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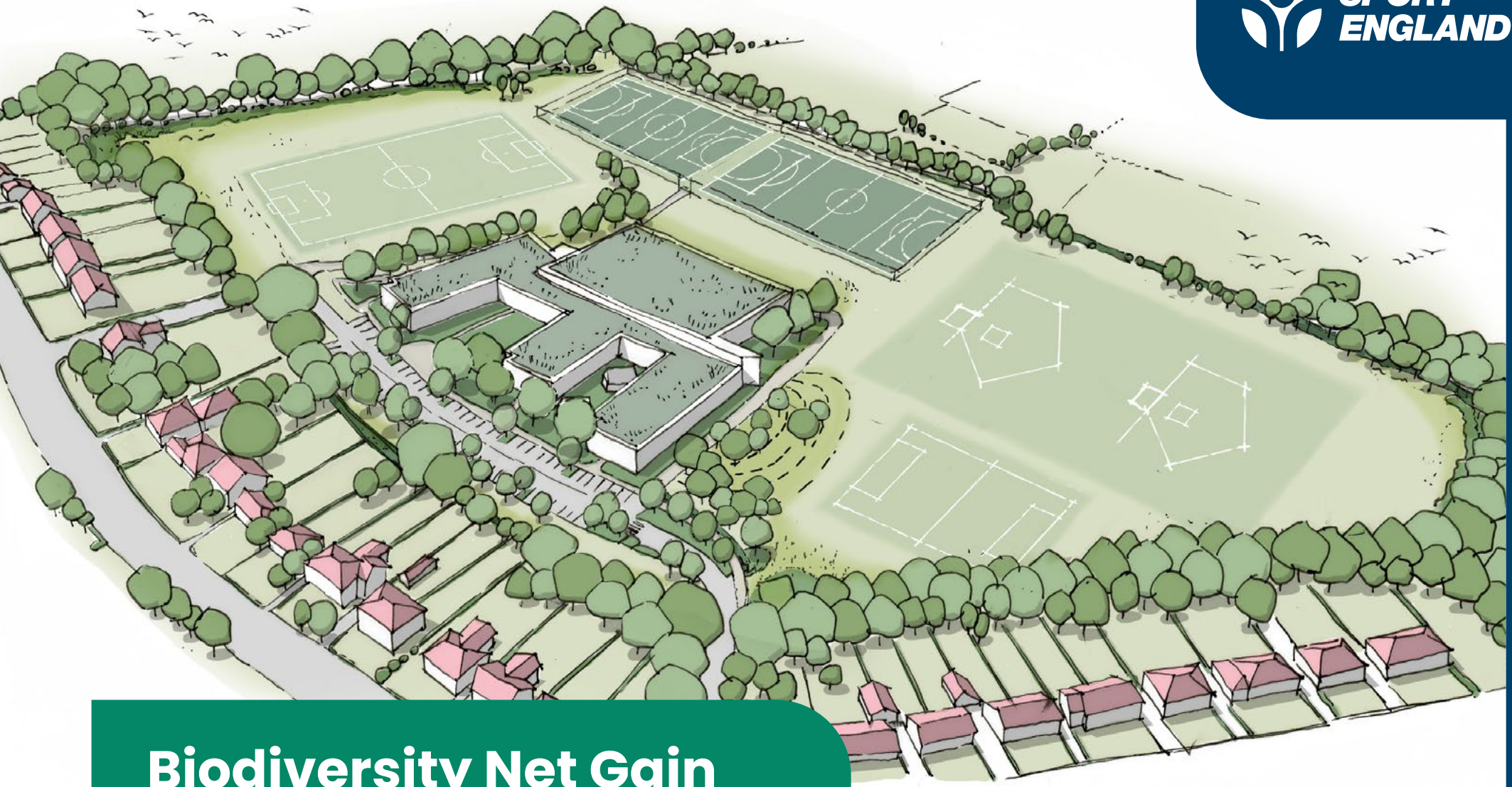


Biodiversity Net Gain Guidance document

BNG Implementation on Playing Fields

sportengland.org

Contents

Section 1

Introduction

The Purpose of the Document

This document provides guidance on how to successfully integrate Biodiversity Net Gain (BNG) into the design and development of playing fields in England. It aims to show how biodiversity measures can be incorporated into playing fields without compromising their intended sporting use or long-term protection.

The document is intended for a wide range of users, including:

- **Sports clubs:** To demonstrate BNG requirements and how they can be met while safeguarding the intended use of pitches and facilities.
- **Schools:** To assist educational institutions in integrating BNG into their outdoor spaces without compromising the future potential for sports pitch development.
- **Development and design professionals:** To guide architects, landscape architects, and planners in balancing BNG measures with the continued usability of sports facilities from the early planning stages.

This document should be read alongside following documents:

National Planning Policy Framework (NPPF)

The Statutory Biodiversity Metric - User Guide by Department for Environment Food and Rural Affairs

Playing Fields Policy and Guidance; a key design guidance note published by Sport England, which outlines the policies and principles for protecting, enhancing, and developing playing fields across the UK

The Natural Turf for Sport design guidance note by Sport England serves as a comprehensive guide for planning, designing, constructing, and maintaining natural turf sports pitches.

Artificial Surfaces for Outdoor Sport document by Sport England provides comprehensive guidance on the design, construction, and maintenance of artificial pitches.

Every Move - Sustainability Strategy and Action Plan (May 2024); a publication by Sport England, outlines strategies to address climate change impacts, promote sustainable practices, and enhance the environmental resilience of sports and physical activity infrastructure across England

Where applicable, specialist advice should be sought, particularly for site-specific conditions or complex Biodiversity Net Gain (BNG) requirements. The guidance is advisory (non-statutory) and should not be used in place of information from the Local Planning Authority.

Document structure

The document covers:

- An overview of the BNG legislation and its implications for sports facility development.
- A detailed, step-by-step guide to integrating BNG into project planning from the outset.
- Illustrative examples, case studies of successful BNG measures, and schemes affecting playing fields, ensuring no negative impact on their sporting use.
- Guidance on avoiding common issues, such as poorly placed planting that could interfere with pitch layout, drainage, or safety.
- Practical examples for both large and small sites, including sports clubs, schools, and community facilities.

Section 2

Introduction to Biodiversity Net Gain (BNG)

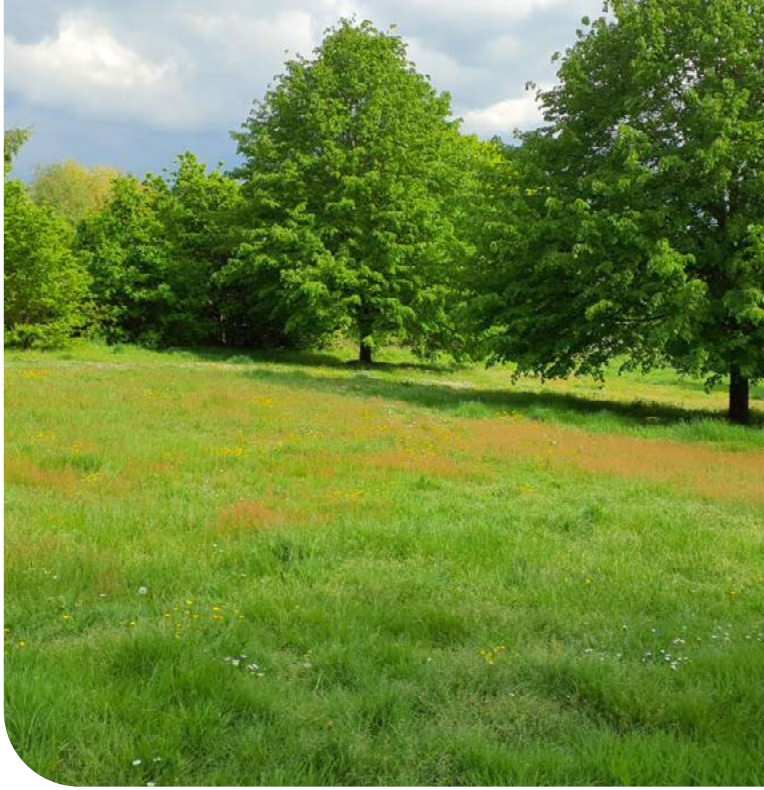
What is Biodiversity Net Gain (BNG)?

Biodiversity Net Gain (BNG) is an approach embedded in UK planning policy that requires developments to leave the natural environment in a measurably better state than it was before.

Introduced as part of the Environment Act 2021, BNG is a legal requirement in England, effective from 12 February 2024, under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act). The legislation mandates that all developments, including sports and leisure facilities, must achieve a minimum of a 10% net increase in biodiversity. This means that any habitat lost or degraded due to development must be compensated for by creating, restoring, or enhancing habitats, either on-site, nearby, or off-site. However, BNG may also involve enhancing areas that are not degraded, but are being improved or expanded as part of the development.

The purpose of BNG is to not only offset the environmental impacts of development but also to contribute positively to local ecosystems and wildlife. Applicants are encouraged to think strategically about ecological enhancements - such as planting wildflowers, creating green corridors, or restoring wetlands - that can improve biodiversity in the long term. However, for sports facilities, this presents unique challenges. Any biodiversity measures must be carefully designed to avoid negatively affecting the primary use of the land for sports, such as playing fields or artificial pitches. There is a need to balance ecological gains with the functional and spatial needs of the sporting community, recognising both will contribute to a healthy society.

Although BNG is a mandatory requirement in England, some local authorities may set higher standards. Therefore, applicants should check the specific planning policies for their area. BNG applies to most but not all developments. For example, some small developments currently fall below a 'de minimis' threshold and BNG is not required (if they do not impact on a priority habitat). It is important to check the current regulations carefully and/or seek advice from a professional before concluding whether or not BNG is required.



It is important to note that BNG requirements do not apply uniformly across the UK. While Wales, Scotland, and Northern Ireland have biodiversity enhancement policies, these are not currently legally enforceable to the same extent as in England. However, planning guidance and local biodiversity strategies are encouraged across all regions of the UK, with varying levels of enforcement. Applicants should ensure they are in compliance with the relevant regulation in their specific location.

Benefits of Biodiversity Net Gain (BNG)

The purpose of Biodiversity Net Gain (BNG) is to make sure that the natural environment is left in a measurably better state than it was before development.

In addition, it offers a wide range of ecological, social, and economic benefits, not only for sports facilities but also for developments across various sectors. By integrating BNG effectively, we can contribute to a more sustainable future. Here, we explore six key benefits of BNG, illustrating both their broader application and how they can be specifically applied to sports facilities.

01 Enhanced Ecosystem Resilience and Biodiversity

BNG promotes the restoration and enhancement of local ecosystems by creating or improving habitats that support a wide variety of species. This contributes to greater resilience, allowing ecosystems to better adapt to challenges such as climate change or human impacts. Increasing biodiversity strengthens the natural environment's ability to recover and flourish.

02 Climate Change Mitigation

BNG can help tackle climate change by increasing carbon sequestration through tree planting and habitat creation. Vegetation absorbs carbon dioxide from the atmosphere, reducing the carbon footprint of developments and contributing to broader climate goals.

03 Increased Community Engagement and Well-being

Green spaces created through BNG contribute significantly to the health and well-being of local communities. Access to natural areas is known to reduce stress, enhance mental health, and encourage physical activity. Green spaces also foster a sense of community by providing areas where people can gather and engage with the natural environment.

04 Improved Air and Water Quality

Green infrastructure created through BNG improves air and water quality. Trees and plants absorb pollutants, reducing harmful emissions and improving air quality. Similarly, sustainable drainage systems and natural features help manage water runoff, improving water filtration and reducing flooding risks.

05 Economic Benefits through Sustainable Development

BNG offers long-term economic advantages by reducing costs associated with issues like flooding and air pollution, while increasing the attractiveness and value of developments. By enhancing natural habitats, BNG increases natural capital assets—the natural resources that provide goods and services such as clean water, fresh air, and fertile soil. These assets contribute directly to sustainable development. Additionally, BNG initiatives create green jobs in areas such as conservation, habitat restoration, and landscape management, helping to support local economies and foster environmental stewardship.

06 Future proofing Land Use for Sustainable Development

BNG ensures that land is used in a way that protects and enhances biodiversity for future generations. It promotes forward-thinking land management that balances human needs with environmental protection, ensuring natural systems continue to provide vital services such as pollination, water filtration, and soil health.

Benefits of Biodiversity Net Gain Delivery on Sport Facilities

Enhanced Ecosystem Resilience and Biodiversity

On sports facilities, BNG can be applied through initiatives like planting native trees or creating wildlife corridors. These green spaces help enhance biodiversity while providing aesthetic and environmental benefits. The image above shows wild flower meadow planting along running lanes in Sowerby Park, North Yorkshire, England, UK. The example illustrates how resilient, biodiverse ecosystems can thrive alongside sports activities.

Climate Change Mitigation

Sports facilities can play their part by incorporating tree planting schemes, especially in car parks or around the perimeters of the site. This not only helps to reduce the carbon footprint of the site but also provides shaded areas for spectators and creates a more comfortable environment. The image above shows naturalistic planting along with tree planting in car parking areas.

Increased Community Engagement and Well-being

Integrating BNG into sports facilities can create spaces that go beyond just playing fields. For example, planting trees or creating nature areas next to pitches can encourage local communities to spend more time at the facility, increasing its use and creating a more welcoming environment for players, spectators, and visitors alike. Creating biodiversity areas next to footpaths, as shown on the image, can benefit the health and well being of a wider group of people.

Benefits of Biodiversity Net Gain Delivery on Sport Facilities - continued

Improved Air and Water Quality

In sports facilities, features like rain gardens or natural buffer zones can manage water flow and reduce the likelihood of water-logging. The image above presents an example of a rain garden's application. Tree planting near facilities also helps to improve the air quality for athletes and spectators, creating a healthier environment overall.

Economic Benefits through Sustainable Development

Sports clubs and organisations that incorporate BNG can benefit economically by reducing maintenance costs in areas such as drainage or pest management.

Future Proofing Land Use for Sustainable Development

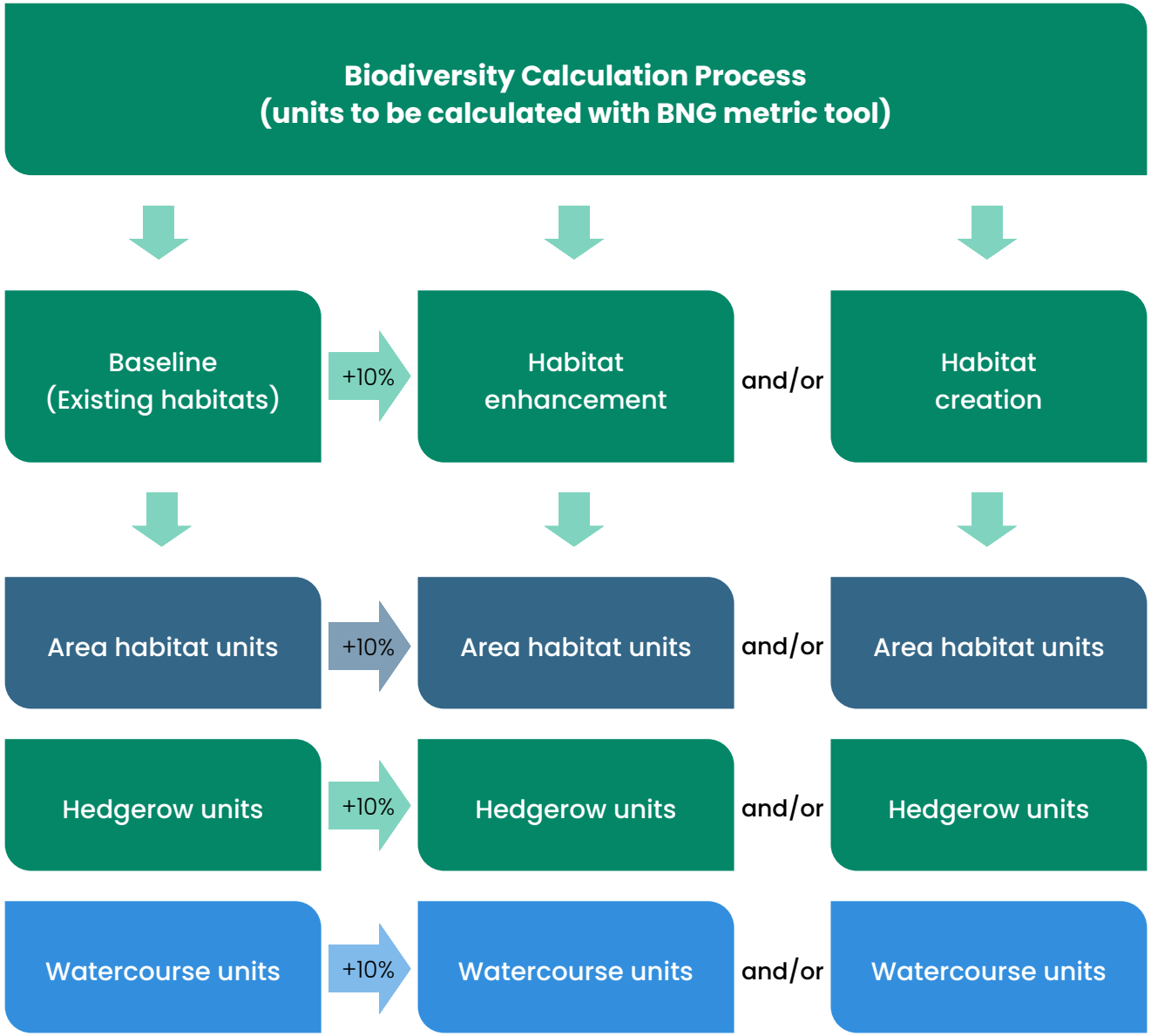
In sports facilities, this can be achieved by designing spaces that accommodate biodiversity without limiting future sporting development. For example, planting areas around pitches can be planned to ensure that they do not interfere with potential future reorientation of the fields or other facility upgrades. This approach ensures that sports grounds can continue to evolve, while still contributing to biodiversity.

The Statutory Biodiversity Metric Calculation Tool

The Statutory Biodiversity Metric Calculation Tool is a key tool used in the UK to measure and calculate the impact of development projects on biodiversity. It helps applicants, planners, and ecologists assess how much biodiversity a site currently has and how much is needed to achieve a net gain after the development. The aim is to ensure that, after development, there is an improvement in biodiversity compared to what was there before.

The metric tool works by calculating biodiversity units, which are divided into three distinct categories:

- **Area Habitat Units** – for habitats like grasslands, woodlands, and wetlands and also trees.
- **Hedgerow Habitat Units** – specifically for linear habitats like hedgerows.
- **Watercourse Habitat Units** – for habitats associated with rivers, streams, and other watercourses.



These categories cannot be interchanged, meaning that improvements to one type (e.g., a watercourse) cannot compensate for losses in another type (e.g., an area habitat). Each type of habitat is assessed separately to maintain ecological balance.

More detailed information on the Statutory Biodiversity Metric Calculation Tool is located in **Appendix 01**.

TIPS:

The Statutory Biodiversity Metric Calculation Tool should be applied as early as possible in the development process to guide and support the design of the space. By using the tool from the outset and throughout the project's development, it can help to assess or audit the biodiversity unit value of a site, compare different biodiversity options, and forecast potential changes. Early and repeated use also allows for design improvements to be made based on biodiversity performance, ensuring that plans are both environmentally responsible and compliant with BNG requirements. The tool can be re-run as designs evolve, offering valuable insights to inform planning decisions and helping secure biodiversity net gain outcomes.

Section 3

Practical Implementation of BNG on site

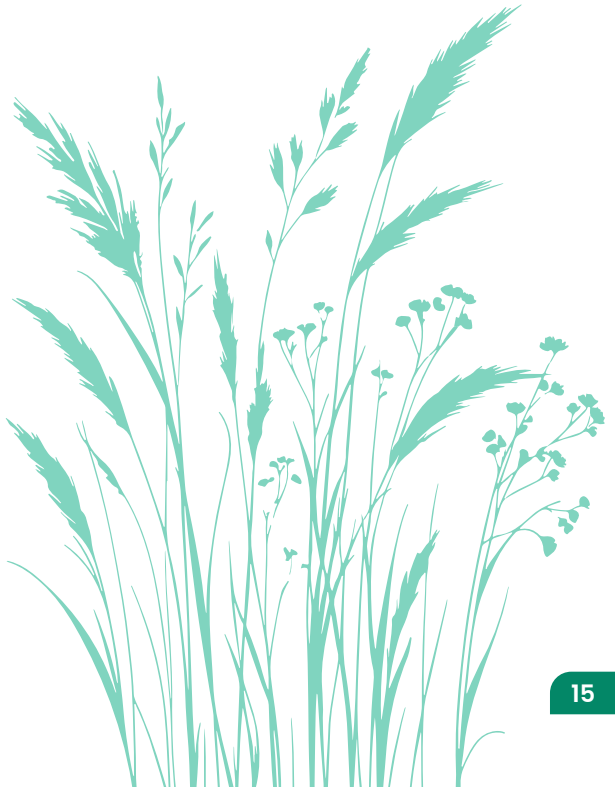
Implementing Biodiversity Net Gain (BNG) on-site provides significant benefits for both local biodiversity and the wider community, supporting the multi-functional use of the land.

For sports and playing fields, on-site delivery of BNG can enhance the ecological value of the site without compromising its primary function. This approach ensures that biodiversity measures align with Sport England's Playing Fields Policy, which focuses on the protection of playing fields and the preservation of sports facilities. BNG measures should not diminish the number of pitches, reduce land available for future pitches, or limit flexibility in pitch layout and maintenance. Any biodiversity improvements must ensure the site's long-term use for sport, protecting run-off areas and reducing wear and tear.

On-Site Biodiversity Delivery Evaluation

Opportunities:

- **Direct control over implementation**: By delivering BNG on-site, the project team can ensure biodiversity measures are integrated seamlessly into the design of the development.
- **Long-Term Cost Savings**: Investing in biodiversity can lead to long-term savings in maintenance and operational costs. depending upon the type of habitat and management plan chosen.
- **Positive and Direct Community Benefits**: On-site enhancements can benefit both the environment and the users of the facility, creating more green spaces and fostering connections with nature.
- **Aesthetic Improvements**: Integrating green spaces can enhance the visual appeal of sports facilities.
- **Improved Facilities**: Opportunities to improve drainage, landscaping, and entrance areas while incorporating BNG measures.
- **Sustainable Practices**: Implementation of BNG can align with sustainability goals and improve the overall environmental performance of the facility.
- **Wildlife Habitat Creation**: Providing habitats for local flora and fauna can enhance local biodiversity and ecological resilience.
- **Enhanced Reputation and Public Relations**: Achieving BNG on-site demonstrates a commitment to sustainability and can improve public perception of the development.



Considerations:

- **Spatial Considerations**: Biodiversity features should be carefully planned to complement the playing field's use, ensuring there is enough flexibility to accommodate a range of sports and different pitch layouts.
- **Ensuring Compatibility with Sporting Use**: Biodiversity measures, such as tree planting or wildflower areas, should be positioned to avoid root interference, shading, or leaf litter affecting pitches.
- **Integration with Design**: Biodiversity enhancements must be carefully integrated into the site design without compromising its primary purpose.
- **Initial Costs**: Implementing BNG may involve some upfront costs, but these can be optimized by incorporating enhancements that align with existing site management practices.
- **Planning for Maintenance Requirements**: Ongoing care is essential to ensure biodiversity measures are successful over time. Maintenance requirements should be considered during planning to align with available resources and expertise, allowing for seamless integration into routine site management.
- **Future Proofing**: BNG areas should be planned to preserve the site's adaptability, allowing it to support future sports needs while achieving biodiversity goals. Careful placement ensures the space remains versatile.
- **Fulfilling Long-Term Legal Responsibilities**: BNG comes with a 30-year legal obligation to maintain the biodiversity features, making careful planning essential. Applicants should consider how to sustainably manage these features over time to ensure they meet legal requirements while supporting the overall functionality of the site. For example, this is important when designing playing field SuDs to ensure these do not affect pitch usability.

On-site BNG Design: Avoiding Common Mistakes in Sport Facility Planning

Each site presents unique challenges and opportunities when balancing the implementation of Biodiversity Net Gain (BNG) with the need to maintain and enhance playing fields. Proper planning is essential to align developments with **Sport England's Playing Fields Policy and Guidance** which is designed to protect and enhance playing fields, ensuring they remain available for sport and physical activity. This section highlights common mistakes in BNG delivery that can compromise the usability and flexibility of playing fields, going against the principles of the policy. These errors should be avoided to ensure that playing fields remain fit for purpose both now and in the future.

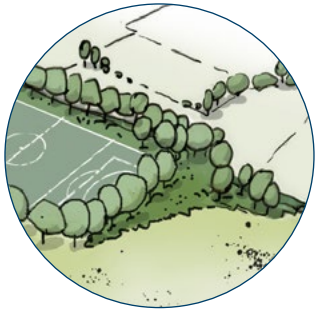
Common Mistakes to Avoid:

- **Encroachment on Playing Fields**: Badly planned BNG features, like wildflower meadows or trees, can take up space needed for pitches. This reduces the site's sporting capacity and limits space for future sports.
- **Limiting Playing Fields Flexibility**: BNG must not restrict the ability to rotate, reposition, or expand pitches. This flexibility is essential to maintaining pitch quality.
- **Compromising Safety**: Placing BNG features in safety margins or run-off areas can create hazards and limit pitch usability.
- **Locking Land into Non-Sporting Use**: Dedication of land for BNG, like wildflower meadows, can lock areas into non-sporting use for 30 years, limiting future sports development, which conflicts with the Playing Fields Policy.

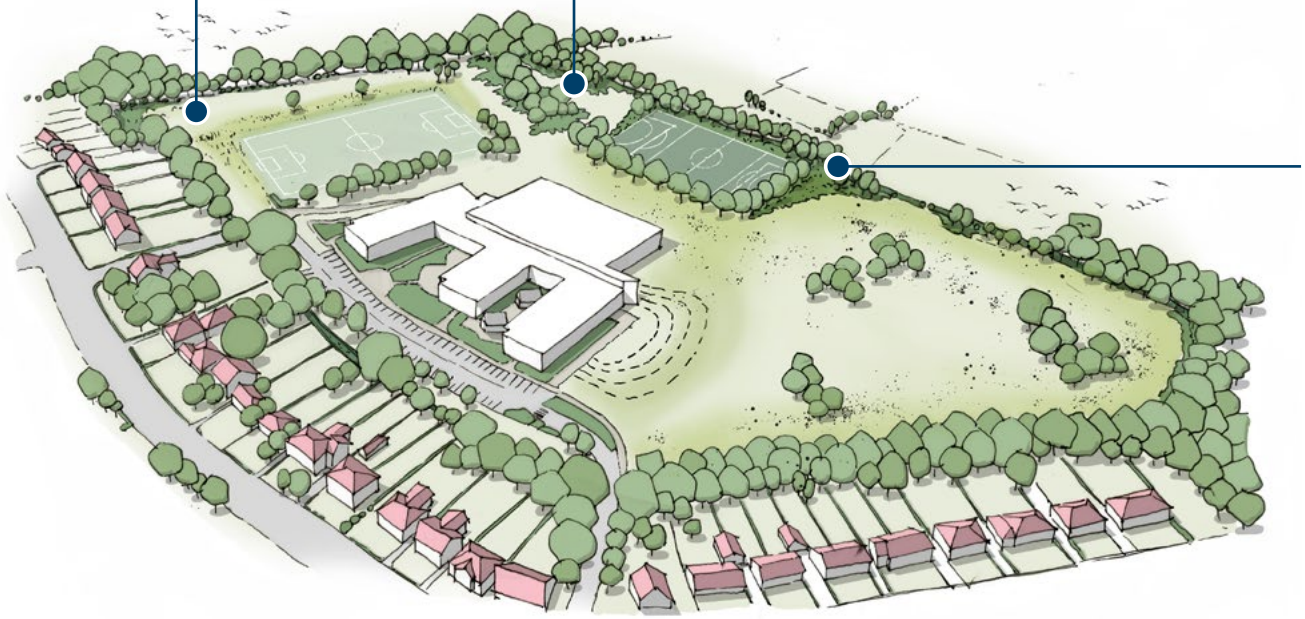
Common Mistakes to Avoid

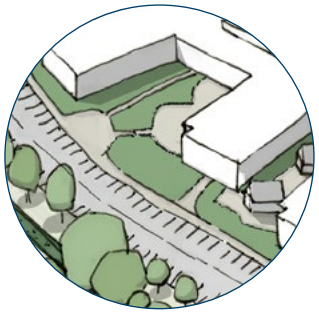
01 Planting wildflower meadows too close to playing pitches creates maintenance issues for both the pitches and the BNG. These include trampling of the meadow, encroachment onto the pitches, and re-seeding into the playing areas.

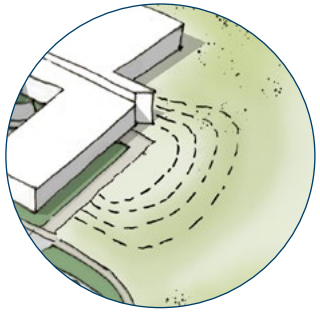
02 Allocating biodiversity enhancements in spaces that could accommodate playing pitches.

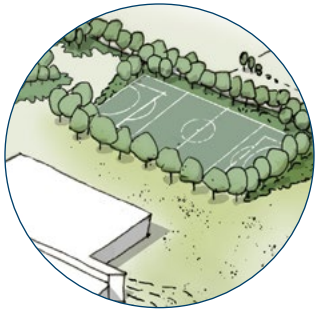


03 Placing trees or shrubs near playing pitches can create long-term maintenance challenges, including interference with ball retrieval, potential damage from encroaching roots, and reduced flexibility for future site use, such as adding extra pitches or accommodating other sports facilities. Around AGPs and MUGAs, additional challenges include leaf fall, which can cause health and safety concerns like slippage and contamination of rubber crumb, requiring frequent removal.





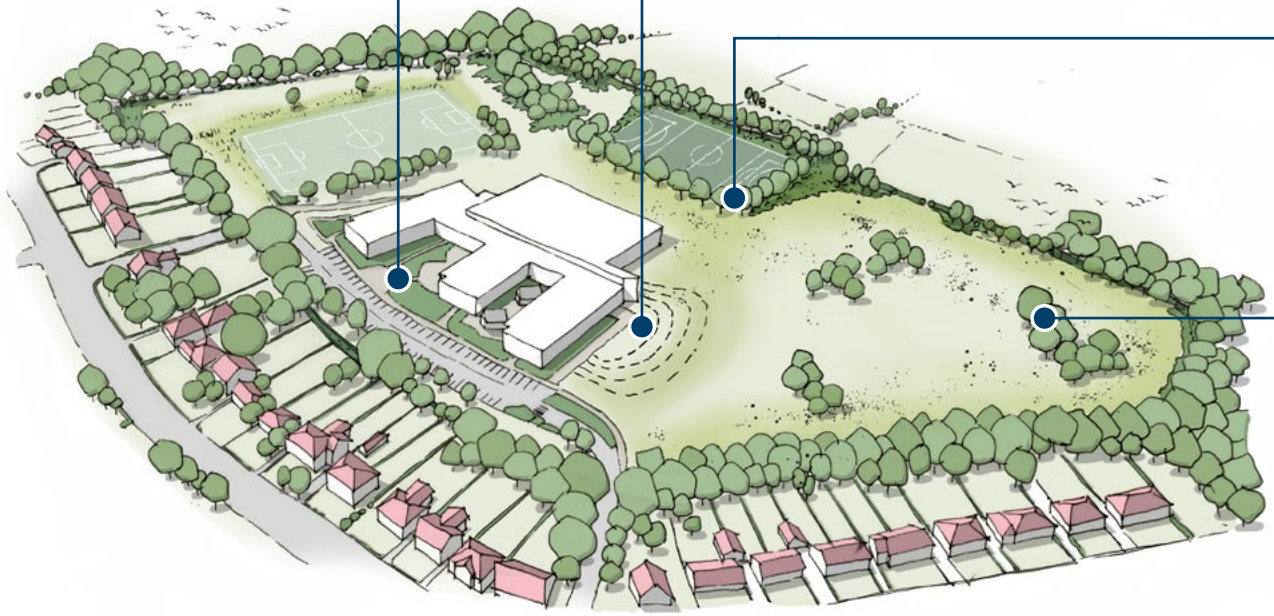




04 Failing to explore opportunities for BNG delivery in areas like car parks, site entrances, and other non-playing spaces.

05 Overlooking opportunities to implement BNG in areas with steep slopes or uneven terrain, areas that cannot be used for sports, leaving more suitable land unnecessarily constrained.

06 Dense tree planting, shrub planting, or allowing vegetation to grow on fences around AGPs and MUGAs can reduce sightlines, potentially creating safety concerns, particularly for women and girls. Careful design is needed to balance biodiversity gains with site safety.



07 BNG placement in areas that limit potential for expansion of future playing pitches.

Designing for the Future

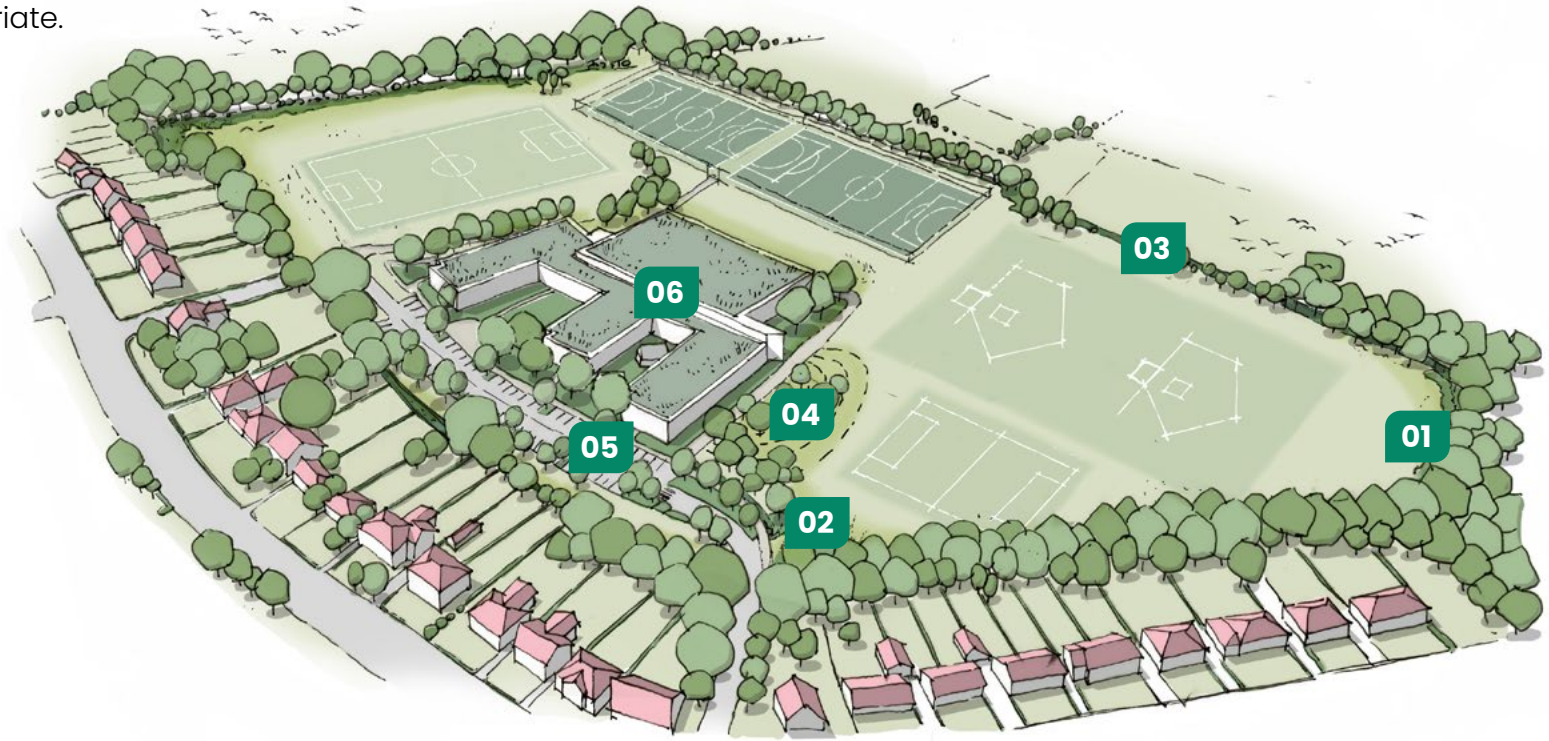
A key strategy in planning for Biodiversity Net Gain (BNG) is to prioritise the use of fringe spaces - areas unsuitable for sports use or pitches - for BNG delivery. Irregular shapes, steep slopes, or other non-functional zones should be considered first for biodiversity enhancements. Additional opportunities, such as site boundaries, entrances, car parks, or building interventions like green roofs or walls, can also be explored where appropriate.

Throughout the design process, it is essential to reference Sport England's Playing Fields Policy and Guidance to ensure that all proposals align with its objectives, safeguarding the site's primary sporting function

All interventions must be evaluated on a site-specific basis, as not all will suit every location. It is imperative that the design is fit for purpose, promotes inclusivity and fosters safety and security.

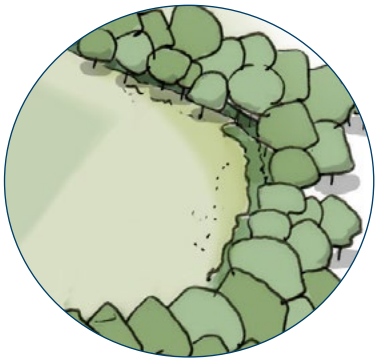
Thoughtful selection ensures BNG measures integrate effectively with the site's design and functionality. Due consideration should also be afforded to future management and maintenance.

The diagrams below consider the same exemplar site, within a long term masterplan. By considering the long term potential of the site, designers are better placed to integrate biodiversity and minimise long-term conflicts. BNG gain complements, rather than limits, long-term growth.



*Illustrative summer/winter pitch layout

Good Design Principles

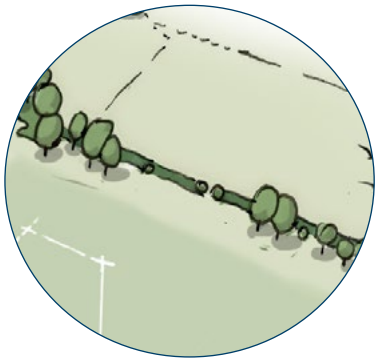


01 Utilisation of Fringe Spaces

When designing the site, it is essential to assess areas that may be considered for future playing fields, as this can help identify fringe spaces—those too small to accommodate full playing pitches. By future-proofing the site, organisations can maximise the potential of available spaces. These fringe areas offer valuable opportunities for biodiversity enhancements, such as **tree planting, wildflower meadows**, and **native shrubbery**. Additionally, they can be utilised for features like **bio ponds**, **sustainable drainage systems**, or even **enhancing the drainage of sports pitches** contributing to the overall sustainability and ecological richness of the site while ensuring flexibility for future developments.

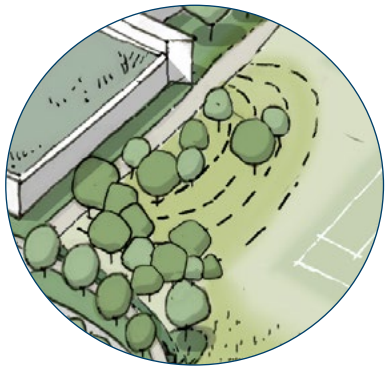
02 Sustainable Drainage for Natural Turf Pitches

Sustainable Drainage Systems (SuDS) are important for natural turf pitches. While SuDS for buildings focus on managing water runoff, those for sports pitches should protect and improve the turf while supporting biodiversity. Features like permeable surfaces, swales, and bio-retention areas help manage water flow, reduce flood risks, and improve soil health, which benefits the pitch's ecological value. When designing SuDS for sports pitches, it's crucial to ensure they don't affect the usability of the field but instead enhance its sustainability and biodiversity. Including these systems in the design helps achieve Biodiversity Net Gain (BNG) while keeping the site functional for sports.



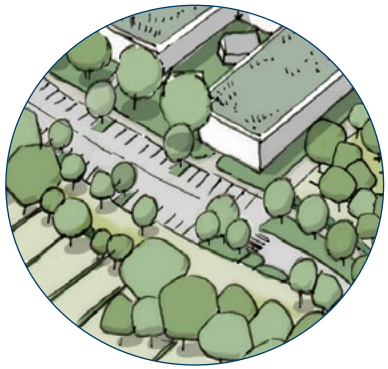
03 Site Boundaries

Site boundaries offer valuable potential for Biodiversity Net Gain (BNG) improvements through **native hedges, tree planting,** or **suitable native shrubs.** These additions create natural privacy screens, especially beneficial for sites like schools, while helping to clearly define site edges. Boundary planting not only enhances biodiversity but also boosts the site's visual appeal, making the facility more inviting and ecologically supportive.



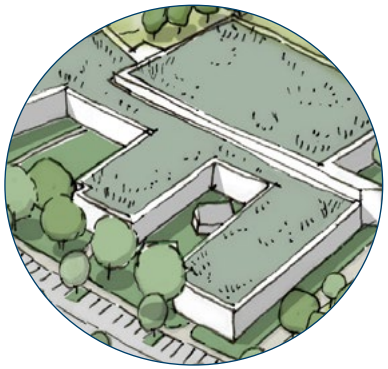
04 Use of Sloped or Challenging Terrain

Steep slopes or areas with difficult topography are perfect for Biodiversity Net Gain (BNG) delivery, as they cannot be used for sports. These spaces are well-suited for **tree planting, meadow creation**, or other **habitat enhancements**, transforming underutilised land into valuable ecological assets. ts.



05 Use of Non-Recreational Site Areas

Site entrances, building entrances, and car parking areas present excellent opportunities for Biodiversity Net Gain (BNG) enhancements, combining ecological benefits with improved site functionality and aesthetics. These spaces, unlikely to be re-purposed as sports fields, provide stable settings for features such as tree planting, native shrubbery, Sustainable Drainage Systems (SuDS) or rain gardens, and wildflower meadows where appropriate. Enhancing these areas not only boosts biodiversity but also improves water management, reduces urban heat, and creates a more welcoming and sustainable environment.



06 Explore Existing and/or proposed structures

When considering both existing and proposed structures on the site, enhancements such as **green roofs, green walls**, or similar biodiversity features should be explored. These features, if supported by the building's structure, can create additional habitats for plants and wildlife, regulate building temperature, improve air quality, and support stormwater management.

Maintenance Notes

When planning for BNG features, it is essential to review maintenance routines and requirements for both existing and proposed habitats. With a challenging budget, it may be preferred to prioritise habitats that require minimal on-going intervention, allowing them to become largely self-sustaining over time. By focusing on habitats that can thrive with minimal input, maintenance costs are reduced, and the risk of long-term management issues decreases.

This approach not only ensures enduring ecological value but also eases the operational burden on facility managers, who can focus resources on sustaining biodiversity rather than continuously intervening in its upkeep. The maintenance of BNG areas typically depends on the complexity of the habitats involved. For simpler features, such as grassland areas, the existing maintenance team could be trained to manage them effectively. For more complex habitats, however, it is often advisable to involve a specialist contractor, ideally approved by an ecologist, to ensure proper care and compliance with BNG requirements. More detailed maintenance notes can be found in Appendix 02.

Tree Planting

Trees planted in soft landscaping require initial care during their establishment phase. However, once they are established, trees typically need low-mid maintenance, making them a sustainable and efficient option for delivering Biodiversity Net Gain (BNG).

Ongoing maintenance level:

Low High

Hedge Planting

Hedges need some initial care during their establishment, after that, they require only minimal ongoing maintenance. This includes trimming them regularly to promote healthy growth and keep them at the right size.

Ongoing maintenance level:

Low High

Native Shrubbery

Native shrubbery needs occasional pruning to keep its shape and health, along with seasonal pest inspections, but overall, it requires low-mid maintenance.

Ongoing maintenance level:

Low High

Wildflower Meadows

Wildflower meadows can be time intensive and require thoughtful planning to maintain. Primarily an annual cut in late summer or early autumn to allow seeds to disperse. Removal of cuttings to keep soil fertility low. Regular cuts to limit vigorous grasses. Periodic checks for invasive plants are recommended. Changes to regime will reduce the grass becoming rank. Access to be limited as over-trampling will impact the condition.

Ongoing maintenance level:

Low High

Green roof

Green roofs are low maintenance when properly built but need regular care to stay healthy, especially early on. Key tasks include initial watering, occasional weeding, light fertilization, and checking for drainage issues to prevent water pooling. Seasonal inspections are essential for long-term success, though access can be challenging.

Ongoing maintenance level:

Low High

Green Wall

Green wall maintenance involves regular care to keep the plants healthy: checking for pests and diseases, ensuring the irrigation system works well, and watering the plants, especially during warm weather. Seasonal pruning helps manage plant growth and keeps the wall looking neat. It's also important to clean the wall surface and drainage systems occasionally to prevent water build-up.

Ongoing maintenance level:

Low High

Playing Field SuDS

Playing field SuDS have distinct maintenance needs, including managing grass coverage, preventing soil compaction, and addressing waterlogging to maintain a safe, functional surface. Specialist advice from a playing field contractor is recommended to ensure effective design, maintenance, and management.

Ongoing maintenance level:

Low High

Rain Gardens/SuDS

Sustainable Drainage Systems (SuDS) and rain gardens require moderate maintenance to ensure their effectiveness. Regular checks for debris, such as leaves and litter, should be conducted to keep the drainage areas clear. Plants in these gardens may need occasional weeding, pruning, and replacement if they do not thrive. Additionally, it's important to monitor the health of the vegetation and the functionality of the drainage system, ensuring that water flows correctly and does not become stagnant

Ongoing maintenance level:

Low High

Ponds

Ponds and bio ponds require regular maintenance, including water quality monitoring, algae control, plant management, and debris removal. Bio ponds may need extra care to support biodiversity. Their suitability depends on the site and users; in early years settings, safety is key, and fencing may be required. Safer alternatives, like rain gardens or shallow swales, should be considered on a case-by-case basis.

Ongoing maintenance level:

Low High

Section 4

Delivery of BNG off-site

After completing the baseline biodiversity assessment, the focus should be on delivering the mandatory 10% BNG gain, with some local planning authorities potentially requiring more.

On-site BNG should be prioritised (Section 3), and only if not feasible, should off-site options within the LPA, neighbouring LPAs and NCAs, or habitat banks be considered. *Off-site*, as defined by the biodiversity metric tool, refers to land outside the on-site red line boundary allocated for habitat interventions (enhancement or creation), regardless of proximity or ownership. Each option has its own opportunities and challenges which applicants should be aware of.

National Character Areas (NCAs) are distinct geographic regions across England, each defined by a unique combination of landscape, biodiversity, geodiversity, history, and cultural and economic activity. There are 159 NCAs in total, and their boundaries follow natural features in the landscape, rather than man-made divisions such as county or district lines. This framework helps to better understand, manage, and plan for changes to the natural environment. For more information, visit National Character Areas website.

When delivering BNG off-site, it's important to consider factors that can affect the value of the biodiversity gain, such as the distance from the site. The area directly impacted by the proposed development should be enhanced with BNG measures. The further away the planned enhancement, the less valuable the gain becomes, as it's not directly benefiting the site being affected.

Off-Site within the Local Planning Authority (LPA) boundary or National Character Area (NCA) of impact site

Opportunities:

- **Local environmental enhancement:** Offsetting within the LPA ensures that the biodiversity benefits are still felt locally, supporting the ecological health of the wider area.
- **Flexibility in site selection:** Applicants may find more appropriate land within the LPA that is better suited to biodiversity enhancements without conflicting with the development's primary purpose.
- **Potential cost savings:** Off-site enhancement may be more cost-effective in areas where land is cheaper and less constrained.

Considerations:

- **Reduced direct benefits to the development site:** While local biodiversity is enhanced, the development site itself may not benefit directly from the improvements.
- **Coordination with local authorities:** Successful off-site delivery requires effective collaboration with the LPA, including ensuring compliance with local planning policies and securing any necessary permissions.
- **Long-term management obligations:** Off-site BNG enhancements within the LPA must be maintained for a minimum of 30 years. Applicants are legally obligated to ensure these measures are effectively managed, with compliance monitored by the LPA.
- **Formal Agreements:** Implementing off-site BNG typically requires legal agreements, such as Section 106 agreements or conservation covenants, outlining the responsibilities of all parties involved. Failure to meet these obligations can result in enforcement actions or penalties.
- **Liability Transfer Risks:** While responsibilities may be shared with third parties, applicants retain some liability if these parties fail to fulfil their commitments. Clear agreements are essential to mitigate risks associated with potential non-compliance.

Off-Site in a Neighbouring Local Planning Authority (LPA) boundary or National Character Area (NCA) of impact site

Opportunities:

- **Access to more suitable land:** Neighbouring LPAs may offer larger, more appropriate sites for biodiversity enhancements, particularly in cases where suitable land is unavailable within the primary LPA or the site is adjacent or close to the boundary of another LPA
- **Contributing to regional ecological networks:** Offsetting in a neighbouring LPA can help create or enhance regional ecological corridors, supporting wildlife migration and habitat connectivity across larger areas.

Considerations:

- **Reduced Local Benefit:** Offsetting in a neighbouring LPA may reduce the immediate ecological and community benefits to the area where the development occurs.
- **Coordination with Multiple Authorities:** Collaborating across LPA boundaries can introduce administrative and regulatory complexities. Good communication and cooperation with authorities in both the originating and receiving LPAs must be ensured.
- **Regional Biodiversity Goals:** Offset biodiversity gains in neighbouring LPAs should still support wider regional biodiversity and conservation objectives.
- **Potential delays:** Off-site delivery in a neighbouring area may require additional time to secure permissions and agreements across LPA boundaries.
- **Long-Term Management:** Like off-site BNG within the original LPA, enhancements in neighbouring LPAs must be maintained for a minimum of 30 years, ensuring ongoing biodiversity benefits.

Habitat Banks

Opportunities:

- **Efficient biodiversity delivery:** Habitat banks provide a streamlined approach to offsetting by offering pre-established habitats that are already being managed for biodiversity, reducing the time needed to establish new habitats.
- **Expert management:** These sites are often managed by specialists, ensuring long-term success and high-quality biodiversity outcomes.
- **Cost predictability:** Purchasing credits from a habitat bank can offer more predictable costs compared to designing and managing on-site or bespoke off-site solutions.
- **Reassurance Through Registration:** Many habitat banks are now registered through government schemes, offering applicants greater confidence in their credibility and compliance with biodiversity requirements.

Considerations:

- **Distance from the development site:** Habitat banks may be located far from the development, meaning the local community does not benefit directly from the biodiversity gains. The location of the habitat bank relative to the development and the local ecosystem may affect its biodiversity value assessed in the metric.
- **Limited availability:** There may be a shortage of appropriate habitat banks within the region, limiting the options for applicants.
- **Market volatility:** The cost of biodiversity credits could fluctuate depending on demand, potentially increasing costs over time.
- **Quality Assurance:** Ensure that habitat banks are managed by trusted, experienced providers with a track record of delivering high-quality ecological improvements.
- **Long-Term Management:** Confirm that the habitat banks are committed to maintaining and managing the created habitats over the long term.

Statutory Biodiversity Credits

Opportunities:

- **Compliance assurance:** Purchasing statutory biodiversity credits guarantees that the offset meets legal requirements, providing a straightforward path to fulfilling the BNG obligation.
- **Flexibility:** Statutory credits can be an efficient option when on-site or off-site enhancement is not feasible, particularly in highly constrained urban sites.
- **Government-backed schemes:** These credits are typically offered through government schemes, ensuring transparency and regulatory oversight.

Considerations:

- **No localised benefit:** The biodiversity improvements achieved through statutory credits will not be directly associated with the development site or its surrounding community.
- **Potential public perception issues:** Relying heavily on statutory credits may be viewed negatively by stakeholders who prefer to see biodiversity gains delivered locally and in conjunction with the development.
- **Availability of credits:** Depending on the location, there may be a limited supply of statutory biodiversity credits, leading to potential challenges in securing them.

Section 5

The Process

Introduction to the Biodiversity Net Gain (BNG) Implementation Process

This section provides a comprehensive overview of the process required to successfully deliver Biodiversity Net Gain (BNG) in sports facility developments. The aim is to guide applicants through the essential stages of BNG delivery, ensuring that biodiversity improvements are effectively incorporated without compromising the primary function of the site for sport. During site selection and design it is crucial to reference **Sport England's Playing Fields Policy and Guidance** document to ensure safeguarding of usability and flexibility of sport sites.

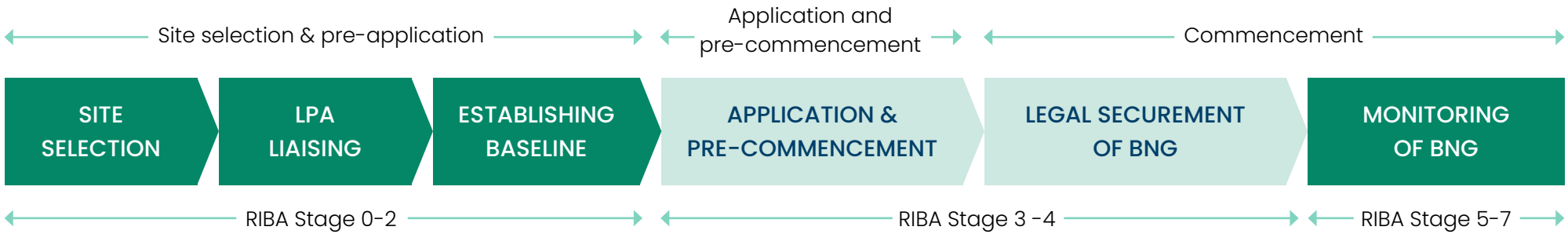
Additionally, applicants are encouraged to engage in pre-application consultations with Sport England. These consultations provide early advice on potential impacts to playing fields or sports facilities, ensuring that any BNG measures are aligned with the long-term usability of the site for sports. For more information refer to **Sport England's Playing Fields Policy and Guidance.**

The BNG delivery process is broken down into three critical phases:

1. Site selection and pre-application
2. Application and pre-commencement
3. Commencement.

Each of these phases involves a series of tasks which must be addressed to meet BNG requirements.

By breaking down the process into these distinct phases, this section aims to provide a clear, structured framework that simplifies the BNG delivery journey.



Phase 1:
Site Selection and Preliminary Assessment

During site selection and preliminary assessment, it's essential to ensure sufficient space for both sport and biodiversity needs, reducing potential conflicts. The assessment should clarify the current and future sporting use of the site, in line with Sport England's Playing Fields Policy. This ensures that the site's primary sporting function is preserved before considering BNG measures. It's also important to verify if the local planning authority requires a BNG target above the standard 10%. Addressing these factors early ensures the site is viable for both sport and biodiversity and lays the foundation for further consultations with Sport England and local authorities.

Is the planned development major or small? Check the requirements

Major development (over 1ha)

An ecologist or BNG specialist is required to undertake the baseline assessment (including condition assessment) and calculations.

The Statutory Biodiversity Metric Calculation Tool MUST be used.

Refer to Appendix 01 section

Small development (below 1ha)

No requirement for Ecologist involvement.

Small Site Metric can be used by developer themselves or someone who knows the site and can do calculations - project manager, landscape architect etc.

Source: https://www.gov.uk/guidance/understanding-biodiversity-net-gain

Does the site provide sufficient space to enable 10% BNG to be easily achieved alongside the project objectives?

Ensure the site can meet the BNG requirement without impacting the current or future sporting use of the site.

If a site is spatially challenged, does it contain existing habitats which could be enhanced.

TIP: Speak to an ecologist about how to increase the variety of on-site species.

Consider off-site implementation. There are varying costs associated with delivery of off-site BNG. However, elevated project costs should be weighed up against the return on investment from social and health improvements.

Does your site contain existing valuable habitat features?

Has a Preliminary Ecological Assessment of the site been undertaken? This is distinct and separate to the BNG baseline assessment and will indicate the types of habitat on site and any designations.

Retain all high value habitats to support biodiversity on site, and to ensure the target BNG implementation remains manageable.

Adjust the red line boundary to exclude these habitat features if there is no proposed enhancement to them, as BNG requires 10% gain on all habitats within the red line boundary.

TIP: Ask for advice on whether these habitats could be enhanced as part of your BNG design.

Is there any available data on soil quality and structure to highlight any future potential for habitat creation?

If not,

Consider conducting soil quality and structure surveys to ensure there are no constraints to habitat creation in future.

Phase 2: Liaising with Local Planning Authority and consultation

Liaising with local planning authorities is critical as it allows the applicant to understand and align with local biodiversity priorities and requirements. Early engagement helps clarify the authority's expectations for biodiversity net gain, as well as any specific targets, policies, or constraints that may influence the development. By actively seeking input from planning authorities, the project team can gain insights into local ecological concerns, preferred species or habitats, and broader environmental objectives. This collaborative approach not only ensures compliance with local regulations but also strengthens the proposal's chances for approval, paving the way for a more integrated and effective BNG strategy.

Every Local Planning Authority will differ in terms of level of support for applicants.

TIP: Set up pre-application meeting with the LPA to discuss your application, the support that is available and specific BNG requirements related to your site.

Have any additional BNG requirements for your site been identified from local planning policy and landscape and biodiversity strategies?

TIP: The LPA should highlight whether the site contributes to locally important species or ecological networks. This may trigger additional requirements for the site as part of planning policy and may also require a legal agreement to secure BNG later.

Is there a contact or mechanism in place for you to discuss BNG enhancement and approach whilst the design is being developed?

Are there any issues with the project's indicative red line boundary?

If there are concerns around on-site delivery, discuss the options for off-site BNG delivery.

Off-Site:

Are there established partnerships in place for off-site BNG delivery?

What is the one-off cost of entering into a Section 106 agreement?

What are the associated costs in terms of on-going maintenance and monitoring?

Refer to **Appendix 01** section

Habitat Bank:

Does the LPA have a habitat bank available that could be available for use by the applicant?

What are the associated costs of purchasing biodiversity credits?

Are there any additional costs related to on-going management and maintenance?

Refer to **Appendix 01** section

Phase 3: Establish the Biodiversity Baseline

Establishing a Biodiversity Net Gain (BNG) baseline is key to understanding the site's current ecological state and planning for biodiversity improvements. It identifies existing habitats, species, and biodiversity quality to guide design decisions. Early input from an ecologist is vital for surveys, finding opportunities, and using the Statutory Biodiversity Metric Calculation Tool effectively.

Referencing Sport England's Playing Fields Policy and Guidance during design ensures the site maintains its sporting function while integrating biodiversity. The design should consider current and future use to preserve flexibility. It is recommended to consult Sport England to ensure that there is no adverse impact on the playing fields. Regularly updating the site plan, habitat selection, and landscape features helps achieve net gain targets and creates a sustainable outcome for both the development and surrounding ecosystems.

For major development over 1ha, appoint a good ecologist or BNG specialist.

Can you obtain recommendations?

Refer to the Chartered Institute of Ecology and Environmental Management:

Finding a Consultant | CIEEM

An ecologist can enter information into the metric tool about the existing habitat and any planned development or enhancement. The metric will calculate the biodiversity value of the habitat, and how a development, or a change in land management, will change the biodiversity value.

Establish the biodiversity baseline of the application boundary.

The appointed ecologist should assess the site and prepare plans showing existing habitats and their significance.

TIP: Use the advice of the ecologist to modify the red line boundary to exclude any areas that will not be affected by the proposals. Areas impacted by construction should be within the red line boundary.

What ecologist needs to know in order to use the metric tool:

- existing habitat types
- proposed habitat types
- the size of each habitat area or linear habitat
- the condition of each habitat

whether the proposed actions for the habitat parcel are mapped in the local nature recovery strategies local habitat map (in draft) or identified in other alternative strategies.

Can an ecologist/ BNG specialist assist with any advice on suitable habitat creation?

If so,

Ensure the red line boundary includes all proposed elements and additional BNG enhancement areas.

TIP: The red line boundary does not need to include the whole site, just the affected elements.

Is it feasible to avoid the loss of high value features such as trees, hedges?

If these features cannot be excluded from the red line boundary, can they be enhanced in any way?

TIP: Enhancing existing habitats will take a shorter timeframe to reach the desired condition than new habitats.

Are there site-specific opportunities to achieve more gains?

TIP: The ecologist / landscape architect should review land-scape and biodiversity strategies to determine.

Have you considered the longer term masterplan for the site and where there will be a future requirement to increase development?

Consideration of the long term site aspiration will ensure the applicant is in a good position to define the optimal location for BNG enhancement which will not impact future plans for development.

TIP: All proposed BNG enhancement will require to be maintained for the next 30 years.

- Natural England Natural Character Area Profile
- Local Biodiversity Action Plan
- Local Natural Capital Assessment
- Local Nature Recovery Strategy.

Phase 4:
Planning application process & pre-commencement

BNG is often a material consideration when determining a planning application, and it will often be secured as a planning condition. The minimum requirements for a planning application are highlighted below and include pre-development surveys, a completed Statutory Biodiversity Metric Calculation Tool file, statements outlining the process undertaken and plans outlining the proposals. It becomes an intrinsic part of the planning application process. Measurable ecological benefits should be demonstrated in clear, well-documented plans, including Biodiversity Gain Plan document, as part of the planning application.

Consult with Sport England as part of the pre-application process.

Ensuring the project meets the requirement of Sport England in terms of delivering high quality sports and recreation facilities.

Biodiversity Net Gain will often be a material consideration when determining a planning application. Evidencing this is critical.

Ensure the BNG design does not impede the site's longer term masterplan for the site.

Refer to **Section 03 Practical Implementation of BNG on site**.

Minimum requirements

1. Confirmation that the applicant believes that planning permission, if granted, the development would be subject to the biodiversity gain condition
2. The pre-development biodiversity value(s)
3. The completed metric calculation tool showing the calculations of the pre-development biodiversity value of the onsite habitat on the date of application (or proposed earlier date) including the publication date of the biodiversity metric used to calculate that value
4. A statement whether activities have been carried out prior to the date of application (or earlier proposed date), that result in loss of on-site biodiversity value ('degradation')
5. a description of any irreplaceable habitat on the land to which the application relates, that exists on the date of application
6. plan(s), drawn to an identified scale and showing the direction of North, showing onsite habitat existing on the date of application (or earlier proposed date), including any irreplaceable habitat (if applicable)

Source: https://www.gov.uk/guidance/biodiversity-net-gain

Ensure the BNG design is informed by robust design principles and an understanding of future maintenance requirements.

Review the existing maintenance tasks associated with the site and the available machinery and budgets. Compare with the proposed maintenance associated with the proposed BNG enhancement.

TIP: Refer to Maintenance notes in **Section 03 Practical Implementation of BNG on site. Further information is also provided in Appendix 02**.

Phase 5:
Legal Securement of BNG

Following the granting of a planning application, the legal securement of BNG is required. Legally binding agreements ensure that BNG enhancement is maintained and monitored over a 30 year period. Ensuring the longevity of the habitat is a critical factor, which should be considered at the project commencement through discussion with the LPA and consideration of site maintenance facilities.

Agreement with the LPA or responsible body should include:

- how you'll monitor the biodiversity gain site, including a schedule and how to access the land
- an end date that is at least 30 years from when you complete creating or enhancing the habitat
- any consent or licences that you need
- what actions the LPA or responsible body can take if you do not meet your obligations
- what actions you will take if the habitat enhancement does not go as planned
- how you will make permitted changes or manage disputes
- any funding arrangements (for example, for ongoing monitoring) and a payment schedule
- the biodiversity value of the pre-enhancement habitat (calculated using the statutory biodiversity metric)

If the habitat or enhancement is within the wildlife consultation area of an aerodrome, you must agree that it does not harm aircraft operations.

You'll need to agree that the relevant aerodrome:

- was notified of the proposed agreement
- had the opportunity to assess for potential hazards to aircraft operations
- is satisfied with the risk to aviation safety

Source: https://www.gov.uk/guidance/legal-agreements-to-secure-your-biodiversity-net-gain

A Biodiversity Gain Plan must be submitted following the granting of planning permission and prior to the commencement of the development.	Once planning permission has been granted, a Biodiversity Gain Plan must be submitted and approved prior to development. This will likely be formalised through a planning condition received following consent.
On site delivery.	If on-site gains are considered significant or contribute to locally important species or ecological networks, the applicant must enter into a legal agreement or planning condition.
Off site delivery.	There must be a legal agreement in place and it must last for at least 30 years from the date you finish (install) the habitat enhancement.

Agreement with the LPA or responsible body should include:

- how you'll monitor the biodiversity gain site, including a **schedule** and **how to access the land**
- an **end date** that is at least 30 years from when you complete creating or enhancing the habitat
- **any consent or licences** that you need
- what **actions the LPA or responsible body can take if you do not meet your obligations**
- what **actions you will take if the habitat enhancement does not go as planned**
- how you will make **permitted changes** or **manage disputes**
- any **funding arrangements** (for example, for ongoing monitoring) and a **payment schedule**
- the biodiversity value of the pre-enhancement habitat (calculated using the statutory biodiversity metric)

If the habitat or enhancement is within the wildlife consultation area of an aerodrome, you must agree that it does not harm aircraft operations.

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- was notified of the proposed agreement
- had the opportunity to assess for potential hazards to aircraft operations
- is satisfied with the risk to aviation safety

Source: https://www.gov.uk/guidance/legal-agreements-to-secure-your-biodiversity-net-gain

Phase 6:
Monitoring of BNG

Monitoring is essential to ensure the success of Biodiversity Net Gain (BNG) after it has been secured and delivered. Regular assessments track the progress of habitats, tree planting, and other enhancements to confirm they are meeting the intended ecological objectives. This involves ongoing ecological surveys, maintenance checks, and adaptive management to address any issues, such as invasive species or habitat under-performance. Effective monitoring not only ensures compliance with BNG commitments but also supports the long-term sustainability and resilience of the site's biodiversity features.

Biodiversity Net Gain will require management and monitoring for a period of 30 years. The landowner is legally responsible for managing the BNG habitats created on-site. For off-site gains, the land manager is responsible for maintenance and management of BNG

A Habitat Managements and Monitoring Plan may be required.

TIP: Seek advice from the Local Planning Authority on the correct process for monitoring in the first instance.

A habitat management and monitoring plan (HMMP) is a detailed plan that outlines how the land will be managed over at least 30 years to:

- create and enhance habitats for biodiversity net gain (BNG)
- manage and monitor the BNG.

Template: Habitat Management and Monitoring Plan Template - JP058

Appendices

Appendix 01

The Statutory Biodiversity Metric Calculation Tool

Introduction

To effectively implement Biodiversity Net Gain (BNG), the existing biodiversity baseline of a site must first be calculated. This baseline acts as a reference point for measuring biodiversity improvements or losses, helping to determine the required actions to meet the 10% net gain requirement. The calculation is based on a variety of factors, including habitat size, type, condition, and strategic significance. This process ensures that any biodiversity gains are quantifiable and aligned with the goals of both the BNG legislation and the needs of the site, particularly in sports facilities. Below is an overview of the key components involved in calculating the biodiversity baseline.

The Statutory Biodiversity Metric Calculation Tool is a key tool used in the UK to measure and calculate the impact of development projects on biodiversity. It helps applicants, planners, and ecologists assess how much biodiversity a site currently has and how much is needed to achieve a net gain after the development. The aim is to ensure that, after development, there is an improvement in biodiversity compared to what was there before.

The metric tool works by calculating biodiversity units, which are divided into three distinct categories:

- **Area Habitat Units** – for habitats like grasslands, woodlands, and wetlands and also trees.
- **Hedgerow Habitat Units** – specifically for linear habitats like hedgerows.
- **Watercourse Habitat Units** – for habitats associated with rivers, streams, and other watercourses.

These categories cannot be interchanged, meaning that improvements to one type (e.g., a watercourse) cannot compensate for losses in another type (e.g., an area habitat). Each type of habitat is assessed separately to maintain ecological balance

Each type of habitat is evaluated against **four key criteria**:

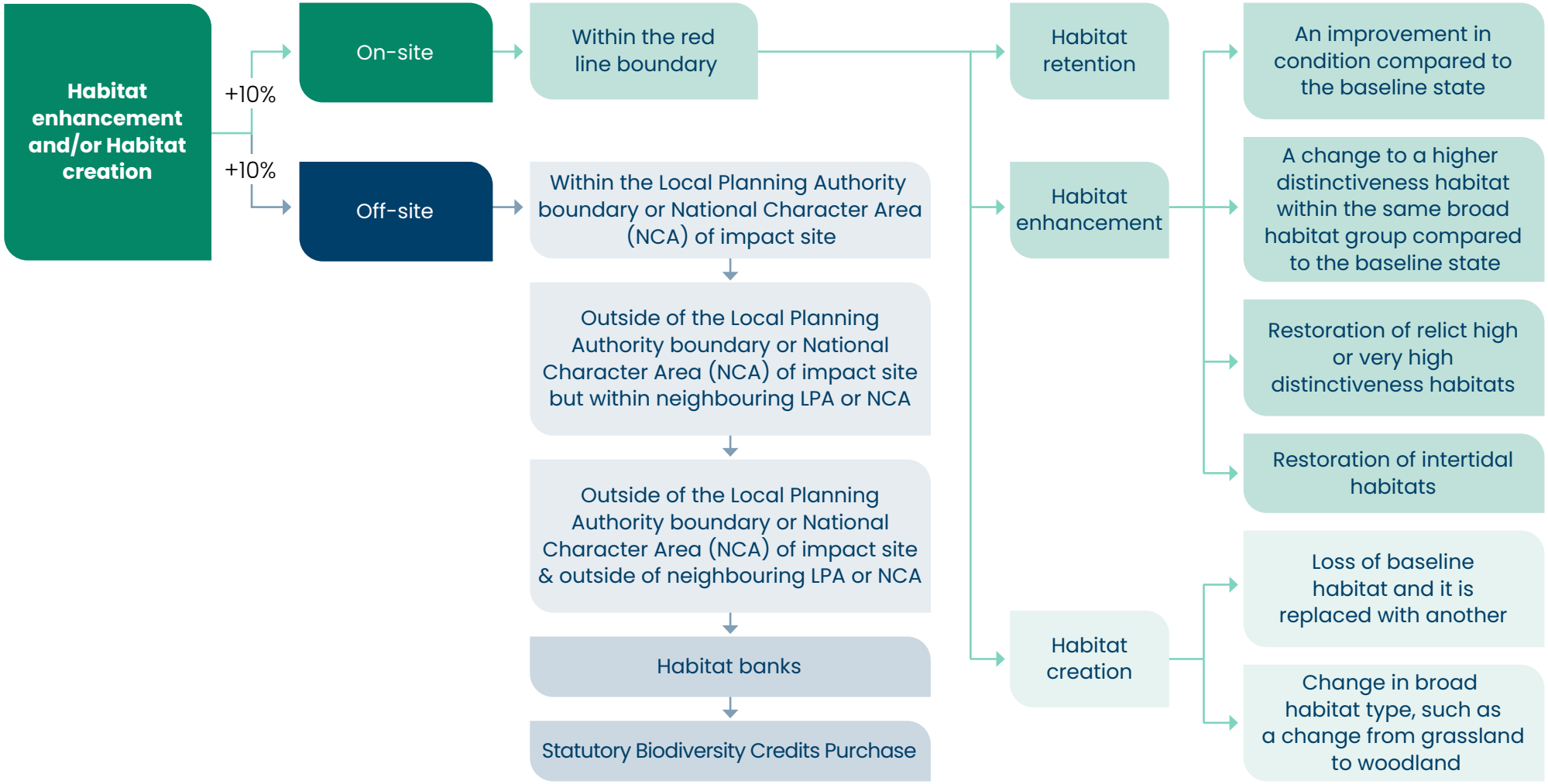
- **Size:** The larger the habitat, the more biodiversity units it contributes.
- **Distinctiveness:** This refers to the ecological importance of the habitat. More distinctive or rare habitats contribute higher biodiversity value than common ones.
- **Condition:** The current state of the habitat—whether it is in good, moderate, or poor condition—affects its biodiversity value. Importantly, the condition must be assessed by a qualified ecologist using the Statutory Biodiversity Metric Condition Assessment. This ensures an objective and standardised evaluation.
- **Strategic significance:** if the site is included within the local nature recovery strategy or other relevant document.

BNG metric tool

Size	+	Type & distinctiveness	+	Condition	+	Strategic significance	=	Final score
Areas: hectares		Very high baseline habitat distinctiveness (score: 8)		Good (score: 3)		High (score: 1.15)		
Linear features: kilometres		High baseline habitat distinctiveness (score: 6)		Fairly good (score: 2.5)		Medium (score: 1.10)		
		Medium baseline habitat distinctiveness (score: 4)		Moderate (score: 2)		Low (score: 1)		
		Low baseline habitat distinctiveness (score: 2)		Fairly poor (score: 1.5)				
		Very low baseline habitat distinctiveness (score: 0)		Poor (score: 1)				
				Condition Assessment N/A (score: 1)				
				N/A - Other (score: 0)				

Delivery of biodiversity net gain

The 10% Biodiversity Net Gain (BNG) requirement can be achieved through the enhancement of existing habitats or the creation of new habitats. The chosen approach depends on the site's conditions and development plans. As outlined in the diagram, there are various options for delivering BNG, ranging from on-site improvements to off-site solutions, including within the same Local Planning Authority (LPA), neighbouring LPAs, through habitat banks, or by purchasing statutory biodiversity credits. Each option ensures flexibility while meeting the required net gain.



IMPORTANT:

When using the BNG metric, it's important to be aware of risk multipliers that can influence the final score and need to be carefully considered. These factors account for potential risks in delivering the anticipated biodiversity gains, such as difficulty in habitat creation or enhancement, time lag for habitats to reach maturity, and location risks (e.g., off-site delivery). Higher risk levels lead to a reduction in the biodiversity unit score, meaning the proposed gains may not fully count unless risks are mitigated. Being mindful of these multipliers ensures that BNG plans are realistic and achievable. More information in section: Risk Manipulators.

TIPS:

The options for achieving Biodiversity Net Gain (BNG) should be considered in the order shown on the diagram. It is encouraged to prioritise on-site biodiversity enhancements as the first option, ensuring that ecological improvements directly benefit the development site and surrounding community. If on-site gains are not feasible, the next option should be explored, moving progressively through off-site solutions within the Local Planning Authority (LPA), neighbouring LPAs, habitat banks, and, as a last resort, purchasing statutory biodiversity credits. This sequential approach ensures the most effective and locally beneficial BNG outcomes.

Risk Manipulators

Risk manipulators are factors applied directly within the Biodiversity Metric to adjust the biodiversity unit calculations. These manipulators consider factors such as spatial proximity, habitat creation complexity, the time required for habitats to reach maturity, and the likelihood of maintaining high habitat quality. These adjustments ensure that BNG targets are realistic and achievable.

Difficulty of Creation or Enhancement Risk Manipulator

This manipulator accounts for the challenge of creating or enhancing certain habitat types. For example, creating complex habitats like woodlands or wetlands is riskier and requires more specialised management than establishing grasslands. The difficulty score affects the biodiversity unit calculation, increasing the risk factor for projects with challenging habitat types.

Time to Target Condition Risk Manipulator

The time it takes for habitats to reach their target condition impacts the BNG score. Long-term projects may take decades to mature, and during this period, the intended biodiversity benefits are not fully achieved. This delay is accounted for in the metric, which adjusts the biodiversity value down for longer timescales.

Spatial Risk Manipulator

This risk relates to the geographical location of BNG implementation. The closer the BNG efforts are to the impacted site, the more biodiversity value they add. Conversely, projects implemented further away from the site have a lower metric value, as they contribute less directly to local biodiversity.

To reduce risks in BNG planning, it's essential to focus on four main strategies:

- **Location Planning:** Choose BNG sites close to existing habitats to improve local biodiversity connections.
- **Setting Realistic Targets:** Select habitat types and conditions that match the site's natural features, making it easier to achieve goals.
- **Adaptive Management:** Put a plan in place to monitor progress and adjust management as needed to keep on track with habitat goals.
- **Stakeholder Engagement:** Work with local authorities, ecologists, and community members to build long-term support and gather valuable expertise.

Trading Rules

Trading rules in the The Statutory Biodiversity Metric Calculation Tool provide a framework for how biodiversity units are allocated, transferred, and traded to ensure that gains are real, measurable, and legally secured.

The table represents Rule 1 - trading for losses. This rule focuses on compensating for biodiversity losses. It requires that any loss of biodiversity, whether caused by development or other activities, must be offset by delivering an equivalent or greater gain elsewhere. This ensures that the overall biodiversity value is not diminished as a result of development. The rule outlines how biodiversity units should be calculated and traded, ensuring that compensation occurs in a way that meets or exceeds the required biodiversity net gain target. By adhering to this rule, applicants can ensure that any negative impacts on biodiversity are properly addressed, promoting a net positive outcome for ecosystems.

	Area	Hedgerow	Watercourse
Very high baseline habitat distinctiveness (score: 8)	Replace with the same habitat type	Replace with the same hedgerow units of the same habitat type	Replace with watercourse units of the same habitat type
High baseline habitat distinctiveness (score: 6)	Replace with the same habitat type	Replace with the same hedgerow units of the same habitat type OR higher band	Replace with watercourse units of the same habitat type
Medium baseline habitat distinctiveness (score: 4)	Replace with the same medium band habitat within the same broad habitat type OR any habitat from a higher band from any broad habitat type	Replace with the same hedgerow units of the same habitat type OR higher band	Replace with watercourse units of the same habitat type
Low baseline habitat distinctiveness (score: 2)	Replace with the same habitat type OR a higher band	Replace with the same hedgerow units of the same habitat type OR higher band	Replace with the same watercourse units of the same habitat type OR higher band
Very low baseline habitat distinctiveness (score: 0)	Not applicable	Replace with the same hedgerow units of the same habitat type OR higher band	Not applicable

Appendix 02
Maintenance Notes

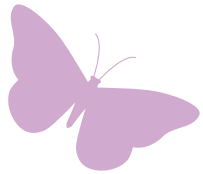
Tree Maintenance

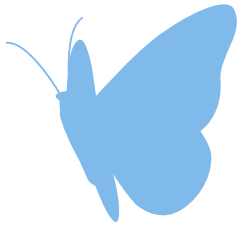
Establishment Phase:

- **Site Preparation:** Clear competing vegetation and prepare the soil, adding compost if necessary.
- **Planting:** Plant during the dormant season (late autumn to early spring) at the correct depth with the root flare above ground level.
- **Staking and Protection:** Stake young trees in windy areas using flexible ties and protect them with tree guards to deter browsing animals.
- **Mulching:** Apply a 5-10 cm layer of mulch around each tree, keeping it clear of the trunk to conserve moisture and suppress weeds.
- **Watering:** Water thoroughly, especially during dry spells, to help establish strong roots.

Ongoing Maintenance:

- **Monitoring Supports:** Regularly check stakes and ties, removing them after two to three years if the tree is stable.
- **Weed Control:** Keep the area around the base of the tree clear of weeds to reduce competition.
- **Pruning:** Remove dead or damaged branches, but avoid heavy pruning in the early years.
- **Mulch Renewal:** Refresh mulch annually to maintain a protective layer.
- **Watering:** Water during extended dry periods in the early years to prevent stress.
- **Pest Monitoring:** Look out for pests and diseases, addressing any issues early to ensure tree health.





Hedge Maintenance

Establishment Phase (Years 1-3):

- **Site Preparation:** Clear the planting area of weeds and competing vegetation. Loosen the soil and, if needed, enrich it with compost to support young hedge growth.
- **Planting:** Plant hedges during the dormant season (late autumn to early spring). Ensure they're spaced appropriately to allow for dense growth and root expansion.
- **Staking and Protection:** For taller hedge plants in windy areas, stake individual plants with flexible ties. Use guards if necessary to protect against browsing animals.
- **Mulching:** Apply a 5-10 cm layer of mulch along the hedge line, keeping it slightly away from the stems to retain moisture and suppress weeds.
- **Watering:** Water thoroughly after planting and continue regular watering, especially during dry periods, to encourage strong root establishment.

Ongoing Maintenance:

- **Weed Control:** Keep the area around the base of hedge clear of weeds to reduce competition.
- **Pruning for Shape and Density:** Begin light trimming in the second year to encourage bushy, dense growth. After establishment, prune once or twice a year to maintain the desired shape, ideally after the main growing season in late summer or autumn.
- **Mulch Renewal:** Refresh mulch annually to maintain a protective layer.
- **Watering:** Established hedges typically don't require watering but may need supplemental water during extended dry periods or droughts.
- **Pest Monitoring:** Regularly inspect for pests (e.g., aphids) or signs of disease, treating early issues promptly to prevent damage to the hedge.

Native Shrubbery / Scrub Maintenance

Establishment Phase:

- **Site Preparation:** Clear any competing vegetation, loosen the soil, and incorporate compost if needed to improve soil quality.
- **Planting:** Plant shrubs in the dormant season (autumn to early spring) with proper spacing to allow for mature growth. Place at an appropriate depth so the root ball sits slightly above ground level.
- **Mulching:** Apply a 5–10 cm layer of mulch around the base of each shrub to help retain moisture and suppress weeds, keeping the mulch a few centimetres away from the stem.
- **Watering:** Water thoroughly after planting and continue regular watering, especially during dry periods, to encourage strong root establishment.
- **Protection:** Use temporary guards or fencing around young shrubs if wildlife browsing (such as deer) is common in the area.

Ongoing Maintenance:

- **Weed Control:** Keep the area around each shrub free from weeds to reduce competition and help retain moisture.
- **Pruning:** Prune annually to maintain shape, remove any damaged or dead branches, and promote healthy, dense growth. Different species may require specific pruning methods; light, selective pruning is often best.
- **Mulch Renewal:** Refresh mulch annually to maintain a protective layer.
- **Watering:** Ensure watering during long dry spells, especially in the early years, to maintain health and vigour.
- **Pest Monitoring:** Regularly check for pests, such as aphids or caterpillars, and watch for any signs of disease. Address issues early to prevent spread or damage to other plants.

Wildflower Meadow Maintenance

Establishment Phase:

- **Site Preparation:** To prepare the site for a wildflower meadow, begin by clearing any existing vegetation to minimize competition. Fork over the soil to break up compacted areas and lumps, then firm the surface by treading gently with small, shuffling steps. Allow the soil to settle for four to six weeks, giving weed seeds time to germinate; these can then be hoed off. Finally, rake the surface to create a fine, crumb-like texture that will provide ideal conditions for seed contact and establishment.
- **Sowing:** Sow wildflower seeds in autumn or early spring for best germination. Lightly rake the area to ensure seeds make contact with the soil but avoid covering them too deeply.
- **Watering:** Water lightly after sowing, especially during dry spells, to promote germination. Avoid over-watering, as wildflowers are typically drought-tolerant once established.
- **Weed Control:** During the first summer, routinely remove any noticeable weeds not included in the seed mix, particularly in smaller meadows. This prevents aggressive plants from overwhelming more delicate wildflowers.

Ongoing Maintenance:

- **Cutting Regime:**
  Year 1 (Establishment): Mow regularly to a height of about 10 cm to suppress annual weeds and encourage wildflowers to establish.
  Subsequent Years: Cut the meadow twice a year. First, cut in late summer (after flowering and seeding) to a height of about 5–10 cm. Remove cuttings to reduce soil fertility and prevent excess nutrients.
- **Weed Control:** Hand-weed any invasive or dominant weeds as they appear to maintain diversity and prevent them from overtaking wildflower species.

Green Roof Maintenance

Establishment Phase:

- **Site Preparation:** Before planting, clear the roof of any debris, and check the structural integrity to ensure it can handle the added weight. Prepare a substrate suitable for plant growth, ensuring it is free-draining and has the correct pH level. If necessary, add an appropriate growing medium for the plants chosen. Check that the roof's drainage system is working well and ensure proper waterproofing before planting.
- **Planting:** Choose hardy, low-maintenance plants suited to the roof's micro-climate (e.g., drought-tolerant plants for sun-drenched areas). Plant during the growing season (spring or early autumn) at the correct depth. Depending on the system, plants may come as plugs, pre-grown mats, or seeds, which should be planted accordingly.

Ongoing Maintenance:

- **Weed Control:** Regularly inspect the green roof for weeds, particularly during the first couple of years. Remove invasive or unwanted species promptly to prevent them from overshadowing the intended plants.
- **Watering:** Water newly planted areas regularly, especially in dry weather, until the plants are established. Once the green roof matures, the need for regular watering decreases, but occasional watering during prolonged dry spells may still be necessary.

  Sedum green roofs are relatively low-maintenance and can withstand long periods without watering, making them more resilient to varying weather conditions.

  Intensive green roofs, which support larger plants like trees and shrubs, are more susceptible to dry, sunny weather and may require occasional watering to stay healthy.

  Green roofs with wildflowers are the most sensitive and may quickly wither without sufficient water, particularly during dry spells.

Green Roof Maintenance (continued)

- **Plant Care:** Monitor plant health and replace any plants that die or become overgrown. Light pruning may be needed to maintain a tidy appearance and promote healthy growth. Consider adding a slow-release fertilizer to the substrate once a year to encourage plant health, particularly in areas with low soil depth.
- **Drainage Checks:** Inspect the roof's drainage system at least twice a year. Ensure that no debris is blocking drainage outlets, and check for standing water, which could damage the plants or structure. If necessary, clean the gutters and drains to maintain optimal water flow.
- **General Inspection:** Perform periodic inspections for damage or erosion, particularly after severe weather events. Check that the roof's waterproofing and structural components remain intact. If any issues are detected, address them promptly to prevent water ingress or structural damage.
- **Roof Membrane:** Inspect regularly to check for any signs of wear, damage, or punctures that could compromise waterproofing. Areas around roof penetrations, edges, and seams should be carefully examined, as these are common places for leaks to develop. Additionally, kept clear of debris, as accumulated material can trap moisture and potentially damage the membrane over time. Any damage found should be repaired promptly to maintain the membrane's integrity and prevent water infiltration into the building.

Green Walls Maintenance

Establishment Phase:

- **Site Preparation:** Before installing a green wall, ensure the wall's structural integrity can support the weight of the plants, irrigation system, and growing medium. Install a suitable irrigation system, either drip or mist, to ensure consistent watering. Choose a growing medium designed for vertical applications and ensure proper drainage. The substrate should be designed to retain moisture while preventing waterlogging, and it must be compatible with the plant species selected. If necessary, provide support for plants in the early stages, using trellises or mesh.
- **Planting:** Choose plants that are well-suited to the local climate, the wall's exposure (sun, shade), and the desired aesthetic. Plant the green wall with appropriate spacing to ensure healthy growth and easy maintenance. If planting in modules, arrange plants in a way that they will eventually fill in the space and form a uniform coverage. Plant during the growing season to allow for the best establishment.

Ongoing Maintenance:

- **Watering:** Monitor the irrigation system to ensure it is functioning properly. The green wall will require regular watering, especially during dry spells or in its establishment phase. Check for areas where water may be pooling or unevenly distributed and adjust as necessary. A routine watering schedule may decrease as the wall matures and plants become more established.
- **Weed Control:** Inspect the wall for weeds, particularly in the early stages. Weeds can compete for resources and space, so they should be removed regularly to maintain the health of the plants. In the long term, the growth of the plants should reduce the opportunity for weeds to establish.
- **Plant Health:** Regularly check plants for signs of disease, pests, or poor health. Monitor for any yellowing, wilting, or pests like aphids or spider mites. Trim dead or damaged leaves to encourage healthy growth. If plants are overgrowing or spreading beyond the designated area, light pruning may be necessary to keep the wall tidy and maintain the desired appearance.
- **Fertilization:** Fertilize the green wall once or twice a year, depending on the plant species. Use a slow-release, balanced fertilizer, or a liquid feed suitable for vertical garden systems. Ensure the plants are receiving adequate nutrients for optimal growth, especially in nutrient-poor substrates.
- **Cleaning:** Clean the green wall's surface and plant leaves as needed to remove dirt, dust, and debris. This helps prevent the build-up of contaminants that can affect plant health and the aesthetics of the wall. Be sure to clean the irrigation system and remove any blockages that could impair its efficiency.
- **Pruning:** Remove unwanted, unhealthy leaves. The structure should be kept relatively compact and tidy.
- **General Inspection:** Check the overall condition of the green wall regularly. Inspect the structure, irrigation system, and growing medium for any signs of wear, damage, or inefficiencies. In particular, check the plants' root health to ensure they have sufficient space and support. Also, ensure that the wall remains structurally sound and that the plants continue to grow and fill in as planned.

Rain Gardens / SuDS Maintenance

Establishment Phase:

- **Site Preparation:** Before planting, ensure that the rain garden or SUDS area is graded properly to allow water to flow into the garden and drain away effectively. Soil should be amended to improve drainage if necessary, with a mix of sand, compost, and topsoil to ensure proper water infiltration.
- **Planting:** Select a variety of native, water-tolerant plants that can thrive in both wet and dry conditions, ensuring the plant selection aligns with local climate conditions.
- **Watering:** Water the plants thoroughly after planting to help establish roots. In the first year, provide additional watering during dry spells until plants are well-established.
- **Mulching:** Apply a 2-3 inch layer of organic mulch around plants to help retain moisture and suppress weeds. Ensure the mulch does not smother plant stems.

Ongoing Maintenance:

- **Weeding:** Regularly inspect for and remove weeds, particularly in the early stages, to prevent them from competing with established plants for water and nutrients.
- **Pruning:** Trim dead or damaged plant material to promote healthy growth. Over time, prune back overgrown plants to maintain the shape and ensure effective water flow.
- **Sediment Removal:** Check the rain garden or SUDS area for sediment build-up, especially after heavy rainfall. Excess sediment can block the flow of water and reduce the effectiveness of the system. Remove sediment regularly to maintain proper function.
- **Mulch Renewal:** Replace the mulch annually to maintain its effectiveness in suppressing weeds, conserving moisture, and protecting plant roots+
- **Water Flow Check:** After heavy rains, inspect the system to ensure water is draining properly. Look for areas where water may be ponding or not draining as expected, which could indicate clogging or other drainage issues.
- **Plant Health Monitoring:** Monitor the health of the plants regularly, checking for signs of stress, pests, or diseases. Address issues promptly to avoid affecting the overall health of the rain garden or SUDS.

Pond Maintenance

Establishment Phase:

Site Preparation: Ensure proper location and depth for the pond or bio pond, allowing for appropriate water flow and drainage. The area should be free from excessive debris, and any nearby runoff should be directed away to avoid water contamination.

Planting: Select a mix of native aquatic plants for the pond or bio pond, including submerged, floating, and marginal plants. These plants should help balance water quality, provide habitat, and enhance biodiversity.

Soil and Substrate: Bio ponds may require a substrate like gravel, soil, or a specific planting medium that helps establish plant roots and supports water filtration.

Water Filling: After planting, fill the pond with water slowly, ensuring that the water level does not rise too quickly, which can disturb the plants.

Ongoing Maintenance:

Water Level Monitoring: Regularly check the water level to ensure it remains consistent. If the water level drops too much (due to evaporation or seepage), top it up with clean water. Bio ponds, especially, should have stable water levels to support their ecological balance.

Debris Removal: Clear fallen leaves, twigs, and other debris from the surface of the pond regularly to prevent them from decomposing in the water, which could negatively impact water quality.

Algae Control: Monitor the pond for excessive algae growth. If algae bloom occurs, manage it by removing it manually or introducing natural algae control methods, such as adding certain types of aquatic plants (e.g., floating plants) that out-compete algae for nutrients.

Water Quality Testing: Periodically test the water quality for pH, oxygen levels, and nutrient balance. This helps ensure that the pond remains healthy and supports a variety of aquatic life. Adjustments, such as adding beneficial bacteria or water conditioners, may be needed.

Pond Maintenance (continued)

Plant Health and Pruning: Trim back overgrown aquatic plants to maintain their health and prevent them from overcrowding the pond. Remove any dead or decaying plant matter, which can lead to water contamination.

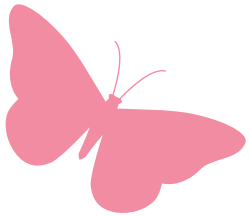
Pond Edge Maintenance: Maintain the edges of the pond by ensuring the plants are healthy and the soil is stable. Prevent erosion by replanting if necessary and adding additional mulch or materials as required.

Pest and Disease Monitoring: Check for signs of pests (such as mosquito larvae) or diseases affecting the pond plants or wildlife. Treat early to avoid damaging the ecosystem.

Wildlife Monitoring: If the pond supports wildlife, such as amphibians or insects, ensure that their habitats are safe and undisturbed. Check for signs of distress in the local ecosystem, such as poor water quality or lack of appropriate shelter.

Winter Care: In cold climates, prepare the pond for winter by removing dead plants and checking that the water has proper flow to avoid freezing. If necessary, install a de-icer to keep the water from freezing completely, which could harm aquatic life.

Spring Clean-up: In spring, remove any remaining debris or leaves that have accumulated over the winter. Inspect the plants and clean the pond to prepare for the growing season



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Additional References

Goverment

- **National Planning Policy Framework:** https://www.gov.uk/government/publications/national-planning-policy-framework--2
- **Planning practice guidance:** https://www.gov.uk/government/collections/planning-practice-guidance
- **The Statutory Biodiversity Metric - User Guide:** https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides
- **The Small Sites Metric Statutory Biodiversity Metric - User Guide:** https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides
- **The Statutory Biodiversity Metric Calculation Tool:** https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides
- **Statutory Biodiversity Metric Condition Assessment:** https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides
- **National Character Areas:** www.nationalcharacterareas.co.uk

Sport England

- Playing Field Policy and Guidance
- Planning for Sport Guidance
- Natural Turf For Sport
- Artificial Surfaces For Outdoor Sports
- Every Move - Sustainability Strategy and Action Plan
- Playing Pitch Strategy Guidance

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