functions, the Council must “have regard” to the requirements of the Habitats Directive and accordingly, the impact on Protected Species must be fully assessed prior to permission being granted. Chapter 5 Section 5.2 (Protected Species and Development) and Chapter 7 explains what the Council will need to consider when determining Listed Building Consent.

4.7 British Standards

British Standard on Biodiversity (BS 42020:2013) – A Code of Practice for Planning and Development

This British Standard relates to how biodiversity and Protected Species and Habitats are considered in a planning context. It provides clear guidance and recommendations to ecological consultants, planning applicants and local planning authorities, which ensure that ecological considerations are given the appropriate weight at each stage of the planning process, and are sufficiently informed by high quality ecological survey and assessments.

British Standard on Biodiversity Net Gain (BS 8683) - A process for designing and implementing biodiversity net gain.

This is a new British Standard in development and provides linear, progressive, good practice requirements, from design to 'spade in the ground' delivery. The standard is applicable for large or small development projects, e.g., from major highways schemes through to small residential builds. The standard is also applicable for landowners or estate managers aiming to manage land to achieve BNG for themselves or on behalf of 3rd parties.

4.8 Other relevant South Gloucestershire Strategies and Plans

The South Gloucestershire [Green Infrastructure Strategy 2021 - Greener Places](#) brings together the council and our partners' ambitions, obligations, priorities, and commitments for new and existing green infrastructure in South Gloucestershire to deliver our vision for 'greener places where people and nature thrive'.

The [South Gloucestershire Biodiversity Action Plan](#) (BAP) identifies local priorities and coordinates the action for wildlife, across the district. It is supported by [Local Nature Action Plan \(LNAP\): guidance for town and parish councils](#). The LNAP guidance complements the existing South Gloucestershire Biodiversity Action Plan and the individual town and parish BAPs.

The [Nature Recovery Network](#) (NRN) for South Gloucestershire has been mapped, through the West of England Local Nature Partnership (WENP), in response to the recommendations contained in the 'Making Space for Nature' review⁷ which stated that our wildlife sites and connections between them need to be 'Bigger, Better, More and Joined'. The Network is mapped using existing habitat, species and sites data and has identified strategic networks or 'arteries', containing areas of core habitat, the best connections between them and existing gaps in ecological connectivity for woodland, grassland, and wetland within South Gloucestershire. The mapping helps to identify priority areas for the creation and enhancement of habitat with the aim of creating a robust and dynamic ecological network within and beyond the West of England.

The Environment Act lays the foundation for the Nature Recovery Network (NRN). This is a strategic spatial planning framework to deliver nature's recovery. The Network will be delivered through a mandatory system of spatial strategies (Local Nature Recovery Strategies). These will identify opportunities and priorities for enhancing biodiversity and supporting wider objectives such as mitigating or adapting to climate change and also support strategic planning for housing and infrastructure.

⁷ Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H., Forshaw, J., Haddow, R.W., Hilborner, S., Leafe, R.N., Mace, G.M., Southgate, M.P., Sutherland, W.J., Tew, T.E., Varley, J. & Wynne, G.R. (2010) Making Space for Nature: a review of England's wildlife sites and ecological networks. Report to Defra.

5. When and Where is Biodiversity Likely to Need Protecting?

South Gloucestershire supports a diverse array of habitats and wildlife, as the following examples demonstrate:

- The Severn Estuary is recognised as being internationally important for its over-wintering birds, migratory fish stock, marine habitat, mudflats, and saltmarshes.
- St Catherine's Valley near Marshfield includes a complex of Sites of Special Scientific Interest (SSSI) and Sites of Nature Conservation Interest (SNCI), designated for their mosaic of species-rich grassland and semi-natural ancient and broadleaved woodland.
- Lower Woods near Wickwar is one of England's largest areas of ancient woodland, with variety of associated wildlife such as dormice.
- The wider landscape within the authority's area includes scattered hay meadows, the Cotswold escarpment and uplands, species-rich hedgerows, traditional orchards, wood pasture and parkland and broadleaved woodland utilised by rare horseshoe bats; and our wetlands (rivers, ponds and rhines) support Protected Species such as otters, water vole and great crested newt.

This section brings together legislation and planning policy, alongside the biodiversity of South Gloucestershire, to help identify when and where it is likely to need protecting through the planning system.

5.1 Protected Sites and Development

European Sites (Habitats Sites) comprise a network of protected sites of international importance for wildlife and consist of Special Areas of Conservation (SACs), Special Protection Areas (SPA) and Ramsar Sites for wetland habitats. South Gloucestershire has one Habitats Site, the **Severn Estuary** – which is designated for its overwintering species of wildfowl and waders, intertidal mudflats and sandflats, Atlantic saltmarsh meadow, shingle, reefs and rocky shore habitats and migratory species of fish. Development activities which are likely to have a significant effect on an SAC, SPA or Ramsar Site (i.e., the qualifying features for which it is designated), both directly and indirectly, on its own or cumulatively with other 'plans or projects', must be fully assessed as part of the planning process, otherwise known as a Habitat Regulations Assessment or 'HRA'. *See Chapter 9 for further details.*

Sites of Special Scientific Interest (SSSI) are sites of national importance for nature conservation and are notified and protected under the Wildlife and Countryside Act 1981 (as amended). Local planning authorities have a statutory duty to protect such sites and enhance their conservation. There are 22 SSSI's within South Gloucestershire. Where development is likely to affect a SSSI directly, or within identified 'Impact Zones' <https://magic.defra.gov.uk/magicmap.aspx> around them, the Council is obliged to consult Natural England. Planning permission is unlikely to be granted for developments that damage SSSIs.

Ancient Woodland Sites are any areas that have been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland mainly made up of trees and shrubs native to the site, usually arising from natural regeneration and plantations on ancient woodland sites - replanted with conifer or broadleaved trees that retain ancient woodland features, such as undisturbed soil, ground flora and fungi.

Where development may have an effect on Ancient Woodland, Standing Advice <https://www.gov.uk/guidance/planning-applications-affecting-trees-and-woodland> published by Natural England and the Forestry Commission should be consulted.

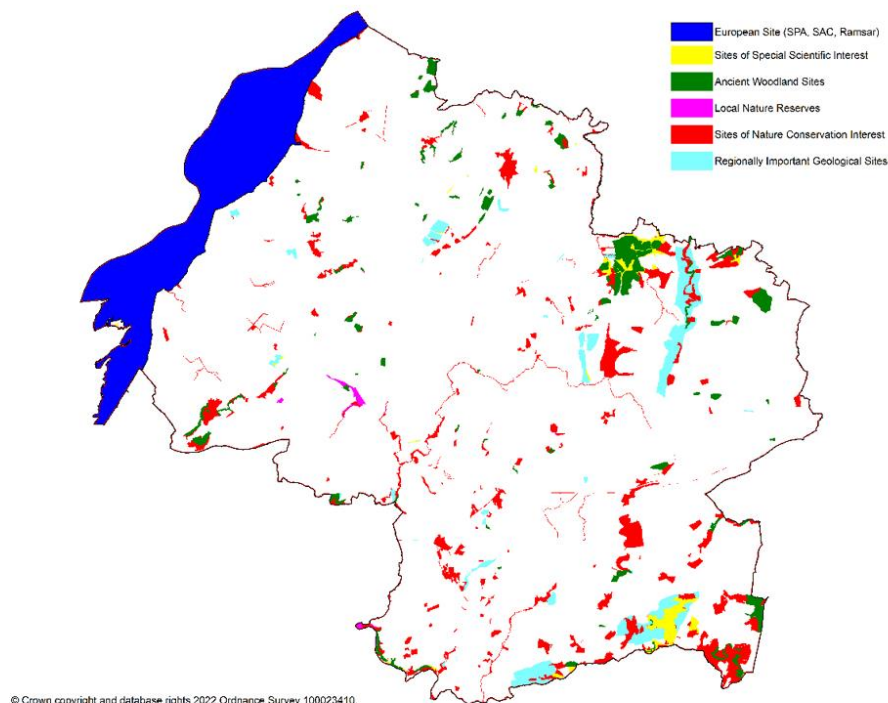
Policy PSP3 of the PSP DPD on 'Trees and Woodland' and the Council's **Trees and Woodland SPD** provide further detail, including the protection of hedgerows.

Local Sites -Sites of Nature Conservation Interest (SNCI) and Regionally Important Geological Sites (RIGS) contain the best examples of wildlife habitats, rare species, or geological features in South Gloucestershire outside of the network of SSSIs and European Sites. There are currently 271 SNCI's and 64 RIGS which are protected through **Policy PSP19 on Wider Biodiversity** within the PSP DPD.

Local Nature Reserves (LNRs) are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 by the Council. They are places with wildlife or geological features that are of special interest locally for both people and wildlife and are protected from damage and from development. There are 11 LNR's designated in South Gloucestershire and Policy PSP19 on Wider Biodiversity should be referred to where development is likely to impact upon such a site.

The location of nationally designated sites can be found on **Defra's Magic Map Application** <https://magic.defra.gov.uk/magicmap.aspx> and locally designated sites can be viewed using South Gloucestershire's interactive **Policies Map** <https://beta.southglos.gov.uk/policies-map/> . They are also depicted in Figure 1 below, the protected sites map.

Figure 1: Protected sites map:



5.2 Protected Species and Development

A range of species are protected in law nationally. Some of these are also referred to as European Protected Species (EPS) as they are also subject to stringent protection under the Habitats Directive (implemented through the Habitats Regulations). Others are referred to as Nationally Protected Species, being protected through domestic legislation (even though this may also originate from European conventions).

Protected Species are a material consideration in the planning process and so the effect of development on protected species is considered by the Council when determining planning applications.

European Protected Species (EPS) are species listed in Annex IV of the Habitats Directive. Those most likely to be encountered within South Gloucestershire are **bats (17 different species), dormice, otters, and great crested newts**. In determining planning applications, the Council will need to consider whether a proposed development is likely to trigger one or more of the offences against EPS as directed by the Habitats Regulations:

- Deliberately capture, injure, or kill an EPS;
- Intentionally or recklessly disturb an EPS in its place of rest/ breeding site;
- Intentionally or recklessly damage, destroy or obstruct access to an EPS place of rest/ breeding site (even if the EPS is not occupying the resting / breeding place at the time), and/or;
- Possess or sell or exchange an EPS (dead or alive) or part of an EPS.

Where development will impact upon an EPS, a licence or derogation is required to be lawful. In considering the application, the Council will need to be satisfied that the scheme will meet the three licensing 'tests' under Regulations 53 and 56.

The three 'tests' are:

- For the purposes of preserving public health or public safety or other imperative reasons of overriding public interest including those of social or economic nature and beneficial consequences of primary importance for the environment;
- There is no satisfactory alternative to the work specification;
- The action authorised will not be detrimental to the maintenance of the population of the species at a favourable status in their natural range.

For most other **Protected Species**, the key piece of domestic legislation is the Wildlife and Countryside Act 1981 (as amended).

Plants - nationally rare, species of plant are listed on Schedule 8 of the Act, being protected from picking, uprooting, destruction, or sale.

Birds – it is an offence to take, damage or destroy the nest of any wild bird while that nest is being built or in use or take or destroy an egg of any wild bird (with exceptions to birds on Schedule 2). Offences relating to birds listed on Schedule 1, such as the barn owl and kingfisher, carry special penalties.

Animals - species of fauna listed in Schedule 5 of the Act have full or partial protection. Those species fully protected include water vole, lesser silver water beetle, marsh fritillary and Southern damselfly and it is an offence to:

- Intentionally kill, injure, or take such a species;
- Possess or control any live or dead specimen, or anything derived from such a species;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection;
- Intentionally or recklessly disturb such a species while it is occupying any structure or place used for shelter or protection;
- Trade in such a species.

Some species only have partial protection from intentional killing or injury or from selling. However, many of these species require material consideration over and above their legal protection – for example, any birds listed as a Species of Conservation Concern (see Policy PSP19 of the PSP DPD).

Badgers and their setts are protected under the Protection of Badgers Act (1992), which makes it an offence to disturb a badger while it is within a sett or to damage or destroy a sett.

5.3 Protected Species Licensing

Natural England administer licences to permit activities that would otherwise be illegal for most Protected Species, including European Protected Species and badgers. Further information on wildlife licences is available from Natural England <https://www.gov.uk/guidance/wildlife-licences>

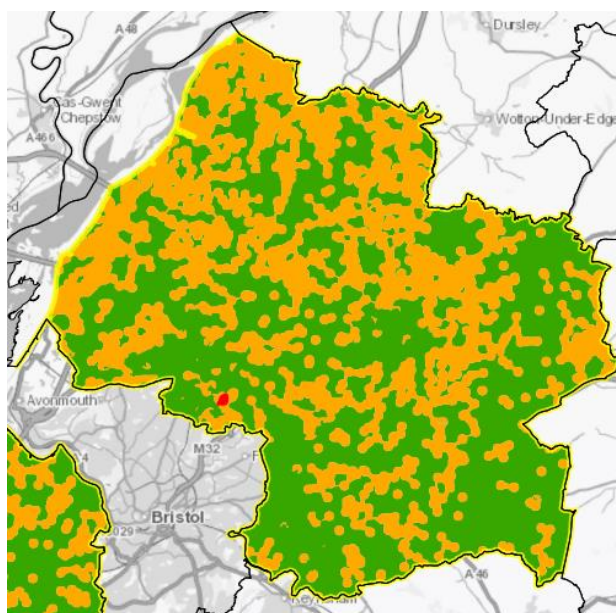
5.4 Great Crested Newts: District Level Licensing Scheme

District Level Licensing (DLL) is a strategic or landscape-scale approach to the conservation of great crested newts (GCN) and was launched by Natural England in South Gloucestershire in March 2020 as an alternative to site-based mitigation and licensing for the species.

Under DLL, Natural England collects data on GCN occurrence and uses modelling to predict the distribution of GCN across South Gloucestershire to produce a GCN Licensing Strategy. The modelled distribution is used to map risk zones, assess the likely impact of proposed development and to predict suitable habitat in which compensation can be targeted (Strategic Opportunity Areas, SOAs). It therefore removes the requirement for applicants to carry out pre-development surveys for GCN (although developers may still choose to survey and survey results will inform the impact assessment).

There are three risk zone categories:

- Red zones – These zones contain key populations of GCN, which are important on a regional, national or even international scale. District Level Licensing is not available as a licensing option in these areas.
- Amber zones – These contain main population centres, habitats and dispersal routes for GCN. Development with a significant land take in these zones would be expected to have a high impact on GCN.
- Green zones – GCNs are sparsely distributed in this zone and development would be expected to have a low impact in this zone, though may still pose a risk to GCN.

Figure 2: DLL Risk Zone Map:

Contains Ordnance Survey data © Crown copyright and database right, 2020.

Instead of carrying out site-specific mitigation and compensation, developers choosing DLL will make a 'Conservation Payment' which will be used to fund a net increase in habitat (ponds) for GCN across the landscape.

The level of payment required will depend on:

- The number of ponds impacted;
- The GCN risk zone in which the site is located;
- Whether GCN presence has already been determined through site specific survey.

The tariff also includes sums for the future monitoring and management, at set intervals over 25 years, as well as various administrative fees. This means that on-site mitigation and compensation for GCN is not required for developments authorised under DLL.

Before applying for planning permission, the applicant can obtain an indication from Natural England <https://www.gov.uk/government/publications/great-crested-newts-district-level-licensing-schemes> of whether their development proposal is eligible to use DLL.

5.5 Habitats and Species of Principal Importance (Priority Habitats and Species)

The England Biodiversity List has been developed to meet the requirements of Section 41 (S41) of the NERC Act (2006). This legislation requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of “principal importance for the purpose of conserving biodiversity”. Details are set out in the ‘UK Post-2010 Biodiversity Framework’ (July 2012)⁸.

57 habitats are included on the S41 list; 20 habitats can be found in South Gloucestershire and these are listed in Appendix 2 of the South Gloucestershire Biodiversity Action Plan <https://www.southglos.gov.uk/documents/Biodiversity-Action-Plan-2016-26.pdf>

943 species are included on the S41 list and over 150 of these species have been recorded in South Gloucestershire. See Appendix 3 of the South Gloucestershire Biodiversity Action Plan <https://www.southglos.gov.uk/documents/Biodiversity-Action-Plan-2016-26.pdf>

Through the **Biodiversity Duty**, the Council will take into account any Priority Habitats and Species that could be potentially affected during the development process. **These habitats and species are a material consideration in the planning process.** Policy PSP19 on Wider Biodiversity has further detail and identifies ‘**brownfield sites supporting notable assemblages of invertebrates**’ (more commonly referred to as Open Mosaic Habitats) as a type of Priority Habitat that is of high ecological value occurring on brownfield land.

5.6 Irreplaceable Habitats

The NPPF identifies that where development would result in the ‘loss or deterioration of irreplaceable habitats such as ancient woodland and ancient or veteran trees’, planning permission should be refused. The NPPF describes irreplaceable habitats as “Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.” This list is confirmed as being exemplary (i.e. containing examples only) and is therefore not inclusive/definitive.

There is currently no nationally agreed list of habitats which would be regarded as ‘irreplaceable’ but the following habitats (listed below) in South Gloucestershire would fall into that category as they cannot be recreated once lost.

- Ancient Woodland;
- Ancient and veteran trees (which are often outside of ancient woodlands can be individual trees or groups of trees within wood pastures, historic parkland, hedgerows, orchards, parks, or other areas);
- Ancient Hedgerows;
- Unimproved grassland (traditional lowland hay meadows);
- Saltmarsh.

See Policy PSP19 on Wider Biodiversity for policy on irreplaceable habitats.

⁸ <https://jncc.gov.uk/our-work/uk-post-2010-biodiversity-framework/>

At the time of publishing this SPD (March 2023) Natural England is currently developing new guidance which will set out the definition and a definitive list of irreplaceable habitats in England. It is intended for this guidance to form part of the forthcoming reform of national planning policy.

5.7 Non-native invasive species

Invasive non-native species can impact negatively upon biodiversity by out-competing native flora. It is an offence to spread, or cause to grow, certain plant species listed on Schedule 9 of the Wildlife and Countryside Act, 1981 as amended. Where proposals at development sites are likely to result in the spread of non-native invasive plant species the development may not be permitted until suitable measures have been agreed and / or undertaken to control the invasive species. Further information is available from [GB Non-native Species Secretariat](#).

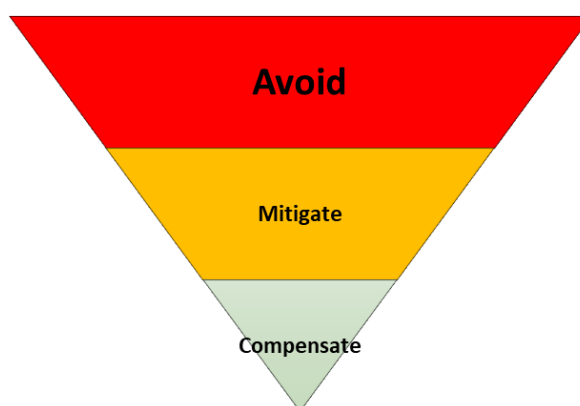
5.8 South Gloucestershire Local Biodiversity Action Plan (BAP)

A list of local priority habitat and species can be found in Appendix 1 of the South Gloucestershire Biodiversity Action Plan <https://www.southglos.gov.uk/documents/Biodiversity-Action-Plan-2016-26.pdf> in Appendix 1. **Through Policy PSP19 Wider Biodiversity, these habitats and species are given additional policy protection.**

6. What is Biodiversity Net Gain?

Biodiversity net gain is an approach to development which means that habitats for wildlife must be left in a measurably better state than they were in before the development occurred. Achieving biodiversity net gain means that Priority Habitats will need to be extended or improved as part of the development process. Developments will need to be designed in such a way that provides benefits to both people and nature but also reduces impacts on the wider environment.

The process itself follows the biodiversity mitigation hierarchy, in the [National Planning Policy Framework paragraph 180a](#) , which sets out that everything possible must be done to:



Applying BNG is not an alternative approach to applying the biodiversity mitigation hierarchy. Applicants are still expected to avoid or mitigate harm to wildlife and habitats before seeking to compensate. Avoidance and on-site mitigation and compensation must be carried out before any off-site compensation (biodiversity offsetting) is planned, i.e., the mitigation hierarchy must be followed first. Biodiversity offsetting is a last-resort option for ensuring BNG. BNG supplements rather than replaces or undermines the existing range of protections in planning policy and legislation, for irreplaceable habitats, protected sites and Protected Species, as discussed previously in **Chapter 5**.

The easiest way to avoid a negative impact on species and habitats and to maximise the gain for biodiversity that can be achieved from a development is to select a site that has low existing ecological value and low strategic potential for habitat creation, buffering or connectivity.

Paragraph 180d of the NPPF and Policy PSP19 both already set out the principle of biodiversity gain in policy terms. This SPD aims to support existing local and national policy, as well as forthcoming legislation on BNG and sets out expectations for biodiversity net gain submissions. Prior to BNG becoming mandatory, the council would encourage applicants to achieve 10% net gain, in support of the Council's overarching BNG objectives, but any 'gain' is acceptable in accordance with PSP19. Once BNG becomes mandatory, which is expected to be November 2023, then the Council will be requiring 10% net gain to be achieved on development sites as a minimum.

The Government's latest published version of the **Biodiversity Metric** accounting toolkit should be used to evidence the measurable BNG for the development. The Biodiversity Metric is a habitat-based approach, using habitat as a proxy for biodiversity. Species-based features such as bird and bat boxes are not included within the metric. The provision of such species features within developments is still encouraged as additional enhancements and is promoted in the Biodiversity Design Guide in **Chapter 10**.

In addition, a requirement of the Environment Act, is the submission by applicants of a **Biodiversity Gain Plan** for the Council's approval (a working draft can be found in **Appendix 4**). The Environment Act sets out that the Biodiversity Gain Plan should cover:

- How adverse impacts on habitats have been avoided and minimised.
- The pre-development and post-development biodiversity value of the on-site habitats.
- The biodiversity value of any offsite habitat provided in relation to the development.
- Any statutory biodiversity credits purchased.

The Environment Act also states that biodiversity gain sites must be maintained for at least 30 years after the completion of the works to create or enhance the habitat.

The BNG process should be applied to all developments which are subject to Town and Country Planning Act, as well as Nationally Significant Infrastructure Projects (NSPIS). It is expected that householder applications will be exempt and there will be a less onerous process for applying BNG to smaller developments, including use of the [Small Sites Biodiversity Metric](#). Pending secondary legislation from Government, the guidance in **Chapter 8. How to carry out a BNG Impact Assessment** is for Major Site applicants for now.

6.1 South Gloucestershire's Nature Recovery Network

The conservation, restoration and enhancement of ecological networks is outlined in the NPPF, and the West of England Nature Recovery Network mapping described in **Chapter 3** helps the Council to comply with the NPPF.

NPPF para 179 (a) To protect and enhance biodiversity and geodiversity, plans should:

Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national, and locally designated sites of importance for biodiversity wildlife corridors and steppingstones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration, or creation.

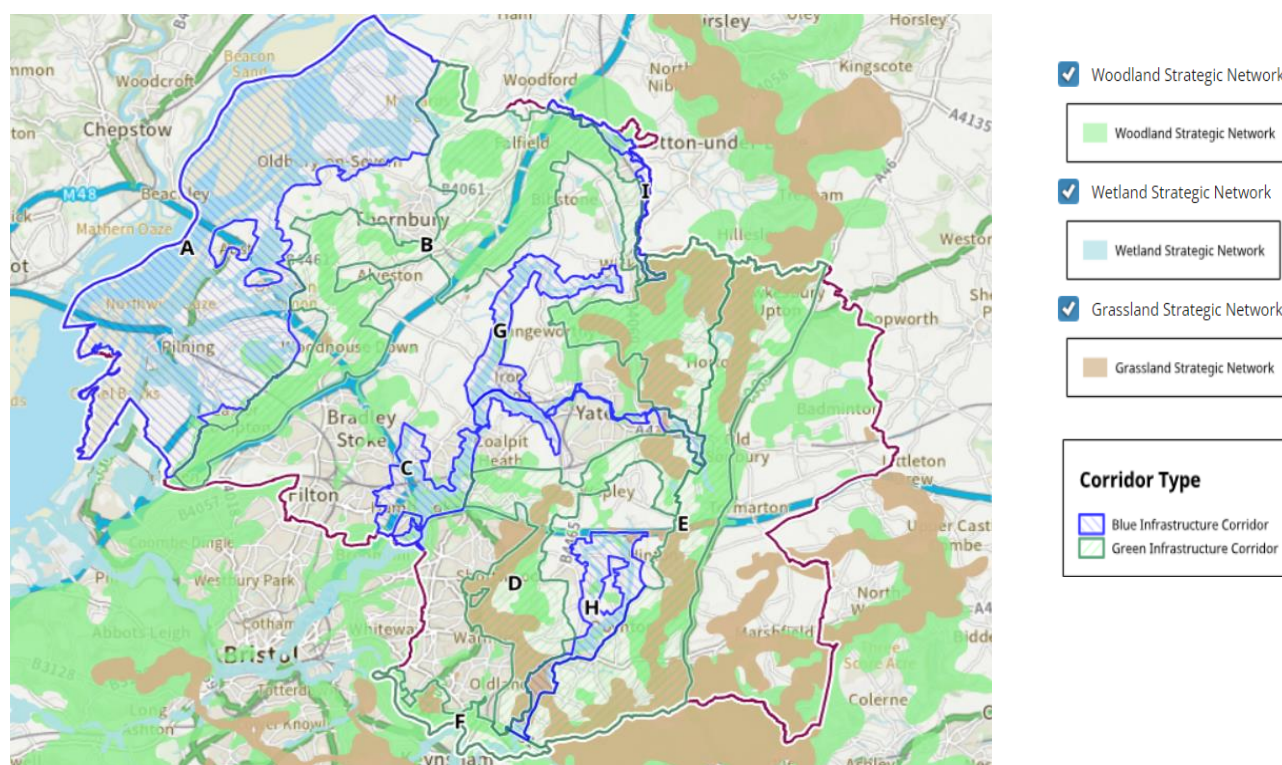
In addition, Local Plan Policy CS2 on Green Infrastructure highlights the need to protect, enhance, and create new habitats and wildlife linkages within the context of a Strategic Green Infrastructure Network for South Gloucestershire. **Through Policy PSP19 wildlife corridors or new green infrastructure, which enable the dispersal and favourable status of flora and fauna species, are given additional policy protection.**

The Council's Green Infrastructure SPD (adopted April 2021) provides information to support existing Local Plan policies to ensure that green and blue infrastructure (GI) is adequately conserved and enhanced throughout the development process. It provides practical guidance and advice on how green infrastructure can be incorporated into new development, conserving, and enhancing existing ecological networks, preserving landscape features that contribute to landscape character, distinctiveness and/or biodiversity and attributes within a scheme. Since the adoption of the GI SPD, strategic green corridors have been mapped and the related study will form part of the Local Plan evidence base.

The new Local Plan will include a new strategy and policies to guide and manage growth and change in our area over the next 15 years, recognising the Climate Emergency and ecological crisis is a priority, the Local Plan and its policies will provide for a local Nature Recovery Network (ecological network) through the designation of the South Gloucestershire's Strategic Green Infrastructure Network. Figure 3 depicts the Strategic Green Infrastructure Network, along with the South Gloucestershire Nature Recovery Network for woodland, grassland and wetland. Once a Local Nature Recover Strategy has been fully developed, a strategic level BNG assessment will be undertaken as part of the Local Plan process. However, the strategic projects in the [WENP Prospectus](#) currently identify where large areas of high-quality habitat would make a significant contribution to increasing the ecological connectivity within the Nature Recovery Network.

Applicants and South Gloucestershire Council must avoid the most valuable existing habitat and focus habitat creation or improvement in the areas where it will achieve the most for nature recovery. Through the 'Strategic Significance' multiplier in the Biodiversity Metric, the spatial location of a habitat will affect its value. This works at a landscape scale, there is an uplift in habitat value if a development is situated in the South Gloucestershire Nature Recovery Network. In addition, the Biodiversity Metric incentivises habitat delivery on or close to the development site through a 'Spatial Risk Factor', which reduces the biodiversity value of habitats delivered further away from the development. Network. Guidance on how to assign 'strategic significance' and 'spatial risk' can be found in **Chapter 8 section 8.1**.

Figure 3: South Gloucestershire's Nature Recovery Network and Strategic Green Infrastructure Network



Further information on the West of England Nature Recovery Network can be viewed here <https://www.wenp.org.uk/nature-recovery-network/>

And further information on South Gloucestershire's green infrastructure network can be found here [Green Infrastructure Strategy 2021: Greener Places \(southglos.gov.uk\)](#)

7. Building Biodiversity into Development

7.1 What you need to do to integrate biodiversity in the planning process

The following **Chapters (7 to 10)** set out how biodiversity can be integrated into the planning process, regardless of whether the application is for an existing property (e.g., householder), or a major strategic scheme. Biodiversity can be proactively planned into new development of all kinds and all scales, from individual houses and, barn conversions to masterplans for large residential or road schemes. Building biodiversity into your development should be seen as an opportunity not a constraint. Demand for publicly accessible parks, gardens, playing fields and other green spaces, close to homes, can elevate house prices⁹.

All types of development, whether Householder, Minor Sites or Major Site should follow the planning stages set out below. **Chapter 8** is currently for **Major Site applications** and supports paragraph 180d of the NPPF and Policy PSP19 by showing how to integrate a measurable biodiversity gain into a Major Site development using the latest Biodiversity Metric. Once BNG becomes a mandatory requirement this chapter will be expanded and updated to provide further information on how to comply with new legislation.

The 6 key planning stages are:



7.2 Stage 1 - Feasibility and scoping

It is essential that the potential impacts on biodiversity are considered at the earliest possible stage of any proposal.¹⁰ Ideally, this should be undertaken before the scheme is designed and before a planning application is submitted. This will establish the likely acceptability of the scheme to the Council based on Local Plan policy (**see Chapter 5 and 6**). Validation requirements should also be followed, as these will help to identify what supporting information will be required, including the need for any ecology reports. See [What you need to submit with your planning application | BETA - South Gloucestershire Council \(southglos.gov.uk\)](https://www.southglos.gov.uk/what-you-need-to-submit-with-your-planning-application). Assessing the likely ecological impacts of a development is often complicated, requiring specialist skills, and it is, therefore recommended that professional ecological expertise is commissioned if Protected Species and Sites have been identified. This will ensure that all the necessary surveys and assessments have been carried out; and that suitable mitigation, compensation, net gain and enhancement has been designed into your scheme before an application is submitted. Employing an ecological consultant will help to avoid potentially costly delays at a later date and allow the application to be determined more efficiently. The Chartered Institute of Ecology and Environmental Management (CIEEM) provides a professional directory of qualified, regulated ecologists which can be found at <https://cieem.net/i-need/about-our-members/members-directory/>

⁹ Office for National Statistics (ONS) (2019) accessed online <https://www.ons.gov.uk/economy/environmentalaccounts/articles/urbangreenspacesraisenearbyhousepricesbyanaverageof2500/2019-10-14>

¹⁰ It is recommended that a BNG risk assessment be undertaken before land is bought for development.

Before you make your planning application, you can apply for [pre-application advice](#) which will identify the information needed, including any specialist officer input (if paid for) at an early stage, this supports the formal application and reduces the likelihood of delays further down the planning process.

Similarly, it is also advisable that Natural England is contacted at an early stage where development has the potential to impact upon a European Protected Species or a nationally or internationally designated site (SSSI, European). With the latter, it may be that development will be subject to the process of 'Appropriate Assessment' under the Habitats Regulations. This will ensure all issues and legislative constraints are considered before an application is submitted. Further information on this process can be found in **Chapter 9, Section 9.1**.

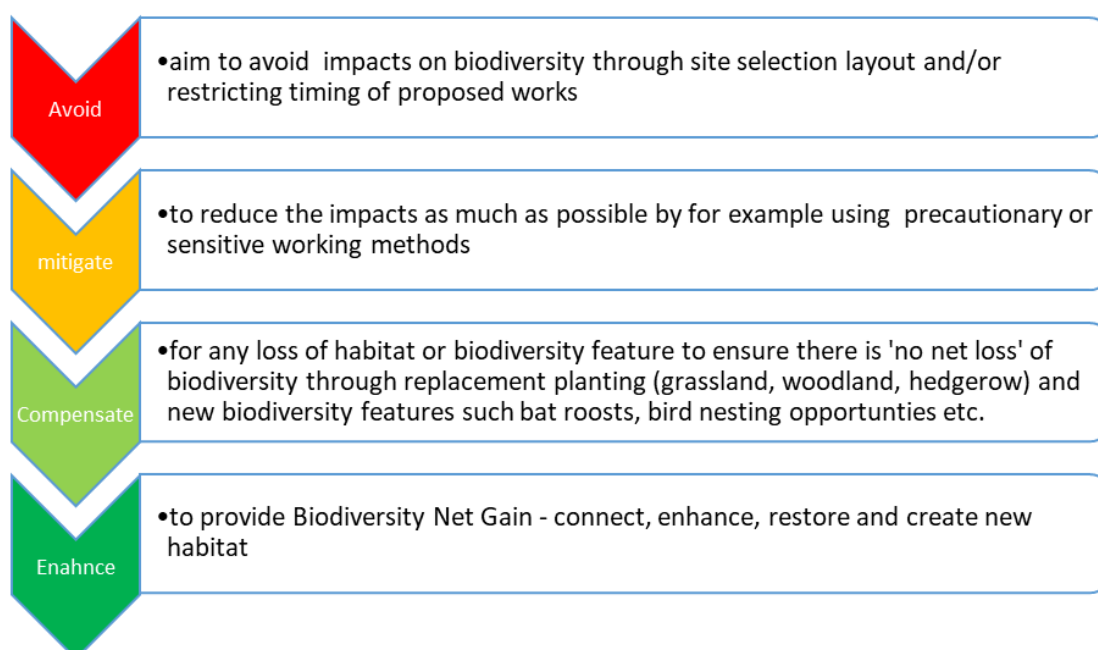
Natural England offers a pre-submission screening service for prospective developers where development would potentially impact upon European Protected Species (EPS). Further information can be found at <https://www.gov.uk/guidance/pre-submission-screening-service-advice-on-planning-proposals-affecting-protected-species>. They also offer a discretionary advice service (DAS) which provides extra advice for more complex development proposals that affect the environment.

The information in **Chapter 5 and Appendix 2: Where to expect to find protected species** will also help with the Stage 1 process.

7.2 Stage 2 - Impact Assessments

Where potential has been identified for a proposed development to cause harm to internationally, nationally, or locally designated sites, Protected or Priority Species or Habitats (as described in **Chapter 5**), the applicant's ecological consultant will need to undertake appropriate ecological surveys and impact assessments, including BNG assessment, prior to any design work or submission of the planning application. If appropriate, this should include details of measures that need to be implemented to mitigate or compensate for any adverse impacts.

The Council expects all proposals to adhere to the biodiversity mitigation hierarchy, as set out below:



This ensures that the Council has sufficient information to make an informed decision as to whether there will be an adverse effect on biodiversity during development and whether it can be suitably protected.

Where significant harm resulting from development cannot be avoided, adequately mitigated or as last resort, compensated, then planning permission will be refused.

A data search for biodiversity and geodiversity records and sites by [Bristol Regional Environmental Records Centre](#) (BRERC) will also be required to inform the impact assessment process.

The level of assessment required will vary from a simple biodiversity survey to a complex ecological assessment as part of an Environmental Impact Assessment including a Habitat Regulations Assessment (HRA) under the Habitat Regulations 2017 where development is likely to have an effect on a European Site, see **Chapter 9** for further information on other types of impact assessments.

A **Preliminary Ecological Assessment (PEA)** and/or **UKHab** is required for most applications, particularly if there are features of biodiversity importance on or adjacent to the site. A **Bats and Birds Buildings Survey** may only be needed for householder application or barn conversions if the development has a small footprint. It is also important to recognise that there are seasonal constraints to surveying some types of species and habitats and that they can only be surveyed at certain times and months of the year in suitable weather conditions and using nationally recognised standards and methodology (e.g., bat activity surveys may only be carried out monthly between May and September). Seasonal constraints need to be factored in when commissioning surveys/ecological assessment and in the timeline for developers presenting a planning application.

Appendix 1 provides a table showing where you might expect to find protected species.

Appendix 2 includes details of the various survey months for various habitats and species and there are publications¹¹ which provide detailed survey guidance for a range of Protected Species.

All relevant ecological survey(s) must be undertaken by a suitably qualified ecologist in accordance with British Standard BS42020. Where surveys involve disturbance, capture or handling of a Protected Species, they should only be undertaken by a suitably licensed and experienced person (as administered by Natural England). Information supporting any application identifying the location of badger setts should be marked as 'sensitive' when submitted.

Quite often further species - specific surveys (**Phase 2 ecology surveys**¹²) are identified within an initial PEA. Failure to undertake these further surveys can result in lengthy and costly delays in determining an application (e.g., by missing the requisite survey months, resulting in the scheme having to be withdrawn until the following season) and may potentially result in the application ultimately being refused. In addition, depending on the species, site and potential impacts, surveys are only valid for 12 months.

A range of European Protected Species (EPS) are present across the wider landscape of South Gloucestershire (see **Chapter 5, Section 5.2**) and are therefore routinely encountered when undertaking ecological surveys. Under Regulation 53/56 of the Habitat Regulations 2017, the Council is required to

¹¹ Langton T, Beckett C and Foster J (2001). Great Crested Newt Conservation Handbook. Froglife, Suffolk.
Dormouse Conservation Handbook (English Nature) second edition. M., Strachan, R., Gow, D. and Andrews, R. (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.
Bat Conservation Trust (BCT) Bat Survey Guidance – Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition.

¹² To characterise a bat roost, SGC expects a minimum of 3 dusk or dawn surveys of structures where bats are roosting to characterise that roost accurately.

determine whether an offence is considered likely and would therefore require an EPS licence to proceed lawfully; and whether the proposal meets the ‘three derogation tests’.

For a proposal to meet the tests it must:

- Have an Imperative Reason of Overriding Public Interest (IROPI).
- There should be No Satisfactory Alternative (that would meet the IROPI); and,
- Maintain the Favourable Conservation Status of the EPS concerned

The applicant is required to provide a sufficient level of information to enable the Council to determine whether a development meets the ‘three tests’ under the Habitat Regulations 2017, albeit with a ‘lighter touch’ than is provided within an EPS licence application. Where the Council is satisfied that the ‘three tests’ have been met it may grant planning permission and the applicant can then apply to Natural England for an EPS Licence. If EPS are present, but it is considered that an offence in law is unlikely or can be avoided an EPS Licence is not required, the applicant must ensure that a non-licence method statement or mitigation strategy (Reasonable Avoidance Measures or RAMs) is included within the submission, detailing any measures to ensure development is undertaken in a lawful manner.

Great Crested Newt District Level Licencing within South Gloucestershire (see **Chapter 5 section 5.4**) offers an alternative licensing route for developers to site-specific EPS licensing and mitigation. Where applicable, applicants will need to demonstrate that the development proposal has been accepted within the DLL scheme by including an **Impact Assessment and Conservation Payment Certificate** with the application. Participation in the District Level Licensing scheme does not negate the need for proposals to follow the mitigation hierarchy or deliver measurable net gain.

Natural England’s Standing Advice explains how the Council should deal with applications that involve Protected Species. Further information can be found at: <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications> This information may also be useful to applicants.

Best practice guidelines on what should be included in an Ecological Impact Assessment report is available from <https://cieem.net/resource/guidelines-for-ecological-report-writing/>

Sharing data - Survey data submitted with planning applications should also be provided to the Bristol Regional Environmental Records Centre (BRERC) records@brerc.org.uk. All species records should be summarised and included as an appendix to the ecological survey report. This should be in [standard data format](#) for biological recording.

To avoid any potential delays with planning applications being determined, applicants are encouraged to ensure all appropriate ecological information is provided when the application is submitted to the Council. Further details are available on our website at [What you need to submit with your planning application](#) | BETA - South Gloucestershire Council (southglos.gov.uk)

Additionally, it should not be assumed that, because an application has been registered/validated, that there will not be further queries or requests for additional information as part of the assessment of the application by the Council.

7.3 Stage 3 - Scheme design

Good design for development is based on the findings of the ecological surveys and Impact Assessments, including the BNG assessment, as set out in **7.2 - Stage 2**. The applicant and the ecological consultant need to ensure that ecological impacts and avoidance, mitigation, compensation and BNG requirements are identified and included from the outset in the scheme design. Ideally, the design process should only begin once all relevant preliminary surveys have been completed and assessed and the Council consulted in regard to the species and habitats present.

As previously indicated, the process of designing a development should follow the Biodiversity Mitigation Hierarchy. If necessary, locate the proposed development on another site with less harmful impacts.

AVOIDANCE: Firstly, **Avoid** harm to habitats and species including:

- Reduce the scale of the development proposal to 'make space' for biodiversity;
- Design the development so to avoid areas of biodiversity value;
- Provide a robust buffer to any sensitive habitats and species present;
- Ensure that development is designed so that important biodiversity features and ecological connectivity both on and off-site is maintained.

MITIGATION: After avoiding harm to biodiversity, the design process should be used to **Mitigate (minimise)** any impacts.

This might include:

- Timing the development of sites to avoid breeding seasons;
- Minimising the extent of habitats which will be lost, either temporarily during construction (e.g., haulage routes, compounds, spoil heaps etc.) or permanently (e.g., design configuration of buildings and infrastructure).

COMPENSATION: Any residual impacts on biodiversity not mitigated by avoidance or mitigation (minimisation) measures should then be **Compensated** for.

This is the last step in the Biodiversity Mitigation Hierarchy and applicants will need to satisfactorily demonstrate why avoiding or mitigating harm were not practicable and why off or on-site compensation has instead been utilised within the scheme.

Where significant harm resulting from development cannot be avoided, adequately mitigated or as a last resort, compensated, then planning permission will be refused.

7.4 Stage 4 - Submission of the planning application

The applicant and the applicant's ecological consultant will need to ensure that all required information is submitted as part of the planning application. The Council will assess the information submitted and if information is insufficient or unclear, there may be a requirement to provide further information prior to determination. Once you have completed the requisite surveys, impact assessments and design (**Stages 1 and 2 as set out in 7.2 and 7.3 above**) the application can be presented to the Council.

7.5 Stage 5 - Determination

If planning permission is granted, this will be subject to condition(s) and/or a planning obligation such as a Section 106 or Unilateral Undertaking, which secure all necessary ecological requirements including any mitigation, compensation and BNG requirements.

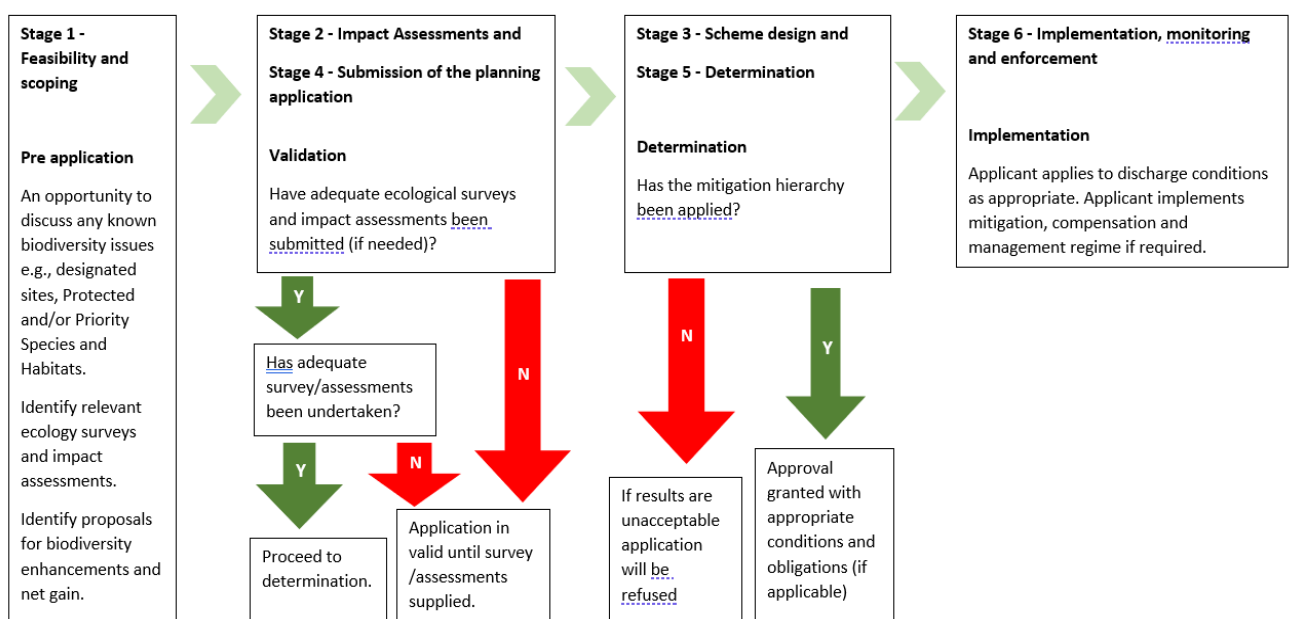
7.6 Stage 6 - Implementation, monitoring and enforcement

The required ecological mitigation, compensation and BNG measures will need to be implemented. In order to ensure that the mitigation, or compensation, including any BNG requirements are as intended and/or support the relevant species, a scheme of monitoring is often undertaken. This monitoring scheme should be proportionate to the scale of the development. The monitoring scheme could include but is not restricted to the agreed BNG requirements but can also include the use of bat and bird boxes, success of planting measures, and success of any translocations undertaken. If an EPS licence is required for development to be lawful, monitoring will form a key component and condition of the licence and will require the employment of an ecological consultant to take this forward.

Compliance and condition monitoring reports are provided to the Council as required. Non-compliance may result in enforcement or other legal action.

Figure 4 is a guide to applicants showing how the key planning stages (Stages 1-6) described in this chapter ensure that biodiversity is adequately addressed as part of the development proposal.

Figure 4: Biodiversity and the planning process flowchart



8. How to Carry out a Biodiversity Net Gain Impact Assessment

This chapter contains information to help ecological consultants with Major Site applications understand and meet the Council's BNG requirements. It outlines the BNG process, provides the information required to use the Biodiversity Metric in a South Gloucestershire context and details what the Council requires for an application to be determined.

The impact assessment for BNG should be carried out in conjunction with any other ecological assessment. However, Biodiversity Net Gain is a distinct process in itself and separate from considering the development on protected sites or species or irreplaceable habitats.

8.1 The 4 key stages of a BNG Impact Assessment

The key stages to the impact assessment are:

Stage 1: Survey. Collect data/information on the baseline habitat type, condition, and extent for the site. This can be done in tandem with the previously described assessments (PEA, Phase 1 Habitat and/or UK Hab Survey) in **Chapter 7**, but habitats should be classified using the UK Habitat classification system (UK Hab) and habitat condition should be assessed using the method outlined in the Biodiversity Metric toolkit guidance.

Stage 2: Identify irreplaceable habitats and nationally and internationally designated sites. If irreplaceable habitats and nationally designated sites are within the development footprint, these should be included within the metric to give an indicative picture of the habitats on site, but will require bespoke advice and separate consideration to ensure that impacts to irreplaceable habitats comply with existing national and local policy and legislation (see **Chapter 5**).

Stage 3: Run a baseline BNG calculation for the development. This should be done using the latest published Biodiversity Metric, however if a previous version of the Metric has already been used **and submitted to the council**, then the continuation of this Metric should be used. The spreadsheet should show the assessment of existing/pre-development habitat translated into biodiversity units, contrasted with the proposed/post-development biodiversity units (reflecting any proposed on or off-site habitat creation and restoration), and a value representing the change in biodiversity value. All habitats (existing and proposed) require a habitat condition assessment and this will need to be inputted into the metric.

Additionality – Applications are encouraged to be additional and it is therefore necessary to have an understanding of the type and extent of habitat mitigation required without the inclusion of BNG. For example, mitigation and compensation measures required for Protected Species may be counted towards a biodiversity net gain but should not make up the full extent of a development's biodiversity net gain (this includes off site compensation too).

Assigning the Strategic Significance of habitats - all habitat parcels (both baseline and post-intervention) must be assigned a strategic significance score. Recognising strategic significance gives extra value to habitats that are located in optimal locations, or are of a type, that meet local biodiversity objectives.

The strategic significance of the habitat should be identified based on the criteria set out in the Table 1 below and used in the assessment.

Table 1: Assigning Strategic Significance of the habitats

Metric Category	Local Interpretation	Multiplier applied (to pre and post development calculations)
High Strategic Significance Located within an area formally identified in local policy, strategy, plan or policy	Within an area in the South Gloucestershire Nature Recovery Network and the South Gloucestershire Strategic Green Infrastructure Network (this includes key outlier areas)	See latest Biodiversity Metric
Medium Strategic Significance Location ecologically desirable but not identified in a local strategy, plan or policy	No local strategy in place but best ecological knowledge clearly demonstrates that habitats contribute to the ecological functionality within a landscape e.g., buffering Priority Habitats, providing connectivity. For example, woodland buffering other habitats of higher value or habitat provides an important ecological function such as providing a stepping-stone.	See latest Biodiversity Metric
Low Strategic Significance Not in area defined in the local strategy, plan or policy OR no strategy or plan is in place in the area	Not in any of the areas listed above	See latest Biodiversity Metric

When calculating the post-development biodiversity value, the following multiplier known as the **Spatial Risk Factor** (i.e., the location of the offset habitat relative to the development site) should be used (see Table 2). This incentivises habitat delivery on or close to the development site and reduces the biodiversity value of habitats delivered further away from the development.

Table 2: Assigning the Spatial Risk Factor

Metric Category	Local Interpretation	Multiplier applied (post development calculations only)
Compensation inside Unitary Authority (UA) or National Character Area (NCA), or deemed to be sufficiently local, to site of biodiversity loss	Within the site boundary or the UA ¹³ . If the site is close to the UA boundary and a site cannot be found within the UA, it is deemed ecologically appropriate to mitigate within adjacent habitats up to within 1 km of the site, ¹⁴ where evidenced.	See latest Biodiversity Metric
Compensation outside UA or NCA of impact site but in neighbouring UA or NCA	Within neighbouring UA or NCA or within another UA in the WoE region.	See latest Biodiversity Metric
Compensation outside UA of impact site and beyond neighbouring UA.	Outside of the West of England region (and only undertaken in exceptional circumstances).	See latest Biodiversity Metric

The change in biodiversity value (units) is determined by subtracting the value (units) before development from the value (units) after development. This should be done for each broad habitat type and each Habitat of Principal Importance as well as for the scheme as a whole. This is to ensure that any one broad habitat is not replaced with a different habitat type. For example, it is not acceptable to lose woodland in an area and it be replaced with ponds.

Stage 4: Apply the biodiversity mitigation hierarchy. Wherever possible impacts on biodiversity need to be avoided or minimised through the sensitive design of the development. Applicants should ensure that on-site or off-site compensatory and BNG habitats promote the restoration and/or re-creation of Priority Habitats, local sites, ecological networks and the protection and recovery of legally Protected and Priority Species populations, if impacted. The “like-for-like or better principle” should be applied: successful compensation and BNG should be at least ecologically equivalent in type and condition to any habitats lost. Any loss should therefore be replaced with the same habitat type or one of higher ecological value, which will nonetheless still support the species affected, for example, replacing semi-improved grassland with unimproved grassland or enhancing a species poor hedgerow. This is reported in the Metric summary tab.

¹³ There may be wider ecological priorities for the compensation that will mean that a larger area (e.g., WoE region) is still able to be given this Low-risk category. For example, where bird species that are the target of the compensation requirement are known to be breeding on an area of land at a distance from the development and this land provides the best possible compensation options for these species. In these cases, consultation with the UA is paramount.

¹⁴ In cases where there is ambiguity about the appropriate spatial risk to apply due to proximity to UA boundary, unavailability of offset sites within the UA or potential ecological reasons for an appropriate adjustment, it is advised that consultation with the UA ecologist is sought.

8.2 What the Council requires from the BNG calculation

The Council will need to review and verify the baseline BNG calculation (the completed calculator spreadsheet document, not a 'snapshot' or summary) and evidence of condition assessment results for each habitat type, as this forms part of the core biodiversity gain information that needs to be submitted prior to determination of an application. This will be undertaken as part of the assessment of submitted evidence in accordance with the application determination process. Applicants are also able to request a review of their proposed BNG calculation as part of the Council's pre-application service, to which a fee would apply.

These calculations should aim to show a minimum 10 % increase in biodiversity units across all unit types (area-based, and where relevant, linear, and riverine habitats), meet the trading rules in the Metric and have regard to existing policy on such matters.

If it is found that the habitat on site has been degraded since the 30th of January 2020 so that the habitat is lost prior to the baseline survey, then the site will need to be reassessed using data (aerial imagery and other habitat data), from prior to the loss of the habitat.

These calculations need to be accompanied with habitat/landscape mapping that separately shows the existing/pre-development and proposed/post-development habitats/biodiversity units. If using GIS, see **Appendix 3** for further details on what needs to be submitted to meet GIS data standards and **Appendix 4** contains a draft biodiversity gain plan template.

8.3 Biodiversity Offsetting (offsite compensation)

The Council's preference is for **on-site compensation and BNG measures** (retain/enhance or create habitats). This could include the applicant deciding to extend their development footprint/ red line boundary to include adjacent land for compensatory and offsetting purposes. This could include enhancing the existing habitat of the adjacent land, or creating a higher distinctiveness habitat to achieve BNG.

Where the Council ecologist(s) agrees that the Biodiversity Gain Plan demonstrates that the Mitigation Hierarchy has been followed, and that valid attempts to avoid, minimise or reduce harm have been made within the site boundary or there is a clear argument for providing supporting habitat for species sensitive to disturbance which might be better located away from the development, then off-site (biodiversity offsetting) compensation may be considered on a case-by-case basis.

Table 3 below shows what offset site options are available.

Table 3: Biodiversity offsetting options

Applicant pays commuted sum to South Gloucestershire Council	Applicant purchases offset land
<ul style="list-style-type: none"> The applicant does not own the land required for offsetting. The Council is paid to deliver and take on full responsibility for the offset requirements <p>Note - The final sum will also include a 15% admin fee on top of the calculated financial contribution to cover the cost of habitat survey, calculation using the metric, monitoring and reporting whether this is undertaken by council staff or an external consultant. The Biodiversity Unit tariff is available on the Council's website.</p>	<ul style="list-style-type: none"> The applicant buys/owns land required for offsetting (adjacent or in close proximity to the development site) The applicant designs and implements a bespoke offsite site which targets the impacts of the development. Management may be passed to a third party.
Applicant pays third party habitat broker	Statutory biodiversity Credits
<ul style="list-style-type: none"> The applicant does not own the land for offsetting. The third party broker designs, implements and manages a bespoke offset site which targets the impacts of the development. 	<ul style="list-style-type: none"> The applicant can buy as a last resort credits from the UK Government when there is no local market.
<ul style="list-style-type: none"> Or a combination of the above 	

Note **Conservation Covenants** will be new private voluntary agreement between a landowner and a designated “responsible body” such as a conservation charity, public body or for-profit body which conserves (protects, restores or enhances) the natural or heritage features of the land. They are expected to be a valuable tool for the Council and developers to ensure that compensatory BNG habitats are maintained in the long term, even if the relevant land is sold.

The priority for offset site compensation is always as close to the development site as is functionally possible (i.e., any new habitat should be located where it can be readily colonised by the species that it is intended to support). In South Gloucestershire, the local Nature Recovery Network (*see Chapter 6 section 6.1*) illustrates the priority areas for biodiversity offsets. Off-site compensation and net gain should apply the Lawton principles of creating **more, bigger, better, and joined** areas for biodiversity and should be designed in such a way to optimise the ecosystem services that meet local needs. It is also important to consider the key characteristics of the landscape within which the offset site habitats are proposed so that the ecological and landscape character of an area is not eroded or lost. Again the “like-for-like or better principle” and ecological reasoning should be applied to identify what is appropriate for an area.

The biodiversity value of an offset site is calculated in the same way as the baseline and post-development biodiversity units. It is also important to take into account the habitat present before the offset is put in place, in addition to the habitat that will be created as a result of the offset.

8.4 The National Biodiversity Gain Site Register

When BNG becomes mandatory, any off-site gains included in a Biodiversity Gain Plan will need to be registered on the national biodiversity gain site register and the registered gains allocated to the specific development in question. Achievable biodiversity gains will be secured via a binding legal agreement and this will be a pre-requisite to registering for the BNG site register.

8.5 Registering Habitat Banks

Habitat Banks are new, pre-established wildlife habitats which are created on the basis that the costs can be met through selling biodiversity units to developers (note that Habitat Banks are set up at the owner's risk and in an open marketplace for purchasing biodiversity units). Pre-established habitat banks will need to be registered and agreed with the Council before habitat creation begins in order for units to then be sold to developers and accepted as compensation/BNG.

Further details will be developed but for the moment the following should be submitted to the Council:

The Plan should use the latest Biodiversity Metric and follow associated guidance and include:

- Details of baseline habitat/s (prior to habitat creation) – unit value, condition assessments, photos and supporting GISfiles and habitat maps.
- Evidence that the land hasn't been recently degraded.
- Details of habitat creation and management objectives + unit value.
- A plan and supporting GIS habitat map clearly showing any available units.
- Ownership / lease details.
- Habitat Bank and Creation Plan (produced by a Professional Ecologist).

Note that habitats created in advance, including via habitat banks, is incentivised in the Biodiversity Metric and habitat will need to be maintained for 30yrs from the point of sale.

8.6 Biodiversity Net Gain Plan requirements to support an application

All new developments (unless exempt), whether outline or a full planning application, will be encouraged to submit a **Biodiversity Net Gain Plan**. The following core biodiversity gain information that will need to be submitted with an application prior to determination is (this will become a requirement once BNG becomes mandatory):

- The pre-development biodiversity value;
- Steps taken to minimise adverse biodiversity impacts;
- The proposed approach to enhancing biodiversity on-site;
- Any proposed off-site biodiversity enhancements (including the use of credits) that have been planned or arranged for the development (see Biodiversity Offsetting (offsite compensation)).

For outline planning permission and phased developments any application documentation will need to explain the strategy to achieve the biodiversity gain objective across the whole site and demonstrate how this could be delivered on a phase-by-phase basis through subsequent detailed design. It will also be necessary to demonstrate how biodiversity net gain delivery will be tracked on a phase-to-phase basis, including the target percentage gains to be delivered at each stage. The applicant will be encouraged to submit a Biodiversity Gain Plan for approval prior to the commencement of individual phases of development.

The Council will be providing a BNG Discretionary Advice Service outside of the Pre-Application Process to help agree BNG requirements at the earliest outset.

There are several publications¹⁵ which provide further information and good practice in regard to Biodiversity Net Gain and development and the recognised Biodiversity Gain Plan template that should be submitted with your application. **See Appendix 4** for a working draft of the Biodiversity Net Gain Plan template.

8.7 BNG and scheme design

Any compensatory habitat and the BNG requirements should be designed into schemes as part of mitigation hierarchy process (see **Chapter 7**) with early consultation with the Council, whether this consists of existing on-site habitat, any new areas of semi-natural habitat or, as a last resort off-set site habitat compensation. Again, this is best achieved through the Council's pre-application consultation service for BNG and specific ecological issues within a development.

It is crucial that the design of a scheme is developed in conjunction with all other aspects of a site, including arboriculture, landscape, heritage, archaeology, drainage, and public open space provision.

In addition, should the design change during development of a scheme in such a way that alters its impact on biodiversity, the BNG assessment will need to be reviewed and revised, if necessary, in consultation with the Council ecologist(s). For sites with moderate and high target distinctiveness habitats¹⁶, the design will also need to be reconsidered along with long-term management requirements.

8.8 BNG and Construction (Includes Site Clearance)

Most major development require the production of a Construction Environmental Management Plan (CEMP) conforming to BS42020:2013, which are usually drawn up under an appropriately worded planning Condition. The need to encompass BNG should include the protection of any existing or new semi-natural habitat forming part of the BNG calculation. If the scheme that is delivered differs from the agreed BNG due to the loss of or damage to, any semi-natural habitat, the biodiversity unit calculation should be re-run and, if need be, additional offset measures provided to ensure that BNG is still met. If changes decrease the gains for biodiversity, further areas of offset habitat will be required.

¹⁵ Biodiversity Net gain – Good practice principles for development (CIEEM/IEMA/CIRIA, 2016), Biodiversity net gain, good practice principles for development – A Practical Guide (CIEEM/IEMA/CIRIA, 2019). <https://cieem.net/biodiversity-net-gain-guidance-published/> and West of England Biodiversity Net Gain Guidelines (WSP, 2020) (to be published)

¹⁶ High Distinctiveness Habitats are Priority Habitats as defined in Section 41 of the NERC Act Medium Distinctiveness Habitats are Semi-natural habitats not classed as a Priority Habitat but with significant wildlife benefit. See Biodiversity Metric User Guide <http://nepubprod.appspot.com/publication/6049804846366720>

A check will be required at the end of the construction to ensure that development remains compliant with the original BNG agreement. This will become a mandatory compliance check and will incur a fee.

For large developments the use of an Ecological Clerk of Works (ECOW) is often warranted to ensure that attention to ecological matters becomes an ongoing process.

8.9 BNG Monitoring, Management and Enforcement

The management of all semi-natural habitat, including BNG, as well as its monitoring, will also form part of a Landscape and Environmental Management Plan (LEMP) and/or Habitat Management and Monitoring Plan (HMMP) for the scheme and will similarly form part of a planning condition (secured through a section 106 Agreement or other appropriate agreement). This is normally drawn up prior to commencement of development. Again, if the post-construction habitats differ from the original BNG calculation and agreement, then a revised LEMP and/or HMMP will need to be submitted.

It will be the landowner or developer's responsibility to ensure monitoring and reporting obligations are fulfilled, or adequately delegated to another body (with necessary funding), to the specifications set out in the Biodiversity Gain Plan. The number of monitoring assessments will depend on the habitat type and extent, but a typical schedule for a medium sized habitat creation project might result in reports for years 2, 5, 10, 20 and 30.

Monitoring outcomes at a site level will help to inform adaptive habitat management (recognising that nature will sometimes have different plans to those recorded in the biodiversity metric) and ongoing maintenance activities to ensure that biodiversity gains can be delivered.

Monitoring of restored and/or newly created BNG habitats ("medium or high distinctiveness habitats") must be reported through a monitoring report. "Low distinctiveness" habitats are lower in biodiversity value and thus only require relatively simple maintenance and reporting of these is not required. As a minimum, monitoring reports should include a summary of habitat type, extent, and condition (with a comparison where applicable against the expected condition proposed in the Biodiversity Gain Plan). They should include a survey report and an updated Management Plan to cover the remaining timescales for the ongoing management. ***See Section H Monitoring and reporting of the Biodiversity Net Gain Plan template in Appendix 4.*** Again, any monitoring and reporting information must meet the GIS data requirements (Appendix 3).

Monitoring reports will need to be submitted to the Council, the register operator (if off-site habitat is included) and the relevant responsible body (if a conservation covenant is used).

Failure to deliver, or attempt to deliver, biodiversity net gain outcomes which are secured through conditions or other limitations (subject to which planning permission is granted) can result in enforcement action. Revisions may be required to the original management plan accompanying the planning application in this instance and this should be accompanied by adequate evidence and justification for the proposed changes.

9. Other Types of Impact Assessments

9.1 The Habitat Regulations and Appropriate Assessment

The Council is required to ensure that a proposed development will not have an adverse effect on the integrity of a European/Habitats Site (SAC/SPA/Ramsar), (either directly or indirectly, alone or in combination with other development). This is undertaken through the 'Habitats Regulations Assessment' (HRA) process. Applications are first subject to 'Screening' to determine whether the development is likely to have significant effects on the conservation objectives of a European Site. Where a significant effect was considered, likely applications are subject to a more detailed Appropriate Assessment (AA) in consultation with Natural England. A site does not have to be located within a Habitats site to have the potential to impact upon it: South Gloucestershire has one European Site – the Severn Estuary SAC/SPA/Ramsar and the loss of wetland habitat (pools, wet grassland) used by waterfowl as 'high tide roosts' would have the potential to significantly and adversely impact upon the conservation objectives of the site. Additionally, continued residential development within South Gloucestershire might cumulatively and indirectly have an adverse effect on the SPA/Ramsar through increased recreational use by cyclists/walkers/anglers resulting in disturbance/displacement of waterfowl within the Site. The map in Appendix 5 shows the 7km Recreational Zone of Impact and indicates where new development might be required to make financial contribution to fund on site SAC/SPA conservation measures, as part of Strategic Mitigation Measures. This takes the form of a recreation mitigation and management strategy and would include a mixture of Suitable Alternative Natural Greenspace (SANG) and Strategic Access Management and Monitoring (SAMM) measures.

There is no threshold for the size of the development: even a single house might require Screening for AA if there was a potentially significant effect on a European Site.

Where such an effect is identified the applicant will be expected to provide the Council with all the necessary information a document titled '**Evidence to inform an HRA**'. This document will identify effects and their significance and the proposed avoidance and/or mitigation measures incorporated in the proposal to ensure it will not adversely affect the integrity of the European Site. Notwithstanding this, however, recent judicial authority has determined that the initial scope of an HRA cannot include mitigation measures to negate any impacts arising from a development but must address and assess them on their own. These measures should carry through to other supporting documents for the planning application and the document will inform the HRA carried out by the Council. Please see note below.

Note - where a proposal has the potential to affect the Severn Estuary European/Habitats Site, the Council expects the applicant's ecological consultant to submit a Shadow HRA (sHRA)¹⁷ for review. Should the Council find the report sufficiently comprehensive then this will be adopted as the Council's HRA. If the Council finds the shadow HRA to be of poor quality the applicant will be advised to revise the shadow HRA to ensure it is sufficiently comprehensive to consider all likely significant effects (LSE) and subsequently to this initial assessment to devise appropriate mitigation/compensation to reduce LSE.

¹⁷ This assessment mirrors the legal process that the Local Planning Authority (LPA) must follow under Regulation 61 of the Habitats Regulations in completing a Habitats Regulations Assessment (HRA). This document is described as a shadow HRA (sHRA) as it does not replace the LPA's duties to complete such an assessment.

9.2 Environmental Impact Assessment (EIA)

The EIA process is governed by the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the '2017 Regulations'). The process is designed to ensure that when determining an EIA-scale application, the Council is fully cognisant of all environmental effects arising from the scheme – for example, aerial or aquatic discharges, traffic, noise, vibration, ecology, and heritage – before making its decision.

The key stages are:

Screening - determining whether a proposed project is of a type and of a magnitude as to necessitate an EIA, whether mandatory or discretionary (Schedule 1 or 2 development). The types of project requiring an EIA can be found here <https://www.gov.uk/guidance/environmental-impact-assessment#Screening-Schedule-2-projects> The Council may be required to provide a Screening Opinion (SO).



Scoping - The Local Planning Authority determines the range of issues to be considered in the EIA (Scoping Opinion (SO)).

Environmental Statement (ES) - if an Environmental Impact Assessment is required, the applicant must prepare and submit an Environmental Statement based on the Scoping Opinion (SO). The ES must be prepared by "competent experts" and accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts.

As part of this process an Ecological Impact Assessment (EclA) may be required to identify, quantify, and evaluate the potential effects of the development on habitats, species, and ecosystems.

10. Biodiversity Design Guide

This chapter provides a more technical guide and illustrates ways to design and build in biodiversity into your scheme, whether that be a Householder, Minor Site or Major Site application. The information is set out using different elements and features that can make up any scheme e.g., landscape, buildings, road etc and details requirements and best practise that can be applied to any scale.

Landscaping	
<p>Landscaping schemes should retain, enhance, and increase the most valuable existing semi-natural and Priority Habitat on site. Hedgerow breakage should be minimised to maintain connectivity, including boundary hedges. These features should be designed to link up both habitats within the boundary, and the wider landscape. For example, native hedgerows with (species-rich) buffers provide routes (wildlife corridors) along which species such as hedgehogs, butterflies and bats forage and move.</p>	<div data-bbox="871 568 1497 1041"></div> <div data-bbox="871 1041 1497 1568"></div> <div data-bbox="884 1568 1337 1606"><p>Masterplan showing wildlife network.</p></div>

New semi-natural and Priority Habitat(s) should be created. This could include native woodland, hedges, scrub, ponds, and wildflower meadows, in areas of landscaped open space. Bespoke species habitats could include creating deadwood habitats and hibernaculum.

Further help:

[Freshwater Habitats Trust: Pond Creation Toolkit](#)

[Woodland Trust: Tree Planting Advice](#)

[Hedgelink](#)

Further Guidance on delivering high quality green infrastructure can be found at [Building with Nature](#)



Ensure a 10m ecological riparian [buffer zone](#)¹⁸ is maintained for existing streams and rivers.

Ensure existing green infrastructure, such as semi-natural and Priority Habitat(s), wildlife corridors such as hedgerows, within and adjacent to the scheme have adequate buffers and are managed for their associated wildlife.



Development will need to incorporate a 15m protective buffer to SNCI's. Buffers should consist of semi-natural habitat comprising native plant species of local provenance.

Wherever appropriate, development should include the restoration and enhancement of any watercourses on and adjacent to the development site including the naturalisation of any culverted lengths. These measures should include the removal of any invasive species such as Himalayan Balsam.



Before



After

¹⁸[3D buffer strips: designed to deliver more for the environment - GOV.UK \(www.gov.uk\)](#)

Sustainable Drainage Systems (SuDS) should be designed to benefit biodiversity, including permanent standing water, reedbeds and marginal and emergent vegetation, to provide additional wildlife habitat whilst also contributing to the flood attenuation capacity for the development. SuDS maintenance buffers should be managed sensitively for wildlife.

Further help:

[Susdrain: Delivering SuDS](#)

[The Rain Garden Guide](#)



Boundary treatments adjacent to private gardens/adjacent residential properties should consist of semi-natural habitat comprising mixed native scrub, hedgerows, or broadleaved woodland.

However, suckering and thorny species in native hedgerow mix adjacent to play areas and native hedgerow with suckering species adjacent to allotments are discouraged.

If this is not feasible 'wildlife friendly' fencing which has a 150mm gap between the fence and the ground or a 13cm-by-13cm gap in the fence at ground level should be used. These gaps will need to be indicated on the landscape/ecological plan.

Further help:

[Hedgehog Street: link your garden](#)



Formal landscape planting schemes, particularly those in urban and suburban areas should consist of a mixture of new and retained native shrubs, trees, and plants to provide nectar and pollen for bees, hoverflies, butterflies, and other pollinators throughout the year.

Further info:

[Royal Horticultural Societies \(RHS\) "Perfect for Pollinators" list](#)



Where there is access to adequate public and private open space including gardens install appropriate nest boxes for garden birds (such as robins, blackbirds, thrushes, tits etc)



Buildings

Nesting and roosting opportunities for species such as bats, swallows, house martins, sparrows, swifts, starling, barn owl and kestrel should be incorporated into the structure of the building or roof space. The move to Low and Zero carbon buildings has reduced traditional nesting and roosting opportunities for many species.

Where this is not feasible the attachment of nest boxes and bat roost boxes to the external walls of new buildings should be considered. The design should be applicable to the species.

Note - swift boxes can accommodate a range of species including sparrows.

Further help:

[Bat Conservation Trust: Putting up Bat Boxes](#)

[Swift Conservation: Fitting Swift Nest-Places](#)

[The Barn Owl Trust: Barn Owl nest boxes](#)



Bat access tile and brick



Sparrow terrace nest box

Incorporate Bee Bricks built in developments



Artificial lighting, including floodlighting, should avoid spill on to ‘dark corridors’ such as hedgerow networks, railway embankments, waterways parkland, woodland edge habitat or trees and buildings supporting bats or owls. A lighting design plan will need to be submitted and should include the specification, number, orientation, dimming and control (timing, sensing) arrangement for each luminaire and a lux contour plan if appropriate.


Further help:

[Bat Conservation Trust: Bats and lighting](#)



Lighting with shield

<h3>Green Roofs and Living Walls</h3>	
<p>Green roofs can provide significant benefits for wildlife, as well as reducing water runoff and insulating buildings. By providing low nutrient, well drained habitats, green roofs can benefits invertebrates and a variety of species of bird.</p> <p>Living walls protect buildings from weathering and temperature fluctuations and can also benefit wildlife, such as, invertebrates and birds. They are most useful in an urban setting where they provide well needed green infrastructure provision.</p> <p>Further info:</p> <p>Living roofs</p>	 
<h3>Roads and Streets</h3>	
<p>Create underpasses and green bridges to enable wildlife to span roads otherwise presenting a barrier to free movement.</p> <p>Further help:</p> <p>Wildlife & Traffic: A European Handbook for Identifying Conflicts and Designing Solutions</p> <p>Green bridges: safer travel for wildlife</p>	<p>Amphibian underpass</p>  

<p>Use street trees as natural traffic management measures to help improve air quality, enhance ecological connectivity and help reduce urban heat effect.</p>	
<p>Use SUDs/reedbeds for the treatment of surface water runoff from roads and footways and wildlife-friendly kerb stones to avoid amphibian mortalities caused by gully pots.</p> <p>Further information:</p> <p>Common toads and roads: Guidance for planners and highways engineers in England</p>	
<p>Create species rich road verges - see Appendix 6 for South Gloucestershire Councils grassland and road verge mix specification.</p>	

Note - the location and type of bat, bird, and bee boxes to be installed should be marked on Landscape Plans, as well as hedgehog or small mammal access points in residential fences. Bat and bird boxes are best located on existing mature trees or on bespoke posts/structures rather than new tree stock. Access points in fences should ensure connectivity through gardens, and routes should direct passage away from roads.

Appendix 1: Ecological Survey Seasons

Ecological Surveys Seasons

Key: Optimal Survey time



Extending into



	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Badgers												
Bats (Hibernation Roosts)												
Bats (Summer Roosts)												
Bats (Foraging/Commuting)												
Birds (Breeding)												
Birds (Overwintering)												
Dormice												
Great Crested Newts												
Invertebrates												
Otters												
Reptiles												
Water Voles												
White Clawed Crayfish												
Habitats/Vegetation												

Appendix 2: Where to expect to find protected species.

Habitat, building or land	Species to look for
Ancient or veteran trees or those with significant decay features	Bats, breeding birds, dormice and invertebrates
Cellars, ice houses, old mines, and caves	Bats
Buildings with features suitable for bats , or large gardens in suburban and rural areas	Bats, breeding birds, badgers, reptiles, hedgehogs and great crested newts
Traditional timber-framed building (such as a barn or oast house)	Bats, breeding birds including barn owls
Lakes, rivers, and streams (on the land or nearby)	Breeding birds, fish, otters, water voles and white-clawed 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	Breeding birds, fish, great crested newts, water voles, invertebrates, and white-clawed crayfish
Rough grassland and previously developed land (brownfield sites), on or next to the site	Breeding bird, reptiles, invertebrate and protected plants
Woodland, scrub, and hedgerows on, or next to the site	Bats, breeding birds, badgers, dormice, invertebrates, great crested newts, reptiles, and protected plants
Coastal habitats	Breeding birds, fish, otters, and invertebrates

Appendix 3: GIS requirements

GIS Data Standards

- 1) GIS data can be supplied as either ESRI Shape Files or MapInfo tab files.
- 2) The overall file should be 'flat', with no overlaps between polygons within the file.
- 3) All data should be mapped as polygons, except for linear sites like hedges and rivers which can be mapped as lines/polygons.
- 4) Where a boundary is shared between two (or more) polygons the boundaries should all share the same geometry. Thus, there should be no slivers or gaps between polygons with shared boundaries; Nodes must be snapped together.
- 5) Polygons should not contain inappropriate "spikes". In the figure below the digitised field has an inappropriate spike.
- 6) Polygons must not contain "bowties" (self-intersecting). Polygons must not intersect or cross themselves.
- 7) Holes in polygons should be appropriately "punched". Where there is a hole in a polygon this should be digitised as a hole as shown below.
- 8) All GIS files must use the following table structure:

Baseline Data (existing/pre-development)

Unique Parcel ID	Land Parcel Ref	Scheme Option	Source	Designated Site	Irreplaceable Habitat or an area identified for their impact mitigation?	Habitat of Principal Importance	Pre-development Habitat	Prescription	An area of temporary or permanent loss?	Area (ha) or length (km) to 2 decimal places	Distinctiveness	Condition	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Criteria 6	Condition Assessor Name	Ecologist Notes	BNG Notes	GIS Notes
-	[If applicable]	[If applicable]	Phase 1	[Null]	[Null]	[Null]	JNCC code / UKHab code	Baseline Retained	[Null]	-	[BNG specialist to populate]	[Null]	[Pass]	[Pass]	[Pass]	[Pass]	[Pass]	[Pass]	-	Any additional information on habitat parcel based on survey	Date, source and scope of edits	Queries raised during GIS

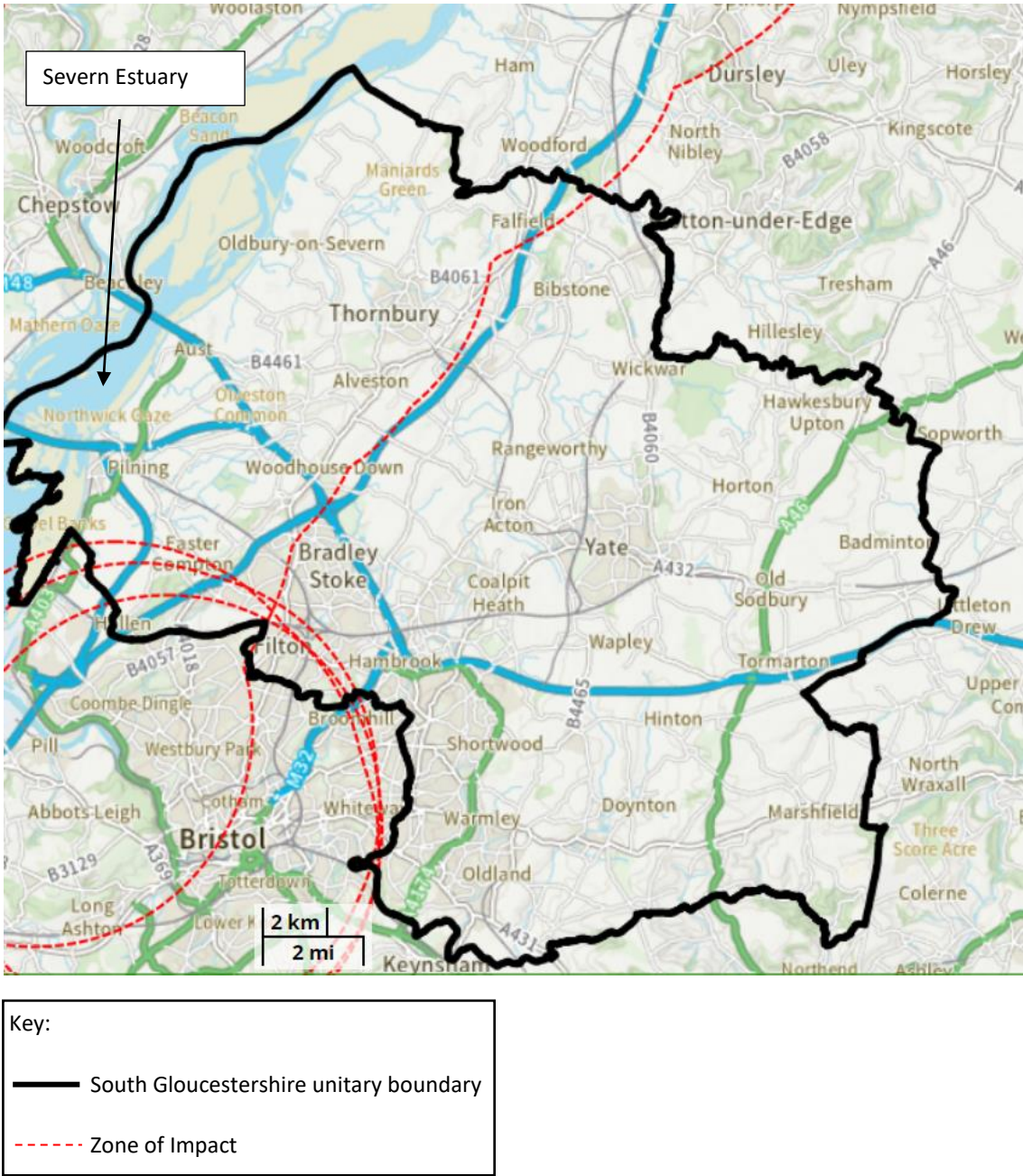
-	-	-	PRoW	SSSI, SPA, SAC, RAMSAR	ASNW	[state HPI type e.g. Lowland Mixed Deciduous Woodland]	-	Baseline Enhanced	Temporary Loss	-	V. High	Good	[Fail]	[Fail]	[Fail]	[Fail]	[Fail]	[Fail]	-	-	Justification for strategic significance rating/score	Notes on methods applied
-	-	-	Aerial Capture	-	PAWS	-	-	-	Permanent Loss	-	High	Fairly good	[Non-existent criteria 1]	[Non-existent criteria 1]	[Non-existent criteria 1]	[Non-existent criteria 1]	[Non-existent criteria 1]	[Non-existent criteria 1]	-	-	Justification of condition score or method used	-
-	-	-	[Others if applicable]	-	[Various HPIs – BNG specialist to advise]	-	-	Created	-	-	Medium	Moderate	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	Low	Fairly poor	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	V. Low	Poor	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	N/A – Agricultural	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	N/A – Other	-	-	-	-	-	-	-	-	-	-

Post Development - - landscaping and offset scheme data

The final landscaping or offsetting scheme for a project must provide a record of the future biodiversity value of a site. Since different habitats can take different lengths of time to reach a specified target condition, a scheme may have multiple target dates for completion of restoration or creation activities.

Unique Parcel ID	Land Parcel Ref	Scheme Option	Source	Landscaping Plan habitat description	Post-development Habitat	Designated Site	Irreplaceable Habitat or an area identified for their impact mitigation	Habitat of Principal Importance	Prescription	An area of temporary or permanent loss	Area (ha) or length (km) to 2 decimal places	Baseline Habitat (if Enhancement)	Baseline Distinctiveness (if Enhancement)	Baseline Condition (if Enhancement)	Post-development Distinctiveness	Target Condition	Difficulty Multiplier	Temporal Multiplier	Spatial Risk Multiplier	Ecologist Notes	BNG Notes	GIS Notes
-	[if applicable]	[if applicable]	Landscaping Plan	-	JNCC code / UKHab code	[Null]	[Null]	[Null]	Baseline Retained	[Null]	-	JNCC code / UKHab code	V.High	Good	[BNG specialist to populate]	[Null]	[BNG specialist to populate]	[BNG specialist to populate]	[BNG specialist to populate]	Any additional information on habitat parcel based on survey	Date, source and scope of edits	Queries raised during GIS
-	-	-	[Others if applicable]	-	-	SSSI, SPA, SAC, RAMSAR	ASNIW	[State HPI type e.g. Lowland Mixed Deciduous Woodland]	Baseline Enhanced	Temporary Loss	-	-	High	Fairly good	V.High	Good	-	-	-	-	Justification for strategic significance rating/score	Notes on methods applied
-	-	-	-	-	-	-	PAWS	-	Created	Permanent Loss	-	-	Medium	Moderate	High	Fairly good	-	-	-	-	Justification of condition score or method used	-
-	-	-	-	-	-	-	[Various HPIs – BNG specialist to advise]	-	-	-	-	-	Low	Fairly poor	Medium	Moderate	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	V.Low	Poor	Low	Fairly poor	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A – Agricultural	V.Low	Poor	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A – Other	-	N/A – Agricultural	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A – Other	-	-	-	-	-	-

Appendix 5: 7km Recreational Zone of Impact for the Severn Estuary



Appendix 6: South Gloucestershire Council's Road verge mix specification

For new wildflower and rough grassland areas within new development a locally sourced seed mix should be used, appropriate for the underlying soil type, site situation and future use.

South Gloucestershire Council's Road verge mix specification for new grasslands and reinstatement on council land is currently being trialled on a number of key sites and further guidance will be issued on our website in due course.